

RANGITIKEI RIVER AND ITS TRIBUTARIES HISTORICAL REPORT

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1. INTRODUCTION

1.1 The author

My name is DAVID JAMES ALEXANDER. I am an environmental and planning consultant, and historical researcher, of Auckland. I hold a BA (Honours) degree in Geography, and a MSc degree in Conservation. Between 1979 and 2006 I was a full Member of the New Zealand Planning Institute.

From 1975 to 1987 I was a planner in the Department of Lands and Survey. This enabled me to gain a thorough understanding of land status matters and the organisation of Government Departments during that period. In 1987, after a short period working for the Department of Conservation, I established my own consultancy. The following year I prepared my first brief of evidence for the Waitangi Tribunal, which was hearing the Ngai Tahu claim. Since then I have prepared a number of other reports for claim hearings. I have prepared reports (and presented them as evidence in most cases) on the Ngati Rangiteaorere, Pouakani, Te Roroa, Whanganui-a-Orotu, Ngati Awa, Mohaka River, Ika Whenua Rivers, Turangi Township, Ngati Pahauwera, Hauraki, Muriwhenua, Rongowhakaata, Te Tau Ihu, Tuhoe, Central North Island, Tauranga, Northland, East Coast, Whanganui and Te Rohe Potae claims.

Reports I have previously prepared for Mohaka River, Ika Whenua Rivers, Te Paparahi o Te Raki (Northland)¹, Whanganui² and Te Rohe Potae³ claims have addressed river and freshwater issues. In 2012 I prepared a scoping report on the Rangitikei River and other waterways in the Taihape Inquiry District⁴, and the project brief for this report is one outcome of that scoping exercise. In addition to preparing this report, I have also prepared a report on land-based environmental and resource management issues in Taihape Inquiry District during the period 1970s-2010⁵.

¹ D Alexander, *Land-based resources, waterways and environmental impacts*, Wai 1040 document #A7, November 2006.

² D Alexander, *Some aspects of Crown involvement with waterways in the Whanganui Inquiry District*, Wai 903 document #A158, August 2008.

³ D Alexander, *An overview of selected environmental and resource management issues in Te Rohe Potae Inquiry, with a focus on the period since 1970*, Wai 898 document #A148, March 2014.

⁴ D Alexander, *The Rangitikei River, its tributary waterways, and other Taihape waterways: scoping report*, Wai 2180 document #A4 and Wai 2200 document #A10, February 2012.

⁵ D Alexander, *Environmental issues and resource management (land) in Taihape Inquiry District, 1970s-2010*, September 2015.

1.2 The project brief

Crown Forestry Rental Trust commissioned this report as one of a series of historical research reports in its Taihape Inquiry District Research Programme. The Rangitikei River flows through two different Waitangi Tribunal inquiry districts, the Taihape Inquiry District and the Porirua ki Manawatu Inquiry District. Inquiry district boundaries tend to be determined on the basis of Native Land Court blocks and land purchase activities rather than with river-related matters in mind. For claimants the Rangitikei River is a unifying cultural force, and it was seen as arbitrary, divisive and unhelpful to embark on two river-related historical reports, one for each inquiry district. This report was commissioned on the basis that it would be the sole historical report about the Rangitikei River for both district inquiries, and would examine matters related to the river and its tributaries from source to sea.

The project brief recognises that two technical reports are being prepared about the Rangitikei River and its tributaries - this historical report, and a cultural perspectives report. The brief anticipates that the historical report will rely principally on written Crown and local authority records as its sources of information, while the cultural perspectives report will be more reliant on oral history interviews with tangata whenua. The historical report is required to consider the following themes and research issues:

- The customary use and significance of the Rangitikei River and its tributaries, as perceived and understood by the Crown;
- Impacts of colonisation on the river and its tributaries, these impacts to include land settlement, extractive industries, aggradation, erosion, water quality and physical changes in the riverbeds;
- Title, ownership and legal issues about the river and its tributaries, including application of the *ad medium filum* presumption and legal navigability;
- Water power developments and water uses;
- Resource management issues, including the impact on management and control of the river by the activities of local government agencies, and the involvement of tangata whenua;
- Flood control and protection works, and their impact on Maori landowners and communities;

- Fisheries in the river and its tributaries, including the impact of acclimatisation societies, and the Crown's involvement in the management of indigenous aquatic life and habitats for indigenous aquatic life;
- Water quality issues, including trends in the health and condition of the river and its tributaries, current status, and the impact on hapu and iwi;
- Gravel extraction, including riverbed ownership issues, the application of royalty regimes, and the relationship between gravel extraction and flood control.

In developing these themes, the project brief anticipates that they will be illustrated by more detailed case studies about bridging, water abstractions, water discharges, gravel extractions, and related negotiations with Maori landowners. Mana wahine issues are to be considered throughout when evaluating tangata whenua experiences.

1.3 Structure of the report

The key kaupapa underlying this historical report is the relationship between tino rangatiratanga and kawanatanga. Prior to 1840, authority over waterways, which included virtual ownership of natural resources of value, was exclusively held by tangata whenua, usually at the hapu level of social organisation. Today, the Crown has become involved in nearly every aspect of river management, control and authority, to the extent that it is now the dominant authority. It is how that transition from Maori to Crown authority has evolved that is the subject of this report. Te Tiriti, in referring to both types of authority, anticipated that there was room for both to operate side by side. Yet, the historical and present-day experience is that this has not occurred, with Crown authority invariably administered as exclusive authority, and with little or no space provided in the regulatory structures for Maori authority to survive and thrive. The purpose of this historical report is to examine whether this generalised national experience is also applicable to the local experience along the Rangitikei River and its tributaries. As is to be expected when Crown authority relies on nationally applicable legislation, Rangitikei River Maori have had experiences similar to those of Maori elsewhere in New Zealand.

At the outset, it needs to be stated that the transition to Crown authority did not occur as a result of Maori agreeing to the extinguishment of their rights over either the Rangitikei River in particular or rivers generally. Unlike land, there is no deed of transfer or deed of assignment of rights to Rangitikei waterways from Maori to the Crown. Rather, in the

absence of overt agreement between the Crown and Maori, the Crown assumed responsibility without consulting Maori on the matter. It believed that its responsibility to exercise kawanatanga authority in the interests of the country as a whole obliged it to pass legislation and involve itself in waterway and waterway resources management. Whether that is a valid exercise of kawanatanga authority, and whether the way in which it went about exercising its authority complied with Treaty principles, is a matter for legal debate, and not the subject of this report. Similarly, because the Crown has never acquired or extinguished customary rights to waterways and their natural resources, whether Maori retain such rights today are matters for legal interpretation and submission, and are not addressed in this report.

The transfer of responsibility that saw Crown authority over rivers become dominant over Maori authority cannot be identified with a single action or a single date, because the Crown did not view everything to do with waterways as being contained in one basket. Rather it viewed what went on in the waterways as a series of discrete activities, to which it would respond in different ways and at different times. As a result, the mantle of Crown authority over waterways was progressively spread by means of a series of independent actions. The compartmentalisation of Crown activity into different statutes, different ministerial responsibilities and different Government Departments resulted in the Crown taking over control of waterway matters in an individually haphazard but collectively comprehensive fashion. The principal incursions of Crown authority were:

- 1850s – application of English common law principles that the ownership of riverbeds and riverbed resources goes with the ownership of riparian land;
- 1870s – public works and harbours/river transport (both following abolition of provincial government), introduced fisheries, and timber floating;
- 1870s-1880s – freshwater fisheries;
- 1880s – establishing and empowering River Boards;
- 1890s – establishing and empowering Land Drainage Boards;
- 1900s – beds of navigable rivers, and use of water for hydroelectric power generation;
- 1910s – conducting large-scale wetland drainage schemes;
- 1940s – flood protection and river control works;
- 1960s – regulating use of water (taking and discharging) for all purposes other than domestic supply, watering stock and fire-fighting;
- 1990s – resource management for water and for beds of rivers.

The counter-factual of these extensions of Crown authority is that they are, as described in Ward's *National Overview* report prepared for the Waitangi Tribunal in 1997, "general legislative provisions divesting Maori of control of rivers"⁶. All of the extensions of Crown authority listed above, with the exception of timber floating (under the Timber Floating Act 1873), the establishment of River Boards (under the River Boards Act 1884), the establishment of Land Drainage Boards (under the Land Drainage Act 1893), and large-scale wetland drainage (under the Swamp Drainage Act 1915), affected the Rangitikei River and its tributaries to one degree or another and are discussed in this report.

Because the Crown treated each different waterway activity as standing on its own, it has made sense in this report to examine each individually. Different activities are discussed in different chapters from the genesis of Crown involvement to the present day. However, each chapter should be read having regard to the wider context that each individual Crown action has contributed to the situation today where the Crown has established such a dominant and central role that it is expected to be the first responder (and active protector of the interests of Maori) to any issue that arises. The extent of its assumption of authority requires nothing less of the Crown because it is in such a dominant position that it can thwart alternative approaches.

With different issues covered in different chapters, the case studies that illustrate each issue are included within the chapter.

Underlying the discussion in each chapter about different actions of the Crown is the impact on tangata whenua. As Ward has stated in his *National Overview* (in two separate references):

The loss of ownership or control of rights in foreshores and inland waterways is almost as important as the loss of land (if not more so for some groups) and affected Maori everywhere. Given the Treaty undertaking to respect 'fisheries' and the lack of clear agreement that 'waters' were being alienated along with the land, this remains an issue to be addressed, although the Treaty of Waitangi (Maori Fisheries) Act 1992 has addressed it in terms of commercial sea fisheries.⁷

The loss to Maori of their rights to waterways has been very heavy – heavier in some respects than the loss of land. These rights are of the utmost importance to a people

⁶ A Ward, *National Overview*, Volume 2, 1997, page 352. Waitangi Tribunal Rangahaua Whanui series.

⁷ A Ward, *National Overview*, Volume 1, 1997, page 35. Waitangi Tribunal Rangahaua Whanui series.

whose existence was as much bound up with water as with land, and the loss of customary rights, with little or no negotiation except in respect of major lakes, does not sit well with Treaty obligations.⁸

The Rangitikei River and its tributaries were a more significant part of day-to-day Maori life in the pre-European era than they are today. Settlements were located on the riverbanks, the river was a main highway for communication, and the waters and banks were an important food basket and source of natural resources. While use of the waterways in the Rangitikei catchment may have reduced, their cultural and spiritual significance has not and remains strong. It is the ongoing cultural and spiritual connection that tangata whenua have with waterways that makes the manner in which the Crown has imposed its authority in a unilateral fashion so hard to bear. The virtually complete absence of respect for Maori authority, as the Crown has taken control over different facets of the management of waterways, has created among tangata whenua a deep and abiding bitterness and suspicion about the Crown's actions. These attitudes have, however, often remained hidden from official and Pakeha view, because of the seemingly powerless situation in which tangata whenua have found themselves.

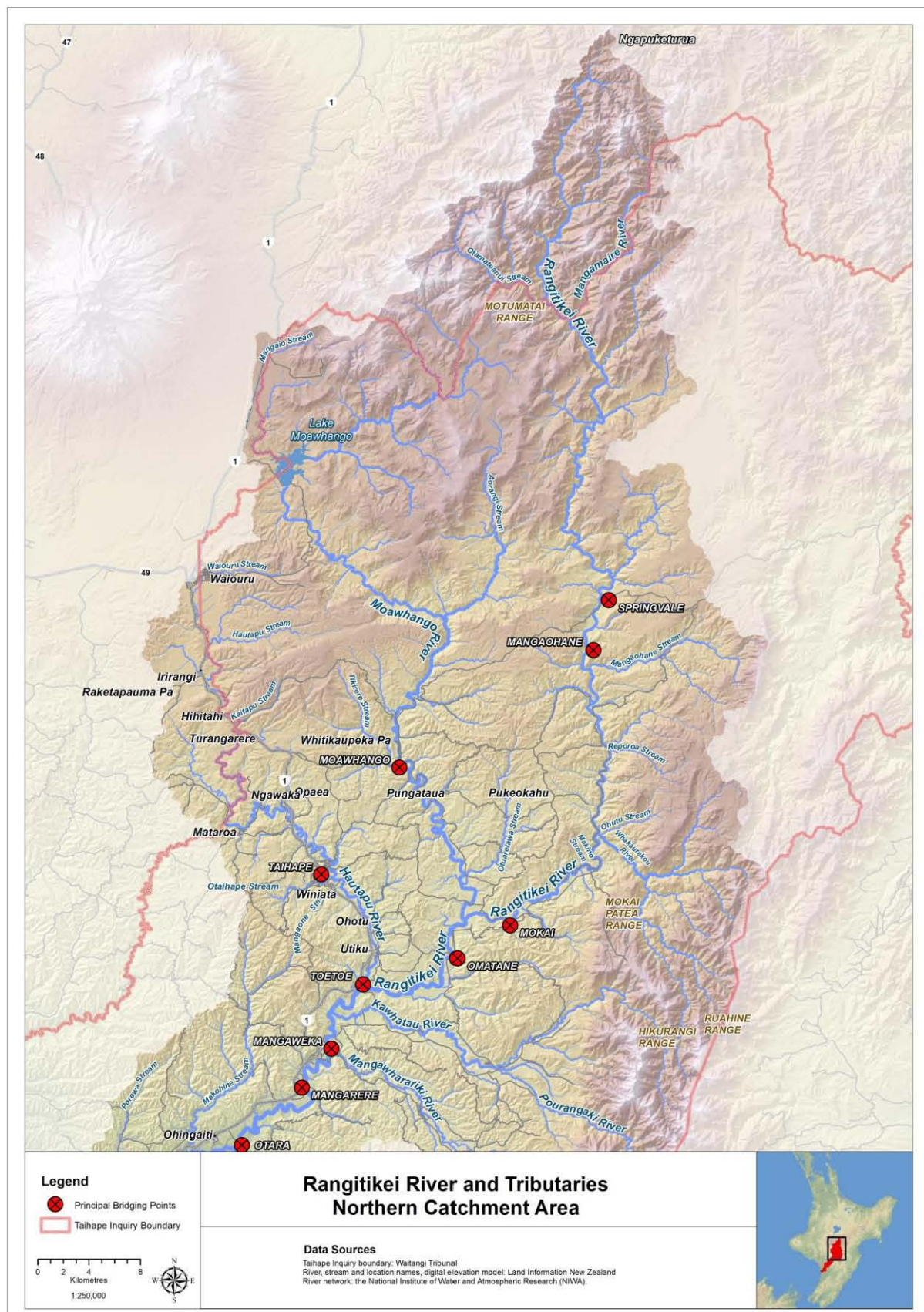
The continuing significance of the Rangitikei River and its tributaries to tangata whenua is not matched by a steady stream of references to that significance in the Crown's records, or in the records developed by agencies administering the Crown's kawanatanga authority. The research for this report has found only a few references to Maori interests among the records that have been examined. The rarity of the references supports the view that there was a persistent blindness on the part of the Crown towards Maori interests, and a general absence of consultation and active protection. As recently as the mid 1980s, an initiative by Rangitikei-Wanganui Catchment Board to record the significance of the Rangitikei River to Maori (referred to in the chapter on Water Conservation Orders) stands out as an exception to the then-prevailing situation. More recently the requirements of the Resource Management Act have required greater consideration of Maori interests by regulatory agencies, though the chapters on flood protection, gravel extraction, human wastes discharge and resource management show that the results have been patchy.

There is one part of the Rangitikei catchment that has received less attention than the others in this report. This is the Rangitikei River and its tributaries located on the true right bank

⁸ A Ward, *National Overview*, Volume 1, 1997, page 98. Waitangi Tribunal Rangahaua Whanui series.

from near the confluence with the Pourewa Stream to the sea. This is land in which Ngati Apa have a predominant interest. Ngati Apa have already settled with the Crown, and will not have any significant role in either the Taihape or the Porirua ki Manawatu district inquiries. As this report has been prepared in order to assist the Waitangi Tribunal in these two district inquiries, a decision was taken early in the research for this project to devote less effort to research of Crown activities in this part of the catchment. While it proved impossible to explain the Rangitikei River flood protection schemes without referring to works to protect land in the Parewanui and Scotts Ferry localities from flooding, other matters to do with the river on the true right bank have not been addressed. Similarly, the Tutaenui Stream and other related tributaries receive little attention in this report.

While the project brief has set the broad parameters, there has been guidance from claimants at preliminary hui at the start of the project about those matters of most concern to them. As far as the availability of the Crown and local authority sources allow, that guidance has been followed in the matters that are included. Besides the preliminary hui, there has also been additional contact with Crown Forest Rental Trust-approved collective groupings of claimants. By way of example of this process of obtaining guidance from claimants, the project brief requirement to examine water discharges regardless of type has been adjusted to accord with claimant priorities and allow for a primary emphasis to be given to those discharges that allow human wastes to enter the waterways.



Map 1: Rangitikei River and tributaries: northern catchment area

2. ENVIRONMENTAL CHANGE AND FLOODING

2.1 Introduction

The natural environment is always changing. Humans are part of the natural environment, and make their own contribution to these changes. Sometimes, the human contribution is direct, intended and measurable. At other times, the human contribution is only part of the picture, or the natural environmental change may be an unintended consequence of a particular activity.

This chapter is focussed on assessing Crown and local authority actions and inactions that have changed the natural environment of the Rangitikei River and its tributaries. However that focus cannot be considered in isolation from natural events and wider circumstances. What the Crown and local authorities have either done or not done may be only a partial contributor to the environmental change that has occurred. As an example, although floods are a natural event, the Crown's actions in encouraging farming and the conversion of forests to grassland may have exacerbated the pattern of flooding. This would be the case if runoff from the hills occurred more quickly, resulting in higher peaks of flow concentrated into smaller time periods. Recognition of the link between catchment land use and flooding was implicit in the passing of the Soil Conservation and Rivers Control Act in 1941.

The Rangitikei River is the third longest river (240 kilometres) in the North Island, though only the sixth largest in terms of water volumes. It has its source on Ngapuketurua, a high point in the Kaimanawa Range that is of significant Maori cultural and spiritual importance because the locality is also the source of the Tongariro, Ngaruroro and Mohaka Rivers. It flows through steeply incised valleys across the high altitude tussock grassland plateau occupied by the Army Training Grounds, Ngamatea Station and other extensive grazing properties. At approximately Mangaohane Station, the Rangitikei River reaches the upper limit of forest. It continues descending through a narrow, gorged and forested valley. From Mokai the valley is characterised by terraces marking former valley floors. As the land has risen, the river has cut down through these terraces, and the river flows more gently between the terrace cliffs. The cliffs end south of Bulls, where the river crosses coastal flats to the sea.

The Moawhango and Hautapu Rivers are tributaries that also drain the tussock grassland plateau. Both drain off the plateau into the Rangitikei River over waterfalls and through deep narrow gorges. The other major tributaries are on the eastern side of the valley, and flow off the Ruahine Range. One of these Ruahine tributaries, the Kawhatau Stream, is responsible for much of the gravel that chokes the waterway of the main river in its lower reaches, and encourages the Rangitikei to break out of its channel and flood surrounding flat land.

Land cover has remained largely unchanged in the tussock grassland zone, though there has been pasture improvement with oversowing of grass species. The forests, especially on the terraces and less steep hills, have been extensively cleared to make way for grassland farms. The catchment is predominantly agricultural, with the only urban settlements being small and generally designed to service the pastoral industry; indeed population in the valley has declined in recent decades.

Water quality in the Rangitikei River and its tributaries reflects the agricultural nature of the catchment. The quality is high in the headwaters where an extensive grazing system predominates, then gradually deteriorates downstream as stock numbers become more intensive. The deterioration gets worse further down the river as the agricultural effects accumulate, and there is an additional effect from settlements.

The intention of this chapter is to provide a general introduction to the natural circumstances and the human changes to the catchment and waterway environment of the Rangitikei River and its tributaries. While the impact on Maori communities along the river, and on Maori spiritual and cultural associations with the river, will have been considerable, mention of that impact in the Crown record, on which this report primarily relies, is minimal. Instances where it is referred to are discussed in other chapters in this report dealing with specific instances of Crown assertion of kawanatanga authority. The impact on Rangitikei River Maori will also be addressed in the companion cultural perspectives report.

2.2 Nineteenth century flooding

Even before European arrivals in the Rangitikei district, and before the forests were cut down to make way for grass, the Rangitikei River flooded. Maori would have lived through plenty of natural catastrophes, knowledge of some of which will continue as stories handed down to the present day, while the memory of others has become lost with the passage of time.

Despite the damage that the river would have occasionally inflicted on Maori living along its banks in pre-European times, they developed and maintained a close and positive relationship with the awa, imbuing it with a living personality, and recognising the support it provided to them as a larder, medicine cabinet, highway and source of spiritual strength.

Today, only fleeting glimpses are possible of the state of the river as it was before the environment was changed by European settlement. Some of these glimpses can be gained from what is recorded in Maori Land Court minute books when Maori elders described to the Court their whenua and the historical events that had occurred on it. Those recollections form part of the brief for the cultural perspectives report about the river. Other glimpses can be obtained from the writings of early European visitors. Richard Taylor, a missionary based in Whanganui for thirty years (1843-1873), and a frequent visitor to Maori and European communities in the Rangitikei district, recorded the following events in his diaries, according to his biographer:

- August 1843. On his first trip along the beach (the coast road) from Wanganui to Wellington and back, Taylor had an easy crossing of the Rangitikei River at or near its mouth on the way down, but on his return the river was in flood, and “he had to go 8 miles inland to get a canoe at the pa”⁹.
- September 1844. “There was a big flood on the Rangitikei River; while canoeing down to the mouth [from Parewanui], he was bewildered by a loud hissing noise like water spilt on a hot iron plate, which was caused by the grating of gravel and shingle carried down by the stream; in one place he counted over 100 tree trunks standing upright in the water, showing the erosion which was going on”¹⁰.
- March 1845. On the Rangitikei River, probably on the reach downstream of Bulls, Taylor wrote about “extensive beds of shingle spread over a width four or five times that of the actual stream”¹¹.
- December 1857. Flooding on the river “carried away his church and a large portion of the food stores of the Maoris”¹².

⁹ AD Mead, *Richard Taylor: missionary tramper*, AH & AW Reed, Wellington, 1966, pages 42-43.

¹⁰ AD Mead, *Richard Taylor: missionary tramper*, AH & AW Reed, Wellington, 1966, page 64.

¹¹ AD Mead, *Richard Taylor: missionary tramper*, AH & AW Reed, Wellington, 1966, page 66.

¹² AD Mead, *Richard Taylor: missionary tramper*, AH & AW Reed, Wellington, 1966, page 217.

- January 1861. Taylor followed the bridle track along the river bank upstream from Parewanui to Bulls, “finding part of it carried away”, and necessitating a lengthy detour¹³.
- April 1872. On a visit to Parewanui, Taylor found “the Maori pa had been all washed away by the river”¹⁴.

Wilson recounted a flood in about 1855 that affected Ohinepuhiawe:

Old Hare Reweti, who lived at Ohinepuhiawe [sic] in recent times, described to me a flood, as far as I could locate about 1855. He was just married and had gone up for some reason inland to Taupo – probably about his land – and his wife remained at the pa. The flood came down suddenly and covered the whole of the Ohinepuhiawe flat, so that Rakapa, his wife, had to get the canoe and paddle herself and her belongings to the cliff at Ohaekaraia – where the creek comes down from Hikungarara – and so gain dry land again. There is a flat just opposite what was known as the Lower Hohn on my property just under a cliff called Pua Kohonga. It stretches away up as far as Mingaroa. Hare told me this flat was a magnificent totara bush, with very large trees, where they used to get timber for their large canoes. During this flood the whole of this bush was washed away, and nothing but shingle left. It is now a waste of about fifty acres of river bed, gradually being covered by toetoe grass and weeds of all kinds, especially docks. Perhaps, if we wait long enough, it will be all grassed over.¹⁵

European settlers had to learn by trial and error what would survive and what would be destroyed by the river. Taylor’s biographer recorded that in June 1858 “floods were washing away the bank and endangering Scott’s new inn” at Scotts Ferry¹⁶. In October the same year Taylor “found Scott busily moving his house on rollers, as it was being threatened by progressive erosion of the bank of the river”¹⁷. However, Europeans could also be resistant to the idea of accommodating the changes in the river, more especially when flooding occurred on land they had a legal land title to. In these circumstances, it became almost a matter of pride to persevere with what had been granted to them. This seems to have been especially the case on the true right bank of the river downstream of Parewanui.

Adopting a geological time perspective, the Rangitikei River had ranged widely when released from the confines of cliffed banks that bordered it to just south of Bulls. A large

¹³ AD Mead, *Richard Taylor: missionary tramper*, AH & AW Reed, Wellington, 1966, page 236.

¹⁴ AD Mead, *Richard Taylor: missionary tramper*, AH & AW Reed, Wellington, 1966, page 256.

¹⁵ JG Wilson, *Early Rangitikei: a few notes collected from various sources of the settlement on the Rangitikei River of a number of Maoris of different tribes, a short history of the purchase and colonisation of the land between the Turakina and Oroua Rivers, and an account of the various pioneers*, Whitcombe & Tombs, Christchurch, 1914 (reprinted Capper Press, Christchurch, 1976), page 45.

¹⁶ AD Mead, *Richard Taylor: missionary tramper*, AH & AW Reed, Wellington, 1966, page 220.

¹⁷ AD Mead, *Richard Taylor: missionary tramper*, AH & AW Reed, Wellington, 1966, page 222.

area on the Parewanui side was effectively part of the river's floodplain, and the river had previously hugged that side of the floodplain. This was well known to Maori, as indicated by locations in the area named Awamate and Awahou.

From experience it also came to be understood by Europeans. In 1943 the District Engineer wrote:

There is evidence that the Rangitikei River centuries ago flowed out to the sea many miles north of its present mouth. Old settlers, admittedly their evidence is mostly conjecture, consider the river left its present bed between Raumai Road and Sandridge Road, thence flowed in a west south westerly direction to the sea. The Makowhai Stream followed a somewhat parallel course across the present stream, thence followed the existing dry creek bed through Flock House, Wilson's, Elliott's, and possibly Amon's properties. Later the Rangitikei River broke through to its present bed, cutting off the lower Makowhai which today is dry except during high floods. Nevertheless, the possibility of the Rangitikei River following this old dry course cannot be overlooked.¹⁸

2.3 The April 1897 flood

The flooding that occurred on Easter weekend in April 1897 was the most intense and damaging in recorded history. A local newspaper report four days after the flood succinctly catalogued the damage it caused:

The flood in the Rangitikei River was the highest ever known, and the rapidity with which it rose was unprecedented.

At Bulls and Onepuhi it was a sight that would impress itself indelibly on the memory of those who saw it. At Bulls it stretched, a muddy torrent, from the hill at the foot of Bridge Street to the cliff on the Sanson side of the bridge. At Onepuhi it was like an arm of the sea. It stretched from one cliff to the other. At the Maori pah only the meeting house could be seen, and the Maoris are all camped on the top of the Tokorangi hill.

Messrs HJ and T Signal's farms were completely covered with water. They themselves just escaped with their lives.

As to the bridges, the river has made a clean sweep of them. The Vinegar Hill Bridge, which cost £8000, and was so securely bedded in the rock that it was thought to be absolutely immovable, two spans are gone and the others are in a shaky condition.

At Onepuhi only two spans of the main bridge remain standing. The others, including the new one, are about a mile down the river. About half the platform bridge is also about a mile and a half down the river. Lower down the river we have to record that

¹⁸ District Engineer Wanganui to Under Secretary for Public Works, 15 October 1943. Works and Development Head Office file 48/10. Supporting Papers #811-812.

six spans of the railway bridge at Kakariki are gone, and the water, when at its highest, was within a few inches of the top of the railway embankment.

At Bulls the whole of the bridge across the Rangitikei has gone with the exception of the new span. The old portion has been carried bodily down the river to a point opposite Mr Paulin's, where it stands on its piles as though it has been built there. The road on the other side of the river also appears to have been washed away, and there are grave reasons to fear that the river has changed its course, so that the bridge, when the water has subsided, will be left high and dry.¹⁹

Not only did the flood inundate a greater area of land in the lower Rangitikei valley than other floods, and destroy all the road and rail bridges across the river, but it shaped cultural attitudes towards the river, particularly among the European population. The river became an entity to be feared, watched carefully, and avoided where it was possible to do so. The description of the flood in this chapter concentrates on the size and spread of the flood itself. The consequences for those living along the river (such as on Te Reureu and Ohinepuhiawe reserves), and the consequences for bridging of the river, are discussed in other chapters.

Because the flood was seared into the memory of the local population (both Maori and European), and into the memory of bridge-building engineers, there is a substantial amount of information about it recorded in local histories²⁰, and in various technical engineering reports. It was noteworthy enough on a national scale for reports from Crown officials to be published in the *Appendices to the Journals of the House of Representatives*²¹. This report does not rely on the local historical accounts, instead describing the consequences of the flood as seen through the eyes of Crown officials. Two officials in particular were based locally, and provided reports in the first weeks after the flood. Both were roading surveyors, AC Turner for the district described as "Wellington", and GT Murray for the district variously described as "Wellington West" or "Wanganui". The boundary between the two districts was the Rangitikei River. As an example of the division of duties, Murray was responsible for the Rangitikei River crossing at Mangaweka, while Turner was responsible for the crossing of the Mangawharariki Stream, a short distance along the Kawhatau Valley Road from the

¹⁹ *Wanganui Chronicle*, 21 April 1897. Supporting Papers #7456-7457.

²⁰ Examples are:

- Accounts of the flood at Poyntzfield (later known as Flock House) by three members of the McKenzie family are recorded in Rob Knight, *Poyntzfield, the story of a pioneer family: the McKenzies of lower Rangitikei*, 1975, pages 72-76.
- SG Laurenson, *Rangitikei: the day of striding out*, Dunmore Press, Palmerston North, 1979, pages 71-80.
- P Melody, *Tales of the Rangitikei*, Cadsonbury Publications, Christchurch, 1999, pages 23-25.
- RA Wilson, *Bulls: a history of the township*, Rangitikei Mail, 1962, pages 28-30.

²¹ *Appendices to the Journals of the House of Representatives*, 1898, C-1, Appendix 14, pages 126-135. Supporting Papers #3123-3135.

The published report relied in part on contemporary reports from officials retained today on Lands and Survey Head Office files 36108 and 36149.

Mangaweka bridge. Both roading surveyors reported to the Chief Surveyor for the Wellington Land District, who in turn reported to the Surveyor General. Some aspects of their initial reports were amended or contradicted by later information.

The flood event began with high intensity rain in the upper reaches of the Rangitikei catchment and also in the upper reaches of adjoining catchments such as the Turakina, Whangaehu, Whanganui and Ngaruroro. A Government publication about floods published in 1957 noted:

The region of greatest rainfall was the northern end of the Ruahine Range, the Kaimanawa Range, and the Ruapehu country, and all the rivers rising in that country rose in phenomenally high flood.²²

Rainfall during the 48-hour period from 9am on Thursday 15 April to 9am on Saturday 17 April 1897 was measured as follows²³:

Erewhon	8.12 inches (206 millimetres)
Ruanui	10.13 inches (257 millimetres)
Raetihi	6.31 inches (160 millimetres)
Parapara	8.46 inches (215 millimetres)
Tutira (Hawke's Bay)	8.62 inches (219 millimetres)
Hastings	10.68 inches (271 millimetres)
Wanganui	1.72 inches (43 millimetres)
Bulls	0.86 inches (22 millimetres)
Feilding	1.20 inches (30 millimetres)

The low figures for Bulls and Feilding demonstrate how much of a surprise the flood was for lower valley residents.

²² AR Acheson, *Floods in New Zealand, 1920-53, with notes on some earlier floods*, Soil Conservation and Rivers Control Council, 1957, page 87.

²³ Lands and Survey Head Office Statutory Branch General Series map G232E. Supporting Papers #521. This map was published in *Appendices to the Journals of the House of Representatives*, 1898, C-1, Appendix 14, inserted before page 127. Supporting Papers #3125.

The rainfall amounts for Erewhon and Ruanui were stated in Report of GT Murray, Road Surveyor for Wellington West roading district, undated. *Appendices to the Journals of the House of Representatives*, 1898, C-1, Appendix 14, pages 130-135 at page 131. Supporting Papers #3130-3135 at 3131. Ruanui is located west of Mataroa, near the watershed between the Hautapu River and the Turakina River.



Figure 1: Mangaweka bridge site during a flood in the 1890s

Source: Alexander Turnbull Library, RI Patterson Collection PAColl-0728



Figure 2: Mangaweka bridge, temporary bridge after the 1897 flood

Source: Appendices to the Journals of the House of Representatives, 1898, C-1, before page 63

A large volume of water ran off the land into the river, and surged down the waterway. There are few records of what happened upstream of Mangaweka, as settlement had not commenced and the country was only sparsely populated by Europeans at that time. It is known that a 40-foot bridge across the Hautapu River at Turangare, built in 1894, was destroyed, and a 60-foot bridge across the Hautapu at Taihape was damaged²⁴. The approaches to a ford at Moawhango were washed out²⁵, and there was evidence of the river rising up to 60 feet above its normal level as it passed through the gorged section between Moawhango township and the confluence with the Rangitikei River²⁶.

Mangaweka was the location where the roading surveyors happened to be most heavily involved when the flood hit. They were therefore in a position to take more measurements there than at other locations, and that has had a consequence up to the present day, with river height and volume measurements continuing and with many subsequent floods being compared with other floods on the basis of the flow of the river at Mangaweka. At Mangaweka the following river levels above the centre of the river were recorded:

Friday 16 April	7.30 am	8 feet
	1.00 pm	26 feet
	5.00 pm	28 feet
Saturday 17 April	2.00 am	32 feet
	7.00 am	26 feet
	6.00 pm	14 feet ²⁷

Murray calculated a flow rate at Mangaweka of 232,000 cubic feet per second (cusecs) at the height of the flood²⁸. In 1939 Grant re-calculated the maximum flow and came up with a figure of 150,700 cubic feet per second, noting however that “it is impossible now to assess

²⁴ Report of GT Murray, Road Surveyor for Wellington West roading district, undated. *Appendices to the Journals of the House of Representatives*, 1898, C-1, Appendix 14, pages 130-135 at pages 133-134. Supporting Papers #3130-3135 at 3133-3134.

²⁵ Report of GT Murray, Road Surveyor for Wellington West roading district, undated. *Appendices to the Journals of the House of Representatives*, 1898, C-1, Appendix 14, pages 130-135 at page 134. Supporting Papers #3130-3135 at 3134.

²⁶ Report of GT Murray, Road Surveyor for Wellington West roading district, undated. *Appendices to the Journals of the House of Representatives*, 1898, C-1, Appendix 14, pages 130-135 at page 132. Supporting Papers #3130-3135 at 3132.

²⁷ Report of GT Murray, Road Surveyor for Wellington West roading district, undated. *Appendices to the Journals of the House of Representatives*, 1898, C-1, Appendix 14, pages 130-135 at page 134. Supporting Papers #3130-3135 at 3134.

²⁸ Report of GT Murray, Road Surveyor for Wellington West roading district, undated. *Appendices to the Journals of the House of Representatives*, 1898, C-1, Appendix 14, pages 130-135 at page 132. Supporting Papers #3130-3135 at 3132.

the maximum flood with exactness”²⁹. A report on flooding in 1957 tried to understand the differences between the two figures:

Firstly, the water-level gradient calculated by Mr Grant was greatly exceeded by the bed gradient at the site, and recent water-level surveys likewise indicate a larger gradient....³⁰

Secondly, the cross-sectional area was greater than 10,045 square feet, as Mr Grant assumed a horizontal top surface whereas it was curved, the rise in the centre being 3 feet. This is clearly shown on plan PW 18543, which was drawn in 1899.

Thirdly, the value of “n”³¹ chosen by Mr Grant is high, particularly when it is known from Mr Murray’s report that the bed was swept clear to the papa. The bed is normally covered to a depth of 6 ft with shingle.³²

On the basis of these possible explanations, the 1957 report was placing greater confidence in Murray’s figure being closer to the real flow. However, a further re-calculation made in 1980 estimated the 1897 flood at Mangaweka to have peaked at 134,200 cubic feet per second, and this is generally accepted today. This further re-calculation is discussed later in this chapter.

For the Department of Lands and Survey, a key concern was the impact that the flood had on newly-arrived European settlers in the district on lands recently opened for settlement by the Crown. One such group of settlers had been placed on the Kawhatau Improved Farm Settlement lands, served by the Kawhatau Valley Road from Mangaweka. On this access route, both the bridge at Mangaweka over the Rangitikei River and a bridge over the Mangawharariki Stream were destroyed. One week after the flood the Chief Surveyor in Wellington reported to the Surveyor General about the difficulties the Kawhatau settlers faced:

I have the honour to inform you that Capt Turner has telegraphed that extensive damage has been done in the Hautapu District to the cage and Mangawharariki bridge on the 21st instant. Since then a fuller report has come in from Mr John Gibson [a roading overseer], and he says:

“that probably the highest flood ever seen in the Hautapu District was running in the Rangitikei River on the 16th inst, which has caused considerable damage to the roads, bridges and culverts in that district. At 7 o’clock that morning the river was in exceedingly high flood owing to the phenomenal rains at that

²⁹ Resident Engineer Palmerston North to District Engineer Wellington, 31 March 1939. Works and Development Head Office file 96/327000. Supporting Papers #2313-2323.

³⁰ The steeper the gradient of the riverbed, the greater the velocity of the water, and the more water can pass the measuring site in any particular second.

³¹ In flow calculations this is a value included to account for friction slowing the water in contact with the bed and sides of the river. The higher the value of “n”, the greater is the assumed friction.

³² AR Acheson, *Floods in New Zealand, 1920-53, with notes on some earlier floods*, Soil Conservation and Rivers Control Council, 1957, page 89.

period, which made it unsafe to cross the cage (erected by Capt Turner and afterwards handed over to GT Murray, Engineer) and by 3 pm the river had risen 33 feet above ordinary level, an enormous slip must have occurred further down the river which must have dammed the river up, for in less than two minutes it rose over 5 feet at the side of the cage, this rose the water over the cable and a large tree coming down completely snapped the cable taking the cage with it.”

“I would respectfully remind you that owing to this cage being carried away, the Kawhatau settlers are now shut off, except by boat from the township of Mangaweka.”

“On the Mangawharariki Stream the bridge lately erected by Capt Turner at the diversion of the stream into the Rangitikei River has been completely swept away, the water actually rising over the hand rails.”³³

A few days later Captain Turner, the District Road Surveyor, provided his own report to the Chief Surveyor about the Mangawharariki bridge:

The floods both in the Rangitikei and Mangawharariki Rivers were no doubt phenomenal (in fact the same may be applied to the floods both on the Hawke’s Bay and this side of the Ruahine Range), the waters having risen to higher than was ever known before, and I should think for considerably over a century, for the reason that areas of old forests, the trees of which must have taken over a hundred years to grow, have been washed clean away down the Rangitikei River carrying all the bridges before them, rendering the whole river bridgeless.

The Mangawharariki Bridge was seen by Mr Gibson from the Rangitikei cliff opposite when carried away; but not before the water had risen to between the hand rails and the upperchords of truss and several trees had passed. One large tree came down with great force in the raging torrent and smashed into the truss, breaking it away from the piers.

The roadway on both sides of the bridge was 6 feet under the flood water, and on the northern side was covered for about a distance of 12 chains. A quantity of roadway was carried off at this point by the action of the water reducing the width to less than 6 feet, which will necessitate a large amount of heavy papa rock excavation under the steep cliff at a higher level to sufficiently widen the road. A bridge will have to be erected 50 feet higher up the river from the old site, and raised at least 12 feet higher, and the corner of the cliff cut through to form the approach on the northern side....

I found on my arrival that Mr Gibson had done all in his power to establish communication by having a temporary bridge placed across the Mangawharariki River, and men employed in clearing slips to admit of pack horses travelling. A

³³ Chief Surveyor Wellington to Surveyor General, 28 April 1897. Lands and Survey Head Office file 36108. Supporting Papers #330-331.

temporary cage has been erected by Mr Murray [over the Rangitikei River, in place of the demolished Mangaweka bridge]; communication is therefore open.³⁴

At Vinegar Hill, where the bridge was destroyed, the flood covered a river flat upstream of the bridge site, and washed away large totara trees:

Mr AR Mackay, County Engineer, Rangitikei, before fixing upon the design for the Vinegar Hill Bridge, counted the rings on some totara on a flat above the site. From these he computed the age of the trees at about three hundred years. At the Easter flood, all this flat, an area of about ten acres, was completely swept away. As the river here runs in a gorge, this is almost proof that no such flood has occurred on this river for three hundred years. At many places above that, small flats have been scoured completely away, many of them being covered with bush containing trees of great size and age. Nearly all the lowest terraces were covered throughout the course of the river, and many of the sharp bends entirely scoured away – the river now running where forest stood, and the old channels being piled high with shingle....

From Mangaweka downwards, there has been damage more or less all the way, increasing in intensity towards the mouth of the river. Many of the low-level flats have been washed away, and most of those remaining have been covered with a coating of silt up to 2 ft in depth.³⁵

Below Bulls, where the high cliffs confining the river ceased, and the grade of the waterway flattened, there was widespread flooding. What happened closer to the river mouth was not helped by there being a high spring tide at the time. The Chief Surveyor reported:

As the banks of the Rangitikei in its course as it approaches the sea are exceedingly low, the flood waters inundated the whole of the adjacent lands and flowed through long disused channels, particularly near Parewanui, into the low-lying area inside the sand hills on the coast.³⁶

Murray reported “as near as I can estimate” that 1,200 acres of land had been covered with water upstream of Bulls, and about 13,000 acres downstream of Bulls:

³⁴ Captain A Turner, Mangaweka, to Chief Surveyor Wellington, 2 May 1897, attached to Chief Surveyor Wellington to Surveyor General, 12 May 1897. Lands and Survey Head Office file 36149. Supporting Papers #336-338.

An edited version of this report was published in *Appendices to the Journals of the House of Representatives*, 1898, C-1, Appendix 14, pages 128-129. Supporting Papers #3127 and 3129.

³⁵ Report of GT Murray, Road Surveyor for Wellington West roading district, undated. *Appendices to the Journals of the House of Representatives*, 1898, C-1, Appendix 14, pages 130-135 at page 132. Supporting Papers #3130-3135 at 3132.

³⁶ Chief Surveyor Wellington to Surveyor General, 12 November 1897. Lands and Survey Head Office file 36149. Supporting Papers #339-342.

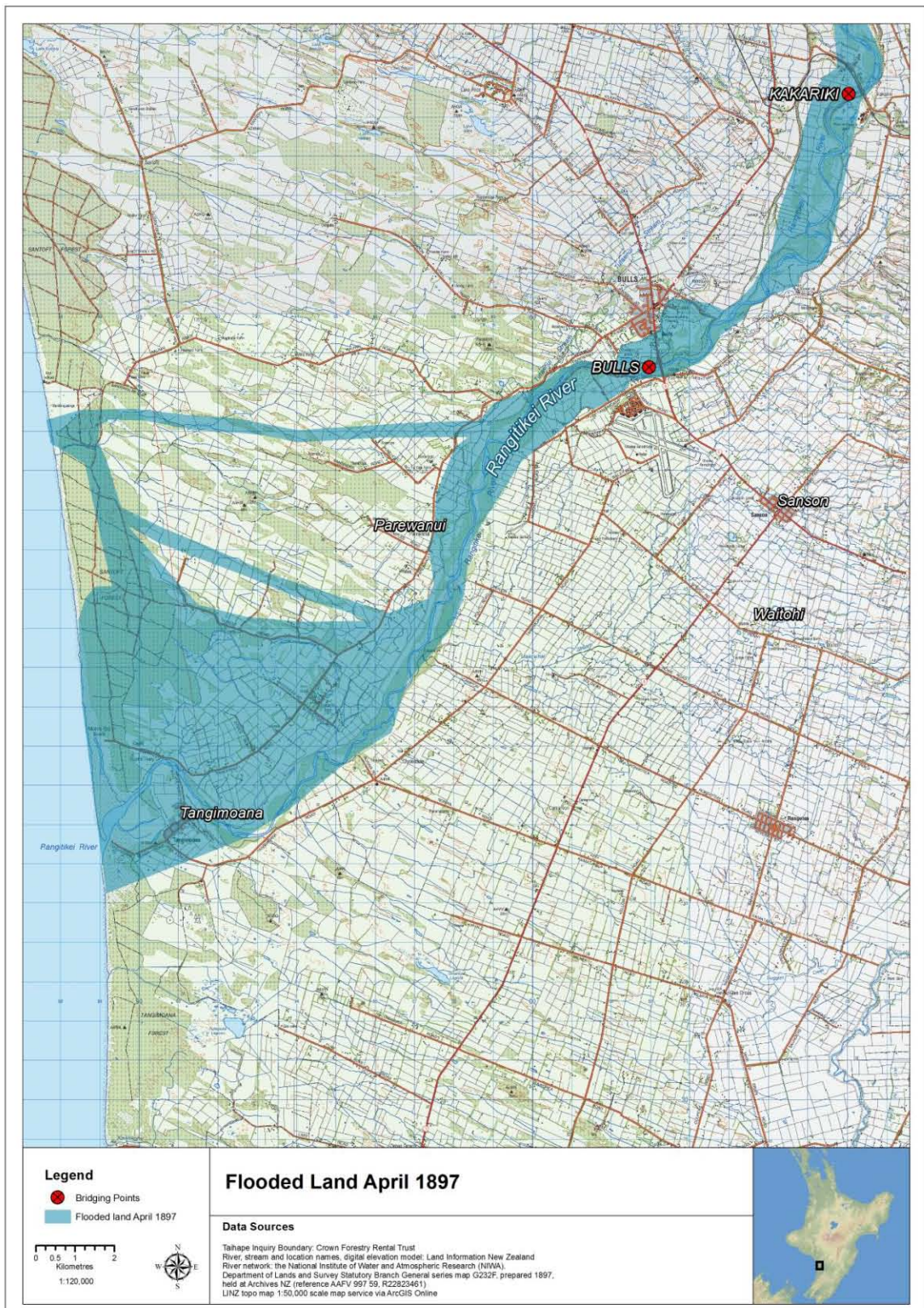
The Chief Surveyor’s report was published in *Appendices to the Journals of the House of Representatives*, 1898, C-1, Appendix 14, pages 127-128. Supporting Papers #3126-3127.

Most of the country below Parewanui was covered by a perfect sea of waters, there being very few points which were sufficiently above flood-level on which to secure the stock.³⁷

The area affected was mapped and published in the *Appendices to the Journals of the House of Representatives*³⁸. 14,200 acres converts to 5750 hectares.

³⁷ Report of GT Murray, Road Surveyor for Wellington West roading district, undated. *Appendices to the Journals of the House of Representatives*, 1898, C-1, Appendix 14, pages 130-135 at page 132. Supporting Papers #3130-3135 at 3132.

³⁸ Lands and Survey Head Office Statutory Branch General Series map G232F. Supporting Papers #522. This map was published in *Appendices to the Journals of the House of Representatives*, 1898, C-1, Appendix 14, inserted before page 127. Supporting Papers #3125.



Map 3: Flooded land, April 1897

The impact on Maori was recorded in official correspondence only in passing, with far more detail being reported about the damage suffered by European settlers. However, the river did not discriminate, and it is reasonable to imagine that the effects felt by European landowners were also suffered by the owners of Maori land. After he had made a trip to the district to see the damage caused to roads and bridges, the Chief Surveyor reported in November 1897 on the damage to farmland:

All freeholders and lessees owning low river flats suffered more or less seriously. In the higher reaches of the river, the flats being generally limited in area and at a higher relative level, settlers were not affected so much as on the flats further down the river below the Rangatira Block and thence to the sea. Mr Hammond and the Natives on and above Taraketi Block and adjacent islands are reported to have suffered heavily in stock. Mr John Marshall's lower flats were all under water, badly silted over in places, old channels opened out and much drift wood deposited here and there. His loss in stock was only about 100 sheep, due to the fact that the main flock had been driven off previous to the rising of the waters. The farms of Messrs Signal Bros near Onepuhi bridge were devastated, nearly all the best land being washed away or covered with silt, channels scoured out, and drift wood and other rubbish piled up on various parts of the property; fences were swept away or buried; their houses and other buildings were flooded, silted up, or damaged; and the farms were rendered useless until resown and set in order. The owners are said to have sustained further heavy losses in having most of their stock drowned. The Messrs Cockrane Bros, immediately adjacent, state that they suffered considerably owing to some of their best land having been undermined and washed away.

The floods covered the whole river flats on both sides of the river about Porewa Junction, the frontages to York Farm and the Westoe Estate, and the native lands opposite the Onepuhi Bridge. The railway bridge at Kakariki is reported to have acted as a dam, the waters on the upper side, it is alleged, being 9 feet higher than on the lower, thereby saving Mr Venables' residence on the lower side of the embankment from total destruction. The house was surrounded by the flood waters and the occupants rescued by boat. The loss in cattle and sheep is said to have been very heavy.

Between the latter place and Bulls, the properties of Mrs Willis, and the Messrs Tarand, Kilgour and Hammond, where they abutted upon the river, were flooded and the whole of their lower flats silted over. Some of them are reported to have lost heavily in stock.³⁹

The Chief Surveyor then continued with a description of what happened on the "lower flat at Bulls". It is not clear whether he is describing the Ohinepuhiawe Maori Reserve, or some

³⁹ Chief Surveyor Wellington to Surveyor General, 12 November 1897. Lands and Survey Head Office file 36149. Supporting Papers #339-342. The Chief Surveyor's report was published in *Appendices to the Journals of the House of Representatives*, 1898, C-1, Appendix 14, pages 127-128. Supporting Papers #3126-3127.

other low-lying lands associated with Bulls township. Even if he is not describing Ohinepuhiawe, it is likely to be a good narrative about what happened on the Maori Reserve:

The lower flat at Bulls was inundated, all buildings being surrounded by water; the fences were totally destroyed or injured and all the inhabitants had to flee to the higher lands (some having to be rescued in boats) and were accommodated in the Public Hall and School Room and by kind neighbours. On the subsidence of the floods, the whole of these lands presented a scene of desolation, being covered with silt and drift wood, houses were rendered uninhabitable, and a sense of insecurity created as to the safety of the locality for residence.⁴⁰

The Chief Surveyor provided further information about the area between Bulls and the sea:

Below Bulls, all the river flats were flooded; also long lengths of the main road and a great extent of paddocks and plantations which were believed to be quite above flood level. Properties so affected are the Parewanui Native reserve lands, those of Messrs Donald Fraser, McKenzie, Daniel, McKelvie, Scott, Burne, McDonell, and Mesdames Amon and McDonell; all suffering to a greater or less extent in loss of stock, destruction of fences, gardens, plantations, silting of lands, etc. Some of the settlers were confined to their houses and had to seek refuge on piled up furniture or on roofs, and in one case in a boat, until the floods abated or they were rescued. Mrs Amon near the mouth of the river, in particular, was a grievous sufferer, and is reported to have lost half of a fine flock of sheep, and to have had about 400 acres of land silted over, all the occupants of the house having to take refuge on piled up furniture from Friday night till Sunday morning with hardly a particle to eat.⁴¹

The Chief Surveyor's reporting of events demonstrates a clear difference in thinking. European settlers are referred to by name and their predicament explained in some detail. Maori, on the other hand, are referred to by community, and their predicament described in generalities. There was a lesser degree of sympathy for the plight of Maori in the official accounts. It is abundantly clear who the Chief Surveyor relied on for his information.

The damage caused by the 1897 flood at Ohinepuhiawe is discussed in the chapter on riverbed legalities.

Flood heights (above ordinary river levels) at various bridge sites at the peak of the floods were:

⁴⁰ Chief Surveyor Wellington to Surveyor General, 12 November 1897. Lands and Survey Head Office file 36149. Supporting Papers #339-342.

The Chief Surveyor's report was published in *Appendices to the Journals of the House of Representatives*, 1898, C-1, Appendix 14, pages 127-128. Supporting Papers #3126-3127.

⁴¹ Chief Surveyor Wellington to Surveyor General, 12 November 1897. Lands and Survey Head Office file 36149. Supporting Papers #339-342

The Chief Surveyor's report was published in *Appendices to the Journals of the House of Representatives*, 1898, C-1, Appendix 14, pages 127-128. Supporting Papers #3126-3127.

Hautapu Bridge, Turangarere	12 feet 3 inches
Hautapu Bridge, Taihape	12 feet 4 inches
Moawhango wire-bridge	28 feet
Mangaweka Bridge	28 feet
Otara Bridge site	20 feet 5 inches
Vinegar Hill Bridge	30 feet 6 inches
Kakariki	15 feet
Bulls	15 feet ⁴²

A 1957 publication noted the following water flow calculations:

Mangaweka	232,000 cubic feet per second
Vinegar Hill Bridge	141,500 cubic feet per second
Kakariki	143,000 cubic feet per second
Bulls	154,000 cubic feet per second ⁴³

An issue is whether European land development in the Rangitikei River catchment made a difference to the severity of the 1897 flood. There has been no special study of the spread of settlement as at April 1897 undertaken for this report, and what follows are general remarks only. In the upper part of the catchment, where the rainfall was most intense, and which probably contributed the bulk of the runoff into the river, farming had been going on since the 1860s. This farming had taken advantage of being above the treeline (located approximately at Moawhango township), so was extensive grazing of tussock grassland. There had been frequent burning of the tussocks to encourage fresh regrowth more palatable to sheep. In the forested part of the catchment, removing the trees and converting to grassland had been advancing from the lower valley northwards. Farming was well established from approximately Hunterville / Vinegar Hill southwards, and was in its early stages of development in the Mangaweka district. North of Mangaweka the first steps were being taken, with land surveyed for settlement, the first roads under construction, and settlers newly arrived. In 1897 the environmental change caused by settlement north of Mangaweka would have been less than in the better established farming districts to the south.

Murray, the roading surveyor, did not think that bush-felling had made much difference to the size of the flood:

The area of the whole [Rangitikei] river-basin is 1,600 square miles; the area of the basin above Mangaweka is 1,059 square miles, and the area of the bush in basin

⁴² Report of GT Murray, Road Surveyor for Wellington West roading district, undated. *Appendices to the Journals of the House of Representatives*, 1898, C-1, Appendix 14, pages 130-135 at page 132. Supporting Papers #3130-3135 at 3132.

⁴³ AR Acheson, *Floods in New Zealand, 1920-53, with notes on some earlier floods*, Soil Conservation and Rivers Control Council, 1957, page 225.

above Mangaweka is 390 square miles. Seeing that 669 square miles out of 1,059 square miles above Mangaweka are already open country, the felling of the bush will not greatly affect the floods in this river – not nearly so much as it will in the Wanganui and Wangaehu [sic] Rivers.⁴⁴

On the other hand, James Wilson, a lower valley settler, writing in 1914, considered forest clearance to be a factor in increasing flooding. Of the landscape at the time of the first Crown purchase in 1849, he wrote:

The district of Rangitikei at the time of the sale [in 1849] was, of course, very different to what it has become. The river, whether it was because the bush in its headwater was still untouched, and the same quantity of water took longer to come down than it does now, or not, I cannot say, but it does not seem to have been so wild in those days as we know it, for the Rangitikei in an “old man” flood is about as fierce a torrent as one could wish to cope with. The banks described by all those who saw them [in the lower valley] seemed to have been intact, the trees and shrubs growing right to the water’s edge. The kowhai, in spring, glistening in the sun on the thousand and one flats on either side, and the myriads of tuis sent forth their joyful song, the stream of water sinuous, but confined in a narrow channel, and not the waste of river bed we see it now, much as it looks now away up above Mangaweka, although, of course, there were no cliffs. Every one of the river flats seem to have had pas, although most of these had beautiful groves of karaka trees, some of which remain to this day....⁴⁵

The country [in the lower valley] must have been a beautiful one with clearings surrounded by bush, where the bellbird and the tui kept up a constant rivalry of song; where pigeons were as plentiful as sparrows are now, and from where, in the evening, the weka sent forth its warning cry, whilst the streams, lakes and lagoons gave the patient fisher eels and upokororo in plenty, and a visit to the sea or the mouth of the river generally resulted in plenty of kawai and shark. In winter time the frost-fish served as a delicacy, and in the season, great quantities of duck were to be found in all the numerous lakes on both sides of the river. Probably the Maori had already grown a little wheat, for the missionaries had provided seed, and no doubt potatoes were also grown, but there were plenty of kumaras. The whole of the country between the Rangitikei and the Oroua must have been covered with fern, and in times of scarcity, provided food in plenty, which only required gathering and preparing. Such was the country and such the people, amongst whom the settlers were to establish their homes when they arrived, which would be soon.⁴⁶

⁴⁴ Report of GT Murray, Road Surveyor for Wellington West roading district, undated. *Appendices to the Journals of the House of Representatives*, 1898, C-1, Appendix 14, pages 130-135 at page 132. Supporting Papers #3130-3135 at 3132.

⁴⁵ JG Wilson, *Early Rangitikei: a few notes collected from various sources of the settlement on the Rangitikei River of a number of Maoris of different tribes, a short history of the purchase and colonisation of the land between the Turakina and Oroua Rivers, and an account of the various pioneers*, Whitcombe & Tombs, Christchurch, 1914 (reprinted Capper Press, Christchurch, 1976), page 44.

⁴⁶ JG Wilson, *Early Rangitikei: a few notes collected from various sources of the settlement on the Rangitikei River of a number of Maoris of different tribes, a short history of the purchase and colonisation of the land between the Turakina and Oroua Rivers, and an account of the various pioneers*, Whitcombe & Tombs, Christchurch, 1914 (reprinted Capper Press, Christchurch, 1976), pages 46-47.

Then with respect to the 1897 flood, Wilson wrote:

The sight of the big '97 flood, issuing out of this gorge at Tutu Totara, must have been appalling, the water belching forth as out of a spout, and carrying with it trees, stacks, whares, fencing, and everything that came within its reach. Below this, and opposite Mr Thoms', quite 100 acres must have been washed away. When the bush was standing along the upper reaches, the rain which fell soaked into the ground, and much of it was absorbed; but now, so much of the country has been grassed, that the rain runs down at once into the creeks, and the floods come down much faster. The water-way is too small, and in consequence the destruction caused means that Nature is trying to remedy this, and the river is making room for itself. There must have been thousands of acres washed away in this manner up and down the river.⁴⁷

There is no incontrovertible answer to whether forest clearance made the 1897 flood bigger and more destructive than it would have been if the forest cover was still in its undisturbed natural state. Because most of the forest clearance by 1897 was in the valley downstream of the railhead at Mangaonoho, and most of the rain fell in the upper reaches of the valley above, say, Taihape and Mokai, it is likely that felling of the forest was not a significant factor. In any case, the volumes of water in the river, which have never since been even approached in quantity, seem to have completely overwhelmed the river channel as it was at that time, so that the forest cover, whether removed or not, probably played only a small part in the range of factors deciding the pattern of flow in the channel.

If the centre of the rainstorm had been in, say, the Hunterville area, then the wholesale destruction of the forest cover in that district would definitely have been a factor in the speed at which water flowed off the hills and into the waterways, and would definitely have been a quite significant factor in the size of the peaks of flow in the river channel downstream. Wilson was entirely correct with the general comments he made about the relationship between forest clearance and downstream flooding; it is just that making those comments in the context of the 1897 flood was perhaps to over-emphasise the role played by forest clearance.

What Wilson's remarks do demonstrate, however, is that the cause and effect relationship between forest clearance and flooding was well understood by 1914. In fact it had been recognised much earlier, with forests on steep watershed hillsides reserved for the growth and

⁴⁷ JG Wilson, *Early Rangitikei: a few notes collected from various sources of the settlement on the Rangitikei River of a number of Maoris of different tribes, a short history of the purchase and colonisation of the land between the Turakina and Oroua Rivers, and an account of the various pioneers*, Whitcombe & Tombs, Christchurch, 1914 (reprinted Capper Press, Christchurch, 1976), page 89.

preservation of timber from the 1880s and the development of a Forest Preservation Branch within the Department of Lands and Survey. Despite warnings, however, that same Department still went ahead with the development of Crown Land for settlement, and encouraged the felling of the forest on sections that it granted to settlers. The Crown's actions contributed to flooding problems that arose once large areas of hillside in a catchment were denuded of forest cover and developed for grassland.

2.4 Flooding since 1897

After the 1897 flood, the second most substantial flood on the Rangitikei River occurred in July 1926:

Heavy rain, particularly in the high country, brought floods to all the main Wanganui [region] rivers....

Heavy rain also fell in the Rangitikei catchment, and Marton experienced an unprecedented flood when the streams surrounding the town overflowed. The water in Broadway was 2 ft deep and many business premises were entered. The total rainfall for two days at Marton was 4.31 in. The Rangitikei River rose to a flood level, being 17 ft above normal at Mangaweka, and causing extensive flooding in the lower reaches.⁴⁸

There was another significant flood in February 1940, though it affected the Whanganui, Turakina and Whangaehu valleys more than it did the Rangitikei valley:

The Rangitikei River was also in high flood, peaking at 43,000 cusecs [cubic feet per second] at Kakariki. At Flock House it overflowed its banks to inundate a large area of land.⁴⁹

It was this flood that prompted the first Crown funding of river control and stopbanking works along the Rangitikei River, a matter discussed in the chapter on flood protection.

As a longer period of records about river heights, velocities and flow volumes has accumulated, hydrologists have been better able to understand the frequency of floods of different magnitudes. The table below attempts to provide some context to the floods that have occurred on the Rangitikei River; it is incomplete and for general guidance only, as a hydrologist with all the relevant data at their disposal could produce more robust results.

⁴⁸ AR Acheson, *Floods in New Zealand, 1920-53, with notes on some earlier floods*, Soil Conservation and Rivers Control Council, 1957, page 91.

⁴⁹ AR Acheson, *Floods in New Zealand, 1920-53, with notes on some earlier floods*, Soil Conservation and Rivers Control Council, 1957, page 93.

Table 1: Flood frequency estimates and recorded flows at Mangaweka

Annual Exceedence Probability (%)	Return Period Probability (chance of occurring once every x years)	Calculated Flow Volume at Mangaweka (cubic metres per second)⁵⁰	Recorded flow volume at Mangaweka (cubic metres per second)⁵¹
			3800 (in 1897)
0.5	200	2814	
1	100	2302	
2	50	1882	
			1798 (in 1926)
			1756 (in 2004)
3.3	30	1621	
			1521 (in 1958)
5	20	1438	
			1265 (in 2008)
10	10	1168	
20	5	941	
50	2	678	

The 1897 flood was such an extreme event that it is sometimes discounted in flood frequency calculations, because its inclusion is considered to distort the calculations to too great an extent. A report in 1980 hazarded a guess that it had “a return period of the order of 400 years, probably more”⁵². It was the same report that assessed the peak flow at Mangaweka in 1897 to be 3800 cubic metres per second (cumecs or m³/sec), the figure that is conventionally accepted today:

Peak flood flow was originally estimated by Murray in 1897 to be 6570 m³/sec, but this estimate was subsequently revised in 1939 by Grant to 4265 m³/sec. As part of this study, the original information concerning the Mangaweka site was again analysed with reference to the extensive hydrological knowledge since obtained. From river flow gauging data, the cross-sectional area was plotted against the mean flow velocity. Controlled by the hydraulic characteristics of the site, particularly the bend downstream of the bridge, the mean velocity at the bridge is limited to about 4.1 m/sec. The waterway cross-sectional area of 930 m² is confirmed by recent channel

⁵⁰ Because calculated flow volumes can vary depending on the factors and variables included in the calculation formula, the calculated flow volume in this column is the “design flood frequency estimated volume” adopted in Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 4 (final draft report)*, June 2010, page 7. Supporting Papers #7302-7404 at 7312.

⁵¹ Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 4 (final draft report)*, June 2010, pages 5-6. Supporting Papers #7302-7404 at 7310-7311.

⁵² Tonkin & Taylor, *Water Resources of the Rangitikei River*, September 1980, Rangitikei-Wanganui Catchment Board Report No. 80/1, page 78. Supporting Papers #6437-6515 at 6481.

cross-section surveys, taking into account the depth of scour and the 1897 flood level. This leads to the conclusion that the peak flow was about 3800 m³/sec.⁵³

3800 cubic metres per second converts to 134,200 cubic feet per second.

The two major floods in recent years, in 2004 and 2008, have played their own part in shaping the attitude of present generations. They have occurred at a time when local government has been encouraged to prepare state-of-the-environment reports. The effects of the 50-year flood in February 2004 were fresh in the memory of Rangitikei District Council when it produced its State of the Environment report four months later:

On the 15th and 16th of February 2004 the Rangitikei District suffered the largest flood event in recent memory. This event highlighted the susceptibility of the District, and indeed much of the Manawatu-Wanganui region, to large-scale flooding....

The February 2004 flood followed a wet period in the preceding four weeks in which rainfalls at several sites were about 200% of average. During the flood event, 24 hour rainfalls exceeded 100mm at 22 sites in the Manawatu and Rangitikei Districts, and exceeded 200mm at three sites in the Manawatu District. The event was unusual in that high rainfall extended over many lowland areas in these Districts. High rainfalls occur relatively frequently in the Ruahine and Tararua Ranges, but do not normally occur over such extensive areas....

The Rangitikei [flood control] Scheme is designed to protect adjacent land against a 1 in 50 year flood, although this is conservative, as there is 600mm “freeboard” above this design standard, and the gradual build up of gravel in the river channel was allowed for. This means that in any given year there is a 2% chance that a flood larger than the design flood will occur, and this indeed is what occurred in February 2004. It is generally not economic for the community to afford protection to a higher standard.

To meet the 1 in 50 year protection standard for the Rangitikei River, which was adopted in 1994, the Regional Council constructed new stopbanks at Parewanui, on the north bank of the river near Flock House. These new banks all held. However, an old natural terrace, known locally as Nagle’s Island and thought to be above the design standard, was overtopped about 12km upstream of Scott’s Ferry. Water flowed down several old overflow channels along the outside of the stopbank to Scott’s Ferry, from where it had no escape as it was contained inland of the river stopbank and the sand dunes. Eventually the stopbank at Scott’s Ferry was overtopped and the water escaped, but by then all 48 properties in Scott’s Ferry were inundated to a depth of two to three metres by silt laden water, and regrettably rendered uninhabitable.⁵⁴

⁵³ Tonkin & Taylor, *Water Resources of the Rangitikei River*, September 1980, Rangitikei-Wanganui Catchment Board Report No. 80/1, page 80. Supporting Papers #6437-6515 at 6482.

⁵⁴ Rangitikei District Council, *The state of the Rangitikei environment*, June 2004, pages 24-25.

The two floods in 2004 and 2008 also resulted in reviews of the flood protection works on the lower Rangitikei River that had by then been in place for over 50 years (see the chapter on flood protection works). What had not changed, however, was the Crown's immediate social response. The lesser response to the 1897 flood's disruption of Maori everyday life, as compared to the disruption to the European settler community (discussed earlier in this chapter) was repeated to a certain extent in the aftermath of the 2004 flood. A Massey University report has described how Poupatate Marae became the refuge for whanau at Te Reureu whose homes had been flooded. It has also described how the Crown and local authority civil defence organisations failed to assist the Marae, leaving that community to fend for itself:

[Interview] participants identified a lack of contact from civil defence groups during the initial two weeks of the event as being detrimental to their recovery effort, particularly with respect to identifying recovery options available within the region at that time:

[We stayed at home for] a week or a week and a half. No contact with the Councils or Civil Defence. We didn't even know that the Red Cross had food supplies....

We had no contact with them. We just went off and did our own thing. Never thought about [having contact with them]. They didn't come and contact us....⁵⁵

Despite widespread acknowledgment that marae form natural community emergency centres as they are very well prepared to address the needs of large numbers of people, channels of communication are not always well established. The level of communication between civil defence, marae and Maori communities was variable, and appeared to depend largely on the individuals' familiarity with the communities concerned, and an inclination to initiate cooperative measures.

The uneven nature of communication meant that Maori communities were not always checked on as early as they could have been.

Checking on neighbours ... is fundamentally what saves lives. Maori are fairly good at that, but central administration need to go out and check on Maori, ... it is incumbent on cities and boroughs to check on their neighbours....⁵⁶

A whanau member from Poupatate Marae described her involvement with the recovery group as a representative of Maori in the community:

⁵⁵ J Hudson and E Hughes, *The role of marae and Maori communities in post-disaster recovery: a case study*, Centre for Indigenous Governance and Development, Massey University, for Institute of Geological and Nuclear Science, February 2007, pages 24-25. GNS Science Report No. 2007/15.

⁵⁶ J Hudson and E Hughes, *The role of marae and Maori communities in post-disaster recovery: a case study*, Centre for Indigenous Governance and Development, Massey University, for Institute of Geological and Nuclear Science, February 2007, page 26. GNS Science Report No. 2007/15.

... even that flood recovery group which came up around two or three months later ... they never made contact with us. It was just by fluke that I happened to hear about it.... I was just told there was a committee and that I should jump on to ... have an iwi representative there.... [The group] had already had a couple of meetings before someone had made me aware of it and said that there's been no iwi input.

And so I went in and I had to explain where our marae [was]. I had to point out on a map where we were, where the flood was ... where the other people were stuck on the other side of the river ... and explain all that to them because they just didn't know we existed.⁵⁷

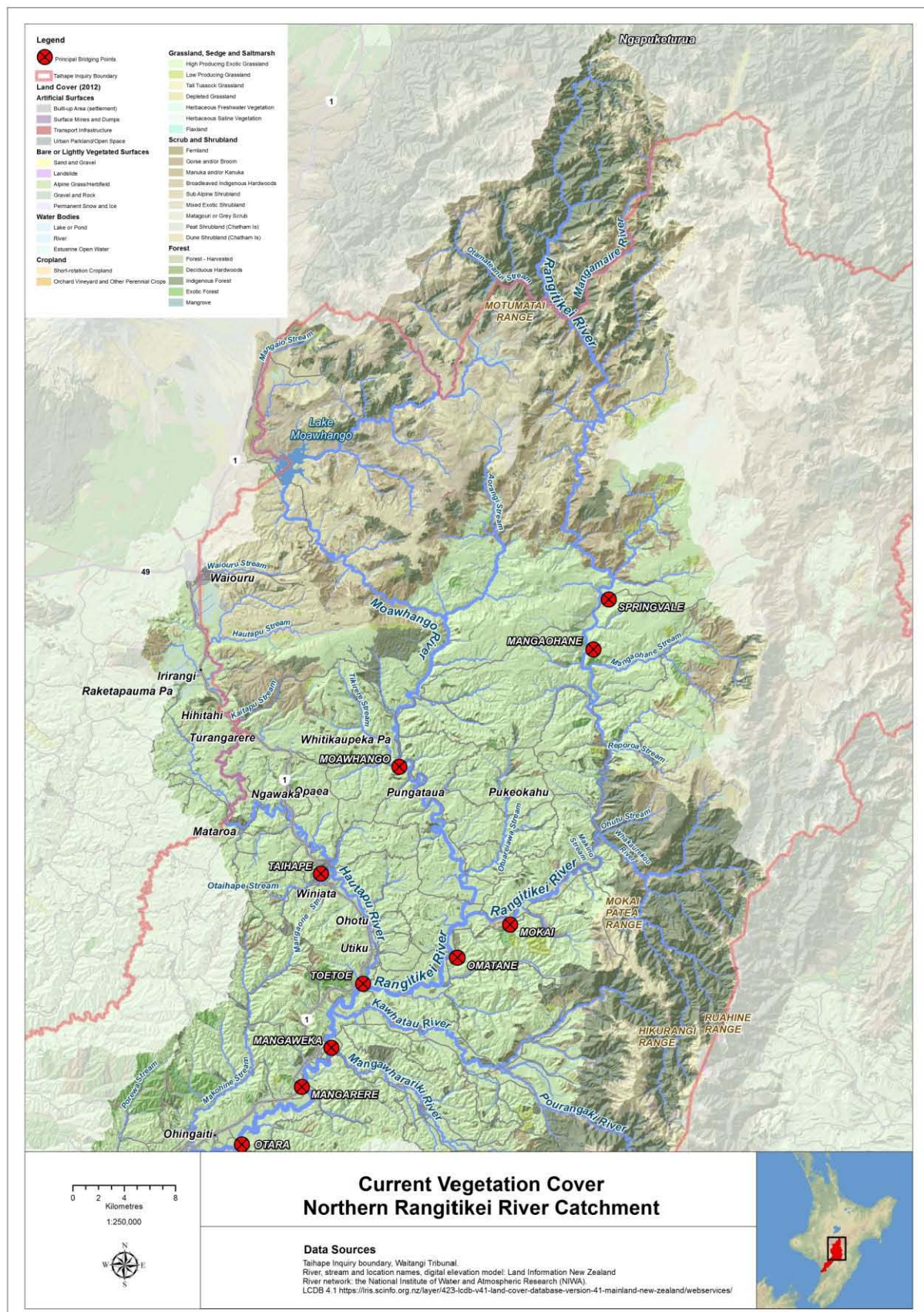
2.5 Changes to river characteristics

As a generality, the Rangitikei River may be less changed in its upper and middle reaches from the character it had in pre-European days than some other New Zealand rivers. While some tussock grassland above the treeline in the upper catchment has given way to grassland that has been oversown with introduced grasses to varying degrees, the open nature of the country remains and considerable tussock cover still exists. Isolation from formed roads and the Army's control of its Training Area have combined with the altitude to contain development pressures. The cliffs and steep hillsides in the middle reaches have likewise limited the amount of development close to the river's banks.

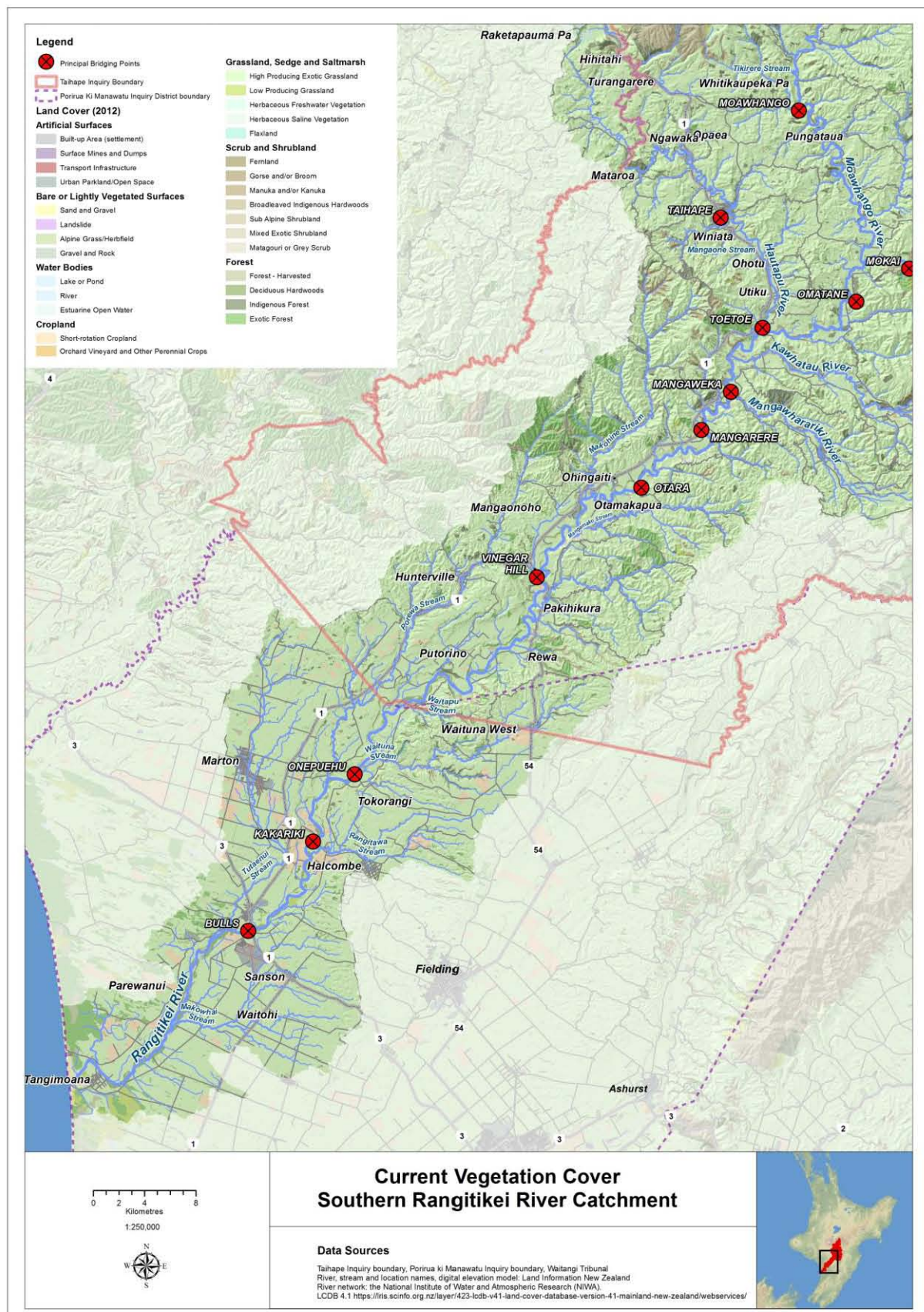
That is not to say there have not been some significant developments. The Moawhango dam and lake has indelibly changed the Moawhango River. Ngamatea swamp in the Hautapu catchment near Waiohuru has been the subject of land drainage operations, and Reporoa Bog is the source of water for a rural water supply scheme (both covered in separate evidence⁵⁸). Development of intensively farmed and irrigated paddocks alongside the river at Springvale is quite visible in the landscape. Introduced trout now dominate the aquatic fauna of the rivers. In theory a cap has been placed on development with the issue of the Rangitikei River National Water Conservation Order 1993. However, that cap is selective, with an emphasis on preventing damming proposals and regulating the quantity of water that can be extracted from the river. It is restricted to the water in the river, and has no influence on riverbank or land use.

⁵⁷ J Hudson and E Hughes, *The role of marae and Maori communities in post-disaster recovery: a case study*, Centre for Indigenous Governance and Development, Massey University, for Institute of Geological and Nuclear Science, February 2007, page 30. GNS Science Report No. 2007/15.

⁵⁸ D Alexander, *Environmental issues and resource management (land) in Taihape Inquiry District, 1970s-2010*, September 2015.



Map 4: Current vegetation cover: northern Rangitikei River catchment



Map 5: Current vegetation cover: southern Rangitikei River catchment

By contrast to the upper and middle reaches, the lower reaches of the Rangitikei River have been changed just as much as other lowland rivers in New Zealand. In the earliest years of European settlement, the patches of forest along the true left bank of the river (when facing downstream) near Bulls were logged and milled. Many of these patches had been retained by Maori as granted lands, but were sold soon after being granted. Although the forest on Ohinepuhiawe reserve was retained in Maori ownership, there was felling of timber there to sell for firewood.

The 1897 flood event changed river conditions in the lower reaches dramatically. The waterway became wider as the banks of the river were eroded and remaining trees on the riverbank were lost. It had always had a shingle bed, but now the shingle-filled bed was wider. The water flows, when they reduced back to normal levels after the flood, created braids through the shingle flats. The bed of the river became naturally less stable than if it had been confined to a narrower channel, and the course of the channel varied with each new fresh or flood. The build up of shingle put the riverbed at a higher level than previously, making the river more prone to overtopping its banks and spreading out on to surrounding countryside. It was the changeable character of the river that prompted sustained bank protection and channel training works that have now continued for over 60 years.

If anything, it is the side streams that are more at risk than the main river, not so much from channel instability as from the threat of running dry and from pollution. They drain areas that have been deforested, with the result that the sponge effect of the forests, allowing the slow release of water into the streams over a long period after rainfall, has disappeared. Such streams become dry during periods of no rain, and the water in them gets warmer in the absence of shade. This has had a dramatic effect on the fauna of the streams in particular. For Maori, the side streams have always been particularly important as a source of tuna (eels), koura (freshwater crayfish), watercress and other foods, but their productivity has plunged as the character of the streams has changed.



Figure 3: CD Barraud painting, Makowhai Stream, 1872

Source: 'Makawhai Stream, Carnarvon Estate, Lower Rangitikei, Wellington NZ (1872)', original held in National Library of Australia, Canberra

In 1872 Charles Barraud painted a picture of the Makowhai Stream, which drains the Ohakea and Sanson district. While not showing any kowhai after which the stream was named, his painting shows a stream flowing beneath a shading canopy of tall trees. Even allowing for some possible artistic licence, it depicts a character that bears no resemblance to how it came to look after European settlers arrived. The trees were felled and farmland, albeit wet and poorly-drained, was developed. However, there was more to come. In the early 1930s the Crown set up an unemployment relief camp near the mouth of the Makowhai Stream, in order to dig drainage ditches and allow the farmland to become more productive. The drains were then maintained by Manawatu County Council declaring a Makowhai drainage district and levying a special rate on landowners. There are now virtually no remaining vestiges of the original native vegetation along the Makowhai Stream, and the stream itself has the appearance of a drain.

The side-streams have been doubly affected. Not only have their flow characteristics been dramatically altered, but they also have to cope with runoff from agricultural land affecting the quality of their waters. The desire to increase production from the grasslands that replaced the forests means those grasslands are treated with fertilisers, pesticides and herbicides. Not all of what is applied stays in place to be absorbed by the plants and their root systems. There is seepage from the root layer downwards into the water table, and sideways by surface and sub-surface flow down slopes into lower areas. The streams become the final recipients. Water quality degradation in the side streams was apparent in a series of maps published by Manawatu-Wanganui Regional Council in 2005. Four indicators of water quality were mapped according to an index where a score of 10 was excellent and 1 was very poor⁵⁹.

⁵⁹ Manawatu-Wanganui Regional Council, *State of the environment report of the Manawatu-Wanganui Region, 2005*, 2005, pages 26-29.

Table 2: Water Quality Index Scores, 2005

River Zone	Contact Recreation Index	Nutrient Enrichment Index	Stressors Index⁶⁰	Turbidity Indicator
Upper Rangitikei (above Te Papa-a-Tarinuku)	9	9	9	9
Moawhango and Middle Rangitikei (above Mangarere)	8	8	8	6
Upper Hautapu	4	7	10	4
Lower Hautapu	3	4	9	5
Mangarere to Vinegar Hill	7	7	8	6
Makohine	4	3	7	2
Vinegar Hill to Kakariki	5	5	8	4
Pourewa	3	2	10	6
Rangitawa	3	2	3	4
Kakariki to the Sea	5	5	8	3
Tutaenui	3	1	5	6

This data clearly demonstrates that the tributary streams are far more severely affected than the Rangitikei River itself. They are far more likely to be overwhelmed by the adverse condition of their catchments than the major waterways with their higher flows. Although the main river may attract the most attention, it is the tributaries that require a greater effort to improve their water quality.

McDowall, a freshwater fisheries biologist, has catalogued the impacts of environmental change on indigenous fishes:

As European man has felled the forest and established pasture, the rivers have become modified and less stable, the lakes have become more productive, and in some instances both rivers and lakes have become affected by extensive weed beds. Plankton blooms occur in some lakes. Many swamps have been drained, water tables have been lowered, and streams confined to shortened and straightened channels with steep to vertical banks often maintained by repeated draglining. Many rivers and streams have become polluted by industry, urban development, and probably equally important, effluents from large numbers of cowsheds. There is heavy exploitation of some species that have commercial importance. The faunas of New Zealand streams

⁶⁰ The extent to which aquatic life is placed under stress by characteristics such as water temperature, pH, dissolved oxygen, and toxicants.

and lakes have been altered by the introduction of fish species alien to New Zealand. All these factors have had effects on the native fish fauna.⁶¹

In a separate publication McDowall has also placed this environmental change in a Treaty context:

Despite apparent assurances in the Treaty of Waitangi that Maori would retain possession of their fisheries (among other natural resources) for as long as they wished – at least the English version of the Treaty explicitly affirms this right – many Maori groups have argued that this promise has not been kept by the Crown. In some instances, the loss that Maori have sustained could not have been predicted as some have been indirect effects, incidental to other actions resulting from Pakeha colonisation. But there have clearly been some major losses for Maori that anyone could have predicted, and about some of these various Maori individuals or groups complained before the event, both informally and officially, and have done so time and time again since. These complaints have often been ignored, rejected or overruled. The losses sustained have been so pervasive, widespread and intense that it is difficult to know quite where to start.⁶²

He then continued over the following 27 pages to catalogue the “losses for Maori” arising from the Crown’s actions, or from its support for actions taken by Pakeha settlers:

- Loss of access to mahinga kai due to private ownership of riverbanks and lands bordering lakes;
- Claims of Crown ownership of large lakes;
- Legislation regulating fishing and thereby affecting customary fishing rights;
- Lack of provision of reserves to facilitate access to mahinga kai;
- Contradictory legislation enabling “total protection or untrammelled exploitation” of aquatic species;
- Introduction of new fish species (protected by legislation) to the detriment of indigenous fish species and traditional fishing of those indigenous species;
- Widespread destruction and degradation of habitat for aquatic species by drainage, catchment modification, river engineering works and pollution;
- Reductions of flow caused by abstraction of water from rivers;

⁶¹ RM McDowall, *New Zealand freshwater fishes: a guide and natural history*, Heinemann Education Books (NZ) Ltd, Auckland, 1978, page 177.

⁶² RM McDowall, *Ikawai: freshwater fishes in Maori culture and economy*, Canterbury University Press, 2011, pages 586-587.

- Loss of “connectivity – the continuity of aquatic habitats along the course of river systems that provides for fish migrations” and for the needs of aquatic species during different periods of their lifetimes⁶³.

As a fisheries biologist, McDowall was primarily thinking in terms of the impact on Maori of changes to the environment for fish. However, similar catalogues of loss could be developed for freshwater shellfish, for food plants reliant on freshwater, for rongoa medicines, and indeed for the general cultural and spiritual connection that tangata whenua have with freshwater.

The changes to waterways are now quite well understood. There was an era of substantial deterioration of the quality of the waterways when the forests were cleared, suspended sediment washed into the rivers, and flow patterns altered. In the lifetimes of most people alive today there has been a further era of deterioration caused by increased application of fertilisers, intensification of agriculture, greater abstraction for agriculture and industry, and urbanisation having consequences for waterways.

It would have been helpful if this report could have discussed these most recent general changes in terms directly relevant to the Rangitikei River and its tributaries. That has been done to the extent that available sources of information have been identified during research for this report. While relevant data may exist in unprocessed form in organisations such as Manawatu-Wanganui Regional Council or the Crown research institutes, the information is not readily available in the published sources on which this report relies. To provide one example, the data on water quality in the Manawatu-Wanganui Regional Council 2005 state of the environment report is useful (and has been quoted above). However, comparative data was not published in the previous state of the environment report in 1995, or in the subsequent report in 2013 to allow changes in water quality over time to be assessed. The 2013 report is full of laudatory statements about the Regional Council’s operations, is short on specifics about the Rangitikei catchment, and is almost completely silent on an explanation of the state of the environment expressed in terms relevant to tangata whenua⁶⁴.

⁶³ RM McDowall, *Ikawai: freshwater fishes in Maori culture and economy*, Canterbury University Press, 2011, pages 587-613.

⁶⁴ Manawatu-Wanganui Regional Council, *Embark on a journey into the world around you: 2013 state of the environment*, May 2013.

What can be gleaned from the 2013 report is that the Rangitikei River and tributaries are not as environmentally degraded as the Manawatu or Oroua Rivers and their tributaries. These other catchments are attracting far more attention and intensive effort from the Regional Council. The danger is that these other waterways will over-shadow the Rangitikei River and its tributaries, becoming the regional benchmark for determining when intervention is required, and reducing the attention paid to deterioration in the Rangitikei catchment. The reality for Maori, however, is that each river is supremely important to the tangata whenua communities along its course, and for them any ranking or prioritising of waterways at a regional or national level would fail to actively protect their interests.

3. USE OF THE RANGITIKEI RIVER FOR TRANSPORTATION

3.1 Introduction

This chapter identifies two distinct periods of activity on the Rangitikei River, separated one from the other by a long period when there was no transportation activity.

The first period was during the nineteenth century, and was a continuation of the pre-European waka use of the river. It was the time when Rangitikei River Maori still retained their rangatiratanga over the river, as they were in charge and were the principal users. Apart from the construction of bridges on routes crossing the river, which is covered in a separate chapter, Europeans showed little interest in the river upstream of the rivermouth as a means of transportation.

Waka use of the river seems to have disappeared almost overnight with the major flood of 1897. While it may have been in decline before then, as land-based transport routes (roads and railways) were developed that ran parallel to the river, the end of river transportation was sudden and absolute. The port at the mouth of the river had closed, and the shallow, braided and meandering gravel-choked river channel in the lower reaches was less attractive than its pre-flood character. Further upstream the river was regarded somewhat fearfully and avoided, apart from bridging, which was often at a high level above the river.

The revival of the river for transportation had to await the development of the jet boat in the 1960s. Since then kayaking and rafting have also developed as water passage uses of the river enjoyed by participants. By this time, the Crown had developed its own nationwide regime of authority over river use. This regime had no provision for Maori involvement, so there was no consultation with Rangitikei River Maori, and no action taken by the Crown to actively protect Maori interests in the river.

3.2 Nga waka

The role that waka played in the life of Rangitikei River Maori is being covered in the river cultural perspectives report. They were relied upon by all the hapu living along the river, and their use continued well into the era of European settlement.

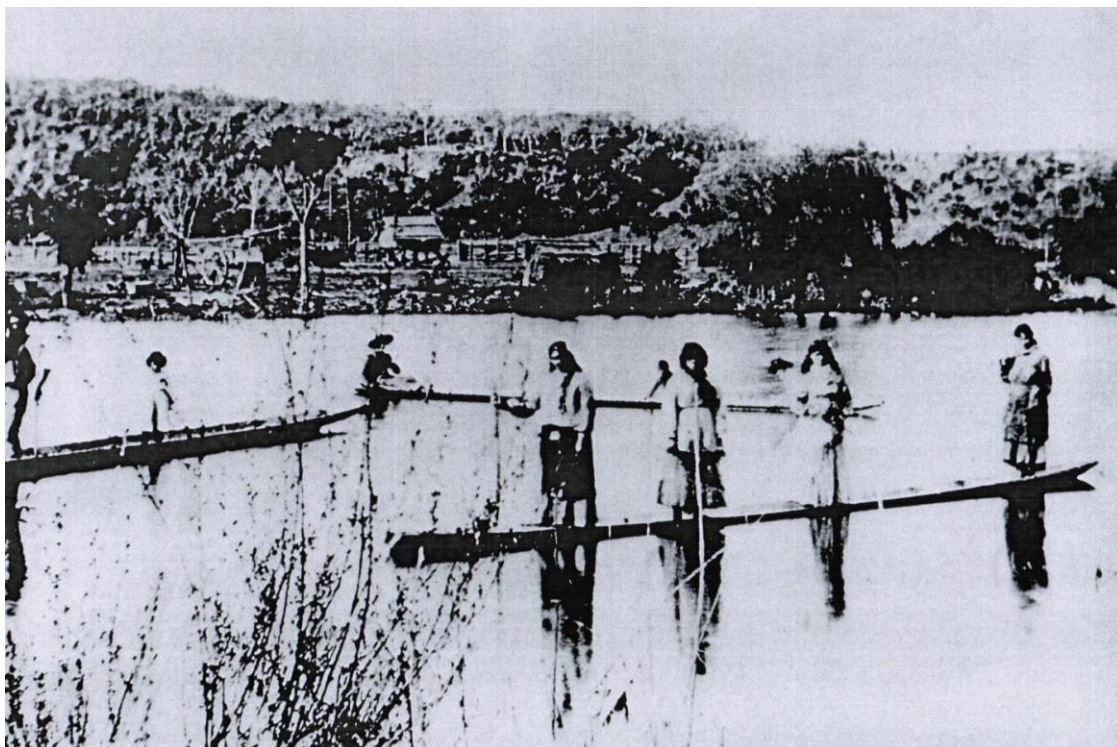


Figure 4: River waka

Source: Bulls Museum. Date and original source not known. Whether this photograph was taken on the Rangitikei River is not verified.

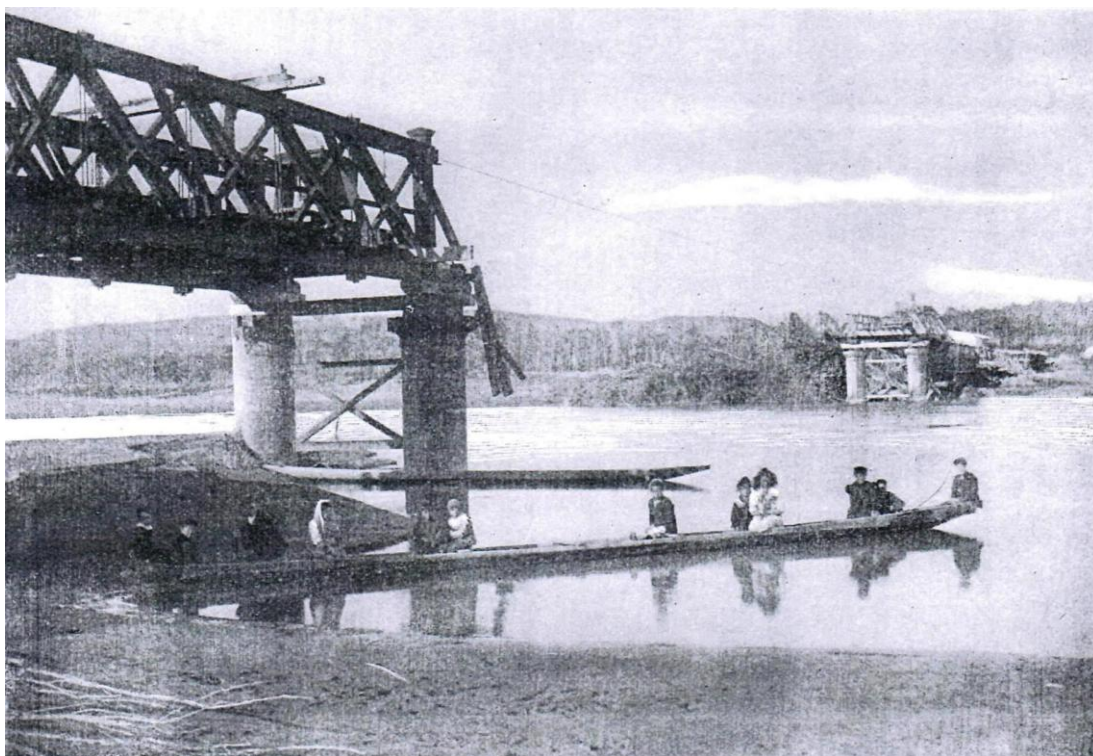


Figure 5: River waka at Onepuehu bridge after the 1897 flood

Source: Appendices to the Journals of the House of Representatives, 1898, C-1 (after page 128).

Europeans made waka journeys on the Rangitikei River in the early days of Pakeha settlement. This report quotes from the accounts of journeys by two of them, Richard Taylor and James Crawford.

Richard Taylor was a Wanganui-based missionary who first travelled up the river in March 1845. His biographer wrote of this trip:

On 4th March they commenced the journey up the river valley, firstly by canoe and then on foot. He remarks on the difference between this part of the Rangitikei and other New Zealand rivers of his acquaintance; on this river the banks are low and the adjoining country undulating or flat, rather than hilly, consequently the river traveller obtains extensive views. There were noble forests of totara. The current is much swifter than on the Wanganui; there are extensive beds of shingle spread over a width four or five times that of the actual stream, so he surmises that floods are frequent and great. (This description applies only to the portion covered by canoe on this occasion; higher up the river flows between cliffs.) On the first day they reached a place called The Karakas to sleep; his Maoris killed a large sow and two suckling pigs, which provided dinner and next morning's breakfast.... The second day's canoeing was slow, both by reason of the current, and the abundance of the pigs on the banks, which his men persisted in chasing. They reached Te Porewa at 3 p.m., where they left the river, dined, and started on foot along a track on the west of the river, which led into the interior from this place.⁶⁵

They travelled overland to Kotara:

On the morning of the 10th, the Maoris [at Kotara] lent his party a canoe, by which they proceeded, though slowly on account of the swift current and incessant succession of rapids, in two of which they had narrow escapes from upsetting.... They camped at a point where the track left for Patea, hauling the canoe well up and leaving a note for the owner.⁶⁶

They then travelled overland to Matuku Pa.

Taylor also made the journey in the other direction in March 1860:

Wednesday, 21st March 1860, was his 55th birthday. The camp [at Kokako] broke up in the morning, all matters settled most amicably, and a young chief of this place offered to lend Taylor his canoe to go down the Rangitikei. They left at 7, continuing through the mania and crossing the Moaawango [sic] River at one of its most striking features, where it runs in a chasm 20 feet wide and 50 feet deep, with vertical walls, the stream itself being clear, transparent and very deep. The Maoris had built a bridge consisting of a single totara plank spanning the gap, with side protection enabling horses to be taken across it. But Taylor found the approach tracks, benched in the slope of the hills either side, rather fearsome, being very narrow, with an outward slope, and slippery. It was raining at the time and his leg was still very weak. A Maori in front and one behind took his hands and helped him, and he was very relieved when this track, a ¼ mile in length, was safely passed. After crossing the

⁶⁵ AD Mead, *Richard Taylor: missionary tramper*, AH & AW Reed, Wellington, 1966, page 66.

⁶⁶ AD Mead, *Richard Taylor: missionary tramper*, AH & AW Reed, Wellington, 1966, page 67.

bridge, the track ran for a time under an overhanging cliff, then climbed a hill on to an area of grass and forests of very attractive appearance, which the Maoris thought was the finest part of the island and wished Taylor to name the Kananahou, then after passing a long narrow lake named Pakehiwi they reached Popotai, a village below Patea which was now abandoned.... [The next morning they had] an hour and a half walk to the head of navigation on the Moaawanga at Nukutarua.... Here they took two small canoes as far as Kiripawerawera, where the larger canoe lent him for the main run would be found. The river at first ran through a deep valley with cliffs, then narrowed and the cliffs became perpendicular and of immense height, with the branches of the trees on top interlacing so that they appeared to be floating through a tunnel. In places the water percolating through a shell layer on the cliff sides gave rise to stalactites and stalagmites. There were many caves in the sides, and the water very deep. He estimated the dimensions of the ravine in the narrow portion as 20 feet wide and 200 feet deep. It opened out for a stretch where the cliffs were clothed in a pendant grass, and where they passed a forest of white pine, after which the gorge closed in again with perpendicular walls where it joined the Rangitikei.

This river, though quite picturesque, was tame after the Moaawango, and was a series of rapids, some of which nearly swamped them. Mawai, the skipper, handled the navigation superbly, with perfect self-possession and command of his limbs, giving his orders with confidence, and uttering an exulting cry when safely through.... They shipped so much water that one man was constantly bailing, and at some of the rapids they were steadied down with ropes. Although it was raining and very cold, the Maoris jumped into the water without any complaint. They passed a large tributary, the Kawatau, which was flooded and muddy, its current running alongside that of the clear Rangitikei for some distance before mixing, and at dusk reached a group of huts for the night. His Maoris remarked on the absence of drift timber, abundant on the Wanganui, and of karaka trees, of which they did not see one, indicating that the Rangitikei had never been inhabited, as these trees were customarily planted by the Maoris at their settlements.

Starting early on a fine morning, they passed beautiful groves of totara trees growing close to the water's edge, and entered more open scenery with a wider and shallower channel. At noon they came to Reureu, where the first white settler's cottage was seen, and landed.⁶⁷

James Coutts Crawford wrote about a waka journey up the Rangitikei River from Onepuehu to the Moawhango River that he and Samuel Deighton made in January 1862:

On January 9th I proceeded with Mr Deighton to obtain a canoe in which to ascend the Rangitikei River. We called at Hammond's and fell in with one Mahia, who took us to the *pa* Onepuehu on the opposite side of the river. Here we engaged a canoe with a crew of four men to start on the 13th, and take us to Patea....

On January 14th we got away at 8.30 a.m. Our crew consisted of Mahia as captain, Hohepa (Taioneone), Hohepa, Anatipa.... The Rangitikei River is much inferior in size and depth to the Whanganui; consequently the canoes which navigate it are smaller. I may also state that the crews have not the same physique, and that the

⁶⁷ AD Mead, *Richard Taylor: missionary tramper*, AH & AW Reed, Wellington, 1966, pages 233-234.

population of the district is sparser. In the lower part of its course the Rangitikei has a shingly bottom, like the rivers of the Canterbury Plains, winding and sprawling through a broad bed of gravel, which again is bounded by cliffs of gravel, sand and clay, with tertiary strata in places. This lower part of the river is mostly open and free from forest.

From our point of embarkation, however, the character of the river changes. It is bounded by cliffs at a moderate distance from each other, and the bed of the river, although still of gravel, has not room to spread into the great sheets of shingle which we found lower down. We spent six days in passing through the forest.... I was informed that at a place called Ekipi, the cliff being thrown down by the earthquake of the year 1855, had blocked up the river for two days, during which time a lake formed above and the river became dry below. This is an accident extremely likely to happen in the beds of any of the rivers on this coast from the Rangitikei westward, and might produce serious catastrophes. We spent the night on a gravel bed at a place called Waikokowai, where I found some lignite containing impressions of ferns.

The Rangitikei appears to have none of the long deep reaches so common in the Whanganui, and I may add so beautiful in fine weather.... [On January 15th] we passed Rangatira hill on the right bank, where I was informed a “Tamiwha” formerly lived, and as we did so, some blocks fell down from the cliff, which we naturally gave the “Tamiwha” credit for upsetting. My impression is that the Rangitikei marks a line of higher terrace, or rise, to the interior, but our point of observation from a canoe low down between cliffs was not an advantageous one.

At 6 p.m. we encamped at Makohine on the left bank; the place is tolerably open, and a large bush fire was burning. Here the road from the west coast strikes the river. We met a party of natives from Taupo. They had walked so far, and were making a bark canoe to take them down the river.... I observed the Maoris preparing to catch eels with meat on the end of a piece of flax which was tied to a rod. The scenery is very like that of the Whanganui, except that the cliffs are not nearly so high. We observed a good deal of totara. Our encampment was highly picturesque – the natives round their fire, the tents, the cliffs, the foliage, and the river, lighted by the clear starlight and the camp fires. At this place a large bush fire was close to us, and the effect of the burning embers falling in streams of fire over the cliffs was magnificent.

On January 16th we started at 8.30 a.m., after a good bathe and an eel breakfast. At 9 o'clock we stopped at Kaitarepa on the left bank to get a pannikin; we had left without one and found the inconvenience of having nothing but the lid of a tin to drink out of. We passed Te Marakiraki and Te Rangiau on the right bank and reached Tapue on the left. Here an aboriginal brought a side of pork as a present to our crew. At 11 a.m. I saw the Otaire range bearing N.N.W. It is covered with forest, and has every appearance of being only a higher part of the tertiaries. We passed a deserted *pa* on the right bank called Waimanu. Here we shot a cormorant. On the left bank opposite is Putatara perched on the top of a cliff. We stopped to dine at Otaire.... We passed Taupakamau, Koau and Te Horeta on the left bank, and at 4 p.m. ascended a bad rapid, and soon afterwards passed a waterfall on the right bank. Few waterfalls on this river are to be compared with those of the Whanganui.

We nearly came to grief at a rapid below Te Whata. Anatipa and Hohepa (Taioneone) were towing the canoe up stream with the painter, when the former slipped and fell into the current. Both lads were swept down stream with great velocity; the canoe went rapidly in the same direction, and turning broadside to the stream, half filled with water and threatened to be dashed against a cliff on the right bank. Hohepa, exhausted and nearly sinking, was rescued by Mr Deighton, who caught him by the hair when he was below the water. The situation was one of danger, which however was over in a few seconds. The canoe was then baled out, and being lightened by some of us landing and walking above the rapid, was towed up. We passed some more bad rapids and camped at Te Whata, a confined space with whity-blue clay cliffs containing nodules. We slept on fuchsia boughs after a delicious bathe, the weather during the day having been intensely hot. Mahia and Anatipa went to catch eels, in which they were successful. The eel is caught with strips of meat or guts tied as bait to the line with flax.

On January 17th the weather was cooler, and we started at 8.30 a.m.... Having passed a succession of bad rapids, we stopped at Pohunga to dinner. Here the Taupo road crossed the river.... At 4.30 p.m. we passed the Kauwhata junction. This tributary is almost as large as the main river, and falls in on the left bank. Here we shot a bittern, and encamped a little higher up in a most picturesque spot. We passed some large boulders of volcanic rock today, apparently not *in situ*, and suggestive of the question, for future investigation, how they got there.... The roar of water heard during the night was very great. It must be awkward camping on the Rangitikei when floods prevail, as it is difficult to find any ground upon which to rest except the shingle flats, and the cliffs are vertical.

On January 18th we passed through cliffs entirely of sandstone, with bands of flat and of rounded stones. At Kai-inanga, Deighton shot a pair of *whio* or blue ducks. We passed Hautapu at 10.30, a large tributary falling into the right bank. Here the Taupo road touches the river. At 11 a.m. sighted Ruahine, bearing north-east by compass. At the Tokakaitangata rapids, which were very bad ones, we got another pair of *whio*. If I remember right, these boulders are of igneous rock. Kowhai is plentiful, and festoons the banks like weeping willow; totara is also a common tree. At Terare, an old deserted settlement, we foraged and got onions, potatoes, cabbages, and a pannikin. We soon afterwards reached Maungatutu, where the stream of that name comes in on the left bank between cliffs of nodular band sandstone about two hundred feet high and only twenty to thirty yards across. Here the crew insisted on encamping, although it was a disagreeably confined space between high cliffs on both sides.

On Sunday, January 19th, in accordance with Maori custom, we were obliged to halt. The heat was excessive, and bathing delicious. We fed excellently on *whio*.

On January 20th we passed through Te Wahaihai, or the cleft. Here the river has perpendicular cliffs on both sides and winds much. The height of the cliffs is about one hundred and fifty feet, the breadth of the river about thirty yards. The crew seemed well aware of the military strength of the locality, and said with triumph, "these are the *paraki Maori*" – *i.e.*, the Maori barracks or forts. I observed a small flounder in the river. We reached Moawhanga [sic], a tributary on the right bank, which, leaving the main stream, we after dinner began to ascend. This stream is often

not more than ten or twelve feet wide, with perpendicular cliffs and with the trees actually meeting in many places overhead. The scene is unique, and the light and shade produced by a bright sun gleaming through the foliage is most remarkable. Our canoe voyage of six days was now over. We disembarked, and were not sorry to emerge from this deep ditch and to ascend a cliff about two hundred and fifty feet high, whence we obtained an extensive view over forest and plain, a sight which we had not enjoyed for many days.⁶⁸
[Italics in original]

It is apparent in the accounts of both Taylor and Crawford how Maori were fully in control of the trips they made on the Rangitikei River. The Europeans were passengers, while the Maori crew negotiated safe passage (probably thanks to their whakapapa connections) with those Maori holding rangatiratanga over various stretches of the river who were met along the way. Local Maori also appeared to allow both the crew and the Europeans to forage and hunt on the land and on the river. There is no suggestion in the accounts that any Crown authority existed on the stretches of the river that were travelled.

⁶⁸ JC Crawford, *Recollections of travel in New Zealand and Australia*, Trubner and Company, London, 1880, pages 116-123.

Crawford's account is reprinted in JG Wilson, *Early Rangitikei*, Whitcombe & Tombs, Christchurch, 1914 (reprinted Capper Press, Christchurch, 1976), pages 223-228.



Figure 6: JC Crawford sketch, 'Junction of Hautapu River with Rangitikei River', 1862

Source: Alexander Turnbull Library, JC Crawford sketchbook E-041



Figure 7: JC Crawford sketch, 'Moawhanga junction with Rangitikei', 1862

Source: Alexander Turnbull Library, JC Crawford sketchbook E-041

Besides river waka, there were other craft on the river, both smaller and larger. Richard Taylor's biographer wrote of a crossing of the river mouth made by Taylor and his travelling companions in March 1846:

The tide was too deep to ford, but they found a moki (raft of flax and raupo stalks), which some previous travellers had made, drifted up on the bank; they crossed in relays.⁶⁹

Alexander McKenzie, a member of the family that established Poyntzfield (later known as Flock House), wrote about two larger waka pitau he had personally seen at the river mouth. The year is not known⁷⁰. He was born in 1858, and set down his reminiscences in 1939:

The first wool, ten bales (spade pressed) was sold to Taylor & Watt of Wanganui at 19 pence per lb, delivered by boat in the river opposite their store, Taupo Quay. The schooner Catherine Johnston was loaded at the mouth of the Awamate Creek at Scott's Ferry (no wharf those days) and towed over the bar by two 'waka pitau' (war canoes) each manned by fifty men. The precision of the crews in handling their paddles ('hoe') urged on by their timegivers ('hauta') the perfect rhythm of the canoe song ('titahi'). As we were swept out to sea, their outward turn (right and left) as they cast off the tow lines, the return toward us at full speed as if to strike us bows on, to separate, pass furiously by on either side, tongues lolling, fierce shout of chief and crew, and final 'haere ki Wanganui', will ever remain in my memory. My brother Thomas and I were on board and reached Wanganui on the following morning.⁷¹

James Wilson, writing in 1914 about waka use of the river, stated that "the Rangitikei River was looked upon as we now look upon the Main Trunk Line, as a means of connection between the interior and the coast"⁷²:

These parties of natives who went up and down the river probably walked most of the way up, ... for the canoes would not be available, but, in coming down, they would very quickly fall a white pine tree and make a rough canoe of it for transport. I have sometimes brought posts down the river, and the Maoris who brought them down did this to carry their provisions and tents. The resident natives, however, no doubt had canoes, and used them going both up and down. We have already recorded that Mr Fraser bought wheat from the natives grown on Te Mahoe flat on the river opposite

⁶⁹ AD Mead, *Richard Taylor: missionary tramper*, AH & AW Reed, Wellington, 1966, page 93.

⁷⁰ Church dates the event to 1854 (I Church, 'The port of Rangitikei', in *New Zealand Marine News*, Volume 34(3), 1984, page 76 - Supporting Papers #7417), but this is inconsistent with the McKenzie family's arrival in the district in 1855, and with Alexander McKenzie's birth date of 1858.

⁷¹ Rob Knight, *Poyntzfield, the story of a pioneer family: the McKenzies of Lower Rangitikei*, 1975, pages 64-65.

⁷² JG Wilson, *Early Rangitikei: a few notes collected from various sources of the settlement on the Rangitikei River of a number of Maoris of different tribes, a short history of the purchase and colonisation of the land between the Turakina and Oroua Rivers, and an account of the various pioneers*, Whitcombe & Tombs, Christchurch, 1914 (reprinted Capper Press, Christchurch, 1976), page 217.

Rata in the early days, and it was brought down by canoes. It must have been very tedious, however, to pole up against the stream.⁷³

European transportation use of the Rangitikei River was confined to the river mouth. Thomas Scott operated a ferry across the river for travellers on the Wellington to Whanganui beach highway from 1849. Small coastal craft called in to drop off cargo for the early settlers on the Rangitikei-Turakina Purchase Block, and to pick up agricultural produce they and local Maori had grown, and dressed flax. Often this produce was brought down the river in waka and transhipped into the schooners at the mouth. The so-called Port of Rangitikei has been comprehensively researched by Church⁷⁴. He describes a pioneer settler era of sailing cutters and schooners up until the mid 1860s, when steamers gradually took over. Timber from mills near Bulls started to be shipped through the port, and a wharf was built at the mouth of Awamate Creek. The *New Zealand Pilot* guide for mariners described the port and river in 1875 in the following terms:

The Rangitiki [sic] River ... is 9½ miles north of the Manawatu. Coasters drawing six feet may enter at high water; and it is navigable by canoes or boats 50 miles; a mile above the entrance is fordable at low water. The land here is among the best in New Zealand; for many miles inland it is level and clear of wood, with excellent pasture for cattle; flax is cleaned by the natives and exported to some extent.⁷⁵

A pilot was appointed in February 1876. This appointment was the first Crown intervention in shipping in the Rangitikei River, and came after thirty years of apparently amicable relations between Europeans and Maori with respect to shipping and river use at the river mouth. Church has speculated on the reason for the appointment in the following terms:

Insurance companies charged heavy rates for ships trading to ports where there was no licensed pilot, and no doubt the shipowners pressured the Marine Department to appoint a pilot for Rangitikei.⁷⁶

The Crown's principal motivation for becoming involved was to ensure the safety of shipping. While every Crown action has a bearing on the Treaty relationship between the

⁷³ JG Wilson, *Early Rangitikei: a few notes collected from various sources of the settlement on the Rangitikei River of a number of Maoris of different tribes, a short history of the purchase and colonisation of the land between the Turakina and Oroua Rivers, and an account of the various pioneers*, Whitcombe & Tombs, Christchurch, 1914 (reprinted Capper Press, Christchurch, 1976), page 220.

⁷⁴ I Church, 'The port of Rangitikei', in *New Zealand Marine News*, Volume 34(3), pages 72-85, Volume 34(4), pages 119-127, and Volume 35(1), pages 16-24, 1984. Supporting Papers #7415-7422, 7423-7426, and 7427-7430.

⁷⁵ *New Zealand Pilot*, 1875, quoted in I Church, 'The port of Rangitikei', in *New Zealand Marine News*, Volume 34(3), 1984, page 82. Supporting Papers #7420.

⁷⁶ I Church, 'The port of Rangitikei', in *New Zealand Marine News*, Volume 34(3), 1984, page 84. Supporting Papers #7421.

Crown and Maori, the appointment of a pilot is likely to be low on the scale of political impact for Maori rangatiratanga.

The next Crown intervention, a consequence of the first, was the establishment of a signal station at the mouth of the river:

The equipment for the signal station arrived on the Napier at the beginning of July [1876]. This consisted of a 48-foot mast with a yard and tackle, signalling balls and semaphore apparatus. A site was rented from Ihakara Tukumaru, chief of the Ngati Raukawa, and a house was erected. When the bar was safe, Jenkins [the pilot] went out in a boat to pilot the steamers; if it was unsafe signals were hoisted.⁷⁷

While flagpoles and flags had a highly charged political meaning for both European settlers and Maori during the nineteenth century, the apparently willing leasing of the site probably meant that there was no spillover of this meaning with respect to the signal mast. According to Church, the Crown purchased the leased land in 1881 after Ihakara Tukumaru's death. The details of the leasing and purchase of the signal station site have not been researched for this report, being land title matters more suitably forming a part of the history of the various reserves granted by the Crown to Maori individuals as part of the Rangitikei-Manawatu Purchase. Shortly after, the Marine Department made attempts to close the pilot service. After local protests it then continued intermittently until 1887, after which a local resident was paid a retainer to signal vessels into and out of the river mouth⁷⁸.

The development of roads (e.g. Bulls bridge opened in 1873) and railways (Kakariki bridge opened in 1880) provided competition to the shipping serving the Rangitikei district. Coastal steamers were already visiting the river mouth less frequently prior to 1897, as traffic became confined to the shipping of the annual wool clip. The flood that year changed conditions at the mouth so much that no more steamers called in after that⁷⁹.

3.3 The unused years

The next chapter in this report on riverbed ownership demonstrates how difficult it was for the Crown to find support for its argument that the Rangitikei River was navigable and used for boat navigation after the 1897 flood. Sydney Mair, County Engineer for Rangitikei

⁷⁷ I Church, 'The port of Rangitikei', in *New Zealand Marine News*, Volume 34(3), 1984, page 84. Supporting Papers #7421.

⁷⁸ I Church, 'The port of Rangitikei', in *New Zealand Marine News*, Volume 34(4), 1984, pages 119-120. Supporting Papers #7423.

⁷⁹ I Church, 'The port of Rangitikei', in *New Zealand Marine News*, Volume 34(4), 1984, page 127. Supporting Papers #7426.

County Council from 1899, advised in 1958 that the 1897 flood had halted the transporting of wheat by canoe from the Otamakapua Block⁸⁰. Effectively the river was no longer being navigated by craft.

The only use of the river for transport after 1897 that Lands and Survey Department could identify, during navigability research in 1958, was the floating or rafting of cut sleepers for the railway down the river to Ohingaiti during the period 1896-1903⁸¹. While mentioned as a brief statement in local histories, details of this use of the river have been hard to find. Moar states that the timber was felled at Taoroa:

At Taoroa, a settlement a few miles south of Taihape, sleeper splitting was quite an industry. The farmers on whose land the timber stood were paid 6d to 8d royalty for each tree by splitters who cut and split the timber, and then floated it down the river to receive 3s 6d for each log delivered at Ohingaiti. There was much hard work and considerable hazard in this business. On one occasion a flood broke the boom across the river at Makohine and carried some hundreds of sleepers to the sea. On another occasion, a raft with all stores and bedding hit a boulder in a rapid and split from end to end. Losses from heavy timber that would not float were considerable. One settler, a Mr Percy Smith, lost his life in the river at Makohine while engaged in this work.⁸²

Moar also refers to a witness in a Supreme Court case in 1905 saying, in connection with use of the river, “I only know of sleepers and straining posts floating down the river”⁸³.

Te Reureu Maori continued to make use of waka to cross the Rangitikei River during the periods 1897-1899 and 1902-1919 that the Onepuehu bridge was damaged and unusable (see

⁸⁰ SAR Mair, Wanganui, to County Clerk Rangitikei County Council, 26 May 1958, attached to County Clerk Rangitikei County Council to Chief Surveyor Wellington, 28 May 1958. Lands and Survey Wellington file 3/9. Supporting Papers #2798-2799.

⁸¹ Notes of conversations, undated. Lands and Survey Wellington file 3/9. Supporting Papers #2806.

⁸² Moar, NT, *The origins of Taihape: a study in secondary pioneering*. MA thesis in history, Victoria University College, 1955, page 48.

This extract is quoted word for word, but without attribution, in D. Robertson, *Give me Taihape on a Saturday night*, 1995, page 47.

⁸³ Moar, NT, *The origins of Taihape: a study in secondary pioneering*. MA thesis in history, Victoria University College, 1955, page 46.

The Supreme Court case was *Gardner and Sons v Mair* in 1906 (also known in long form as *Rebecca Gardner and others, trading as Gardner and Sons v Sydney Arthur Robert Mair*). Attempts to locate the witness evidence during research for this report have been unsuccessful. A local newspaper report of the Magistrate's Court hearing of the case in Taihape (*Taihape and Waimarino News*, 17 August 1905, page 2) contains no mention of timber floating. When appealed to the District Court, which removed it into the Supreme Court, further evidence was entered in early July 1906, and the Supreme Court heard the case in mid July 1906 (*Wairarapa Daily Times*, 18 July 1906, page 5). The newspaper reports of the Supreme Court decision later that month (*Wanganui Herald*, 30 July 1906, page 5) do not refer to timber floating. Not included in Supporting Papers.

While the witness referred to by Moar was unnamed in his thesis, there is a strong possibility that it was the same Sydney Mair, defendant in the court case in his capacity as County Engineer for Rangitikei County Council, and who assisted the Department of Lands and Survey in 1958.

the chapter on bridging the river). Rangitikei County Council set up a ferry operation across the river at Bulls when the 1897 flood destroyed the bridge there. It continued until a new bridge was opened in 1903.

It was during the time following 1897 that the attitude among the European settler population of the upper and middle reaches of the Rangitikei valley described by Young developed:

Once bridges went up in the district, they immediately changed settler psychology. As long as they were able to cross the river from on high, locals could keep their distance from the Rangitikei far below them. Usually that is how they preferred it.

Apart from the odd river flat between Mangaohane and Mangaweka, the few farmers who dwell along the Rangitikei are “highlanders”. They need not fear the unwanted encroachments of their river. The “Tiki”, as some locals call it, is something they might look into from afar, noting its change in colour or depth, but they are rarely on intimate terms with it. They were taught, all the old people, that the river was dangerous – something to keep away from.⁸⁴

At the river mouth, small recreational boats associated with the Tangimoana Aquatic Sports Society were moored. Apart from that, no boats frequented the Rangitikei River.

3.4 Recreational boating

That wariness of and sense of remove from the river by local residents may not have changed much in more modern times. However, there has been a change among adventure recreationists in more recent decades, thanks to the development of rafting, kayaking and jet boating. The Rangitikei River rates highly for these users because of the challenge of the waterways and the attractiveness of the wider river environment.

The Crown’s role during the adventure recreation era has been limited. While it has legislated for a general authority over boating activity, and made bylaws and regulations having general national application, it has looked at local situations such as the Rangitikei River only sparingly. The sole instance identified during the research for this report of the Crown tailoring its general authority to suit the Rangitikei River in particular has been in allowing for jet boating in 1979.

⁸⁴ D Young, *Faces of the River: New Zealand’s living water*, TVNZ Publishing, Auckland, 1986, page 171.

Egarr has catalogued the value of rivers in New Zealand to canoeists and rafters⁸⁵. He rated the Rangitikei River (upper river and Pukeokahu sections), as one of the best rafting and kayaking rivers in the country. The Pukeokahu section is the most technically challenging, and is rafted by commercial operators. The Hautapu River contains stretches of water that are impassable because of bad falls and fallen trees, while the Moawhango River has been badly affected by the Tongariro Power Development Scheme's diversion of water out of the catchment. Writing in 1981, Egarr summarised the value of the Rangitikei River:

Undoubtedly the best example of white water in the [Manawatu] region is the upper Rangitikei above Tarata. In fact, canoeists and rafters come from all over the country to run the Grade 4 rapids on this river. Recent publicity is beginning to give the river an international reputation for its water of high skill demands. This section of the Rangitikei is not suitable for most recreationalists and does not have high use. However, the lower river, below Utiku, is very popular with all recreational groups for its white water of medium skill requirements and dramatic gorge scenery.⁸⁶

He expanded on this in the main body of his report⁸⁷.

Farrant has catalogued the value of the Rangitikei River and two of its tributaries, Moawhango River and Kawhatau River, for jet boating, as follows⁸⁸:

Table 3: Suitability of the Rangitikei and Moawhango Rivers for jet boating

River	Easy boating	More advanced boating	Difficult boating	Not suitable for boating
Rangitikei	Rivermouth to Ohingaiti	Ohingaiti to Pukeokahu	Mangaohane to Springvale	Pukeokahu to Mangaohane Upstream of Springvale
Moawhango			Rangitikei River to Pungataua	Remainder of the river
Kawhatau			Rangitikei River	Remainder of

⁸⁵ GD Egarr and JH Egarr, *New Zealand recreational river survey: an investigation into the recreational potential of New Zealand's inland waterways: Part I, methods and conclusions, and Part II, summaries of North Island Rivers*, 1981. National Water and Soil Conservation Organisation for New Zealand Canoeing Association, Wellington, Water and Soil Miscellaneous Publication No. 14.

G Egarr, *New Zealand's North Island rivers: a guide for canoeists and rafters*, David Bateman, Auckland, 1989.

⁸⁶ GD Egarr and JH Egarr, *New Zealand recreational river survey: an investigation into the recreational potential of New Zealand's inland waterways: Part I, methods and conclusions*, 1981, page 49. National Water and Soil Conservation Organisation for New Zealand Canoeing Association, Wellington, Water and Soil Miscellaneous Publication No. 14.

⁸⁷ GD Egarr and JH Egarr, *New Zealand recreational river survey: an investigation into the recreational potential of New Zealand's inland waterways: Part II, summaries of North Island Rivers*, 1981, pages 50-54. National Water and Soil Conservation Organisation for New Zealand Canoeing Association, Wellington, Water and Soil Miscellaneous Publication No. 14.

⁸⁸ RI Farrant (ed), *Handbook 1979*, pages 48-49. New Zealand Jet Boat Association (Inc), Christchurch, 1979.

			to Rangitane Road bridge	the river

Egarr also identified the parts of the Rangitikei River valued by jet boating enthusiasts⁸⁹.

A Rangitikei-Wanganui Catchment Board report in 1978 made the following remarks about boating activity, looking particularly at activity on the lower river:

Canoeing interest in the river is ... confined mainly to the upper river and tributaries.... Little if any canoeing is done in the lower river, and no conflict is likely to arise with respect to river control and management.

Jet boating is a growing activity in all sections of the river, with organised rallies increasing in frequency. Past river control works have enhanced the value of the lower river for boating by confining the river and establishing in the main a single channel.

As recently as 10 years ago sections of the river were not navigable at times during the summer period. Now all sections of the river are navigable at all times. The Moawhango Diversion may have some effect on the river at critical times of low flow, but this will in no way offset the improvements to navigability made over the last 30 years of river control works. In more recent years river training works have tended to extend at times into the low flow channel, creating some risk to jet boaters.

Liaison with boating organisations on access to the river, the provision of facilities, and on any matters concerning the construction of river control works, has to date been good.⁹⁰

The Crown had laid the foundations for its overarching authority over river transport matters in the Harbours Act 1878. This statute, prepared following the demise of provincial government, defined a “harbour” as (among other things):

Any harbour properly so called, whether natural or artificial, and any haven, estuary, navigable lake or river, dock, pier, jetty.

The legislation remained on the statute books through the Harbours Acts 1908 and 1923. During the first fifty years of its existence its coverage of river transport could be characterised as more of a fallback position for the Crown, to be relied upon if required,

⁸⁹ GD Egarr and JH Egarr, *New Zealand recreational river survey: an investigation into the recreational potential of New Zealand's inland waterways: Part II, summaries of North Island Rivers*, 1981, pages 50-54. National Water and Soil Conservation Organisation for New Zealand Canoeing Association, Wellington, Water and Soil Miscellaneous Publication No. 14.

⁹⁰ Rangitikei-Wanganui Catchment Board, *Planning needs and management objectives for the Rangitikei River*, 1978, page 9. Report No. 78/7. Supporting Papers #6369-6400 at 6379.

rather than an actively administered responsibility. However, matters changed in 1934 when the General Harbour Motor-Launch By-Laws were made pursuant to Section 234 Harbours Act 1923⁹¹. This Section allowed the making of regulations providing for “the safe navigation of any harbour, navigable river or navigable lake”. The 1934 bylaw was designed to regulate motor launch use anywhere outside harbours administered by a Harbour Board. Among other things it prohibited motor launches from travelling at more than 5 knots within 200 yards of any erosion protection works on navigable rivers. When the bylaw was rewritten as a regulation in 1958, it prohibited motor launches from travelling at more than 5 knots within 200 yards of any riverbank (described as “the edge of the water”)⁹². This remained the case under further rewrites of the regulations in 1962⁹³ and 1979⁹⁴.

Neither the Harbours Act (in its various incarnations) nor the bylaws/regulations made under that Act referred to the existence of Maori rights on rivers. The Crown regarded its authority over boating activity as an exclusive authority. No evidence was located during the course of research for this report to suggest that the administrative procedures adopted by the Crown in its operation of the Harbours Act included consultation with relevant Maori, or active protection of Maori interests.

While the general speed limitation suited keeled boats with inboard or outboard motors, it did not cater for jet boats, which need a greater speed to be able to plane across the surface of the water. As a result, provision was made in the regulations for the speed limitation to be removed on certain rivers attractive to jet boat enthusiasts. It was a matter of the New Zealand Jet Boat Association applying to the Marine Division of the Ministry of Transport for a specific regulation exempting a particular river from the speed limit. For the Rangitikei River, the first approach came in August 1975.

The approach from the Jet Boat Association to the Wellington Regional Office of the Marine Division has not been located in Crown records. That office wrote to the Rangitikei-Wanganui Catchment Board, which responded that there had been discussions between Board staff and the Central Districts Branch of the Jet Boat Association. The Catchment Board had

⁹¹ *New Zealand Gazette* 1934 page 2744. Not included in Supporting Papers.

⁹² Motor Launch Regulations 1958. Statutory Regulations 1958/64. Not included in Supporting Papers.

⁹³ Motor Launch Regulations 1962. Statutory Regulations 1962/80. Not included in Supporting Papers.

⁹⁴ Water Recreation Regulations 1979. Statutory Regulations 1979/30. Not included in Supporting Papers.

no objection in principle to the speed limit being lifted, provided that there would be no conflict between jet boat use and the Board's principal interest in river control work:

The Rangitikei River is reserved under the Reserves and Domains Act for soil conservation and river control purposes, with management and control for those purposes vested in the Board. There is accordingly a need to have some mutual understanding of the Board's interests in the river and those of the boat operators, and I was concerned that a blanket lifting of any controls over boat use could indeed lead to some conflict of interest.

I understand that even if the speed restrictions are lifted, that your Department could and would still exercise some control over boating activities, should this prove necessary to protect other river users' interests.

I am satisfied, from my discussion with the Jet Boat Association representatives, that they are fully conscious of the interests of other parties in the use of the river, and that they would continue to cooperate with us, as they have done in the past, should the present speed restriction be lifted.

As we ourselves occasionally use a jet boat on the Rangitikei River for inspections, it is probably in our interests to not only raise no objections, but in fact to support the uplifting of the restrictions.⁹⁵

There does not seem to have been any further progress on the Jet Boat Association's approach until the Association made a fresh application to the Marine Division in February 1978⁹⁶. However, in May 1977 Wellington Acclimatisation Society had been in touch with the Marine Division. No correspondence from that period was located on the Ministry of Transport's Rangitikei River file during research for this report, though it is referred to in a letter from the Society in June 1979:

Following requests from your Department in May 1977, this Society made known its views on what parts of the Rangitikei River were acceptable for the uplifting of speed restrictions. The sections named were from the sea to Vinegar Hill Bridge, and from Utiku to Mangaohane Bridge. The sections between Vinegar Hill and Utiku, and above Mangaohane, are the most heavily used for fishing and more passive forms of recreation. This Society considered this to be a reasonable compromise and indeed had the support of the Central Districts Branch of the NZ Jet Boat Association.⁹⁷

The Jet Boat Association's fresh application in February 1978 was accompanied by expressions of support from local authorities, specifically Oroua County Council, Rangitikei

⁹⁵ Chief Engineer Rangitikei-Wanganui Catchment Board to Regional Marine Officer Wellington, 22 August 1975. Transport Head Office file 43/150/10. Supporting Papers #678.

⁹⁶ National Secretary NZ Jet Boat Association to Marine Division, 8 February 1978. Transport Head Office file 43/150/10. Supporting Papers #679-683.

⁹⁷ Secretary Wellington Acclimatisation Society to Secretary for Transport, 5 June 1979. Transport Head Office file 43/150/10. Supporting Papers #705.

County Council, Manawatu County Council, and Rangitikei-Wanganui Catchment Board. Obtaining the support of local authorities, the Association told the Marine Division, had been a case of the application being “processed to your requirements”⁹⁸. Obtaining the views of tangata whenua along the Rangitikei River was not a requirement of the Crown’s administrative procedures, and therefore did not occur.

The Marine Division then undertook its own soundings of the views of river users for the proposal, on the assumption (later confirmed⁹⁹) that the Jet Boat Association wanted a blanket exemption for the whole river, rather than the speed lifted over certain stretches of the river only. The bodies the Marine Division approached for their views, besides the four local authorities that had already been approached directly by the Association, were three more local authorities (Kiwitea County Council, Taupo County Council and Manawatu Catchment Board), two Government Departments (Wildlife Service and the Army), Nature Conservation Council, Wellington Acclimatisation Society, and Manawatu Freshwater Anglers Club¹⁰⁰. Again, tangata whenua were not consulted.

Both Wellington Acclimatisation Society and the Anglers Club opposed the lifting of the speed restriction¹⁰¹. Hawke’s Bay Acclimatisation Society, alerted by its Wellington counterpart, opposed the lifting of the speed limit in the upper reaches, as these parts of the river were a valuable breeding area for blue duck¹⁰². The Nature Conservation Council asked that the speed exemption apply only to areas “which will not conflict with other recreational use of the river generally”, including “local residents who enjoy the use of the swimming holes”¹⁰³. The Rangitikei-Wanganui Catchment Board did not foresee any problems, though noted that exempting the whole river throughout the year may result in strong objections from other river users, and it would be prepared to assist Marine Division in a study to define

⁹⁸ National Secretary NZ Jet Boat Association to Marine Division, 8 February 1978. Transport Head Office file 43/150/10. Supporting Papers #679-683.

⁹⁹ Secretary Central Districts Branch NZ Jet Boat Association to Regional Marine Officer Wellington, 14 May 1978. Transport Head Office file 43/150/10. Supporting Papers #686.

¹⁰⁰ Harbours Supervising Officer Wellington to Affected Parties, 11 May 1978. Transport Head Office file 43/150/10. Supporting Papers #684-685.

¹⁰¹ Secretary Wellington Acclimatisation Society to Harbour Supervisor Wellington, 16 May 1978, and Honorary Secretary Manawatu Freshwater Anglers Club to Harbour Supervisor Wellington, 17 May 1978. Transport Head Office file 43/150/10. Supporting Papers #687 and 688.

¹⁰² Secretary Hawke’s Bay Acclimatisation Society to Marine Division, 22 June 1978 and 20 July 1978. Transport Head Office file 43/150/10. Supporting Papers #694 and 697.

The Society originally referred to paradise duck in its June letter, but amended this to blue duck in its July letter.

¹⁰³ Secretary Nature Conservation Council to Marine Division, 12 June 1978. Transport Head Office file 43/150/10. Supporting Papers #692.

suitable stretches and suitable times of year for the speed limit to be lifted, if that should be necessary¹⁰⁴.

Of the local authorities, Rangitikei County Council had changed its mind from its support expressed fifteen months earlier to the Jet Boat Association; it now did “not approve removal of the above Regulations from any part of the Rangitikei River”¹⁰⁵. Oroua County Council felt that other river users besides jet boaters were entitled to “some protection” because the lifting of speed restrictions would have some adverse effects on several popular picnic areas¹⁰⁶. Kiwitea County Council pointed out that the domain at Vinegar Hill and the bridge on Otara Road were popular and accessible fishing areas, and lifting the speed limit should therefore be restricted to the river upstream of Otara Bridge¹⁰⁷. Manawatu County Council sought the views of the Tangimoana Aquatic Sports Club before replying; both the Club and the Council favoured some relaxation of the speed restriction, though not blanket removal over the whole river¹⁰⁸. Taupo County Council objected to the removal of speed limits from the river within its county boundaries:

The greater proportion of the river within the County either borders or is within Kaimanawa Forest Park. It is considered that the Forest Park should be reserved for passive recreation, and that a certain amount of the appeal of the area would be lost if easier access was to be provided by the river and the peace of the area was disturbed by jet boats.¹⁰⁹

Taupo County Council may have been encouraged to object by Forest Service, which had become aware of the proposal, although not notified of it by Marine Division. Prior to the County Council reply, Forest Service had written that “a significant portion of the upper reaches” of the Rangitikei River was in Kaimanawa Forest Park, “where unauthorised entry with any vessel is prohibited by the Forests Amendment Act 1976”, and local Forest Service

¹⁰⁴ Chief Engineer Rangitikei-Wanganui Catchment Board to Marine Division, 13 June 1978. Transport Head Office file 43/150/10. Supporting Papers #693.

¹⁰⁵ County Clerk Rangitikei County Council to Harbour Supervisor Wellington, 9 June 1978. Transport Head Office file 43/150/10. Supporting Papers #690.

¹⁰⁶ County Clerk Oroua County Council to Harbour Supervisor Wellington, 9 June 1978. Transport Head Office file 43/150/10. Supporting Papers #691.

¹⁰⁷ County Engineer Kiwitea County Council to Regional Marine Officer Wellington, 25 July 1978. Transport Head Office file 43/150/10. Supporting Papers #699.

¹⁰⁸ County Clerk Manawatu County Council to Harbour Supervisor Wellington, 25 September 1978. Transport Head Office file 43/150/10. Supporting Papers #700-701.

¹⁰⁹ Senior Administration Officer Taupo County Council to Harbour Supervisor Wellington, 19 July 1978. Transport Head Office file 43/150/10. Supporting Papers #696.

staff were being asked for their comments¹¹⁰. After the County Council reply, Forest Service wrote again to Marine Division:

Because the use of jet boats and their related problems of noise, exhaust fumes and stern wash are not compatible with other types of forest park recreational activities, unauthorised entry into any forest park with a boat or vessel is prohibited. The use of jet boats at speed would be especially dangerous to shoreline flora and seriously harm the trout fishing and wilderness experience for which the upper Rangitikei is noted.

The Forest Service therefore strongly opposes any steps to remove that portion of the Rangitikei River which lies within the confines of Kaimanawa Forest Park from the provisions of the Motor Launch Regulations 1962.¹¹¹

Another Government Department approached for its comments, the Army, raised no objections, though sought clarification on the consequences:

The area of concern is that of accessibility to the upper reaches of the river of hunting parties, and perhaps even tourist groups, and the controls that would be imposed on them. The river does border on the Waiohuru Training Area, and control of hunters and boating groups is of some concern.¹¹²

Subsequent to receipt of these comments, the Ministry of Transport undertook a review of its strategy to see if the perceived conflicts that jet boats had with other users could be reduced. The result of this review was the making of a fresh set of regulations in early 1979, the Water Recreation Regulations. These placed greater emphasis on the safe handling of boats around other water recreation users. In particular Section 20(4) of the Regulations stated:

Notwithstanding any other provision of this regulation, no person who is permitted by any such provision to propel or navigate a small craft at a proper speed exceeding 5 knots shall do so in any manner that is likely to endanger or unduly annoy any person who is –

- (a) On, in, or using the water; or
- (b) Fishing or undertaking any recreational activity in the vicinity of the small craft.

The Jet Boat Association's application for the Rangitikei River was then further processed in terms of the new regulations. In May 1979 the Ministry of Transport exempted the whole of the Rangitikei River "from its source to the sea" from the speed restrictions, subject to the following three conditions:

¹¹⁰ Director General of Forests to Marine Division, 24 May 1978. Transport Head Office file 43/150/10. Supporting Papers #689.

¹¹¹ Director General of Forests to Marine Division, 11 July 1978. Transport Head Office file 43/150/10. Supporting Papers #695.

¹¹² Commander Home Command NZ Army to Marine Division, 24 July 1978. Transport Head Office file 43/150/10. Supporting Papers #698.

1. No person who is permitted [to drive a small craft at a speed greater than 5 knots] shall do so in any manner that is likely to endanger or unduly annoy any person who is on, in or using the water, or fishing or undertaking any recreational activity in the vicinity of the small craft.
2. No person shall enter any area of State Forest without first obtaining the written consent of the Conservator of Forests or other lawful authority for the area concerned.
3. The river shall not be used as access to the Waiohuru Army Training Area. Persons shall restrict themselves to the riverbed or to the eastern side of the river in this area.¹¹³

The details of the exemption were that Regulations 7(1)(a) and (b) and 7(2) of the Water Recreation Regulations 1979 did not apply. In advising the Army of the special provision relating to Waiohuru Army Training Area, the Secretary for Transport argued that “it is unlikely that the uplifting of the speed restriction will increase the number of jet boaters using the river, in other words it is unlikely that there would be a significant change in the present river usage patterns”¹¹⁴. This was a tacit admission that jet boaters were already not complying with the regulations and were exceeding the speed limits, which were not being enforced.

The removal of the speed restriction drew an immediate response from the Wellington Acclimatisation Society that its comments made to the Marine Division in May 1977 had been ignored:

We are now faced with a blanket uplifting for the entire river system, a situation that is totally unacceptable to this Society and its members.... This Society [is] responsible to the single largest group of recreational users of the Rangitikei River....

It is therefore the request of the Wellington Acclimatisation Society that the First Schedule of the Water Recreation (Rangitikei River) Notice 1979 be revoked and replaced with “The Waters of the Rangitikei River between Matawhero Road Bridge at Mangaohane and Utiku Shingle Crusher Bridge, and from Vinegar Hill Road Bridge to the Sea”.¹¹⁵

A Ministry of Transport official hastily arranged a meeting with Acclimatisation Society staff. This resulted in a willingness on the part of the Ministry to restrict jet boat use above Matawhero Road bridge during the trout spawning and hatching season, and a willingness on

¹¹³ The Water Recreation (Rangitikei River) Notice 1979. *New Zealand Gazette* 1979 page 1546. Supporting Papers #3110.

¹¹⁴ Secretary for Transport to Commander Home Command NZ Army, 9 April 1979. Transport Head Office file 43/150/10. Supporting Papers #702-704.

¹¹⁵ Secretary Wellington Acclimation Society to Secretary for Transport, 5 June 1979. Transport Head Office file 43/150/10. Supporting Papers #705.

the part of the Society to allow jet boating between Vinegar Hill and Utiku for a trial period.

Letters from the Society and the Ministry recorded these agreements. The Society wrote:

A recent river survey has shown that there is a large amount of spawning taking place in the main river channel above the Matawhero Road Bridge at Mangaohane. As the passage of jet boats at speed has been shown to cause considerable damage to trout redds, I would suggest a re-introduction of the speed restrictions for this section of river up to the source for the spawning and hatching period; that is, the middle of May to the middle of September. We would like to re-define this period more carefully after further observations.

We agree with uplifted speed restrictions between the sea and Vinegar Hill, and between Utiku and Pukeokahu, as these sections have limited access to other river users.

We also agree with uplifted speed restrictions on the section of river between Vinegar Hill and Utiku for a trial period as a fair and reasonable compromise between river users. The ease of access to the riverbank in this section makes it very popular with fishermen, picnickers and swimmers, and so it would be appreciated having the names and addresses of Jet boat Association launch wardens so that any claims of inconsiderate or dangerous behaviour can be substantiated.¹¹⁶

After the meeting, the Ministry wrote:

As agreed at that meeting, this Ministry has written to the New Zealand Jet Boat Association outlining the proposed amendments to the Water Recreation (Rangitikei River) Notice 1979.

The letter to the Jet Boat Association stated:

This office has received submissions from the Wellington Acclimatisation Society concerning the spawning areas in the upper reaches of the Rangitikei River. The Society has informed this Ministry that between 15 May and 15 September fish spawn in the main stream of this river from Mangaohane Bridge to the source. To protect the spawning areas this Ministry has agreed to revoke the present Water Recreation (Rangitikei River) Notice 1979, and to issue a new notice uplifting the speed limit on the river from its source to the Mangaohane Bridge for the period 16 September to 14 May of the following year. The speed restriction on the river downstream of the Mangaohane Bridge will be uplifted for the whole calendar year as at present....

Concern has been expressed on the use of jet boats in the river from Vinegar Hill to Utiku, and the Ministry has agreed that a close watch will be kept on activities in this part of the river. It has been agreed that should instances occur where other users are endangered or unduly annoyed, this Ministry will revoke the uplifting over this particular area.¹¹⁷

¹¹⁶ Secretary Wellington Acclimatisation Society to Secretary for Transport, 18 July 1979. Transport Head Office file 43/150/10. Supporting Papers #707.

¹¹⁷ Secretary for Transport to President NZ Jet Boat Association, 24 July 1979. Transport Head Office file 43/150/10. Supporting Papers #708-709.

The Jet Boat Association replied agreeing to the new seasonal constraint above Mangaohane Bridge, as “on the upper reaches of this river water flows are insufficient for us to boat during that period”; it also “noted” the Ministry’s position on jet boating between Vinegar Hill and Utiku¹¹⁸.

The change to the Notice was made by issuing a completely new Notice. The Water Recreation (Rangitikei River) Notice No. 2 1979, replaced and revoked the earlier Notice, and changed the waters of the Rangitikei River affected by the Notice from “all the waters ... from its source to the sea” to “all the waters ... from its source to the sea excepting thereout that area of the river between the source and Mangaohane Bridge between 15 May and 15 September each year”¹¹⁹.

In November 1979 Wellington Acclimatisation Society advised that it was conducting a survey of the Rangitikei River fishery, and had purchased an electric fishing machine at a cost of \$450 for its study. It sought a contribution towards the cost¹²⁰, and the Ministry of Transport agreed to pay a half-share of the cost of the machine¹²¹.

The Water Recreation Regulations 1979 and associated speed exemption notices continued in force until the Maritime Rules Part 91: Navigation Safety Rules took their place in March 2003¹²². The Rules, issued pursuant to Section 36(t) Maritime Transport Act 1994, were administered by the Maritime Safety Authority up until the end of 2004, and since then have been administered by Maritime New Zealand. Maritime Rules Part 91 has made no change to the basic speed limit for water craft of 5 knots within 200 metres of the shore or of any structure¹²³. A savings provision in the Rules has continued the operation of the Water Recreation (Rangitikei River) Notice No. 2 1979 and similar speed exemption notices around the country¹²⁴.

¹¹⁸ Chairman Rivers Committee NZ Jet Boat Association to Secretary for Transport, 31 July 1979. Transport Head Office file 43/150/10. Supporting Papers #710.

¹¹⁹ The Water Recreation (Rangitikei River) Notice No. 2 1979. *New Zealand Gazette* 1979 pages 2293-2294. Supporting Papers #3111-3112.

¹²⁰ Secretary Wellington Acclimatisation Society to Ministry of Transport, 21 November 1979. Transport Head Office file 43/150/10. Supporting Papers #711.

¹²¹ Secretary for Transport to Secretary Wellington Acclimatisation Society, 11 February 1980. Transport Head Office file 43/150/10. Supporting Papers #712.

¹²² *New Zealand Gazette* 2003 page 444. Supporting Papers #3115.

Contemporaneously Statutory Regulation 2003/16 revoked the Water Recreation Regulations 1979.

¹²³ Maritime Rules Part 91, Rule 91.6(1). Supporting Papers #6333.

¹²⁴ Maritime Rules Part 91, Rule 91.22(3). Supporting Papers #6334-6335.

3.5 Concluding remarks

Throughout the nineteenth century Maori rangatiratanga over waterborne transport activities on the Rangitikei River continued virtually unhindered by Crown actions. The Crown's authority with respect to waterborne transport on the Rangitikei River was confined to one aspect, the appointment of a pilot at the rivermouth, and the establishment of a signal station to enable the pilot to communicate with ships arriving off the rivermouth. The establishment of the ferry operated by the Scott family at the rivermouth could conceivably be seen as a consequence of the Crown's action in purchasing the Rangitikei-Turakina Block, though it occurred at such an early time in the European settlement of the district that it can be more convincingly seen as an activity established by a Pakeha individual with the approval and consent of Rangitikei River Maori. If Maori had not approved, Scott is unlikely to have been allowed to commence and continue his ferry service.

Fifty years later, when the temporary ferry service was established at Bulls following the destruction of the bridge there in the 1897 flood, conditions had changed. Europeans were in the majority in the district, and Maori had become confined to their reserves. Rangitikei County Council set up the ferry service in a hurry, and probably without consulting with tangata whenua or obtaining their approval. Both Maori and Europeans would have benefited from the service.

For tangata whenua to have exercised authority over waterborne transport on the river in the 1960s and 1970s, when jet boating, kayaking and rafting were developing on the Rangitikei River, would have required a revival of authority at a time when there was no official support being provided for such action on the part of Maori. The consequence of the Crown having already established its general authority over the Rangitikei River was that it was able to act on its own and without having to act in partnership with any surviving vestige of Maori authority.

The active involvement of Wellington Acclimatisation Society with the Rangitikei River and its tributaries is discussed in other chapters in this report on fish and fishing, and on water conservation orders. Its intervention with respect to the removal of boating speed limits demonstrates the influence that an organisation, acting independently of the Crown while being recognised by statute, can have on Crown thinking and actions. The Crown had a

policy on the lifting of speed restrictions informally described as “not proceeding in the face of valid objections from Catchment Board or Acclimatisation Society”¹²⁵.

¹²⁵ File note, 26 June 1979. Transport Head Office file 43/150/10. Supporting Papers #706.

4. RIVERBED LEGALITIES AND OWNERSHIP

4.1 Introduction

When the Crown established a system of legal titles and ownership in New Zealand, via Crown titles and Maori Land Court titles, all founded upon English law and English common law, it introduced a whole new layer of interests in riverbeds. Under Maori tikanga, hapu had control and authority over rivers passing through their rohe. The links between the water, the riverbed and the riparian lands were seamless. Crown and Court titles, however, required certainty about the location of boundaries, giving rise to immutable surveyed lines that could only be altered by further surveyed lines. The natural processes of a river, such as flooding and changes of course, played havoc with fixed boundaries, giving rise to problems caused by erosion and accretion of titled land, and the often constrained title space (the legal riverbed) left for a waterway to operate within. Rivers and their banks are a rich setting for legal and survey argument. This is even before artificial changes of course, such as flood control channels, are added to the equation. The Rangitikei River and its riverbed is no exception to this legal setting and has been the subject of complex interpretations as to its status.

Title definition of rivers determines the ownership of riverbeds. The single-page English Laws Act 1858 introduced both English statute and common law into New Zealand when it declared:

The laws of England as existing on the 14th day of January 1840 shall, so far as applicable to the circumstances of the said Colony of New Zealand, be deemed and taken to have been in force therein on and after that day, and shall continue to be applied therein in the administration of Justice accordingly.

It was English common law principles that guided ownership of a riverbed in any particular set of circumstances. In general terms, the holder of the title to adjoining riparian land was presumed to own to the centre of a river (known legally as the *ad medium filum aquae* presumption). Often ownership matters would be teased out where someone stood to obtain economic benefit, such as when a former riverbed became dry land and capable of being farmed, or when a river contained deposits of gold, sand, shingle or metal that could be exploited. From the common law arose a complex series of principles governing the granting of titles to riverbed land. The Crown in New Zealand, as title grantor, was only willing to issue a title to riverbed land to an *ad medium filum* presumptive owner if the bed had become dry land in a gradual and imperceptible fashion, i.e. had become land by accretion. A sudden change from wetted to dry land was not acceptable as the basis on which a title would be

issued, because it was considered that a further equally sudden change might see the dry land revert to wetted riverbed. Titled land that had been eroded by the changing course of a river would not lose its titled status, though the erosion would be excluded from the title if the land was resurveyed and retitled, for instance in the case of partitioning or subdivision.

The common law principles surrounding *ad medium filum* could be overridden when the Crown passed legislation, such as in 1903 when the beds of all navigable rivers in New Zealand were declared to be vested in the Crown¹²⁶. This change introduced further complexity into the debate about ownership of the bed of the Rangitikei River. The Crown has relied on the 1903 legislation and its successors to make assertions about its ownership of the bed of the Rangitikei River as far upstream as the confluence with the Kawhatau River.

This chapter examines the legal claims to the bed of the Rangitikei River and its tributaries that have been made over the years by riparian landowners and by the Crown. These claims and their resolution amount to legal ownership and title playing catch-up with the physical changes that have occurred on the ground. This report does not address the whole of the legal history surrounding waterways, with all its court cases, being only concerned with the application of the law as it was understood at various times to the Rangitikei River and its tributaries. The various legal interpretations over time have, however, determined the response of the Crown and public agencies to those physical changes. In this legal discussion, Maori customary interests have tended to be treated as incidental to the other interests at play, and therefore largely ignored. The concept of *tino rangatiratanga* for waterways surviving unless explicitly extinguished has played virtually no part in the legal arguments. Rangitikei River Maori have been significantly impacted by the various legal assertions and decisions on numerous occasions, and continue to be affected today.

4.2 The first legal definition of the Rangitikei riverbed

Defining the legal bed of the Rangitikei River occurred by default, when the land on either side of the river was first surveyed into a series of farm-sized sections. What the surveyors did at this time was the product of a natural tension. Alluvial land, where soils were developed on parent material brought down and deposited by the river in geological time,

¹²⁶ Section 14 Coal-Mines Act Amendment Act 1903, continued through to the present-day in Section 3 Coal-Mines Act 1905, Section 3 Coal-Mines Act 1908, Section 206 Coal-Mines Act 1925, Section 261 Coal Mines Act 1979, and Section 354(1)(c) Resource Management Act 1991.

were valued by settlers for their richness and their free draining nature. Wetlands were valued for their richness provided they could be drained. Access to water for stock increased the attractiveness of riverbank land. There were therefore powerful economic incentives to include in surveyed sections as much land as possible adjacent to rivers. In addition, continuing settlement by Maori close to the water, such as at Te Reureu, Ohinepuhiawe and Parewanui, or by Europeans, such as at Scotts Ferry, had to be accommodated within a titles framework. But the very nature of land in close proximity to a waterway meant that in times of flood it could become part of the riverbed.

In an ideal world, the legal boundary between land and riverbed would be determined after careful observation of the seasonal and annual changes affecting the river. In practice, however, this did not happen, and surveyors relied on obvious physical signs such as the formation of banks or the presence of well-established vegetation, plus their best estimates, to determine what was likely to be dry land of a permanent character. There was plenty of scope to get this wrong, especially when occasional and infrequent large events (such as floods or changes of course) could bring about revolutionary change.

The nature of the lower reaches of the Rangitikei River, with a variable main channel (sometimes braided) leading water between shifting islands of recently deposited shingle, would have encouraged the first surveyors to be cautious about what they could rightfully determine to be permanent dry land. However, the incentives to favour the needs of the land (and subsequently the owners of the land) over the needs of the river remained.

It was the lower reaches that were surveyed first, at a time when the character of the river was the least understood, although we now know today that those lower reaches are most at risk (as compared to the embanked middle and upper reaches of the river) of being dramatically altered by natural events. These first surveys were of the Rangitikei-Turakina Purchase (purchased 1849), and the Rangitikei-Manawatu Purchase (purchased 1866), on the west/north and east/south banks of the river respectively¹²⁷. They defined what would become the legal riverbed, being the space between the two surveyed areas. An integral part

¹²⁷ True right (west) bank – Wellington Roll Plan 421 (prepared 1858, subsequently entered into SO plan series as Wellington plan SO 10586), and Wellington Roll Plan 425 (traversed 1881, subsequently entered into SO plan series as Wellington plan SO 11135). Not included in Supporting Papers.

True left (east) bank (at Te Reureu/Ohinepuhiawe/Ohakea) – Wellington Roll Plan 333 (traversed 1870, subsequently entered into SO plan series as Wellington plans SO 10974-10981, with SO 10982 as an index sheet). Not included in Supporting Papers.

of these first surveys was the definition of a number of Maori reserves that had a frontage on to the river. As such, under the English common law *ad medium filum aquae* presumption, these reserves enjoyed rights to the centre line of the river. Those presumptive rights went with the title to riverbank land, and therefore passed to any purchaser of a reserve that was acquired from its Maori owner or owners.

During the nineteenth century, the only distinction with respect to riverbeds was based on whether the river was tidal or not. The bed of a tidal river is regarded legally as an arm of the sea (i.e. seabed), and *ad medium filum* rights do not apply. Although this affected only a small part of the Rangitikei River at its mouth, the tidal reach was a particularly important part of the river during those times, as seagoing ships discharged and loaded cargoes. No disputes where this legal position adversely affected Maori have been identified during research for this report.

Upstream of the tidal portion of the river, the legal status of the riverbed would have been significant only rarely during the period prior to 1897. Passage by waka was unimpeded, so the legal status would not have affected Rangitikei River Maori in that regard. Just who owned the riverbed was not regarded as a problem when the Bulls road bridge, the Kakariki railway bridge, the Onepuehu road bridge and other bridges further upstream were built on the riverbed – piles were driven into the riverbed without giving its status a thought.

There was one complaint from Maori in connection with the legal status of the Rangitikei River at Ohinepuhiawe in 1888. Hikungarara Rongorongo wrote to Hoani Taipua, the Member of Parliament for Western Maori, asking if a statement made by the Chairman of Rangitikei County Council was correct:

That the Government have passed a law providing that if the Rangitikei River changes its course and cuts off a portion of any person's land, the area so severed becomes the property of the Crown. A portion of our land, Ohinepuhiawe, has been cut off in this way and the County Council are carrying on operations there; they say that the area severed by the Rangitikei River is Government land. We have tried to stop their proceedings, but they refuse.¹²⁸

Before replying, the Native Minister sought more information from the County Council, and was told that the only Council works were to protect a roadway from being encroached on by

¹²⁸ Hikungarara Rongorongo, Ohinepuhiawe, to Hoani Taipua MHR, 11 June 1888. Lands and Survey Head Office file 1/179. Supporting Papers #432-433.

the river, and this had not been done “on land claimed by Natives at any time”¹²⁹. The Under Secretary of the Native Department then suggested to his Minister that Rongorongo’s letter might result from a misunderstanding. Apparently Hoani Taipua had enlisted the help of another Member of Parliament who had asked a local European landowner, Donald Fraser, to explain the circumstances. Fraser replied in June 1888:

I have made inquiries respecting the Native who wrote you respecting the Council’s interfering with the Rangitikei River at Bulls. The fact of the case is that originally the Natives Hare Reweti and others were awarded 380 acres and there is fully half of this taken away by the river, and they are afraid at every move or shift that the river may take that they will lose that part that is left. They would be satisfied, if the Government would give them 380 acres of Crown Land in this district, to hand back this reserve to them, and in my opinion it is not an unreasonable request. When all comes to all, the Government would never miss 400 or 500 acres, and it would be a great boon to both Counties if they could get this reserve made over to them, as it would enable them to make any alteration in the river that they might think necessary without interference or litigation thereafter. Besides, the Counties could lease it for a small rental which would be placed to the Bridge fund which is a public benefit, and considering that Rangitikei and Manawatu [County Councils] has never had any special grants for harbours or any other public work of any kind.... I hope that you can see your way to advocate it. I know that you will have the assistance of Mr Wilson and all the Natives with you.¹³⁰

The response of the Under Secretary was:

This letter seems to indicate a new way of obtaining a County endowment. The proposed exchange might be reasonable so far as the Natives are concerned, but would I should think establish a precedent which might create difficulties in other cases.¹³¹

The Minister agreed, and decided that “the Government regret that the request made by Mr Fraser cannot be complied with”¹³².

In 1892 Hare Reweti Rongorongo wrote to the Native Minister about the encroachment of the river on Ohinepuhiawe reserve:

I wish to ask you a question with respect to our land Ohinepuhiawe on the other side of the Rangitikei River. Is it now European or Maori land? This land is now on the

¹²⁹ County Clerk Rangitikei County Council to Native Minister, 25 June 1888. Lands and Survey Head Office file 1/179. Supporting Papers #439.

¹³⁰ Donald Fraser, Pukuhe, to RC Bruce MHR, 18 June 1888. Lands and Survey Head Office file 1/179. Supporting Papers #436-438.

¹³¹ Under Secretary Native Department to Native Minister, 7 July 1888, on Donald Fraser, Pukuhe, to RL Bruce MHR, 18 June 1888. Lands and Survey Head Office file 1/179. Supporting Papers #436-438.

¹³² Native Minister to Under Secretary Native Department, 7 July 1888, on Donald Fraser, Pukuhe, to RL Bruce MHR, 18 June 1888, and Native Minister to RC Bruce MHR, 10 July 1888. Lands and Survey Head Office file 1/179. Supporting Papers #436-438 and 440.

Bulls side of the river, and the river itself is “eating” up the middle of it. I think there are only 180 acres left now.¹³³

The inquiry was referred to the Surveyor General, who passed it to the Chief Surveyor. He did not visit and inspect the reserve, merely advising that there was “no information in this office as to whether the River has altered its course or not”¹³⁴.

Both Fraser’s letter and Hare Reweti’s inquiry are key evidence that the Rangitikei River was shifting its course within its floodplain before the flood of 1897, and that the boundaries of the surveyed Maori reserve had been chosen without full regard for the natural vagaries of the river. Apart from the initial survey in 1865, no surveys (with one exception, discussed below) were made or survive of Ohinepuhiawe before 1897 to show how the boundaries were affected by the changes of the river, so the 1888 and 1892 information is important. Some evidence given to the Native Land Court in 1926 supports the notion that the river had encroached on to Ohinepuhiawe Reserve prior to 1897, but needs to be read in the context that the witnesses believed that the reserve extended to the cliff on the Bulls side of the river, rather than being confined to the eastern bank of the river (plus rights to the centre line of the river). Ani Haera Hone Reweti told the Court:

When I and my husband first arrived in 1878, we lived on what is now the recreation ground.... There was a cemetery there too – about where Section 3 is, behind Reweti’s home. At that time the river followed the bluff from where the European cemetery now is. It ran between where we lived and the town of Bulls. To get to the town of Bulls we crossed the river in a canoe and climbed up the cliffs. We crossed over at a place called Ruataniwha. It was about 5 years after I and my husband arrived at Ohinepuhiawe that the River commenced to encroach and change its course.¹³⁵

Te Hurunui Wereta told the Court:

I was born in 1873 near what is now known as the Recreation Reserve – close to the old pa. When I was old enough to notice the Rangitikei River, its course was from the cemetery along the bluffs and over what is now the Recreation Ground.... At the time we were living there, erosion was taking place both above and below our homes.¹³⁶

The witnesses appear to be saying that they were living on the inside of the bend at the north-western extremity of Ohinepuhiawe, and the river encroached on an old pa and a cemetery

¹³³ Hare Reweti Rongorongo, Bulls, to Native Minister, 27 January 1892. Lands and Survey Wellington District Office file 20/28. Supporting Papers #2913.

¹³⁴ Chief Surveyor Wellington to Surveyor General, 26 February 1892. Lands and Survey Wellington District Office file 20/28. Supporting Papers #2914.

¹³⁵ Maori Land Court minute book 85 Whanganui 178-179. Supporting Papers #3147-3148.

¹³⁶ Maori Land Court minute book 85 Whanganui 179-180. Supporting Papers #3148-3149.

there. This is different to the route through the middle of Ohinepuhiawe subsequently eroded by the river in the 1897 flood.

The sole representation of the riverbed encroaching on to surveyed Ohinepuhiawe land prior to the 1897 flood is a survey plan where the “main channel of Rangitikei River” is shown cutting through the north-western parts of Ohinepuhiawe 140 and 141¹³⁷. This plan does not have any supporting survey data, and the “main channel” may be a freehand representation of the river channel. The new channel’s location, however, supports the claims that it was the north-western Ohinepuhiawe lands that had been encroached upon by the river. Its location is also consistent with the part of the riverbed on the opposite (Bulls) bank becoming dry land and available for use as a recreation reserve and rifle range (see next section).

In a history of Bulls township published in 1962, RA Wilson wrote:

The Rangitikei River now runs in a wide stretch of river bed and shingle, but when the settlers first came to Bulls, the river flowed under the cliff all the way from the Cemetery Point to Flower’s flour mill in a narrow channel with bush clad flats just across the river. At that time also there was a totara flat off the point of the cemetery reserve, and my father has told me how he used to ride through this flat before crossing the river to his land called Ngaio. Soon afterwards, however, the river washed this flat away, and it set hard against the cliff at the cemetery point. When the river sets against a cliff, it throws the current outwards, and instead of hugging the cliff all the way to Bulls, it took a set against the Maori reserve. This was soft silt land and offered little resistance to erosion, and for the next thirty or forty years it steadily washed away this beautiful flat, leaving a large area of silt, sand and gravel on the north side.

When I was at school it ran in a channel a couple of hundred yards from the cliff at Bulls....¹³⁸

4.3 Changes to the riverbed at Ohinepuhiawe and their legal consequences

Survey plans made after the 1897 flood show that over 120 acres out of 385 acres of Maori-owned land at Ohinepuhiawe was lost to the river. The loss was a further misery for the Ohinepuhiawe owners, coming on top of the earlier losses of land. There was little countervailing benefit associated with this loss. All the land surrounding the reserve was in surveyed titles, so there could be no compensatory grant of replacement land unless surrounding titles were purchased. While the new course did leave an old channel which

¹³⁷ Wellington plan SO 13421. Supporting Papers #3289.

This plan is believed to be the source for a record plan prepared later. Wellington Roll Plan 583 (subsequently included in the SO plan series as Wellington plan SO 10250). Not included in Supporting Papers.

¹³⁸ RA Wilson, *Bulls: a history of the township*, The Rangitikei Mail, 1962, page 28.

became dry land, that old channel had been compromised by Crown decisions benefiting the other side of the channel, with the result that ultimately only 90 acres could be made available to the Maori owners who had lost their land to the river¹³⁹. That limited restoration of land did not finally occur until 1931. The history of the struggle to get the Crown to grant the former riverbed land to the Maori owners is set out below.

To understand the nature of the riverbed that became dry land in the nineteenth century, it is necessary to examine some events that occurred in 1893 on the opposite side of the river from Ohinepuhiawe reserve. The true right (western/northern) bank was laid out as the Bulls township, on flat land above the river cliffs¹⁴⁰. The cliffs themselves (i.e. the riverbank) were not included in the township, while to the north of the township one rural section defined by survey in the 1860s had a riparian boundary¹⁴¹. Part of the old riverbed fronting the township and the rural section had become dry land as a result of the river changing its course and encroaching on Ohinepuhiawe land (see previous section of this chapter). Some of the dry land was already in use as a rifle range, and the townspeople eyed the remainder of the dry land as a suitable site for a recreation reserve¹⁴². As a result of the river's encroachment on Ohinepuhiawe land, the dry riverbed on the Bulls side represented about half the width of the original riverbed as defined by surveyed land on either side. The Crown agreed to the townspeople's request, the land (described on the survey plan as "part of Rangitikei River") was surveyed¹⁴³, and the recreation reserve and the rifle range were set apart as Crown reserves in June 1893¹⁴⁴. The recreation reserve was then declared to be a public domain the following month¹⁴⁵. When recommending the reservation earlier in the year, the Commissioner of Crown Lands noted:

I would point out that the heirs of the original Grantee of Section 3 Rangitikei District [the rural section north of the township], though they have apparently never used or claimed this flat, might do so as the Grant is described as bounded by the Rangitikei River, and though at the time the Grant was made the river flowed at the foot of the

¹³⁹ Wellington plan ML 4219. Supporting Papers #3283.

¹⁴⁰ Wellington plan SO 12341. Supporting Papers #3288.

¹⁴¹ Section 3 Block XI Rangitoto Survey District, also known as Section 3 Rangitikei District. Shown on plan attached to Commissioner of Crown Lands Wellington to Under Secretary for Lands, 26 November 1910. Lands and Survey Head Office file 53936. Supporting Papers #404-405.

¹⁴² Petition to Minister of Lands, 4 August 1892. Lands and Survey Head Office file 1/179. Supporting Papers #429.

¹⁴³ Sections 4 and 5 Block XI Rangitoto Survey District (rifle range and recreation reserve respectively). Wellington plan SO 13421. Supporting Papers #3289.

¹⁴⁴ *New Zealand Gazette* 1893 pages 891-892. Supporting Papers #3018-3019.

¹⁴⁵ *New Zealand Gazette* 1893 page 1114. Supporting Papers #3020.

The description of the reserve in this *Gazette* notice is that Section 5 was "portion of the old bed of the Rangitikei River".

steep bank, yet I apprehend the owners can, as they are bounded by the river, claim any land which by the action of the river has been added to it below the original bank. As it is stated this flat is never likely to be claimed by the heirs of the Grantee, I see no reason for objection to its being gazetted as a Recreation Reserve, but when the Domain Board is appointed they should be told that any improvements they may make on the land is at their own risk as the title of the Crown to the land might be disputed.¹⁴⁶

These remarks reveal the rather insecure nature of the Crown's action in issuing title to the riverbed to itself. The Crown took the action it did, not because of a legal right under English common law to do so, but because it did not think it would be challenged.

When Ohinepuhiawe Maori got to hear about the Crown's agreement to provide the recreation reserve, they expressed their concern that Ohinepuhiawe was being squeezed by the actions of both the river (as had been described by them in 1893) and the Crown. They sent a petition to Parliament:

This is a petition of ours, of Hare Reweti Rongorongo and others, members of the hapu of Ngati Parewahawaha, a section of the Ngati Raukawa tribe residing at Ohinepuhiawe in the Manawatu District.

1. That when the Rangitikei Manawatu Block was purchased by the Crown from the Maoris, the Crown gave your petitioners a piece of land as a Reserve at their residence at Ohinepuhiawe, containing according to the map 385 acres.
2. That the said Reserve was bounded by the Rangitikei River, and owing to the said river making a fresh course about 158 acres more or less have been destroyed, and a proper survey has been prevented.
3. The only acreage remaining to your petitioners of that Reserve at the present time is 227 acres or less.
4. That a portion of the said Reserve has been cut off by the course of the Rangitikei River, and we have heard that the Europeans at Bulls have applied to the Government for the said piece of land as a pleasure ground.
5. That your petitioners wish to point out that they will suffer a grievous wrong if that land, which they know belongs to them, is taken from them.
6. That if the said land is taken from your petitioners, they will suffer a twofold disaster, first by the action of the River, and secondly by the Europeans taking a portion of the land.¹⁴⁷

This petition was received by Parliament in September 1893, three months after the recreation reserve and rifle range had been set apart.

The Surveyor General provided the Government's response to the petition. He stated that:

¹⁴⁶ Commissioner of Crown Lands Wellington to Surveyor General, 20 January 1893. Lands and Survey Head Office file 1/179. Supporting Papers #430-431.

¹⁴⁷ Petition 495/1893 of Hare Reweti Rongorongo and 29 others, undated, attached to Clerk of Native Affairs Committee to Under Secretary Justice Department, 7 September 1893. Lands and Survey Head Office file 1/179. Supporting Papers #441-443.

There is nothing to show that this proposed recreation ground ever belonged to the Native reserve, and apparently the Natives still have got 385 acres. Of course until a survey has been made this cannot be stated positively, but in any case the River must remain the boundary of the Reserve.¹⁴⁸

The Native Affairs Committee then reported to the House of Representatives that:

There is some doubt as to whether the Natives have been deprived of any land, and as this can only be set at rest by a survey, the Committee recommends that a proper survey be made, and the whole matter be considered by the Government.¹⁴⁹

In November 1893 the Surveyor General provided the Government response to the Native Affairs Committee's recommendation:

Careful inquiries have been instituted into the matter, and it appears that no portion of the Recreation Ground near Bulls is on Native Land.¹⁵⁰

Thus while the Maori owners of Ohinepuhiawe might have thought that fairness and natural justice entitled them to the old riverbed because part of their reserve had become the new riverbed, the Crown thought otherwise, and decided that legally the Maori owners' rights were limited to at most half the width of the old riverbed. The Crown failed to respond to the Native Affairs Committee's recommendation that the loss of reserve land to the river be surveyed.

The action of the river in changing its course in 1897 and passing through the middle of Ohinepuhiawe put the Maori owners of the reserve under a lot of stress, with arguments developing between different groups. In 1900, there was a further petition to Parliament. Riria Aperahama (an owner of Section 140) and others asked that they be granted land in replacement for the part of the Ohinepuhiawe reserve lost during the 1897 flooding¹⁵¹. The Native Affairs Committee recommended that the Government inquire into the matter, "and if it found that the allegations of the petitioners are correct, some relief should be granted to them"¹⁵². One month after the Committee's report, some of the owners asked the Native

¹⁴⁸ Surveyor General to Chairman Native Affairs Committee, 26 September 1893. Lands and Survey Head Office file 1/179. Supporting Papers #444.

¹⁴⁹ Report of Native Affairs Committee on Petition 495/1893, 28 September 1893. Lands and Survey Head Office file 1/179. Supporting Papers #445.

The report was printed in *Appendices to the Journals of the House of Representatives*, 1893, I-3, page 19. Not included in Supporting Papers.

¹⁵⁰ Surveyor General to Hare Reweti Rongorongo, Ohinepuhiawe, 14 November 1893. Lands and Survey Head Office file 1/179. Supporting Papers #446-447.

¹⁵¹ Petition 264/1900 of Riria Aperahama and 17 others, undated. While the petition itself was not located during research for this report, a summary is included in *Appendices to the Journals of the House of Representatives*, 1900, I-3, pages 12-13. Supporting Papers #3136-3137.

¹⁵² Report of Native Affairs Committee on Petition 264/1900, 28 August 1900. *Appendices to the Journals of the House of Representatives*, 1900, I-3, pages 12-13. Supporting Papers #3136-3137.

Land Court to allow the reserve to be partitioned. However, the Judge, aware that the river ran through the reserve and that as a result parts were shingle-covered and less valuable, declined to agree to any partitioning until a survey plan was prepared¹⁵³. The only plan he had available to him at the Court hearing was an outline of the reserve compiled from “official plans”¹⁵⁴. This outline plan did not show the encroachment on the reserve by the river. On the same day as the Court hearing, Kerei Te Panau wrote to the Prime Minister (in reply to a letter sent by Seddon that has not been located) explaining that his wish to exchange an area of 100 acres of Ohinepuhiawe for other land was because “I and my children suffer every year through the water (flooding), and secondly the acres that we are occupying now belong to someone else”; he offered to point out to a surveyor the land he sought in the place of the Ohinepuhiawe land¹⁵⁵.

In following up the Native Affairs Committee’s recommendation on Riria Aperahama’s petition, a Crown Lands Ranger was sent to Ohinepuhiawe to inspect what was happening. He reported:

The Rangitikei River has washed away about 100 acres thereof, the course of the river has completely changed, and runs now through the centre of the block. The portion on the western side of the river is rather stony and will always be subject to floods, but the portion on the eastern side of the river is very good alluvial soil and is only flooded when the river is exceptionally high. As to the damages sustained by the Natives, it is difficult to estimate. They told me that they used to have a pah on the portion washed away, and I could see in place (on the western side of the river) tops of fencing posts. The fence was completely covered up with silt. The value of the land washed away is about £6 per acre.

I will beg to suggest a solution of the difficulty in that the Natives are allowed the old river bed in lieu of the portion washed away, but I may mention that the Bulls Town Board have fenced in and ploughed a part of the old river bed for a recreation reserve.¹⁵⁶

¹⁵³ Native Land Court, 28 September 1900.

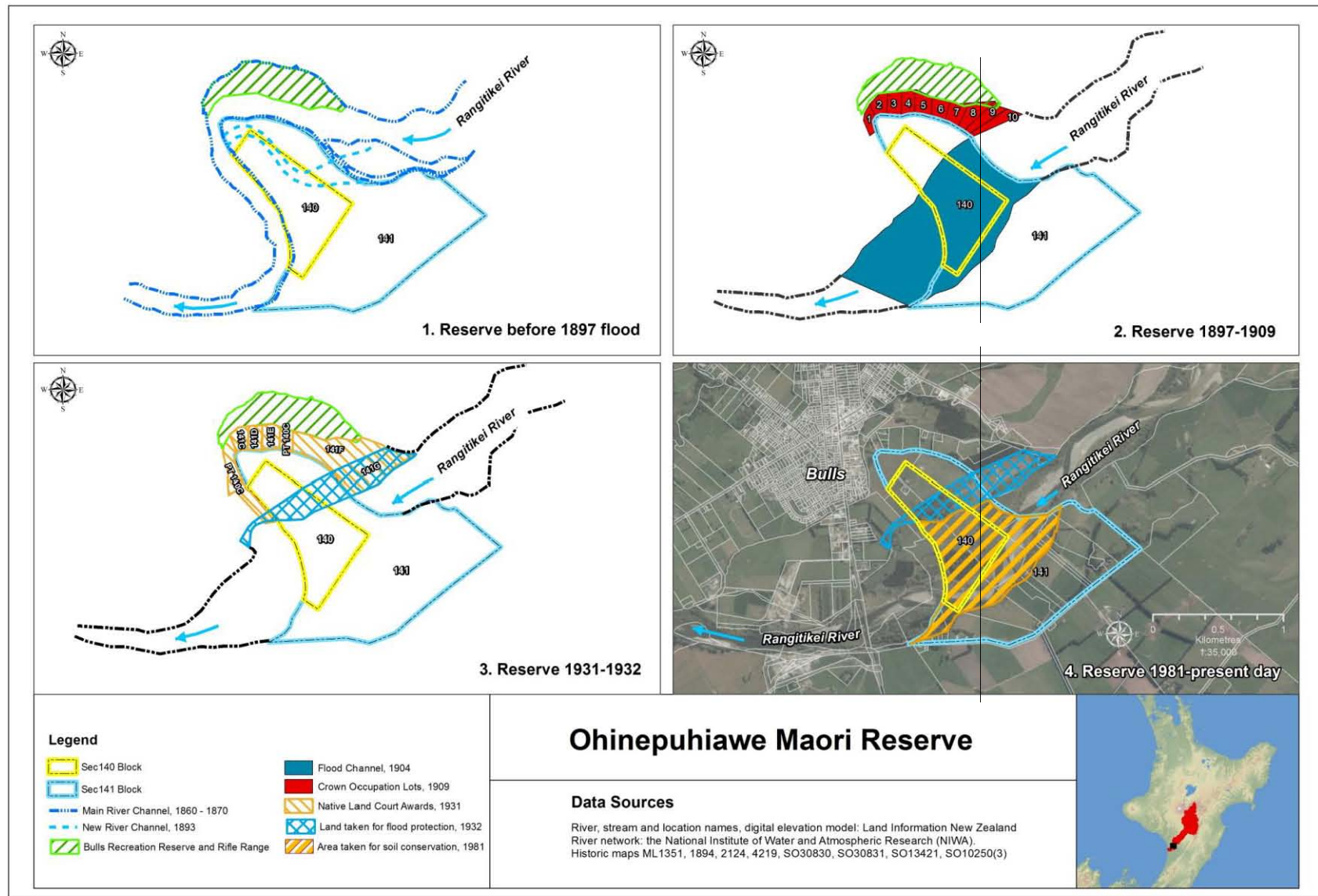
¹⁵⁴ Wellington plan ML 1351. Supporting Papers #3277.

This plan was compiled from survey records. So far as is known from the research conducted for this report, there are two plans from which ML 1351 was compiled. A representation of Ohinepuhiawe reserve in relation to surrounding surveyed land was Wellington Roll Plan 333, prepared in about 1871 (and subsequently included in the SO plan series as Wellington plans SO 10974-10981, with plan SO 10982 as an index plan). This was originally a large roll plan that was cut into eight parts and mounted on card in 1936 to become a series of flat plans. The second plan, prepared in 1872 and showing Native Reserves between Ohinepuhiawe and the sea, was Wellington Roll Plan 488 (subsequently included in the SO plan series as Wellington plan SO 11007). Not included in Supporting Papers.

¹⁵⁵ Kerei Te Panau, Palmerston North, to Premier, 28 September 1900. Lands and Survey Wellington District Office file 20/28. Supporting Papers #2917-2920.

¹⁵⁶ Crown Lands Ranger Lundius, Wanganui, to Commissioner of Crown Lands, 8 December 1900. Lands and Survey Wellington District Office file 20/28. Supporting Papers #2915-2916.

Map 6: Ohinepuhiawe Maori Reserve



During 1901-1903 the owners asked for a survey plan to be prepared. They had to provide a justification for the survey work, and submit a petition to the Native Minister, as part of their efforts to have Ohinepuhiawe surveyed¹⁵⁷. The survey plan was completed in 1904¹⁵⁸, and showed the impact of the river's course through the reserve. The new shingle-covered riverbed had a width of over 600 metres; of the 385 acre reserve, 123 acres was described as shingle, 53¾ acres was isolated on the Bulls side of the river, and (by a calculation of the balance) 208 acres of dry land remained on the eastern (Ohakea) side. With nearly one-third of the reserve lost to the river, it is not surprising that the owners were at odds with one another. By the time the survey was undertaken, they had endured straightened circumstances to one degree or another for at least fifteen years (i.e. since at least 1888).

In 1905 the Native Minister was asked if permission could be given "to cultivate on the old river bed adjoining the Recreation Reserve", which was thought to be Crown Land¹⁵⁹. A list of ten Maori residents of Ohinepuhiawe who sought this permission was provided¹⁶⁰. The Commissioner of Crown Lands was told by his Head Office that "there appears to be no reason why the Maoris shown on accompanying list should not be given the authority to temporarily cultivate it"¹⁶¹. When replying that he had given permission, the Commissioner commented on the status of the old riverbed:

Having gone into the question of ownership of the above riverbed, I find the title thereto to be at least vague, and it is possibly owned partly by the Natives and partly by the owners of the land on the right bank, or it may even vest in the Rangitikei County Council.

On reference to [your file about Bulls Recreation Reserve], you will see that when the Recreation Reserve was made, this question as to the doubtful nature of the Crown title was raised, but was never definitively settled; but as the reserve has never been disputed so far as I am aware, I see no reason why the Natives should not have permission given them to cultivate, so far as my power to give them authority may extend.

¹⁵⁷ The struggle to obtain the Crown's approval for a survey is not covered in this report, as it is not directly connected with the river. The tensions among members of the Ohinepuhiawe community, including physical assaults, were referred to as one of the reasons why a survey was necessary. The papers about the matter are on Lands and Survey Head Office file 53936 and Lands and Survey Wellington District Office file 20/28.

¹⁵⁸ Wellington plan ML 1894. Supporting Papers #3278.

¹⁵⁹ Under Secretary for Justice to Under Secretary for Lands, 1 July 1905. Lands and Survey Head Office file 53936. Supporting Papers #343-345.

¹⁶⁰ Under Secretary for Justice to Under Secretary for Lands, 1 July 1905. Lands and Survey Head Office file 53936. Supporting Papers #346.

¹⁶¹ Under Secretary for Lands to Commissioner of Crown Lands Wellington, 5 July 1905, on Under Secretary for Justice to Under Secretary for Lands, 1 July 1905. Lands and Survey Head Office file 53936. Supporting Papers #343-345.

I am therefore sending to the Natives mentioned in your list a carefully worded letter of permission to occupy (of which I enclose a copy).¹⁶²

The “carefully worded letter” sent to the ten Maori at the beginning of July 1905 stated:

I am not sure that the necessary power vests in me to so authorise you, but in so far as my powers extend you are hereby authorised to temporarily occupy and cultivate the lands ... during the pleasure of the Land Board, but without any right or title to hold the said Board, the Government or myself liable for any damage or loss you may in any manner sustain through such occupation, and further that the Crown, the Land Board or myself do not guarantee to maintain you in possession of the said land in case of dispute.¹⁶³

When those who had been authorised by the Crown started to erect fences on the old riverbed later that month, there was further friction between them and other Maori who had not received permission¹⁶⁴. A Crown Lands Ranger was sent to investigate and warn people not to interfere with the occupation of those who were working the old riverbed. His report stated:

Hare Reweti replied that the late Sir Donald McLean had given him the land to the foot of the cliff below Bulls, including the Rangitikei River, and that he was bringing a case before the Native Land Court to prove this.

Apparently, the Native Land Court had issued an order “to refrain from fencing or building on any portion of the Ohinepuhiawe Block so long as the matter now in dispute affecting that land shall be before the Court”. However, those fencing the old riverbed did not regard it as a part of the Ohinepuhiawe Block covered by the order¹⁶⁵.

The Crown Lands Ranger’s visit did not end the friction. In July 1907 the Native Minister was told of a family dispute that was disturbing the peace at Ohinepuhiawe. The nature of the disturbance is not as significant for this history as the supposed background to it, the Minister being told:

The wrong lies in their assertion that this land is theirs, the Waste Land, and not the property of the Government, that is the reason why the dispute is so bitter and the

¹⁶² Chief Surveyor Wellington to Under Secretary for Crown Lands, 8 July 1905. Lands and Survey Head Office file 53936. Supporting Papers #347-348.

¹⁶³ Commissioner of Crown Lands Wellington to 10 Maori individuals, Bulls, 8 July 1905, attached to Chief Surveyor Wellington to Under Secretary for Crown Lands, 8 July 1905. Lands and Survey Head Office file 53936. Supporting Papers #347-348.

¹⁶⁴ Telegram Katene Tima, Bulls, to Native Minister, 12 July 1905. Lands and Survey Head Office file 53936. Supporting Papers #349-350.

¹⁶⁵ Crown Lands Ranger Lundius to Commissioner of Crown Lands Wellington, 3 August 1905, attached to Commissioner of Crown Lands Wellington to Under Secretary for Lands, 19 August 1905. Lands and Survey Head Office file 53936. Supporting Papers #351-353.

expulsion of Te Kiniwa, because Te Kiniwa says that land is the property of the Government.¹⁶⁶

The Crown felt that it was necessary to issue a further warning about the use of the old riverbed, to reaffirm that the right to occupy that it had issued in 1905 was temporary only and could be withdrawn if there was “quarrelling or disagreement”¹⁶⁷. The same Crown Lands Ranger delivered the warning¹⁶⁸.

The need to issue the warning was separate to a request from Hone Reweti made at about the same time to be granted “the shingle bed or old course of the Rangitikei River” (“te tahuna, ara te rerenga tawhito o te awa o Rangitikei”) in exchange for shares in Te Tihoi 3 block in the Taupo district. His application included a request to be granted part of the Bulls recreation reserve in order to gain access to the main road in Bulls township.

I wish to make it perfectly clear as to what land I desire to obtain in exchange for my 200 shares in Te Tihoi No. 3 Block – it is the whole of the shingle bed, that is the old course of the Rangitikei River adjoining our lands at Ohinepuhiawe, extending as far as the cliff on Mr Wilson’s boundary, on both sides of the present course of the Rangitikei River, together with the south-western end of the Recreation Ground Reserve, whether the total area of the land be more or less than 200 acres.¹⁶⁹

When his request was declined, Hone Reweti tried again, arguing that granting the old riverbed to him would overcome the disputes that had arisen as a result of the ten persons being given permission to occupy the land in 1905¹⁷⁰. He also applied to be added to the list of permitted occupiers¹⁷¹.

¹⁶⁶ Taraua Marumaru, Parewanui, to Native Minister, 5 July 1907. Lands and Survey Head Office file 53936. Supporting Papers #355-357.

TF Richardson, Mangamahoe, to J Stevens MHR, 17 July 1907, attached to J Stevens MHR to Native Minister, 19 July 1907, and Native Minister to J Stevens MHR, 9 August 1907. Maori Affairs Head Office file 1926/50. Supporting Papers #523-525.

¹⁶⁷ Under Secretary for Lands to Commissioner of Crown Lands Wellington, 3 July 1907. Lands and Survey Head Office file 53936. Supporting Papers #354.

¹⁶⁸ Crown Lands Ranger Lundius to Commissioner of Crown Lands Wellington, 10 July 1907, attached to Commissioner of Crown Lands Wellington to Under Secretary for Lands, 12 July 1907. Lands and Survey Head Office file 53936. Supporting Papers #358-359.

¹⁶⁹ Hone Reweti, Poneke, to Under Secretary for Lands, 29 July 1907. Lands and Survey Head Office file 53936. Supporting Papers #360-365.

¹⁷⁰ Hoone Reweti, Ohinepuhiawe, to Native Minister, 26 August 1907; Under Secretary Native Department to Hone Reweti, Ohinepuhiawe, 17 September 1907; Hoone Reweti, Ohinepuhiawe, to Under Secretary Native Department, 27 September 1907; Under Secretary Native Department to Hone Reweti, Ohinepuhiawe, 2 October 1907; Hoone Reweti, Ohinepuhiawe, to Native Minister, 28 November 1907; and Under Secretary Native Department to Hone Reweti, Ohinepuhiawe, 14 December 1907. Maori Affairs Head Office file 1926/50. Supporting Papers #525-531; 532; 533; 534; 535; and 536.

Hone Reweti, Ohinepuhiawe, to Under Secretary for Lands, 4 October 1907. Lands and Survey Head Office file 53936. Supporting Papers #366-368.

¹⁷¹ Hone Reweti, Ohinepuhiawe, to Under Secretary for Lands, 4 October 1907. Lands and Survey Head Office file 53936. Supporting Papers #366-368.

The Crown Lands Ranger visited Ohinepuhiawe again in October 1907. He was instructed to put an end to the quarrelling. His proposed solution was to divide the land, which in 1905 had been allocated to the ten individuals in common, into a series of ten 4-acre lots, to be allocated to each individual. This was agreed to by those of the ten 1905 grantees he met during his visit. The Ranger further recommended that the allocation of sections be put into the hands of the local Stipendiary Magistrate¹⁷². In forwarding the Ranger's report to Lands and Survey Head Office, the Commissioner of Crown Lands remarked:

[I] would say that it should be made perfectly clear that this subdivision and occupation, if agreed to, is merely temporary, and gives them no claim to this land, nor to a permanent occupation, and that they are only tenants at will of the Crown.¹⁷³

The Under Secretary for Lands agreed and recommended to the Native Minister that the Stipendiary Magistrate be instructed to arrange the allocations during his next visit to Bulls¹⁷⁴. This course of action was agreed to¹⁷⁵.

The allocation of the series of four-acre lots was made at a meeting convened by the local Stipendiary Magistrate at the end of November 1907. The agreed allocation was:

- Lot 1 Ema Paraone ("her house being on it")
- Lot 2 Te Katene Tima
- Lot 3 Te Waenga
- Lot 4 Teoti Hone
- Lot 5 Roka Te Iwiata
- Lot 6 Riria Te Huruhuru (provided her lot "is to be that portion on which her house is now being erected")
- Lot 7 Te Kereama Te Ngako
- Lot 8 Rewi Wereta ("dead, but he has several children")
- Lot 9 Wi Tana Parera
- Lot 10 Te Pae Tawhiti (a daughter of Wi Tana Parera)¹⁷⁶

¹⁷² Crown Lands Ranger Lundius to Commissioner of Crown Lands Wellington, 8 October 1907, attached to Commissioner of Crown Lands Wellington to Under Secretary for Lands, 21 October 1907. Lands and Survey Head Office file 53936. Supporting Papers #369-372.

¹⁷³ Commissioner of Crown Lands Wellington to Under Secretary for Lands, 21 October 1907. Lands and Survey Head Office file 53936. Supporting Papers #369-372.

¹⁷⁴ Under Secretary for Lands to Native Minister, 28 October 1907. Lands and Survey Head Office file 53936. Supporting Papers #373.

¹⁷⁵ Approval of Native Minister, 28 October 1907, and Minister of Justice, 28 October 1907, on Under Secretary for Lands to Native Minister, 28 October 1907; and Under Secretary for Justice to Stipendiary Magistrate Palmerston North, 29 October 1907. Lands and Survey Head Office file 53936. Supporting Papers #373 and 374.

The Commissioner of Crown Lands was instructed to implement this agreement by surveying the lots and issuing leases under Section 219 Land Act 1892¹⁷⁷. The unspoken assumption in the use of this particular statute was that the old riverbed was Crown Land.

Three months later, three of the ten individuals occupying lots asked the Native Minister not to lease the old riverbed¹⁷⁸. Their reasons for this request were not explained in their letter. They were told that “the sections in question will not be given to anybody so long as you live peaceably together on the land”¹⁷⁹. A further request was made by Hone Reweti in May 1909, asking that one of the allottees not be allowed to erect a fence, and giving as the reason for his concern that “our land has been all practically washed away by water, a small island of only five acres remaining to us”¹⁸⁰. By this time the Crown had been aware of the disputes over the land for four years, and the Under Secretary for Lands was getting tired of being asked to become involved. He replied that he was “not going to interfere in the matter, and you must settle your quarrels between yourselves”¹⁸¹.

However, the issues surrounding loss of land did not go away, so therefore nor did the pressure on the Crown to provide the Ohinepuhiawe community with alternative lands. Riria Aperahama Te Huruhuru, an owner of Section 140, claimed in 1909 to be left “almost landless”, because nearly all of the section had been “swept away by the Rangitikei River”¹⁸². However, her request was filed without answering “as there is no Crown Land which could be given to make up area washed away”¹⁸³. Hone Reweti and others asked, also in 1909, for the recreation reserve and rifle range reservations to be revoked, so that the whole of the old riverbed could be granted to Ohinepuhiawe Maori:

¹⁷⁶ Stipendiary Magistrate Palmerston North to Under Secretary for Justice, 25 November 1907. Lands and Survey Head Office file 53936. Supporting Papers #375-377.

¹⁷⁷ Under Secretary for Lands to Commissioner of Crown Lands Wellington, 10 December 1907. Lands and Survey Head Office file 53936. Supporting Papers #378-379.

¹⁷⁸ Riria Aperahama Te Huruhuru, Witana Parera and Te Kereama Te Ngako, Bulls, to Native Minister, 13 February 1907 [sic, should be 1908]. Lands and Survey Head Office file 53936. Supporting Papers #380-382.

¹⁷⁹ Under Secretary for Lands to Riria Aperahama Te Huruhuru, Bulls, 28 March 1908. Lands and Survey Head Office file 53936. Supporting Papers #383-384.

¹⁸⁰ Hone Reweti, Ohinepuhiawe, to Native Minister, 15 May 1909, and Hone Reweti, Ohinepuhiawe, to Under Secretary for Lands, 16 August 1909. Lands and Survey Head Office file 53936. Supporting Papers #385-386 and 388-389.

¹⁸¹ Under Secretary for Lands to Hone Reweti, Ohinepuhiawe, 26 June 1909 and 15 September 1909. Lands and Survey Head Office file 53936. Supporting Papers #387 and 390.

¹⁸² John Rangihirawea Gotty, Bulls, to Native Minister, 15 September 1909. Lands and Survey Head Office file 53936. Supporting Papers #391.

¹⁸³ File note by Under Secretary for Lands, 30 September 1909, on Native Minister to John Rangihirawea Gotty, Bulls, 21 September 1909. Lands and Survey Head Office file 53936. Supporting Papers #392-393.

It is not that we wish to do away with such important works in the Dominion's interest. But we ask that those places be returned to us the petitioners, together with all rights therein, because our Ohinepuhiawe land on the bank of the Rangitikei, Section 141, Reserve, is fast being swept off by the river. It originally contained some 285 acres, the river has left some 100 acres of it.

As to Ohinepuhiawe Reserve, Section 140, containing 100 acres originally, the river has swept it all away excepting the very small island which remains, of about five acres. It is therefore right that the new land made in the old river bed of the Rangitikei should be returned to us, to make up for the land taken from us by the river making its new channel through the middle of our land.¹⁸⁴

They were told that revocation could not occur without special legislation which, "under the circumstances of the case, is not likely to be introduced this Session"¹⁸⁵.

The ten lots in the old riverbed were surveyed in 1909¹⁸⁶. The survey was undertaken in such a way that space was retained for a proposed new rifle range to replace the one that had been reserved in 1893. The Crown then asked the Native Land Court to determine to whom each lot should be leased¹⁸⁷. However, the Chief Judge declined to involve the Court, as the land was in his opinion not "papatupu land", which meant the Court had no jurisdiction; instead the owners of Sections 140 and 141 owned as far as the middle line of the river "as this was not a tidal or navigable river"¹⁸⁸. The Chief Surveyor disagreed with this interpretation, as "it is required to ascertain present owners of adjacent Native lands who have suffered owing to alteration of river"¹⁸⁹. He was told to ask the Chief Judge to review his decision:

It is simply an enquiry asked for by the Governor, and not a request to investigate the title. You may mention that this is a similar request to that made in regard to certain scattered areas in the Auckland District, which are shown on our maps as set aside for Natives, and which are now being dealt with by the Native Land Court by way of enquiry as to what Natives in the opinion of the Court should be allotted the sections.¹⁹⁰

¹⁸⁴ Hone Reweti and 5 others, Parewanui, to Native Minister, 15 September 1909. Lands and Survey Head Office file 53936. Supporting Papers #394-396.

¹⁸⁵ Under Secretary for Lands to Hone Reweti and others, Parewanui, 5 October 1909. Lands and Survey Head Office file 53936. Supporting Papers #397.

¹⁸⁶ Wellington plan ML 2124. Supporting Papers #3280.

¹⁸⁷ Commissioner of Crown Lands Wellington to Under Secretary for Lands, 9 December 1909. Lands and Survey Wellington Head Office file 53936. Supporting Papers #398.

¹⁸⁸ Chief Judge Native Land Court to Chief Surveyor Wellington, 10 December 1909 and 1 March 1910. Lands and Survey Wellington District Office file 20/28. Supporting Papers #2921-2922 and 2923.

¹⁸⁹ Chief Surveyor Wellington to Under Secretary for Lands, 8 June 1910. Lands and Survey Head Office file 53936. Supporting Papers #399.

¹⁹⁰ Under Secretary for Lands to Chief Surveyor Wellington, 21 June 1910. Lands and Survey Head Office file 53936. Supporting Papers #400.

This analogy was incorrect; while the old riverbed might be claimed by the Crown, it was not indisputably Crown Land like the Auckland District sections, because of potentially competing rights from riparian owners to the riverbed.

When the Chief Surveyor wrote to the Chief Judge as instructed¹⁹¹, he was told in reply that the ownership of the riverbed had already been decided by virtue of the issue of Land Transfer Act titles identifying the river as a boundary, and therefore “the owners are supposed to own to the middle of the stream”. It was not judicially possible to identify certain persons who should benefit from the riverbed land to the exclusion of others who were named on the titles¹⁹².

These competing rights to the riverbed were remarked upon by the Chief Clerk in Lands and Survey Department Head Office in October 1910:

We have already, in 1887, issued titles for the sections with boundaries to each side of the river, and I do not see how we can again issue titles for the land.

As these titles granted all the available land on each side of the river and being bounded thereby, it is considered that the grantees hold to the middle of the river. If this be so, then there is no further portion requiring title. Assuming, however, that there is a doubt upon the point and the bed of the river did not pass from the Crown, it might possibly be held that there was justification for the issue of a title for this bed. It is quite a different matter, however, when the bed of the river has altered and is now contained within the boundaries of the grants as originally issued. I think it would be very injudicious to proceed any further in the direction contemplated.¹⁹³

This opinion was passed on to the Chief Surveyor¹⁹⁴, who (in his capacity as Commissioner of Crown Lands) described it as “in accordance with the common law doctrine ‘ad medium filum aquae’ as it is at present and has been since issue of the titles on each side of the river”. The Commissioner then carried this line of thinking through to query the legal correctness of the recreation reserve and rifle range reservations:

The position [in 1893] was that the titles on each side of the river had been issued with the river as boundary, and that the river had begun the recession or change which has resulted in the present day position, and which had then already left a strip of alluvial land at the foot of the cliff joining its former bank. This alluvial land was

¹⁹¹ Chief Surveyor Wellington to Chief Judge Native Land Court, 27 June 1910. Lands and Survey Wellington District Office file 20/28. Supporting Papers #2924.

¹⁹² Chief Judge Native Land Court to Chief Surveyor Wellington, 8 July 1910. Lands and Survey Wellington District Office file 20/28. Supporting Papers #2925.

¹⁹³ Chief Clerk Head Office to Under Secretary for Lands, 25 October 1910. Lands and Survey Head Office file 53936. Supporting Papers #401.

¹⁹⁴ Under Secretary for Lands to Chief Surveyor Wellington, 28 October 1910. Lands and Survey Head Office file 53936. Supporting Papers #402.

clearly, under the common law principle above referred to, a part of the private freehold on the right bank of the river, nevertheless it was surveyed by the Department and proclaimed as a Recreation Reserve and Rifle Range, and we have recently amended and extended these reservations.

This action, it appears to me, has resulted from an imperfect apprehension of the true status of the alluvial land, and the proclamations, it appears to me, are probably quite *ultra vires*.

In the same vein, he felt that the Crown should not become involved in the alluvial land accruing to the Native Reserve under the *ad medium filum* principle, which was “purely for the consideration of the Native Land Court”¹⁹⁵. Three weeks later the Commissioner added further information about the status of the frontage of Section 3 Rangitikei District where it adjoined the Rangitikei River, before concluding that “I think the position is correctly stated in my previous memo, and I am afraid the reservations are unsound”¹⁹⁶. The response in Head Office was “no action necessary”¹⁹⁷, effectively an unwillingness to address and if necessary remedy the *ultra vires* nature of the 1893 reservations. If there had been any remedy, however, it would most likely have been in favour of the riparian owners on the north-western (Bulls) side of the river, rather than in favour of the Ohinepuhiawe owners.

The apparently *ultra vires* nature of the recreation reserve and rifle range reservations was made more severe by other events concerning the reserved lands during 1909-1910. In December 1909, just one month after being notified by the Commissioner of Crown Lands about possible *ad medium filum* rights, the Under Secretary for Lands was considering, on a different file, a relocation of the rifle range on to recreation reserve land. This was apparently prompted by Defence Department concerns that the existing rifle range, Section 4, was not fit for purpose. The Inspector of Scenic Reserves was asked to visit Bulls, report on the situation and assess whether an exchange was desirable, with the existing rifle range becoming part of the recreation reserve, and part of the recreation reserve becoming the relocated rifle range¹⁹⁸. His report recommended the exchange¹⁹⁹. The relocated rifle range

¹⁹⁵ Commissioner of Crown Lands Wellington to Under Secretary for Lands, 8 November 1910. Lands and Survey Head Office file 53936. Supporting Papers #403.

¹⁹⁶ Commissioner of Crown Lands Wellington to Under Secretary for Lands, 26 November 1910. Lands and Survey Head Office file 53936. Supporting Papers #404-405.

¹⁹⁷ File note by Chief Clerk Head Office, 25 February 1911, on Commissioner of Crown Lands Wellington to Under Secretary for Lands, 26 November 1910. Lands and Survey Head Office file 53936. Supporting Papers #404-405.

¹⁹⁸ Under Secretary for Lands to Inspector of Scenic Reserves, 16 December 1909. Lands and Survey Head Office file 1/179. Supporting Papers #448.

¹⁹⁹ Inspector of Scenic Reserves to Under Secretary for Lands, 22 December 1909. Lands and Survey Head Office file 1/179. Supporting Papers #449.

would be almost entirely on recreation reserve, though outside the area that had been grassed, fenced and developed for recreation purposes. The new location cut across a track between Bulls township and the Ohinepuhiawe Reserve, plus its adjoining riverbed that had been occupied by consent since 1905. It also took in 1 acre 1 rood 34 perches that was outside the recreation reserve and within the land that had been occupied since 1905 by Ohinepuhiawe Maori. This latter area had not, however, been fenced in by the Maori occupiers. The interruption to the track was not commented upon by the Crown, though the 1 acre 1 rood 34 perch encroachment was a matter for comment. The Commissioner of Crown Lands advised that the survey of the ten lots for use by Maori had been adjusted to follow the fence line surrounding the occupied lots:

To avoid any trouble, the land [for the ten lots] was subdivided so as to give each section its correct area without conflict with that portion on which the rifle range is situated.

The area between the boundary of the Domain and the red line [the ten lots], 1a. 1r. 34p., is therefore Crown Land.²⁰⁰

The Commissioner too, was ignoring his own advice that the status of the old riverbed should be based on the *ad medium filum* principle.

On the advice of Crown Law Office²⁰¹, the exchange was implemented in special legislation, though the 1 acre 1 rood 34 perch area was left out of the statute's scope²⁰². Legislation cemented in any injury caused to common law rights. Ohinepuhiawe Maori were not advised or consulted during 1910.

The Coal-Mines Act Amendment Act 1903 had declared the beds of navigable rivers to be vested in the Crown. Throughout the period 1903-1910, there is no suggestion on the Crown's files that the Rangitikei River at Bulls might be regarded as navigable. This justification for treating the old riverbed as Crown Land was not used during this period. It was only in the 1920s (see below) that navigability was relied upon in statements made by the Crown.

²⁰⁰ Commissioner of Crown Lands Wellington to Under Secretary for Lands, 20 January 1910. Lands and Survey Head Office file 1/179. Supporting Papers #450.

²⁰¹ File note by Crown Law Officer, 24 March 1910, on Under Secretary for Lands to Solicitor General, 25 January 1910. Lands and Survey Head Office file 1/179. Supporting Papers #451-452.

²⁰² Section 35 Reserves and Other Lands Disposal and Public Bodies Empowering Act 1910. Copy of section and associated explanatory note on Lands and Survey Head Office file 1/179. Supporting Papers #453. Wellington plan SO 16218. Supporting Papers #3292.

The issue of occupation rights to ten individuals was only partially successful, no doubt because the old riverbed was poor quality land. In 1920 a summary was prepared about the use of nine of the sections, albeit very slanted in its viewpoint because the writer, chairman of the local Domain Board, wanted what he considered to be underused land for an addition to the domain:

[Lot 1] Te Kuni, grant 5 acres, being used for purpose granted. This man is running a hairdresser's business in town, and milking a few cows. Would suggest that if it is possible, he be granted the use of 10 acres adjoining his allotment.

[Lot 2] Te Katene, deceased, grant 5 acres. This man was Mrs Te Kuni's adopted father, and up to the time of his death worked his allotment in conjunction and lived with Te Kuni.

[Lot 6] Reria, deceased, allotment 5 acres, lived on place up to the time of death. Property now unoccupied.

[Lot 3] Waenga Wereta, grant 5 acres. Had no right whatever to have an allotment, has never occupied, but always leased to Europeans which we understand there was no legal right to do.

[Lot 9] Witana Parara, deceased, grant 5 acres. Not necessary to have made grant, never resided on allotment. Understand leased to Europeans by descendants.

[Lot 8] George Gotty, son of Reria, grant 5 acres. Has never resided in this district, land leased to Europeans.

[Lot 7] Kerenama Te Ngako, granted 5 acres, has lived out of district, never utilised, land leased.

[Lot 5] Roka Te Wiata, grant 5 acres, land leased, has never resided on allotment.

[Lot 10] Te Pai Te Hana, grant 5 acres, land leased, has never resided on allotment, should never [have] received grant.²⁰³

When asked to comment on the Domain Board chairman's request, the Commissioner of Crown Lands referred back to the 1905 opinion that the old riverbed was Crown Land, though he expressed his doubts that this opinion was correct:

On a copy of a memo from the Department of Justice to the Under Secretary for Lands, there is a memorandum from the Under Secretary for Lands to the Commissioner of Crown Lands to the effect that the old riverbed is evidently Crown Land. I do not know the grounds for this opinion, and doubt if it could be upheld.... The grantees of Section 141 appear to me to be the persons entitled to the land to the

²⁰³ List of persons land allotted to, attached to Chairman Bulls Domain Board to E Newman MHR, 23 October 1920. Lands and Survey Head Office file 1/179. Supporting Papers #454-457.

centre of the old river bed. The Crown might have been by way of acquiring a title by occupation, but unfortunately Section 141 is under the Land Transfer Act.

Even the Crown's title to the Recreation Reserve itself is not by any means secure, and I agree with the opinion expressed in the second paragraph of the Chief Surveyor's memo of 8th July 1905....

The fact is that the whole question of the title to these lands is an extremely complicated one, and for this reason, and as the matter is one of very great delicacy, I recommend that the Domain Board be advised that there is no power to give effect to their application.²⁰⁴

The matter was "of very great delicacy" only to the Crown, in not wanting any trouble that might challenge its arguable assertion in 1905 that the old riverbed was Crown Land. The Commissioner's recommendation was accepted, and the Domain Board was told that its request "cannot be acceded to"²⁰⁵.

Applications for investigation of title to the old riverbed were lodged with the Native Land Court in about 1924, on the basis of accretion to Ohinepuhiawe Reserve. The Bulls Town Board heard about these applications, and took them to mean that the title being claimed included the Bulls Domain; it also believed that a petition on the matter would be sent to Parliament²⁰⁶. The Under Secretary to the Native Department, who was also Chief Judge of the Native Land Court, advised the Minister:

So far as the Recreation Ground is concerned, the Native Land Court apparently has no jurisdiction. It is not Native Land, and even if it were originally so the Native customary title to it must now be deemed to be lawfully extinguished (Section 87 Native Land Act 1909²⁰⁷). Of course I cannot say what claim the Maoris might set up on petition, or what are the merits of such claim until lodged. On its face, however, there appears to be no claim unless it is to a small piece of accretion belonging to the land on the other side of the river which may have become included in the survey.²⁰⁸

²⁰⁴ Commissioner of Crown Lands Wellington to Under Secretary for Lands, 2 December 1920. Lands and Survey Head Office file 1/179. Supporting Papers #458-462.

²⁰⁵ Minister of Lands to E Newman MHR, 13 December 1920. Lands and Survey Head Office file 1/179. Supporting Papers #463.

²⁰⁶ Town Clerk Bulls Town Board to J Linklater MHR, 13 August 1924, attached to J Linklater MHR to Native Minister, 15 August 1924. Maori Affairs Head Office file 1926/50. Supporting Papers #537-538.

²⁰⁷ Section 87 Native Land Act 1909 states:

"The Native customary title shall for all purposes be deemed to have been lawfully extinguished in respect of all land which during the period of ten years immediately preceding the commencement of this Act has been continuously in the possession of the Crown, whether through its tenants or otherwise whatsoever, as being Crown land free from the Native customary title."

²⁰⁸ Under Secretary Native Department to Native Minister, 8 September 1924, on Native Minister to J Linklater MHR, 18 August 1924, and Native Minister to J Linklater MHR, 9 September 1924. Maori Affairs Head Office file 1926/50. Supporting Papers #539 and 539A.

In comments to his Head Office about the applications to the Native Land Court, the Commissioner of Crown Lands described the title to the old riverbed as “altogether vague”. The area that Maori were authorised to occupy in 1905 was at that time “looked upon as Crown Lands”, although “on account of doubts having arisen as to the title, this authority was given without any liability or responsibility being attached to the Crown”. The Commissioner noted a new factor to consider, that the *ad medium filum* principle might not apply if the so-called accretion to riparian lands arose from a sudden change in the river’s course:

All the titles on either bank were granted with the river as boundary and, I believe, therefore the grant owned up to the middle line of the river. Irrespective of this, our records go to show that the river seems to have altered its course, partly by slow degrees leaving alluvium on its right bank, and partly by sudden change as evidenced by a patch of original bush now on the right but formerly on the left bank of the river.²⁰⁹

The Native Land Court heard the application for investigation of title in July 1924. The application was presented in two parts. First, as to the land for which a right to occupy had been issued in 1905, title was claimed by accretion to Ohinepuhiawe Reserve in terms of the *ad medium filum* common law presumption. Second, as to the recreation reserve and rifle range land, the Court was told that the applicants would pursue their title claim by presenting a petition to Parliament. At the end of the hearing a Lands and Survey official who was attending advised the Court that the matter was being referred to Crown Law Office. The application was then adjourned sine die. Commenting on the hearing, the Commissioner of Crown Lands raised for the first time in connection with the Rangitikei River at Bulls the notion that the river might be navigable:

It appears to me that should the Natives succeed in their claim to the ten sections, the owner of the land on the right bank might claim the lands comprised in the Domain and Rifle Range, but the question as to whether the Rangitikei River could be termed a “navigable” river at that time might possibly have some bearing on the case.²¹⁰

The Commissioner was suggesting that the Crown’s action when reserving the former riverbed land in 1893 might not be able to be overturned because in the interim (in 1903) the beds of navigable rivers had been vested in the Crown and this would prevent a riparian owner from successfully pursuing a claim to the recreation reserve and rifle range land.

²⁰⁹ Commissioner of Crown Lands Wellington to Under Secretary for Lands, 11 July 1924. Lands and Survey Head Office file 1/179. Supporting Papers #464-468.

²¹⁰ Commissioner of Crown Lands Wellington to Under Secretary for Lands, 21 July 1924. Lands and Survey Head Office file 1/179. Supporting Papers #469-470.

The Commissioner of Crown Lands then instructed a Crown Lands Ranger to make some inquiries about navigability. The Ranger reported:

From Mr Alexander McKenzie of Marton, I have gleaned the under-stated details regarding the river and matters of early day history. Mr McKenzie, who is now 67 years of age, was born and brought up on his father's farm at Scott's Ferry.

The Rangitikei River was only navigable for deep sea boats up to Amons Creek, about 2¼ miles up the river from the ocean. Amons Wharf was washed away in the great flood of April 1897. This flood entirely altered the nature and depth of water in the river for deep sea boats. No seagoing boat has come up the river since 1897. From 1897 till the present time, only small row boats can use the river. At the best of times no seagoing boat could get further up the river than Amons Wharf.

From the site of Amons Wharf ... to Bulls by the river is about 14 miles.

It will be seen that the Rangitikei River in no sense of the word could be termed a navigable river.²¹¹

Undeterred by this assessment, the Commissioner also made inquiries of the Marine Department and received verbal advice that the river was tidal "for some considerable distance". He recommended that written advice be sought from the Marine Department "as this contention would prove invaluable to the Crown's case"²¹². When this recommendation was followed up²¹³, the Marine Department replied:

The Marine Department's point of view is this. The fact that any water is tidal or navigable gives the Marine Department a title to the bed or foreshores as the case may be, and substantiation of navigability, or that water is tidal, simply means substantiation of ownership of valuable shingle deposits.

The Crown Lands Ranger seems to assume that a river is not navigable unless it can be navigated by vessels which go to sea. This, however, is not the case. We have established claims to shingle in rivers simply on the evidence that they have been navigated in the past by Native canoes.

As you are doubtless aware, the general position is that title ordinarily goes to the middle of a river, but this is only a presumption in law, and it makes very slight evidence of a contrary intention when granting the title to rebut any claim to the middle of a river. If a river has been used for navigation at all, even navigation only

²¹¹ Crown Lands Ranger Craig to Commissioner of Crown Lands Wellington, 7 September 1924, attached to Commissioner of Crown Lands Wellington to Under Secretary for Lands, 24 September 1924. Lands and Survey Head Office file 1/179. Supporting Papers #471-472.

²¹² Commissioner of Crown Lands Wellington to Under Secretary for Lands, 24 September 1924. Lands and Survey Head Office file 1/179. Supporting Papers #471-472.

²¹³ Under Secretary for Lands to Secretary for Marine, 1 October 1924. Lands and Survey Head Office file 1/179. Supporting Papers #473.

by Maori canoes which may have had to portage over rapids, etc, the claim to title to the middle of a river can be rebutted.²¹⁴

As this response talked in generalities, and as no petition about the recreation reserve and rifle range was received, consideration of the status of the old riverbed was left in abeyance until August 1925. In the meantime, the Crown Law Office was alerted to the legal case in the Native Land Court and asked to coordinate the Crown's response²¹⁵. In a discussion between a Lands and Survey official and a Crown Solicitor, it was agreed that "the whole question turns on the point as to whether the Rangitikei River at this particular point was a navigable river"²¹⁶.

In August 1925 the Commissioner of Crown Lands sought the opinion of the District Land Registrar, and then reported to his Head Office:

As regards the lands comprised in the Domain and Rifle Range, the District Land Registrar considers that the Crown has title by possession under the Statute of Limitations. As far as the lands in the old river bed, now held under temporary licence by certain Natives, are concerned, the District Land Registrar considers that it is a question for the Native Land Court to decide whether these are Native lands or not, but he is of opinion that, as there is no evidence as to navigability of the Rangitikei River, the right of Native owners 'ad medium filum aquae' would be difficult to disprove.

The above decisions are, in my opinion, correct....²¹⁷

In February 1926, with the adjourned application for investigation of title set down for hearing the following month, the Commissioner of Crown Lands decided to terminate the temporary occupation rights that had been in existence since 1905. This action was taken to avoid confusion and make it clear that determining the ownership of the occupied riverbed was a matter solely for the Native Land Court²¹⁸. The hearing did not take place in March 1926 as expected, and instead was adjourned until June.

²¹⁴ Secretary for Marine to Under Secretary for Lands, 13 October 1924. Lands and Survey Head Office file 1/179. Supporting Papers #474.

²¹⁵ Under Secretary for Lands to Principal Law Officer, 9 April 1925, on Dorrington and Goldsman, Solicitors, Marton, to Under Secretary for Lands, 7 April 1925. Lands and Survey Head Office file 1/179. Supporting Papers #475.

²¹⁶ Note for file, 14 July 1925. Lands and Survey Head Office file 1/179. Supporting Papers #476.

²¹⁷ Commissioner of Crown Lands Wellington to Under Secretary for Lands, 31 August 1925. Lands and Survey Head Office file 1/179. Supporting Papers #477.

²¹⁸ Commissioner of Crown Lands Wellington to 11 occupants, 27 February 1926, attached to Commissioner of Crown Lands Wellington to Under Secretary for Lands, 27 February 1926. Lands and Survey Head Office file 1/179. Supporting Papers #478-479.

In preparation for the hearing, the Crown ramped up its investigation of navigability. With the agreement of the Crown Solicitor who was handling the case²¹⁹, the Marine Department was approached again. This time it provided more information about the Rangitikei River, which is quoted in full below:

The evidence in the possession of this department does not show whether the river is navigable at the present time in the vicinity of Bulls.

There is no doubt, however, that many years ago the river was navigable for a very considerable distance from its mouth. In 1849 a survey was made of the coast and navigable rivers in the vicinity of Rangitikei. This survey was carried out by officers of the Imperial Navy, who at the time reported that the Rangitikei River was navigable for a distance of 50 miles from its mouth. A copy of the first issue of the Admiralty Publication, known as "The N.Z. Pilot", verifies this.

That the river was navigable before this date is supported by the report of Capt W.M. Smith, made on the 12th December 1840 to Colonel Wakefield. Captain Smith, ... in addition to carrying out surveys of the land between Wellington and Wanganui, also reported on the class of land in the different localities and the means of communication. In his report referred to above it will be found that in those days the Rangitikei River was recognised as a means of communication with the interior, for after referring to the district round Wellington and the coast, he uses these words:

Southern coast of this island from many parts of which there are the means of communication with the interior of the country by such rivers as the Wanganui, the Manawatu, the Rangitikei, and others.

As the tide at ordinary high tide has a rise and fall of 6 feet at the entrance, and the river being navigable for a considerable distance, the tidal effect undoubtedly must be experienced many miles up the river, especially as the river in question could not have been termed navigable by naval officers had it been a fast flowing river.

Further, it was recognised that the river at the time of subdivision of the land from the mouth up to and including the locality in question was of a nature as to form a definite boundary, such as in the case of land bounded by the sea, is borne out by the fact that in no case is any section shown as including land on both sides of the river, but instead the titles that have been issued state definitely "as bounded by the river". The river bank seems to have been definitely fixed by the original survey and boundary lines, and therefore this Department is of opinion that the bed of the river belongs to the Crown; and in the case of any accretion, such accretion would become and remain the property of the Crown, until such time as the adjoining owner had a Certificate of title issued for that accretion.

In the present case, as the accretion was sudden on account of the river changing its course during a flood, the accretion (which is virtually the old bed of a navigable river) is undoubtedly Crown Land. Likewise the existing or new bed, which was of sudden formation, does not become the property of the Crown but remains the

²¹⁹ Under Secretary for Lands to Crown Solicitor, 22 March 1926, and Crown Solicitor to Under Secretary for Lands, 29 March 1926, on Commissioner of Crown Lands Wellington to Under Secretary for Lands, 16 March 1926. Lands and Survey Head Office file 1/179. Supporting Papers #480-481.

property of the owner across whose land it now flows (see *Ford v Lacy*, 7 H&N 151).²²⁰

Following receipt of this report, the Crown Solicitor took the view that the title to the old riverbed was “not a question for investigation by the Native Land Court”²²¹; he would argue to the Court that it had no jurisdiction. However, the Crown Solicitor did not attend the court hearing in June 1926. Instead the Crown was represented by a Lands and Survey officer who asserted that the Rangitikei River was navigable, and asked for an adjournment to give the Crown time to prepare its case²²². The application was adjourned until August 1926.

The statement made by counsel on behalf of the applicants at the June 1926 hearing²²³, as foreshadowed at the hearing nearly two years earlier, covered claims to both the reserves and the land that had been occupied since 1905. This was on the basis that “the river as it was in 1869, when the reserves [Sections 140 and 141] were made, was their northern boundary, and that this course was along the bluff”²²⁴.

One week before the Crown was due to present its arguments at the August 1926 hearing, the Crown Solicitor set out the case he would be making in a letter to the Under Secretary of Lands. He started his letter by making an overall assessment that “the case for the Crown in this matter is not very strong”. He then set out six points he would be relying on:

1. That the doctrine of accretion is one founded on Roman Law, and was unknown to Native Law or custom.
2. That the Crown purchased the whole Block Rangitikei-Manawatu up to the boundary of the River, and that except for the parts excluded in the purchase the Native title was extinguished in 1869.
3. That the two Blocks in question were not excepted but were individual reserves granted in settlement of alleged claims.
4. That the Rangitikei River was a navigable river and the bed belongs to the Crown.
5. That if the doctrine of accretion applies, then the land is not Papatupu land subject to the Native Land Court.

²²⁰ Secretary for Marine to Commissioner of Crown Lands Wellington, 5 June 1926, attached to Commissioner of Crown Lands Wellington to Under Secretary for Lands, 8 June 1926. Lands and Survey Head Office file 1/179. Supporting Papers #482-483.

²²¹ J Gillespie to Under Secretary for Lands, on Commissioner of Crown Lands Wellington to Under Secretary for Lands, 8 June 1926. Lands and Survey Head Office file 1/179. Supporting Papers #482-483.

²²² Maori Land Court minute book 85 Whanganui 113-116 at 116. Supporting Papers #3142-3145 at 3145. Deputy Commissioner of Crown Lands Wellington to Under Secretary for Lands, 18 June 1926. Lands and Survey Head Office file 1/179. Supporting Papers #484-486.

²²³ Maori Land Court minute book 85 Whanganui 113-116. Supporting Papers #3142-3145.

²²⁴ Maori Land Court minute book 85 Whanganui 113-116, at 115-116. Supporting Papers #3142-3145 at 3144-3145.

6. That the land has been claimed by and in possession of the Crown for over 10 years (Section 87 Native Land Act).

As to 1. This is the main argument that underlies the Crown's claim to the bed of all lakes.

As to 2. I shall be glad if you will have all the records as to the purchase looked up and ready for me to take and quote to the Court.

As to 3. The difficulty on this point is to get over the definition of (b) of Native Land (Section 2 Native Land Act 1909). Was the consideration a pecuniary one?

As to 4. As stated by the Marine Department, the presumption of law re riverbeds is one that is rebutted by slight evidence of public rights. There appears to be evidence of past navigation, but not in recent years. This ground is not a very reliable defence.

As to 5. I think the Court will accept this contention if the others fail.

As to 6. This contention is a doubtful one, and may act as a weapon against the Crown. It will be as well to have the file relating to the issue of licences available.

Speaking generally, I think that the main contention must be that the Crown does not admit that the matter comes under the jurisdiction of the Native Land Court. I understand that there is no real objection on the part of the Crown to the Natives acquiring part at least of the old riverbed in satisfaction of their loss by erosion. As difficulty may arise over the centre line, overlapping, etc, I think the Department should decide its general attitude with regard to the disposal of the land.²²⁵

When the Commissioner of Crown Lands was asked for his views on the Crown Solicitor's proposed strategy²²⁶, he replied that he agreed the Crown case was "not very strong", and was prepared to consider recommending vesting of the old riverbed formerly occupied under temporary licence be vested in Maori ownership, though "care should be taken to insure that none of the lands vested in the Domain Board should be interfered with"²²⁷. The Crown Solicitor was told that the Department's policy was that it "would be prepared to make a favourable recommendation to the Government with respect to granting portion of the land to the Natives, should the Crown's claim be established"²²⁸.

When the Native Land Court hearing was resumed in early August 1926²²⁹, the applicants continued with their case by presenting evidence from two elderly witnesses (Ani Haera Hone Reweti and Te Hurunui Wereta) who had resided for a long time at Ohinepuhiawe.

²²⁵ Crown Solicitor to Under Secretary for Lands, 30 July 1926. Lands and Survey Head Office file 1/179. Supporting Papers #487-488.

²²⁶ Assistant Under Secretary for Lands to Commissioner of Crown Lands Wellington, 31 July 1926. Lands and Survey Head Office file 1/179. Supporting Papers #489.

²²⁷ Commissioner of Crown Lands Wellington to Under Secretary for Lands, 2 August 1924. Lands and Survey Head Office file 1/179. Supporting Papers #490.

²²⁸ Assistant Under Secretary for Lands to Crown Solicitor, 2 August 1926, on Commissioner of Crown Lands Wellington to Under Secretary for Lands, 2 August 1924. Lands and Survey Head Office file 1/179. Supporting Papers #490.

²²⁹ Maori Land Court minute book 85 Whanganui 177-183. Supporting Papers #3146-3152.

They described how the river at the time of the Crown purchase in 1865 ran close in under the foot of the cliff on the Bulls side, and the riverbed there was not as wide as it was subsequently understood to be based on later surveyed land boundaries. After the time of purchase, during the 1870s, there was accretion at the foot of the cliff as the river's course moved away from the cliff, at the same time as there was erosion of the Ohinepuhiawe Reserve on the opposite bank of the river. A settlement and a cemetery on the bend of the river opposite the cliff had to be abandoned because of encroachment by the river. The applicants' argument was that both the reserves on the Bulls side and the temporarily occupied old riverbed properly belonged to Ohinepuhiawe, but this right had been frustrated by later surveying of Ohinepuhiawe's boundaries²³⁰.

The Crown Solicitor presented the Crown's case, as outlined in the strategy he had prepared one week earlier. His main argument was that the land was not papatupu land subject to the Native Land Court's jurisdiction. There were well-established tests any owner of a Land Transfer title had to satisfy when claiming accretion, and that was the appropriate course of action in this case, because Sections 140 and 141 both had Land Transfer Act titles. He disputed that the later survey of the boundaries of Sections 140 and 141 had disadvantaged Maori; they had been promised a total of 385 acres, and the later survey (made in 1870, just five years after the purchase) provided them with that area. He maintained that the river was navigable, on the basis of the early reports about the river being a highway into the interior, and being able to be navigated for 50 miles. He also argued that, by virtue of its reservations and its issue of temporary licences, the Crown had been in possession of one part of the riverbed since 1893, and of the other part since 1905²³¹.

In his report back to the Under Secretary for Lands about the hearing, the Crown Solicitor summarised what had happened. He believed that the Judge had been convinced by his arguments. He considered that by producing the relevant historical survey plans, he had established on the facts that the Land Transfer titles for Sections 140 and 141 correctly plotted the river's edge before any of the erosion in the 1870s referred to by the Maori witnesses. He also explained that following the hearing the Judge had visited the site to see it for himself; something not recorded in the Court minute book. The Crown Solicitor was in the site visit party:

²³⁰ Maori Land Court minute book 85 Whanganui 177-179. Supporting Papers #3146-3148.

²³¹ Maori Land Court minute book 85 Whanganui 181-183. Supporting Papers #3150-3152.

On viewing the ground from a point immediately behind the rifle butt, one got a full view of practically the whole of the reserve. One could see traces on the ground of the different courses of the river prior to the final break through and silting up of the old bed. The river being somewhat in flood showed how much of the actual reserve had been lost to the Native owners. Apparently they have had to shift from the lower levels to a high bank running along the southern side of the reserve, though there are still a few residing on what was the old river-bed. Whilst we were viewing the locality, the Judge indicated that he was inclined to the view that the Court had no jurisdiction, but expressed also the view that there was a strong moral claim on the Crown to give the Natives what was left of the river-bed as some return for the hardship caused by nature to their lands.

The Crown Solicitor added:

My personal opinion is that there is considerable merit in the equitable claim of the Natives, and I recommend to the Department for favourable consideration the matter of promoting legislation authorising the handing over to the Natives of the land, excluding of course the part already set aside for a Domain and any odd corners that might more beneficially go with the Domain than with the other part. It would be necessary in any authorising legislation to provide that the matter of ascertaining the individual rights should be referred to the Native Land Court for decision.²³²

The report by the Judge of the Native Land Court to the Chief Judge was produced later the same month. He dismissed the notion, as set out in the application made to the Court, that the Court could treat the land as uninvestigated Native land, but had continued with a hearing of the case so it could “ascertain all the particulars it could, and place them before you in order that you might take any action you thought fit”. He then criticised the Crown for acting as if the old riverbed was its own land to do with as it wished:

[The 1897] change in its course left the old river bed dry, and although the Native owners of the reserves seem to have had as much right to it as the Crown, the Crown seized the whole of it, cut it up and actually leased it to such of the owners as had their land turned into a shingle bed by the action of the river. Latterly the Crown seems to have grasped the position a little bit better, for, I understand, it has cancelled the leases and left the question of the ownership in abeyance.

The ownership of the old riverbed was, however, at the core of the legal debate before the Court. The Judge made a finding that the Maori claim to recreation reserve and rifle range land (i.e. land on the Bulls side of the old riverbed) was “untenable” because of the historical survey and titles evidence:

As to the old bed of the river [over which licences had been issued then cancelled], however, the position is somewhat different. If the rights of the Natives extended to the centre on the one side, and those of the Crown to the centre on the other, it seems to me that the Natives are entitled to some consideration. The change in the course of the river has relieved the Crown Land from all danger of erosion at the expense

²³² Crown Solicitor to Under Secretary for Lands, 9 August 1926. Lands and Survey Head Office file 1/179. Supporting Papers #491-496.

practically of the Native land, and if, on this account, the rights of the Natives to one-half the old bed were admitted, and compensation in some form allowed for the land which they have lost through the change in the river's course and the damage the balance has sustained thereby, they would I think be treated fairly.²³³

Notably in this report by the Judge, no mention was made about the navigable river claim of the Crown. The Native Land Court had managed to avoid taking sides on that aspect.

Acceding to "the equitable claim of the Natives", and granting them the old riverbed land they had been occupying since 1905, was supported by the Crown Solicitor²³⁴, the Deputy Commissioner of Crown Lands²³⁵, the Chief Clerk in Lands and Survey Head Office²³⁶, and the Under Secretary for Lands²³⁷. However, the equities of the situation did not seem to extend to implementing the Judge's recommendation with any degree of urgency. The first action taken, in October 1926, was to ask the Commissioner of Crown Lands for a report "to ascertain exactly what land the Natives have lost, and also to determine the acreage which might reasonably be granted to them out of the old bed". Valuations were also needed to justify the granting of land in compensation for land lost. The Commissioner was also asked whether the new riverbed through Ohinepuhiawe Reserve should be proclaimed Crown Land²³⁸.

It was not until March 1929 that a survey plan showing what land had been lost and what land could be granted was sent to Wellington²³⁹. This showed that the new riverbed through Ohinepuhiawe occupied 101 acres 3 roods 03 perches of the Maori Reserve. The balance of the old riverbed, after accounting for the recreation reserve and rifle range, amounted to 100 acres 1 rood 09 perches. The Commissioner supported the proposed special legislation

²³³ Judge Browne to Chief Judge Native Land Court, 21 August 1926. Maori Affairs Head Office file 1926/50. Supporting Papers #546-547.

²³⁴ Crown Solicitor to Under Secretary for Lands, 22 September 1926, on Under Secretary Native Department to Under Secretary for Lands, 10 September 1926. Lands and Survey Head Office file 1/179. Supporting Papers #497-499.

²³⁵ Deputy Commissioner of Crown Lands Wellington to Under Secretary for Lands, 4 October 1926. Lands and Survey Head Office file 1/179. Supporting Papers #500.

²³⁶ S Gambrill to Under Secretary for Lands, 7 October 1926. Lands and Survey Head Office file 1/179. Supporting Papers #501.

²³⁷ Under Secretary for Lands to Commissioner of Crown Lands Wellington, 8 October 1926. Lands and Survey Head Office file 1/179. Supporting Papers #502.

²³⁸ Under Secretary for Lands to Commissioner of Crown Lands Wellington, 8 October 1926. Lands and Survey Head Office file 1/179. Supporting Papers #502.

²³⁹ Wellington plan ML 4129. Supporting Papers #3282.

The survey had been made in May 1927, but had then languished in the Wellington District Office of Department of Lands and Survey until March 1929; the reason for this is not known.

proclaiming the new bed to be Crown Land, and vesting the unallocated old riverbed in Maori owners, those owners to be determined by the Native Land Court²⁴⁰.

The Native Department was advised of the proposed solution in April 1929; the letter also suggested that “it might be advisable to provide that the new bed of the river shall be deemed to be vested in the Crown”²⁴¹. The immediate response of the Under Secretary of the Native Department was to query why special legislation would be necessary, as to him it appeared that Ohinepuhiawe Maori were entitled to the old riverbed under existing law, i.e. under the *ad medium filum* presumption²⁴². A closer examination of the survey plan would have shown that this was not correct. The 100 acres of old riverbed excluding the reserves stretched beyond the centre line right across the old course of the river to the Bulls side at the upstream end, while at the downstream end it included land to the centre line that a private owner of riparian land on the Bulls side would be entitled to claim.

The Under Secretary of the Native Department also referred the proposed solution to the Judge of the Native Land Court who had considered and reported on the matter in 1926. The Judge advised that:

At the time I reported on this matter, I was of opinion the Native owners were entitled to one-half the old bed of the Rangitikei River, and to compensation in some form for the land which they have lost through the change of the River's course and the damage the balance has sustained thereby. At the inquiry which I held, the representative of the Crown argued that the Rangitikei being a navigable river the old bed belonged to the Crown, but this argument is, I think, untenable. It was stated the river was in the early days navigable for very small trading vessels for some little distance from its mouth, but never as far up as the Ohinepuhiawe Sections. This being so the grantees of those Sections appear to be by right the owners of half the old bed where it abuts on the Sections.

He added that he had recently revisited Bulls, and found the circumstances much as they had been three years earlier, with all land to the west of the new course of the river very stony, appearing to be subject to flooding, and “not of much use for Native occupation”, even though “one or two Native families are living on it at the present time”. He also stated that “the Natives themselves selected the land” as a reserve in 1865, “so that it must have been

²⁴⁰ Commissioner of Crown Lands Wellington to Under Secretary for Lands, 23 March 1929. Lands and Survey Head Office file 1/179. Supporting Papers #503.

²⁴¹ Under Secretary for Lands to Under Secretary Native Department, 3 April 1929. Maori Affairs Head Office file 1926/50. Supporting Papers #548-549.

²⁴² Under Secretary Native Department to Under Secretary for Lands, 20 August 1929. Lands and Survey Head Office file 1/179. Supporting Papers #504.

eminently suitable for their occupation”. He concluded by urging that it would “only be fair” to grant half the old riverbed²⁴³.

On receipt of the Judge’s report, the Under Secretary of the Native Department placed the matter before the Native Minister:

According to the accepted views, the river bed to the centre line belonged to the owners of the adjoining land....

I was at first under the impression that the Department [of Lands and Survey] only wanted to give the Natives what they were clearly entitled to, but I think the intention is to give them all the riverbed (except a small portion).... I would recommend legislation vesting the river bed in the Natives, reserving the right of any European other than the Crown, and allow the Native Land Court to issue one or more titles to the Natives interested. It may be that the improvements of the Crown licensees would require to be protected.²⁴⁴

The Native Minister, Apirana Ngata, ordered that the special legislation be prepared.

When passed, Section 58 Native Land Amendment and Native Land Claims Adjustment Act 1929 referred to the whole of the old riverbed except for the recreation reserve, the rifle range and a cemetery on the riverbank on the Bulls side. It also excluded any riverbed affected by riparian rights that the owner of Section 42 Block XII Rangitoto Survey District (on the Bulls side at the downstream end) was entitled to claim. The balance area as so defined (regardless of which side of the middle line it was on) was to be treated as Native land, and the Native Land Court was authorised to determine in whom it should be vested. When the Court made the ownership orders, the land would become Native land, and “the rights (if any) of the Crown to such land shall cease”. There was no mention in the legislation of the new riverbed where it cut through Ohinepuhiawe Reserve becoming vested in the Crown.

The Native Land Court’s consideration of the ownership of the old riverbed took place in March 1930²⁴⁵. With the agreement of those attending the Court hearing, the old riverbed was divided into six titles, after making title provision for the European owner of the Section 42 land²⁴⁶, as follows:

²⁴³ Judge Browne to Under Secretary Native Department, 26 August 1929. Maori Affairs Head Office file 1926/50. Supporting Papers #550.

²⁴⁴ Under Secretary Native Department to Native Minister, 7 September 1929. Maori Affairs Head Office file 1926/50. Supporting Papers #551.

²⁴⁵ Maori Land Court minute book 91 Whanganui 48-53. Supporting Papers #3153-3158.

²⁴⁶ This was described in the Court minutes as “all the land at the south-eastern end of the Block, being Lot 1 on plan lodged for deposit with District Land Registrar at Wellington under provisional number 7498”, area 9 acres

- Ohinepuhiawe 140C, in three parts, being the balance of the land at the downstream end outside the sections shown on the 1927 plan²⁴⁷ (area 14 acres), Section 1 on the 1927 plan (4 acres 3 roods 06 perches), and four acres of Section 5 on the 1927 plan, total area 22 acres 3 roods 06 perches (found on survey after the Court hearing to have a total area of 19 acres 3 roods²⁴⁸), awarded to 13 persons in equal shares, one of whom was deceased and whose share was succeeded to by ten persons in unequal shares.
- Ohinepuhiawe 141C, shown as Section 2 on the 1927 plan, five acres (found on survey after the Court hearing to have an area of 4 acres 3 roods 25 perches), total of 235 shares, awarded to two persons (members of the Reweti whanau).
- Ohinepuhiawe 141D, shown as Section 3 on the 1927 plan, five acres (found on survey after the Court hearing to have an area of 5 acres 0 roods 07 perches), total of 235 shares, awarded to five persons.
- Ohinepuhiawe 141E, shown as Section 4 on the 1927 plan, plus one acre of Section 5, total area of six acres (found on survey after the Court hearing to have an area of 6 acres 0 roods 01 perches), total of 245 shares, awarded to two persons (members of the Reweti whanau).
- Ohinepuhiawe 141F, shown as Sections 6-10 on the 1927 plan, total area of 25 acres 3 roods 26 perches (found on survey after the Court hearing to have an area of 28 acres 1 rood 19 perches), awarded to two persons (members of the Reweti whanau).
- Ohinepuhiawe 141G, at the upstream end of the old riverbed outside the sections shown on the 1927 plan, 25 acres 1 rood 25 perches (found on survey after the Court hearing to have an area of 25 acres 2 roods 26 perches), awarded to 17 persons in equal shares; according to the valuation evidence this block, unlike the other blocks, had a nil value²⁴⁹.

1 rood 08 perches. Wellington plan DP 7498 was approved for deposit by the District Land Registrar in June 1930. The river frontage of Section 42, where it fronted on to the old riverbed, had already both eroded and accreted since being first surveyed in the 1870s, and was held in 1930 as Lot 1 DP 5311.

For the purposes of the Native Land Court order, a copy of Wellington survey plan DP 7498 was included in the Court's plan records as Wellington survey plan ML 4201. Not included in Supporting Papers.

²⁴⁷ Wellington survey plan ML 4129. Supporting Papers #3282.

²⁴⁸ Wellington survey plan ML 4219. Supporting Papers #3283.

²⁴⁹ The treatment of the 25 acres of Ohinepuhiawe 141G as the collective property of all 17 persons found to have an interest in the old riverbed may have been because the surveyor and the Court were aware that the Rangitikei County Council intended to take the land for river protection purposes. The whole of Ohinepuhiawe 141G was taken under the Public Works Act in February 1932 (*New Zealand Gazette* 1932 page 315 - Supporting Papers #3068). Because the taking was associated with protection of the Bulls bridge, it is discussed in the chapter on bridging the river.

In 1931 it emerged that the small area of 1 acre 1 rood 34 perches identified as part of the rifle range where the range strayed over the supposed centre line of the river had never been reserved for rifle range. Being on the Ohinepuhiawe reserve side of the old riverbed, it was a matter to be dealt with by the Native Land Court, and the Crown had supposed, incorrectly, that it would be vested in the Crown by the Native Land Court at the time it determined the ownership of the remainder of the old riverbed. When this was drawn to the Court's attention, it made an order vesting the 1 acre 1 rood 34 perch area in all the owners to whom the six other partitions had been awarded in their respective shares²⁵⁰. This area was ordered as Ohinepuhiawe 141H. Officials could not fault the Court's legal interpretation of the 1929 legislation in vesting the land in Maori owners, but argued that "we know the Act never intended that interpretation"²⁵¹. There had been no talk of the Crown financially compensating the Maori owners prior to the passing of the legislation, though this was a consequence of the order made by the Court. However, upon request²⁵², the Court declined to amend its decision²⁵³. The anomaly, as the Crown saw it, was referred to Department of Lands and Survey Head Office in Wellington²⁵⁴, which asked the Native Department to remedy the problem by introducing a retrospective amendment to Section 58 of the 1929 Act, that would have the effect of removing the 1 acre 1 rood 34 perch area from the Court's jurisdiction²⁵⁵. The 1929 legislation was amended by Section 102 Native Purposes Act 1931 to declare the area to have been reserved as part of the rifle range since 1929, and to cancel the Native Land Court order.

²⁵⁰ Chief Surveyor Wellington to Registrar Native Land Court Wanganui, 13 September 1930, Acting Registrar Native Land Court Wanganui to Chief Surveyor Wellington, 29 September 1930, Chief Surveyor Wellington to Registrar Native Land Court Wanganui, 2 October 1930, and Acting Registrar Native Land Court Wanganui to Chief Surveyor Wellington, 7 October 1930. Lands and Survey Wellington District Office file 20/28. Supporting Papers #2926, 2927, 2928 and 2929.

²⁵¹ File note by Native Branch Draughtsman, 10 October 1930, on Acting Registrar Native Land Court Wanganui to Chief Surveyor Wellington, 7 October 1930. Lands and Survey Wellington District Office file 20/28. Supporting Papers #2929.

²⁵² Chief Surveyor Wellington to Registrar Native Land Court Wanganui, 4 September 1931. Lands and Survey Wellington District Office file 20/28. Supporting Papers #2933-2934.

²⁵³ Registrar Native Land Court Wanganui to Chief Surveyor Wellington, 11 September 1931. Lands and Survey Wellington District Office file 20/28. Supporting Papers #2935.

²⁵⁴ Chief Surveyor Wellington to Under Secretary for Lands, 30 September 1931. Lands and Survey Wellington District Office file 20/28. Supporting Papers #2936-2938.

²⁵⁵ Under Secretary for Lands to Under Secretary Native Department, 7 October 1931. Maori Affairs Head Office file 1926/50. Supporting Papers #554-557.

4.4 Navigable river assertion between Bulls and the sea

Implicit in the assertion made by the Crown that the Rangitikei River at Bulls was a navigable river was a belief that the river between Bulls and the sea was also navigable. However, this was never stated in as many words until after matters at Ohinepuhiawe had been resolved. It was in March 1932 that the question of navigability downstream of Bulls arose, when the Chief Surveyor sought advice about the status of the riverbed just a short distance above Tangimoana township. He prefaced his request by asserting:

The Rangitikei River is classed as a navigable river, and twenty years ago was tidal from the mouth up to the point marked C on the enclosed tracing.

The status of the riverbed was uncertain at this point because the river had been diverted by Rangitikei County Council in 1917-18 (see the chapter of this report on flood protection works). The old bypassed bend of the river had largely silted up, though was still subject to some tidal backing-up of waters. The Chief Surveyor wanted to know whether the silted up part of the old riverbed was Crown Land (because the bypassed bend had originally been tidal water and had been navigable), or alternatively could be claimed by riparian owners under the *ad medium filum* presumption (because the tidal and navigable status had been transferred to the diversion cut)²⁵⁶. The question was passed to Crown Law Office²⁵⁷, and the same Crown Solicitor who had represented the Crown at the Ohinepuhiawe Native Land Court hearing in 1926 responded:

I think that ample evidence can be obtained that the Rangitikei River was navigable at one time up as far as Bulls. The bed therefore was vested in the Crown; Section 206 Coal-mines Act 1925. There are therefore two grounds on which the title of the Crown may be based; (a) the statutory provision relating to navigable rivers, and (b) the common law claim of the Crown to tidal land. The latter is also supported by the provisions of the Harbours Act 1923.

The fact that by reason of a diversion the course of the river has been changed and the old bed has dried up or silted up would not, I think, end the Crown's title to the land. The dry land has, I understand, not accreted to the adjoining lands by the ordinary course of nature, but arisen from the diversion of the water from the old river bed.

I think therefore that the Crown should claim the old river bed.²⁵⁸

The Crown Solicitor had firmed up his belief in his own argument. Where in 1926 he had admitted that the evidence for navigability at Bulls in support of the Crown's case at that time

²⁵⁶ Chief Surveyor Wellington to Under Secretary for Lands, 19 March 1932. Lands and Survey Head Office file 53936. Supporting Papers #407-409.

²⁵⁷ Surveyor General to Crown Solicitor, 24 March 1932. Lands and Survey Head Office file 53936. Supporting Papers #410.

²⁵⁸ Crown Solicitor to Surveyor General, 7 April 1932. Lands and Survey Head Office file 53936. Supporting Papers #411.

was “not very strong” and “not ... very reliable”²⁵⁹, by 1932 he considered that “ample evidence” could be obtained of the river being navigable up to Bulls.

At this time another question arose about the status of the riverbed between Bulls and the sea, in connection with the ownership of shingle islands. Manawatu Rabbit Board was in receipt of a grant from the Department of Agriculture for rabbit control in the riverbed, including the shingle islands. It was keen that riparian landowners take over responsibility for rabbit control on these islands, and proposed that the Crown lease them to the private owners:

In the opinion of the Board, much expense could be avoided by the Department [of Agriculture] if the above were leased by the Crown to the adjoining owners or to anyone who might tender for the lease of same.²⁶⁰

The Rabbit Board’s Secretary explained that the two most recent poisonings of riverbed land had cost the Department of Agriculture £34-12-3d²⁶¹. However, the Crown was only in a position to lease the islands if they had the status of Crown Land. Although at first the Lands and Survey Department, responsible for leasing if the riverbed was Crown Land, showed no enthusiasm for the proposal, this view changed when the Rabbit Board advised four months later that its Inspector had spoken with a number of riverbank landowners and found them interested in leasing what was described as their accretion lands²⁶². The Commissioner of Crown Lands was then instructed:

I think that, with a view to saving the annual expense of poisoning, and to control the growth of noxious weeds, the Land Board should consider offering licences to the adjoining settlers under Section 147 of the Land Act 1924. I would suggest therefore that you instruct the Field Inspector to interview the settlers and ascertain whether they would be prepared to accept year-to-year licences under the authority mentioned.²⁶³

However, there was an initial problem, in that the official land records showed the riverbed as a blank space on the record plans, and did not distinguish between flowing channels, accumulations of accretion, and shingle islands. There was also a question about the legal status of the riverbed. The Chief Surveyor remarked:

²⁵⁹ Crown Solicitor to Under Secretary for Lands, 30 July 1926. Lands and Survey Head Office file 1/179. Supporting Papers #487-488.

²⁶⁰ Director General of Agriculture to Under Secretary for Lands, 23 December 1931. Lands and Survey Head Office file 53936. Supporting Papers #406.

²⁶¹ Secretary Manawatu Rabbit Board to Under Secretary for Lands, 17 February 1932. Lands and Survey Head Office file 53936. Supporting Papers #412.

²⁶² Secretary Manawatu Rabbit Board to Under Secretary for Lands, 8 June 1932. Lands and Survey Head Office file 53936. Supporting Papers #413.

²⁶³ Under Secretary for Lands to Commissioner of Crown Lands Wellington, 24 June 1932. Lands and Survey Head Office file 53936. Supporting Papers #414.

From office records it is impossible to determine what islands exist.

Practically all the titles from Bulls to the river mouth are shown as bounded by the river, in which case the owners would have riparian rights. Whether such rights convey to owners a title to the existing islands is a matter that must now be decided.

The legal position as far as I am aware is that on non-navigable rivers where titles are bounded by a river the presumption is that the land conveyed or transferred extends to the middle line of the river, and further that this presumption applies only to land covered by water. There is no presumption, therefore, that ancient islands pass and, in cases where there are islands, the middle of the river bed is the medium filum between the shore and the islands.

It may be a difficult matter to determine the age of islands, particularly to distinguish between those in existence on the issue of Crown grants and others that may have been formed since that date, but with regard to the latter I presume they would pass with the adjoining land.

The matter of ownership of islands would be put beyond doubt if the stand is taken that the river is navigable, for then its bed shall remain and shall be deemed to have always been vested in the Crown. Evidence of its navigability can be established, and such evidence was sufficient a few years ago to rebut the claim of native owners in the Ohinepuhiawe Block to the old bed adjacent thereto and which had been left high and dry by a sudden break-through of the river.

I therefore consider that the Department should hold that the river is navigable and that the islands vest in the Crown.

If you concur in this view, the next step will be to have a traverse made of the river to determine what islands there are, after which the matter of leasing can be gone into.²⁶⁴

While the Chief Surveyor was incorrect to state that navigability at Ohinepuhiawe had been “established”, he had raised a further question about the extent of the application of the ad medium filum presumption. He was saying that in braided riverbeds, the presumption only extended to half way across the particular braid closest to the riverbank, and did not extend to any island in the riverbed. However, he appeared to believe that if an island had not been recorded as being in existence at the time that titles to the riverbank land were issued, then the river was not deemed to be braided, and the ad medium filum rights could extend across multiple channels and multiple islands to the centre of the river as a whole; in this latter circumstance an island was land able to be claimed as accretion in terms of the presumption.

²⁶⁴ Chief Surveyor Wellington to Under Secretary for Lands, 4 October 1932. Lands and Survey Head Office file 53936. Supporting Papers #415-416.

The matter was passed to the Solicitor General for a legal opinion, the request for an opinion stating:

This memorandum concerns a proposal to lease certain islands in the Rangitikei River, the question having arisen whether or not they are Crown Land. There is insufficient information available concerning the history of the islands, the ownership of the banks and the degree of navigability of the river to state a definite case for your consideration, but I should like to know whether you agree with the Chief Surveyor's statement of the legal position, viz. that if navigability can be proved then the islands are Crown lands.²⁶⁵

The Crown Solicitor responded:

The general legal position is as stated by the Chief Surveyor. By Section 206 of the Coal Mines Act 1925 it is provided that the beds of all navigable rivers remain and, except where specifically granted, have always been vested in the Crown. It follows therefore that unless islands in the river bed of a navigable river have been granted they belong to the Crown, and it makes no difference whether they are of long existence or recent formation.

In the Ohinepuhiawe Block case it was definitely established before the Native Land Court that the Rangitikei was for many years navigable beyond Bulls and that small craft plied regularly there before road transport was established.²⁶⁶

On the basis of this opinion, which provided legal cover for the Department of Lands and Survey, the Commissioner of Crown Lands was instructed to have the islands in the Rangitikei River downstream of Bulls surveyed so that they could be treated as Crown Land and leased²⁶⁷. A series of eight survey plans was prepared during 1933-34²⁶⁸. Owners with large riparian landholdings were then to be approached to see if they were willing to lease dry land portions of the riverbed, including islands, adjoining their properties. However, the Commissioner of Crown Lands cautioned that the area likely to be leased was limited:

Reviewing the position as disclosed by the plans, I am of the opinion that the disposable areas which might be claimed as the property of the Crown are relatively few, though of fair extent. Many islands are now separated from the mainlands by flood channels and have apparently arisen from the river-bed by gradual deposition of silt. Some of them, however, stand wholly or partly within the limits of the original title lines of the adjoining mainlands. Should these islands be now claimed by the Crown, this would appear to bear harshly on the adjoining riparian owners and deprive them of benefit by possible accretion, though they would still remain subject to possible erosion.

²⁶⁵ Under Secretary for Lands to Solicitor General, 13 October 1932, on Chief Surveyor Wellington to Under Secretary for Lands, 4 October 1932. Lands and Survey Head Office file 53936. Supporting Papers #415-416.

²⁶⁶ Crown Solicitor to Under Secretary for Lands, 20 October 1932. Lands and Survey Head Office file 53936. Supporting Papers #417.

²⁶⁷ Under Secretary for Lands to Commissioner of Crown Lands Wellington, 16 November 1932. Lands and Survey Head Office file 53936. Supporting Papers #418.

²⁶⁸ Wellington plans SO 19337-9, 19360-3 and 19466. Supporting Papers #3297-3299, 3300-3303 and 3305.

For the most part these islands are of low value and would in their present state be difficult to dispose of. It would be advisable to refrain from claiming them as Crown Land. Such areas as can definitely be treated as Crown Land and are suitable for disposal will be ascertained as soon as possible and arrangements made for offering them for selection.²⁶⁹

In 1936, one of the riparian landowners offered to purchase part of one of the islands in the riverbed. The Crown appeared happy to dispose of the land in this way, so long as it was Crown Land, though the Registrar-General of Lands apparently had doubts about its status:

The question is, can the Crown claim ownership of it? The Registrar-General of Lands is very doubtful on this point, and would probably question any title to such land that this Department lodged for registration.

In February 1935 CJ Florence, owner of Section 59 Township of Carnarvon, lodged in the Land Transfer Office a plan of 12 acres 3 roods 5 perches of the old river bed, claiming it as accretion to his holding. This plan was approved as to survey, and deposited by the District Land Registrar on the 10th December 1935²⁷⁰. Florence could claim as accretion no further than the first flood channel, and he now proposes to purchase from the Crown portion of the island immediately to the west of the land he acquired by accretion....

This portion of the Rangitikei River is below Bulls, and has been proved to have been navigable.²⁷¹

The Crown Solicitor, when asked, commented:

From the plans submitted, it appears that there was at one time a distinct island in midstream which was claimed by the Crown as Crown Land. In addition it has been established from time to time that the river was navigable, if not actually tidal, well past this point. I think therefore that both the island and the river bed were vested in the Crown.

In the course of time the river has altered its course several times, and there has been considerable erosion on one bank with accretion on the other. The original island has also been broken into parts, and the main course of the river is now through the island. There are now several small islands to which there has been more or less accretion. These islands with their accretions practically lie wholly within the original river bed. I think they still remain the property of the Crown.... I think that the part now at issue ... is legally vested in the Crown.²⁷²

²⁶⁹ Commissioner of Crown Lands Wellington to Under Secretary for Lands, 18 September 1933. Lands and Survey Head Office file 53936. Supporting Papers #419.

²⁷⁰ Wellington plan DP 10764. Not included in Supporting Papers.

²⁷¹ Chief Surveyor Wellington to Under Secretary for Lands, 13 March 1936. Lands and Survey Head Office file 53936. Supporting Papers #424-427.

²⁷² Crown Solicitor to Under Secretary for Lands, 1 April 1936. Lands and Survey Head Office file 53936. Supporting Papers #428.

This opinion was considered sufficient to allow the Crown to sell part of the island and issue a title for the purchased land²⁷³.

4.5 Extending the navigable river assertion upstream from Bulls to Kawhatau River

As explained in the previous sections of this chapter, the Crown had asserted during the late 1920s and early 1930s that the Rangitikei River up to Bulls was navigable. This remained the Crown's position over the next 30 years. Whether it was navigable upstream of Bulls was more doubtful. In May 1955 a Government surveyor commented:

The portions of the river recently inspected above the Bulls bridge and below the bridge at Kakariki were of a very similar nature to that below the Bulls bridge, and generally consisted of long stretches of slow flowing river with short stretches (up to 7 or 8 chains) of rapids. A test of the flow over the rapids was 4 to 5 feet per second, and the depth of the river at the shallowest point was 18". These observations were made after a long dry spell and the river was below normal summer flow. It is quite likely that the potentialities of the river today as a means of transport have altered considerably from the early settlement era, when the surrounding country was mostly bush covered and rivers were of greater volume and slower flowing, as opinion today is that it would be generally hazardous as a normal means of transport downstream, and it would be with the greatest difficulty boats could be manoeuvred upstream.²⁷⁴

In March 1958 two unrelated events encouraged the Crown to review its position. Both were approaches by local authorities seeking decisions that would favour their own public benefit activities at the expense of private rights. One was an effort by Kiwitea County Council to be able to purchase riverbank land at Otara in such a way that the purchase price would not include the value of gravel deposits in the adjoining riverbed. It is considered below. The second was a request by the Rangitikei Catchment Board to be granted control of the riverbed in order to undertake flood protection works. It is discussed in the next section of this chapter.

Land on the eastern side of the Rangitikei River at Otara just downstream of the road bridge (part of Otamakapua 1B block) was Maori Land, owned by a deceased person (Tumihau Utiku Potaka) whose estate was administered by the New Zealand Insurance Company Limited, and leased to a European farmer. In 1957 Kiwitea County Council successfully negotiated with New Zealand Insurance and the lessee to purchase a narrow strip (eight

²⁷³ Section 2 Block I Te Kawau Survey District, being part of the island (Section 1 Block I Te Kawau Survey District).

Wellington Certificate of Title WN461/283. Not included in Supporting Papers.

²⁷⁴ Senior Surveyor Organ to Chief Surveyor Wellington, 2 May 1955. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2783-2784.

metres wide and 37 perches in area) of the river frontage between the road bridge and Otamakapua 1G block (which had been set apart as an urupa). The transfer document that was signed in December 1957 between the two parties specified:

Whereas the said land is bounded on the northwest by the Rangitikei River and because of the configuration of the ground provides the only practicable access to the bed of the said river in the vicinity:

And whereas the Chairman, Councillors and Inhabitants of the County of Kiwitea are entitled to remove metal from that portion of the bed of the Rangitikei River adjoining the said land and are desirous of acquiring the said land: ...²⁷⁵

Because the land was still Maori-owned and was leased, the confirmation of the Maori Land Court to a surrender from the lease and to the alienation was required. The application was heard in January 1958²⁷⁶, when the surrender and the alienation were confirmed. However, the alienation confirmation was dependent on two factors. First the purchase price had to be increased from the £20 negotiated by the two parties to £25 (£15 to the owner and £10 to the lessee). Second, confirmation was subject to

Mr Jack as solicitor for Maori beneficiaries being able to assure Court that despite the presumptive title of the owners to the middle of the river, the County has a special interest in the gravel in the bed adjoining the 37 perches which disposes of an obligation to pay for the portion between boundary and centre line of stream.²⁷⁷

The Court was challenging the statement in the transfer document that the Kiwitea County Council was entitled to remove metal from the riverbed, when a standard interpretation of the law was that the owners of the Maori Land were presumed to have *ad medium filum* rights to the centre of the river, and those rights included rights to the metal. The Court wanted to know why that presumption should be overturned in this instance.

The solicitor's response was that the Council's right to the metal arose from the operation of Rangitikei Catchment Board Bylaw No. 28, made in 1947 pursuant to Section 149(j) Soil Conservation and Rivers Control Act 1941, which, as paraphrased by the Court, "prohibits the removal of shingle from any watercourse without the consent of the Catchment Board"²⁷⁸. The Court was not convinced by this argument, though considered the matter to be more complex than it could deal with on the basis of the application before it alone, as it raised some points of legal principle with widespread application. In a decision given in February 1958 it concluded:

²⁷⁵ Wellington Land Registry Transfer 425722. Supporting Papers #3259-3262.

²⁷⁶ Maori Land Court minute book 1 Whanganui Alienation 109-110. Supporting Papers #3159-3160.

²⁷⁷ Maori Land Court minute book 1 Whanganui Alienation 109-110. Supporting Papers #3159-3160.

²⁷⁸ Maori Land Court minute book 1 Whanganui Alienation 140-141. Supporting Papers #3161-3162.

However, in these proceedings the Court must necessarily assume that even if the exclusive care, control and management of the river is vested in the Board, that the presumptive ownership to the middle line of the river remains in the riparian owners.

It therefore agreed to the confirmation at the purchase price it had decided upon only if the transfer document was amended to specify that the alienation excluded “all stones, gravel and sands”²⁷⁹.

The Maori Land Court decision meant that Kiwitea County Council would have to negotiate separately with New Zealand Insurance for a right to extract metal from the river. However, that could be avoided if the Council’s original understanding that it did not need to obtain landowner consent for metal extraction still stood. That would be the case if the landowner’s presumptive right to the riverbed had been overturned because the river at Otara was considered to be navigable.

The Council applied for a rehearing of the Court’s decision, and approached the District Land Registrar about the navigability of the river at Otara, who passed the inquiry on to the Department of Lands and Survey:

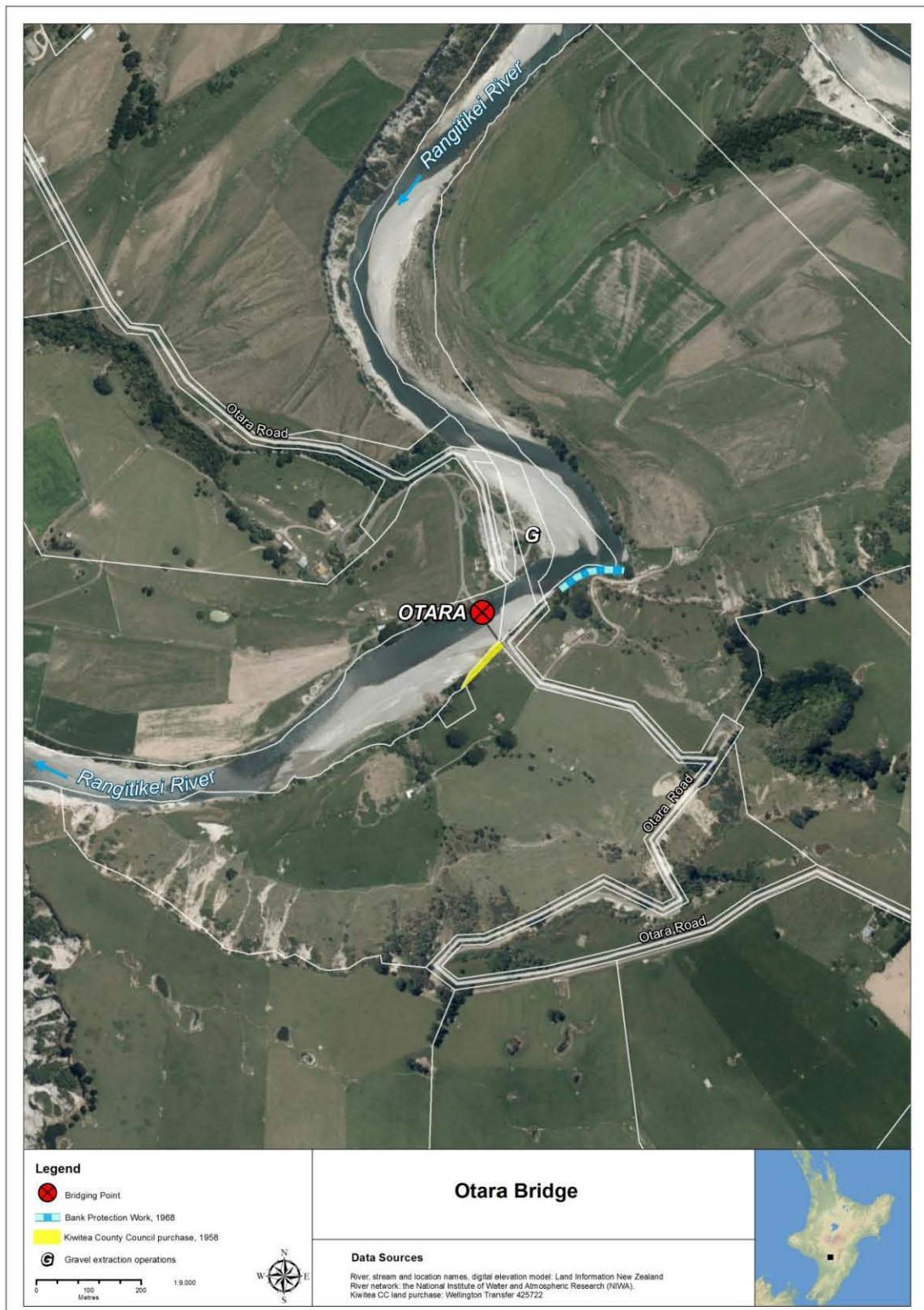
The application for purchase of the land has been heard by the Maori Land Court at Wanganui, but that Court required the Memorandum of Transfer to be amended in such a fashion as to retain to the vendor the right to payments of royalty for all gravel removed from the riverbed adjoining the land to be sold to the Council. This requirement was based on the fact that the Court must necessarily assume that even if the exclusive care, control and management of the river was vested in the Catchment Board, the presumptive ownership of the land to the middle line of the river remains in the riparian owners.

From legal advice obtained, it appears that in New Zealand the beds of tidal or navigable rivers are vested in the Crown. All other riverbeds are presumed to be vested in adjoining riparian owners to the middle of the normal flow of water unless expressly excluded from the original Crown grant.

It is assumed that the Rangitikei River is classed as being non-navigable, and I would be very much obliged if you would give me some information as to whether or not the Crown has any right of ownership as far as the river in this particular area is concerned. In my own mind I have been able to reconcile the legal advice given above with Section 206 of the Coal Mines Act 1925, but you may perhaps be able to throw some further light on the rights of riparian owners in a case of this kind.²⁸⁰

²⁷⁹ Maori Land Court minute book 1 Whanganui Alienation 140-141. Supporting Papers #3161-3162.

²⁸⁰ County Clerk Kiwitea County Council to District Land Registrar Wellington, 4 March 1958, attached to District Land Registrar Wellington to Commissioner of Crown Lands Wellington, 17 March 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2791-2792.



Map 7: Otago bridge

Lands and Survey undertook an investigation of the status of the riverbed, responding initially to the County Clerk even before the investigation was very far advanced that his assumption that the river was not navigable “would appear to be questionable”²⁸¹. Two days after the initial response, the Chief Surveyor again wrote to the County Clerk:

It appears from preliminary investigations of the status of the bed of the Rangitikei River at this point that the interests of the Crown could be affected by the Court’s decision regarding the payment of royalties on gravel taken from the river in that area. Further extensive investigations will be necessary before the Crown will be in a position to present evidence in this matter.

On the basis of the need for further extensive investigations, Kiwitea County Council was asked to seek an adjournment of the rehearing of the application. At this stage the Department was still not clear exactly which area of riverbed was affected by the Maori Land Court decision, and asked for a plan showing the land being purchased²⁸². The Council provided the plan²⁸³.

The investigation undertaken by Lands and Survey was combined with the investigation for the other approach from the Rangitikei Catchment Board that is discussed in the next section of this chapter. With respect to the Otara locality it comprised:

- A search of survey plans. This identified a traverse of the river carried out in 1872, though the plan of the traverse did not provide a reason why it had been undertaken²⁸⁴;
- A search of early writings and other records that might point to the river being used as a transport route. This identified material in Taylor’s journals (from 1844), Colenso’s journals (from 1848), McLean’s journals (from 1849), and Crawford’s trip (in 1862), which has already been quoted from in an earlier chapter of this report about river transportation;
- Examination of the file records from 1926 to do with the navigability of the Rangitikei River at Ohinepuhiawe; these have been quoted from earlier in this chapter;

²⁸¹ Chief Surveyor Wellington to County Clerk Kiwitea County Council, 26 March 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2793.

²⁸² Chief Surveyor Wellington to County Clerk Kiwitea County Council, 28 March 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2794.

²⁸³ County Clerk Kiwitea County Council to Chief Surveyor Wellington, 31 March 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2795-2796.

²⁸⁴ Chief Surveyor Wellington to County Clerk Rangitikei County Council, 14 May 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2797.

- A request made to Rangitikei County Council for any information held in its records²⁸⁵;
- Assembly of the recollections of older members of the Rangitikei community (all of whom were Europeans) about use of the river in earlier years.

Sydney Mair, retired County Engineer for Rangitikei County Council, was the most knowledgeable local resident consulted in the initial stages of the investigation. He had arrived in the district in 1899, so did not have any personal experience of the river prior to the 1897 flood, though his half century of work as County Engineer (from 1899 to 1946) meant that he was required to gain an in-depth knowledge of the vagaries of the river and its flows. He wrote:

For years before 1897 floods, there was, I was told, intermittent traffic by canoe by natives from as far up as Kawhatau River, mostly by Maoris bringing down kumaras, potatoes, wild pork, etc. Bill Hammond, Lloyd's uncle, was largely interested with the Maoris in this. The Maoris also grew large quantities of wheat up the Kawhatau and at Powhakaroa and Otairi (Ohingaiti), but the 1897 floods stopped this permanently. Donald Fraser told me he used to trade largely with the Maoris, sometimes bringing down 100 sacks of wheat by canoe.²⁸⁶

In early June 1958, the Chief Surveyor declared that as a result of a “preliminary investigation”, there appeared to be “sufficient evidence available to prove that Section 206 of the Coal Mines Act applies to and beyond Otamakapua Block”²⁸⁷. That the largely Maori use of the river for waka navigation was being relied upon by the Crown to advance its own assertion of navigability to the detriment of the rights of Rangitikei River Maori who were riparian landowners was ignored by Crown officials.

The solicitors for Kiwitea County Council, to whom the results of the “preliminary investigation” had been referred, were not as convinced as the Chief Surveyor:

Our view, before perusing your reports, was that the Rangitikei River at Otara, which is well up stream, is non-navigable. We have also considered the judgement of Fair J. in Attorney General and Hutt River Board v Leighton (1955) NZLR 750 at 769 et seq, with which you are doubtlessly familiar. Our understanding of this judgement is that to establish that a river is navigable within the meaning of Section 209 of the Coal

²⁸⁵ Chief Surveyor Wellington to County Clerk Rangitikei County Council, 14 May 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2797.

²⁸⁶ SAR Mair, Wanganui, to County Clerk Rangitikei County Council, 26 May 1958, attached to County Clerk Rangitikei County Council to Chief Surveyor Wellington, 28 May 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2798-2799.

²⁸⁷ Chief Surveyor Wellington to County Clerk Kiwitea County Council, 4 June 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2800.

Mines Act, the Crown must prove that in 1903 the river was susceptible to use by craft for purposes other than pure pleasure. Your reports, especially that of Mr Mair, clearly show that prior to the 1897 flood the river was navigable, certainly as far as the Kawhatau. But Mair goes on to say that the flood stopped traffic on the river permanently. This may indicate that by 1903 the river was non-navigable – within Fair J’s definition at any rate.

Please do not think that we wish to oppose any claim to the riverbed which may be made by the Crown. On the contrary, if the Crown can establish ownership of the riverbed at Otara, the County would be much better off, as far as this application for confirmation is concerned at any rate. If the Crown does intend to make a claim, the County would be very happy to cooperate. But all arguments, against as well as for, must be considered.²⁸⁸

This challenge to the investigation results so far was acknowledged by the Chief Surveyor in letters he wrote to Sydney Mair, and to another long-time resident. Remarking that “it is necessary to prove that the river in question was navigable at 1903”, he sought further information about use of the river after 1897²⁸⁹. The further information obtained was in the form of notes of conversations with three elderly residents, and one witnessed statement signed by Sydney Mair. The three notes of conversation were as follows:

Sir Thomas Duncan, aged 85, spent all his life on river about Mangaweka. Drove stock Ohingaiti – Bulls, and required to cross riverbed 61 times on route. Average depth in rapids 3' [feet] average, less in dry season. Does not consider navigable, though perhaps rafts and punts may be able to use it.

AP Howard, Kakariki. 1892 born. Sir James Wilson floats posts down Mangaweka – Bulls. About 4' water in rapids, summer. Would not consider it navigable commercially.

1896-1903, Mickelson AJ, Winiata. Floated cut sleeper and dried. Canoes of white pine, not returned. AJ Mickelson’s father had contract to deliver sleepers to Ohingaiti.²⁹⁰

Mair’s statement, after two introductory paragraphs, read:

(3) I consider that the Rangitikei River was navigable within the meaning of the Coal Mines Act Amendment 1903 (now Section 206 Coal Mines Act 1925) at 1903 and afterwards. I consider that laden barges and punts could negotiate the river without difficulty travelling downstream, but ropes may be required on an upstream journey. The water in the shallows was at least waist deep.

²⁸⁸ Haggitt, Elliott, Fawcett and Abraham, Barristers and Solicitors, Feilding, to Chief Surveyor Wellington, 24 June 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2801-2802.

²⁸⁹ Chief Surveyor Wellington to SAR Mair, Wanganui, 26 June 1958, and Chief Surveyor Wellington to EJ Amon, Wanganui, 26 June 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2803 and 2804.

²⁹⁰ Notes of conversations, undated. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2805-2806.

There were only a few places where the river could be forded on horseback owing to the depth.

- (4) The upper reaches of the river were used to float down timber used in the construction of the railway.
- (5) Prior to the flood of 1897 the river was used by shipping from the sea up to Scotts Ferry. Canoes were used by the natives to bring wheat and other produce down the river to Scotts Ferry. The 1897 flood altered the river below Scotts Ferry sufficiently to make it unsuitable for navigation from the sea by coastal shipping. At the time I took up duty with the Rangitikei County (1899), the wheat cultivations had ceased to be used by the Maoris who had by then migrated to other areas. Roading had also taken the place of the river as far as transport requirements were concerned.²⁹¹

As these further investigations were continuing, however, there was a change of strategy by Kiwitea County Council and the Crown with respect to the approach to be adopted at the Maori Land Court rehearing. The notes of a meeting between a Crown official and the County Council's solicitor record this change. While there was agreement that the Crown had enough information to assert its claim to the navigability of the river, the Council did not want any further delay caused by assembling signed and witnessed affidavits in support of the claim, nor did it want to incur any additional court costs that arguing a precedent-setting case might impose. Instead it wanted to start on gravel extraction and its roading programme as soon as the winter weather improved. An access track on the purchased land down to the riverbed had already been formed.

Action intended to be taken by the County is:

1. Assist Crown in their claim, provided Crown will meet the costs incurred and provided it will not interrupt the County roading programme by delaying transfer [of the land] further.
2. Contend that the bed of river is Crown Land and produce witness Mr Mair to support, and should the Court dismiss claim they intend asking that the royalties be waived in view of the lenient terms of transfer, with the alternative of using the P.W. Act.

The County do not intend to pay royalties for gravel in view of the terms others operate.²⁹²
[Underlining in original]

²⁹¹ Statement of Sydney AR Mair, undated. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2807.

²⁹² Notes of meeting, 2 July 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2808-2809.

What the County Council was proposing carried risks for the Crown, as the navigability assertion would be argued on the strength of only a partly developed case, and the alternative use of the Public Works Act raised the possibility that the assertion could fail. The matter was therefore discussed with an official in Lands and Survey Head Office, with the result that it was decided that Lands and Survey Department would allow Kiwitea County Council to take the lead in presenting the navigability case to the Court, and would receive Crown support to bolster its case in the form of a written statement by the Commissioner of Crown Lands “that the bed of the River is Crown Land, and royalties in compensation may be claimed by the Crown”. It was also agreed that Sydney Mair would be advised that his presence at the Court hearing would not be required, though he and others with historical information on river use would be asked to prepare affidavits²⁹³. Letters were written to the County Council’s solicitor and to Sydney Mair accordingly²⁹⁴.

In terms of the extent of Crown involvement that had been decided upon, the Assistant Commissioner of Crown Lands then swore an affidavit intended for presentation to the Maori Land Court. He declared:

2. That the Rangitikei River is a navigable river within the meaning of the Coal Mines Act 1925.
3. That Section 206 of the Coal Mines Act 1925 provides that the beds of navigable rivers are deemed to be vested beneficially in the Crown, except in cases where such beds have been expressly granted by the Crown.
4. That I have caused a search to be made, but no trace of such grant could be found, and I verily believe that such grant never was made.
5. That the bed of the Rangitikei River is owned beneficially by the Crown, and neither the Maori owners of Otamakapua 1B nor the County of Kiwitea can have any claim over it.
6. That all compensation or royalties derived from rights of taking shingle, sand or gravel from the river, or from any similar rights in connection with the use of the river bed, are payable to the Crown.²⁹⁵

²⁹³ File note, 3 July 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2810.

²⁹⁴ Chief Surveyor Wellington to Haggitt, Elliott, Fawcett and Abraham, Barristers and Solicitors, Feilding, 4 July 1958, and Chief Surveyor Wellington to SAR Mair, Wanganui, 4 July 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2811 and 2812.

²⁹⁵ Affidavit of Eric McKenzie, Assistant Commissioner of Crown Lands for Wellington Land District, 9 July 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2813.

A letter addressed to Kiwitea County Council and signifying that the Crown had no objection to the Council removing shingle, sand or gravel from the riverbed was also prepared²⁹⁶.

The rehearing took place later in July 1958²⁹⁷. The Crown did not appear at the rehearing. Kiwitea County Council's main argument was that the metal in the river had no value. The Court minutes record this argument:

Mr Commissioner Sheehan in his decision apparently assumed, without any evidence, that the metal in the bed of the Rangitikei River was a substance of great value. Having that in mind, and no doubt considering that in some districts particularly near a city river metal is valuable, he was misled in assuming that in this locality it was valuable. The fact is that there is close on 60 miles of metal in the bed of the Rangitikei River, an inexhaustible supply, and that royalty has never been paid on it to anyone. In support of that statement I hand in a declaration by Mr Truebridge, an engineer at Feilding (Exhibit "A"). This sets out the facts submitted by me. I will also call evidence thereon from Mr Peter Goodbehere, Engineer for Kiwitea County Council. In view of the evidence referred to by me, I submit that the idea of value taken by Mr Commissioner Sheehan was wrong, and that the restrictions or terms imposed on the confirmation were unnecessary. The County Council will use the strip sold for access to riverbed, and a base for its plant to haul metal from the river. The rights of the lessee to obtain access to riverbed for his stock to the water are preserved by the transfer.²⁹⁸

Kiwitea County Council's solicitor then referred to the Crown's claim to the riverbed:

Since the matter comes up, the Crown has become interested. The Crown (by the Department of Lands and Survey) has been in communication with the Court, and sets out that "the Crown claims the bed of the Rangitikei River under the Coal Mines Act 1925". I do not propose further to refer to that aspect of the matter.²⁹⁹

The County Engineer in evidence stated:

Regarding the question whether the Rangitikei River is a navigable river up to this point, I know the river and say that even in its shallows up to this locality it is nowhere less than waist deep.³⁰⁰

The Court's decision was in favour of the County Council:

The present proceeding before the Court is a complete rehearing as from the beginning. In this present hearing the Court has had the assistance of evidence and submissions which set out the facts, and the inferences to be taken from same, much more clearly than was the case upon the original hearing.

²⁹⁶ Commissioner of Crown Lands Wellington to County Clerk Kiwitea County Council, 9 July 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2814.

²⁹⁷ Maori Land Court minute book 1 Whanganui Alienation 214-219. Supporting Papers #3163-3168.

²⁹⁸ Maori Land Court minute book 1 Whanganui Alienation 215-216. Supporting Papers #3164-3165.

²⁹⁹ Maori Land Court minute book 1 Whanganui Alienation 216. Supporting Papers #3165.

³⁰⁰ Maori Land Court minute book 1 Whanganui Alienation 217. Supporting Papers #3166.

In addition the Court here bears in mind that the transferor is a competent business-like company, acting as trustee of a Maori estate. Further the trustee company is advised and guided in this matter by an extremely competent firm of solicitors. The Court has no doubt whatever that both the company and its legal advisors have fully considered the legal position.

Further in such circumstances, the Court does not consider that it is necessary to pry deeply into the matter, as it might do if the transferor were a Maori who was not versed in business or competently advised.

It is not necessary for the Court to go so far as to find that the bed of the Rangitikei River is Crown Land by virtue of the Coal Mines Act 1925.

The Court finds that the consideration is adequate, and that the transfer is not contrary to the interests of the Maori owner. In fact, it considers that the alienation by facilitating the obtaining of metal by the County Council, should help roading to owners in the vicinity.³⁰¹

In confirming the alienation the Court also restored the original purchase price of £20, payable solely to the Maori owners as it regarded the surrender of part of the lease as a voluntary agreement that did not require it to order any compensation to the lessee³⁰².

In concluding that the £20 consideration was adequate, the Maori Land Court was agreeing that the metal in the riverbed had no value, and was therefore not relevant to the statutory tests it had to consider before deciding whether to confirm the alienation of the riparian strip of dry land being acquired by Kiwitea County Council. This allowed it to side-step the status of the riverbed.

Once the decision was known, the pressure on the Crown to firm up its assertion of navigability receded. When a request to Sydney Mair for more complete information to be put into affidavit form³⁰³ produced no response, the matter was allowed to lapse. However, the work that had been put in to consider the navigability of the river upstream of Bulls was made use of in responding to the second approach that Lands and Survey had received.

³⁰¹ Maori Land Court minute book 1 Whanganui Alienation 217-218. Supporting Papers #3166-3167.

³⁰² As a consequence of the decision, the Maori Land Court signed and sealed its certificate of confirmation on the Transfer document (Wellington Land Registry Transfer 425722 - Supporting Papers #3259-3262), which then enabled a title to be issued to Kiwitea County Council for the eight metre wide strip of riparian frontage, area 37 perches or 936 square metres (Wellington Land Registry Certificate of Title WN825/88 - Supporting Papers #3253-3254).

³⁰³ Chief Surveyor Wellington to SAR Mair, Wanganui, 27 August 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2815.

4.6 Reservation of the riverbed between Kawhatau River and the sea

In 1957-58 Rangitikei Catchment Board decided that it needed to have more direct control of the bed of the Rangitikei River in order to manage its river control scheme. Board staff had verbal discussions with Lands and Survey officials in November 1957 about what assistance could be provided by the Department, in particular the concept of vesting the control and management of the riverbed in the Board. Following these discussions the Board's Engineer prepared a report arguing that greater control by the Catchment Board was necessary "to regulate or prohibit the access of grazing animals, provide sites for channel alignment works, protection works, etc, and to provide for the regulation of the extraction of gravel and possibly the right to charge a royalty". However, vesting in the Catchment Board relied upon the Crown having vesting authority, which was only possible if the riverbed had the status of being Crown Land. For the riverbed to have this status, the Rangitikei River had to be regarded as a navigable river:

It would appear therefore, dependent on the 'navigability' of the river, that it may be possible for the Crown to vest control and management in the Board of the entire area between present title boundaries, subject to the rights of the riparian owners as they exist at present....

This would not be a complete answer, as various areas may still have to be acquired, either in the first instance or progressively. However, considerable advantages are evident in that the problem of large scale compensation would be avoided, together with the need for early and extensive surveys. A further point is that in any case it is difficult at any time to determine in advance the precise areas required for river control purposes.

In respect of gravel royalties, even a limited income would be of value provided that the proportion of gravel products destined for private works was not so insignificant as to invalidate the administration of such a scheme.³⁰⁴

The Engineer's report recommended:

- i That the Board request that the navigability of the Rangitikei River (in terms of the Coal Mines Act) be determined.
- ii That if the Rangitikei River is declared to be 'navigable' that the Board requests that the control and management of the River Bed be vested in the Board.
- iii That the ownership of unclaimed lands, accretion, etc, lying between the riverbed and existing title boundaries be investigated, and if held to be Crown Land for the time being be likewise the subject of a request for the vesting of control and management, subject to the preservation of the rights of the adjoining owners.

³⁰⁴ Report by Engineer Rangitikei Catchment Board, undated, attached to Secretary Rangitikei Catchment Board to Commissioner of Crown Lands Wellington, 5 March 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2785-2788.

- iv That a plan be prepared showing the present river bed and existing title boundaries together with any additional areas which might be required for the purposes of control and management, so far as is known for the present.
- v That the future position of noxious weeds be clarified, with the suggestion that it be made clear that the Board has no funds for this purpose, and that perhaps the present arrangement could be continued whereby an annual grant is made available through the Department of agriculture.
- vi That the Board consider the position in respect of gravel royalties in particular the payment or non-payment on gravel products destined for local body or public works.
- vii That the Board obtain some indication as to how possible claims for accretion are limited (if at all) by river control requirements.³⁰⁵

The Engineer's report was adopted unanimously by the Rangitikei Catchment Board, and the Department of Lands and Survey was asked to assist with implementation of recommendations (i), (ii), (iii) and (vii)³⁰⁶. The Catchment Board's approach would amount to a major land-grab of the riverbed if the Crown adopted the same view.

The views of the Chief Draughtsman in the Wellington District Office of Lands and Survey on the Catchment Board's approach were:

- (1) The vesting should include the area between the existing title boundaries on both sides of the river.
- (2) The conditions of vesting should be such as to recognise the claims of adjoining owners to any accretion that could be fairly claimed.
- (3) And the safeguarding of their riparian rights to water, etc.
- (4) Vesting control and management would give the Catchment Board the responsibility re removal of shingle and the matter of royalties.
- (5) It would also enable the Board to control the movement of stock in the riverbed and enable fencing agreements to be reached.
- (6) The control of noxious weeds would likely become the responsibility of the Board unless some agreement can be reached with the Department and Agriculture Department.
- (7) Plans would have to be prepared to support the vesting, which could be done under the Reserves and Domains Act or by a section in the Reserves and other Lands Disposal Bill at the end of next year.³⁰⁷

The discussion earlier in this chapter of the approach about navigability by Kiwitea County Council referred to the navigability investigation seeking information from a number of

³⁰⁵ Report by Engineer Rangitikei Catchment Board, undated, attached to Secretary Rangitikei Catchment Board to Commissioner of Crown Lands Wellington, 5 March 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2785-2788.

³⁰⁶ Secretary Rangitikei Catchment Board to Commissioner of Crown Lands Wellington, 5 March 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2785-2788.

³⁰⁷ File note by Chief Survey Draughtsman, undated. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2789-2790.

sources, including Rangitikei County Council and long-term European residents of the Rangitikei valley. In addition to the information already quoted with respect to the river upstream of Bulls, details of the coastal shipping wharf at Scotts Ferry were provided by the County Council. It was 1½ miles from the sea, but had not been used since the 1897 flood³⁰⁸. However, the river between Bulls and the sea was not really at issue, because of the historical acceptance by the Department that this stretch was navigable. It was the stretch upstream of Bulls that had not previously been accepted as being navigable for which fresh information was required, and the investigation for Kiwitea County Council was providing that information. The Catchment Board's request for a determination was not progressed until after officials had decided that the river fronting Otamakapua 1B was navigable.

At the end of August 1958, further consideration was given to the Catchment Board's request. This was one month after the Assistant Commissioner of Crown Lands had prepared his affidavit for the Native Land Court setting out the Crown's position that the Rangitikei River was navigable (see the previous section). A report to the Chief Surveyor addressed the four recommendations in the Board Engineer's report on which the Department's advice had been sought. On the question of navigability it summarised that:

The portion of the river considered navigable by the Crown and which the Crown may be considered to be in a position to vest in the Catchment Board, is from the mouth to the junction with the Kawhatau River.³⁰⁹

The Kawhatau River marked the northern boundary of the Otamakapua Block. The report explained the circumstances of the two Maori Land Court cases, concerning Ohinepuhiawe in 1926 and Otamakapua 1B in 1958:

In both these cases, the Maori Land Court has avoided direct recognition of the Crown's claim to the bed of the river, leaving them in a position to investigate the title of any claim which may be made by Maoris to the river bed, either as a separate title as in the Wanganui River case, or of riparian owners.

Where riparian ownership is concerned, not a great area of riverbed would be affected fronting Maori land. The total frontage to Maori land is 1959 chains [39 kilometres], while the total length of the navigable river is 71 miles 3 chains [114.3 kilometres], in which there is 11,365 chains [228.6 kilometres, i.e. both banks] of title boundaries.³¹⁰

³⁰⁸ County Clerk Rangitikei County Council to Chief Surveyor Wellington, 28 May 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2798-2799.

³⁰⁹ Section Draughtsman to Chief Surveyor Wellington, 29 August 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2818-2820.

³¹⁰ Section Draughtsman to Chief Surveyor Wellington, 29 August 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2818-2820

The working notes that were the basis for the frontage distance calculations are retained on the Crown file. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2816-2817.

The references to Maori title in relation to navigability are a feature of that particular time period, when the precedent-setting Whanganui River case was still to be decided³¹¹.

With respect to erosion and accretion, the report to the Chief Surveyor took the view that:

The only part of a navigable river which can be considered Crown Land within the meaning of the Coal Mines Act, and which the Crown is in a position to vest the control, is the present bed between established banks, and it would also appear that the part vested would move with the river through accretion and erosion as it takes place imperceptibly.³¹²

This meant that the Crown could claim as navigable riverbed parts of riparian titles, where those titles had been eroded by imperceptible action by the river (though not by sudden change in the course of the river such as during a flood event, or encroached upon by artificial realignment of the watercourse). Conversely riparian title holders were still entitled to claim parts of the riverbed that had become dry land and were not clothed in a title where the accretion had occurred imperceptibly. There were therefore limitations on the extent to which the Crown would be able to vest control and management of the riverbed in the Rangitikei Catchment Board. The moveable nature of the ‘vestable’ riverbed precluded the production of survey plans with fixed boundaries. The ‘vestable’ riverbed was therefore not the whole area between surveyed riverbanks that was sought by the Catchment Board.

The report concluded:

Considering the purposes for which the Catchment Board desires control of this riverbed, that is “to regulate or prohibit the access of grazing animals, provide sites for channel alignment works, protection works, etc, and to provide for the regulation of the extraction of gravel and possibly the right to charge a royalty”, then it would appear that the vesting of such control would be a necessity in carrying out these works. As far as that part of the riverbed within the meaning of the Coal Mines Act is concerned, such control and management would, of course, be vested through Section 21 Reserves and Domains Act 1953. In describing such a piece of land, however, it would be necessary to ensure that the area would be always the river bed as covered by water in a normal fresh, wherever it may move through accretion and erosion, as this would be the only part between banks which is within the meaning of Section 206 of the Coal Mines Act.

³¹¹ It was decided by the Court of Appeal four years later in 1962. *In re the bed of the Wanganui River* [1962] NZLR 600.

³¹² Section Draughtsman to Chief Surveyor Wellington, 29 August 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2818-2820.

Considering also the possibility of a claim by Maoris for any part of the bed as a riparian right, or as a separate title, then sufficient precaution should be taken to ensure that the Catchment Board would not be implicated in any such claim.³¹³

The report was endorsed by the Chief Surveyor nearly one month later³¹⁴. It was subsequently forwarded to Lands and Survey Head Office along with the proposal to vest, where it did not attract any criticism. Because the remarks in the report were not disputed by other officials, they can be regarded as being Crown policy about the status of the bed of the Rangitikei River, as held by the Crown at that time (i.e. in advance of the Whanganui River decision).

How to provide a satisfactory legal description of the ‘vestable’ riverbed, for inclusion in the vesting Gazette notice, when it was not possible to prepare a survey plan of this riverbed, was not a straightforward matter to resolve, and appears to have slowed the implementation of the report’s recommendation (as endorsed by the Chief Surveyor). The approach settled upon was to define on a plan the length of the Rangitikei River that the vesting covered³¹⁵, and qualify the nature of the vesting in the written part of the notice:

1. For the purposes and conditions of this vesting, the term “Bed” of the river means all the land between the banks of the river as defined by Section 206 of the Coal Mines Act 1925.
2. The vesting of control and management of the bed of the Rangitikei River is subject at all times to the rights of riparian and adjoining owners.³¹⁶

The submission was forwarded to Lands and Survey Head Office in February 1959³¹⁷. There is no record on the file to which the submission was attached that anything untoward was identified in Head Office. In April 1959 the bed of the Rangitikei River downstream of its junction with the Kawhatau River was reserved, under the Reserves and Domains Act 1953,

³¹³ Section Draughtsman to Chief Surveyor Wellington, 29 August 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2818-2820

³¹⁴ Chief Surveyor Wellington to Assistant Commissioner of Crown Lands Wellington, 25 September 1958, on Section Draughtsman to Chief Surveyor Wellington, 29 August 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2818-2820

³¹⁵ Topographical plan identifying point ‘A’ at the confluence of the Rangitikei River and the Kawhatau River, and point ‘B’ at the mouth of the Rangitikei River. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2821.

³¹⁶ Certified Description, 20 November 1958. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2822.

³¹⁷ Commissioner of Crown Lands Wellington to Director General of Lands, 27 February 1959. Lands and Survey Head Office file 15/244/9. Supporting Papers #505-509.

for soil conservation and river control purposes³¹⁸, and at the same time the Rangitikei Catchment Board was appointed to control and manage the reserved area³¹⁹. The second qualifying statement in the certified description was not included in the Gazette notice; this was probably because the qualifier was deemed to be a basic matter of legal fact and did not need to be stated.

When the Catchment Board was informed of the reservation and its appointment to control and manage the reserve, it was told, rather cryptically considering the extent of the Crown investigation and the technicality of the limitations attached to the authority that was being delegated to the Board:

You will note that the bed of the river has the same definition as that contained in subsection 2 of Section 206 of the Coal Mines Act 1925.

For the information of the Board, subsection 2 is as follows:

“Bed” means the space of land which the waters of the river cover at its fullest flow without overflowing its banks.³²⁰

The use the Catchment Board made of its control and management authority for the riverbed reserve is discussed elsewhere in this report, in the chapters concerned with flood protection works and gravel extraction.

A further statement of the status of the bed of the Rangitikei River was provided in November 1960 in response to a query from Rangitikei County Council about who was responsible for clearing noxious weeds growing on the untitled riverbed³²¹. The Commissioner of Crown Lands explained:

The “bed” of the Rangitikei River over which the Rangitikei Catchment Board has been given control ... is a moveable one, and if the movement is or has been imperceptible there will undoubtedly be some portions of the old “bed” that have been built up and accreted to the adjoining titles. No doubt it is these areas between the legal title boundaries and the present “bed” of the river which your Council is at present concerned with in the clearing of ragwort.

³¹⁸ Director General of Lands to Minister of Lands, 20 April 1959, approved by Minister 27 April 1959. Lands and Survey Head Office file 15/244/9. Supporting Papers #510.

New Zealand Gazette 1959 page 566. Supporting Papers #3097.

³¹⁹ *New Zealand Gazette* 1959 page 563. Supporting Papers #3096.

³²⁰ Commissioner of Crown Lands Wellington to Secretary Rangitikei Catchment Board, 14 May 1959. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2823.

³²¹ County Clerk Rangitikei County Council to Commissioner of Crown Lands Wellington, 28 October 1960. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2825.

Where these areas have been built up gradually and naturally the only persons entitled to claim are the adjoining riparian owners, but there is no onus on them to claim the accretions until they are ready to do so, and in the meantime they may enjoy the use of the areas or parts of them until such time as they consider it advisable to formally claim. As you are aware, such a claim would require a survey and production of declarations to prove that the land was in fact an accretion.

It would, therefore, seem that areas of this nature between the legal title boundaries of the adjoining owners to the river and the actual “bed” of the river are at present unowned land which could be claimed by the adjoining owners as accretion on production of satisfactory evidence.

You will, therefore, appreciate that the cost of clearing noxious weeds on these areas is not the responsibility of either the Crown or the Catchment Board, and it is suggested that if adjoining owners are actually deriving any benefit from these areas they should be responsible for the control and cost of clearing these weeds.³²²

This statement suited the Crown’s purposes, in that it absolved central government of any legal responsibility to spend money on control of noxious weeds, putting this responsibility in the lap of riparian landowners for dry land within the untitled riverbed or the Catchment Board for the bed covered by water. Its consequence was that when the Catchment Board wanted to construct flood control works such as stopbanks on the dry land in the untitled riverbed, it would need to obtain authority to do so as it did not already hold such authority.

What might be legal and what might be practical were two different things. Upon receipt of the statement from the Lands and Survey Department, Rangitikei County Council responded that riparian owners were unlikely to be interested in clearing noxious weeds:

The nature of the accretions in the most part is extremely rough, and certainly not worth the expense of adjoining owners adding to their titles.

For the most part the land is not very much, if at all, above the level of the river at “its fullest flow”. This type of “accretion” could well disappear overnight, and adjoining owners at the present time derive no benefit whatsoever from these lands.³²³

The County Council was in effect arguing that there were three categories of land in the riverbed – the bed of the river that was always covered in water and met the test of the Coal Mines Act definition, dry land which had consolidated to the extent that it met the accretion test of being capable of having title issued to it, and a grey area of occasionally flooded land in between that did not meet either test.

³²² Commissioner of Crown Lands Wellington to County Clerk Rangitikei County Council, 17 November 1960. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2826-2827.

³²³ County Clerk Rangitikei County Council to Commissioner of Crown Lands Wellington, 23 November 1960. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2828.

The matter was referred to Lands and Survey Head Office³²⁴, and the Director General of Lands agreed that “these so-called accretion areas are definitely a problem”. He suggested that “if they are not occupied we should treat them as ordinary Crown land”, though he saw this as an interim policy only and urged negotiation of a local arrangement between Lands and Survey, the Catchment Board and the County Councils³²⁵. The local arrangement that was then negotiated covered noxious weed control only, and was not a broader arrangement that might impinge on the legal status of the riverbed. The division of responsibility between the three parties was set out in a letter from the Catchment Board:

- (1) Rangitikei Catchment Board
 - a. All islands in the river bed which are surrounded by shingle and regularly isolated during minor freshes.
 - b. All areas of land fenced off for the purpose of river training.
- (2) Rangitikei County Council
 - a. All areas of land which are not titled but which are claimable as accretion to the adjoining property.
- (3) Crown
 - a. Areas which are periodically grazed by farmers, but which are not claimable as accretion due to their periodic isolation at times of medium floods.³²⁶

The weed control work itself was undertaken by the County Council, with the Crown providing the Council with £200 as its share of the cost for the 1960/61 and 1961/62 financial years³²⁷.

4.7 The consequences for riverbed at the Waitapu Stream confluence

The reservation of the riverbed and the appointment of Rangitikei Catchment Board to control and manage it, discussed in the previous section, was one consequence of the Crown’s decision to regard the river as navigable and its bed to therefore be Crown Land. Another consequence is discussed in this section. It concerns riverbed land at the confluence of Rangitikei River and Waitapu Stream, which in the absence of the navigable river assertion might be subject to *ad medium filum aquae* rights enjoyed by a part of Te Reureu 3

³²⁴ Commissioner of Crown Lands Wellington to Director General of Lands, 28 November 1960. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2829.

³²⁵ Director General of Lands to Commissioner of Crown Lands Wellington, 2 December 1960. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2830.

³²⁶ Chief Engineer Rangitikei Catchment Board to Commissioner of Crown Lands Wellington, 10 April 1961. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2831.

³²⁷ Director General of Lands to Director General of Agriculture, 19 June 1961. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2832.

block. Whether or not that is the case was the subject of some discussion between the Department of Lands and Survey and Rangitikei Catchment Board in 1969.

Waitapu Stream is the northern boundary of Te Reureu Maori reserve, while the other side of the stream is part of the Waitapu Block. The bank of the Rangitikei River and the course of the Waitapu Stream where it joins the Rangitikei River were surveyed in 1891³²⁸ and 1895³²⁹, and the riverbank as plotted then became the basis for the issue of Reureu titles. These surveys showed an embayment in the channel of the Rangitikei River at the point where Waitapu Stream joined it. According to surveys made in 1908³³⁰ and 1920³³¹, the Waitapu Stream followed a course along the side of this embayment, hard up against the surveyed title boundary, and separated from the main channel of the Rangitikei River by a shingle promontory. After that there was a shift northwards in the confluence, and accretion accumulated where the 1920 course of the Waitapu Stream had been. By 1969 this accretion was occupied by the owner of the riverbank land. Believing that the accretion was in the vested part of the navigable riverbed, and it would be able to gain revenue from leasing it to the adjoining owner, Rangitikei Catchment Board sought confirmation of its status from the Department of Lands and Survey³³². Lands and Survey advised that the status would depend upon whether the occupied riverbed was accretion in the true sense of the term, as arising from a gradual and imperceptible change in the riverbed, or whether it arose from a sudden breakthrough when the Waitapu Stream took its new course³³³. The Catchment Board then argued that it was not accretion in the true sense, but was riverbed under its control and management because of a sudden change in the course of the Waitapu Stream:

The area receives considerable benefit from river works carried out by the Board, but contributes nothing by way of rates or rent to the Board's river fund. For this reason the Board is anxious to have the question of ownership of this land settled before expending any further public money in protecting the land from the river.

You have now suggested that the area may be Crown Land in that it was a river island that has become attached to the adjoining land by closure of the river channel into which the Waitapu Stream flowed. At least as late as 1920 the land appeared still to be an island separated by a minor channel of the river, but by 1942 this channel

³²⁸ Wellington plan ML 1058 Sheets 1 and 2. Supporting Papers #3274 and 3275.

³²⁹ Wellington plan ML 1342 Sheet 1. Supporting Papers #3276.

³³⁰ Wellington plan ML 2118. Supporting Papers #3279.

³³¹ Wellington plan ML 3475. Supporting Papers #3281.

³³² Chief Engineer to Commissioner of Crown Lands Wellington, 23 May 1969. Rangitikei-Wanganui Catchment Board file 327/RS2/C. Supporting Papers #3630-3631.

³³³ Commissioner of Crown Lands Wellington to Chief Engineer, 18 June 1969. Rangitikei-Wanganui Catchment Board file 327/RS2/C. Supporting Papers #3632.

between the main river and the outlet of the Waitapu Stream had closed. At this point it could possibly be considered that the island had become attached to the reserve upstream of the Waitapu Stream and was still separated from Part [Reureu] 3C2B by the river channel then serving as the outlet for the Waitapu Stream.

Aerial photographs held in this office clearly show that in 1946 the Waitapu Stream had two outlets to the river – the original outlet along the closed-off river channel, and a new outlet direct to the river which appears to have been an excavated diversion. This new outlet by 1955 was the only outlet for the Waitapu Stream, with the original outlet closed off and carting occasional overflows only. At present even flood flows would not enter the original course, which has virtually disappeared.

There would appear to be three possibilities:

1. That the land in question is true accretion to Part 3C2B and could be claimed as such....
2. That by initial closure of the upper end of the old river channel the island became accretion to Section 11 [upstream], which is a reserve for soil conservation and rivers control purposes controlled and managed by this Board, this accretion subsequently being severed from Section 11 by a sudden change in the course of the Waitapu Stream.
3. That the area was a Crown Land island in the river and remains so because it has become attached to Part 3C2B by virtue of a change in course of the Waitapu Stream, and is not true accretion.

If the land is Crown Land, then the Board would seek your consent to having it gazetted as a reserve for soil conservation and rivers control purposes, as this would greatly assist the Board with river control works. This work is being hampered at the moment by the uncertainty of ownership of the land.³³⁴

In April 1972 Lands and Survey advised:

My investigation concerning the status of the area of accretion near the mouth of the Waitapu Stream ... has now been completed.

Even though this accretion adjoins Mr Barnett's property (Part 3C2B), possibly because of a change of course in the Waitapu Stream, I confirm that the land remains as Crown Land.³³⁵

The working notes of the investigation itself have not been located during research for this report. The most likely basis for the blanket conclusion that it was Crown Land, without any part being subject to *ad medium filum* rights, is that the navigable status of the river overrode any *ad medium filum* rights. Because the conclusion that the 'accretion' was Crown Land simplified matters and would have suited both the Crown (Department of Lands and Survey) and Rangitikei Catchment Board (one of whose members was a Lands and Survey official),

³³⁴ Chief Engineer to Commissioner of Crown Lands Wellington, 9 August 1971. Rangitikei-Wanganui Catchment Board file 327/RS2/C. Supporting Papers #3636-3638.

³³⁵ Commissioner of Crown Lands Wellington to Chief Engineer, 11 April 1972. Rangitikei-Wanganui Catchment Board file 327/RS2/C. Supporting Papers #3643.

there is a real possibility that the conclusion was reached as a matter of administrative convenience.

From that point, both the Catchment Board and Lands and Survey proceeded without involving anyone else, and without opposition. The land in question was surveyed³³⁶, given the appellation Section 13 Block XIII Ongo Survey District, and reserved for soil conservation and river control purposes³³⁷, with Rangitikei-Wanganui Catchment Board appointed to control and manage the reserve³³⁸. The survey recorded the land as being “part old river bed”, and the submission to the Minister of Lands stated that the land was “Crown Land by virtue of Section 206 Coal Mines Act 1925”, and that “the status of land in this region has now been established as Crown land by accretion”³³⁹.

Because the land was deemed to be Crown Land rather than accretion to Reureu block, there has been a more recent consequence. Section 13 Block XIII Ongo Survey District was included in the Ngati Apa settlement legislation, where the reservation and the appointment of the Catchment Board to control and manage the reserve was revoked, the fee simple was vested in Ngati Apa trustees, and with Ngati Apa’s consent the section was reserved, classified as a local purpose (soil conservation and river control) reserve, and would be administered by Manawatu-Wanganui Regional Council (as if the Council had been appointed to control and manage it)³⁴⁰. The land’s appellation is now Section 1 SO 420489.

4.8 Concluding remarks

The Crown’s treatment of the ownership of the bed of the Rangitikei River arose from the importing of law developed in the context of a longstanding humanised landscape in England into the less developed circumstances of New Zealand. There has had to be considerable legal thinking to reconcile the two circumstances, and that legal thinking may not yet have run its course, as the status of riverbeds remains a complex subject. The complexity of legal statuses that could characterise a river contrasts with the relative simplicity of Maori ownership before 1840, which relied on authority exerted by rangatira (usually whakapapa-

³³⁶ Wellington plan SO 28624. Supporting Papers #3307.

³³⁷ *New Zealand Gazette* 1974 page 754. Supporting Papers #3104.

³³⁸ *New Zealand Gazette* 1974 page 755. Supporting Papers #3105.

³³⁹ Director General of Lands to Minister of Lands, 5 April 1974, approved by the Minister 10 April 1974. Lands and Survey Head Office file 15/244/9. Supporting Papers #514-518.

³⁴⁰ Section 56 and Schedule 2 Ngati Apa (North Island) Claims Settlement Act 2010. Wellington plan SO 420489. Not included in Supporting Papers.

endorsed, and either in favour of their own interests or in favour of others whose customary use rights they recognised). Ownership required continuing use and occupation.

The close relationship between rights to riverbank land and rights to the river that underlies English common law would have been readily understood by Maori, as it conformed with customary principles. However, it is also apparent from the expressions of belief held by Ohinepuhiawe Maori that beyond that there were differences of perspective between the Crown and Maori. Ohinepuhiawe Maori perceived that in being granted a reserve on the bank of the river, they secured rights to the whole of the river along that reserve's frontage, which might perhaps have to be shared in a non-divisive manner with owners on the opposite bank. On the other hand, the Crown perceived that the centre line of the river was a division line between rights held by owners of land on either side. As the Crown saw it, the rights to the river related to the riverbed only, and were of a different nature to the rights to the land (being presumptive rather than secured), so that the riverbank became another division line. The Crown also believed that the relationship between riverbank land and the river could be rendered null and void if the river was tidal or navigable.

The Crown's view on the legal status of rivers and riverbeds is both a symptom of a wider difference in thinking about waterways, and a cause of different thinking. The ownership of a river, its banks, or its bed has often been the driver resulting in other decisions by the Crown that have clashed with customary thinking. These other decisions are discussed in other chapters in this report.

There seem to be two possibilities with respect to the status of the old riverbed at Ohinepuhiawe. If the Rangitikei River was a navigable river after 1903, then Maori owners lost their half of the old riverbed to the Crown as a result of the statutory vesting. This made the vesting a confiscatory action. It also meant that the Maori owners received the approximately half share of the riverbed from the Crown as a favour in compensation for loss of reserve land to the river. If, however, the river at Ohinepuhiawe was not navigable, then Maori owners were entitled to obtain title to their half of the riverbed that they presumptively owned. This meant that they got no compensation from the Crown for the river cutting through their reserve and effectively reducing its productive area. It also meant that Crown intervention in the matter delayed the implementation of a remedy and deprived them of their right to obtain title for some 30 years.

On the evidence gathered by the Crown, navigable use of the Rangitikei River between the tidal reach near the sea and the confluence of the Rangitikei and Kawhatau Rivers was always entirely by Maori or on Maori terms. It was a continuation of their use of the river that predated the era of land purchase and European settlement, and was effectively an ongoing assertion of their rangatiratanga right and interest in the river. Apart from ferry crossings, there was no Crown or settler use of the river for navigation purposes. As a result of the Crown's assertion of navigability, Maori were deprived of rights of ownership of the riverbed (where it fronted their riparian land) by their own exercise of their rights to the river.

The perversity of this situation is heightened by the Crown's general demeanour towards the significance of the river to Maori. As the rest of this report identifies, the Crown ignored the Maori interest in the Rangitikei River while spreading its own authority over a widening range of river activities. Yet when it served its own purpose to do so, the Crown unashamedly relied on Maori use of the river to justify a further assertion of its authority.

In any event, navigable use in and after 1903 was nil, by either Maori or Europeans, so the claim of navigability fails on the facts if the legal interpretation of the 1903 legislation is that a river has to be navigable at the date the legislation became law for it to apply (and to then be capable of being applied retrospectively). If that interpretation is correct, then the Crown's assertion was flawed and could not be substantiated.

There has never been any declaratory judgement by any court that the Rangitikei River is a navigable river. On both occasions that the Crown invited the Native Land Court to make a judgement, it declined to do so. For Rangitikei River Maori it is perhaps unfortunate that the Crown did not pursue a finding in 1926, as the judge commented later to the Under Secretary of the Native Department (who was also Chief Judge of the Native Land Court) that the Crown's navigability argument was in his opinion "untenable"³⁴¹. If the Native Land Court had found against the Crown, then the whole Crown edifice for the river being navigable would have crumbled, and the history of the legal status of the bed of the river would have been very different.

³⁴¹ Judge Browne to Under Secretary Native Department, 26 August 1929. Maori Affairs Head Office file 1926/50. Supporting Papers #550.

Instead, the Crown took heart from the absence of a judgement by the Native Land Court, twisting the legal history into one where its assertion had not been rejected and was therefore still a valid opinion to hold. Indeed, during the 1930s the Crown took the view that the assertion of navigability had been “definitely established before the Native Land Court”³⁴², implying that the Court had virtually endorsed the assertion. While the Crown described the Court’s 1926 decision more accurately during the late 1950s, it took the opportunity at that time to expand on the precedent it thought had been established by the 1926 court case.

Vesting of the control and management of the riverbed in Rangitikei Catchment Board in 1959 was conditional, being confined to the wetted riverbed, and being capable of being overturned by *ad medium filum* title claims. Yet the conditional nature was not publicised, and was perhaps not properly understood by Catchment Board staff, so that full control of the wider riverbed came to be the standard asserted by the Board.

The Chief Engineer of the Rangitikei-Wanganui Catchment Board, presenting a paper to a conference on watercourse law in 1985, remarked in connection with the Rangitikei River, after addressing the history of the Crown’s claim to the bed of the Whanganui River:

Similarly part of the Rangitikei River has been deemed to be Crown owned, but in that case reserved, with management and control vested in the Rangitikei-Wanganui Catchment Board. As far as I can determine, that was simply an administrative decision. Although Section 206 of the Coal Mines Act was the authority claimed for declaring the riverbed to be Crown land, I am not aware that any serious enquiry was made into whether the river was navigable in any real sense or not. The purpose of the reservation of the riverbed was to facilitate soil conservation and river control. Not that it is unusual for a piece of legislation to be used subsequently for some purpose never contemplated at the time of enactment. Nor has that reservation, made in 1959, necessarily prevented claims being pursued with respect to titles underlying the riverbed.

In any event, to return to the Wanganui River situation, the Crown’s successful reliance on Section 206 of the Coal Mines Act and its reference to navigation implies to me that once used for navigation, a riverbed is deemed to be vested in the Crown, and remains so whether or not it continues to be so used. The extent of the navigable length of river can be determined by administrative decision, in the Wanganui River by reference back to the Wanganui River Trust, and in the Rangitikei River by a decision directed to achieving a particular end, rather than any serious examination of the authority under which it was made.

³⁴² Crown Solicitor to Under Secretary for Lands, 20 October 1932. Lands and Survey Head Office file 53936. Supporting Papers #417.

To that extent I can understand that the Maori claimants to the Wanganui River may well have seen the Crown's successful, retrospective use of the Coal Mines Act as an act of confiscation.³⁴³

His remarks about the confiscatory nature of the application of the legislation with respect to the Whanganui River are equally applicable to the Rangitikei River, where the evidence gathered by the Crown in support of navigability was patchy, weak, and little more than a token effort to cloak its actions with a veneer of historical authority.

³⁴³ DS Spence, Chief Engineer Rangitikei-Wanganui Catchment Board, 'Riverbed ownership: the Wanganui River' in *The law relating to watercourses: seminar proceedings, 26-27 February 1985*. National Water and Soil Conservation Authority, Technical Report No. 86, 1985, pages 51-56 at pages 52-53.

5. FISH AND FISHING

5.1 Introduction

The Rangitikei River and its tributaries were traditionally important as a source of food for Maori who resided along its banks. Fish and some aquatic plants were an important part of the food supply, while other plants were used in weaving or for rongoa (medicinal purposes). Resources obtained from the rivers determined settlement patterns and seasonal movement around a hapu's rohe.

It is not the role of this report to identify all the traditional uses made of resources from the river, or to establish the importance of the river's resources to the lifestyle patterns of the people (both tane and wahine) in pre-European times or during the European settlement period. That is a task for other reports and for the evidence of claimants. The importance of traditional harvesting, and the role that harvesting played in establishing hapu authority (rangatiratanga) to a stretch of the river, is treated as a given. The purpose of this chapter is to establish how and why the Crown became involved, and how it established a kawanatanga interest in fish and fishing in particular.

There were two main circumstances, or entry points, exploited by the Crown. The first was a consequence of land purchase, whereby the Crown came to control vast stretches of land along the banks of rivers. Although access by Maori to these lands was not immediately restricted, as the Crown proceeded to place settlers on its land the private nature of that land became apparent, and access became progressively more difficult. The effect was that if a fishing site had not been protected as a reserve at the time of the Crown purchase, then over time it became lost. The process of land access loss will be covered in other reports.

The second circumstance was a fundamental reordering of the fish life of the rivers with the deliberate introduction of species imported from elsewhere in the world. The acclimatisation movement was an early development in European settler life, and it did not take long for trout and salmon to be introduced. While establishing sustainable trout and salmon populations was not always a smooth or inevitable affair, and much nurturing was required after initial releases, the pressure from settlers to cater for introduced species created enough momentum to become dominant in Crown thinking, with indigenous species very much an afterthought, or not thought about at all. The process has continued until today it is trout and salmon that

are singled out for particular recognition in the Resource Management Act, and it is the health of the introduced fisheries that are treated as a benchmark for the health of rivers generally.

Section 77(2) Fisheries Act 1908 (in force until 1983) is often quoted as a protection of Maori fishing rights against the impact of the Crown's extensions of its kawanatanga. However, this section had only a partial and limited effect on the Rangitikei River. Because Section 77 was placed within the Part of the Act (Part I) relating to sea fisheries, and stated that "nothing in this Part of this Act shall affect any existing Maori fishing rights", it only applied to the tidal part of the Rangitikei River. As a result it applied to whitebait netting and fishing for flounder, mullet and smelt in tidal waters. There was no comparable provision in the Part of the Fisheries Act 1908 (Part II) relating to freshwater fisheries. There had, however, been an earlier protection of Maori fishing rights included in the Fish Protection Act 1877. Section 8 stated:

Nothing in this Act contained shall be deemed to repeal, alter, or affect any of the provisions of the Treaty of Waitangi, or to take away, annul, or abridge any of the rights of the aboriginal natives to any fishery secured to them whatsoever.

Protection of Maori fishing rights in freshwater has, however, re-appeared in current legislation. Section 88(2) Fisheries Act 1983 replaced the 1908 provision and was applicable to freshwater fisheries as well as marine fisheries. The Conservation Law Reform Act 1990 added Section 26ZH to the Conservation Act 1987. This section sets out that the Department of Conservation's responsibilities for and administration of freshwater fisheries (Part 5B of the 1987 Act) shall not "affect Maori fishing rights". In neither of the two pieces of current legislation are Maori fishing rights statutorily defined.

Of the statement in Section 8 Fish Protection Act 1877 quoted above, McDowall has commented, "that seems fairly explicit!". But he then went on to catalogue what the statute did not do:

However, this provision did not deal with issues of access to fishing waters, nor did it protect Maori fisheries from deteriorating habitat or habitat loss (e.g. wetland drainage), from impacts of alien fishes (e.g. trout), or from over-exploitation. It was almost as if Maori were welcome to their fisheries, if they could get access to them, and should there be anything left of value.³⁴⁴

³⁴⁴ RM McDowall, *Ikawai: freshwater fishes in Maori culture and economy*, Canterbury University Press, 2011, page 745.

To his list, he could have added that the statutory provision did not protect against future legislative change.

Maori are perhaps fortunate that tuna (eels) are such a resilient species, having a proven record of surviving both the introduction of new species and the changes to water quality and water flows experienced by the rivers. The ability of tuna to survive has meant that the harvest of a traditional species continues to the present day, and has encouraged Maori to maintain an interest in river fishing that might otherwise have been lost or reduced to the margins. Yet the resilience of tuna has also provided another entry point for the exercise of Crown kawanatanga in recent years. When Europeans started harvesting eels commercially, the Crown intervened to place the commercial fishery under a quota management scheme. This is the only freshwater species to be treated in this way. It demonstrates that Crown kawanatanga with respect to all indigenous fish species is a latent matter, lying dormant on the statute books in the background, and capable of being brought to life if the Crown considers it appropriate to do so. All this is while protection of tino rangatiratanga over “their fisheries” is guaranteed to hapu in the English text of the Treaty of Waitangi.

While taking a limited interest in freshwater fish life, the Crown has neglected protection of fish habitat. The clearance of forests, drainage of wetlands, transformation of the landscape character of waterways, and changes to water quality have been allowed largely without hindrance, and almost entirely without giving consideration to the impact and effect on fish species. This has been a national issue, and the Rangitikei River and its tributaries have been as much affected as other rivers and streams around the country. The decline of populations of fish of traditional value to Rangitikei River Maori has been relegated to being ‘collateral damage’ of colonisation and land settlement.

5.2 Acclimatisation societies

Acclimatisation societies had their genesis in mid 1860s legislation. As early as 1867 a Salmon and Trout Act was passed, in recognition of the desire of European settlers to bring into New Zealand species of fish that were hunted in their country of birth, and that they wished to hunt, primarily for sport rather than for food, in their new homeland. The Act was designed to put regulations in place before the impending arrival in the country of salmon and trout ova. That same year the Protection of Animals Act 1867 was passed. It had as one of its purposes “the encouragement of acclimatisation societies in New Zealand”. The

legislation was designed to provide Government support to the societies, so long as their rules did not contravene the overarching rules that the Crown had set down in legislation.

Acclimatisation societies, while privately-run organisations, have had a close relationship with the Crown throughout their history, in the nature of being a ‘most-favoured’ body that is referred to in legislation. Support for acclimatisation societies can be tracked through successive statutes since the 1867 legislation; Animals Protection Act 1880, Animals Protection Act 1907, Animals Protection Act 1908, Animals Protection and Game Act 1921-22, Wildlife Act 1953 and Conservation Law Reform Act 1990. Under the 1990 legislation acclimatisation societies were renamed fish and game councils. The relationship that acclimatisation societies and fish and game councils have with the Crown may even be considered as them being regarded as an agency of the Crown³⁴⁵, though that will be a matter for legal interpretation.

The Salmon and Trout Act 1867 was incorporated into the Fisheries Act 1908. By then it had become established that the introduced fisheries were seasonal fisheries, with a closed season when fishing was not allowed, and an open season when fishing was allowed by anglers who had paid for and held a licence. The legislation made it an offence to fish for trout or salmon without a licence.

Mostly this section discusses the role of the Wellington Acclimatisation Society, though other societies have been involved. The patterns of nineteenth century European settlement dictated the manner in which the acclimatisation societies developed. The Hawke’s Bay Acclimatisation Society was involved in the upper Rangitikei catchment in the nineteenth century, when all the connections in that district were with Hawke’s Bay. The extreme headwaters of the Rangitikei River have historically been in Taupo County rather than Rangitikei County, and as a result have remained outside the Wellington Society’s district, with their fishery being managed by the Crown along with the Lake Taupo fishery (see next section of this evidence). In the lower part of the Rangitikei catchment, a somewhat

³⁴⁵ “Acclimatisation societies are ... not user groups in the popular sense, but rather are fish and game management agencies of the Crown that happen to be run on a day-to-day basis by the users. They are perhaps more akin to local government, discharging a statutory role under the control of democratically-elected councils...”. Bryce Johnson, Executive Officer National Council of Acclimatisation Societies, evidence to Waitangi Tribunal (Ngai Tahu Inquiry), 4 November 1988, quoted in RM McDowall, *Gamekeepers for the nation: the story of New Zealand’s acclimatisation societies, 1861-1990*, Canterbury University Press, 1994, page 31.

parochial attitude seems to have prevailed initially. Prior to the mid 1880s a Manawatu Acclimatisation Society existed on the eastern side of the Rangitikei River, while the western side of the river (i.e. Rangitikei County) was in Wanganui Acclimatisation Society's district. In 1885 a Manchester and Kiwitea Acclimatisation Society was registered³⁴⁶, thereby excluding a part of the eastern side of the river from the Manawatu Society's district. The following year the same process happened on the western side of the river when a Clifton and Rangitoto Acclimatisation Society was registered³⁴⁷ and took over responsibility for the part of the Wanganui Society's district comprising the Clifton and Rangitoto Ridings of the County of Rangitikei around Bulls. The Porewa Riding and other Ridings of Rangitikei County remained in the Wanganui Acclimatisation Society's district. However, the Clifton and Rangitoto Acclimatisation Society lasted only one year, before it amalgamated with Manawatu Acclimatisation Society to form the Manawatu-Rangitikei Acclimatisation Society³⁴⁸. There was a further change in 1889 when the amalgamated society split again, with the Manawatu district joining the Wellington Acclimatisation Society (whose district up until then had been further to the south), while all Ridings of Rangitikei County were combined to form the Rangitikei Acclimatisation Society's district³⁴⁹. In 1891 the Wellington and the Manchester and Kiwitea Acclimatisation Societies amalgamated to create an enlarged Wellington Acclimatisation Society district³⁵⁰. However, the amity between the members of the two societies did not last, and in 1899 the separate Feilding and District Acclimatisation Society was created³⁵¹. Meanwhile the Rangitikei Acclimatisation Society had amalgamated with the Wellington Society in 1897³⁵².

Some of the events chronicled in the paragraph above were referred to in a letter of explanation sent to an associate of the Wanganui Acclimatisation Society in 1946 about the boundary changes that Society had experienced:

On the 10th March 1887 the Secretary of the Clifton-Rangitoto Acclimatisation Society, Bulls, communicated with the Colonial Secretary stating that at a meeting held in the Town Hall, Bulls, on the 8th idem it was resolved that the boundaries of the Society be extended so as to include the whole of the Rangitikei County, which it was said was bounded towards the north by the Wanganui County and the Hawke's Bay County, towards the east by the Waipawa and Manawatu Counties, and towards the

³⁴⁶ *New Zealand Gazette* 1885 page 331. Not included in Supporting Papers.

³⁴⁷ *New Zealand Gazette* 1886 page 266. Not included in Supporting Papers.

³⁴⁸ *New Zealand Gazette* 1887 page 410. Not included in Supporting Papers.

³⁴⁹ *New Zealand Gazette* 1889 page 809. Not included in Supporting Papers.

³⁵⁰ *New Zealand Gazette* 1891 page 1329. Not included in Supporting Papers.

³⁵¹ *New Zealand Gazette* 1899 page 895. Not included in Supporting Papers.

³⁵² *New Zealand Gazette* 1897 page 939. Not included in Supporting Papers.

west by the Wanganui County, and towards the south-east by the centre of the Rangitikei River and Cook Strait. It was further resolved that the name of the Society be changed to the Rangitikei Acclimatisation Society.

The Wanganui Acclimatisation Society objected to the proposal, and it was decided to sustain the objection. In May 1889, the County Clerk of the Rangitikei County Council forwarded to the Colonial Secretary a copy of a resolution supporting the desire of the Clifton-Rangitoto Acclimatisation Society for the extension asked for, and it was decided after consideration to give effect to the request, the necessary proclamation being issued on 20th July 1889.

On the 14th April 1897 the then Secretary of the Wellington Acclimatisation Society communicated with the Colonial Secretary forwarding copies of correspondence from the Rangitikei Acclimatisation Society relative to the suggestion that the Rangitikei Acclimatisation Society be included in the Wellington Acclimatisation District. The letter stated that the Wellington Acclimatisation Society was agreeable to this step, and the correspondence forwarded supported this suggestion.

As a result, it was decided to give effect to the proposal, and on the 23rd April 1897 a warrant under the Animals Protection and Game Act 1880 was issued redefining the boundaries of the Wellington Acclimatisation District so as to include, inter alia, the County of Rangitikei, the appropriate gazette bearing date the 29th April 1897.³⁵³

The various nineteenth century boundary changes have not been researched in any further detail for this report.

Some of the nineteenth century changes to acclimatisation society districts were probably linked to land-based acclimatisation efforts to provide for game shooting of pheasants, partridges and hares, rather than for river-based efforts. This is apparent from the district boundaries chosen, usually being local authority boundaries. While this might have suited administrative convenience or local loyalties, to choose a river as an acclimatisation society boundary was showing little regard for trout fishing in such a river. However, the foundations were established during this time for future trout fisheries administration. In 1891 the first fishing regulations for the Wellington Acclimatisation Society's district were made³⁵⁴. Regulation 13 stated:

Except as aforesaid, no person shall fish with or use any net or other engine, instrument or device for taking fish in any river or stream within the district aforesaid, or at the mouth or entrance of any such river or stream.

This rule and its reference to "taking fish" using a net was not limited to introduced fish, and would apply to flounder and mullet fishing, and perhaps to other fishing undertaken by

³⁵³ Under Secretary for Internal Affairs to President West Coast (NI) Federation of Acclimatisation Societies, 30 September 1946. Internal Affairs Head Office file 46/19/3. Supporting Papers #329.

³⁵⁴ *New Zealand Gazette* 1891 page 1044. Supporting Papers #3017.

Rangitikei River Maori. The regulations also required anglers to obtain a fishing licence before they could fish for trout or other introduced fish. Licences were issued annually for a fee payable to the local acclimatisation society. Rangitikei River Maori were obliged to adapt to this new regime, because the regulations gave no recognition to rights guaranteed under Te Tiriti.

After 1899 some stability in acclimatisation district boundaries prevailed. The whole of the Rangitikei catchment other than the extreme headwaters was in the Wellington Acclimatisation District, apart from the enclave administered by the Feilding and District Acclimatisation Society. The boundaries of this enclave were the Kawhatau River and Pourangaki Stream to the north, the Ruahine Range to the east, the Awahuri to Bulls Road to the south, and the Rangitikei River to the west³⁵⁵. The consequence was that on occasion Wellington Society ranger staff had to pass through the Feilding Society's district to reach that part of the Wellington Society's district in the middle and upper reaches of the Rangitikei River.

During the twentieth century there were two other small overlaps of acclimatisation districts into the Rangitikei catchment. The extreme headwaters of the Rangitikei catchment are located in a separate Central North Island district where the Crown rather than an acclimatisation society administers the introduced fisheries. The Crown's direct involvement in the Central North Island district is discussed in the next section. One bank of the Hautapu River north of Mataroa was included in the Wanganui Acclimatisation Society's district until a boundary adjustment in 1932 added it to the Wellington Society's district³⁵⁶.

Active intervention by acclimatisation societies first spread to include the Rangitikei catchment in the late 1870s, when the Hawke's Bay Acclimatisation Society released brown trout into the Ngaruroro and upper Rangitikei Rivers³⁵⁷. An analysis of Wellington Acclimatisation Society annual reports carried out in 1984³⁵⁸ showed a number of releases in

³⁵⁵ *New Zealand Gazette* 1899 page 891. Supporting Papers #3024.

The boundaries of the Feilding and Districts and the Wellington Acclimatisation Societies were re-gazetted in 1925 pursuant to the Animals Protection and Game Act 1921-22. *New Zealand Gazette* 1925 pages 749-754, at page 750 and page 754. Not included in Supporting Papers.

³⁵⁶ *New Zealand Gazette* 1932 pages 1998-1999. Supporting Papers #3070-3071.

³⁵⁷ W Arthur, 'History of fish culture in New Zealand', in *Transactions of the New Zealand Institute*, Volume 14 (1881), pages 180-210.

³⁵⁸ MA Rodway, *The relative abundance, movement and growth of rainbow trout (Salmo gairdneri) and brown trout (Salmo trutta) in the Rangitikei River, New Zealand*, MSc thesis in Zoology, Massey University, 1984,

the Rangitikei catchment of brown trout between 1886 and 1897, then releases of both brown trout and rainbow trout from 1899 onwards. The location of these releases, and the speed and extent of establishment of the trout populations following release, is not known. The annual reports, however, contain occasional comments that suggest that during the early part of the twentieth century the fishing for trout on the Rangitikei was variable, some years being good and others poor.

So far as introduced fish are concerned, the Rangitikei River is a trout river. Individual quinnat salmon have occasionally been sighted or caught in the river, but no population of salmon has been described, and salmon can generally be discounted. Three species of trout are known to exist in the Rangitikei catchment. Rainbow trout move throughout the river, and spawn in the upper reaches. Brown trout move around less, spawn in the middle reaches, and do not inhabit the farthest upper reaches. In general, both species remain in the river, and do not go out to sea. Population numbers are not as great as in other trout rivers in New Zealand, though those trout that do inhabit the Rangitikei River grow to a large size. It is the large size that makes the river attractive for anglers fishing for both species. The third species of trout is brook char (brook trout), which has formed a discrete population only in the upper Moawhango River, and is not generally fished by anglers.

No references to the attitude of Rangitikei River Maori to the first releases of trout in their waterways were located during the research for this report. Research for another inquiry district has shown that it would be wrong to automatically imagine that Maori were opposed to the early releases of trout and salmon, because they may have seen advantages in having another source of food in the rivers³⁵⁹. Certainly, later history suggests that Maori were not averse to fishing for introduced species, once those species had become well-established; there are records nationally of Maori, assuming a developmental extension of their customary fishing rights, being taken before the courts for failing to have a fishing licence. However, the initial releases of trout were principally motivated by the desire of European settlers to create a sport fishery.

pages 8-10 and appendix, being Annexure A to Evidence of TP Kroos in support of Application for a Water Conservation Order for the Rangitikei River, March 1985, attached to Morpeth Gould & Co, Barristers, Solicitors and Notaries Public, Auckland, to National Water and Soil Conservation Authority, 15 January [sic, should be March] 1985. Works and Development Head Office file 76/327000. Supporting Papers #1648-2026 at 1730-1732 and 1844-1855.

³⁵⁹ D Alexander, *An overview of selected environmental and resource management issues in Te Rohe Potae Inquiry District, with a focus on the period since 1970*, March 2014, Wai 898 document #A148, page 251.

Having introduced trout into the Rangitikei River, acclimatisation societies were authorised by legislation and associated regulations to manage the trout population by undertaking further releases, by taking protective action, by recommending fishing seasons, and by issuing licences to fish the species³⁶⁰. Wellington Acclimatisation Society's regulations remained fairly consistent over many years, though often with minor amendments made each spring, prior to the start of the fishing season (October to April). The initial 1891 regulations, referred to earlier, were amended in 1898 and 1903, and then set out in full in 1904, 1905 and 1906³⁶¹. The 1906 regulations introduced requirements about the lures that could be used on different rivers in the Acclimatisation District, and the list of rivers subject to this requirement then tended to be amended year by year thereafter. None of the Rangitikei catchment rivers or streams were singled out in the 1906 regulations, though the Hautapu River was referred to for the first time in 1913:

5. Trout and perch shall not be fished for, taken, or killed otherwise than with one rod and line; but a landing-net or gaff may be used to secure any trout or perch caught with rod and line. No lures or baits other than natural or artificial flies, insects, worms, or fish shall be used with such rod and line, nor shall any of the lures or baits be used except upon a running line attached to a rod and reel; nor shall any set rod or line be used for taking trout or perch in any of the waters aforesaid:

Provided that no lures or baits other than artificial fly and artificial minnow shall be so used in the following rivers or streams: ... that part of the Hautapu River in the County of Rangitikei from Jacobson's Bridge north of Taihape southward to its junction with the Rangitikei River ...³⁶²

“Artificial fly and artificial minnow” was changed to “artificial ones” in 1915³⁶³, and the stretch of the Hautapu River was changed to “Mataroa southward to the Rangitikei” in 1927³⁶⁴. The rivers in the Rangitikei catchment in which only artificial lures could be used (i.e. fly fishing only) was expanded in 1928 to include, besides the stretch of the Hautapu River referred to above, “the Rangitikei and its tributaries, including the Moawhanga [sic],

³⁶⁰ These matters were covered in regulations issued under the Fisheries Conservation Act 1884, the Fisheries Act 1908, and the Fisheries Act 1983.

³⁶¹ *New Zealand Gazette* 1898 page 1432; 1903 pages 2096-2097; 1904 pages 2254-2255; and 1905 pages 2262-2263. Not included in Supporting Papers.

New Zealand Gazette 1906 pages 2296-2297. Supporting Papers #3031-3032.

³⁶² *New Zealand Gazette* 1906 pages 2296-2297, as amended by *New Zealand Gazette* 1913 page 2931. Supporting Papers #3031-3032 and 3044.

³⁶³ *New Zealand Gazette* 1915 page 3220. Not included in Supporting Papers.

³⁶⁴ *New Zealand Gazette* 1927 pages 2613-2614. Supporting Papers #3059-3060.

but not the Kawhatau, from its junction with the Kawhatau to the northern boundary of the Wellington Acclimatisation District”³⁶⁵. The 1906 regulations were consolidated in 1930³⁶⁶.

In 1931 the references to the Rangitikei River and its tributaries were amended to read:

It shall be lawful for the holder of any licence issued pursuant to these regulations to fish with live baits in that portion of the Rangitikei River from the Moawhango Road Crossing at the Hawke’s Bay boundary to the sea....

No lures or baits, other than artificial ones, shall be used in the following rivers and streams and their tributaries: ...the Hautapu from Mataroa southward to the Rangitikei; the Moawhango; ...³⁶⁷

However, this description evidently did not properly describe what the Acclimatisation Society wanted, so was recast twice over the next two years. In 1932 the wording was changed to:

No lures or baits, other than artificial ones, shall be used in the following rivers and streams and their tributaries: the Hautapu southward from Waiouru; the Moawhango; Provided that in the Rangitikei River from the Moawhango Road crossing at the Hawke’s Bay boundary to the sea ... live baits may be used ...³⁶⁸

The second change in 1933 turned the regulation around:

No person shall fish for trout, perch or other acclimatised fish in the lakes, rivers and streams of the said district with any lure or bait other than artificial ones: Provided, however, that artificial and live baits may be used in ... the Rangitikei ...³⁶⁹

Regulations for fishing in the Feilding and District Acclimatisation Society’s district were made at the time of the Society’s formation in 1899³⁷⁰. A rewrite of the regulations in 1929 allowed both artificial lures and live bait, and emphasised the sporting nature of the fishing:

Trout shall not be fished for, taken, or killed, otherwise than with one rod and line, but a landing-net or gaff may be used to secure any trout caught with such rod and line, and no lines or baits other than natural or artificial flies, insects, worms or fish shall be used with such rod and line....

No cross-line fishing, stroke-hauling, wilful foul-hooking, spearing or other unsportsmanlike device shall be used to the purpose of taking, catching or killing trout, nor shall any bait be used with any medicated or chemical preparation whatever.³⁷¹

A proviso to an existing regulation was added in 1935:

³⁶⁵ *New Zealand Gazette* 1928 pages 2720-2721. Supporting Papers #3061-3062

³⁶⁶ *New Zealand Gazette* 1930 pages 989-990. Not included in Supporting Papers.

³⁶⁷ *New Zealand Gazette* 1931 page 2534. Supporting Papers #3066.

³⁶⁸ *New Zealand Gazette* 1932 page 1996. Supporting Papers #3069.

³⁶⁹ *New Zealand Gazette* 1933 page 2129. Supporting Papers #3075.

³⁷⁰ *New Zealand Gazette* 1899 page 1929. Supporting Papers #3025.

³⁷¹ *New Zealand Gazette* 1929 pages 2454-2455. Supporting Papers #3064-3065.

Every trout not exceeding 10 [inches] in length from nose to tip of tail taken or caught by any person shall immediately be returned alive by such person into the water from which the same is taken:

Provided that no person shall take any trout not exceeding 12 [inches] in length from the Mangawhariki [sic] Stream from its source to its junction with the Rangitikei River.³⁷²

The interactions between the respective acclimatisation societies and the Crown about the changes in the regulations cited above are recorded in Crown files³⁷³. An examination of those files during research for this report found that each society would approach the Crown with a request for an amendment to the existing regulations, the Crown would draw up the amending regulation and provide it in draft form to the society for comment, the society would provide its consent, and the regulation would then be made. It was a closed consultation process involving only the Crown and the respective acclimatisation society. Rangitikei River Maori were not consulted, nor was there any evidence of concern that the regulations might impact on Maori fishing rights along the river and its tributaries.

Protective action by acclimatisation societies in support of introduced fish included measures against eels and shags, which were seen as presenting a threat to young trout. Such action against indigenous fish and wildlife was a national occurrence³⁷⁴. Crown fisheries officials were ambivalent about the practice, with the Chief Inspector of Fisheries reporting in his annual report in 1930:

It is by no means definitely proved that eels are altogether inimical to the wellbeing of trout, for big trout feed on small eels, just as big eels feed on small trout³⁷⁵.

However, the Crown did nothing to dissuade the acclimatisation societies from undertaking eel drives and from shooting shags. It was not until the late 1960s that scientific research established a more complex inter-relationship between trout and eels:

Marine Department biologist Max Burnet ... began a project to evaluate eel predation of trout in the south branch of the Waimakariri River, north of Christchurch, and at the outset he determined the age/size structure of the trout populations. Then he engaged in an intensive programme of eel removal, left the populations for a time, and

³⁷² *New Zealand Gazette* 1935 page 2338. Supporting Papers #3078.

³⁷³ Wellington Acclimatisation Society – Marine Department Head Office file 1/5/3.

Feilding and Districts Acclimatisation Society – Marine Department Head Office file 1/5/10.

³⁷⁴ RM McDowall, *Ikawai, freshwater fishes in Maori culture and economy*, Canterbury University Press, 2011, pages 700-707.

RM McDowall, *Gamekeepers for the nation: the story of New Zealand's acclimatisation societies, 1861-1990*, Canterbury University Press, 1994, pages 120-128.

³⁷⁵ Chief Inspector of Fisheries, 'Shags and the fisheries, investigations in Kaipara Harbour', Marine Department Annual Report for the year ending 31 March 1930, in *Appendices to the Journals of the House of Representatives*, 1930, H-15, pages 23-26 at page 24. Not included in Supporting Papers.

then reassessed the age/size structure of the trout stocks. His results created another conundrum for the acclimatisation societies. Burnet found that before eel removal, the South Branch trout population consisted of moderate numbers of big, often old trout, plus a few smaller ones. Once the eels had been removed, the age/size structure of the trout populations changed to comprise large numbers of small, young trout. So what was happening basically was that the eels were culling the small fish, and in the absence of eels, more of the young trout were surviving and growing more slowly. This led to more trout, though with less appeal for anglers than when the eels were present.³⁷⁶

Only as the results of this research became more widely known did the acclimatisation societies cease their efforts to reduce eel populations. This change of attitude occurred at a time of increasing commercial interest in eel fishing, discussed later in this chapter.

The annual report of the Feilding and District Acclimatisation Society for 1928 recorded that an eeling competition had been held, with prizes for the most heads, and also contained details about a bounty being offered by the Society when the feet of dead shags were brought in as proof of a kill³⁷⁷. Over what length of time these practices continued is not known.

The Feilding Society retained its independence until 1937. It would seem that prior to then the Feilding Society's existence had been a concern for the Wellington Society for some years. In February 1936 the Wellington Society passed a resolution urging amalgamation of the two societies, and agreeing to send a deputation to meet the Minister of Internal Affairs on the matter³⁷⁸. The Feilding Society regarded this as a potential takeover and expressed its opposition³⁷⁹. Prior to the meeting with the Wellington Society deputation, the Minister of Internal Affairs was told by officials that the Crown considered that a reduction in the number of acclimatisation societies would be advantageous, as it would result in better use of limited funds for "ranging, liberations, etc", though local sensibilities were such that "extreme caution is necessary"³⁸⁰.

³⁷⁶ RM McDowall, *Ikawai, freshwater fishes in Maori culture and economy*, Canterbury University Press, 2011, page 704, relying on AMR Burnet, *A study of the relationships between brown trout and eels in a New Zealand stream*, 1968, Marine Department Fisheries Technical Report No. 26, at pages 24-25.

³⁷⁷ Feilding and District Acclimatisation Society, annual report for the year ended 31 March 1928. Copy viewed at Ian Matheson City Archives, Palmerston North Public Library. Not included in Supporting Papers.

³⁷⁸ *Dominion*, 13 February 1936. Copy on Internal Affairs Head Office file 1937/13/1. Supporting Papers #294.

³⁷⁹ *Manawatu Daily Times*, 14 February 1936. Internal Affairs Head Office file 1937/13/1. Supporting Papers #295.

³⁸⁰ Under Secretary for Internal Affairs to Minister of Internal Affairs, 22 February 1936. Internal Affairs Head Office file 1937/13/1. Supporting Papers #296-297.

When the Wellington Society met the Minister in April 1936, it was clear that the contention between the two societies covered both land-based game hunting (e.g. pheasants) and sport fishing. With respect to fishing, a particular disagreement was about the Kawhatau River, which was the boundary between the two societies, and therefore subject to different rules on each bank:

Mr Aldridge: ... The Wellington Society reserved the stream for fly fishermen only, but the Feilding Society allowed the use of creeper, worm or bully, with the result that a beautiful fly stream was cleaned out in the first few weeks of the season.

The Minister: Is that your best fly fishing place?

Mr Aldridge: One of the best. After the first two or three weeks of the season, our fishermen go up there and cannot get a bite, but the other people use bully or worm, put their lines down, and just hook a fish. You could hardly call it sporting fishing, and as you know it is so bad for a small stream which is essentially a stream where fly only should be used.... We say that if the Feilding Society were absorbed into the Wellington District's Society, better sport would be provided, better ranging and better preservation of fish and game....

Mr Seed said ... the previous year he had gone to the Kawhatau Stream and found the fishing very poor indeed; in fact he was not able to do anything with the fly. However, a local fisherman from over the Feilding boundary went down to the stream with a tin of worms and simply waited until the fish hooked themselves and then pulled them in. It was quite impossible for the Wellington Society to maintain the stock of fish in those rivers if that practice was permitted from one side of the stream, while on the other the sport was restricted to fly fishing.³⁸¹

The Feilding Society requested their own meeting with the Minister, and its deputation told him of their wish to retain their independence:

Mr Stockwell. ... The Society had always realised that the biggest poacher and menace to trout was the shag, and the Society had spent considerable sums of money on the shag's destruction. The neighbouring societies had not cooperated in that connection at all.

The Feilding Society had absolutely proved that the liberation of fry in its streams was practically useless; it had tried that policy out for years with very poor results, but immediately it commenced to liberate grown fish a decided improvement took place.... The Society's liberations had been all fingerlings for at least ten years.... Referring back to the matter of shags, he would just like to mention that the Feilding Society paid a bonus on the destruction of shags, but the Wellington did not....

The Minister. What is the difference between the conditions of fishing of one side of a stream as against those existing on the other?

³⁸¹ Notes of meeting, 2 April 1936. Internal Affairs Head Office file 1937/13/1. Supporting Papers #298-308.

Mr Wickham. There are some rivers in connection with which different conditions exist on alternate sides, but the only stream where there is any contention as between our district and Wellington is the Kawhatau Stream. The Wellington Society wanted that stream to be reserved for artificial bait fishing only; we submitted the point to the sub-committee of the district, and the licence-holders there would not hear of it; they turned it down altogether. On that account we did not cooperate with the Wellington Society.³⁸²

While the Feilding Society strongly defended its separate existence at the meeting with the Minister in 1936, twelve months later there was a change of heart, and its annual meeting in May 1936 unanimously passed a resolution to amalgamate with the Wellington Acclimatisation Society³⁸³. The reasons for this change of heart were not set out in the correspondence, though it is perhaps noteworthy that none of the members of the 1936 deputation to meet the Minister, apart from the Secretary, were on the 1937 committee of the Feilding Society³⁸⁴.

When the amalgamation documentation was submitted to Crown Law Office for a check of its legal suitability, the Crown Solicitor gave his approval, though added:

I would ask you, however, to give further consideration to the substance of this schedule insofar as it adopts rivers as [Acclimatisation District] boundaries. I remember to have read recently a criticism of the anomaly arising in two South Island districts similarly bounded. It appears that persons on one bank of a river could watch people fishing from the other bank, but would be breaking the law if they did the same thing from their bank. According to the boundaries proposed, in some cases the middle of the river is the dividing line; in one case the right bank of a river; in another case indefinitely "the Panemango Stream". Frequently the local restrictions on fishing differ in adjoining districts as regards duration of close season, minimum size of fish that may be taken, maximum number of fish that may be taken in a day, and other matters. Conceivably, unless very great care is taken to harmonise local restrictions, involving perhaps the necessity of overruling the wishes of a local acclimatisation society, a person fishing on one side of the middle-line of a stream may be breaking the law, but committing no offence as long as he keeps to the other side; or a person fishing from the bank may be subject to different regulations from those that control a person fishing in waders. Consequences of this kind are calculated to create difficulties in enforcing the regulations.³⁸⁵

³⁸² Notes of meeting, 20 April 1936. Internal Affairs Head Office file 1937/13/1. Supporting Papers #309-319.

³⁸³ President Feilding and District Acclimatisation Society to Secretary Wellington Acclimatisation Society, 20 May 1937, attached to Secretary Wellington Acclimatisation Society to Under Secretary for Internal Affairs, 18 June 1937, and Secretary Feilding and District Acclimatisation Society to Under Secretary for Internal Affairs, 21 June 1937. Internal Affairs Head Office file 1937/13/1. Supporting Papers #320-321 and 322.

³⁸⁴ *Feilding Star*, 13 July 1937. Copy on internal Affairs Head Office file 1937/13/1. Supporting Papers #323.

³⁸⁵ Crown Solicitor to Under Secretary for Internal Affairs, 29 July 1937. Internal Affairs Head Office file 1937/13/1. Supporting Papers #324-325.

These were precisely the problems that had bedevilled fishing on the Kawhatau River. However, as the Under Secretary advised the Minister, the amalgamation of the two societies would overcome the problems on the Kawhatau River and on the Rangitikei River, by eliminating them as district boundaries. The Minister gave his approval to the abolition of the Feilding Society's district, and its inclusion in the Wellington Society's district³⁸⁶, and the amalgamation was implemented in October 1937³⁸⁷.

General information about the distribution of fish in the Rangitikei catchment became available with the publication of a series of reports in the early 1980s. These were produced in response to two circumstances applying at the time. The first was the Government's encouragement to local electric power boards and other organisations to investigate whether rivers in their local area had potential for hydroelectric power generation. Because most hydroelectric schemes relied on lake storage, there was a threat that prized river fisheries would be turned into lake fisheries. Crown fisheries officials had not seen such a change as a problem when the Moawhango River was dammed and Lake Moawhango created in the 1960s-1970s, because they believed that the benefits of the creation of a lake fishery in Lake Moawhango would be greater than the damage done to the river fishery below the dam. It was, however, seen as a problem by Wellington Acclimatisation Society, which made strenuous efforts to have water spilled from the Moawhango Dam to maintain flows in the river that would sustain trout. The fisheries aspects of the Moawhango Lake and Dam are discussed in the chapter on hydroelectric power generation. When an assessment of local hydroelectric potential in the rest of the Rangitikei catchment was produced (see the chapter on hydroelectric power generation), the Ministry of Agriculture and Fisheries published a report on the impact of these proposals on fish life in the river³⁸⁸.

³⁸⁶ Under Secretary for Internal Affairs to Minister of Internal Affairs, 3 August 1937, approved by the Minister 7 August 1937. Internal Affairs Head Office file 1937/13/1. Supporting Papers #326-327.

³⁸⁷ Feilding and District Acclimatisation District abolished and Wellington Acclimatisation District boundaries altered - *New Zealand Gazette* 1937 page 1847. Supporting Papers #3080.

Registration of Feilding and District Acclimatisation Society cancelled - *New Zealand Gazette* 1937 page 2339. Supporting Papers #3081.

Feilding and District Acclimatisation Society's fishing regulations revoked, and Wellington Acclimatisation Society's fishing regulations made applicable to the former Feilding and District Acclimatisation District - Regulation 231/1937. Not included in Supporting Papers.

Feilding Star, 29 September 1937. Copy on Internal Affairs Head Office file 1937/13/1. Supporting Papers #328.

³⁸⁸ BJ Hicks, *Potential effects of hydro-electric development on the fish and fisheries of the Rangitikei River*, Ministry of Agriculture and Fisheries, Fisheries Research Division, Wellington, Fisheries Environmental Report No. 52, 1985. Supporting Papers #6298-6325.

The second circumstance was the introduction of wild and scenic rivers legislation in 1981. The Water and Soil Conservation Amendment Act 1981 allowed rivers with national or local importance for their wild and scenic characteristics to receive protection against damming or excessive water abstraction. Protection relied on applications to be made for the legislation to apply, which in turn required the preparation of cases in support of protection. Shortly after the legislation was passed, the Ministry of Agriculture and Fisheries published a national assessment of the fisheries values of rivers that might benefit from being protected, based on a survey of anglers³⁸⁹. Of the Rangitikei River, the assessment stated:

Anglers travelled from all over the North Island to fish the Rangitikei River, and expended more effort on this river than any other in the North Island apart from the Lake Taupo tributaries.... When the importance ratings of the 139 respondents was combined, over 50% had awarded the Rangitikei the highest possible value, making this one of the most valued recreational river fisheries in the North Island.

Although the middle reaches attracted most anglers (75% of the respondents), the headwaters and lower reaches were also fished by about one-third of those who provided information on the Rangitikei. Access into the remote headwaters, from their source to the Napier-Taihape road bridge, was considered very difficult. However, almost every angler who had fished this reach awarded it the highest possible scenic beauty and solitude ratings. Although the catch rate was not exceptionally high, the trout landed by anglers (who preferred to use nymphs and wet flies) were very large, rivalling those landed from the outlet of Lake Tarawera. These features, in combination with camping, tramping and shooting, which were commonly associated with fishing, qualify the Rangitikei headwaters as a wilderness river fishery of national importance.

From State Highway 1, the middle and lower reaches of the Rangitikei River were quite easily accessible, with extensive areas of water available to anglers. These river reaches were considered to be very scenic, despite the fact that solitude was reduced somewhat by angler density and other users. Picnicking was very popular amongst anglers, who also regularly combined camping and swimming with fishing. The Rangitikei qualifies, therefore, as both a scenic and recreational river fishery from the Napier-Taihape road bridge to the sea. In order to maintain the wilderness, scenic and recreational fishery values associated with the mainstem, the whole Rangitikei River system, including several important tributaries, should be included in the inventory of nationally important rivers.³⁹⁰

Subsequently the Wellington Acclimatisation Society and the Council of North Island Acclimatisation Societies applied for a national water conservation order for the Rangitikei

³⁸⁹ LD Tierney, MJ Unwin, DK Rowe, RM McDowall and E Graynoth, *Submission on the draft inventory of wild and scenic rivers of national importance*. Ministry of Agriculture and Fisheries, Fisheries Environmental Report No. 28, November 1982. Supporting Papers #6203-6266.

³⁹⁰ LD Tierney, MJ Unwin, DK Rowe, RM McDowall and E Graynoth, *Submission on the draft inventory of wild and scenic rivers of national importance*. Ministry of Agriculture and Fisheries, Fisheries Environmental Report No. 28, November 1982, pages 39-40. Supporting Papers #6203-6266 at 6242-6243.

River. The application and resulting water conservation order are discussed in a separate chapter of this report. The application documentation included a report by an Acclimatisation Society field officer describing the introduced fishery³⁹¹, and an MSc thesis about the populations of trout and salmon in the Rangitikei River and its tributaries³⁹². In response to the application, other reports were produced by the Ministry of Agriculture and Fisheries³⁹³, and the Rangitikei-Wanganui Catchment Board³⁹⁴.

The attractiveness of the Rangitikei River to anglers means that the Wellington Acclimatisation Society, which became the Wellington Fish and Game Council in 1990, maintains a strong interest in the river, and is an active advocate for measures that can maintain and enhance the trout populations. Its involvement in resource consent applications for the disposal of treated sewage is recorded in the chapter on that subject. The statutory mandate for Fish and Game Council involvement is set out in Section 26Q(1) Conservation Act 1987, which refers to:

- Section 26Q(1)(a) – “to assess and monitor ... the condition and trend of ecosystems as habitats for sports fish”;
- Section 26Q(1)(b) – “to maintain and improve the sports fish and game resource”;
- Section 26Q(1)(c) – “to promote ... recreation based on sports fish and game”
- Section 26Q(1)(e) – “to represent the interests and aspirations of anglers and hunters in the statutory planning process”.

³⁹¹ Evidence of TP Kroos in support of Application for a Water Conservation Order for the Rangitikei River, March 1985, attached to Morpeth Gould & Co, Barristers, Solicitors and Notaries Public, Auckland, to National Water and Soil Conservation Authority, 15 January [sic, should be March] 1985. Works and Development Head Office file 76/327000. Supporting Papers #1648-2026 at 1660-1708.

³⁹² MA Rodway, *The relative abundance, movement and growth of rainbow trout (Salmo gairdneri) and brown trout (Salmo trutta) in the Rangitikei River, New Zealand*, MSc thesis in Zoology, Massey University, 1984, being Annexure A to Evidence of TP Kroos in support of Application for a Water Conservation Order for the Rangitikei River, March 1985, attached to Morpeth Gould & Co, Barristers, Solicitors and Notaries Public, Auckland, to National Water and Soil Conservation Authority, 15 January [sic, should be March] 1985. Works and Development Head Office file 76/327000. Supporting Papers #1648-2026 at 1709-1855.

³⁹³ BJ Hicks and NRN Watson, *Fish and fisheries of the Rangitikei River, New Zealand*, Ministry of Agriculture and Fisheries, Fisheries Research Division, Wellington, Occasional Publication No. 48, 1985. Supporting Papers #6267-6297.

³⁹⁴ Rangitikei-Wanganui Catchment Board, *Rangitikei River fishery values*, Bioresarches Ltd for Rangitikei-Wanganui Catchment Board, Marton, Report No. 85/5A, 1985. Supporting Papers #6700-6753.

Manawatu-Wanganui Regional Council's One Plan recognises the trout spawning value of the Rangitikei River and its tributaries above Pokopoko Stream (just upstream of Te Papa a Tarinuku / The Narrows), the Hautapu River and its tributaries upstream of Taihape, most of the Moawhango River and its tributaries upstream of Tikirere Falls, the Whakaurekou River and its tributaries, the Kawhatau River and its tributaries, the Mangamako Stream, the Makohine Stream, and the Pourewa Stream³⁹⁵.

5.3 Direct Crown involvement with introduced fish

The Central North Island (including Lake Taupo) has traditionally been an anomaly so far as introduced fish management has been concerned. There was no acclimatisation society, and instead, in 1907, the Crown assumed the role normally filled by acclimatisation societies, regulating trout fishing, issuing licences, and operating a fish hatchery at Turangi. The Crown agency carrying out this task was the Wildlife Service of Department of Internal Affairs up to 1987, and was then the Department of Conservation up until 1990. The Central North Island Conservancy Council, an advisory body whose members were nominated by angling clubs in the district to work with Wildlife Service, was established in 1976.

The very upper reaches of the Rangitikei River were included in the district managed by the Crown because they had traditionally been part of Taupo County. The boundary between the Crown district and the Wellington Acclimatisation Society's district cut arbitrarily across the catchment along the boundary between Taupo and Rangitikei Counties, crossing the Rangitikei River near its confluence with Waingakia Stream³⁹⁶. There was a small adjustment to the boundary made at the time the Tongariro Power Development was constructed, to make the Moawhango Dam the boundary on the Moawhango River, so that Lake Moawhango and the catchment above the lake was in the Crown-managed district, and the Moawhango River below the dam was in the Wellington Acclimatisation District.

It was as a result of the Crown management responsibility in the Central North Island that the Wildlife Service took an active interest in the Tongariro Power Development as it was being planned by the Ministry of Works in the early 1960s. The understandings reached with the Ministry at that time, so far as the Rangitikei catchment is concerned, are discussed in the

³⁹⁵ K McArthur and J Lambie, *Recreational fishing and spawning values in the Manawatu-Wanganui region: technical report to support policy development*, Manawatu-Wanganui Regional Council, May 2007, pages 29-30. Supporting Papers #7267-7301 at 7295-7296.

³⁹⁶ *New Zealand Gazette* 1972 pages 2690-2691. Supporting Papers #3099-3100.

chapter on hydroelectric power generation. The key feature of the Wildlife Service involvement was a prioritisation of introduced trout over indigenous fish. In order to protect the Lake Taupo trout fishery, Wildlife Service insisted that action should be taken to ensure that eels from the Rangitikei catchment were not allowed to travel through the tunnel between Lake Moawhango and the Tongariro River. To achieve this, Lake Moawhango had to be kept eel-free, which required an obstruction to their upstream passage to be built below the Moawhango Dam. This line of thinking, that eels were a threat to trout populations, prevailed before the research by Burnet in the late 1960s (discussed earlier in this chapter) became known. However, despite the new knowledge, Wildlife Service still insisted on the installation of the eel barrier on the Moawhango River in the late 1970s. The prominent freshwater fisheries scientist Bob McDowall has described the Wildlife Service's fears that eels in Lake Taupo would decimate the trout fishery there as "paranoia ruling, rather than reason"³⁹⁷.

While the Lake Taupo fishery was its priority, Wildlife Service was also active in the upper reaches of the Rangitikei catchment. It undertook a wildlife and fisheries survey of Owhaoko block in 1982, at a time that Forest Service was negotiating with Tuwharetoa Maori Trust Board for a lease of the former Owhaoko Gift Blocks. While the majority of the survey area was in the Ngaruroro catchment, the area covered did include the Mangamaire Stream and Waingakia Stream catchments, tributaries of the Rangitikei River. Rainbow trout were sighted in Mangamaire Stream, and spawning gravels were said to be "of excellent quality and abundant":

The Mangamaire Stream has the physical attributes of excellent angling water, and the change in the character of the stream over the lower 18km is aesthetically pleasing. It is not known whether mature trout remain to feed in the Mangamaire after spawning, or whether the trout population density is sufficient to attract anglers. A survey during spring/summer would be essential to assess the potential of this stream for angling, and also its importance as a nursery area for fry and juvenile trout.³⁹⁸

The adjoining Waingakia Stream was less attractive to anglers:

Spawning facilities are fair to good, improving with distance upstream. Rearing habitats in the lower end of the section are only fair (absence of pools and cover), but are good in the upper reaches.

³⁹⁷ RM McDowall, *Ikawai, freshwater fishes in Maori culture and economy*, Canterbury University Press, 2011, page 156.

³⁹⁸ A preliminary survey of the wildlife and fisheries value of the Owhaoko block, May 1982, page 9, attached to Director Wildlife Service to Conservator of Forests Wellington Conservancy, 18 August 1982. Forest Service Wellington Conservancy file 9/51/3/1. Supporting Papers #2653-2711 at 2666.

The Waingakia is not suitable for angling, being too small, swift and unstable lower down, and lacking adequate holding pools for larger fish. Its main value to the Rangitikei fishery may be as a source of recruitment to the trout population.³⁹⁹

Besides the Owhaoko survey, Wildlife Service cooperated with Wellington Acclimatisation Society in 1983-1986 to establish and operate a fish trap at Springvale, where the Napier-Taihape Road crosses the Rangitikei River, for the trapping and tagging of trout, in order to gain some understanding of the movement of trout in the river. The results of the tagging showed the interconnectedness for the rainbow trout population of the part of the Rangitikei River administered directly by the Crown and the part downstream administered by the Wellington Acclimatisation Society⁴⁰⁰. It therefore demonstrated that the administrative boundary between the two districts was both artificial and not fit for purpose so far as fisheries management was concerned.

Wildlife Service also defended the needs of anglers against attempts by Forest Service, as part of its State Forest Parks management, to restrict helicopter access, because the isolation of the upper catchment meant that helicopters were the main means of access to a highly valued wilderness fishery. This has been discussed in another research report⁴⁰¹. However, the location of the nearest Fisheries Officer in Turangi, and of more senior staff in Taupo and Rotorua, meant that, overall, the headwaters of the Rangitikei catchment were in an isolated corner of the Crown's Central North Island district, and were always a low priority for Wildlife Service's fisheries management activities.

With the passing of the Conservation Law Reform Act in 1990, direct Crown management of introduced fish species and fishing in the Rangitikei catchment ceased. While the Crown has continued to be directly involved with the Lake Taupo catchment and its trout fishery, the upper reaches of the Rangitikei catchment were added to the Wellington region and have

³⁹⁹ A preliminary survey of the wildlife and fisheries value of the Owhaoko block, May 1982, page 12, attached to Director Wildlife Service to Conservator of Forests Wellington Conservancy, 18 August 1982. Forest Service Wellington Conservancy file 9/51/3/1. Supporting Papers #2653-2711 at 2669.

⁴⁰⁰ Senior Wildlife Officer Turangi to Conservator of Wildlife Rotorua, 22 February 1985; Conservator of Wildlife Rotorua to Secretary Wellington Acclimatisation Society, 6 March 1985; Resource statement by NZ Wildlife Service on freshwater fisheries values of the upper Rangitikei River, 15 March 1985, attached to Director of Wildlife to Commissioner of Works, 18 March 1985; Report on Springvale fish trap results - summer 1985, 28 August 1985; and Springvale trapping summary - 1986, undated. Internal Affairs (Wildlife Service) Taupo file 9/2/31. Supporting Papers #2727-2729; 2730-2732; 2733-2755; 2756-2766; and 2767-2782.

⁴⁰¹ D Alexander, *Environmental issues and resource management (land) in Taihape Inquiry District, 1970s-2010*, September 2015.

since then been part of the Wellington Fish and Game Council's district. This means that introduced fish in the whole of the Rangitikei catchment are now subject to a single unified management approach.

5.4 Indigenous fish and invertebrates

The reports produced in the early 1980s identified fifteen different freshwater fish species found in the Rangitikei River and its tributaries⁴⁰². Six are different galaxiid species that together constitute whitebait while in their juvenile stage. Four are *Gobiomorphus* species that go under the common name of bullies. The remaining five are shortfinned and longfinned eel, black flounder, common smelt and torrentfish. Grayling (upokororo) were present in pre-European and early settlement times, but had become extinct before the end of the nineteenth century. Lampreys (piharau) were not identified as being present in any of the published reports, though a local informant has advised that they used to be seen at Staircase falls near the junction of the Moawhango and Rangitikei Rivers⁴⁰³. The species above do not include marine species that inhabit the estuary and river mouth of the Rangitikei River, such as kahawai, yellow-belly flounder and mullet.

Both species of tuna (eel) have been and still are important to Rangitikei River Maori as a food source. Whitebait are harvested along the banks of the tidal waters at the mouth of the river. Smelt were traditionally fished in the same manner as described in the literature as occurring on the Whanganui River⁴⁰⁴, using stone-walled weirs to trap them. Smelt fishing occurred upstream at least as far as the junction of the Rangitikei and Hautapu Rivers⁴⁰⁵. Hicks and Watson wrote in 1985:

Smelt are the basis for a traditional Maori fishery in the Rangitikei when they migrate upstream in shoals during spring.... Smelt are dried and used as food during winter. The Rangitikei smelt fishery is used less than it was, but up to 50-60 local Maoris still fish for smelt.⁴⁰⁶

The status of the smelt fishery today, thirty years later, is not known.

⁴⁰² BJ Hicks and NRN Watson, *Fish and fisheries of the Rangitikei River, New Zealand*, Ministry of Agriculture and Fisheries, Fisheries Research Division, Wellington, Occasional Publication No. 48, 1985, Appendix 1. Supporting Papers #6267-6297 at 6293.

⁴⁰³ Ngahapeaparatu (Hape) Lomax, personal communication, November 2011.

⁴⁰⁴ N Hubbard, 'The Wanganui smelt fishery', in *Freshwater Catch*, No. 4, 1979, pages 10-11. Not included in Supporting Papers.

⁴⁰⁵ Ngahapeaparatu (Hape) Lomax, personal communication, November 2011.

⁴⁰⁶ BJ Hicks and NRN Watson, *Fish and fisheries of the Rangitikei River, New Zealand*, Ministry of Agriculture and Fisheries, Fisheries Research Division, Wellington, Occasional Publication No. 48, 1985, page 21. Supporting Papers #6267-6293 at 6286.

Patiki (black flounder or river flounder) is perhaps the most emblematic of the Rangitikei River fishes. A patiki was one of Tamatea Pokai Whenua's mokai (pets) left behind (at the confluence of the Rangitikei and Hautapu Rivers) during his wanderings in the Rangitikei valley as an expression of his rangatiratanga. Patiki are represented in tukutuku panels. A fisheries report in 1982 singled out for special mention the Rangitikei River and the Grey River (on the West Coast of the South Island) for the "considerable distance upstream" that patiki venture in those two rivers⁴⁰⁷. However, the rarity of recorded sightings means that the significance of the Rangitikei River for this species gets discounted and virtually ignored by the scientific community and resource management regulators.

In 1985 Kroos reported:

Native fish are located at 24 out of 39 sites that were electric fished in the Rangitikei River and its tributaries. Though only limited areas and habitats were fished, results indicate that longfinned eels were the most abundant native species. Next most abundant native species were, in order, Cran's bullies, shortfinned eels, and upland bullies. Torrentfish, koaro and red-finned and common bullies were also located and identified.⁴⁰⁸

Besides fish species, koura (freshwater crayfish) and kakahi (freshwater mussel) inhabit Rangitikei catchment waterways, and are important as food species for tangata whenua. Koura are another of Tamatea Pokai Whenua's mokai, left by him as a guardian at Tikirere Falls near Moawhango.

5.5 Crown and local authority involvement with indigenous fish

While the Crown has assumed kawanatanga authority for all fish and fishing, and the legislation confers on the Crown an ability to become involved with any fish or shellfish species, it has been and continues to be selective about when it chooses to do so.

⁴⁰⁷ LD Tierney, MJ Unwin, DK Rowe, RM McDowall and E Graynoth, *Submission on the draft inventory of wild and scenic rivers of national importance*. Ministry of Agriculture and Fisheries, Fisheries Environmental Report No. 28, November 1982, page 69. Supporting Papers #6203-6266 at 6248.

Separately, McDowall noted in 1978: "I have unconfirmed reports of black flounders about 70 km up the Rangitikei River in the vicinity of Hunterville, about 60 km up the Clarence River in North Canterbury, and in the headwaters of the Grey River, close to Springs Junction". RM McDowall, *New Zealand freshwater fishes: a guide and natural history*, Heinemann Educational Books (NZ) Ltd, Auckland, 1978, page 171.

⁴⁰⁸ Evidence of TP Kroos in support of Application for a Water Conservation Order for the Rangitikei River, March 1985, page 10, attached to Morpeth Gould & Co, Barristers, Solicitors and Notaries Public, Auckland, to National Water and Soil Conservation Authority, 15 January [sic, should be March] 1985. Works and Development Head Office file 76/327000. Supporting Papers #1648-2026 at 1674.

However, the Crown has not seen fit within its management regimes to allow Maori to exercise rangatiratanga where the Crown is not actively exercising its own authority. Instead, between 1983 and 1990, the Crown allowed another organisation to fill the vacuum. Section 71 Fisheries Act 1983 set out that acclimatisation societies shall among other things be responsible for “the conservation of all indigenous freshwater fish species and their habitats” in their respective districts. This section was repealed by the Conservation Law Reform Act 1990, when the acclimatisation societies were stripped of their responsibility for all indigenous freshwater fish species, and “to preserve so far as is practicable all indigenous freshwater fisheries” was added to the Department of Conservation’s functions⁴⁰⁹.

Within the Crown’s indigenous freshwater fisheries management regime, there is a division between commercial and non-commercial species. Administration and management of the harvesting of commercial species is undertaken by the Ministry of Primary Industries; at the present time there are only two commercially harvested freshwater species, longfinned eel and shortfinned eel, though the legislation makes it possible for additional species to become managed in this manner. All aspects of non-commercial freshwater species, and the conservation and protection of the two commercial eel species and their habitat, are administered and managed by the Department of Conservation. The Wanganui Conservancy Conservation Management Strategy, which was approved in 1997, records that “the maintenance of fish passage is a national priority for the Department”⁴¹⁰.

It is as a result of taking on the indigenous freshwater fish preservation function that the Department of Conservation has been active since 1990 in advocating and promoting the habitat requirements of the bullies, mudfish, and the adult forms of the whitebait species in particular. This is because such species are regarded as nationally threatened, due to low population numbers. The Conservation Management Strategy explained that information about indigenous fish in the Wanganui Conservancy was sparse, requiring additional inventory work to establish distribution patterns:

Much of the current knowledge on native fish in this Conservancy has been based on one-off surveys or incidental sightings which only indicate whether species are present or not. This type of inventory will continue. However, where records of threatened species such as mudfish, short-jawed and giant kokopu are established, or significant spawning sites for whitebait species are identified, more intensive

⁴⁰⁹ Section 4 Conservation Law Reform Act 1990, inserting Section 6(ab) Conservation Act 1987.

⁴¹⁰ Department of Conservation, *Wanganui Conservancy conservation management strategy, 1997-2007*, approved April 1997, Section 22.3.2(f), page 222. Supporting Papers #6326-6331 at 6329.

quantitative assessments of population size will be undertaken. Information gathered on populations of particular species (e.g. brown mudfish) will then be used in the establishment of management programmes and/or habitat protection.⁴¹¹

One of the implementation statements in the Conservation Management Strategy was that the Department would “consult Tangata Whenua on the management and enhancement of culturally significant species such as inanga, lamprey, eel and koura”⁴¹².

The Department’s active concern for rare and threatened indigenous fish species has been provided with an opportunity for implementation under the Resource Management Act 1991. This statute anticipates that promoting the sustainable management of natural and physical resources (Section 5(1)) will require action to safeguard aquatic ecosystems (Section 5(2)(b)), to protect the habitats of indigenous aquatic fauna (Section 6(c)), and in particular to protect the habitat of salmon and trout (Section 7(h)), among other matters. The advocacy of the Department of Conservation is apparent in the measures taken by regional and local government in their respective planning documents to develop policies and rules catering for the needs of indigenous fish and other species in the aquatic ecosystem such as whio (blue duck).

In a report to Manawatu-Wanganui Regional Council in 2007, it was stated:

Historically, native fish have been given scant regard within Horizons’ Plans. Whitebait fisheries, trout fisheries, inanga and trout spawning sites of reaches have had specific policies and rules relating to their protection within the current suite of Regional Plans. However, aquatic biodiversity and the habitat requirements of rare and threatened native fish species have never been specifically dealt with.

This document is part of a series of water-resource focused technical reports prepared to support the development of new water management policy. This policy will be incorporated into Horizons’ second-generation ... combined Regional Plan and Policy Statement (the One Plan).⁴¹³

The report then went on to consider the requirements of various freshwater fish species, plus three other freshwater-inhabiting species, koura (freshwater crayfish), kakahi (freshwater mussel), and whio. From that assessment it identified sites of significance on the Rangitikei

⁴¹¹ Department of Conservation, *Wanganui Conservancy conservation management strategy, 1997-2007*, approved April 1997, section 22.3.2(e), page 221. Supporting Papers #6326-6331 at 6328.

⁴¹² Department of Conservation, *Wanganui Conservancy conservation management strategy, 1997-2007*, approved April 1997, section 22.3.3(x), page 223. Supporting Papers #6326-6331 at 6330.

⁴¹³ K McArthur, M Clark and J McGehan, *Sites of significance for aquatic biodiversity in the Manawatu-Wanganui Region: technical report to support policy development*, Manawatu-Wanganui Regional Council, May 2007, page 1. Supporting Papers #7244-7266 at 7248.

River and its tributaries for aquatic biodiversity, which needed protective policies and rules in the Regional Council's One Plan⁴¹⁴. The species in Rangitikei catchment waterways that it identified as worthy of requiring protected sites were:

Table 4: Sites of Significance for aquatic biodiversity in Rangitikei catchment waterways

Species	Proposed Protected Sites
Whio	Rangitikei River above Otamateanui Stream Mangamarie River Otamateanui Stream Mangatera / Waikotore / Maropea / Waikakamaka Rivers (all tributaries of the Whakaurekou River) Kawhatau River above Hikurangi Stream
Dwarf galaxias	Porangaki River Hikurangi Stream
Redfin bully	Porangaki River Rangitikei River
Shortjaw kokopu	Mangawharariki River
Brown mudfish	Tutaenui Stream
Giant kokopu	Forest Road wetland

This list is noteworthy for its emphasis on species that have been of particular interest to the Department of Conservation, and for its identification of sites in still-forested tributaries. Species of particular significance to Maori as sources of food are conspicuously absent.

The remainder of this section examines non-Maori involvement with three indigenous species (whitebait, tuna and patiki) on the Rangitikei River and its tributaries.

5.5.1 Inanga

Harvesting of inanga (whitebait) tends to have been subject to more oversight by the Crown over a longer period of time than other indigenous fish. This is undoubtedly because of the ease with which whitebait could be and were harvested by Europeans. Whitebait fishing was included in general fishing regulations in 1906⁴¹⁵, and became the subject of national regulations specifically about the whitebait fishery in 1908⁴¹⁶ and 1910⁴¹⁷. There was a

⁴¹⁴ K McArthur, M Clark and J McGehan, *Sites of significance for aquatic biodiversity in the Manawatu-Wanganui Region: technical report to support policy development*, Manawatu-Wanganui Regional Council, May 2007, pages 81-82. Supporting Papers #7244-7266 at 7265-7266.

⁴¹⁵ *New Zealand Gazette* 1906 pages 1381-1385. Not included in Supporting Papers.

⁴¹⁶ *New Zealand Gazette* 1908 page 2583. Supporting Papers #3033.

⁴¹⁷ *New Zealand Gazette* 1910 page 3417. Supporting Papers #3036.

certain amount of confusion among local fishers, as separate and different regulations for whitebaiting on the Manawatu River and its tributaries were in force⁴¹⁸, while whitebaiting on the neighbouring Rangitikei River continued to be subject to the national regulations. In 1932 the Rangitikei River was singled out for special treatment when, as part of a rewrite of national whitebait regulations, a prohibition was placed on whitebait fishing along Amons Drain, near Scotts Ferry, in the belief that this was such an important spawning site that the Rangitikei whitebait fishery was heavily dependent upon it⁴¹⁹. The Crown file concerned with this special treatment of the Rangitikei River provides a window into the state of whitebait fishing at the mouth of the river at that time. It covers the period 1927 to 1938, and therefore includes the depression years when many unemployed would have tried their hand at fishing.

In September 1927 the Chairman of the Marton Branch of the Wellington Acclimatisation Society wrote to the Marine Department about his concern that whitebait at the mouth of the Rangitikei River were being overfished:

At the present rate of taking whitebait and flounders, it will not be long before both are things of the past as regards the Rangitikei. Whitebait are taken with set nets, most of them having an open surface of about nine square feet, and also with hand nets. Flounder nets are set from the mouth of the river to about three miles as the river winds from the north.

Would it be possible to close the Rangitikei River for the taking of whitebait and flounders for a year?⁴²⁰

The following month he wrote again:

To my own knowledge, races are made of stones in the Rangitikei River, and whitebait are taken from them. I also hear on good authority that one man is placing several nets starting from the bank, placing them alongside of each other on into the river, and the consequence is that he is getting practically all the whitebait that pass up that side of the river, and those that are fishing in a legitimate manner are not averaging a good feed. The man with the number of nets was seen with four kerosene tins of whitebait.⁴²¹

⁴¹⁸ *New Zealand Gazette* 1910 page 10, as amended by *New Zealand Gazette* 1922 page 1744. Not included in Supporting Papers.

⁴¹⁹ *New Zealand Gazette* 1932 pages 2086-2088. Supporting Papers #3072-3074.

⁴²⁰ Chairman Marton Branch Wellington Acclimatisation Society to Secretary for Marine, 27 September 1927. Marine Head Office file 2/10/25. Supporting Papers #624.

⁴²¹ Chairman Marton Branch Wellington Acclimatisation Society to Secretary for Marine, 14 October 1927. Marine Head Office file 2/10/25. Supporting Papers #625.

In July 1928, the Chairman sent a further letter to the Marine Department, advising that a meeting of the Marton and Hunterville Branches had passed a resolution asking that the use of set nets be prohibited, and dip nets only be allowed:

At any time during the whitebait season from the mouth to as far up the river as Parewanui, a distance by river of about 8 miles, both sides of the river are lined with ladies and gentlemen using dip nets, and very rarely do they catch enough for a feed; owing to men who camp on the river with set nets, sometimes controlling more than one set net and using a dip net as well, practically getting all the fish that come up the river.

These nets are all set where the whitebait run close to the bank of river, owing to the set of the current. Set nets are also used when the river is too discoloured to use dip nets, so few whitebait escape, that the runs of inangas during March on their way to the mouth to spawn have practically disappeared; a few years back it was quite common to see the waters broken for a hundred yards with one shoal.

To my knowledge last year, Maori took 8½ tins of whitebait during one day, and all those situated higher up the river did not obtain a total of 4 tins, the Maori controlled two set nets and a dip net as well.

My Society thinks the time is also approaching when in the interests of the District who like a day on the river in the hopes of catching a feed of whitebait, that it should be illegal for whitebait to be taken from the Rangitikei River for sale, and that to give the whitebait a chance to increase the river should be closed for the taking of whitebait once in every three years.

The main run of whitebait in the Rangitikei River is from the middle of August to the end of November....

With regard to flounders, the only reason for making a closed season is that people taking flounders will in most cases not return the small flounders to the river, they do not sell them, eating them themselves or giving them to their friends. The average size of the flounders taken in the river has suffered a considerable drop in the last 3 years.⁴²²

He added that two Acclimatisation Society honorary rangers lived near the river and might be able to assist with ranging duties.

The Chief Inspector of Fisheries was asked for his comments. He advised that the regulations did not permit set nets, though they were out of date and overdue for revision (by him)⁴²³. The Secretary for Marine then replied that the Marine Department would be willing to appoint the honorary rangers as Inspectors of Fisheries if they were agreeable. Regulations

⁴²² Chairman Marton Sub-Committee Wellington Acclimatisation Society to Secretary for Marine, 27 July 1928. Marine Head Office file 2/10/25. Supporting Papers #626.

⁴²³ Chief Inspector of Fisheries to Secretary for Marine, 2 August 1928. Marine Head Office file 2/10/25. Supporting Papers #627.

would be drafted shortly, though “the question is a complicated one, due to so many different conditions existing in respect of different rivers”⁴²⁴. As a result of this offer Alexander Amon was appointed an Inspector of Sea-fishing in August 1928⁴²⁵.

Amon’s appointment and subsequent activity as an inspector created some ripples in the local community. There were complaints that he had threatened to prosecute several whitebaiters⁴²⁶, and a petition was drawn up by 86 persons who lived on the Feilding and Tangimoana side of the river. None were identifiable by their names as being Maori. The petition asked for the ban on set nets to be lifted, giving three main reasons:

- Set nets were allowed by the Manawatu River regulations, and the two rivers were similar.
- The Rangitikei River was frequently discoloured and affected by surface ripples, making it impossible to see the whitebait.
- Set nets had been used on the Rangitikei River for many years without the ban on their use there being enforced⁴²⁷.

No action was taken on the petition after Amon advised that he had not threatened to take proceedings, though he had drawn attention to the ban on set-netting at the beginning of the season and had not since then detected any breaches⁴²⁸.

Subsequent remarks suggest that use of set nets did not cease in 1928. Three years later further advice was received about the state of the whitebait fishery:

During last (i.e. 1930) season only 1/10 the quantity of whitebait was taken as in the preceding year. It is very sad that the whitebait are being decimated to such an extent that very few that enter the Rangitikei River grow into inanga. And as long as set nets are allowed, conditions will become worse. Before the arrival of set nets in the Rangitikei, hundreds of people could be seen lining the river with hand nets (which had at the outside a diameter of 2ft 6 inches), and most of them secured enough whitebait to make the day a profitable and enjoyable one. Now a good many persons fish with set nets and those who fish with hand nets get nothing. Also owing to the swiftness of the river some positions are a lot better than others; especially where

⁴²⁴ Secretary for Marine to Chairman Marton Sub-Committee Wellington Acclimatisation Society, 13 August 1928. Marine Head Office file 2/10/25. Supporting Papers #628.

⁴²⁵ *New Zealand Gazette* 1928 page 2731. Supporting Papers #3063.

⁴²⁶ Minister of Marine to Secretary of Marine, 1 October 1928. Marine Head Office file 2/10/25. Supporting Papers #629.

⁴²⁷ Petition to Minister of Internal Affairs, 3 October 1928, attached to Power and Mason, Solicitors, Feilding, to Under Secretary of Internal Affairs, 4 October 1928. Marine Head Office file 2/10/25. Supporting Papers #630-635.

⁴²⁸ Chairman Marton Sub-Committee Wellington Acclimatisation Society to Secretary for Marine, 6 October 1928. Marine Head Office file 2/10/25. Supporting Papers #636.

there is a strong set of the river into the bank. Those in that fortunate position allow practically no whitebait to pass them.⁴²⁹

A departmental official's comments about the continued use of set nets, despite the ban on their use, were:

Mr Amon was appointed Inspector of Fisheries under Part I of the Act with the special object of enforcing this regulation [banning set nets], but apparently conditions have been too difficult for him. (I am afraid the Department has not been able to give him as much help and guidance as was desirable.)⁴³⁰

As a restorative measure, Amon was willing to allow a drain on his property to be closed to whitebait netting:

Until recently, Mr Amon says, that in March and early April the inanga come down the river and from Awamate Lagoon and spawned in the drain, the milt from the fish discolouring the water.

Mr Amon would like his drain closed for whitebait netting and has tried to do so himself, but the road to the beach crosses over his drain and he has no control over that portion....

The drain catches the water for, I should say, seven miles, passing thorough swamps and Awamate Lagoon (which lagoon is over a mile long by about 200 yards in width). The drain is about 2 miles from the mouth of the river, and there is a good rise and fall with the tides in the drain. There is no other creek or drain on the Rangitikei River from Bulls to the mouth that the whitebait enter.⁴³¹

A Marine Department official had visited Amon earlier, and provided a report about the value of the drain:

From what Mr Amon told me when I visited him about six months ago, ... it is quite evident that serious depletion of stock has occurred in this river.

If there are no sanctuaries above the Awamate Lagoon or above Bulls, this lagoon then provides the sole sanctuary, and harbours the entire stock of fish which it would appear is solely responsible for the run of bait in this river.

Assuming this to be the correct diagnosis of the situation, all bait entering the river will naturally seek the Awamate Sanctuary, the only means of access being by way of the drain referred to.

Indiscriminate and uninterrupted set-net fishing in this drain would eventually result virtually in the extermination of at least a run of commercial proportions.

⁴²⁹ Chairman Marton Sub-Committee Wellington Acclimatisation Society to Secretary for Marine, 19 August 1931. Marine Head Office file 2/10/25. Supporting Papers #637-638.

⁴³⁰ Chief Inspector of Fisheries to Secretary of Marine, 25 August 1931. Marine Head Office file 2/10/25. Supporting Papers #641-643.

⁴³¹ Chairman Marton Sub-Committee Wellington Acclimatisation Society to Secretary for Marine, 19 August 1931. Marine Head Office file 2/10/25. Supporting Papers #637-638.

Whatever the facts are, fishing should be immediately closed in this drain (as well as drains in all rivers) and it is apparent that it would be desirable to close the whole river for at least two years.⁴³²

Nothing was done that year, while awaiting the drawing up of new whitebait regulations.

Whitebait seasons are variable, and on 26 March 1932 Amon “saw the finest shoal of inangas going down the river towards the mouth that he has seen for some years”. The shoal was “over 50 yards long, two feet wide, and several inches deep”. He also “saw a large number going down his drain”. This sighting is to be compared with the 1931 whitebait season, which was “a very poor one”, as “the river was in flood when the main run was on”. A further observation was that in 1931 whitebait were seen “several miles above the Bulls Bridge, which has not happened for years”⁴³³.

The revised whitebait regulations were eventually produced in September 1932⁴³⁴. By the time they were distributed and acted upon, it was probably too late for them to be applicable to that year’s whitebait season. They retained the ban on set netting on the Rangitikei River, though allowed set netting to continue on the “Manawatu River and its tributaries, but excluding any artificial drains flowing thereinto”. There were just two areas in the whole of New Zealand where whitebaiting was prohibited, one on the Rangitikei River, and the other on the Manawatu River:

24. No person shall take or fish for whitebait with any kind of net or trap whatsoever in the waters named hereunder:

- (1) The drain or stream known as Amon’s Drain, which flows into the Rangitikei River on the north side about two miles from its mouth, and the Rangitikei River within one chain on either side of its confluence with the said drain.
- (2) The drain or stream known as Whakapuni Drain, which flows into the Manawatu River on the north side near its mouth, and the Manawatu River within one chain on either side of its confluence with the said drain.

Perhaps predictably given the past history of whitebaiting on the Rangitikei River, the continued ban on set nets attracted opposition. A petition was sent to the Minister of Marine in September 1933. It was signed by 63 persons, none of them identifiable by their names as being Maori. It stated:

⁴³² Captain Hayes to Chief Inspector of Fisheries, 24 August 1931. Marine Head Office file 2/10/25. Supporting Papers #639-640.

⁴³³ Chairman Marton Sub-Committee Wellington Acclimatisation Society to Secretary for Marine, 8 April 1932. Marine Head Office file 2/10/25. Supporting Papers #644-645.

⁴³⁴ *New Zealand Gazette* 1932 pages 2086-2088. Supporting Papers #3072-3074.

In the Rangitikei little can be done by the use of scoop nets, the bait are extremely difficult to see on the majority of days when the season here is in its flush.

Towards the middle of October and the early part of November is the only period of the season in this river in which whitebait can be caught in any quantity, as past seasons have proved, and during these months little can be done by the aid of scoop nets owing to the roughened state of the water caused by the high winds which rage at this time of the year. The bait are difficult to detect.

Hand nets are allowed in the Rangitikei, but along its high banks one has only to try these to ascertain the difficulty of their manipulation, a bank for instance three or four feet above water level, imagine the task of holding the net to the correct elevation, especially too when the water is at such a depth that you have no bottom on which to steady the net.

Holding a net in this position is no easy matter to accomplish. A set net could be adjusted to suit the situation, and in our opinion these nets are the best suited for this river, and we ask that we may be granted the use of these nets for the remainder of the season. The majority of the fishermen here are unemployed, and if this request was granted it would be of some assistance to them.⁴³⁵

In commenting on the petition, the Chief Inspector of Fisheries referred to three objections to the use of set nets provided by Amon when the Chief Inspector made his sole visit to the Rangitikei River in June 1932:

- (1) That since set nets had been in use the whitebait supplies had seriously diminished.
- (2) With hand nets a considerable number of people obtained a share of the fishing which was of the nature of a sport for men, women and children.
- (3) The current of the Rangitikei being rather swift, in some places the ascending shoals of whitebait were obliged to hug the shore and thus fell an easy prey to a set net. He quoted instances where a well-placed set net was apparently cleaning up the whole run and allowing none to be caught by people fishing higher up the river.

In the interests of “the conservation of the fishery” the Chief Inspector did not support the use of set nets on the Rangitikei River, adding:

One feels that sympathy is due to unemployed men who are anxious to make a little money from the sale of whitebait. However, since the number of signatures is over 60, it seems pretty certain that only a small proportion could make much profit; that if they all caught fish in quantity it would be detrimental to the future stocks; and in all probability there would be more dissension over competition for the best positions.⁴³⁶

⁴³⁵ Petition to Minister of Marine, 18 September 1933. Marine Head Office file 2/10/25. Supporting Papers #646-648.

⁴³⁶ Chief Inspector of Fisheries to Secretary of Marine, 6 October 1933. Marine Head Office file 2/10/25. Supporting Papers #649-650.

The Acting Secretary of Marine agreed, and advised the Minister of Marine accordingly, who then approved the recommendation to decline the request of the petitioners to allow set nets⁴³⁷.

However, the use of set nets continued, and Amon advised during the 1935 season that:

I have been having a little trouble with set nets in the Rangitikei River. I have warned those catching whitebait. Many of them plead hard times and promise not to offend again, but do not honour their word. I think some action should be taken, and I suggest that a summons be issued against the worst offender.⁴³⁸

The Chief Inspector of Fisheries replied on behalf of the Secretary of Marine:

Whitebait regulations, like other fishing regulations, are made to be enforced. It is only the unfortunate inadequacy of supervision and ranging in some districts that has permitted illegal methods to be carried on with impunity in so many cases. Sometimes offenders have not known the regulations, but I do not think that excuse should have any weight with regard to Rangitikei whitebaiting....

My own view is that anyone who has been warned about fishing illegally should be prosecuted if he continues to do so.⁴³⁹

His remarks highlight that although the Crown had the resources to prepare regulations in an office in Wellington, it was unwilling to provide the resources needed to engage in a dialogue with hapu, and to enforce the regulations on individual rivers around the country. This was not just applicable to whitebaiting, but to fisheries generally. While this situation continued, the Crown's ability to actively protect hapu interests in river fisheries was severely limited.

Another petition was sent to the Minister of Marine in October 1936. It was signed by 27 persons, mostly from Tangimoana. None were identifiable by their names as being Maori. They asked for the season to be extended from mid-November to mid-December, as the whitebait were running later than in other years⁴⁴⁰. Their request was declined⁴⁴¹.

⁴³⁷ Acting Secretary of Marine to Minister of Marine, 17 October 1933, approved by the Minister 18 October 1933, and Minister of Marine to C Martin, Tangimoana, 17 October 1933. Marine Head Office file 2/10/25. Supporting Papers #651 and 652.

⁴³⁸ AW Amon, Bulls, to Secretary of Marine, 16 October 1935. Marine Head Office file 2/10/25. Supporting Papers #653.

⁴³⁹ Secretary of Marine to AW Amon, Bulls, 21 October 1935. Marine Head Office file 2/10/25. Supporting Papers #654.

⁴⁴⁰ Petition to Minister of Marine, undated (received 28 October 1936). Marine Head Office file 2/10/25. Supporting Papers #655-658.

⁴⁴¹ Minister of Marine to TM Fitzgerald, Tangimoana, 11 November 1936. Marine Head Office file 2/10/25. Supporting Papers #659.

The final act on the Crown file was to the effect that the District Inspector of Fisheries, a fulltime Crown official based in Wellington, rather than an honorary inspector, had visited the Rangitikei River mouth and confiscated seven set nets⁴⁴². Despite all the Crown efforts over the previous ten years, the practice of using set nets had not been stamped out. While the Crowns may have believed that to allow set nets would have tipped the balance so that fishing became overfishing, local fishers could not understand why whitebaiting on the Rangitikei River should be treated differently to whitebaiting on the Manawatu River. In the absence of enforcement of the regulations, and because there was no apparent education of the fishers by the Crown, the practice persisted.

A reading of the Crown's record between 1927 and 1938 suggests that Europeans dominated the whitebait fishery on the Rangitikei River. Whether that is a true reflection of the circumstances at the time, or whether Maori also fished for whitebait, is not known. It is possible that those who gathered signatures on the various petitions relied only on their own immediate networks and associates. While it seems unlikely that whitebait fishing was an exclusively European activity, Rangitikei River Maori were virtually invisible to the Crown and were not consulted about the new whitebait regulations in 1932.

One possible implication to draw from the existence of a Crown file about whitebait fishing at the mouth of the Rangitikei River between 1927 and 1938 is that at other times both before and since that period the Crown interest was less intense. That has not been verified during the research for this report. However, it may well be that as long as there were no obvious problems or disputes, the Crown did not see any need to intervene, beyond setting regulations with nationwide application. The regulation of whitebait harvesting has continued up to the present day, with in recent times the Whitebait Fishing Regulations 1981, Whitebait Fishing Regulations 1991, and the Whitebait Fishing Regulations 1994.

There may have been occasional visits to the rivermouth by officers of the Fisheries Branch of the Marine Department in later years, though how frequent they were is not known. One visit occurred in September 1962, and resulted in the Fisheries Officer contacting the Ministry of Works:

⁴⁴² District Inspector of Fisheries Wellington to Chief Inspector of Fisheries, 18 October 1938. Marine Head Office file 2/10/25. Supporting Papers #660.

He had been met by irate residents who objected to notices erected by Rangitikei [Catchment Board] to the effect that “boating, whitebaiting or thoroughfare within the fenced area is prohibited; trespassers will be prosecuted”.

As far as Ellis knew, no application had been made to Marine Department.⁴⁴³

The inquiry was passed to the Rangitikei Catchment Board, which replied to the Marine Department that the notices had been erected on recreation reserve and private land:

I would firstly like to assure you that any neglect on our part to seek approval of your Department was an oversight. We considered that because our interest was entirely in the river bank, and its protection with works which are almost entirely above mean sea level, that by gaining of sanction from the adjoining property owners we had met the necessary legal and courtesy requirements for such a case. It is now clear to me that we have erred to some degree in mentioning boating and whitebaiting on the notices. What was intended was restriction across the area between the fence and the water’s edge where our works are situated.⁴⁴⁴

The matter is symptomatic of the single-objective nature of the Catchment Board’s flood protection activities, which ignored the whitebait fishery at the mouth of the Rangitikei River in favour of implementing whatever was necessary to control the river and the erosion of its banks.

The Whitebait Fishing Regulations 1994⁴⁴⁵, in force today, are issued under the Conservation Act 1987 and are administered by the Department of Conservation. The Department’s management interest is primarily focused on enforcement of the provisions of the regulations, with harvesting sites being visited to check that fishers are complying with the regulations. The Wanganui Conservancy Conservation Management Strategy, approved in 1997, did not single out the Rangitikei River for particular attention in the three paragraphs it rather perfunctorily devoted to whitebait:

The whitebait run is made up of the juveniles of six species of native fish (five galaxiids and smelt). Whitebait fishing is an important recreational and cultural activity throughout the Conservancy and is managed by the Department through the provisions of the Whitebait Regulations 1994 and the Freshwater Fisheries Regulations 1983.

The Mokau River in North Taranaki is the only river in the Conservancy where permanent stands are authorised. Whitebait stands are necessary to cater for the large number of people wishing to fish this river, and to help protect the riverbanks from undue erosion.

⁴⁴³ File note, 6 September 1962. Works and Development Head Office file 96/327000. Supporting Papers #2324.

⁴⁴⁴ Chief Engineer Rangitikei Catchment Board to Secretary for Marine, 14 September 1962. Works and Development Head Office file 96/327000. Supporting Papers #2325-2326.

⁴⁴⁵ Statutory Regulations 1994/65. Not included in Supporting Papers.

Little is known about the biology of many of the species that make up the whitebait catch. However, the protection of habitat through riparian management and maintenance of water quality will remain the most effective tool to maintaining the biodiversity of whitebait species and indeed all native freshwater fish. A national public awareness strategy for whitebait conservation is to be prepared.⁴⁴⁶

Changes over time in the size of the whitebait harvest on the Rangitikei River are difficult to determine, because of seasonal variability and because the individualistic nature of whitebaiters makes gathering data complicated. Numbers of fishers are usually easier to count than the weight of the catch. A series of recreational fishing surveys were undertaken in the early 1980s, and Kroos reported:

A maximum count of 141 whitebaiters was observed in mid-October 1980, and daily catches were highly variable, ranging from less than 1 kg to up to 30 kg. The numbers of whitebaiters using the Rangitikei River are similar to those using Rakaia, Waitaki, Waitara and Manawatu Rivers.⁴⁴⁷

He considered that “the Rangitikei, together with the Manawatu River, constitutes the most important whitebait fishery in the lower portion of the North Island”⁴⁴⁸.

The key feature about whitebait harvesting is the number of anecdotal accounts about large harvests in earlier years, by comparison to smaller catches in more recent years⁴⁴⁹. If that is truly the case, then the Crown’s management of the fishery has not been particularly successful.

The 1994 Regulations contain a provision allowing Maori to harvest whitebait for tangi and hui without regard for the restrictions set out in the regulations that normally apply, where the decision to do so has been endorsed by a Maori community organisation (usually a marae committee), notified to the Department of Conservation, and is undertaken in accordance with any conditions set by the Department that it considers are “necessary for the overall

⁴⁴⁶ Department of Conservation, *Wanganui Conservancy conservation management strategy, 1997-2007*, approved April 1997, section 22.3.2(d), page 221. Supporting Papers #6326-6331 at 6328.

⁴⁴⁷ Evidence of TP Kroos in support of Application for a Water Conservation Order for the Rangitikei River, March 1985, page 10, attached to Morpeth Gould & Co, Barristers, Solicitors and Notaries Public, Auckland, to National Water and Soil Conservation Authority, 15 January [sic, should be March] 1985. Works and Development Head Office file 76/327000. Supporting Papers #1648-2026 at 1674.

⁴⁴⁸ Evidence of TP Kroos in support of Application for a Water Conservation Order for the Rangitikei River, March 1985, page 23, attached to Morpeth Gould & Co, Barristers, Solicitors and Notaries Public, Auckland, to National Water and Soil Conservation Authority, 15 January [sic, should be March] 1985. Works and Development Head Office file 76/327000. Supporting Papers #1648-2026 at 1687.

⁴⁴⁹ As an example, *Wanganui Chronicle*, 19 September 1987. Copy on Rangitikei-Wanganui Catchment Board file 327/RS2/A. Supporting Papers #3434-3435.

conservation and management of the fishery”. This amounts to tangata whenua being required to obtain the permission of the Crown, with no apparent opportunity for tangata whenua to make or share in the making of fishery management decisions.

5.5.2 Tuna

Tuna were of little interest to the Crown prior to the 1960s. They were considered to be a Maori matter that did not affect the European population. When acclimatisation societies conducted eel drives from about the 1920s onwards to reduce the population of eels in a river because they believed that they preyed on young trout, there was no comeback from the Crown. The anecdotal evidence was accepted unquestioningly, and it was not until 1968 that Crown research was published debunking the myth (see earlier in this chapter).

At about the same time, in the 1960s, a commercial market for eel flesh developed in continental Europe. Soon commercial fishers were setting nets and traps in nearly every stream in the country. The Rangitikei River was also affected, according to the reports published in the early 1980s:

Eels have been commercially fished in the Rangitikei and its tributaries, particularly about 1978, when the best catches reputedly came from the Hautapu River. Catches in the estuary appear to have been larger than those in the middle section of the main river, and in 1979 a catch of 200-300 kg was recorded from one night’s fishing with eight nets near the estuary. Recent fyke netting in the main river between Vinegar Hill and Bulls yielded 100-200 kg from 12-15 nets set for 2 days at a time....

[A commercial marine fisherman living at Tangimoana] fished with fyke nets from October to December each year and caught from 5 to 30 eels, of both species, per set. During 60 days’ fishing in one year, he caught about 600 eels, which usually weighed between 500 and 1000 g. He fished from the river mouth to about 6 km up stream.⁴⁵⁰

The existence of a commercial eel fishery resulted in it being placed under a quota management system in 2004. Whether there was any consultation with Rangitikei River hapu at that time about this new form of management is not known. The quota management system is currently administered by the Ministry of Primary Industries under the Fisheries Act 1996. Commercial eel harvesting in the Rangitikei River is placed in quota management areas LFE23 for longfinned eel and SFE23 for shortfinned eel; this area also covers the Taranaki and Whanganui regions.

⁴⁵⁰ Hicks, BJ and NRN Watson, *Fish and fisheries of the Rangitikei River, New Zealand*, Ministry of Agriculture and Fisheries, Fisheries Research Division, Wellington, Occasional Publication No. 48, 1985, page 19. Supporting Papers #6267-6297 at 6284.

Records of eel fishing in these two quota management areas are set out in the following tables⁴⁵¹:

Table 5: Longfinned eel fishery in management area LFE23 (tons/kg)

Year to 30 Sept	TAC*	Customary Allowance*	Recreational Allowance*	Other*	TACC*	Actual Commercial
2004	66	14	9	2	-	-
2005	66	14	9	2	41	25
2006	66	14	9	2	41	24
2007	66	14	9	2	41	15
2008	34	14	9	2	9	7
2009	34	14	9	2	9	3
2010	34000	14000	9000	2000	9000	5833
2011	34000	14000	9000	2000	9000	6163
2012	34000	14000	9000	2000	9000	6691
2013	34000	14000	9000	2000	9000	5558
2014	34000	14000	9000	2000	9000	4424
2015	34000	14000	9000	2000	9000	3209

* TAC (Total Allowable Catch) = Customary Allowance + Recreational Allowance + Other (for “fishing related mortality”) + TACC (Total Allowable Commercial Catch)

⁴⁵¹ For period to 30 September 2009 - Ministry of Fisheries, *Freshwater eels (SFE, LFE, ANG)*, chapter 25 in unspecified publication (believed to be a report to a Ministry fisheries assessment plenary), 2010, pages 254-269. Chapter posted online separately on www.fish.govt.nz. Data expressed in tons (1 ton = 1000 kg). For period from 1 October 2009 – catch data online on NZ Fisheries InfoSite, www.fish.govt.nz. Data expressed in kg (1000 kg = 1 ton).

Table 6: Shortfinned eel fishery in management area SFE23 (tons/kg)

Year to 30 Sept	TAC*	Customary Allowance*	Recreational Allowance*	Other*	TACC*	Actual Commercial
2004	50	6	5	2	-	-
2005	50	6	5	2	37	15
2006	50	6	5	2	37	31
2007	50	6	5	2	37	30
2008	36	6	5	2	23	16
2009	36	6	5	2	23	10
2010	36000	6000	5000	2000	23000	17519
2011	36000	6000	5000	2000	23000	16123
2012	36000	6000	5000	2000	23000	18774
2013	36000	6000	5000	2000	23000	14735
2014	36000	6000	5000	2000	23000	14490
2015	36000	6000	5000	2000	23000	11271

* TAC (Total Allowable Catch) = Customary Allowance + Recreational Allowance + Other (for “fishing related mortality”) + TACC (Total Allowable Commercial Catch)

Unfortunately, the published figures are not capable of being split into individual catchments, so that the contribution to these totals from the Rangitikei River and tributaries is not known. The key feature of the statistics is that the health (or otherwise) of the eel fishery is being measured by weight captured. It is therefore as much or more a reflection of fishing effort. More relevant parameters concerning the health of the two species, such as population structure, size and age of the eels that are captured, numbers taking part in the tuna heke (adult migration to the sea), and habitat availability and quality, become subordinated to total size of the catch. The Ministry of Primary Industries does not record these other parameters.

The data in the two tables covers the time when the eel fishery was assessed as being over-fished, and the total allowable catch had to be substantially reduced. This was only four years after introduction of the quota. Since then the Parliamentary Commissioner for the

Environment has published a report in which concerns are expressed that the reduced quota for longfinned eel is still too high⁴⁵².

5.5.3 Patiki

The main feature of non-Maori involvement with patiki is an absence of recognition or concern for the species on the Rangitikei River. Principally this is because non-Maori think of patiki as a small and perhaps only occasionally present part of the Rangitikei River aquatic ecosystem. A report on recreational fishing and spawning values prepared for Manawatu-Wanganui Regional Council in 2007 in the lead-up to the public notification of the Council's One Plan discounted patiki altogether and made no mention of the species, referring instead only to whitebait, brown trout and rainbow trout⁴⁵³. A second report on aquatic biodiversity report noted that there was only one record of black flounder in the Rangitikei catchment in the National Freshwater Fish Database (NFFDB), also known as the New Zealand Freshwater Fish Database maintained by NIWA Crown Research Institute⁴⁵⁴. Because of the paucity of sightings known to the scientific community, only half a page of a 100-page report was devoted to patiki. This half-page stated:

Black flounder are another little-known species in the Region. They have been found at two sites between 1991 and 2006 according to the NFFDB; one in the Turakina River catchment and the other in a tributary of the Rangitikei River. Adult black flounder are most commonly found in the lower and estuarine reaches of rivers; however they often venture far inland into freshwaters and can penetrate long distances upstream through swift, gravely rapids. They have been known to venture as far inland as the Manawatu gorge and the Ohura River in the Whanganui catchment.

Little is known about the spawning habits or breeding biology of black flounder other than they are a diadromous fish, which may spawn at sea with juveniles returning to freshwater after metamorphosis. The absence of winter records for adult fish in the NFFDB supports the suggestion that they make a spawning migration into marine waters prior to the return of juveniles in the spring.

Although records are rare for this fish over the last 15 years, like the giant bully their habitat preferences do not lend themselves to ease of survey or identification, especially in the lower reaches and estuaries of larger river systems. Further work to identify the threat status and critical habitat requirements of this species (and other coastal and estuarine fishes) is required. Again, future consideration, in the light of

⁴⁵² Parliamentary Commissioner for the Environment, *On a pathway to extinction? An investigation into the status and management of the longfin eel*, April 2013.

⁴⁵³ K McArthur and J Lambie, *Recreational fishing and spawning values in the Manawatu-Wanganui region: technical report to support policy development*, Manawatu-Wanganui Regional Council, May 2007. Supporting Papers #7267-7301.

⁴⁵⁴ Available online at www.niwa.co.nz/our-services/online-services/freshwater-fish-database

better knowledge, should be given to whether black flounder should be considered a regionally significant aquatic species.⁴⁵⁵

5.6 Concluding remarks

Despite the Treaty obligation to actively protect the rangatiratanga of hapu for their fisheries, this chapter demonstrates the almost complete absence of Crown consideration for the customary fishing rights of Rangitikei River Maori. The research for this report did not identify instances in the Crown's records where Rangitikei River Maori were consulted about the various fisheries on the river and its tributaries. If the Crown had consulted, it might have learned about the revered place of patiki in Maori lore about the river, the stone weirs to trap smelt, the places valued because they harbour koura or kakahi, and the importance of putting tuna on the food table at marae gatherings.

Rather than these matters, the Crown's records are instead filled with documentation about brown and rainbow trout in the Rangitikei River and its tributaries. It is the introduced fishery that has dominated Crown thinking, thanks in large part to over one hundred years of advocacy efforts by the acclimatisation society movement. This is not to criticise the acclimatisation society movement. It was given 'space' by the Crown to be recognised, to make its representations, and to have its views heard and responded to. The historical problem has been that Maori generally, and Rangitikei River Maori with respect to the Rangitikei River and its tributaries, were not given similar 'space'.

With respect to native fish species, the Crown has in recent years been influenced by the threatened status at the national level of certain species such as galaxiids and bullies. Because species such as patiki, koura and kakahi are not threatened at the national level, they have not attracted Crown attention, notwithstanding that they may be under pressure at a local level such as in the Rangitikei catchment. The Crown has not successfully established mechanisms that reconcile its national biodiversity obligations with its obligations to actively protect the fisheries of individual hapu, or of hapu acting collectively at a catchment level.

Because the functions of the Wellington Fish and Game Council have been confined since 1990 to promotion of the sport (i.e. trout) fishery, there is now less common ground between

⁴⁵⁵ K McArthur, M Clark and J McGehan, *Sites of significance for aquatic biodiversity in the Manawatu-Wanganui Region: technical report to support policy development*, Manawatu-Wanganui Regional Council, May 2007, page 25. Supporting Papers #7244-7266 at 7254.

the Council and Rangitikei River Maori. However, there do remain common interests insofar as habitat protection is concerned, because measures to improve the habitat for trout can have benefits for indigenous freshwater fish as well. This is important in an indirect manner, as protecting the habitat of trout and salmon is specifically singled out in the Resource Management Act⁴⁵⁶, and is therefore a matter that the Manawatu-Wanganui Regional Council is statutorily required to have particular regard for. However, the consequence is that, with respect to fisheries biodiversity and habitat protection, a Maori voice becomes marginalised as compared to the role of the Wellington Fish and Game Council. A practical expression of this process is apparent when the report on recreational fishing and fish spawning referred to earlier in this chapter was prepared in 2007 by Regional Council staff, and then passed to Wellington Fish and Game Council and the Department of Conservation for external review; there was no Maori input into the report's production⁴⁵⁷. This example is symptomatic of the manner in which the Crown and organisations holding delegated powers currently fail to fully carry out their obligations towards Rangitikei River hapu with respect to freshwater fisheries.

⁴⁵⁶ Section 7(h) Resource Management Act 1991.

⁴⁵⁷ K McArthur and J Lambie, *Recreational fishing and spawning values in the Manawatu-Wanganui region: technical report to support policy development*, Manawatu-Wanganui Regional Council, May 2007, internal cover page. Supporting Papers #7267-7301 at 7268.

6. BRIDGING THE RANGITIKEI RIVER

6.1 Introduction

Bridges and bridging sites are often the only locations where many people interact with the Rangitikei River and its tributaries. That was certainly the case historically with respect to the first and subsequent interest shown in the river by Crown and local authority officials. More information was accumulated about bridging sites than about other reaches of the river during research for this report.

This chapter discusses only some of the bridging sites. Those primarily of interest to the European settler population, particularly those sites where the bridges were built at a high level across gorged parts of the river, are not covered or are mentioned only briefly. Having regard to the purpose of this report, the chapter concentrates on those bridges that have had a significant impact on the lives of Rangitikei River Maori. These are the bridges at Onepuehu (Onepuhi), Kakariki and Bulls.

In the late nineteenth century and the early years of the twentieth century, central government became involved in authorising the construction of bridges across the Rangitikei River⁴⁵⁸. Why central government needed to become involved is not fully known, though in part at least it was related to the avoidance of problems with responsibility and funding between local authorities, given that the river tended to be the boundary between local authority districts. The practical effect of the legislation allowing the Crown to authorise the construction of bridges, however, was that the Crown exercised control and authority over bridging sites, and as such extended its kawanatanga to the river at those points.

6.2 Bridging the river at Toetoe

There was no bridge at Toetoe when the 1897 flood occurred. The first suspension bridge was built in 1914, and was replaced by a concrete bridge in 1961. Toetoe Road on either side of the bridge was not legalised until the 1930s⁴⁵⁹, long after it had been formed and brought into public use.

⁴⁵⁸ Pursuant to Section 4 Public Works Acts Amendment Act 1887, and its successors Sections 113 and 114 Public Works Act 1894, Sections 118 and 119 Public Works Act 1905, and Sections 118 and 119 Public Works Act 1908.

⁴⁵⁹ Wellington plan SO 19278 and *New Zealand Gazette* 1936 page 416. Not included in Supporting Papers.

6.3 Bridging the river at Mangaweka

The road between Mangaweka town and the bridge was originally built on Maori-owned land (Awarua 4B), with the road being laid off and taken under a Governor's warrant dated 24 June 1893⁴⁶⁰, and the taking notified early the following year⁴⁶¹. Awarua 4B was proclaimed Crown Land later in 1894⁴⁶². The recreation reserve and campground on the Mangaweka side of the river was first surveyed as a proposed ferry reserve in 1895⁴⁶³, indicating the location's suitability as a crossing point. It was reserved as a ferry reserve in 1898⁴⁶⁴, then the following year the purpose was changed to a recreation reserve⁴⁶⁵ and it became part of the newly-established Mangaweka Domain⁴⁶⁶.

Unlike some other bridging sites, the first bridge at Mangaweka was built by the Crown, principally to provide access to lands granted to Crown settlers. The loss of the bridge during the April 1897 flood has been referred to in the chapter on flooding. Further information about the bridge works that were lost was provided by the district roading engineer:

Just before the Easter flood, operations were in progress for sinking the cylinders in the centre of the river, all the gear being on the ground and the scaffolding well advanced. The flood caused a clean sweep of everything. The flood, combined with the two previous ones, caused a loss of fully £600. Besides the Easter flood, reaching as it did a hitherto unthought-of height, necessitating the abandonment of the cylinder design and the adoption of a cantilever design with a central span of 244 ft.... A low-level temporary bridge 260 ft long in 24 ft spans, with decking at a height of 6 ft above summer-level, was constructed between October and January, and has so far satisfactorily answered requirements.⁴⁶⁷

The temporary bridge was replaced by a cantilever bridge in 1899⁴⁶⁸. In 1906 the new bridge was vested in Rangitikei County Council⁴⁶⁹, thereby transferring responsibility for it from the Crown to a local authority. As part of the vesting, costs of maintaining the bridge, or rebuilding it, were to be shared equally between Rangitikei County Council and Kiwitea County Council.

⁴⁶⁰ Wellington plan SO 13499. Not included in Supporting Papers.

⁴⁶¹ *New Zealand Gazette* 1894 page 170. Not included in Supporting Papers.

⁴⁶² *New Zealand Gazette* 1894 page 1079. Not included in Supporting Papers.

⁴⁶³ Wellington plan SO 13794. Not included in Supporting Papers.

⁴⁶⁴ *New Zealand Gazette* 1898 page 1780. Not included in Supporting Papers.

⁴⁶⁵ *New Zealand Gazette* 1899 page 701. Not included in Supporting Papers.

⁴⁶⁶ *New Zealand Gazette* 1899 page 700. Not included in Supporting Papers.

⁴⁶⁷ Annual report of GT Murray, Road Surveyor for Wellington West roading district, undated. *Appendices to the Journals of the House of Representatives*, 1898, C-1, pages 60-64 at 62. Supporting Papers #3116-3122 at 3118.

⁴⁶⁸ *Mangaweka and District's first 100 years*, Mangaweka and District Centennial Committee, 1985, pages 21 and 28.

⁴⁶⁹ *New Zealand Gazette* 1906 page 1043. Supporting Papers #3029.

6.4 Bridging the river at Mangarere

No bridge had been built at Mangarere before the 1897 flood. The first bridge on the site was authorised in 1902, to be built by Kiwitea County Council and with financial responsibility for its construction to be split equally between Kiwitea County Council and Rangitikei County Council⁴⁷⁰. However, two years later the authority was revoked, and replaced by another warrant authorising Kiwitea County Council to build a bridge; financial responsibility was split under a different formula, with £800 to be contributed by Rangitikei County Council, and the balance to be funded by Kiwitea County Council⁴⁷¹. In 1906 the bridge, by then built and in use, was vested in Kiwitea County Council, with ongoing costs of maintenance and rebuilding to be shared equally between the Kiwitea and Rangitikei County Councils⁴⁷².

Mangaweka's local history records:

The bridge across the river to Turnbolls [the name of a property owner on Mangarere Road] was built in 1905. The previous one was just a swing bridge, three feet wide, and it was good training for a sea voyage to cross it.⁴⁷³

On the true right (western or Mangaweka) side of the river, the land through which the road ran down to the riverbank had been surveyed as part of the Crown's estate as a proposed ferry reserve in 1895⁴⁷⁴, which indicates that the site was in use as a crossing point before a bridge was built. It was reserved as a ferry reserve in 1898⁴⁷⁵, then the following year the purpose was changed to a recreation reserve⁴⁷⁶ and it became part of the newly-established Mangaweka Domain⁴⁷⁷. In 1895, the Crown's estate on the true left (eastern) bank was surveyed for settlement purposes, and the legal road on that side of the river was defined⁴⁷⁸.

⁴⁷⁰ *New Zealand Gazette* 1902 pages 2325-2326. Supporting Papers #3026-3027.

⁴⁷¹ *New Zealand Gazette* 1904 page 1844. Supporting Papers #3028.

⁴⁷² *New Zealand Gazette* 1906 page 1194. Supporting Papers #3030.

⁴⁷³ *Mangaweka and District's first 100 years*, Mangaweka and District Centennial Committee, 1985, pages 27 and 35.

⁴⁷⁴ Wellington plan SO 13793. Not included in Supporting Papers.

⁴⁷⁵ *New Zealand Gazette* 1898 page 1780. Not included in Supporting Papers.

⁴⁷⁶ *New Zealand Gazette* 1899 page 701. Not included in Supporting Papers.

⁴⁷⁷ *New Zealand Gazette* 1899 page 700. Not included in Supporting Papers.

⁴⁷⁸ Wellington plan SO 13729. Not included in Supporting Papers.

6.5 Bridging the river at Otara

Otara Road was laid off over Maori land under a warrant issued by the Governor dated 14 July 1886⁴⁷⁹ and publicly notified in 1895⁴⁸⁰. On the true left (eastern) side of the river was Otamakapua 1, while on the true right (western or Ohingaiti) side was Otairi 1D (Ohingaiti subdivision). A deviation of Otara Road through Otamakapua 1B and 1C, extending away from the riverbank, was surveyed in 1913⁴⁸¹, and declared to be a public road in 1920⁴⁸².

After the first Otara bridge was destroyed in the 1897 flood, construction of a new bridge over the river was authorised in 1898; it was to be built by Kiwitea County Council, with financial responsibility shared equally between Kiwitea and Rangitikei County Councils⁴⁸³. It may have been sited just upstream of the present-day bridge, as taking of land for approaches to the existing bridge on the Ohingaiti side, and closing of earlier defined road, occurred in 1959⁴⁸⁴.

Except for the closed road, there is no public land at the Otara bridge, reflecting the origins of the road laid off through Maori-owned land. This compares with the bridges upstream and downstream at Mangaweka, Mangarere and Vinegar Hill, where the roads were laid off over Crown Land, and the Crown made provision out of its own estate for public reserves where the roads came down to the river.

6.6 Bridging the river at Vinegar Hill

The road on the true right (western) side of the river was taken under Governor's warrant dated 18 June 1894, with the taking approved in 1895⁴⁸⁵, and notified in 1898⁴⁸⁶. The taking was through Rangatira Block under the authority of a provision in the Native Lands Act allowing the laying off and taking of roads without payment of compensation, though in this instance the inability to claim compensation had to be borne by European owners who had recently acquired the land from Maori. On the true right (eastern) bank the land was Crown-owned, and laid off as the town of Livingstone, when the road was surveyed in 1887. As part

⁴⁷⁹ Wellington plan SO 13260. Not included in Supporting Papers.

⁴⁸⁰ *New Zealand Gazette* 1895 page 848. Not included in Supporting Papers.

⁴⁸¹ Wellington plan SO 17927. Not included in Supporting Papers.

⁴⁸² Section 107 Reserves and Other Lands Disposal and Public Bodies Empowering Act 1920.

⁴⁸³ *New Zealand Gazette* 1898 page 1308. Supporting Papers #3023.

⁴⁸⁴ Wellington plan SO 23885. Not included in Supporting Papers.

New Zealand Gazette 1959 page 954. Not included in Supporting Papers.

⁴⁸⁵ Wellington plan SO 13917. Not included in Supporting Papers.

⁴⁸⁶ *New Zealand Gazette* 1898 page 251. Not included in Supporting Papers.

of the township layout, the riverbank at the bridge was set apart as a proposed public recreation reserve. Vinegar Hill Recreation Reserve was reserved in 1899⁴⁸⁷, and subsequently became Putai Ngahere Domain.

The first bridge at Vinegar Hill had just been built before the April 1897 flood occurred. A report prepared by Rangitikei County Council immediately after the flood recorded:

This was the most recently built and finest bridge on the river, consisting of two 121 feet and two 79 feet spans on 6 feet cylinders, and was erected by the Rangitikei County in conjunction with the Kiwitea County at a total cost, including road approaches, of nearly £9000, of which £2500 was a subsidy from the Government. One cylinder pier supporting one 121 feet and one 79 feet span has been carried away. The bridge is also under the control of the Rangitikei County, the Kiwitea County bearing one half the cost.⁴⁸⁸

After the flood, Rangitikei County Council undertook repairs;

Erection of cage and 200 ft of temporary dray-road bridge at Vinegar Hill (this bridge is well built, and will stand any ordinary freshes for several years to come);⁴⁸⁹

More substantial repairs followed.

The wooden bridge was replaced by a concrete bridge in 1976.

6.7 Bridging the river at Onepuehu (Onepuhi⁴⁹⁰)

The Wellington Provincial Government built the first bridge at Onepuehu in 1876. Quite why it was erected there has not been identified in contemporary documents during research for this report. Perhaps its strongest advantage was that Onepuehu is the point on the river closest to Marton, thereby providing a direct link to Marton for those living on the eastern side of the river. A report forty years later in 1914 stated:

The first bridge to be erected was that at Bulls, ... [which] served for the purposes of traffic until settlement extended into the back country, which work was actively carried on, until in about 1877 it became necessary to construct a second bridge across the river at Onepuhi in order to allow of communication between Marton and the

⁴⁸⁷ *New Zealand Gazette* 1899 page 704. Not included in Supporting Papers.

⁴⁸⁸ Chairman Rangitikei County Council to Minister of Lands, 4 May 1897. Lands and Survey Head Office file 36108. Supporting Papers #332-335.

⁴⁸⁹ Annual report of GT Murray, Road Surveyor for Wellington West roading district, undated. *Appendices to the Journals of the House of Representatives*, 1898, C-1, pages 60-64 at 62. Supporting Papers #3116-3122 at 3118.

⁴⁹⁰ Onepuehu was the original name for the crossing point, being referred to in the first surveys, though it seems to have become corrupted to Onepuhi quite early in the period of European settlement of the district. Onepuehu is preferred by tangata whenua, and has been used during the writing of this report. References to Onepuhi are retained where that name was used in historical documents.

country towards Beaconsfield and Cheltenham, there being no formed road down the left bank of the Rangitikei River [to Bulls].⁴⁹¹

On both sides of the river at Onepuehu were Maori reserves, Te Reureu on the eastern (true left) bank, and Te Kupuiro on the western (true right) bank. Because these reserves were not Crown lands, out of which public roads could be laid off at the same time as the lands were being divided up for general settlement purposes, the permission of the owners of the reserves would have been required for the local authorities to be allowed to build roads accessing the bridge site. The nature of those permissions is primarily a land-based matter and has not been researched for this report⁴⁹².

A report in 1902 described the history of the first twenty years of the bridge's existence:

The first bridge was built in (about) 1876. It then consisted of 3 spans, each of 85 feet to centres. The first pier on west side was of driven piles, the other 3 piers were cylinders sunk about 25 feet into bed of stream. The total length of trusses of bridge from west bank was about 260 feet; the style being the old Howe truss: from here there were 3 spans (on driven piles) of 30 feet each, on a down grade of 1 in 15, to an embankment which ran across bed of stream (Rangitikei) for 480 feet, to a platform (or Stringer) bridge of 17 spans of 25 feet each. The whole distance from west to east bank was about 18 chains, but to safe points about 20 chains.

About 1888 during a high flood, part of west bank scoured away, necessitating a new span of 80 feet being added to bridge. In a subsequent flood the 3 thirty feet spans were washed away, and the east cylinder pier sank about 4 feet; the truss was subsequently raised and packed up; a new 80 feet span was added, and a 40 feet span to embankment. For the new 80 feet [span] a cylinder pier was sunk and it was found that at the level of the bed of the other cylinders a false bottom existed of fairly hard papa, about 4 feet thick, and below that was a kind of quicksand. These cylinders were lowered about 30 feet below bed of other cylinders.⁴⁹³

A plan was prepared in 1948 showing the various depictions of the bridge from 1876 to that date⁴⁹⁴. On this plan the changes to the bridge described above are apparent. The two-part

⁴⁹¹ Engineer in Chief to Minister of Public Works, 10 July 1914. Works and Development Head Office file 39/30. Supporting Papers #732-734.

⁴⁹² During the period 1905-1910, at a time when the bridge was unusable, the Governor issued a warrant (dated 23 December 1905) for the survey and taking of the eastern approach road (Makino Road) to the legally defined river edge of Te Reureu reserve, the road was surveyed (Wellington plan SO 15662, surveyed in 1907), the Governor consented to the road being taken through a Native cultivation (*New Zealand Gazette* 1909 page 3210), and the road was taken under the Public Works Act (*New Zealand Gazette* 1910 page 3362). A note on the survey plan records that the survey was made for Oroua County Council. The background to this taking has not been researched for this report, and may have been after belatedly discovering that the already-existing road was not legally a public road. Not included in Supporting Papers.

⁴⁹³ Road Surveyor Wellington to Chief Engineer of Roads, 10 October 1902. Works and Development Head Office file 39/30. Supporting Papers #715-719.

⁴⁹⁴ Plan PWD 135632, drawn in 1948. Copy on Works and Development Head Office file 62/8/830/2. Supporting Papers #932.

nature of the bridge was necessary to cater for the main stream of the Rangitikei River at the western end, and a separate small stream (possibly the Kiwitahi Stream⁴⁹⁵) at the eastern end.

The layer of papa (soft mudstone) beneath the river gravel was certainly a factor when it came to choosing the site for the bridge. Wilson recounts:

Just above Mr Thoms' farm is a bluff on the Rangitikei, and running from it is a bed of papa rock, which has withstood the river encroachment since the first settlement. When the Onepuhi bridge over the Rangitikei was mooted, the late Mr Hammond of York Farm said he would show the engineers where to put it, and he showed them a position somewhat below this bluff, and running out to a point of land on the Reu Reu side, which he said during all the time he had been in Rangitikei had never been flooded. Acting on this advice the bridge was built, and the Rangitikei, as if resenting the intrusion, began at once to shift its course, and made inroads on the bank for very "cussedness". Much work was done to protect the bank, but at last an "old man flood" came and washed the end away, and the stream ran on the other side.⁴⁹⁶

However, the bridge designer would not have known that there was quicksand beneath the papa.

Because the Rangitikei River was an administrative boundary for County Councils and Road Boards, it was perhaps inevitable that conflicts over financial responsibility for the bridge would arise. This was resolved by agreement being reached between the local bodies, which was then ratified by the Crown, in the form of a Proclamation by the Governor, and published in the *New Zealand Gazette*. The Proclamation about the Onepuehu bridge was issued in 1890, and directed that it would be under the control and management of Rangitikei County Council, with finance for its upkeep provided by Rangitikei County Council (three-sixths share), Manchester Road Board (two-sixths share) and Kiwitea Road Board (one-sixth share)⁴⁹⁷.

The bridge was extensively damaged and rendered unusable in the April 1897 flood that also destroyed all the other bridges on the Rangitikei River. A report prepared by Rangitikei County Council immediately after the flood recorded:

⁴⁹⁵ Wellington plans SO 12229 and ML 3261. Not included in Supporting Papers.

If the small stream is the Kiwitahi Stream, then much of the embankment, and the bridge over the small stream, are located on Te Reureu land, as the legally defined boundary of Te Reureu with the Rangitikei River is located to the west of Kiwitahi Stream. Kiwitahi Stream may have an alternate name Raumanga Stream (Wellington plans ML 3261 and ML 3653).

⁴⁹⁶ JG Wilson, *Early Rangitikei*, Whitcombe & Tombs, Christchurch, 1914 (reprinted Capper Press, Christchurch, 1976), pages 88-89.

⁴⁹⁷ *New Zealand Gazette* 1890 page 111. Supporting Papers #3016.

This consisted of two parts, the main bridge of five 80 feet spans and one 40 feet [span] borne on 4 pairs of cylinders and two wooden pieces, and a light wooden bridge 400 feet long not connected with the main structure. Two cylinder piers and three 80 feet spans have gone in the main bridge, and about half of the lighter portion has also been swept away. In the attempt to retain this bridge in repair additional spans and protecting the bank approaches, the two local bodies interested have spent over £5000 in the last six years. The last additions and repairs costing over £3000 were only just completed, the work being taken over from the contractor last February, and the County fund has not yet been recouped over £1500 of this expenditure owing to a misunderstanding of the Treasury as to the powers conferred upon the Rangitikei County by the warrant placing the bridge under its control. The other contributory bodies are the Manchester Highway Board and Kiwitea County in the respective portions of 2/6 and 1/6.⁴⁹⁸

Of the three 80 feet spans that were lost, two dated from 1876 and the third from 1888, meaning that only one span and two cylinders dating from 1876 survived the 1897 flood⁴⁹⁹. Rangitikei County Council reportedly erected a cage over the river in the immediate aftermath of the flood⁵⁰⁰.

The Council also drew up plans for the repair of the damaged portions of the bridge. A new cylinder pier had to be sunk into the riverbed, and a new timber superstructure built. The agreement among the local bodies was that this repair work would be the financial responsibility of Rangitikei County Council (one-half), Manchester Road Board (two-sixths) and Kiwitea and Pohangina County Councils (one-sixth, split between the two counties in proportion to their respective valuations)⁵⁰¹. The Crown agreed and the Governor proclaimed the financial split accordingly⁵⁰².

Not recorded in the contemporary Crown reports was that two meeting houses on Te Reureu block, Te Tikanga and Poupatate, were protected from the floodwaters by being located on the downstream side of the embankment formed for the bridge approach. However, the size of the flood was enough of a shock for the people to cause them to move both meeting houses to their present locations on higher ground.

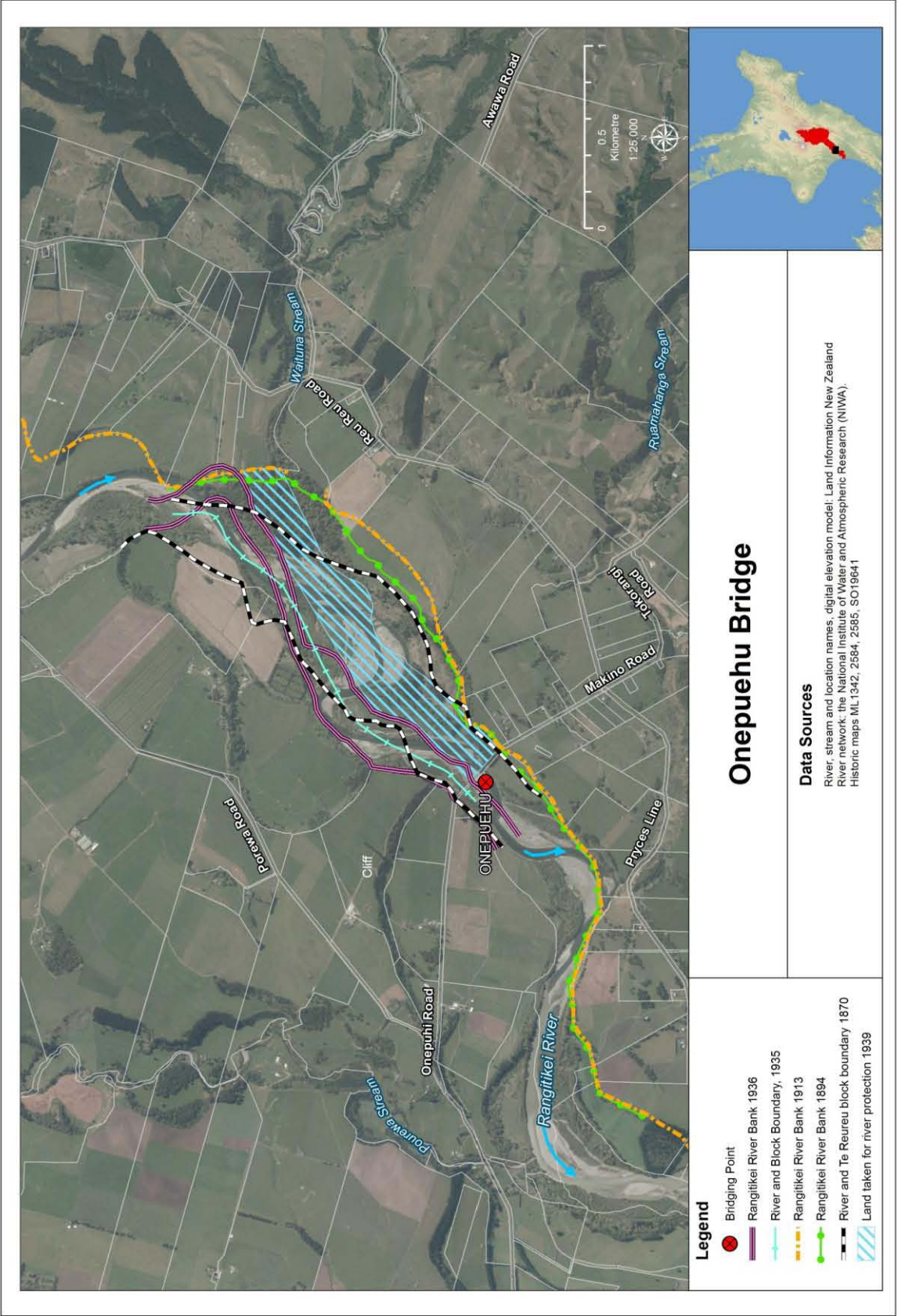
⁴⁹⁸ Chairman Rangitikei County Council to Minister of Lands, 4 May 1897. Lands and Survey Head Office file 36108. Supporting Papers #332-335.

⁴⁹⁹ Road Surveyor Wellington to Chief Engineer of Roads, 10 October 1902. Works and Development Head Office file 39/30. Supporting Papers #715-719.

⁵⁰⁰ Annual report of GT Murray, Road Surveyor for Wellington West roading district, undated. *Appendices to the Journals of the House of Representatives*, 1898, C-1, pages 60-64 at 62. Supporting Papers #3116-3122 at 3118.

⁵⁰¹ County Clerk Rangitikei County Council to Minister for Lands, 9 June 1897. Works and Development Head Office file 39/30. Supporting Papers #713-714.

⁵⁰² *New Zealand Gazette* 1897 page 1717. Supporting Papers #3022.



Map 8: Onepuehu bridge

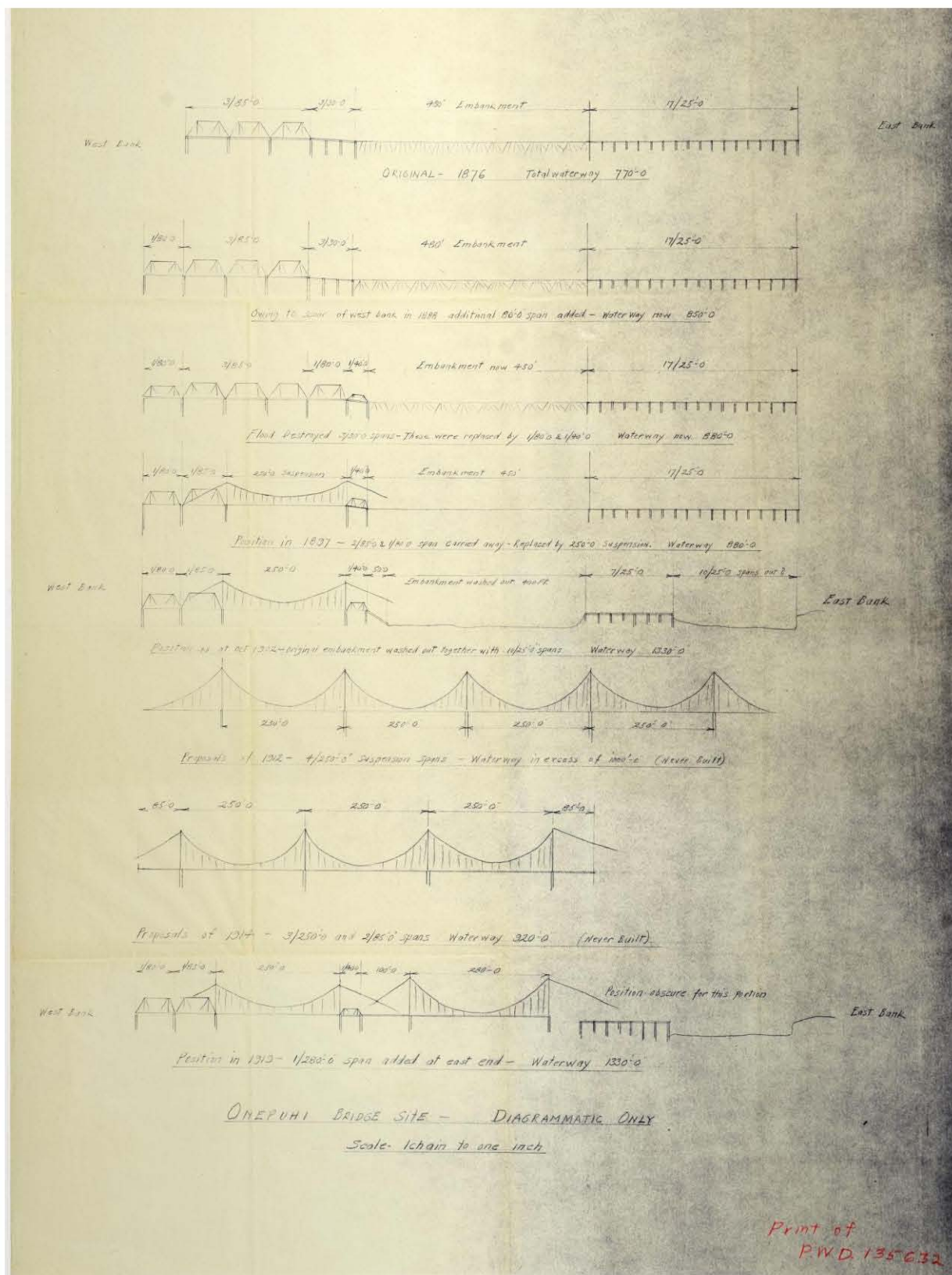


Figure 8: Profiles of Onepuehu bridge, 1876-1919

Source: Works and Development Head Office file 62/8/830/0.



Figure 9: Onepuehu bridge

Source: Alexander Turnbull Library, Child collection (print 32311½ in Cabinet 44)



Figure 10: Onepuehu bridge

Source: Alexander Turnbull Library, Child collection (print 32312½ in Cabinet 44)

The gap in the bridge, about 250 feet in width, was bridged in 1899 by a new suspension bridge as part of the repair work. The October 1902 report recorded:

The [suspension] structure is a very light one, and before last June's flood a man was stationed there to prevent loads of over one ton, or more than one head of big cattle, or about 15 to 20 sheep, crossing at one time....

[The man stationed at the bridge] kept a tally of the daily traffic for a year. From this I found that the average per day was: horses and rider about 35, led horses (under) 2, traps 9, double-buggies 1, carts or drays (under) 1, sheep 135, cattle (under) 3.

In explanation of the comparative large number of horses and riders, I may state that there is a Maori settlement on east side of stream, and from 10 to 15 horses with children crossed and re-crossed the bridge 5 days each week, going to and returning from school. The Maoris also frequently used the bridge going to and returning from Marton. When this is allowed for, the traffic does not appear to have been extreme, but at the same time the loss of the bridge convenience is keenly felt.⁵⁰³

The extent of use of the bridge by Maori demonstrates how significant it had become to the Reureu community during its 25 years of existence.

The June 1902 flood washed away much of the embankment, "leaving the bridge unapproachable from the east side excepting after crossing the main branch of Rangitikei". What should be done about the situation was assessed by a Crown roading surveyor in October 1902. He found that the conformation of the bridge after the June flood was:

Starting from the west end, there is a truss span of 80 feet, another of 85 feet, then 250 feet of light suspension bridge, then 40 ft truss, then about 50 feet of temporary bridging on down grade to dry part of river bed, then about 300 feet of stream, then 7 spans 25 feet each of stringer bridge, then gravel bed of river for remainder of distance to grass bank (about 250 to 300 feet).⁵⁰⁴

In his opinion reinstating a secure bank-to-bank structure would not be easy:

The west bank is fairly safe, or could be made so, but the east bank for a further distance of 30 chains (beyond the 20 above mentioned) is by no means secure, it being originally part of the old river bed, but now from 10 to 15 feet above ordinary river level, and grassed or cultivated. During last flood the water set in against this bank at about 30 chains above the bridge, and cut away a large portion of it; it is therefore at least possible that next flood may cut away a further portion down towards the bridge site.

[Bank protection work] is very expensive, and to effectively protect a bridge built at the present site would need nearly a mile in length of this work; and should in extreme flood the water break through in any part and get behind it, the whole work would be

⁵⁰³ Road Surveyor Wellington to Chief Engineer of Roads, 10 October 1902. Works and Development Head Office file 39/30. Supporting Papers #715-719.

⁵⁰⁴ Road Surveyor Wellington to Chief Engineer of Roads, 10 October 1902. Works and Development Head Office file 39/30. Supporting Papers #715-719.

lost. To rebuild the present bridge would need a new structure about 1300 feet long, and protection to banks fully one mile in length. The cost would exceed £16,000, and probably equal £20,000, and could not then be guaranteed as safe from an extraordinary flood....

I could not recommend the erection of a bridge at Onepuhi, unless the east bank from above bridge site to past Waituna Stream was efficiently protected.⁵⁰⁵

There matters rested for seventeen years, while the local bodies argued among themselves as to whether it was worth reinstating the bridge. Rangitikei County Council and Marton interests favoured reopening the bridge, as did some eastern side landowners who had interests on the western side, and western side landowners who had interests on the eastern side. However, the east bank County Councils could see little benefit for their ratepayers from having a bridge at Onepuehu, given that an alternative crossing existed at Kakariki, about 4 miles downstream. The lack of agreement among the local body politicians discouraged central Government from intervening.

In 1912 another Government roading engineer visited Onepuehu and reported on the potential for rebuilding the bridge. There had been no physical change to the damaged and unusable bridge since the last visit ten years earlier. Rangitikei County Council had drawn up plans for a replacement bridge, consisting of four suspension spans of about 250 feet each, together with embankment approaches on either side of the river. Support for rebuilding was said to come from western bank landowners and the townspeople of Marton. On the eastern bank, support was confined to “the settlers in the north-west portion of the Oroua County”:

I understand the settlers on the eastern side of the Rangitikei River are very desirous of getting the bridge, but the Manchester Road Board whose district they are in does not desire it, neither do the Kiwitea County Council.

Whether the “settlers” referred to were or included the Maori owners of Te Reureu was not stated. The engineer felt that the bridge was “in the interests of and necessary for the settlement of the district”. He recommended a Government subsidy for the work, subject to an engineering inspection of all potential sites, in case a different site was better than the less than satisfactory Onepuehu site⁵⁰⁶. However, the Under Secretary for Public Works was not

⁵⁰⁵ Road Surveyor Wellington to Chief Engineer of Roads, 10 October 1902. Works and Development Head Office file 39/30. Supporting Papers #715-719.

⁵⁰⁶ Resident Engineer Stratford to Under Secretary for Public Works, 16 July 1912. Works and Development Head Office file 39/30. Supporting Papers #720-723.

convinced of the necessity for the bridge to be replaced, regarding it as a convenience but not an urgent requirement⁵⁰⁷.

In 1914 a deputation of local authorities and settlers who were in favour of rebuilding met the Minister of Public Works. Although the Minister supported rebuilding, he wanted the local bodies to reach agreement or support an arbitration commission on how the local portion of the funding would be contributed by the various bodies⁵⁰⁸. After the meeting, when the Minister was provided with a cost estimate for a new bridge, he instructed that a report be prepared:

1st, as to the site being the most suitable in that neighbourhood,
2nd, as to the area of land and number of settlers on the east side of Rangitikei River who would use the bridge. I motored to within 3 miles of the site from the Feilding side, and it was evident that all produce from the area I traversed would go to Feilding rather than Marton.⁵⁰⁹

The report that was provided by the District Engineer compared the ease of access that would be provided by a bridge at Onepuehu against the existing access already provided by the combined road and railway bridge at Kakariki. In addressing the area of land and number of “settlers” who would benefit, the report distinguished between European landowners and Maori landowners:

As regards access to the towns, those living on the old main road to the south of Stanway, which is halfway between Feilding and Marton, would naturally go to Feilding, whilst those living between Stanway and the river would have a shorter distance to reach Marton, were it not for the absence of a bridge at Onepuhi. The number of settlers on the road between Stanway and the river who would be served by the proposed bridge is sixteen, and the area of their holdings 4000 acres, not including Natives who hold about 2700 acres near the river to the east of the old bridge site. One of these settlers who is particularly interested in the construction of a bridge at Onepuhi has land on both sides of the river, and its erection would be of convenience to him.

The District Engineer recorded that Oroua County Council favoured the construction of a new road bridge at Kakariki, to replace the joint use with the railway of the existing bridge

⁵⁰⁷ Under Secretary for Public Works to Minister of Public Works, 25 July 1912. Works and Development Head Office file 39/30. Supporting Papers #724.

⁵⁰⁸ Briefing notes for meeting, undated, and Notes of meeting, 27 January 1914. Works and Development Head Office file 39/30. Supporting Papers #725-726 and 727-728.

⁵⁰⁹ File note by Minister of Public Works, 15 May 1914, on Under Secretary for Public Works to Minister of Public Works, 13 May 1914. Works and Development Head Office file 39/30. Supporting Papers #729.

there and thereby reduce waiting times while the bridge was closed to road traffic when it was being used by rail traffic⁵¹⁰.

The Engineer in Chief in the Public Works Department then reported to the Minister, who had already seen the District Engineer's report. The Engineer in Chief ducked the question of central Government involvement, putting initial responsibility for resolving the matter back on the local authorities:

The question as to whether it is desirable to reinstate the Onepuhi Bridge is a very difficult one to decide and, in view of the heavy expenditure involved, I would strongly recommend that the local authorities be requested to produce satisfactory evidence, which can be analysed, to show that there will be sufficient traffic to warrant the outlay.⁵¹¹

There was no response from the Minister, effectively ending the central Government consideration of the request made by the deputation that had waited on the Minister.

The local authorities had not given up their efforts to persuade central Government to become involved, and a further deputation met the Minister of Public Works in July 1915. The Minister promised that the Engineer in Chief would personally visit Onepuehu later in the year⁵¹². However, there is no record that the Engineer in Chief made the promised visit.

A breakthrough of sorts came in 1917 when most of the local bodies were able to find some common ground on the basis of a reinstatement of the pre-1902 arrangement of a bridge plus embankment, rather than a new bridge spanning the whole of the river. This brought the expected cost down to about £3000, of which £1000 would come from a Government grant and £2000 from locally-provided ratepayer funds. However, when Rangitikei County Council published a proposed local cost-sharing arrangement in March 1918, Kiwitea County Council lodged a notice of opposition⁵¹³. Rangitikei County Council then requested that the Governor establish a commission of inquiry to arbitrate the dispute and make a recommendation to the Government. The Stipendiary Magistrate at Marton was appointed to

⁵¹⁰ District Engineer Wellington to Engineer in Chief, 22 June 1914. Works and Development Head Office file 39/30. Supporting Papers #730-731.

⁵¹¹ Engineer in Chief to Minister of Public Works, 10 July 1914. Works and Development Head Office file 39/30. Supporting Papers #732-734.

⁵¹² Notes of meeting, 9 July 1915. Works and Development Head Office file 39/30. Supporting Papers #735-737.

⁵¹³ County Clerk Rangitikei County Council to Minister of Public Works, 16 March 1918, and Under Secretary for Public Works to Minister of Public Works, 15 May 1918. Works and Development Head Office file 39/30. Supporting Papers #738-740 and 741.

undertake the inquiry⁵¹⁴. His report in February 1919 had attached to it 28 typed pages of evidence and nine exhibits⁵¹⁵. All the evidence was given by local authority councillors or staff, or European settlers. The inquiry was an entirely Pakeha affair, in which Te Reureu Maori were mentioned only briefly. That mention was in connection with the make-up of earlier deputations to Rangitikei County Council and to Oroua County Council. A deputation to Rangitikei County Council in August 1917 comprised 42 persons, of whom six were Maori⁵¹⁶. In evidence, one witness under cross-examination stated that a deputation to Oroua County Council, also in August 1917, comprised 57 persons, “and that contained a number of natives – not more than half a dozen natives but I couldn’t be sure”⁵¹⁷. Another witness under cross-examination stated that “I know that every one of the natives that attended the deputation do pay their rates”⁵¹⁸. In all other respects, the Maori owners of Te Reureu were treated as being invisible and incidental to the discussion, even though whether or not there would be a functioning bridge at Onepuehu and how it would be funded would have been of vital interest to them.

The inquiry concluded that Rangitikei County Council had not made out its case that Kiwitea County ratepayers should contribute to the cost of the bridge, and recommended to the Government that, adopting a well-established general rule that each side of a river should contribute in equal proportions, Rangitikei County Council should bear 40% of the locally-provided cost, Marton Borough Council 10% and Oroua County Council 50%⁵¹⁹. The Minister agreed, and the Governor then authorised the rebuilding of the bridge and declared the local funding to be according to the proportions recommended by the commissioner⁵²⁰.

⁵¹⁴ Under Secretary for Public Works to Stipendiary Magistrate Marton, 4 December 1918. Works and Development Head Office file 39/30. Supporting Papers #742-743.

⁵¹⁵ Report of Commissioner, 15 February 1919, attached to Stipendiary Magistrate Marton to Minister of Public Works, 15 February 1919. Works and Development Head Office file 39/30. Supporting Papers #744-795.

⁵¹⁶ Kumeroa Tenaki, Moeroa Karatea, Where Pona, Kumeroa, Toro Iwikau, and Waeroa. Report of Commissioner, 15 February 1919, Exhibit D, attached to Stipendiary Magistrate Marton to Minister of Public Works, 15 February 1919. Works and Development Head Office file 39/30. Supporting Papers #744-795 at 787.

⁵¹⁷ Evidence of Thomas Green, in Report of Commissioner, 15 February 1919, Evidence page 19, attached to Stipendiary Magistrate Marton to Minister of Public Works, 15 February 1919. Works and Development Head Office file 39/30. Supporting Papers #744-795 at 772.

⁵¹⁸ Evidence of John Morrison, in Report of Commissioner, 15 February 1919, Evidence page 21, attached to Stipendiary Magistrate Marton to Minister of Public Works, 15 February 1919. Works and Development Head Office file 39/30. Supporting Papers #744-795 at 774.

⁵¹⁹ Report of Commissioner, 15 February 1919, attached to Stipendiary Magistrate Marton to Minister of Public Works, 15 February 1919. Works and Development Head Office file 39/30. Supporting Papers #744-795.

⁵²⁰ *New Zealand Gazette* 1919 pages 858-859. Supporting Papers #3053-3054.

In 1921, after the rebuilding had been completed, a Crown official reported that the embankment had been fenced off from adjoining land:

A wooden culvert 4 feet 6 inches wide, 15 feet in length, has been put in to take the overflow of river in the low place about 4 chains from east end of bridge.

Nothing has been done as yet in the way of protection work of river bank on the Oroua County side of Rangitikei River for security of pier of the bridge. On the Rangitikei County side of the river, some willow branches have been placed in the bank of river above the bridge.⁵²¹

The same official reported four months later that there was still no bank protection work on the Te Reureu side of the river:

The stream five or six chains above the bridge is flowing across the river bed and striking right into the bank about one chain above pier, and every flood is taking more of bank away from under the bridge. The distance from edge of stream to pier is now 36 feet at low water.

The island in centre of river bed over which the land span of bridge is constructed is also in danger of being taken away. On the Rangitikei County side of the island, the cylinder pier of the old portion of suspension bridge is in the centre of the deep stream, and now the stream is scouring along the driven piles of island land bridge span. An attempt has been made here at protection, by anchoring willow trees with fencing wire to the stumps. Evidently a clump of poplar trees had come down the river and lodged in the stream just above the bridge, thus making a shingle bank and sending the main body of stream over to the island. An attempt has been made to clear the poplar clump away, the trees are all cut up into short lengths.⁵²²

When the lack of action was queried with the Rangitikei County Engineer, he replied:

It has been decided that at present this is not necessary, as the river has a tendency to revert to the west channel, and leave the new portion of the bridge. Certain work has been done blasting out obstacles in the river bed, which does away with any immediate necessity for comprehensive protective works.⁵²³

The need for bank protection works was either still outstanding twelve years later in 1933, or there had been fresh changes to the course of the river. In that year, Iwa Moeroa Karatea and others petitioned the Native Minister, objecting:

First, to the erecting of fences on the banks of the Rangitikei River by the Rangitikei County Council. We have interests in the lands now fenced. Now that the County Council has put up these fences we find that our stock can no longer get access to the water. All our sections are adjacent to the river, and it served as water for the stock.

⁵²¹ Roading Overseer Feilding to Resident Engineer Wellington, 19 April 1921. Works and Development Wanganui file PW 12/105. Supporting Papers #3004.

⁵²² Roading Overseer Feilding to Resident Engineer Wellington, 29 August 1921. Works and Development Wanganui file PW 12/105. Supporting Papers #3005-3007.

⁵²³ County Engineer Rangitikei County Council to District Engineer Wellington, 12 September 1921. Works and Development Wanganui file PW 12/105. Supporting Papers #3008.

Secondly, the parts now fenced were portions on which we ran our stock, milking cows. We lodged objections with the Rangitikei County Council while these fences were being erected, and we were informed that our objections must be lodged with the higher authorities, that is you the members of Parliament. Hence this petition.

The explanation made by the Council was that these fences were put up for the safeguarding of the trees that were grown for the protection of the Onepuhi Bridge.⁵²⁴

The Native Department turned to the Rangitikei County Engineer to understand what was being referred to in the petition. He explained:

During the last 40 years the river has repeatedly changed its course, and in 1917-18 the main flow was where indicated near the east side. I then erected a suspension bridge of 380 feet, and gave the whole bridge a life of 10 years. This was 15 years ago, so very shortly the whole bridge must be rebuilt or altogether abandoned. The present length is about 1095 feet, and on completing the stabilisation of the east bank as shown, I can reduce the length of the suggested new bridge to under 500 feet.

I am taking advantage, at present, of the main flow being more or less along the west bank to thoroughly stabilise the shingle beaches as shown, as well upstream the river threatens to cut through into the Waituna and reoccupy its old bed, a trick it has done on several previous occasions. It would then threaten seriously many acres of original alluvial flats on the east side now under cultivation by the natives.

The land I am planting is practically useless, being shingle beach entirely overrun by gorse and lupin. Till I fenced it, the pakeha neighbour ran sheep there and monopolised what little feed there was.

Should the County be faced with a new bridge 1000 feet long, I feel sure it would never be built, but if I can reduce the length to under 500, as I am sure I can by completing my protective plans, the bridge problem is cut in half. A 500 feet waterway is quite sufficient, as at Kakariki the Railway Bridge is only 500 feet and takes all the river comfortably.

I submit that in doing what I am, I am acting in a logical way, as if I waited and spent the funds available in defining titles to the waste land I am occupying, the river would probably meantime return and not only frustrate my proposals to shorten the bridge but destroy acres of good native land. If I can complete my proposals right up [to] where shown in red, it will be a tremendous asset to all native owners for all time, not only by protecting their good land but by ensuring that their communications will not be cut off.⁵²⁵

⁵²⁴ Iwa Moeroa Karatea and 8 others, Tokorangi, to Native Minister, 1 November 1933. Maori Affairs Head Office file 65/16. Supporting Papers #558-560.

⁵²⁵ County Engineer Rangitikei County Council to Registrar Native Land Court Wanganui, 11 December 1933, attached to Registrar Native Land Court Wanganui to Under Secretary Native Department, 12 December 1933. Maori Affairs Head Office file 65/16. Supporting Papers #561-563.

While from the engineer's point of view his plan may have been "logical", the land he wanted for his protection work may have been "useless", and the whole scheme may have seemed like a win-win for the County and Maori, nevertheless he was dealing with Maori land, which was dear to the hearts of its owners, and he had clearly failed to take those owners fully into his confidence and gain their consent for his approach. Perhaps realising his failings with respect to consultation, he offered to "to meet, by arrangement, your Mr Marumarū and the natives interested on the ground, and further explain the proposals"⁵²⁶. When this explanation was reported to the Under Secretary of the Native Department, he instructed that a departmental officer visit Te Reureu, learn more about the concerns of the local Maori landowners, and see if the County Engineer's reasons satisfied them⁵²⁷.

Hoeroa Marumarū, a Departmental Property Supervisor and Parewanui resident, visited Te Reureu twice in February 1934. On the first occasion a number of the signatories to the petition were absent, so he returned a few days later for a meeting on the Poupatate marae. For both visits, he had made the decision not to ask the County Engineer to accompany him, "as it was considered that the meeting would not express its true feelings in his presence"⁵²⁸. However, at the start of the meeting, he read out the points made by the County Engineer. Tahurangi Maraenui was the principal spokesperson, explaining that although he and others had not signed the petition, the people of Te Reureu were united in their support for the concerns expressed in it. Tahurangi continued:

[The people of Te Reureu] still owned the whole of the river frontage to the Te Reureu block, they had exercised that right for many generations, without being questioned, until the Rangitikei County Council trespassed on their property, and it is for the fact that we now appreciate the Pakeha's sense of justice that there has not been any blood shed, we are determined that our rights should be recognised, and we are prepared to go to any court of justice or to the House of Parliament itself to fight it out. Our people expressed their objection very strongly to Mr Mair [County Engineer] prior to any work being started, but he advised them to go to the proper authorities, which they did.⁵²⁹

⁵²⁶ County Engineer Rangitikei County Council to Registrar Native Land Court Wanganui, 11 December 1933, attached to Registrar Native Land Court Wanganui to Under Secretary Native Department, 12 December 1933. Maori Affairs Head Office file 65/16. Supporting Papers #561-563.

⁵²⁷ Under Secretary Native Department to Registrar Native Land Court Wanganui, 17 January 1934. Maori Affairs Head Office file 65/16. Supporting Papers #564.

⁵²⁸ Registrar Native Land Court Wanganui to Under Secretary Native Department, 2 March 1934. Maori Affairs Head Office file 65/16. Supporting Papers #565-568.

⁵²⁹ Property Supervisor Whanganui [sic] to Registrar Native Land Court Wanganui, 26 February 1934, attached to Registrar Native Land Court Wanganui to Under Secretary Native Department, 2 March 1934. Maori Affairs Head Office file 65/16. Supporting Papers #565-568.

The land described by the County Engineer as shingle, gorse and lupin had once been good land, and Tahurangi Maraenui explained that it was still valued:

Many of his people had their homes there, and many of those present and others were born there, they had cultivations there, and they felt it very deeply that this area should be unjustly taken from them. Some years back the river eroded the left bank of the river to the extent indicated, but a few years later the course of the river again changed and left a partly shingle bed on which lupin and gorse began to grow, which has helped to again build up this area as it helps to hold the silt, and many parts of this area [are] rapidly becoming thickly covered with good soil; and an abundance of good grass is growing under and around the lupins, and this area at various periods of the year assists to carry a great number of our stock, but under the present suggestions we are deprived of a very necessary source of wood supply and our stock is cut off from their water supply; therefore we strongly urge that our petition be favourably considered, and we further urge that there be no delay in dealing with this matter.⁵³⁰

Tamiaho Herangi, Te Whiunara, Tawhai Teimaui, and others supported Tahurangi Maraenui's statement. The Property Supervisor was left in no doubt about the strength of feeling at the meeting, remarking:

I am of the opinion that the people concerned are deeply suspicious that their rights are being usurped as indicated by the action of the Rangitikei County Council, and are determined that it should be cleared up.⁵³¹

When the record of the meeting was sent to the Under Secretary in the Native Department, he advised the Native Minister that whether there had been a trespass on Maori land by the County Council would be a question of fact that could be established in a court of law by a private action between the parties. More at issue, though, was whether the measures proposed by the Council were necessary, or whether protection of the bridge could be achieved in other ways. He recommended that a report be sought from one of the Government engineers in the Public Works Department⁵³². This was agreed, and the District Engineer visited Onepuehu in April 1934, in company with the County Engineer. He made no attempt to contact local people, and his report was purely an engineering assessment of the situation.

⁵³⁰ Property Supervisor Whanganui [sic] to Registrar Native Land Court Wanganui, 26 February 1934, attached to Registrar Native Land Court Wanganui to Under Secretary Native Department, 2 March 1934. Maori Affairs Head Office file 65/16. Supporting Papers #565-568.

⁵³¹ Property Supervisor Whanganui [sic] to Registrar Native Land Court Wanganui, 26 February 1934, attached to Registrar Native Land Court Wanganui to Under Secretary Native Department, 2 March 1934. Maori Affairs Head Office file 65/16. Supporting Papers #565-568.

⁵³² Under Secretary Native Department to Native Minister, 13 March 1934. Maori Affairs Head Office file 65/16. Supporting Papers #569.

The District Engineer described how there had been frequent changes of the course of the river. In recent years it had shifted towards the east bank, causing erosion on that side. It had then settled on that side, with the shingle bed at issue in the complaints starting to build up on the true right bank of the main course. The County Council had undertaken groyne and tree planting work upstream to turn the main course back to the west of the shingle bank. The former main course to the east of the shingle bank then became one of two courses of the Waituna Stream (the other course flowing into the Rangitikei River upstream of the shingle bank). The Council wanted to hold the river in its more westerly course by reinforcing the shingle bank (which was described as “accretion”):

This accretion is still low lying, and is regularly flooded, but owing to the action of the Council’s works and the growth of lupin, vegetation generally, the level is being gradually raised by successive floods. It is at present, however, practically useless, being overrun by gorse and lupin.

Although the Council’s works have been very successful so far, there is still a decided menace owing to the possibility of the river breaking through [upstream], in which case the protected area would be outflanked, the bridge approaches would be endangered, and the Native land in the vicinity of the pah threatened.

The District Engineer concluded:

I am of the opinion that the majority of the accretion that has taken place is due to work carried out by the County Council, and there also appears to be a doubt as to the question of title. The Council has no intention of claiming any land which is the property of the natives, and is prepared to pay a peppercorn rental for the portion to which the natives have a title in order to safeguard the latter’s rights.

It is essential, however, that the area indicated be fenced and that stock be kept off it at least until such time as the trees have grown sufficiently to be safe from damage by grazing animals.

As a matter of fact, the amount of grazing on the fenced area is negligible, and is a vanishing quantity owing to the heavy growth of lupin and other vegetation.

The Council will raise no objection to the natives getting driftwood off the area, provided they do not break the fences or let stock in.

The natives are not cut off from water as there is ample in the Waituna, which provides an adequate and unfailing supply.

Finally, I am quite satisfied that the fencing off and protecting of the area shewn on the sketch is in the best interests of the natives concerned, and the real facts would

appear to be that their properties have been and are being protected at no cost to the natives by the measures taken by the Council to protect the bridge.⁵³³

The Public Works Department's opinion was supplied to the Native Department Property Supervisor to see if he could broker an agreement between Te Reureu landowners and Rangitikei County Council⁵³⁴. There is no indication that any agreement was reached. One year later, the same concerns were raised again when another letter of complaint was sent from Te Reureu to the Member of Parliament for Western Maori, who passed it on to the Native Minister. This letter, from Poihaere Kingi and four others, stated:

We protest against the action of the River Board which in lieu of its riparian rights is carrying out on the banks of the Rangitikei River, namely, the fencing of the banks and the planting of imported trees (pines) there. By such action we as well as our stock are prevented from having access to the waters of the river, and secondly we depend on the Rangitikei for our supply of firewood.⁵³⁵

In reply the Native Minister recounted the history in connection with the 1933 petition⁵³⁶.

One year later still, Te Reureu Maori complained for a third time. The Secretary of the Pikiahu-Waewae Maori Labour Committee wrote to the Native Minister in October 1936:

That in view of the "erosion" made by the flow of the Rangitikei River into the land of the several Maori owners resident on the Reureu No. 1 Block, and they feel that if immediate action were not taken during this summer to reinforce the banks of the river so as to stop the "erosion", my Committee found it expedient to apply to you and your Department for a general survey of the situation and if humanly possible to grant financial assistance from your Department.

We feel that if immediate action were not taken in hand, the outcome of which will be the total loss of property, both land and houses, and other immediate necessities of life.⁵³⁷

An update report on the situation was ordered⁵³⁸.

⁵³³ District Engineer Wellington to Under Secretary for Public Works, 20 April 1934, attached to Engineer in Chief to Under Secretary Native Department, 30 April 1934. Maori Affairs Head Office file 65/16. Supporting Papers #570-572.

⁵³⁴ Under Secretary Native Department to Registrar Native Land Court Wanganui, 4 May 1934. Maori Affairs Head Office file 65/16. Supporting Papers #573.

⁵³⁵ Poihaere Kingi and 4 others, Tokorangi, to Taite Te Tomo MP, 4 June 1935. Maori Affairs Head Office file 65/16. Supporting Papers #574-576.

⁵³⁶ Acting Native Minister to Taite Te Tomo MP, 7 August 1935. Maori Affairs Head Office file 65/16. Supporting Papers #577.

⁵³⁷ Secretary Pikiahu-Waewae Maori Labour Committee to Native Minister, 20 October 1936. Maori Affairs Head Office file 65/16. Supporting Papers #580-582.

⁵³⁸ Under Secretary Native Department to Registrar Native Land Court Wanganui, 3 November 1936. Maori Affairs Head Office file 65/16. Supporting Papers #583.

The update was provided in April 1937, following a visit to Tokorangi by the Judge of the Native Land Court and the Native Department's Property Supervisor, accompanied by the Rangitikei County Engineer (Sydney Mair). The Judge reported:

We found the position to be as stated, and came to the conclusion that if immediate steps are not taken to stop the erosion and to prevent its continuance, acres of exceedingly valuable land will be washed away.... The land is not in the Rangitikei County, but as that County has charge of the Onepuhi Bridge to the south over the Rangitikei River, it has had to take steps to see that the foundations and approaches to the bridge are safeguarded against injury by river floods. As a consequence the County proposes to take a considerable area of river bed to the north of the bridge on the Oroua side of the river, with the object of establishing river protection works. This area does not extend northwards as far as the erosion complained of by the Natives, but Mr Mair, who has had a great deal of experience in combating successfully the erosion caused by the Rangitikei River in other places, has agreed to give all the assistance he can, notwithstanding the fact the erosion is not within the boundaries of his County.

The Judge considered that immediate action was required, otherwise winter floods could wash away valuable land:

The Native owners are not in a position to do anything much themselves and most certainly require assistance. Mr Mair made certain preliminary suggestions to them, and for the purpose of carrying them out Mr Marumaru, on behalf of the Natives, is to make an application for an unemployment grant.⁵³⁹

The County Engineer confirmed the arrangements made during the visit. He would design and supervise the erosion control work "gratis, provided the cost of material and labour were provided by the owners or the Native Department on their behalf". Some 25 chains of riverbank needed protection by the laying of heavy willow trees that would then grow in the place they had been positioned. Total cost was likely to be £250, of which £150 was the cost of labour and carting, so £100 needed to be found for materials⁵⁴⁰. Coming up with £100 for materials was difficult for Reureu Maori⁵⁴¹

The proposal then ran into Government accounting problems. £200 could be found from Maori Unemployment Funds, but there were no funds available to purchase materials. To get around this, it was suggested that the owners receive wages paid for from Maori

⁵³⁹ Judge Browne, Hawera, to Under Secretary Native Department, 28 April 1937. Maori Affairs Head Office file 65/16. Supporting Papers #584-586.

⁵⁴⁰ County Engineer Rangitikei County Council to Judge Browne, Wanganui, 27 April 1937, attached to Judge Browne, Hawera, to Under Secretary Native Department, 30 April 1937. Maori Affairs Head Office file 65/16. Supporting Papers #587-588.

⁵⁴¹ Judge Browne, Wanganui, to Under Secretary Native Department, 26 May 1937. Maori Affairs Head Office file 65/16. Supporting Papers #589.

Unemployment Funds, and then contribute out of their wages money for the purchase of materials⁵⁴². The winter of 1937 (and its floods) passed before there was a response. After a meeting at Te Reureu, the Judge suggested an alternative, that lands with riverbank boundaries be placed in a Land Development Scheme, loaned development monies to purchase materials, be made the subject of charging orders as security for the loan, and then pay back the loan later. The Judge thought this was “the only method of getting a very necessary and urgent work done, and paid for by the persons who will benefit by it”⁵⁴³. The Under Secretary could see nothing wrong with this proposal, so long as the lands that the loan would be charged against were suitable for farming development, and their owners were agreeable⁵⁴⁴.

The formal papers for the establishment of a Reureu Development Scheme were provided in November 1937:

Certain owners whose lands are affected by the erosion have decided to place their land under Part I/1936 [Native Land Amendment Act], and this will now enable the Department to take the necessary steps to stop the erosion, and when the cost is ascertained to apportion same over lands not in the Scheme by way of Charging Orders under Section 19/1936....

The papers disclosed a political element to what was being proposed, the background to which has not been researched for this report:

It is pleasing to note that the Maoris who have consented to place their lands under this Development Scheme are Ratanaites, and it is probable that when operations begin other Maoris in the locality will follow their example.⁵⁴⁵

The case was put up to the Board of Native Affairs, and approved⁵⁴⁶. A notice was then published constituting the Reureu Development Scheme, and placing in the Scheme six sections (Reureu 1 Sections 15C2, 17B1, Part 17C, 23B2, 23C3 and 23D1)⁵⁴⁷.

The protection work was carried out in early April 1938, but did not go according to plan.

⁵⁴² Under Secretary Native Department to Judge Browne, Wanganui, 7 June 1937. Maori Affairs Head Office file 65/16. Supporting Papers #590.

⁵⁴³ Judge Browne, Wanganui, to Under Secretary Native Department, 13 November 1937. Maori Affairs Head Office file 65/16. Supporting Papers #591.

⁵⁴⁴ Under Secretary Native Department to Judge Browne, Wanganui, 26 November 1937. Maori Affairs Head Office file 65/16. Supporting Papers #592.

⁵⁴⁵ Registrar Native Land Court Wanganui to Under Secretary Native Department, 29 November 1937. Maori Affairs Head Office file 65/16. Supporting Papers #593-595.

⁵⁴⁶ Submission to Board of Native Affairs, approved 14 December 1937. Maori Affairs Head Office file 65/16. Supporting Papers #596.

⁵⁴⁷ *New Zealand Gazette* 1938 page 120. Supporting Papers #3082.

The above work went along excellently to schedule till April 25th, when the most crucial part of the work was nearly completed.

Abnormal rain brought down a heavy flood and the river rose to the highest level for some years, getting behind the almost completed work at the top and where the strike of the river was the worst, and doing considerable damage to about 7 chains of the partly completed work.

The river also scoured into the bank about half a chain and shifted the deep scour from the centre close to the bank.

Repairs were put in hand forthwith, but on the following Thursday the river rose higher than ever, doing further damage at this part and higher up.

An inspection of the river further up shows the change of strike at the protection work was caused by alterations further up, and had the work completed not been undertaken when it was, a far greater inroad to the native land would have eventuated.

The change in the river necessitated the work being re-modelled for some distance into heavy protection by willow log corduroy at increased cost. This will, to be thoroughly secure, require [further supporting work].⁵⁴⁸

The consequence was that the increased cost for additional materials became a further debt charged to Reureu Development Scheme, which those owners of lands included in the Scheme were expected to eventually pay out of the increased farm income it was anticipated they would earn. Further protection work, chargeable to the Development Scheme and therefore ultimately to the owners who benefited, was identified in May 1939⁵⁴⁹.

In August 1938 the river also threatened other Te Reureu lands further upstream than those that had already received some protection. The Judge of the Native Land Court considered that if protection works for these lands were undertaken, the Onepuehu bridge would gain some benefit, in which case the Main Highways Board should be prepared to make a contribution towards the costs of the protection work⁵⁵⁰. However, the District Engineer for the Public Works Department did not agree, regarding the bridge and the Maori land requiring protection as being too distant from one another for the two matters to be linked⁵⁵¹.

⁵⁴⁸ County Engineer Rangitikei County Council to Judge Browne, Wanganui, 18 May 1938, attached to Registrar Native Land Court Wanganui to Under Secretary Native Department, 24 May 1938. Maori Affairs Head Office file 65/16. Supporting Papers #598-599.

⁵⁴⁹ Registrar Native Land Court Wanganui to Under Secretary Native Department, 24 May 1939. Maori Affairs Head Office file 65/16. Supporting Papers #608.

⁵⁵⁰ Judge Browne, Wanganui, to Under Secretary Native Department, 22 August 1938. Maori Affairs Head Office file 65/16. Supporting Papers #600-602.

⁵⁵¹ Engineer in Chief to Under Secretary Native Department, 14 October 1938. Maori Affairs Head Office file 65/16. Supporting Papers #606-607.

By 1940 a total of £261-10-6d (later increased to £283-13-4d) had been charged for the cost of materials, and steps were taken by the Native Department to have the Native Land Court determine who benefited and who should repay that total amount⁵⁵². Unfortunately, the Departmental steps occurred at about the same time that a flood demolished all the protection works that had been undertaken⁵⁵³. In April 1941 the Property Supervisor reported that “not a sign of the work done remains”, and the work had been of little benefit to the sections that were to be charged for it. He recommended that the Crown should seek to recover its costs from a major flood protection scheme under consideration at the time by Rangitikei County Council, rather than from the Maori owners⁵⁵⁴. However, this suggestion was dismissed as “impracticable”, and the Court Registrar recommended that instead the cost be left on the accounts of the Board of Native Affairs until details of any major protection works were known. If no major works eventuated, the Registrar suggested, the sum could then be written off⁵⁵⁵. The Registrar’s recommendation was not acted upon.

Despite the obvious adverse implications for Te Reureu owners, procedural matters ground on. An application had already been made to the Native Land Court for charging orders, and that application had to be heard and decided by the Court. The hearing on the matter was held in July 1941. There is no indication in the Court minutes that anyone from Te Reureu attended. The Court noted that:

The amount was actually expended in the works, but its effectiveness was abrogated by exceptional floodings, which occurred soon after the work was completed.

Nevertheless the Court then proceeded to make a series of charging orders based on the supposed benefit each partition block had received. Four of the sections that had been included in the Reureu Development Scheme in 1938 were charged with a total of £119-15-0d, and 22 other partition blocks were charged with the remaining total of £163-18-4d⁵⁵⁶.

⁵⁵² Head Office Solicitor to Registrar Native Land Court Wanganui, 12 February 1940 and 1 May 1940. Maori Affairs Head Office file 65/16. Supporting Papers #609-610 and 611-612.

⁵⁵³ Registrar Native Land Court Wanganui to Head Office Solicitor, 30 August 1940. Maori Affairs Head Office file 65/16. Supporting Papers #613.

⁵⁵⁴ Property Supervisor Whanganui to Registrar Native Land Court Wanganui, 28 April 1941, attached to Registrar Native Land Court Wanganui to Under Secretary Native Department, 16 May 1941. Maori Affairs Head Office file 65/16. Supporting Papers #614-615.

⁵⁵⁵ Registrar Native Land Court Wanganui to Under Secretary Native Department, 16 May 1941. Maori Affairs Head Office file 65/16. Supporting Papers #614-615.

⁵⁵⁶ Maori Land Court minute book 101 Whanganui 252-254. Copy attached to Registrar Native Land Court Wanganui to Under Secretary Native Department, 5 September 1941. Maori Affairs Head Office file 65/16. Supporting Papers #616-618.

As the Judge had noted in his April 1937 report, Rangitikei County Council wanted to take riverbed land for river protection works. It had already had a survey made of the land it wanted⁵⁵⁷, and a complex legal issue then developed. Part of the land was original Te Reureu Block land that because of river erosion had not been included in partition blocks by later surveys. The majority was land that had never been part of the original Te Reureu Block, being riverbed at the time of the original Crown purchase. Whether it had ever been within the original Te Reureu Block boundaries or not, all the land sought by the Council was potentially accretion to various Te Reureu partition blocks. If accepted as accretion and added to the Te Reureu titles, then it was likely that the owners would neither give the land nor agree to sell it, leaving taking under the Public Works Act as the remaining option. However, before considering use of the Public Works Act, Rangitikei County Council preferred to negotiate with the beneficial owners of the accretion. Judge Browne asked for assistance from the Native Department in ascertaining the views of the District Land Registrar about the addition of the accretion to the Te Reureu titles⁵⁵⁸.

The Registrar General of Lands (who was consulted by the Native Department rather than the District Land Registrar) took the view that the land sought by the Council was not accretion but an island in the river, because it was separated from Te Reureu partition block titles by the Waituna Stream, which had at one time been a part of the Rangitikei River (“a branch, or a flood channel at the very least, of the Rangitikei”).

That being so, the “accretion” is actually a portion of an “island”, and cannot therefore be regarded as belonging to the owners of the blocks on the other side of the Stream. The plan upon which the subdivisions to the Natives were granted shows the sections as fronting a flood channel with an “island” between that channel and another.

Because of these circumstances, the Registrar General felt that a claim to accretion, if lodged with the District Land Registrar, would probably not be successful⁵⁵⁹.

In light of this interpretation of the circumstances at Onepuehu, Rangitikei County Council staff and the Council’s solicitor backed away from treating the land it sought as accretion, and decided to push ahead with taking the land under the Public Works Act. They took the

⁵⁵⁷ Wellington plan SO 19641. Supporting Papers #3306.

⁵⁵⁸ Judge Browne, Wanganui, to Under Secretary Native Department, 22 April 1938. Maori Affairs Head Office file 65/16. Supporting Papers #597.

⁵⁵⁹ Under Secretary Native Department to Judge Browne, Wanganui, 20 May 1938. Maori Affairs Head Office file 65/16. Supporting Papers #603-604.

view that if Te Reureu Maori claimed the taken land, then whether it was Maori-owned or Crown-owned could be argued at a subsequent compensation hearing before the Native Land Court. The Judge of the Native Land Court was fully aware of the Council's strategy and indeed was a party to it, having attended the conference of Council officials at which the decision was made⁵⁶⁰. Notice of intention to take the land was published in December 1938⁵⁶¹, and the land was taken for river protection works and vested in Rangitikei County Council in November 1939⁵⁶². The same Proclamation took the embankment approach to the Onepuehu bridge for the purposes of a road.

For compensation purposes, the land that had been within the boundary of the original Te Reureu block, but which had not been included in partition blocks because it had become riverbed, was treated differently to land outside the Te Reureu boundary and which had always had a legal status of riverbed. The un-partitioned Te Reureu land, being part of Te Reureu 1 (27 acres 0 roods 15.8 perches), was still regarded as Maori land, for which compensation had to be determined and paid, while no compensation had to be paid for the land always regarded as riverbed (103 acres 3 roods 22.6 perches). The Native Land Court in June 1941 accepted an offer of £35 for the Maori land, and fixed that as the compensation to be paid. The compensation amount was to be paid to the Aotea District Maori Land Board for it to decide how it would be distributed⁵⁶³. How it was distributed has not been researched for this report.

In 1946 the Rangitikei County Engineer proposed a new reinforced concrete bridge 804 feet in length at Onepuehu⁵⁶⁴. Consideration of the new bridge design by the Crown got bogged down by doubts about what maximum flood in the river the bridge should cater for. It was as part of this consideration that the plan was drawn showing the different conformations of the bridge over the years⁵⁶⁵. There were also doubts in the minds of the Crown roading engineers

⁵⁶⁰ Judge Browne, Wanganui, to Under Secretary Native Department, 30 May 1938. Maori Affairs Head Office file 65/16. Supporting Papers #605.

⁵⁶¹ *New Zealand Gazette* 1938 page 2740. Supporting Papers #3084.

⁵⁶² *New Zealand Gazette* 1939 page 3062. Supporting Papers #3085.

⁵⁶³ Maori Land Court minute book 101 Whanganui 221. Copy attached to Registrar Native Land Court Wanganui to Under Secretary Native Department, 5 September 1941. Maori Affairs Head Office file 65/16. Supporting Papers #616-618.

⁵⁶⁴ County Engineer Rangitikei County Council to Acting District Engineer, 21 January 1946, attached to Board's Representative Wanganui to Chairman Main Highways Board, 1 February 1946. Works and Development Head Office file 62/8/830/2. Supporting Papers #929-931.

⁵⁶⁵ Plan PWD 135632, drawn in 1948. Copy on Works and Development Head Office file 62/8/830/2. Supporting Papers #932.

as to how necessary the bridge was. It was this latter factor that eventually brought the debate about a new bridge to an end in 1952. The District Commissioner of Works in Wanganui wrote:

My impression however is that the bridge should not be renewed at all, and I told the meeting that they would need to prove a very strong case on economic grounds before the Board would proceed further.

I understand your office gave the consulting engineer verbal approval, acting on advice from this office, to go ahead and arrange for driving of two test piles at a cost of £712. I believe that so far the consulting engineer has been unable to get the work done, and I think we should take the opportunity to withdraw the approval until such time as the Board is able to consider the case put up by the County Councils.

Negotiations have been going on for some years, and it is difficult to understand why the Board has not been warned of the poor economic background to the proposals, but I can assure you that the position is well worth very careful consideration.⁵⁶⁶

By June 1953 the state of the bridge timbers was so poor that the decision was made to close the bridge to traffic⁵⁶⁷. The Crown file then records two attempts by local people to get the Government to make it possible for the bridge to be reopened; one was a European landowner, the other a Maori.

The European landowner described movement of stock and fertiliser as the most important reason for the bridge to be reopened, principally because in his opinion driving stock across the Kakariki bridge was a danger to public safety. The “least important” reason was what he described as “local value”:

The bridge has a great local value. The settlers on the Marton side are dependent largely on labour living on the Feilding side for harvesting, shearing, etc. Without this bridge to provide ready access, the cost of procuring this labour will be much increased, and the Maori labourers will be denied this field of employment. Again, some farmers are holding land on both sides of the river in the vicinity of Onepuhi, and their access problems are aggravated by the loss of the bridge. Marton is the natural shopping centre for the Maori population on the Feilding side and with provision of a bridge, no doubt, a bus service would be provided to meet their needs.⁵⁶⁸

⁵⁶⁶ *Wanganui Chronicle*, 27 June 1953. Copy on Works and Development Head Office file 62/8/830/2. Supporting Papers #935.

District Commissioner of Works Wanganui to Commissioner of Works, 8 July 1952. Works and Development Head Office file 62/8/830/2. Supporting Papers #934.

⁵⁶⁷ District Commissioner of Works Wanganui to Commissioner of Works, 2 July 1953. Works and Development Head Office file 62/8/830/2. Supporting Papers #936.

⁵⁶⁸ AH Marshall, Marton, to Chairman Main Highways Board, 14 August 1953. Works and Development Head Office file 62/8/830/2. Supporting Papers #937-939.

The Maori correspondent, P Herangi, wrote to the Minister of Maori Affairs “on behalf of the Maori settlers and Tribal Committee”. Some of the phraseology and layout of the arguments set out in this letter suggests he had access to the European landowner’s letter when preparing his own:

This factor is perhaps the least important, but the Onepuhi Bridge has a great local value. For the past 60 or 70 years the township of Marton which is some seven miles away have always been the business headquarters of the early Maori residents of Onepuhi; and down through the years to the present time we have done most of our business, shopping, etc in Marton, and in order to reach this township we have to use the Onepuhi bridge; and further we are in the Aotea Maori Land Board District, Wanganui, and most of our land transactions are dealt with by that Land Court. At present several of the farms in the Reu Reu Block are under Maori Land Development Scheme which has been operating here for several years, and the positions are somewhat aggravated by the loss of the bridge as a means of closer access to Marton and Wanganui. Quite a number of the Maori people rely on the Marton Taxis for transportation, but since the closing of the bridge we have to make a detour around Kakariki bridge, which is now more than double the distance (via Onepuhi bridge).

Herangi then wrote about stock sales and moving stock and fertiliser. His third point was one which had not been made by the European writer, the fact that Maori-owned land had been acquired for bridge protection purposes:

This matter is of great importance. In November 1938 the Rangitikei County Council met the owners of the Reu Reu Block for the purpose of acquiring a considerable strip of land by the Rangitikei River from the bridge upwards, comprising of some 120 acres more or less, for planting trees in order to give greater protection to the bridge. The Maoris were reluctant to the whole of their transfer, they thought that a narrower strip should be sufficient, however the Rangitikei County Council through a special Act acquired the whole of that strip of land which was part of Reu Reu, for the above mentioned purpose.

Now, sir, since the closing of the bridge we feel that we have been let down very badly indeed, because of the fact when the County Council acquired part of our land for the purpose in which it was designed, we felt that we were contributing towards something that will always be there.⁵⁶⁹

The two letters clearly show that Maori at Te Reureu would be more affected than anyone else if the Onepuehu bridge remained closed. The Minister of Maori Affairs passed the letter on to the Minister of Works, who replied that the concerns of “the Maori settlers of Onepuhi” would be considered when deciding on the future of the bridge⁵⁷⁰.

⁵⁶⁹ P Herangi, Tokorangi, to Minister of Maori Affairs, 10 September 1953. Works and Development Head Office file 62/8/830/2. Supporting Papers #940-941.

⁵⁷⁰ Minister of Works to P Herangi, Tokorangi, undated (November 1953). Works and Development Head Office file 62/8/830/2. Supporting Papers #942.

The District Commissioner of Works addressed the Maori concerns in a report to the Commissioner of Works:

It is correct to say that the distance from the Maori settlement to Marton is increased from 8 miles to 15 miles by the abandoning of the present structure.

This is certainly a disadvantage to the small Maori settlement and is to be regretted. It is not however of sufficient importance to weigh heavily in the consideration of a new £60,000 bridge. Access is still available to Marton and at a reasonable distance.

I find that it is quite correct that Rangitikei County Council acquired some 120 acres of land from the Maoris in 1938 for river protection purposes.

The land in question was practically useless, and in any case compensation was paid so that there cannot be even a moral claim to consideration on this account....

There have been only two arguments put forward in favour of the proposal which need to be considered.

The first and most important is the danger of driven stock at Kakariki stampeding and endangering life. There is no denial that such a danger exists, but there is some doubt as to whether the possibilities are such as to justify a separate bridge....

The second argument is that of local interest, Maoris [connecting] with Marton and the use of Maori labour. As shown above this is recognised as an objection, but it must be remembered that the people in question are not cut off from Marton, the distance they have to go is merely increased from 8 miles to 15 miles.⁵⁷¹

While the closure of the bridge in 1953 was an official action taken by the County Councils, the old and crumbling bridge structure still remained, and was still used by stock and pedestrians⁵⁷². That informal use came to an end in 1962, when the bridge was deemed to be in imminent danger of collapse⁵⁷³, and tenders were called for its demolition⁵⁷⁴.

After the bridge had been removed, what still remained was the parcel of land and riverbed taken under the Public Works Act for river protection. Although its purpose had disappeared, nothing was done to return any part of this parcel to its former Maori owners. Instead, in 1971, steps were taken to transfer responsibility for the taken parcel from Rangitikei County

⁵⁷¹ District Commissioner of Works Wanganui to Commissioner of Works, 19 February 1954. Works and Development Head Office file 62/8/830/2. Supporting Papers #943-946.

⁵⁷² *Wanganui Herald*, 1 August 1959. Copy on Works and Development Head Office file 62/8/830/2. Supporting Papers #947.

⁵⁷³ *Wanganui Chronicle*, 18 April 1962. Copy on Works and Development Wanganui file R44/575. Supporting Papers #3009.

⁵⁷⁴ *Wanganui Chronicle*, 18 June 1962. Copy on Works and Development Wanganui file R44/575. Supporting Papers #3010.

Council to Rangitikei Catchment Board. In July 1971 Rangitikei County Council advised that it wished to cede the land to the Catchment Board⁵⁷⁵. The Catchment Board was willing to accept the land, though added that “the mechanics of transfer may be a little complicated”. This was because the land had been taken under the Public Works Act for a specific purpose, and the Catchment Board wanted to end up with the ceded land having the status of a reserve for soil conservation and rivers control. This complied with administrative requirements established jointly in 1956 by the Soil Conservation and Rivers Control Council and the Department of Lands and Survey, and also brought the land in line with the status of the navigable riverbed reserved in 1959 (see the chapter on riverbed legalities). The taken land would have to be declared Crown Land first, before being reserved for soil conservation and rivers control, and these actions would require the cooperation of the Department of Lands and Survey⁵⁷⁶. Rangitikei Catchment Board therefore wrote to Lands and Survey requesting its approval of the steps required⁵⁷⁷. The Reureu land was a precedent setter for the intended procedures for the acquisition and reservation of land along the whole of the Rangitikei River Control Scheme area. It took until May 1972 before Lands and Survey signified its agreement with the proposed procedures⁵⁷⁸.

It was the responsibility of the Ministry of Works, as the department administering the Public Works Act, to declare that land taken under that Act would become Crown Land. The Catchment Board wrote to the Ministry in July 1972 asking for the land to be declared Crown Land, and advising that the Rangitikei County Council agreed to the land becoming the responsibility of the Rangitikei-Wanganui Catchment Board without any transfer cost, while the Department of Lands and Survey agreed that once declared Crown Lands it would be made a reserve under the Reserves and Domains Act and vested in the Catchment Board. The Onepuhi land was described as one of “a few loose ends” that needed to be tied up⁵⁷⁹.

⁵⁷⁵ County Clerk Rangitikei County Council to Secretary, 15 July 1971. Rangitikei-Wanganui Catchment Board file 327/RS2/C. Supporting Papers #3633-3635.

⁵⁷⁶ Chief Engineer to County Clerk Rangitikei County Council, 16 August 1971. Rangitikei-Wanganui Catchment Board file 327/RS2/C. Supporting Papers #3639.

⁵⁷⁷ Chief Engineer to Commissioner of Crown Lands Wellington, 16 August 1971. Rangitikei-Wanganui Catchment Board file 327/RS2/C. Supporting Papers #3640-3641.

⁵⁷⁸ Commissioner of Crown Lands Wellington to Chief Engineer, 12 May 1972. Rangitikei-Wanganui Catchment Board file 327/RS2/C. Supporting Papers #3644-3645.

⁵⁷⁹ Chief Engineer to District Commissioner of Works Wanganui, 20 July 1972. Rangitikei-Wanganui Catchment Board file 327/RS2/C. Supporting Papers #3646.

The Ministry asked that the Catchment Board use its solicitor for correspondence on the matter, as this would ensure that all relevant statutory procedures were properly followed⁵⁸⁰.

The Catchment Board's solicitor prepared two formal requests pursuant to the third proviso to Section 35(1) Public Works Act 1928, the first from Rangitikei County Council that it no longer required the land for its taken purpose and asking that the land be declared Crown Land, and the second from Rangitikei-Wanganui Catchment Board asking that the land be declared Crown Land so it could be vested in the Board for its control and management for soil conservation and rivers control purposes⁵⁸¹. The Ministry of Works agreed that "all statutory requirements have been complied with"⁵⁸², and the land that had been taken at Reureu for river protection in 1939 (but not the land that had been taken at the same time for road) was declared to be Crown Land in October 1972⁵⁸³.

In July 1973 the Minister of Lands was told:

The Rangitikei-Wanganui Catchment Board as part of its control scheme of the Rangitikei River has asked the Department to reserve these two areas and appoint the Board to control and manage them.

The land is bounded by both the Rangitikei River and the dry bed of the Waituna Stream, and is prone to flooding and erosion during the winter months. If the Catchment Board can obtain control, the situation may be arrested. The result of this would be that the risk of stock losses by the adjoining farmer, who grazes the land in association with his own property, would be reduced considerably.

There are 2.4281 ha (6 acres) approx of plantation in the south-east corner of the area to be reserved, but as these trees have little or no timber value, it is recommended that the areas be controlled by the Catchment Board⁵⁸⁴

The Minister approved the reservation for soil conservation and rivers control purposes⁵⁸⁵, and the appointment of Rangitikei-Wanganui Catchment Board to control and manage the reserve⁵⁸⁶.

⁵⁸⁰ District Commissioner of Works Wanganui to Chief Engineer, 2 August 1972. Rangitikei-Wanganui Catchment Board file 327/RS2/C. Supporting Papers #3647.

⁵⁸¹ Evans, Easther & Co, Barristers and Solicitors, Marton, to District Commissioner of Works Wanganui, 4 August 1972, attached to District Commissioner of Works Wanganui to Commissioner of Works, 14 August 1972. Works and Development Head Office file 96/327000/0. Supporting Papers #2543-2546.

⁵⁸² District Commissioner of Works Wanganui to Commissioner of Works, 15 September 1972, approved by Commissioner of Works 27 September 1972. Works and Development Head Office file 96/327000/0. Supporting Papers #2547-2548.

⁵⁸³ *New Zealand Gazette* 1972 page 2342. Supporting Papers #3098.

⁵⁸⁴ Submission to Minister of Lands, 23 July 1973. Lands and Survey Head Office file 15/244/9. Supporting Papers #511-513A

⁵⁸⁵ *New Zealand Gazette* 1973 page 1519. Supporting Papers #3101.

The former Maori ownership, prior to the taking in 1939, did not get raised or discussed as an issue during the administrative steps taken in 1971 and 1972. The Crown generally regarded the taken land as land it owned and could do with as it pleased, without any need to consult with or consider the interests of its former owners.

How the reserve was utilised by the Catchment Board after 1973 was not identified during research for this report. However, its status and use was raised in 1993, shortly after Manawatu-Wanganui Regional Council replaced the Catchment Board. Solicitors acting for Ngati Pikiahu Waewae claimed that the land should be returned to its former owners in accordance with Section 40 Public Works Act 1981, and that compensation should be paid for delayed return:

Further loss should not be perpetrated, and accordingly we give notice that our client requires the following:

1. That all logging currently carried out on the Reureu Block cease forthwith.
2. That any felled timber upon the property be held safe but not sold.
3. That funds in respect of any sale already effected should be held by you in escrow pending the resolution of disputed title or other claims as raised above.⁵⁸⁷

The solicitors were told in reply:

The *Pinus radiata* forest block, which is sited on presently designated soil conservation and river control reserve, is an integral part of the Rangitikei River flood control scheme.

The forest was established from scheme funds, and any funds received from thinning or milling is returned to the scheme funds for ongoing flood control works.

As far as your request is concerned, I can only advise that no further thinning or extraction is envisaged at this site in the immediate future.

I have no comment to make with respect to the validity or otherwise of certain claims you refer to by the adjacent Maori owners of the Reureu Blocks.⁵⁸⁸

6.8 Bridging the river at Kakariki

The first bridge at Kakariki was a railway bridge constructed in about 1877.

⁵⁸⁶ *New Zealand Gazette* 1973 page 1520. Supporting Papers #3102.

⁵⁸⁷ Hornblow, Carran, Kurta and Bell, Barristers and Solicitors, Wellington, to Chief Executive Officer, 30 August 1993. Manawatu-Wanganui Regional Council file RE 02 60. Supporting Papers #6146-6147.

⁵⁸⁸ General Manager to Hornblow, Carran, Kurta and Bell, Barristers and Solicitors, Wellington, 7 September 1993. Manawatu-Wanganui Regional Council file RE 02 60. Supporting Papers #6148.

The ... bridge consisted of one 120 ft timber truss span at the south end on concrete-filled cast iron cylinder piers and seven 60 ft timber trusses on timber pile piers.⁵⁸⁹

The line of the railway had been taken through Maori-owned land (Te Reureu 2 Block) on the true left (eastern) side of the river⁵⁹⁰.

A consequence of the railway crossing the Rangitikei River was that the gravel resource in the river became readily accessible. The Railways Department relied on the river as a source of ballast stone for spreading on the permanent way between the railway sleepers.

The railway bridge was damaged and put out of action by the flood on 15-16 April 1897. All spans except the 120 ft span at the southern end, and one 60 ft truss at the northern end, were washed away⁵⁹¹. The Chief Engineer for the Railways Department attributed the bridge's failure to inadequate piers and insufficient capacity for the waters beneath the deck of the bridge:

Sections of the riverbed at the line of railway which were taken when the cylinders were put down in 1882 show that there is at the bed of the river a stratum of loose shifting gravel. During times of flood there is no doubt that this travels downstream. Below this there is a very hard cemented gravel bed about 35 feet below formation level, and extending about 7 feet down.

The totara piles which have been on two occasions driven for this bridge have touched and not penetrated this hard sub-stratum, consequently in times of heavy flood there is around these piles about 8 feet of travelling shingle at the bottom, and from 27 feet to 32 feet of water. Such a pressure over the whole depth of the pile is such that the piles driven as described cannot but be washed away.

Piers built of timber piles can only stand on the condition of being driven through this hard sub-stratum and several layers of sand into the papa reef below, which requires piles from 60 feet to 65 feet in length....

When the flood was on, the flood mark on the upper side of the north embankment was 8 feet 6 inches higher than the flood mark on the lower side. This indicates that the bridge had not sufficient waterway.

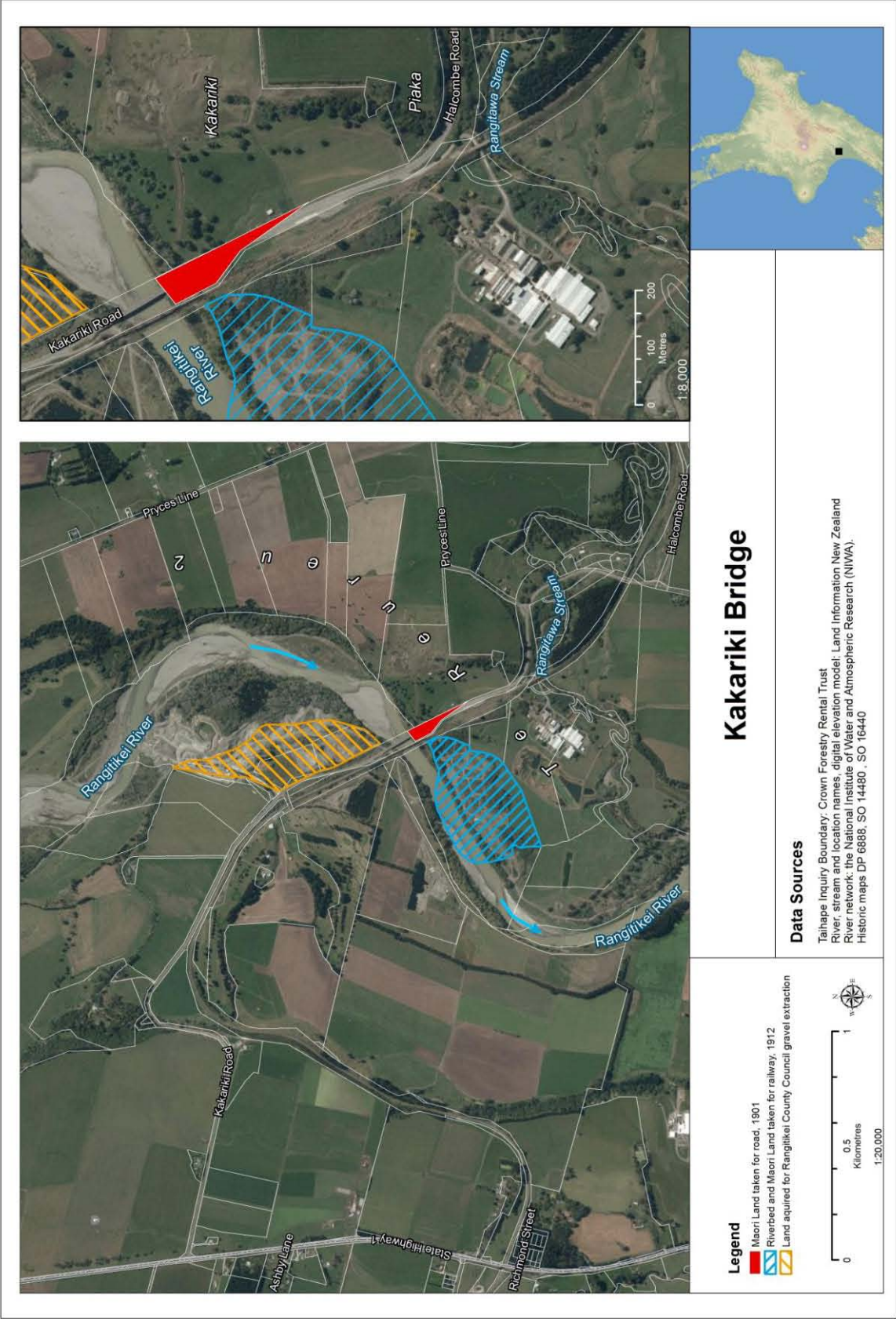
The peculiarities of the strata at this riverbed are such that cylinder piers are most suitable and effective.⁵⁹²

⁵⁸⁹ Historical notes on Kakariki railway bridge, June 1952. Works and Development Head Office file 62/8/830/2. Supporting Papers #933.

⁵⁹⁰ Wellington plan SO 16229 Sheet 1 and *New Zealand Gazette* 1877 page 168. Not included in Supporting Papers.

⁵⁹¹ Historical notes on Kakariki railway bridge, June 1952. Works and Development Head Office file 62/8/830/2. Supporting Papers #933.

⁵⁹² Chief Engineer to General Manager, 30 April 1897. Railways Head Office file 1898/4480. Supporting Papers #661-663.



Map 9: Kakariki bridge

A temporary replacement was quickly put up, consisting of a series of 20 ft timber beam spans on piles to fill the gap where the truss spans erected in 1878 had been washed away⁵⁹³. The railway was able to operate from 17 May on an improvised basis. Since the new structure could not take heavy loads such as railway locomotives, carriages and wagons were pushed on to the bridge by an engine on one side, allowed to free-wheel across the bridge under their own momentum, and then pulled off by a second engine on the other side⁵⁹⁴.

Local interests pushed for the replacement railway bridge to also be used as a road bridge, with Rangitikei County Council writing to the Minister of Public Works just three weeks after the flood:

The road bridge at Onepuehu about four miles higher up the river has been all but hopelessly wrecked in the recent flood, and is on such a bad site that the wisdom of attempting to maintain it any longer is very questionable. If a combined road and railway bridge were built as suggested, I believe the local bodies would be willing to bear a portion of the cost, rather than spend any more on the Onepuehu Bridge. There is good access by road to the eastern end of the railway bridge site, but on the western side a road would have to be taken under the Public Works Act to connect with the Rangitikei county roads.⁵⁹⁵

The Railways Department calculated the extra cost of making the railway bridge suitable for road traffic as well. It worked out at £2200 for construction, and annual costs (bridge maintenance and wages for a gatekeeper) of £150⁵⁹⁶. The Minister of Railways took the proposal to Cabinet, which approved it⁵⁹⁷, resulting in an offer to make the new bridge available for road traffic provided the County Council agreed to contribute the additional annual running cost of £150⁵⁹⁸. Both Rangitikei County Council and Manchester Highway Board accepted the offer. The County Chairman added to his letter of acceptance:

As it will be necessary to acquire a road to the bridge under the Public Works Act, I shall be obliged if you will furnish [me] with a plan showing the approach to the bridge and indicating the point to which the road will have to be taken.⁵⁹⁹

⁵⁹³ Historical notes on Kakariki railway bridge, June 1952. Works and Development Head Office file 62/8/830/2. Supporting Papers #933.

⁵⁹⁴ Telegram General Manager to Traffic Manager Wanganui, 15 May 1897. Railways Head Office file 1898/4480. Supporting Papers #667-668.

⁵⁹⁵ Chairman Rangitikei County Council to Minister for Public Works, 4 May 1897. Railways Head Office file 1898/4480. Supporting Papers #664-666.

⁵⁹⁶ Chief Engineer to General Manager, 9 June 1897. Railways Head Office file 1898/4480. Supporting Papers #669.

⁵⁹⁷ Decision of Cabinet, 12 June 1897, on Chief Engineer to General Manager, 9 June 1897. Railways Head Office file 1898/4480. Supporting Papers #669.

⁵⁹⁸ Minister of Railways to General Manager, 14 June 1897, on Chief Engineer to General Manager, 9 June 1897, and Telegram General Manager to Chairman Rangitikei County Council, undated (14 June 1897). Railways Head Office file 1898/4480. Supporting Papers #669 and 670.

⁵⁹⁹ Chairman Rangitikei County Council to Minister of Railways, 23 June 1897. Railways Head Office file 1898/4480. Supporting Papers #671.

The impact of bridging on riverbank land was highlighted by an exchange of correspondence initiated by lawyers for the European owner of land on the west bank of the river at Kakariki:

The old structure with the embankment had the effect of banking up and throwing back an excess of water on to his land. His land was frequently flooded through the structures of the railway line directing the ordinary course of the river waters.

We are instructed to intimate that Mr Howard will hold the Crown responsible for any damage that may be occasioned by the new structure having the same effect. He suggests that there should be a span additional to the number of spans in the old railway bridge, and that the embankment should be diminished by the length of such span.⁶⁰⁰

The danger had been acknowledged by the Railways Department in the Chief Engineer's report just after the flood, and the General Manager replied that "the new bridge will be 60 feet longer than the old one", which was the equivalent of an extra span⁶⁰¹.

The new bridge was built in 1899, to the following specifications:

It was decided to retain the 120 ft span at the south end and to build four more 120 ft spans supported on cylinder piers similar to those supporting the existing 120 ft span. Owing to the danger of floods, it was decided to renew the bridge on a level four feet above that of the previous structure.⁶⁰²

Timber decking and guardrails were added to make it suitable for road traffic. Allowing road traffic to use the railway bridge had a consequence for Te Reureu Maori, as the road approaches on the true left (eastern) side were separate from the railway approaches, and extra land had to be taken for road purposes in 1901 from the Maori owners of Te Reureu 2 under the Public Works Act⁶⁰³. On the western side of the river, public road access to the bank of the Rangitikei River across European-owned land was not legally obtained until 1937⁶⁰⁴, despite the road being in use from 1899.

The combined rail and road bridge remained in use until January 1941, when a new and separate railway bridge was opened. This then left the combined bridge used solely by road traffic:

⁶⁰⁰ Cash & Cohen, Barristers and Solicitors, Marton, to Under Secretary for Public Works, 1 September 1897. Railways Head Office file 1898/4480. Supporting Papers #672-673.

⁶⁰¹ General Manager to Cash & Cohen, Barristers and Solicitors, Marton, 14 September 1897. Railways Head Office file 1898/4480. Supporting Papers #674.

⁶⁰² Historical notes on Kakariki railway bridge, June 1952. Works and Development Head Office file 62/8/830/2. Supporting Papers #933.

⁶⁰³ Wellington plan SO 14480 and *New Zealand Gazette* 1901 page 529. Not included in Supporting Papers.

⁶⁰⁴ Wellington plan SO 19770 and *New Zealand Gazette* 1937 page 1838. Not included in Supporting Papers.

By 1933 the bulk of the timber in the trusses was approaching the end of its serviceable life for a railway bridge owing to its age and the ever-increasing weight of engines.

It was decided that it would be more satisfactory to build a new railway bridge on a new alignment, and dispose of the existing bridge to the Main Highways Board for use as a road bridge, than to undertake complete renewal and strengthening of the existing combined bridge.

The rail level on the new bridge is approximately one foot higher than that of the previous bridge. During construction work, several heavy floods were experienced, one of which on 25th February 1940 was only two feet lower than the record flood of 1897 which carried away the original bridge. Although a large quantity of debris was piled against the temporary bridge which was then nearing completion, no damage was done.⁶⁰⁵

The old combined bridge remained in use by road traffic until a new concrete road bridge was opened in 1970.

6.9 Bridging the river at Bulls

The Wellington Provincial Government built the first bridge at Bulls in 1873. Its length was 480 feet. It was located approximately 7 chains (140 metres) downstream of the present bridge⁶⁰⁶.

Steps were taken in 1896 to undertake repairs to the bridge. Reconstruction was authorised by central Government in June 1896, with the cost being shared as follows:

The cost of constructing the said work, less the sum provided by the Rangitikei Toll-bridge Account, shall be borne in the following proportions: i.e., by the County Council of Rangitikei, seven-seventeenths; by the Manawatu County Council, seven-seventeenths; and by the Bulls Town Board, three-seventeenths of the cost.⁶⁰⁷

However, a report prepared by Rangitikei County Council immediately after the April 1897 flood recorded that all the repair work had been lost:

This was a wooden pier bridge of six 80 feet spans on the main road from Palmerston to Wanganui. It has been entirely destroyed. Three piers and a short 25 feet span is all that is left, and the river has also broken a channel through behind the western end of the bridge. A contract was let to Messrs Glendinning to thoroughly overhaul and renew the old timbers last summer, at an estimated cost of £3000, and the work was in progress when the bridge was swept away. An expenditure of £800 had also been

⁶⁰⁵ Historical notes on Kakariki railway bridge, June 1952. Works and Development Head Office file 62/8/830/2. Supporting Papers #933.

⁶⁰⁶ Report 1 on Bulls Bridge collapse, undated, attached to Chief Engineer's works report to the Board, August 1973. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3444-3455 at 3445-3452.

⁶⁰⁷ *New Zealand Gazette* 1896 page 1000. Supporting Papers #3021.

incurred for protective works at the western end, which are now either destroyed or useless. The control of this bridge was vested in the Rangitikei County Council, the Manawatu County being the other contributing body....

To meet the present difficulty as quickly as possible, the County Council now proposes to at once establish a ferry service at Bulls.⁶⁰⁸

The ferry service was a punt 39 feet long by 8 feet wide, at a position one mile south of the bridge site⁶⁰⁹. It remained in use for a further six years until a new timber bridge was opened in 1903. There had been a commission of inquiry about the new bridge before it was built, though details were not located during research for this report. The new bridge, 1500 feet in length and located immediately downstream of the present bridge, remained in use until the present concrete bridge was opened in 1949.

It was a desire to align the Rangitikei River so that its flow would not be heading in a direction that attacked or undermined the bridge supports and approaches that caused Rangitikei County Council to arrange for the Crown to take Maori-owned land (and a small amount of European-owned land) for river protection purposes in 1932. The Maori-owned land was part of the Ohinepuhiawe reserve that had become located on the western (Bulls) side of the river once it had burst through the reserve in 1897. The land on the new riverbank was surveyed in 1931⁶¹⁰, and later the same year a notice of intention to take the land was publicly notified⁶¹¹. It was taken and vested in Rangitikei County Council in 1932⁶¹².

⁶⁰⁸ Chairman Rangitikei County Council to Minister of Lands, 4 May 1897. Lands and Survey Head Office file 36108. Supporting Papers #332-335.

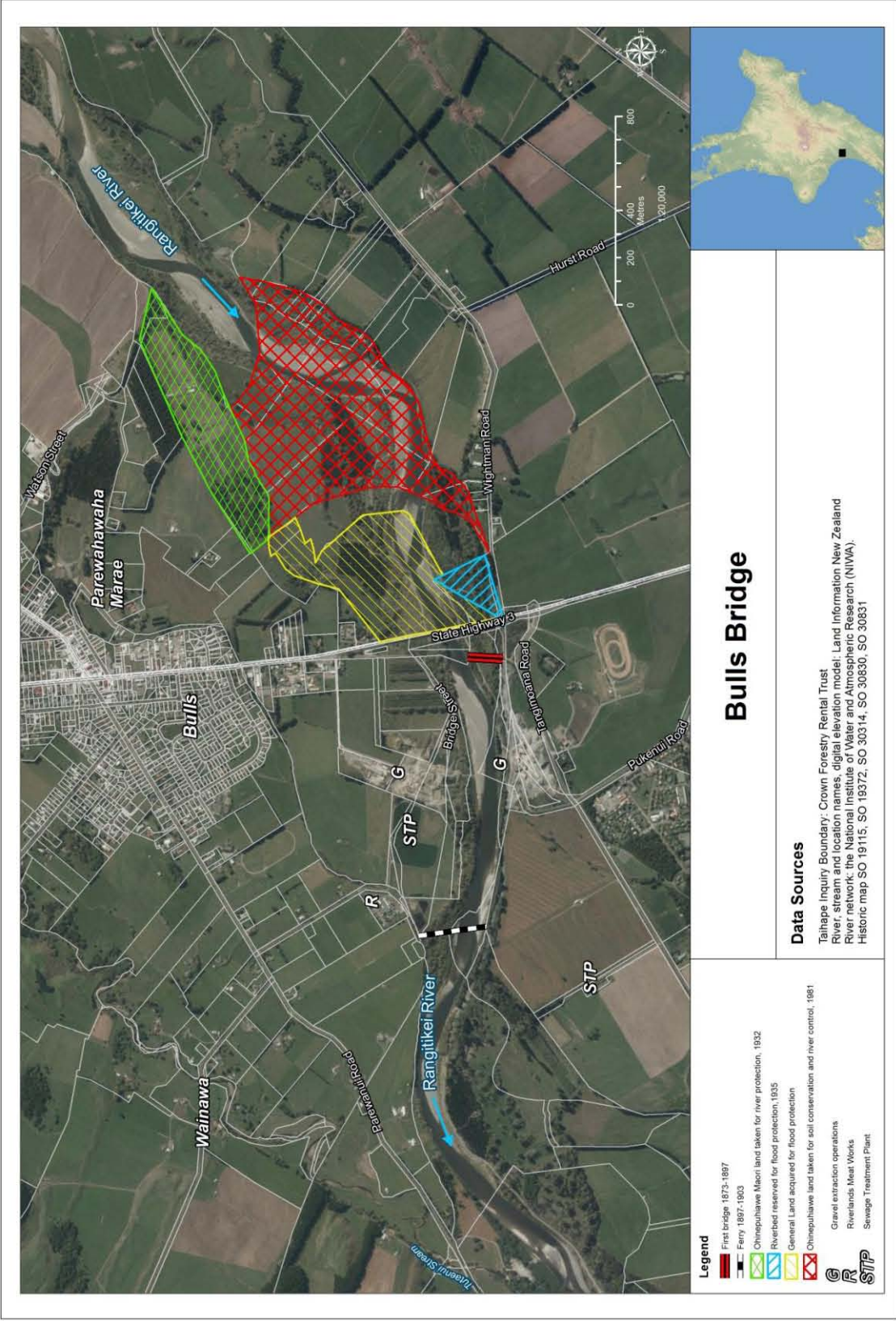
⁶⁰⁹ Annual report of GT Murray, Road Surveyor for Wellington West roading district, undated. *Appendices to the Journals of the House of Representatives*, 1898, C-1, pages 60-64 at 62. Supporting Papers #3116-3122 at 3118.

The location of the ferry crossing is indicated on Wellington plans SO 14352 and SO 14482, and required the laying off of an access road (still known today as Ferry Road) on the Bulls side (shown on Wellington plan SO 14352). Not included in Supporting Papers.

⁶¹⁰ Wellington plan SO 19115. Supporting Papers #3296.

⁶¹¹ *New Zealand Gazette* 1931 page 2797. Supporting Papers #3067.

⁶¹² *New Zealand Gazette* 1932 page 315. Supporting Papers #3068.



Map 10: Bulls bridge

The initial proposal considered by Rangitikei County Council did not involve a taking under the Public Works Act. It was described in the following terms in November 1930:

As the river is persistently trying to regain the old course of prior to 1897, eroding away land and threatening the Bulls approach to the bridge, it is proposed to acquire and plant a belt along the west bank....

The work proposed is in conjunction with the Main Highway Board and entirely to stabilise the bridge site. However, in doing so private owners will also be protected, and it is considered that owners should vest the land required in a long lease if the Council and Highway Board do the protective works and planting.⁶¹³

Between then and May 1931, however, when the survey plan was prepared, the intended leasing was changed to a proposed taking under the Public Works Act. The reasons for this change are not known. At least some of the Maori owners were aware of the proposed taking in June 1931, when Hoone Reweti wrote to the Native Minister:

We earnestly appeal for your assistance to retain our lands. Our very existence depends on the few acres we now possess. We use the said land for dairying purposes. Confiscation would deprive us of our means of livelihood. We beseech your immediate investigation into the matter.⁶¹⁴

He was told in reply that as the intended taking had not been submitted by Rangitikei County Council to the Public Works Department at that time, he should approach the County Council and state his objections to any taking⁶¹⁵.

The Crown file record about the taking of the Ohinepuhiawe land was not located during research for this report. However, a subsequent report by the County Engineer written in 1946 explained some of the circumstances about the lead-up to the taking:

About 1930 the Rangitikei River Bridge at Bulls and a portion of the west bank upstream for about half a mile was under the administration of the Main Highway Board and direct control of the Rangitikei County. As the river was then dangerously striking into the west bank above the bridge, both the Main Highway Board and the County were very much concerned, and heavy protection works were built for which the County contributed $\frac{1}{4}$ and Main Highway Board $\frac{3}{4}$.

The works in hand were then on private land above the bridge and were successful in preventing further erosion at this place.

⁶¹³ County Engineer Rangitikei County Council to Commissioner of Crown Lands Wellington, 19 November 1930. Lands and Survey Wellington District Office file 20/28. Supporting Papers #2930-2932.

The support of the Main Highway Board is apparent in a contemporary report by the Highway Board's engineer, an officer in the Public Works Department. Inspecting Engineer to Engineer in Chief, 17 November 1930. Works and Development Head Office file 96/327000. Supporting Papers #2231-2233.

⁶¹⁴ Hoone Reweti and others, Bulls, to Native Minister, 8 June 1931. Maori Affairs Head Office file 1926/50. Supporting Papers #552.

⁶¹⁵ Native Minister to Hoone Reweti, Bulls, 3 July 1931. Maori Affairs Head Office file 1926/50. Supporting Papers #553.

The main flow of the river was then striking into the Native land on the east just below opposite the Bulls cemetery point, cutting away portions of the Ohinepuhiawe blocks a little higher than at present, and rebounding into the west bank above the protective groyne complained about. Later a special conference was held with the Inspecting Engineer of Main Highway Board regarding protection of this point, and my suggestion to build a deflecting groyne was approved and carried out successfully, the main flow being diverted fairly centrally down to the bridge.

At this time it was cutting badly into the Ohinepuhiawe block. The County then took under the Public Works Act a considerable area of Native land along the west bank to connect the bridge river protection reserve with the cemetery point, which is solid papa, and this area was fenced and planted.

When the price to be paid by the County and Main Highway Board for the land taken on the west bank was considered by the Land Court, the erosion taking place on the east bank was discussed before Judge Browne, and the County offered to supervise protection work. The Native owners generally agreed, but later kept putting the matter off so nothing was done and the erosion has continued.

The cause of the trouble all along has been the deflection of the river off the cemetery point and has not been affected by the small deflecting groyne.

The only way the trouble can be obviated is to define a proper course for the river flow throughout over a very considerable length of the river above the bridge and cemetery point.⁶¹⁶

Some additional information about the taking is contained in a 1962 letter that provides a précis of some of the 1932 correspondence held by the Ministry of Works⁶¹⁷.

There was a second setting aside of land for the purposes of protecting the Bulls bridge during the 1930s. This land was located between Ohinepuhiawe Reserve and the site of the bridge, and was not Maori-owned. Instead it comprised old riverbed land, and titled land originally surveyed on the Bulls side of the river that had become located on the Ohakea side as a result of the new line taken by the river through Ohinepuhiawe. The key feature about the old riverbed land was that it was treated as being Crown Land, reflecting the Crown view that the Rangitikei River was a navigable river (see the chapter on riverbed legalities). The old riverbed land had been sought unsuccessfully by Harinui Wereta in 1926⁶¹⁸, at a time just

⁶¹⁶ County Engineer Rangitikei County Council to Rangitikei Catchment Board, 27 August 1945. Rangitikei Catchment Board miscellaneous correspondence. Supporting Papers #4047.

⁶¹⁷ Commissioner of Works to Christensen & Stanford, Solicitors, Marton, 19 October 1962. Rangitikei-Wanganui Catchment Board file 327/RS/B. Supporting Papers #3412-3413.

⁶¹⁸ Harinui Wereta, Bulls to Prime Minister, 14 January 1926, Under Secretary for Lands to Under Secretary Native Department, 18 March 1926, Native Minister to Harinui Wereta, Bulls, 1 April 1926, and Harinui

before the Native Land Court considered the ownership and occupation of a separate piece of old riverbed at Ohinepuhiawe (discussed in the chapter on riverbed legalities). The titled land had been granted to a settler but then acquired by the Crown⁶¹⁹. On the basis that both the titled land and the old riverbed were Crown-owned, a total area of 11 acres 1 rood 15 perches (Section 72 Block XV Rangitoto Survey District) was reserved under the Land Act 1924 for river protection⁶²⁰, and vested in Rangitikei County Council⁶²¹, the controlling body for the bridge. When the approval of the Minister of Lands to the reservation was being sought, he was told:

The County Council considers that the stabilising of this area is of vital importance to the stability of the proposed new bridge, and proposes to plant the section with willows and other exotic trees.⁶²²

The land taken for river protection from Ohinepuhiawe owners in 1932⁶²³, plus adjoining land riverbank acquired by the County Council from European owners, which together represented all riverbank land between Ohinepuhiawe and Bulls bridge⁶²⁴, was transferred from Rangitikei County Council to Rangitikei Catchment Board in 1962-63⁶²⁵. A payment of \$1000 for the transfer was involved, and the Catchment Board advised that this would be paid “out of royalties now being derived for the removal of metal from the river”⁶²⁶. In 1974 the status of the land was changed from freehold to reserve for soil conservation and rivers control subject to control and management by Rangitikei-Wanganui Catchment Board. The same procedure established as a precedent at Onepuehu (and described in an earlier section in

Wereta, Bulls, to Native Minister, 19 April 1926. Maori Affairs Head Office file 1926/50. Supporting Papers #540, 541-542, 543 and 544-545.

⁶¹⁹ Commissioner of Crown Lands Wellington to Under Secretary for Lands, 13 July 1934 and 19 July 1934. Lands and Survey Head Office file 53936. Supporting Papers #420 and 421.

⁶²⁰ Wellington plan SO 19372. Supporting Papers #3304.

Temporary reservation – *New Zealand Gazette* 1934 page 4346. Not included in Supporting Papers.

Permanent reservation – *New Zealand Gazette* 1935 page 629. Supporting Papers #3076.

⁶²¹ *New Zealand Gazette* 1935 page 1479. Supporting Papers #3077.

⁶²² Under Secretary for Lands to Minister of Lands, 1 October 1934, approved by the Minister 3 October 1934. Lands and Survey Head Office file 53936. Supporting Papers #422-423.

⁶²³ Wellington Land Registry title WN456/124. Copy attached to District Commissioner of Works Wanganui to Commissioner of Works, 9 October 1973. Works and Development Head Office file 96/327000/0. Supporting Papers #2549-2556 at 2555.

⁶²⁴ Wellington plan SO 30314. Supporting Papers #3308.

⁶²⁵ Report by Chief Engineer, January 1962, Notes of meeting, 7 September 1962, and Report to Chairman Southern Works Committee, 8 August 1963. Rangitikei-Wanganui Catchment Board file 327/RS/B. Supporting Papers #3409-3411, 3408 and 3414.

⁶²⁶ Secretary Rangitikei Catchment Board to Secretary Soil Conservation and Rivers Control Council, 29 November 1962. Works and Development Head Office file 96/327000. Supporting Papers #2331-2336. The transfer required Crown approval as the statutory authority relied on was Section 139 Soil Conservation and Rivers Control Act 1941. Secretary Soil Conservation and Rivers Control Council to Minister of Works, 18 December 1962, approved by the Minister 21 December 1962. Works and Development Head Office file 96/327000. Supporting Papers #2337.

this chapter) was followed, though without the preliminary step of transferring ownership as that had already occurred previously. The Catchment Board approached the Ministry of Works and Development in September 1972 with a formal statement requesting that the land's status be changed to Crown Land⁶²⁷. It was declared to be Crown Land in November 1973⁶²⁸. It was then reserved in October 1974 for soil conservation and river control purposes⁶²⁹, with the Rangitikei-Wanganui Catchment Board appointed to control and manage the reserve⁶³⁰. As at Onepuehu, the former Maori ownership was not treated as a relevant consideration during this procedure. The owners were not consulted and not given a chance to have the land returned to them.

The river protection reserve on the Ohakea side of the river that had been reserved in 1935 and vested in Rangitikei County Council also had its purpose changed to a reserve for soil conservation and river control, and Rangitikei-Wanganui Catchment Board appointed to control and manage it. The consent of the County Council to this action was sought and obtained in 1972⁶³¹, and the changeover was implemented in June 1975⁶³².

In June 1973 one of the piers supporting the Bulls bridge on the Ohakea side of the river was scoured out and undermined. Three spans of the bridge were affected, one collapsing completely, and a bus travelling over the bridge at the time dropped into the river below, injuring its driver. In the immediate aftermath of the collapse, a Rangitikei-Wanganui Catchment Board report identified a range of factors that may have been contributory:

1. Gravel extraction from the river bed in the vicinity of the Bridge.
2. Changes in channel geometry at the bridge, both naturally occurring and those changes brought about by deliberate works in the river.
3. Natural events (floods and earthquakes) preceding the collapse.

⁶²⁷ Evans, Easther & Co, Barristers and Solicitors, Marton, to District Commissioner of Works Wanganui, 15 September 1972, attached to District Commissioner of Works Wanganui to Commissioner of Works, 9 October 1973. Works and Development Head Office file 96/327000/0. Supporting Papers #2549-2556 at 2551-2552.

⁶²⁸ District Commissioner of Works Wanganui to Commissioner of Works, 9 October 1973. Works and Development Head Office file 96/327000/0. Supporting Papers #2549-2556.

New Zealand Gazette 1974 page 2. Supporting Papers #3103.

⁶²⁹ Director General of Lands to Minister of Lands, 11 October 1974. Lands and Survey Head Office file 15/244/9. Supporting Papers #519-520.

New Zealand Gazette 1974 page 2493. Supporting Papers #3106.

⁶³⁰ *New Zealand Gazette* 1974 pages 2493-2494. Supporting Papers #3106-3107.

⁶³¹ Chief Engineer to County Clerk Rangitikei Council, 29 June 1972, and County Clerk Rangitikei County Council to Chief Engineer 13 July 1972. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3484 and 3485.

⁶³² *New Zealand Gazette* 1975 page 1472. Supporting Papers #3108.
Wellington plan SO 30453. Not included in Supporting Papers.

4. Physical dimensions of the bridge structure itself in terms of design and construction.
5. River bed materials into which the bridge was founded.
6. Combined effects of some or all of the above factors acting in conjunction.
7. Organisational responsibility for assessing and evaluating the above influences as they occurred.⁶³³

The report was prepared with an appreciation that there could be legal action taken against the Catchment Board, so was cautious in what it said. It commented that “metal extraction is an all too obvious and immediate target for statements that extraction caused degradation of the bed and therefore the bridge failed as a result of scour induced by lowered bed levels.” From an analysis of bed levels, and the interrelationship between bed load movement in the river and extraction, however, the report concluded that metal extraction had not lowered the bed of the river at the bridge. However, bed degradation was “a significant factor” in altering the line of flow of the river, and pushing the main channel towards the Ohakea bank such that the scouring around the pier occurred. There had been an historical series of cross-section surveys of the riverbed at the bridge site:

These cross-sections indicate a rise in mean bed level, taken over the full bridge width, of 3 to 3½ feet from 1903 to the period 1938 to 1945. From 1945 to 1973 the mean bed level fell 1½ feet. There were, however, much more dramatic changes in minimum bed level, rising some 6-7 feet from 1903 to 1945, falling 9-10 feet from 1945 to 1970 and even more dramatically by falling a further 6 feet between 1970 and March 1973.

With these changes in bed levels a considerable narrowing of the mobile bed channel took place between 1945 and 1970. In 1945 the mobile bed width was 17 chains with a general upstream reach channel width averaging 20 chains, but by 1970 the mobile bed width had reduced to approximately 8 chains.

Low channel alignment also changed considerably during this same period, shifting progressively from the right bank in 1945 to the left bank by 1959 and subsequently remaining on the left bank. Approach alignment to the bridge remained essentially normal to the bridge until 1967, but between 1967 and 1970 a very bad hook developed into the right bank some 20 to 30 chains upstream of the bridge. This further entrenched the river into the left bank at the bridge and induced a bad left to right angle of flow through the bridge.⁶³⁴

Both the Catchment Board and Ministry of Works and Development (engineering agents for the National Roads Board) had been aware of the bed degradation and the channel changes,

⁶³³ Report 1 on Bulls Bridge collapse, undated, attached to Chief Engineer’s works report to the Board, August 1973. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3444-3455 at 3445-3452. The copy of this report discovered during research for this evidence was incomplete, being only the first three pages of a report at least six pages long.

⁶³⁴ Report 1 on Bulls Bridge collapse, undated, attached to Chief Engineer’s works report to the Board, August 1973. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3444-3455 at 3445-3452.

and these factors had been among matters discussed between the two parties during the three years preceding the collapse. A second report set out the nature of these discussions from the Catchment Board's perspective, noting that the Board had no control over the actions taken by the Ministry of Works and Development to protect its bridge⁶³⁵.

Perhaps embarrassingly for the Catchment Board, the Board's Chief Engineer and another staff member had visited Ohakea and viewed the river at the Bulls bridge just half an hour before the collapse. Their view was from the top of the cliff, allowing them to gain an appreciation of the surface flow pattern only. They noted that the flow was still close to the Ohakea bank, as it had been on previous visits, though this time more of the flow seemed to be in a right-hand channel closer to the centre of the riverbed:

The main flow was following the cliff on the left bank, being directed towards and passing through the span between Piers Q and P, at approximately 45° to the bridge centreline. Water in the bay between Piers Q and R was essentially still. This situation with respect to flow pattern on the left bank was unchanged from that observed on previous occasions. However, beyond Pier P the flow pattern was noticeably different from earlier observation in that a significant proportion of the total flow was following the right bank channel, developed by excavating metal from the berm area upstream of the bridge, and passing under the bridge to the right of Pier P at right angles to the bridge centreline. It appeared that the proportion of flow previously approaching Piers Q and P at a 45° angle of approach had been reduced and transferred to spans to the right of Pier P at a more normal angle of approach. To this extent I remarked to Mr Cook that flow conditions at the bridge had improved, and that the removal of metal from the right bank berm upstream of the bridge appeared to be having the desired effect.⁶³⁶

Pier Q was the pier that failed.

In November 1973 the Chief Engineer was obliged to revise his opinion expressed in the immediate aftermath of the collapse that metal extraction was not a significant factor. He stated that new information on bed slope and channel configuration "does indicate an influence by metal extraction on channel regime much greater than I had earlier imagined". He added that "my comments on metal extraction as a contributing factor to bed degradation

⁶³⁵ Report 2 on metal extraction at Bulls Bridge, 10 July 1973, attached to Chief Engineer's works report to the Board, August 1973. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3444-3455 at 3453-3455.

⁶³⁶ Chief Engineer to District Commissioner of Works Wanganui, 7 November 1973. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3456-3457.

at the Bulls Bridge contained in my report to the Board in July 1973 are now not necessarily valid”⁶³⁷.

For its part, the Ministry of Works and Development’s assessment of the cause was set out in a press statement issued by the Minister of Works and Development in December 1973:

“The collapse was caused by an unforeseen combination of circumstances”, said Mr Watt. “The bridge failed because of scour around Pier Q to a depth of 40 ft below water level, this being some 10 ft below the bottom of the piles supporting the pier base”. The sequence of events leading to this unusual failure was as follows.

Since 1952, the Rangitikei River had been subjected to a control scheme administered by the Catchment Board with the object of confining the river in a stable channel. As part of this control, systematic extractions of metal had been carried out in the Kakariki – Bulls reach of the river, both upstream and downstream of the bridge site. A substantial lowering of the minimum bed level at the bridge site occurred over this period.

However, a problem developed. The river became deeply entrenched in a narrow channel close to the Ohakea bank. This progressively exposed Pier Q to the channel which flowed obliquely against it, and this was aggravated by an old timber trestle pier just downstream of Pier Q which was likewise progressively exposed as the river moved over. The additional obstruction caused local turbulence, eddies and vortices, and these had now been shown to have created a very unstable situation in the river bed as far as the piles were concerned.

The oblique flow coupled with extreme scouring caused the pier and its supporting pile structure to ‘jack-knife’, resulting in the complete collapse of the pier and the progressive loss of 220 ft of the bridge.

Prior to the collapse, the Ministry and the Catchment Board had been maintaining a careful watch on the bridge and the general movement of the river, said Mr Watt. What was not foreseen, even by observation immediately prior to the incident, was the cumulative adverse effect of all the changes taking place at the Ohakea bank, resulting in a very rapid critical scour condition on the evening of 15 June 1973. Hindsight indicates that some more positive steps should have been taken to limit scour during the period it was under observation.

“Investigations have shown that the bridge was soundly designed and built for the conditions that obtained at the time”, said Mr Watt. “All piles were driven a depth of at least 35 ft below the existing stable river bed.”⁶³⁸

⁶³⁷ Chief Engineer to District Commissioner of Works Wanganui, 16 November 1973. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3458.

⁶³⁸ Press statement by Minister of Works and Development, 4 December 1973. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3472-3474.

The bus company and the driver took out a civil action against the Crown, claiming that negligence by the Ministry of Works and Development (as engineering agent for the National Roads Board) was a contributory cause of the bridge collapse. Rangitikei-Wanganui Catchment Board was added to the court case as a second defendant in June 1975, because negligence by the Board was also claimed as a contributory cause and the Crown argued that if judgement was found against the Crown then the Catchment Board should be responsible for part of the cost of any damages awarded⁶³⁹. The allegations against the Catchment Board were clearly influenced by the admissions made by the Crown as itemised in the Minister's press statement:

In or about the year 1965 the Third Party adopted a control scheme for the Rangitikei River which embodied the development of a single thread channel which involved increased channel depths and hence a lowering of the stable river bed level at the site of the said bridge.

As part of its control scheme the Third Party during a continuous period of five years prior to the collapse of the bridge licensed the extraction of large quantities of metal from the bed of the river in the vicinity of the bridge, causing degradation of the bed at the site of the bridge and weakening the support for the bridge structure.

In the period between 1970 and 1973 the operations of the Third Party in authorising the removal of metal from the bed of the river in the vicinity of the bridge brought about an entrenchment of the river into a single channel hard over to the left bank at the site of the bridge, exposing an old timber pier to the main channel flow and creating a restriction in the channel.

The collapse of the said bridge was due to the negligence of the Third Party in the following respects:

- (a) In altering the alignment of the river relative to the piers of the bridge;
- (b) In confining the river to a single thread channel at the site at the bridge;
- (c) In causing or permitting the extraction of excessive quantities of metal from the bed of the river in the vicinity of the bridge;
- (d) In failing to remove the old timber pier from the river channel;
- (e) In a combination of all or any of the allegations contained in sub-paragraphs (a), (b), (c) and (d) hereof.⁶⁴⁰

The Chief Engineer's comments on these matters, and therefore indirectly on the Crown's position, were provided in a letter to the Catchment Board's barrister in August 1973⁶⁴¹. He first noted his change of opinion about metal extraction:

⁶³⁹ Order of the Supreme Court, 20 June 1975, and Third Party Notice, 20 June 1973. Rangitikei-Wanganui Catchment Board 327/RS2/B. Supporting Papers #3459-3460 and 3461-3465.

⁶⁴⁰ Third Party Notice, 20 June 1975. Rangitikei-Wanganui Catchment Board 327/RS2/B. Supporting Papers #3461-3465.

⁶⁴¹ Chief Engineer to HS Lusk, Palmerston North, 18 August 1975. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3466-3470.

[Survey data now indicates] a depression in the longitudinal bed profile of the river in the vicinity of the Bulls bridge. This simply indicates a local lowering of the general bed level upstream and downstream of the bridge that can only be associated with metal extraction. I must therefore alter my opinions expressed in the report of metal extraction, and state that in my view metal extraction had resulted in a general lowering of the river bed in the vicinity of the Bulls Bridge, and that this could have been as much as 2 metres. Here of course I am talking about local bed degradation as distinct from scour.

He doubted the adequacy of the bridge foundations:

The river bed formations revealed by the investigating bores indicate similar foundation materials to those known to exist at Kakariki, in that below the surface gravels a hard pan exists which limits possible scour depths, provided it remains undamaged.

The decision to drive piled foundations into the type of materials revealed by the test bores, in a river known to have had past difficulties with this type of foundation, and to persist with this method when actual driving conditions led site supervisors to question it, must leave doubts as to the resultant condition of the piles and the so-called [papa] layer obviously relied on by the designers as the limit of potential scour.⁶⁴²

He believed that the old timber pier, a remnant of the 1903-1949 bridge downstream of the present bridge, would have induced scouring around Pier Q:

[If] it could be clearly shown that scour, and scour alone, was the cause of the failure of Pier Q, then the old pier would stand out as the prime contributor to the failure. From this would follow a necessary examination of why the old pier was left in position after the old bridge was dismantled and more particularly after it became exposed to view.⁶⁴³

Whose responsibility it was to remove the old pier was, in his opinion, a matter of debate.

However, the Chief Engineer was unwilling to ascribe the cause of the collapse to scouring caused only by the old timber pier. He questioned whether the Ministry of Works and Development had uncritically assumed the pier that collapsed and its pile substructure to have been soundly designed and constructed, when the piles had not been examined after the collapse, adding:

It is understandable that in reaching their conclusions they would place implicit faith in the Ministry's bridge design and construction capabilities, just as I might tend to question those same capabilities and minimise any contribution of river works to the collapse.

⁶⁴² Chief Engineer to HS Lusk, Palmerston North, 18 August 1975. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3466-3470.

⁶⁴³ Chief Engineer to HS Lusk, Palmerston North, 18 August 1975. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3466-3470.

This was an acknowledgment that where before the collapse the Catchment Board and the Ministry of Works (on behalf of National Roads Board) might have seen themselves as partners or close collaborators in matters to do with the river at the bridge site and bridge protection, the court case was all about what share of the blame each party was responsible for and was therefore focused on the differing responsibilities of each party. Of the relationship between the Board and the Ministry, the Chief Engineer stated:

Although a Catchment Board is seemingly an independent local authority, it derives its powers and functions from the Soil Conservation and Rivers Control Act 1941, which makes all the major works carried out by a board subject to technical and financial approval by the Soil Conservation and Rivers Control Council through to the Minister of Works and to Government. Soil Conservation and Rivers Control Council also from time to time issue policy circulars relating to the expenditure of subsidy monies, where authority to approve works has been delegated to boards, and on other matters for the guidance or instruction of boards in the conduct of their affairs....

In my understanding the powers of a catchment board are enabling only, and do not impose duties. Indeed it is beyond human capability to control and regulate the flow of water from any natural catchment. Some restraint can be imposed on the natural wanderings of a channel such as the Rangitikei River, and the Board has powers to do so, but it can only exercise those powers to the extent that its financial resources will allow. These financial resources are limited by the consent of adjoining landowners and the Government through the Soil Conservation and Rivers Control Council, and I would refer you to Section 128 of the Act.⁶⁴⁴

The Chief Engineer expressed the view that:

Removal of metal did not cause entrenchment of the river into a single channel hard over to the left bank at the site of the bridge. This was the result of a natural change in river alignment neither induced by any works of the Board, nor by any removal of metal.⁶⁴⁵

This view fails to have regard for the impact of channel training works further upstream that may have influenced the course the river took when approaching and reaching the bridge site. If it was true that the course of the river upstream of the bridge had been shaped entirely by natural factors, then that would make the taking of Ohinepuhia land under the Public Works Act in 1932 irrelevant to events at the bridge site. Yet the land had been taken in order to be able to influence how the river acted at the bridge.

⁶⁴⁴ Chief Engineer to HS Lusk, Palmerston North, 18 August 1975. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3466-3470.

⁶⁴⁵ Chief Engineer to HS Lusk, Palmerston North, 18 August 1975. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3466-3470.

The Chief Engineer concluded his letter to the Board's barrister by responding directly to all the allegations in the statement of claim apart from claim (c):

- (a) The Board did not alter the alignment of the river relative to the piers of the bridge.
- (b) The Board did not confine the river to a single thread channel at the site of the bridge. This did however occur indirectly as a result of so confining the river elsewhere than at the bridge, in conjunction with metal extraction in the vicinity of the bridge.
- (d) The Board had no obligation to remove the old timber pier from the river channel.
- (e) In my view neither in combination of all or any of the allegations was the Board negligent in exercising any of its duties or powers in relation to the bridge collapse. It did not specifically do anything that contributed directly to the collapse of the bridge. It may have permitted certain things to happen which indirectly contributed to the collapse, but these were done with the knowledge and consent of the Ministry of Works and Development, who had direct responsibility to assess the risks to the bridge and to take any preventative action necessary.⁶⁴⁶

In November 1976 the claim by the bus driver went to trial. This was after the Catchment Board and the National Roads Board / Ministry of Works and Development had agreed that any damages awarded to the driver and to the bus company would be shared on a 50:50 basis. A jury awarded the driver \$72,000, to which had to be added \$6000 undisputed special costs⁶⁴⁷. Because the split between the two defendants had been agreed upon before the hearing, the trial did not turn into a contest between bridge design engineers and river engineers, so that the extent to which the Catchment Board's river management activities had contributed to the collapse was never tested. The damages payable by the Catchment Board were paid by the Board's indemnity insurers. The Catchment Board records examined for this report did not explain what damages were later awarded to the bus company.

As a result of the bridge collapse, protection works at the bridge site had to be upgraded:

The need for river works designed primarily to define and maintain stable channel limits in the vicinity of the Bulls Bridge was recognised following the collapse of a section of the bridge in June 1973. Works for this purpose were required of necessity to be of a considerably higher standard than could be justified in terms of the protection from erosion of adjoining farmland under the Rangitikei River Control Scheme [R.R.C.S.], and consequently the establishment of a cost-sharing agreement between the River Scheme and the National Roads Board [N.R.B.] became a prerequisite to the execution of any major works.

⁶⁴⁶ Chief Engineer to HS Lusk, Palmerston North, 18 August 1975. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3466-3470.

⁶⁴⁷ *Wanganui Chronicle*, 1 December 1976. Copy on Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3471.

A formal cost-sharing arrangement was proposed by the Board in June 1975, endorsed by the [Soil Conservation and Rivers Control Council] in June 1975, and accepted by the District Commissioner of Works in December 1975. The formula which has been applied for the apportionment of costs of all works in the vicinity of the bridge, including those undertaken during the period following the bridge collapse and prior to the formal acceptance of the arrangement is as follows:

From 100m below bridge to 400m above bridge – full cost of all works to be borne by the N.R.B.

From 400m above to 800 m above bridge – cost of works to be shared on a 50/50 basis between the N.R.B. and the R.R.C.S.

Upstream of 800m above, and downstream of 100m below bridge – full cost of all works to be borne by the R.R.C.S....

The matters taken into account in establishing the original objectives, and the works necessary to achieve those objectives, were the balancing of costs against the width of channel within which it is practicable to confine or stabilise the river channel, and the relationship between river grade and meander width upstream and downstream of the bridge. The grade of the river upstream of the bridge is significantly steeper than that downstream, and the general trend with respect to the riverbed has been that of progressive degradation. Both of these features are a consequence of past gravel extraction in combination with other factors, and have been taken into account in planning the work, and in reviewing future gravel extraction management.

The over-steepened approach reach to the bridge precluded any possibility of permanently stabilising the river channel in a fixed alignment. The cost would have been extremely high and would have required works over a very long length of river channel.

The programme adopted as having the best minimum risk to cost ratio was that of allowing the river to shift its alignment at random between defined control lines progressively widening upstream. In other words, establishing a meander width progressively narrowing as the channel approached the bridge....

Also of concern is the necessity to ensure that meander movements are not slowed down causing excessive scour at any one point. It is also necessary to ensure that the long term trend of general degradation is reduced and if possible arrested.

Accordingly future gravel extraction is to be progressively directed to sites remote from the present sites downstream of the bridge. Any further extraction from the bridge reach of the river will be limited to the removal of the tops of beaches to prevent any vegetating and building of the beaches to the extent that they then slow down the rate of movement of meanders....

It is the combined performance of the various works components in the vicinity of the bridge which is of primary importance, and it is our contention that in this respect the works completed to date have been effective. The basic objective of the programme of works has been to confine the channel meander pattern within defined limits on either bank, and that objective has essentially been achieved. There is little doubt that in the absence of the works the river flow would have been hard against the Ohakea cliff and the left abutment of the bridge at various stages over the past 7 years, and

under those circumstances any corrective measures, had they been required, would have been extremely difficult and expensive to effect.⁶⁴⁸

However, Ministry of Works and Development engineers were not so confident that a new stability in the channel conformation had been achieved, noting that rock gabion protection on the left bank was being undercut⁶⁴⁹. Their concerns were confirmed one year later, when they reported:

The river bed has now scoured to a depth at Pier R which is nearing the depth reached at the time of the bridge collapse. Furthermore, the left bank above and below the bridge has eroded substantially during the past few months and the erosion may be accelerating.

Ministry of Works and Development design staff are confident that the underpinned piers, of which Pier R is one, will not be endangered, but this scour and erosion must not be allowed to continue.⁶⁵⁰

These remarks are a reminder about the dynamic state of the river in the lower reaches.

6.10 Concluding remarks

While bridges across rivers may seem a relatively innocuous and generally beneficial activity, they have been a focus for Crown and local authority attention, with consequences for the rivers that were crossed. Central and local government activity has been determined by the needs of bridge users rather than by the needs of the river or the bridge environment. At a crossing point the river becomes subordinated to the demands of maintaining the free flow of traffic (rail, vehicle and pedestrian) using the bridge.

In the process, what can be termed ‘kawanatanga creep’ has occurred, as the building of a bridge creates ripples that spread outwards from the initial action. Original bridges require rebuilding or replacement, the river has to be ‘tamed’ to ensure its movements do not injure the asset, and communities, policies and practices get shaped by the existence of the bridge.

It is not unreasonable to imagine that Maori looked upon the first bridges across the Rangitikei River as one of the positive elements of having Europeans come to live among

⁶⁴⁸ Rangitikei River at Bulls Bridge: report of channel training and protection works in the vicinity of the bridge, 30 May 1980. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3475-3480.

⁶⁴⁹ Resident Engineer Wanganui to Chief Executive Officer, 2 May 1980. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3481-3482.

⁶⁵⁰ Resident Engineer Wanganui to Chief Executive Officer, 26 June 1981. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3483.

them⁶⁵¹. It is unlikely that Maori considered that a bridge would be a source of conflict, where they were losing hapu authority while the Crown was gaining a foothold it could use to enlarge its kawanatanga authority. However, the pattern of settlement in the lower Rangitikei catchment was one of a sudden influx of Crown surveyors followed by large numbers of settlers arriving over a short period of time who quickly established living patterns and made changes to the environment and landscape that the Maori inhabitants could never have foreseen. Maori very quickly became a minority in their own tribal territory, and power balances shifted accordingly. The bridges were visible examples of the new circumstances. They also generated further changes as settlements such as Bulls, Mangaweka and Taihape were established close to bridging points. The bridges required approach roads and railway tracks, and takings and purchases for roads impacted on Maori at Kakariki, Tokorangi, Vinegar Hill and Mangaweka. There was then interest in acquiring Maori-owned land through which the approach roads passed, apparent at Vinegar Hill and Mangaweka. From very soon after the bridges were built, Rangitikei River Maori became sidelined and treated as irrelevant to decision-making in connection with riverbank land matters at bridging points.

Maori fared no better in connection with river matters at bridging points. A bridge was not viewed by the Crown or local authorities as an encroachment upon a waterway in which Maori still retained a legal right. Rather it crossed a riverbed that, as demonstrated in other chapters in this report, was variously thought of as little removed from being a no-man's land or as a legal vacuum that the Crown or local authorities could fill with virtual impunity. If any legal right to the riverbed was argued on the basis of the *ad medium filum* presumption, then the legal road status of the bridge approaches on the riverbank conferred rights to the centre of the river in favour of the legal road. Largely, however, the Crown's claim that much of the bed of the Rangitikei River was Crown Land precluded the need for such arguments. Either way, the Crown assumed that there was no need to consult with Rangitikei River Maori, that there was no Maori interest that required active protection, and that there was no loss of rangatiratanga that Rangitikei River Maori should be compensated for.

Instead the Crown considered only its own interests and those of the local authorities to which it had delegated some of its kawanatanga powers. The strongest links developed with

⁶⁵¹ When the second Bulls bridge was opened in 1903, "Mr Ratana of Parewanui and Mr Reweti from Onepuhi [sic] were present to be warmly welcomed by the Premier, and from these two men the Premier received a presentation of a handsome mat". *Argus* newspaper, quoted in SG Laurenson, *Rangitikei: the day of striding out*, Dunmore Press, Palmerston North, 1979, page 81.

respect to bridges were between central and local government politicians, and between central and local government engineers. These groups monopolised all debates about bridges, especially after so many were lost in 1897. The dominance of these groups also spread to further works in the waterways. The railway crossing at Kakariki opened the way for the riverbed and its banks to become a source of ballast. The various road crossings became the means to access the shingle in the riverbed, with County Council-controlled operations at Kakariki and Bulls, and with local authorities making extensive use of shingle extracted by private operators at other locations. Rangitikei River Maori were invariably excluded from discussions on these matters.

The impact of a bridge across a river spread beyond the crossing site itself. At both Onepuehu and Bulls a desire to control river conditions at the bridge site required river training works well upstream, in order to ensure that the waters passed under the bridge following a route and at an angle that would not damage the bridge structure. In both cases, this impacted on Maori-owned riverbank land. At first Rangitikei County Council, as the responsible government agency, opted to cooperate with the Maori landowners. However, that changed to use of the Public Works Act to compulsorily and permanently acquire full title to the riverbank land. Meanwhile the protection works left their own mark on the environment of the waterway.

The failure of the Bulls bridge in 1973 demonstrated the close relationship between the National Roads Board and the Rangitikei-Wanganui Catchment Board, where both talked with each other (inadequately as it turned out) and no other parties were involved. The damages claim showed that there was a third party involved, road users. They had always been considered, though as a subset of the conversations between central and local government politicians.

Maori communities can be shaped by the existence of bridges just as much as European communities. The Reureu people at Tokorangi relied on the Onepuehu bridge for access to the larger centre of Marton, for their children to get to school, and as a means of travelling to work on local farms. It was they who were more affected than any others in the community when talk turned to the closure of the bridge. However, as users they were not represented by local body politicians, and therefore had no effective voice in the decision. Despite having

hosted a bridge for 80 years, the views of Reureu Maori did not sway the Crown from its chosen course of closing the bridge in the early 1950s.

7. HYDROELECTRIC POWER GENERATION

7.1 Introduction

While the generation of electric power using the force of running water passing through turbines started as a private development, the Crown was quick to appreciate the possibilities for the economic wellbeing of the nation. Legislation was passed to prevent private developers capturing the best sites so that the sites could instead be developed in a more substantial and efficient manner for wider public benefit. Local authorities and private developers needed Crown approval before they could dam and draw off water for passage through power stations. Legislative authority plus the Crown's economic muscle for capital-intensive projects resulted in a Crown-dominated hydro development industry where electricity generation was designed, built and reticulated by the State or State-sanctioned power boards. This large-scale Crown investment was necessary because public demand for power increased so substantially during the 1950s, 1960s and 1970s that it was a finely balanced matter whether enough new generation capacity would come on stream to meet the rising levels of demand.

The imperatives to keep up with increasing demand engendered a sense of urgency that did not allow much to stand in the way of the hydroelectric construction programme. Respect for the mauri of water, kaitiaki responsibilities, and a Maori interest in alternative uses and values of waterways all became sidelined from very early on. Indeed there was an entrenched pattern of neglect for any Maori dimension in any of the Crown discussions and consultations about hydroelectric power generation.

The Crown demands on the waterways, and the ignoring of a Maori dimension, are as applicable to the Rangitikei River and its tributaries as they are to most other major rivers in the country. This chapter discusses four phases of the Crown's involvement with hydroelectric power generation as it has affected the Rangitikei River:

- Crown investigations on a national scale to assess the hydroelectric potential of the main rivers of New Zealand, undertaken shortly after legislation was passed in 1903 vesting the right to use water for electricity generation purposes in the Crown.
- Crown licensing and supervision of local initiatives in the early years of the twentieth century when there was no national or regional reticulation network and communities

were reliant on their own local resources. This period saw two local authority hydro schemes developed at Mangaweka and Taihape.

- Crown active involvement in large-scale hydroelectric power development in the mid to late twentieth century, once a national reticulation network allowed comprehensive schemes to be developed. This drew the Rangitikei River catchment into the Tongariro Power Development scheme, with the damming of the Moawhango River and the creation of Lake Moawhango.
- Crown encouragement in the late 1970s and 1980s of small local schemes promoted by local power boards. While proposals for dams and lakes on the Rangitikei River were developed on paper, none of these proposals have been implemented as many technically suitable sites became precluded from such use when the Rangitikei River national water conservation order was issued (in proposed form in 1986 and in operative form in 1993).

7.2 The legislative framework

This section draws on evidence previously prepared for other Tribunal inquiries⁶⁵².

During the nineteenth century there was already a presumption written into mining legislation that the Crown was entitled to regulate the taking, diversion and use of water for mining purposes in Mining Districts. This applied to water that, in the first legislation on the subject was “water which Her Majesty may lawfully divert and use”⁶⁵³, without defining more distinctly what this meant. The trail blazed by the 1865 legislation continued throughout the remainder of the nineteenth century⁶⁵⁴. The point being made here is that the Crown was willing to intervene statutorily over how water could be used from a relatively early date. It meant that other later interventions over how water could be used would also be considered to be justifiable.

Hydroelectric power generation was developed during the 1880s and 1890s, with the initial applications in New Zealand being:

⁶⁵² D Alexander, *The Crown's hydro-electric generation rights and the Aniwhenua and Wheao power schemes*, Wai 212, Document #C5, 1994, for Te Ika Whenua Rivers Inquiry.

D Alexander, *Historical analysis of the relationship between Crown and iwi regarding the control of water*, Wai 2358, Document #A69, 2012, for the National Freshwater and Geothermal Resources Claim Inquiry.

⁶⁵³ Section 18 Gold Fields Amendment Act 1865.

⁶⁵⁴ Section 21 Gold Fields Act 1866, Mines Act 1877, Public Works Act 1882, Mining Act 1886, and Mining Act 1891.

- First commercial generation at the Phoenix mine on the Shotover River, Central Otago, in 1885;
- First generation for community purposes at Reefton in 1888;
- First generation for non-mining industrial purposes (a freezing works and a paper mill) at Mataura Falls, Southland, in the early 1890s.

Each of these works generated direct current, which limited the distance that electricity could be transmitted. However, the development of alternating current in the early 1890s opened up possibilities for transmission over longer distances.

It was in this context that in 1896 an Auckland entrepreneur, Josiah Firth, promoted the concept of generating electricity at Huka Falls and transmitting it to the Thames and Ohinemuri goldfields. Firth's ideas were for a large-scale undertaking requiring overseas finance, and the investors he contacted sought certainty that the water supply the scheme relied on would be guaranteed. Firth asked the Government to pass legislation granting him an exclusive 50-year concession to generate electricity at Huka Falls.

There was public debate about the merits of this. Newspapers published in the goldfields, and public meetings in the goldfields, supported Firth's proposals, while other newspapers and other voices expressed concerns that Firth was seeking a monopoly position. The Government was obliged to form a view. It chose to block Firth's proposals, and in some haste introduced to Parliament the Electrical Motive-power Bill, which precluded the possibility that a local authority could grant an electricity generation concession without first obtaining the consent of the Governor.

Section 2 of the Electrical Motive-power Act 1896 stated:

Notwithstanding anything to the contrary contained in any other Act, it is hereby declared that, from and after the coming into operation of this Act, it shall not be lawful for any local authority to grant to any person any right or concession for the purpose of either generating or using electricity as a motive-power without in each instance the previous consent of the Governor by Order in Council gazetted.

With Firth's death in 1897, the immediate pressure on the Government was removed. However, hydroelectric power generation was a technology that was set to become more important. The Public Works Department began to collect data about river flows, heads of water and the like around the country. Meanwhile the circumstances of the Waipori power

scheme near Dunedin were a source of Government concern, as described by an official historian writing about power generation in New Zealand:

The example of Waipori bothered the government and led to it jealously guarding water assets. There a private company had obtained free water rights, which subsequently had to be purchased by the Dunedin City Council.⁶⁵⁵

By 1903 the Government decided that the 1896 legislation was no longer suitable, and further legislation was necessary. It introduced the Water-power Bill to Parliament. According to the Preamble when this Bill was passed and became the Water-power Act 1903, it was:

An act to provide for the vesting in the Crown of waters for electrical purposes, and for the utilising of such waters for those purposes.

Section 2(1) set out the vesting power:

Subject to any rights lawfully held, the sole right to use water in lakes, falls, rivers or streams for the purpose of generating or storing electricity or other power shall vest in His Majesty.

The remainder of the Act, which was deemed to form part of and be read together with the Public Works Act 1894, set out how the right vested in the Crown could be used by the Crown. Section 2(2) gave the Crown the authority to acquire existing rights, Section 3 allowed for delegation to local authorities of the right to use water for hydro-generation purposes, and Section 4 allowed rights to be granted by the Minister of Public Works to protect private persons or companies.

Research for Ika Whenua Rivers evidence⁶⁵⁶ was unable to locate any surviving Crown records about the circumstances leading up to the introduction of the 1903 legislation, apart from one reference in a Public Works Department correspondence register when, on 18 August 1903, the Minister of Public Works inquired of his Department:

Re control and use of water power at Maitara Falls, and question as to whether owners of adjoining sections can claim right to the centre of the river.⁶⁵⁷

The Department referred the matter to the Solicitor General, who replied on 9 September 1903. Unfortunately the Solicitor General's opinion is not known, as it is only the

⁶⁵⁵ JE Martin, *People, politics and power stations: electric power generation in New Zealand, 1880-1990*, Bridget Williams Books, 1991, at page 38.

The rights had been obtained by a miner in 1900 under the Mining Act 1898, and then on-sold to a company seeking to supply Dunedin.

⁶⁵⁶ D Alexander, *The Crown's hydro-electric generation rights and the Aniwhenua and Wheao power schemes*, Wai 212, Document #C5, 1994, for Te Ika Whenua Rivers Inquiry.

⁶⁵⁷ Entry 03/4263 in Public Works Head Office Inwards Correspondence Register. Not included in Supporting Papers.

correspondence register and not the file that survives. However, only one week later, on 16 September 1903, the Water-power Bill was introduced to Parliament. This indicates that the Government was receiving legal advice during the period leading up to the Bill's introduction that might have a bearing on what was meant by "any rights lawfully held" in Section 2(1).

While the debates in Parliament do discuss "any rights lawfully held", they do not fully clarify the meaning of the phrase. The most pertinent part of the debates occurred at the Bill's second reading on 24 September 1903. In introducing the Bill the Minister for Public Works spoke of the need for sound governance:

The State – the people – should have within their control the power which is contained in those rivers, falls and lakes. That, shortly put, is the object of the Bill before us.... The object is to conserve the water for the use of the people for the purpose of generating electricity....

If, in the interest of the State, it is considered advisable to take that power, as lands are taken under the Public Works Act, the State would have the right to do so, compensating the owner for any rights or power so taken....

It is well that there should be some controlling authority to see that all interests are served, and that no unfair advantage is taken by any section of the community or any part of a district over any other part; and that authority is placed in the hands of the State, and that is one of the provisions of the Bill....

In view of the importance of the matter and the fact that we have on the way to the colony an expert from America who has had large experience in the utilisation of this power, it is our duty to see that provision is taken to enable the best use to be made of this great power, which, in my opinion, will lead to a complete reorganisation of the manufactures of the colony.⁶⁵⁸

Pakeha Members of Parliament were aware that the Bill would have an effect on private rights. They saw that vesting the use of water for electricity purposes in the Crown might impact on other uses of the water by private enterprise, such as for mining or irrigation.

One Maori Member of Parliament, Hone Heke, was aware that the legislation would have an impact on Maori rights, and raised his concerns with the Minister in the House, who responded. The exchange, from *New Zealand Parliamentary Debates*, deserves to be recorded in full:

⁶⁵⁸ *New Zealand Parliamentary Debates*, 24 September 1903, Volume 125, pages 784-785. Not included in Supporting Papers.

Mr Heke (Northern Maori District), - I quite agree with what was said by some of the previous speakers in regard to the provisions of the Bill enabling the Crown to acquire all the water-power in the colony; I think it is going too far. I speak more particularly in regard to waterfalls on Maori lands. It would not be proper for a Bill like this to take away from Maori owners the use of water-power on their lands. There is no telling to what use even the Maoris may desire to put such water-power for themselves. It would be entirely different if the Crown desires to acquire water-power on Maori land; it remains for them to acquire it from the Natives. But the sweeping provision of subsection (1) of clause 2 is going too far. My objection to the Bill is on that subsection, and I shall oppose that in Committee. It is an attempt to take away Native rights.

The Hon. Mr Hall-Jones (Minister for Public Works), - In regard to what has been said by the last speaker, if he reads the clause of the Bill he objects to he will see his objection is already met. In fact I may say that almost every objection made by members has been met. In the first place, let me refer to the irrigation which has been so successful in Canterbury and other provinces. I should be the last to see the interests of those who benefit from this great work jeopardised. One of the conditions of the Bill is that it is subject to any right now lawfully held. All these races are held in accordance with legal rights, and cannot be interfered with. In using coal for generating power, the coal is burned, but with water you take it from one point in the river and return it at another point; the same volume of water goes down the river and is usable for any purpose, and the duty of the Government would be to ensure that any power-station was so placed that the requirements for agricultural and pastoral purposes were not affected. In regard to the case of the City of Christchurch, I have no hesitation in saying that any honourable member who visited the site of the proposed works would see in what way the convenience of the farmers would be met, and also that of the City of Christchurch, without injury to anyone and at very small cost. This is the advantage of the Governor in Council having the power to impose such conditions as he thinks fit. For instance, if an application is made by some local authority who desire to go in for electric lighting or power for manufacturing purposes, application is made for certain rights. It is the duty of the Minister to see that no other interests are injuriously affected, and to so arrange matters that the present and future requirements of those engaged in farming or irrigation are met.

Mr Heke, - That is included by subclause (1).

The Hon. Mr Hall-Jones, - Subclause (1) indicates what I want to do. I want to have these rights preserved to the State and controlled by the State, for the purpose of what? Not irrigating lands, not for other purposes, but for generating electricity; and where the water is utilised for that purpose it goes through a race or tunnel to the power-station and is then returned to the river again. It is not wasted.

Mr Heke, - The Minister is vesting this power in the Crown.

The Hon. Mr Hall-Jones, - If there are vested interests held by the Natives or others they would be preserved, and if required under subsection (2) would have to be paid for.

An Hon. Member, - If wanted?

The Hon. Mr Hall-Jones, - That is, if they are wanted. In drafting this Bill I had the object in view of controlling the use of water-power for the purpose of generating electricity; but the discussion which has taken place tonight has shown me that there are some points which will have to be met in order that no injury shall be inflicted upon any one.⁶⁵⁹

The Minister seems to conflate two types of right, rights held by Maori (which Heke in his remarks tied back to land ownership), and rights granted by legislative authority (for irrigation, etc). As far as the Minister was concerned, both types of right were “lawfully held”, and would have to be acquired by the Crown if it wished to exercise its own control over them. The nature of the rights held by Maori, however, were not examined during the debate, and not defined in the legislation.

There were two amendments made to the wording of clause 2(1) at the Committee stage⁶⁶⁰:

- As introduced, the clause read “subject to any rights now lawfully held, ...” The word ‘now’ was removed, so that the clause then read “subject to any rights lawfully held, ...”
- As introduced the clause read “the right to use water in falls, rivers or streams ...” The word ‘lakes’ was added, so that the clause then read “the right to use water in lakes, falls, rivers or streams ...”

The Waitangi Tribunal has commented on the 1903 legislation in previous reports⁶⁶¹. Its findings are not addressed in this report, being a matter for legal submissions.

The Water-power Act 1903 was incorporated into the Public Works Act 1905 as Part XII, which in turn was consolidated as Part XIII of the Public Works Act 1908. Under Section 5 of the Public Works Amendment Act 1908 the Crown’s powers were extended to include the granting of licences to others to use water to generate electricity. Rules for the granting of

⁶⁵⁹ *New Zealand Parliamentary Debates*, 24 September 1903, Volume 125, pages 798-799. Not included in Supporting Papers.

⁶⁶⁰ *New Zealand Parliamentary Debates*, 7 October 1903, Volume 126, page 283. Not included in Supporting Papers.

⁶⁶¹ Waitangi Tribunal, *Ngawha Geothermal Report*, 1993, page 121.

Waitangi Tribunal, *Ika Whenua Rivers Report*, 1998, pages 105 and 126-135.

Waitangi Tribunal, *He Maunga Rongo: report on Central North Island claims, stage 1*, 4 volumes, 2008, pages 1176 and 1188-1189.

licences and the setting of licence conditions were issued in 1909⁶⁶². Among the rules was the ability to impose what was described as “a rent-charge of 6d per horse-power per month” for the right to take water. Effectively the Crown monetised the monopoly it had vested in itself.

This report’s examination of the power schemes on the Rangitikei River and its tributaries looks particularly at whether the Crown assessed whether any pre-existing Maori rights to water might be affected by proposals to use the water for electricity generation purposes.

7.3 Assessment of hydroelectric potential, 1904

Shortly after the right to use water for electricity generation was vested in the Crown in 1903, a report was prepared by a Public Works Department engineer, PS Hay, based on reports from departmental staff around the country, about the hydroelectric potential of rivers in New Zealand⁶⁶³. The Rangitikei River was one of the rivers that had been inspected, though only that portion of the river from the confluence with the Hautapu River downstream to Vinegar Hill bridge. Between these two points there was a drop in height of the river of 400 feet. One site at Makohine was identified:

Just below the Kawhatau junction is a good point to take water from the river. The extra height at the Hautapu junction would not compensate for the loss of the Kawhatau water, while below the Kawhatau there are no streams joining to compensate for the loss of head. Water could be taken, of course, at points lower down the river, for schemes giving less power, but there is no need to discuss any such schemes at present....

The low-water flow at the Kawhatau junction may be taken to be 1,500 cubic feet per second, under the existing conditions of the river-basin. These conditions may yet, however, be modified by destruction of the forests increasing the flood flow and diminishing the low-water flow....

Assuming the water taken out of the river at the Kawhatau and carried to the Makohine – the distance is about nine and a half miles by the probable conduit route – the total fall obtainable is just over 300 feet. Water can be taken at about the river level by a suitable weir, or at levels of say 50 ft, 100 ft, or 150 ft above the ordinary low-water level by dams. The dams could be used to store some days’ supply or merely to store the overnight low-water flow, and use the height to give extra head.⁶⁶⁴

⁶⁶² *New Zealand Gazette* 1909 pages 1509-1510. Supporting Papers #3034-3035.

⁶⁶³ PS Hay, Report on New Zealand water-powers, etc, 16 September 1904. *Appendices to the Journals of the House of Representatives*, 1904, D-1A. Supporting Papers #3138-3141.

⁶⁶⁴ PS Hay, Report on New Zealand water-powers, etc, 16 September 1904, pages 9-10. *Appendices to the Journals of the House of Representatives*, 1904, D-1A. Supporting Papers #3138-3141 at 3139-3140.

While outlining what was potentially possible, the Hay report also set out some of the difficulties. The papa country through which the river flows was “not favourable” for the construction of canals, because it was prone to slipping, and it would be better if the 9½ mile long conduit was a tunnel. Silt and sediment in the river would build up behind any dam, especially any of the lower height dams. Silt would also be abrasive on the tunnel lining. However, perhaps the biggest difficulty was the absence of a market for the power that was generated. Power from the Rangitikei River could only be supplied to the area between Palmerston North and Wanganui, and there was no manufacturing industry in this area needing a large amount of energy. Hay concluded that a scheme of the size he had outlined was “for the distant future”:

If a smaller scheme were required for the Rangitikei, the proper course is to utilise the river further up the valley, and transmit energy from a greater distance. No very definite information is available for the Rangitikei above the Hautapu junction, but no doubt many schemes are possible on the Rangitikei and on the Moawhanga [sic].⁶⁶⁵

Possible minor schemes, listed in Hay’s report but not reported on, were at four falls on the Moawhango River, at Tikirere (20 feet height of falls), Pongo (25 feet), Te Paunga (17 feet), and Papakore (20 feet). In addition, Hay advised that local schemes could potentially be developed on the Hautapu River at Turangarere, and on the Rangitikei River above the Napier – Taihape Road⁶⁶⁶.

7.4 Mangaweka Town Board hydroelectric scheme

While Mangaweka did not beat its larger neighbour Taihape to be the first community in the district to install hydroelectric generation (discussed in the next section), it was the first to obtain a Crown licence to allow it to do so legally. In April 1911 its Town Board received an engineer’s report about a proposed scheme on the Mangawharariki Stream. The principal purpose of the scheme was to generate power with which to pump water from the Rangitikei River to a reservoir above the town for gravity distribution to town properties. A secondary purpose was the supply of electricity to properties in the town and for street lighting. The power would be used for pumping water during the day, and for the lighting of streets and houses in the evening. A six-metre high dam would be built 270 metres up the Mangawharariki Stream, which would allow water to be drawn off along a wooden flume to a powerhouse just above the confluence of the stream with the Rangitikei River. The

⁶⁶⁵ PS Hay, Report on New Zealand water-powers, etc, 16 September 1904, pages 9-10. *Appendices to the Journals of the House of Representatives*, 1904, D-1A. Supporting Papers #3138-3141 at 3139-3140.

⁶⁶⁶ PS Hay, Report on New Zealand water-powers, etc, 16 September 1904, page 15. *Appendices to the Journals of the House of Representatives*, 1904, D-1A. Supporting Papers #3138-3141 at 3141.

powerhouse would be sited so as to be just above the level the river reached in the 1897 flood⁶⁶⁷.

On receipt of the engineer's report, the Town Board sought assistance from the Crown for the use of the Mangawharariki Stream. In his letter the Board's Chairman advised that "the scheme will in no way injure the stream, and will mean a great deal to the residents of Mangaweka"⁶⁶⁸. A Public Works Department electrical engineer was sent to inspect the proposal. In the instructions given to him, he was not asked to investigate if any rights of use of the Mangawharariki Stream already existed. Instead he was told:

No exhaustive examination into the scheme is necessary, but merely a general report as to whether the scheme is a reasonable and practicable one, and one that the Government should encourage; also as to whether it is likely to interfere with any Government scheme that may be undertaken in the near future.⁶⁶⁹

The engineer found the scheme to be sound and practicable, though it would be expensive for Mangaweka ratepayers. The only change he recommended was that to improve reliability of service the dam should be constructed of concrete rather than timber. He added that the Town Board's scheme would not interfere with any Government scheme:

The Rangitikei proposals (Mr Hay's Report, pages 9/10) will be amongst the last of his proposals to be developed, involving as they do an enormous dam and a nine-mile tunnel, and with no promise of a market in the district. They may therefore be omitted from the list of "Government schemes that may be undertaken in the near future".⁶⁷⁰

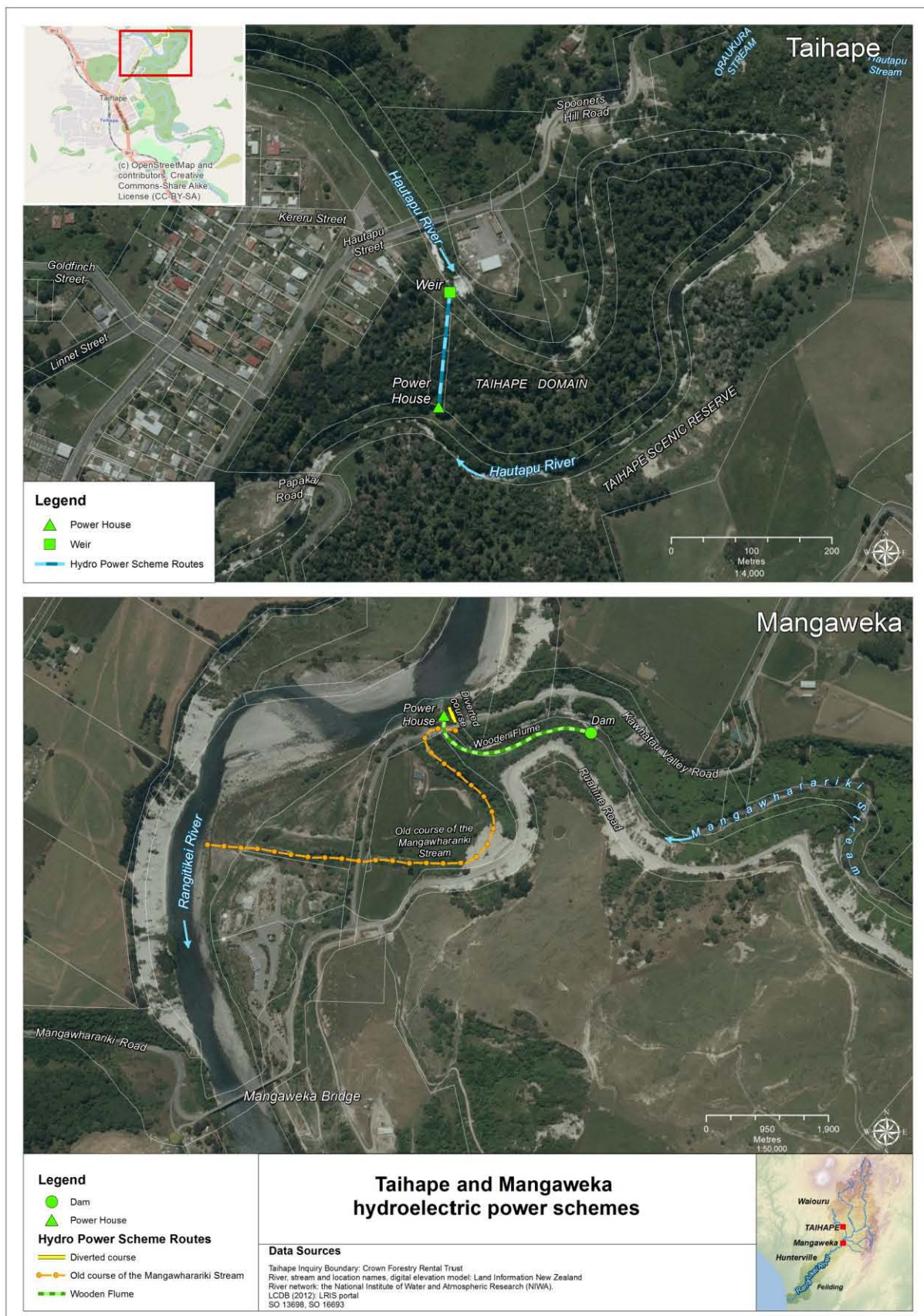
⁶⁶⁷ Turnbull and Jones Ltd, Electrical Engineers and Contractors, Wellington, to Chairman Mangaweka Town Board, 4 April 1911, attached to Assistant Electrical Engineer to Under Secretary for Public Works, 1 June 1911. Electricity Head Office file 10/75/1. Supporting Papers #6-16.

Where the powerhouse was sited and water was dropped into the Rangitikei River would result in a total diversion of the Mangawharariki Stream from its original course. The original course of the river, where it flowed into the Rangitikei River further downstream, is shown on Wellington plans SO 13698 and SO 13729 (Supporting Papers #), and the river diversion is referred to in *Mangaweka and District's first 100 years*, Mangaweka and District Centennial Committee, 1985, page 55.

⁶⁶⁸ Chairman and Town Clerk Mangaweka Town Board to RW Smith MHR, 10 April 1911, attached to RW Smith MHR to Minister of Public Works, 16 April 1911. Electricity Head Office file 10/75/1. Supporting Papers #1-4.

⁶⁶⁹ Under Secretary for Public Works to Chief Clerk Public Works Department, 19 May 1911, on Minister of Public Works to RW Smith MHR, 21 April 1911. Electricity Head Office file 10/75/1. Supporting Papers #5.

⁶⁷⁰ Assistant Electrical Engineer to Under Secretary for Public Works, 1 June 1911. Electricity Head Office file 10/75/1. Supporting Papers #6-16.



Map 11: Taihape and Mangaweka hydroelectric power schemes

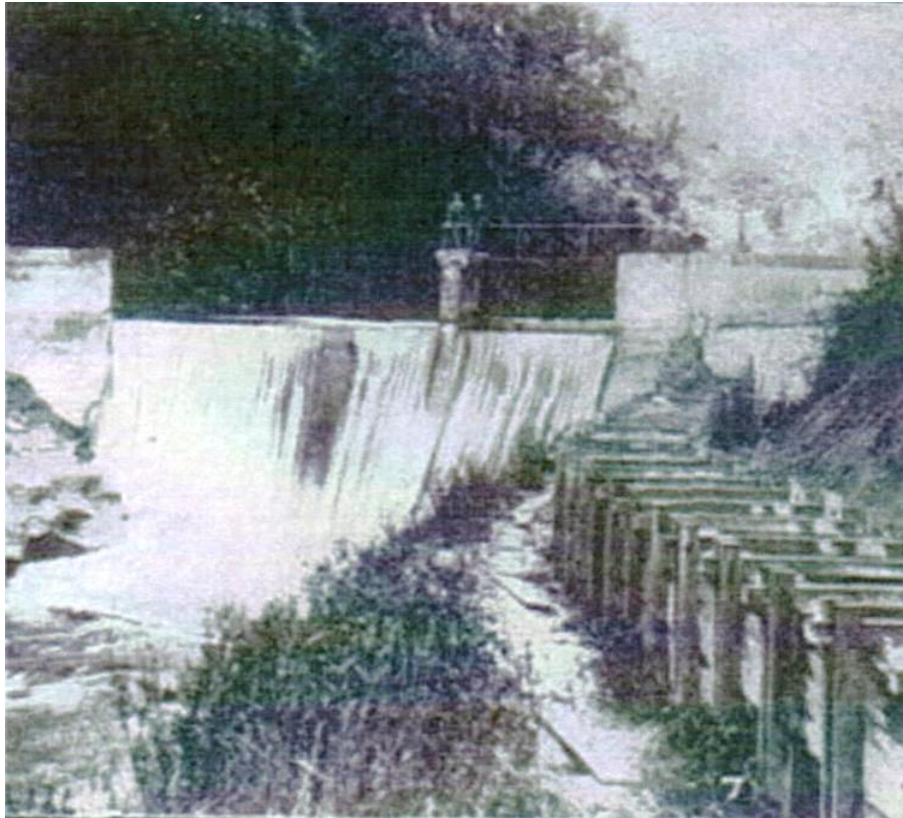


Figure 11: Mangaweka power scheme, dam and flume, 1913

Source: 'Progress' magazine, Volume VIII No. 10, June 1913, page 523

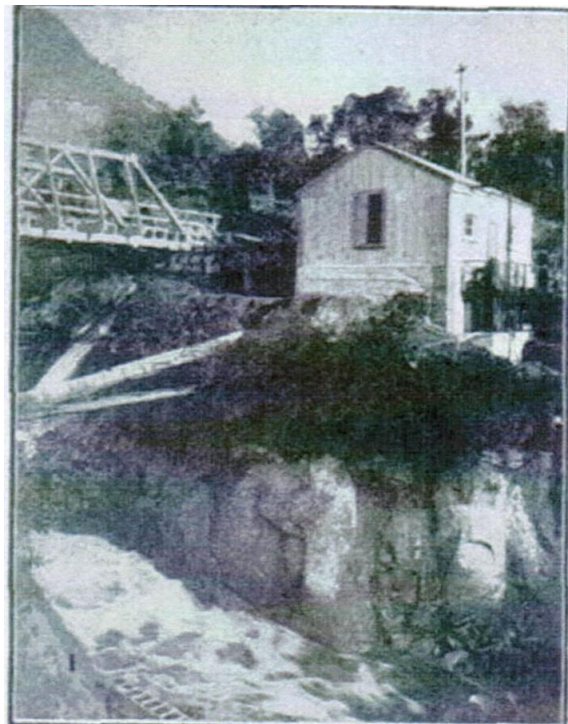


Figure 12: Mangaweka power scheme, diverted stream and powerhouse, 1913

Source: 'Progress' magazine, Volume VIII No. 10, June 1913, page 523

The Crown engineer's report was referred to the Town Board for its consideration, with the advice that if the Board proceeded with the scheme, then formal application would need to be made for authority to take water from the Mangawharariki Stream for electricity generation purposes⁶⁷¹. The Board advised that it wished to proceed⁶⁷², and applied for the licence to take water⁶⁷³. The Town Board's engineers provided the details of the water take three months later⁶⁷⁴.

The Crown's assessment of the proposed scheme was that it was satisfactory and suitable for approval. Whether any rights to the water already existed was not discussed. A comment was made that:

Generally local schemes of this kind should be encouraged in order to cultivate the uses of electricity and its application to all purposes for which [it] is suitable, and so create a demand for a bulk supply.⁶⁷⁵

However, as Mangaweka Town Board's application was "the first instance in which application has been made by a local authority", a precedent would be set in the terms of the licence that would be issued. Two matters required a policy decision. The first was whether a rental would be charged:

The Regulations provide that the rent charged shall be 6d per horsepower per month on the total horsepower capable of being developed, but that if the energy is being used for mining purposes the rent shall be reduced by one half.... Perhaps the Government does not intend to make any charge at all [for local authority supplies of electricity], but as this case will no doubt be taken as a precedent, the matter seems to require careful consideration.

The second matter was the length of the licence term:

The Regulations also provide that the licence shall be for a definite period. No doubt the Town Board expects to get the licence for all time, but it seems to be doubtful if this is advisable. In the case of the Horahora licence, the term was 42 years.⁶⁷⁶

The proposal went to Cabinet for consideration, where it was "declined"⁶⁷⁷. This was taken to mean the decline of the suggestion that no rent be charged⁶⁷⁸. When this was

⁶⁷¹ Assistant Under Secretary for Public Works to Minister of Public Works, 9 June 1911, and Minister of Public Works to RW Smith MHR, 12 June 1911. Electricity Head Office file 10/75/1. Supporting Papers #17 and 18.

⁶⁷² Chairman Mangaweka Town Board to Minister of Public Works, 16 June 1911. Electricity Head Office file 10/75/1. Supporting Papers #19.

⁶⁷³ Chairman Mangaweka Town Board to Minister of Public Works, 16 June 1911. Electricity Head Office file 10/75/1. Supporting Papers #20.

⁶⁷⁴ Turnbull and Jones Ltd, Electrical Engineers and Contractors, Wellington, to Minister of Public Works, 12 September 1911. Electricity Head Office file 10/75/1. Supporting Papers #21-23.

⁶⁷⁵ Electrical Engineer to Under Secretary for Public Works, 21 September 1911. Electricity Head Office file 10/75/1. Supporting Papers #24.

⁶⁷⁶ Assistant Under Secretary for Public Works to Minister of Public Works, 22 September 1911. Electricity Head Office file 10/75/1. Supporting Papers #25.

communicated to Mangaweka Town Board, the Board replied that it accepted the rental of 6d per horsepower per month⁶⁷⁹. There seems to have been no disagreement with the concept of a 42-year term for the licence.

It was then necessary to draw up the licence. This too raised points of principle and precedent that needed to be resolved⁶⁸⁰. Once a draft licence was prepared, it was then part of standard procedure that it should be referred to the Post and Telegraph Department and to New Zealand Government Railways for their comments. This was apparently to ensure that the new electric power lines would not conflict with the telegraph line network⁶⁸¹ or with the operation of railways where the lines crossed any railway track. The electric lines distribution network was being licensed as well as the water take. The Post and Telegraph Department advised that the draft licence protected its interests⁶⁸², while New Zealand Government Railways sought a rewording of the clause in the licence concerned with height clearance over railway tracks⁶⁸³. The draft licence was also referred to and approved by Crown Law Office⁶⁸⁴. None of this consideration within Government Departments involved any assessment of pre-existing water rights, or impact on Maori rangatiratanga rights.

Finally the draft licence was sent to Mangaweka Town Board for its consideration in March 1912⁶⁸⁵. At this point the Town Clerk asked for reconsideration of the rent charge:

⁶⁷⁷ File note by Cabinet Secretary, 20 October 1911, on Assistant Under Secretary for Public Works to Minister of Public Works, 22 September 1911. Electricity Head Office file 10/75/1. Supporting Papers #25.

⁶⁷⁸ Under Secretary for Public Works to Minister of Public Works, 3 November 1911, approved by Minister 3 November 1911. Electricity Head Office file 10/75/1. Supporting Papers #26.

⁶⁷⁹ Assistant Under Secretary for Public Works to Chairman Mangaweka Town Board, 6 November 1911, and Town Clerk Mangaweka Town Board to Under Secretary for Public Works, 24 November 1911. Electricity Head Office file 10/75/1. Supporting Papers #27 and 28.

⁶⁸⁰ Mr Brosnan to Under Secretary for Public Works, 8 December 1911, and Assistant Under Secretary for Public Works to Under Secretary for Public Works, 23 December 1911. Electricity Head Office file 10/75/1. Supporting Papers #29 and 30-31.

⁶⁸¹ Consulting with the Post and Telegraph Department was, in part at least, to ensure consistency with the exercise of a power held by that Department to issue licences under Section 172 Post and Telegraph Act 1908 for electric lines passing over, along or across another electric line.

⁶⁸² Under Secretary for Public Works to Secretary Post and Telegraph Department, 17 January 1912, and Secretary Post and Telegraph Department to Under Secretary for Public Works, 29 January 1912. Electricity Head Office file 10/75/1. Supporting Papers #32 and 34.

⁶⁸³ Under Secretary for Public Works to General Manager New Zealand Government Railways, 17 January 1912, and General Manager New Zealand Government Railways to Under Secretary for Public Works, 30 January 1912. Electricity Head Office file 10/75/1. Supporting Papers #33 and 35.

⁶⁸⁴ Under Secretary for Public Works to Solicitor General, 5 February 1912, and Assistant Law Draughtsman to Assistant Under Secretary for Public Works, 14 March 1912. Electricity Head Office file 10/75/1. Supporting Papers #36.

⁶⁸⁵ Assistant Under Secretary for Public Works to Town Clerk Mangaweka Town Board, 20 March 1912. Electricity Head Office file 10/75/1. Supporting Papers #37.

I am instructed to respectfully request that you will give the matter of charges for the right to use the stream your further consideration, as the charge set out in the draft licence, viz £30 per annum, is considered as being excessive.

The Board feels sure that you will endeavour to make the annual fee a merely nominal one.⁶⁸⁶

The request was received sympathetically by officials, with the Minister of Public Works being told:

Any ordinary miner can get water for mining purposes at half price, but this local authority is to be charged the full price for water, although it runs through their territory and is required for public purposes. I certainly think there is some ground for applying for better terms. I think the water should be given at a nominal charge, or preferably without any charge at all, but the late Cabinet evidently thought otherwise.⁶⁸⁷

The matter again went to Cabinet, which approved an annual rent of one peppercorn, if demanded, being charged⁶⁸⁸.

As part of the opportunity given to the Town Board to comment on the draft licence, the Board's electrical engineering consultants submitted a list of recommended small changes to the licence's wording, nearly all of which concerned the electric lines distribution network requirements. There was considerable discussion between the Public Works Department, the Post and Telegraph Department and the Town Board's consultants, stretching over nearly a year, before a final wording of the licence was agreed upon. Because these discussions were not about the water take licence, they are not covered in this report.

The licence was eventually submitted to the Minister of Public Works, and signed by the Governor, in April 1913⁶⁸⁹. It was a cumbersome document running to 80 clauses, and provided for the diversion of water from the Mangawharariki Stream for a term of 42 years from April 1913. The maximum volume of water that could be diverted was described as "twenty-seven sluice-heads"; this was a mining term that translates to 27 cubic feet of water per second (cusecs). By the time the licence was issued, the Town Board, relying on the

⁶⁸⁶ Town Clerk Mangaweka Town Board to Minister of Public Works, 11 May 1912. Electricity Head Office file 10/75/1. Supporting Papers #38.

⁶⁸⁷ Under Secretary for Public Works to Minister of Public Works, 15 May 1912. Electricity Head Office file 10/75/1. Supporting Papers #39.

⁶⁸⁸ File note by Cabinet Secretary, 27 May 1912, on Under Secretary for Public Works to Minister of Public Works, 15 May 1912, and Assistant Under Secretary for Public Works to Town Clerk Mangaweka Town Board, 1 June 1912. Electricity Head Office file 10/75/1. Supporting Papers #39 and 40.

⁶⁸⁹ *New Zealand Gazette* 1913 pages 1602-1606. Supporting Papers #3039-3043.

letter of approval provided to it in June 1912, had constructed the power scheme and brought it into operation⁶⁹⁰.

At no stage during the Crown's consideration of the Mangaweka Town Board's application was the question raised of whether there were any existing rights to the water of the Mangawharariki Stream. Any pre-existing Maori rights to the river were not identified. There was no requirement under the Crown's licensing procedures for public comment to be sought, which might have alerted Rangitikei River Maori to what was being proposed before the Crown made the decision to grant the licence.

In November 1925 Mangaweka Town Board sought an amendment to its licence to allow it to use electricity purchased from the Wanganui-Rangitikei Electric Power Board, as well as electricity from its own hydroelectric generating station⁶⁹¹. The Crown explained that the 1913 licence was "in the old form", and offered to issue a new licence "to take advantage of the latest Regulations"⁶⁹², which had been issued in 1922⁶⁹³. This meant that the new licence in draft form had to go through the same process of being vetted by New Zealand Government Railways⁶⁹⁴ and the Post and Telegraph Department⁶⁹⁵, as well as being presented to the Town Board for its consideration⁶⁹⁶. Yet again, there was no consideration of pre-existing water rights or Maori rangatiratanga. The new licence was issued in August 1926⁶⁹⁷. It was issued for the remainder of the term of the 1913 licence, making it due to expire at the end of 1954.

⁶⁹⁰ *Progress* magazine, Volume VIII No 10, June 1913, pages 521-525. Copy on Electricity Head Office file 10/75/1. Supporting Papers #41-45.

⁶⁹¹ Town Clerk Mangaweka Town Board to Under Secretary for Public Works, 10 November 1925. Electricity Head Office file 10/75/1. Supporting Papers #46.

⁶⁹² Under Secretary for Public Works to Town Clerk Mangaweka Town Board, 25 November 1925. Electricity Head Office file 10/75/1. Supporting Papers #47.

⁶⁹³ *New Zealand Gazette* 1922 pages 2722-2729. Not included in Supporting Papers.

⁶⁹⁴ Under Secretary for Public Works to Chairman New Zealand Government Railway Board, 2 March 1926, and Chief Engineer New Zealand Government Railways to Under Secretary for Public Works, 16 March 1926. Electricity Head Office file 10/75/1. Supporting Papers #49 and 50.

⁶⁹⁵ Acting Chief Telegraph Engineer to Assistant Under Secretary for Public Works, 20 March 1926. Electricity Head Office file 10/75/1. Supporting Papers #51.

⁶⁹⁶ Under Secretary for Public Works to Town Clerk Mangaweka Town Board, 2 March 1926, and Town Clerk Mangaweka Town Board to Under Secretary for Public Works, 29 April 1926. Electricity Head Office file 10/75/1. Supporting Papers #48 and 52.

⁶⁹⁷ Under Secretary for Public Works to Minister of Public Works, 23 August 1926. Electricity Head Office file 10/75/1. Supporting Papers #53.

New Zealand Gazette 1926 pages 2628-2630. Supporting Papers #3056-3058.

In 1937 or 1938 a large log became stuck in the intake at the dam, and could not be readily removed. By this time, the Wanganui-Rangitikei Electric Power Board was supplying the majority of Mangaweka's electricity to the Town Board's electrical department, and it was decided to abandon the Mangawharariki Stream hydroelectric power station.

In May 1953, shortly before the licence was due to expire, the Town Board applied for a renewal⁶⁹⁸. While Crown officials were willing to allow this, they queried whether the renewal should include the right to use the Mangawharariki Stream for electricity generation, given that the power scheme on the stream was no longer operating⁶⁹⁹. The Town Board agreed that the renewal licence did not need to include the hydroelectric generation right⁷⁰⁰, and when the new licence was issued it only provided for the electric lines⁷⁰¹.

There are two subsidiary matters that can be mentioned here about the Mangaweka hydroelectric power scheme. Apparently in a related development, the Mangawharariki Stream and its bed from the Kawhatau Road bridge upstream for a distance of one mile (which would include the power scheme dam and the area ponded behind it) was declared to be a sanctuary for imported and native game in 1914⁷⁰². Research for this report has not uncovered any information about this sanctuary, apart from acknowledgements of its continuing existence in the 1920s. In 1924 an inquiry to the Marine Department (the Government agency responsible for freshwater fisheries) disclosed that the sanctuary status had no bearing on fishing, and a no-fishing notice that had been erected was *ultra vires*⁷⁰³. When all sanctuaries were re-gazetted in 1929 as sanctuaries for native and imported game pursuant to the Animals and Game Protection Act 1921-22, the Mangawharariki Stream sanctuary was included in the list⁷⁰⁴. The subsequent history of the sanctuary is not known.

⁶⁹⁸ Town Clerk Mangaweka Town Board to General Manager State Hydro-Electric Department, 26 May 1953. Electricity Head Office file 10/75/1. Supporting Papers #54.

⁶⁹⁹ General Manager State Hydro-Electric Department to Town Clerk Mangaweka Town Board, 16 March 1954. Electricity Head Office file 10/75/1. Supporting Papers #55.

⁷⁰⁰ Town Clerk Mangaweka Town Board to General Manager State Hydro-Electric Department, 20 April 1954. Electricity Head Office file 10/75/1. Supporting Papers #56.

⁷⁰¹ General Manager State Hydro-Electric Department to Minister in charge of State Hydro-Electric Department, 15 October 1954. Electricity Head Office file 10/75/1. Supporting Papers #57. *New Zealand Gazette* 1954 page 1688. Supporting Papers #3093.

⁷⁰² *New Zealand Gazette* 1914 page 2734. Supporting Papers #3051.

⁷⁰³ Under Secretary for Internal Affairs to Town Clerk Mangaweka Town Board, 11 October 1924, attached to Under Secretary for Internal Affairs to Secretary for Marine, 11 October 1924, and Secretary for Marine to Under Secretary for Internal Affairs, 6 November 1924. Marine Head Office file 1/7/64. Supporting Papers #619-622 and 623.

⁷⁰⁴ *New Zealand Gazette* 1929 pages 445-454 at page 454. Not included in Supporting Papers.

The second subsidiary matter was a proposal in 1973 to dynamite and remove the log stuck in the intake. The proposal was in the form of an application by the Wellington Acclimatisation Society for a water right to take the flow of the Mangawharariki Stream and divert it through the dam discharge tunnels “by removing obstructions in these tunnels”⁷⁰⁵. The application was publicly notified and attracted objections from Kiwitea County Council and the Ministry of Works. Kiwitea County Council argued that the use of explosives would be dangerous, and that to be able to use the tunnels again the stream bed above the intakes would have to be dredged, which would result in slope instability, potentially leading to erosion affecting the road that traversed the valley side above the stream:

The use of an explosive charge, as suggested, to free the discharge tunnels does not appear to be feasible. From local knowledge a matai stump or log blocked the upper gallery some 30 years ago, and since then the dam has silted up to a level approximately 18 inches below the crest. The upper gallery is between 15 and 20 feet below the crest, therefore at least 14 feet of dense consolidated debris is required to be moved before the gallery can be opened. This can only be achieved by dredging works immediately upstream of the dam.

Further to this the state of the dam itself could be called into question. Any explosive charge would certainly disturb the surrounding terrain to some extent. However it is conceivable that the dam structure has been undercut by continual water action, so that even a small explosive charge could have serious consequences.

Whether by dredging or explosives, the diversion of the flow through the discharge tunnels will result in the complete regrading of the river upstream of the dam. The resultant lowering of the river bed will have a detrimental effect on both the Kawhatau Valley Road and State Highway 54, with the major effect being to the State Highway....

The slopes below the road are covered extensively with vegetation, although evidence of recent movement can be detected along the edge of the formation. The lowering of the river bed would result in more extensive movement, and this would affect the road seriously. Both roads are of narrow formation, winding round steep papa bluffs. Thus any loss of formation due to slipping would result in extensive and costly earthworks to regain lost ground.⁷⁰⁶

The Ministry of Works was also concerned for the stability of State Highway 54, on the hillside above the dam, given that “the toe of the slope supports the slope to an undetermined extent”. Its other concerns were for the stability of the dam (as “use of explosives will create

⁷⁰⁵ Application by Wellington Acclimatisation Society, 27 September 1973. Rangitikei-Wanganui Catchment Board file W327/220/1. Supporting Papers #3648-3650.

⁷⁰⁶ Deputy County Engineer Kiwitea County Council to Chief Engineer, 21 November 1973. Rangitikei-Wanganui Catchment Board file W327/220/1. Supporting Papers #3651-3652.

man made minor local ‘earthquakes’”), and the risk of silt and debris flowing into and being deposited in the Rangitikei River:

As the aim of opening the old sluice tunnels is understood to be one of fishery management, we suggest that the Acclimatisation Society consider constructing a fish ladder on the left abutment outlet.⁷⁰⁷

Wellington Acclimatisation Society’s interest in re-opening the tunnels was to allow trout to travel upstream to spawning grounds in the Mangawharariki River. The river was regarded as being very suitable for spawning, but its potential was not being fully realised because of the presence of the dam. In his assessment of the Society’s application, the Catchment Board’s Chief Engineer considered that the tunnels could be safely cleared of obstructions, that the risk of State Highway 54 slipping was limited, and that the danger of downstream deposition of silt and debris material would be minimal if the material could be removed in a controlled and regulated way. However, he was concerned that the proposal in effect brought an abandoned dam back into operation, and that there would be future problems of degradation of the bed downstream, undercutting of the dam base, and general deterioration of the structure. The dam would have to be maintained or removed, and he felt that both alternatives were beyond the resources of the Acclimatisation Society. He also doubted that the Society had the resources to remove the accumulated silt and debris in a controlled and regulated way. Given that a fish ladder could achieve the Society’s objective without interfering with the dam, he concluded that the application should be declined⁷⁰⁸. The Catchment Board accepted the Chief Engineer’s recommendation, and declined the application in April 1974⁷⁰⁹.

In advising the Acclimatisation Society of the Board’s decision⁷¹⁰, the Chief Engineer commented:

The responsibility for abandoned structures such as the Mangawharariki Dam would be extremely difficult to determine, as any legislation concerning public works relates only to construction and operation of such works, without reference to what happens to works abandoned as obsolete. Because of the time that has elapsed since the dam was abandoned, and the fact that the Mangaweka Town Council which originally built

⁷⁰⁷ Statement of Objection, undated, attached to District Commissioner of Works Wanganui to Chief Engineer, 8 February 1974. Rangitikei-Wanganui Catchment Board file W327/220/1. Supporting Papers #3653-3655.

⁷⁰⁸ Report of Chief Engineer on Application 73/151, 27 March 1974. Rangitikei-Wanganui Catchment Board file W327/220/1. Supporting Papers #3656-3658.

⁷⁰⁹ Extract from minutes of Catchment Board meeting, 4 April 1974. Rangitikei-Wanganui Catchment Board file W327/220/1. Supporting Papers #3659.

⁷¹⁰ Chief Engineer to Secretary Wellington Acclimatisation Society, 29 April 1974 and 7 June 1974. Rangitikei-Wanganui Catchment Board file W327/220/1. Supporting Papers #3660-3661 and 3662.

and operated the dam is no longer in existence, the dam must now be regarded as a natural feature, in the same category as a natural waterfall.

The fact that it is a man-made barrier to fish access should be ignored, and the problem approached as though the dam were a natural barrier, which means that any works undertaken or proposed to remove or bypass the barrier are subject to all the restrictions, regulations and approvals that any works in a natural watercourse are subject to.⁷¹¹

Inquiries by the Acclimatisation Society and the Catchment Board confirmed the dam's orphan status. The Mangaweka Community Council and Rangitikei County Council had no interest in electricity generation, and as far as they were concerned the dam was located in a neighbouring county, so not their concern⁷¹². The Wanganui-Rangitikei Electric Power Board advised that when purchasing the Mangaweka electricity supply undertaking in 1965, it had not acquired the dam as one of the listed assets in that transaction⁷¹³.

7.5 Taihape Borough Council hydroelectric scheme

In June 1911, two months after the Crown had been approached by the Mangaweka Town Board about the use of Mangawharariki Stream, it was made aware of another hydroelectric proposal being developed by Taihape Borough Council. This scheme would dam the Hautapu River at the upper end of a bend in the river, and divert water via a tunnelled pipe to drop back into the river at the lower end of the bend. The land on the inside of the bend, beneath which the tunnelled pipe would pass, was part of Taihape Domain.

The Borough Council's first approach to the Crown was to the Post and Telegraph Department, which notified the Public Works Department⁷¹⁴. When the Public Works Department advised that a licence to take and use water for electricity generation was required⁷¹⁵, the Borough Council's response was that it claimed a pre-existing right to use the Hautapu River "for water supply, including power development" by virtue of Sections 232

⁷¹¹ Chief Engineer to Secretary Wellington Acclimatisation Society, 7 June 1974. Rangitikei-Wanganui Catchment Board file W327/220/1. Supporting Papers #3662.

⁷¹² Secretary Wellington Acclimatisation Society to Chief Engineer, 28 February 1975. Rangitikei-Wanganui Catchment Board file W327/220/1. Supporting Papers #3663.

⁷¹³ Wanganui-Rangitikei Electric Power Board to Chief Engineer, 12 March 1975. Rangitikei-Wanganui Catchment Board file W327/220/1. Supporting Papers #3664.

⁷¹⁴ Chief Telegraph Engineer to Under Secretary for Public Works, 13 June 1911. Electricity Head Office file 10/90/1. Supporting Papers #58.

⁷¹⁵ Assistant Under Secretary for Public Works to Chief Telegraph Engineer, 16 June 1911. Electricity Head Office file 10/90/1. Supporting Papers #59.

and 239 Municipal Corporations Act 1908⁷¹⁶. This was legally incorrect, as it was an enabling provision rather than conferral of a legal right, and only related to use of water for town supply rather than to use for power generation purposes; the latter purpose was specifically covered by Part XII Public Works Act 1908⁷¹⁷. The Borough Council disputed this interpretation, on the grounds that the hydroelectric scheme was subsidiary to a water supply scheme for the borough, with the generated electricity to be used to pump water from the Hautapu River for the water supply scheme. On the basis of the enabling authority, and ratepayer consent to raise a loan, in October 1910 the Council had let contracts for “the headworks in the river, and for the tunnel through the intervening hill”, and these works were “practically completed”⁷¹⁸.

The legal question was referred to the Solicitor General for an answer⁷¹⁹. He advised that Section 267 Public Works Act 1908 gave the Crown a monopoly on taking water for the purpose of generating electricity, and Section 239 Municipal Corporations Act 1908 was not a “right lawfully held” by the Borough Council, because for that to be the case the water had to be drawn off the river specifically for water supply purposes, and only once drawn off for that purpose was the Council entitled to then use part for hydroelectric power generation. Because the water for town supply was being drawn from the river at a different point from the water for electricity generation, the Council needed a licence to take water for electricity generation⁷²⁰.

When this was communicated to Taihape Borough Council⁷²¹, the Council asked for the matter to be reconsidered, providing additional “facts which I omitted to mention in my previous letter”:

⁷¹⁶ Town Clerk Taihape Borough Council to Chief Telegraph Engineer, 23 June 1911, attached to Town Clerk Taihape Borough Council to Under Secretary for Public Works, 23 June 1911, and Chief Telegraph Engineer to Under Secretary for Public Works, 26 June 1911. Electricity Head Office file 10/90/1. Supporting Papers #60-63 and 64.

⁷¹⁷ Assistant Under Secretary for Public Works to Chief Telegraph Engineer, 29 June 1911. Electricity Head Office file 10/90/1. Supporting Papers #65.

⁷¹⁸ Town Clerk Taihape Borough Council to Under Secretary for Public Works, 23 June 1911. Electricity Head Office file 10/90/1. Supporting Papers #60-63.

⁷¹⁹ Assistant Under Secretary for Public Works to Solicitor General, 1 July 1911. Electricity Head Office file 10/90/1. Supporting Papers #66.

⁷²⁰ Solicitor General to Under Secretary for Public Works, 13 July 1911. Electricity Head Office file 10/90/1. Supporting Papers #67-68.

⁷²¹ Assistant Under Secretary for Public Works to Town Clerk Taihape Borough Council, 21 July 1911. Electricity Head Office file 10/90/1. Supporting Papers #69-70.

1st. The water proposed to be taken from the Hautapu River for the purpose of generating electric power for the purpose of pumping water for supplying the inhabitants of the Borough with pure water, and for lighting the town, will be taken from the River where it passes through the Borough, such water will be conveyed through a tunnel about 500 feet long, and discharged, undiminished in quantity and unpolluted in quality, into the River again at a point 8 chains and 80 links [177 metres] distant from the intake, but still within the Borough.

2nd. The water for supplying the inhabitants of the Borough with pure water is also to be taken from the Hautapu River, but at a point beyond the Borough, where such river passes through 4A3C No. 8C Awarua, and distant from the proposed power station about 1½ miles.

3rd. The provisions of Section 234 of the Municipal Corporations Act have been complied with in this connection....

My Council (while quite willing to comply with all statutory requirements) hesitates to proceed under Part XII of the Public Works Act if it can be avoided.⁷²²

However the Solicitor General was unmoved in his opinion, rejecting the implication that the Council was operating lawfully because both the intake and discharge points were within the Borough boundaries, and amounted to the Borough water works⁷²³.

The Borough Council had also asked for an electric lines licence under the Post and Telegraph Act 1908 to be issued as matter of urgency, because contracts had already been let for the erection of the lines. The concept of issuing a licence under that legislation when no water take licence had been applied for or granted was put to the Minister of Public Works:

On the facts there does not seem to be any reason why they should not be allowed to proceed with the wiring and overhead works at once, but of course if permission is given for that to be done the Government could hardly withhold the issue subsequently of the Order in Council or Licence authorising them to take the water.⁷²⁴

The Minister instructed that taking water to generate electricity for lighting, power or any other purposes required the issue of a licence under public works legislation, though avoided the question of whether or not the licences should be issued contemporaneously⁷²⁵.

⁷²² Town Clerk Taihape Borough Council to Assistant Under Secretary for Public Works, 26 July 1911. Electricity Head Office file 10/90/1. Supporting Papers #71-72.

⁷²³ Solicitor General to Assistant Under Secretary for Public Works, 3 August 1911. Electricity Head Office file 10/90/1. Supporting Papers #73.

⁷²⁴ Assistant Under Secretary for Public Works to Minister of Public Works, 7 August 1911. Electricity Head Office file 10/90/1. Supporting Papers #74.

⁷²⁵ Minister of Public Works to Under Secretary for Public Works, 18 August 1911, on Assistant Under Secretary for Public Works to Minister of Public Works, 7 August 1911, and Assistant Under Secretary for Public Works to Town Clerk Taihape Borough Council, 21 August 1911. Electricity Head Office file 10/90/1. Supporting Papers #74 and 75.

However, a further policy matter also had to be considered:

The question really is whether the Borough Council is to comply with the Regulations relating to the supply of water for electric purposes, and if so whether it is to be required to pay the rent or royalty for such water as set forth in the Regulations. Presumably the Borough Council does not expect to pay anything and what it evidently wishes to obtain is a delegated authority from the Crown to take the water without payment under Section 268 of the Public Works Act 1908, but what is decided upon in this case will no doubt govern other similar cases which are at present being formulated.

The regulations referred to were drawn up in view of a licence being issued, and presumably they would hardly apply if it is decided that the Governor's powers are to be delegated. Will you please decide what is to be done in this case. The Waimea County Council and also the Mangaweka Borough Council have applied in similar terms to the Taihape Borough.⁷²⁶

In the Mangaweka case Cabinet had decided that the Town Board should be charged a rental for the water, which the Crown was statutorily capable of imposing under a licence (issued under Section 5 Public Works Amendment Act 1908), though not under a delegated authority (issued under Section 268 Public Works Act 1908). This seemed to suggest that the policy was for local authorities to obtain a licence⁷²⁷. The Minister took the matter to Cabinet, where it was decided that local authorities should be issued with licences rather than with delegated authority⁷²⁸. This meant that, given the option, the Crown had decided to insist on the monetised licence authority, or perhaps more accurately the ability if it chose to do so to charge a rental for water taking, rather than the non-monetised delegation authority.

The Taihape hydroelectric plant started generating electricity in June 1912. Nine months later, when a Public Works Department Electrical Engineer visited, there was still no licence issued. He noted that "the supply of water is barely sufficient in dry weather, and I understand they frequently drew on the small storage in their weir basin during the past summer"⁷²⁹. Taihape Borough Council was reminded of the need to apply for a licence to take water from the Hautapu River⁷³⁰. It replied seeking delegated authority rather than a licence, and noting that Mangaweka Town Board had the right to use water from the

⁷²⁶ Assistant Under Secretary for Public Works to Minister of Public Works, 7 August 1911. Electricity Head Office file 10/90/1. Supporting Papers #74.

⁷²⁷ Assistant Under Secretary for Public Works to Minister of Public Works, 16 November 1911. Electricity Head Office file 10/90/1. Supporting Papers #76.

⁷²⁸ Decision of Cabinet, 13 January 1912, on Assistant Under Secretary for Public Works to Minister of Public Works, 7 August 1911. Electricity Head Office file 10/90/1. Supporting Papers #74.

⁷²⁹ Assistant Electrical Engineer to Electrical Engineer, 4 March 1913. Electricity Head Office file 10/90/1. Supporting Papers #77-78.

⁷³⁰ Under Secretary for Public Works to Town Clerk Taihape Borough Council, 9 April 1913. Electricity Head Office file 10/90/1. Supporting Papers #79.

Mangawharariki Stream free of charge⁷³¹. However the Minister of Public Works instructed that Taihape Borough Council was to receive its right to take water in the same manner as Mangaweka Town Board, i.e. by licence at a peppercorn rental⁷³². The Borough Council then submitted an application for a licence, the application specifying a take of 4000 cubic feet per minute, and recording that the difference in level between the headworks dam and the tailrace was 30 feet⁷³³.

With receipt of the formal application, the standardised processing procedures were activated. There was a check that all the required documentation had been provided by the Borough Council. A draft version of the licence was drawn up and circulated to the Post and Telegraph Department⁷³⁴ and New Zealand Government Railways⁷³⁵ for their comment. The revised draft was then referred to the Solicitor General for a check of its legal accuracy⁷³⁶. There was no apparent check, as part of these procedures, as to whether there were any pre-existing “rights lawfully held”.

The licence was submitted to the Minister of Public Works in December 1913⁷³⁷, and the Governor signed it that same month⁷³⁸. It allowed for the taking of 67 cusecs (cubic feet per second) of water from the Hautapu River. The term of the licence was 42 years, expiring on 31 December 1954.

⁷³¹ Town Clerk Taihape Borough Council to Under Secretary for Public Works, 7 May 1913. Electricity Head Office file 10/90/1. Supporting Papers #80.

⁷³² Assistant Under Secretary for Public Works to Minister of Public Works, 12 May 1913, approved by the Minister 12 May 1913, on Town Clerk Taihape Borough Council to Under Secretary for Public Works, 7 May 1913, and Assistant Under Secretary for Public Works to Town Clerk Taihape Borough Council, 14 May 1913. Electricity Head Office file 10/90/1. Supporting Papers #80 and 81.

⁷³³ Town Clerk Taihape Borough Council to Under Secretary for Public Works, 29 May 1913. Electricity Head Office file 10/90/1. Supporting Papers #82-83.

⁷³⁴ Assistant Under Secretary for Public Works to Secretary Post and Telegraph Department, 7 August 1913, and Assistant Secretary Post and Telegraph Department to Assistant Under Secretary for Public Works, 17 September 1913 and 25 October 1913. Electricity Head Office file 10/90/1. Supporting Papers #84, 87 and 88.

⁷³⁵ Assistant Under Secretary for Public Works to General Manager New Zealand Railways, 7 August 1913, and General Manager New Zealand Government Railways to Under Secretary for Public Works, 22 August 1913. Electricity Head Office file 10/90/1. Supporting Papers #85 and 86.

⁷³⁶ Assistant Under Secretary for Public Works to Solicitor General, 10 November 1913, and file note by Crown Law Officer, 21 November 1913. Electricity Head Office file 10/90/1. Supporting Papers #89.

⁷³⁷ Assistant Under Secretary for Public Works to Minister of Public Works, 2 December 1913. Electricity Head Office file 10/90/1. Supporting Papers #90.

⁷³⁸ *New Zealand Gazette* 1914 pages 7-11. Supporting Papers #3045-3049.

In a separate exercise, land for the already-completed tunnel and powerhouse was taken under the Public Works Act in June 1914 (Wellington plan SO 16693 and *New Zealand Gazette* 1914 page 2519 - Supporting Papers #3294 and 3050).

Within two years of the hydroelectric scheme becoming operational, it was deemed inadequate for the town. In June 1915 Taihape Borough Council persuaded the Minister of Public Works to send the Public Works Department's Chief Electrical Engineer to investigate the difficulties and possible solutions⁷³⁹. One of the Department's Electrical Engineers made a preliminary visit and reported:

During last summer the water supply in the river got very low, and was equal to only 23 K.W. of power [of a possible 100 K.W. capacity of the power plant], but by utilising the storage in the dam they were able to get an average load of 29 K.W. over 12½ hours. The Hautapu has a drainage area of 50.5 square miles above Taihape, and the minimum flow giving 23 K.W. is about 12 cusecs in the stream or a runoff of only 0.24 cusecs per square mile....

The Council have a proposal to develop the power available on the Mowhanga [sic] River about 8 miles out from Taihape. The Mowhanga River above this point has a drainage area of about 129 sq. miles. It rises in higher country than the Hautapu, but does not drain so much bush country. I think that its absolute minimum should be slightly less than proportional to the absolute minimum in the Hautapu. The minimum flow proportional to the drainage areas would be 30.7 cusecs. I think we would be fairly safe in assuming a minimum of 24 cusecs.⁷⁴⁰

Although the proposed site for a power scheme on the Moawhango River is not defined in the Engineer's report, it may be possible for someone with local knowledge to identify it from the following description in his report:

To provide for an ultimate supply [of] 200 H.P., we would need a fall of 100 feet. The actual falls themselves, pointed out to me by the Council, will not give anything like this power as they are only about 25 feet high. The river for some miles hereabout runs in a very narrow and deep canyon and makes several almost complete loops. By combining a dam with a tunnel through one of the necks of these loops in which the falls are shown, there would be required a dam about 35 ft high, with the falls 25 feet, and 40 feet estimated fall in the 85 chain [1.7 kilometres] of river round the loop, to give the 100 ft required. A dam at this point would be very short, not more than 25 ft long at crest.... The tunnel from here through [the] hill would be about 20 chain.... The river bed is everywhere very steep and without a considerable amount of examination it is impossible to say which is best position for powerhouse. In any case it appears that cost of excavation of power house building would be excessive.⁷⁴¹

The Electrical Engineer also identified another loop in the river where a tunnel six chains long would cut off a 70-chain length of river and would require a 65 feet high dam. In both cases the costs were high.

⁷³⁹ File note by Under Secretary for Public Works, 30 June 1915. Electricity Head Office file 10/90/1. Supporting Papers #91.

⁷⁴⁰ Electrical Engineer to Chief Electrical Engineer, 7 July 1915. Electricity Head Office file 10/90/1. Supporting Papers #92-96.

⁷⁴¹ Electrical Engineer to Chief Electrical Engineer, 7 July 1915. Electricity Head Office file 10/90/1. Supporting Papers #92-96.

Seeing that the Council already has a plant which for about 8 months even of a bad year, is capable of fulfilling their requirements, it does not seem reasonable to go in for this large capital expenditure to guarantee continuity of supply over a few months of a dry year.

He concluded that a fuel-driven plant to supplement the existing water-driven plant was the most economic additional capacity solution. Other solutions were to raise the height of the dam on the Hautapu River, thereby creating additional water storage capacity, and constructing a mid-level water reservoir to serve part of the town and thereby reduce the amount of water that had to be pumped to the existing high-level reservoir⁷⁴².

The Chief Electrical Engineer then made his own visit to Taihape, and recommended that any idea of drawing power from the Moawhango River should be abandoned as it was not commercial, and that the supplementary fuel-driven plant should be commissioned. In addition he recommended that water in the Hautapu River should be managed more efficiently, such as by installing an adjustable weir on top of the existing dam, and by constructing a series of dams along the river above the existing dam to provide more water storage⁷⁴³. Taihape Borough Council adopted the two main recommendations, and a 60KW fuel-driven plant was constructed. Nothing further was heard about use of the Moawhango River, and the early abandonment meant that the proposal never reached the stage of requiring an assessment as to whether there were any “rights lawfully held” on the river.

In 1925 one of the two 50KW generator sets in the hydro powerhouse was replaced with a 100 KW generator set. This increased the capacity of the powerhouse and made it possible for more water to be drawn from the Hautapu River and fed through the powerhouse. However, this meant that the 67 cusecs maximum draw-off allowed by the licence was being breached. The Crown was not aware of this at the time, and the breaching of the terms of the licence only came to its attention in 1932. At a meeting with the Minister of Public Works, Taihape Borough Council representatives sought an amendment to the licence to allow for the greater draw-off⁷⁴⁴. The Solicitor General agreed that it was possible to amend a licence to allow for the taking of additional water⁷⁴⁵. However, the Minister of Public Works

⁷⁴² Electrical Engineer to Chief Electrical Engineer, 7 July 1915. Electricity Head Office file 10/90/1. Supporting Papers #92-96.

⁷⁴³ Chief Electrical Engineer to Under Secretary for Public Works, 16 July 1915. Electricity Head Office file 10/90/1. Supporting Papers #97-99.

⁷⁴⁴ Notes of meeting, 31 May 1932. Electricity Head Office file 10/90/1. Supporting Papers #100-102.

⁷⁴⁵ Chief Electrical Engineer to Solicitor General, 18 June 1932, and Crown Solicitor to Chief Electrical Engineer, 5 July 1932. Electricity Head Office file 10/90/1. Supporting Papers #103 and 104-105.

decided not to amend the licence, and also not to penalise the Council for exceeding the terms of its licence⁷⁴⁶. He wrote to the Mayor of Taihape:

Though there may be grave doubts as to the wisdom of the Council of the day in installing plant in excess of that which could be driven by the 67 cubic feet of water per second that you are authorised to take from the river, I do not know that in so doing it did anything contrary to its licence or to the law. Validation of this act would therefore not appear necessary. Your Council has, however, at times been acting contrary to the law in taking from the river water in excess of 67 cubic feet per second. Whilst I do not propose to take any action against you for so doing, yet I am not prepared to issue further legal authority to authorise such action, as any extension of a Borough Council's activities in the way of power generation is opposed to the general policy of power development which has been adopted by the Government.⁷⁴⁷

Since Government policy favoured development of electricity generation and distribution by Electric Power Boards rather than by territorial local authorities, the Minister was unwilling to entrench further the rights already granted to the Borough Council. However, he was also signalling that there would be no come-back on the Council if it continued to draw off more than its licensed amount of water from the Hautapu River.

The Borough Council queried why its greater draw-off of water could not be legalised by an amendment of its licence:

With reference to the first request made, which was for an amendment to the existing licence by making provision for an enlargement of the plant capacity and draw off from 67 cubic feet per second. In making this request the Council is not asking for any further authority to extend its operations, but is desirous of obtaining the amendment to its licence to legalise the operation of the present turbines which were installed in 1925 and have been operating since that date. The turbines mentioned were installed for the purpose of meeting the increased demand for electricity, and at the time the Council, in terms of its licence, was compelled to supply the electricity in excess of that which could be generated with the then existing plant. At the time of the installation of the turbines referred to, I would like to point out that no other source of supply was available, as the operations of the Wanganui-Rangitikei Electric Power Board were not within forty miles of Taihape.⁷⁴⁸

However, the Minister was unmoved:

My letter ... was intended to make it clear that my Department now considers that [licensing the size of the generating plant] is quite unnecessary, and that the only authority that you have failed to obtain was the right to use the additional amount of water.

⁷⁴⁶ Chief Electrical Engineer to Acting Minister of Public Works, 6 July 1932. Electricity Head Office file 10/90/1. Supporting Papers #106.

⁷⁴⁷ Acting Minister of Public Works to Mayor Taihape Borough Council, 8 July 1932. Electricity Head Office file 10/90/1. Supporting Papers #107-108.

⁷⁴⁸ Mayor Taihape Borough Council to Acting Minister of Public Works, 22 August 1932. Electricity Head Office file 10/90/1. Supporting Papers #109-110.

I have already indicated that I do not propose to take action against your Council for failing to obtain this authority, and that I cannot agree to give you a licence to do something which is not in accord with the Government's general policy.⁷⁴⁹

The Minister repeated his stance when approached by the local Member of Parliament later in the year:

It may be that the question of using at times somewhat more water than is provided for in the licence is a minor detail, but the issue of a new licence, which would confer on the Borough Council powers in respect to electricity generation in excess of those already possessed by it, would involve a departure from the general policy of the Government, which I am not prepared to approve, particularly as it appears that in this case no real difficulty is likely to arise.⁷⁵⁰

As demand for electricity within the Borough increased, the Hautapu River hydro scheme became inadequate and an additional source of supply was needed. Rather than expand the hydro scheme, it became simpler to look to the local electric power board to provide power, and Taihape Borough Council purchased a bulk supply of electricity from the Wanganui-Rangitikei Electric Power Board. By 1949 the Hautapu River hydro scheme was supplying one-third of the town's electricity, with the Electric Power Board supplying the other two-thirds⁷⁵¹.

In the early 1950s, shortly before the licence was due to expire, Taihape Borough Council sought its renewal for a further term. The Minister was advised:

The Taihape licence will be the first of the municipal licences to expire, so that this application is in the nature of a test case, and will be followed by others in due course. It is, therefore, referred to you for directions....

I know of no reason or justification for refusing a renewal of the Taihape licence, which [if refused] would mean that the Council would cease to function as a supply authority and would have to dispose of its electrical undertaking and plant. It is, therefore, recommended that a fresh licence be prepared for 21 years (expiring on 31st March 1974), the existing licence to be revoked. If you approve, I will submit a draft licence to the Borough Council.

The Council has actually requested that its licence be renewed on the same terms and conditions as previously, but it is in a very old form being dated 22nd December 1913, and I think the new licence should be prepared in the form now used, which would make it subject to the latest regulations. One result of bringing the new licence under

⁷⁴⁹ Acting Minister of Public Works to Mayor Taihape Borough Council, 7 September 1932. Electricity Head Office file 10/90/1. Supporting Papers #111.

⁷⁵⁰ Minister of Public Works to A Stuart MP, 15 December 1932. Electricity Head Office file 10/90/1. Supporting Papers #112.

⁷⁵¹ Town Clerk Taihape Borough Council to General Manager State Hydro-electric Department, 4 July 1949. Electricity Head Office file 10/90/1. Supporting Papers #113.

the latest regulations will be that the Council for the first time will become liable for water-power rental, which will amount to £150 per annum, or more if the generating plant is extended. This might be objected to, but I do not know of any reason why the Council should continue to be exempt, when some other authorities with hydro-electric plants pay quite substantial amounts for the privilege. It is, therefore, recommended that the new licence should be in the ordinary form now used, and be subject to the regulations now in force.⁷⁵²

The Minister approved these recommendations⁷⁵³. The draft licence was sent to the Borough Council⁷⁵⁴, the Post and Telegraph Department⁷⁵⁵, and Wanganui-Rangitikei Electric Power Board⁷⁵⁶ for comment. There was no consideration of whether there were any “rights lawfully held” that might be affected, though that might have been considered to be unnecessary for a licence renewal. All the organisations consulted approved the issue of the licence as drafted, and the Minister signed the licence in July 1953⁷⁵⁷.

Two years later the State Hydro-electric Department became aware that Taihape Borough Council had ceased using its hydroelectric power plant. Generation had ceased in March 1955. It suggested that as a result the licence should be cancelled⁷⁵⁸. The Council was reluctant to give up its right, and proposed that the licence fee be waived if the Council annually provided a statutory declaration that no power had been generated⁷⁵⁹. While the Minister broadly approved this arrangement⁷⁶⁰, the Council then changed its mind, and agreed

⁷⁵² General Manager to Minister in charge of State Hydro-electric Department, 11 February 1953. Electricity Head Office file 10/90/1. Supporting Papers #114.

⁷⁵³ General Manager to Minister in charge of State Hydro-electric Department, 11 February 1953, approved by Minister 11 February 1953. Electricity Head Office file 10/90/1. Supporting Papers #114.

⁷⁵⁴ Town Clerk Taihape Borough Council to General Manager State Hydro-electric Department, 29 April 1953. Electricity Head Office file 10/90/1. Supporting Papers #115.

⁷⁵⁵ General Manager to Chief Engineer Post and Telegraph Department, 15 May 1953, and Chief Engineer Post and Telegraph Department to General Manager, 25 May 1953. Electricity Head Office file 10/90/1. Supporting Papers #116 and 119.

⁷⁵⁶ General Manager to Secretary Wanganui-Rangitikei Electric Power Board, 15 May 1953, and Secretary Wanganui-Rangitikei Electric Power Board to General Manager, 21 May 1953. Electricity Head Office file 10/90/1. Supporting Papers #117 and 118.

⁷⁵⁷ General Manager to Minister in charge of State Hydro-electric Department, 30 July 1953. Electricity Head Office file 10/90/1. Supporting Papers #120.

New Zealand Gazette 1953 pages 1309-1310. Supporting Papers #3091-3092.

⁷⁵⁸ General Manager to Town Clerk Taihape Borough Council, 18 August 1955. Electricity Head Office file 10/90/1. Supporting Papers #121.

⁷⁵⁹ Town Clerk Taihape Borough Council to General Manager, 23 September 1955. Electricity Head Office file 10/90/1. Supporting Papers #122.

⁷⁶⁰ General Manager to Minister in charge of State Hydro-electric Department, 27 September 1955, approved by the Minister 30 September 1955. Electricity Head Office file 10/90/1. Supporting Papers #123.

that the water power licence should be surrendered⁷⁶¹. The licence was revoked in October 1955⁷⁶².

7.6 Other local hydroelectric schemes prior to the 1950s

In the early part of the twentieth century, there was no national grid distribution network, and local communities and families were obliged to provide for themselves so far as obtaining electricity was concerned. Hydroelectric power was one source of electricity that some communities and individuals investigated. The community schemes developed by Taihape Borough Council and Mangaweka Town Council and already discussed are examples of local initiatives that were carried through and implemented. However, while they were the largest, it would be wrong to imagine that these two schemes were the only locally developed hydroelectric projects under consideration in the Rangitikei River catchment. Two examples of other proposals, neither of which so far as is known went ahead, were identified by chance while research was proceeding and are mentioned below, and there were probably others.

In 1936 the owner of Section 1 Block XIV Pukeokahu Survey District was issued with a licence to develop a hydroelectric scheme on an unnamed stream passing through his property⁷⁶³. This section is located at the end of Mokai Road on the true left bank of the Rangitikei River downstream of its confluence with the Whakaurekou Stream. Small farm-scale schemes would have been relatively easy to develop using run-of-the-river Pelton wheel technology. However, the scheme may not have been constructed as the licence was revoked three years later⁷⁶⁴. The licence was issued under Section 308 Public Works Act 1928, where the Crown allowed private individuals and companies to make use of the right to use water for electric power generation that was vested in it. Unfortunately, very few of the files relating to the licensing of private individuals and companies⁷⁶⁵ survive in Crown records today, and this is the case with the Mokai Road licence.

⁷⁶¹ General Manager to Town Clerk Taihape Borough Council, 21 October 1955. Electricity Head Office file 10/90/1. Supporting Papers #124.

⁷⁶² General Manager to Minister in charge of State Hydro-electric Department, 28 October 1955. Electricity Head Office file 10/90/1. Supporting Papers #125.

New Zealand Gazette 1955 page 1731. Supporting Papers #3094.

⁷⁶³ *New Zealand Gazette* 1935 page 2659. Supporting Papers #3079.

⁷⁶⁴ *New Zealand Gazette* 1938 page 2471. Supporting Papers #3083.

⁷⁶⁵ Public Works Department files in the 26/- series, and Electricity Department files in the 11/20/- series.

In 1941 a Government engineer suggested that the Moawhango River be looked at as a source of electric power for Waiohuru army camp⁷⁶⁶. This was shortly after the Defence Department had begun acquiring land there. However, nothing was constructed.

7.7 Tongariro Power Development scheme

The Tongariro Power Development (TPD) scheme has previously been comprehensively researched for the Waitangi Tribunal's National Park district inquiry⁷⁶⁷. Walzl's report to that inquiry also covered aspects of the scheme in the Moawhango catchment. However, because his report addressed the scheme more generally, while this report focuses specifically on the effects of the scheme on the Moawhango and Rangitikei Rivers, historical sources have been re-examined with that focus particularly in mind. This report contains some of the same ground as that covered by Walzl's research, and has some additional information.

7.7.1 Legal authority for the scheme

The initial feature of the Tongariro Power Development (TPD) scheme is the legal basis upon which the scheme was developed. During the 1950s, when the first foundation blocks were laid for the scheme, the vesting in the Crown of the right to use water for hydroelectric power generation was set out in Section 306 Public Works Act 1928. This section was directly descended from Section 3 Water-power Act 1903, and still contained the qualifier "subject to any rights lawfully held ...". A consequence of the vesting in the Crown was the ability of the Crown to embark on hydroelectric power generation of its own, which had been first provided for in Section 5 Public Works Amendment Act 1906, and in the 1950s was set out in Section 311 Public Works Act 1928.

Comprehensive investigations of the power project did not begin until the mid 1950s. By 1958 the investigation into the feasibility of the project was ready to move beyond an office-based analysis of available climate, water flow and topographical records, and into an examination of the suitability of particular sites from an engineering point of view. This would require entry on to private land, for which permission either had to be obtained on a case-by-case basis from landowners, or could be provided by invoking powers under the

⁷⁶⁶ JE Martin, *People, politics and power stations: electric power generation in New Zealand 1880-1998*, Electricity Corporation of NZ and Historical Branch Department of Internal Affairs, 1998 (Second Edition), pages 220-221.

⁷⁶⁷ T Walzl, *Environmental Impacts of the Tongariro Power Development Scheme*, Evidence Presented to the Wai 1130 Inquiry, Document #E12, July 2006.

Public Works Act that would authorise the Crown to enter without prior consent of the landowner. The latter course of action was chosen. The reason given was that obtaining consent from numerous Maori landowners was too hard:

Sir Alexander Gibb and Partners [contracted by the Crown to undertake the engineering investigations] are preparing to call tenders for the construction of several automatic water-level recorders, cableways and footbridges in connection with the assessment of power in the Tongariro area....

Some of the gauging stations are sited on Maori-owned land. We fear there will be considerable delay in the finalising of the contract for the construction of the stations if we endeavour to get the owners' consent beforehand. The owners are usually numerous and even with the best good-will and intention on their part it is difficult to get consent. Such consent, moreover, must be attested by a Maori Land Court to be valid, and can be revoked at pleasure.⁷⁶⁸

Although not explicitly stated, there was probably another reason why the Ministry of Works would seek to obtain an authorisation under the Public Works Act. This was legislation administered by that Department, and therefore legislation with which it was familiar. The Ministry would have had a preference for the administratively clean ability to operate with the minimal impediments provided by the Public Works Act. The considerably more complicated process of consultation and negotiation with each landowner, although more closely reflecting the relationship between Maori and the Crown envisaged by the Treaty, would have been seen as very much a second-best option. Indeed, the Commissioner of Works stated at the time:

Failing [agreement to use Public Works Act provisions] we shall have to do what we can to obtain the owners' consent even though this is not a sufficient agreement legally for what is proposed, and would need to be obtained again for whatever else we might do.⁷⁶⁹

The reference to having to obtain further consents from landowners was because the provision of the Public Works Act that would be invoked would cover both the site investigation work, and all the subsequent project construction work:

We therefore request you to seek an Order in Council under Section 311 of the Public Works Act which will permit us to enter upon any land, Maori-owned or otherwise,

⁷⁶⁸ Commissioner of Works to General Manager Electricity, 26 September 1958. Electricity Head Office file 21/75/1. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2698.

⁷⁶⁹ Commissioner of Works to General Manager Electricity, 26 September 1958. Electricity Head Office file 21/75/1. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2698.

without prior consent while also giving us power to carry out any other investigations or to construct any works, including permanent works if necessary at a later stage.⁷⁷⁰

It would effectively be a blanket legal authorisation to both develop and construct all the TPD works.

The authorisation under Section 311 of the Public Works Act would be an Order in Council issued by the Governor General, but on the recommendation of the Minister of Electricity rather than the Minister of Works, because it was a provision applying only to electricity works. The Commissioner of Works had therefore requested that the General Manager of the Electricity Department obtain his Minister's approval. The recommendation prepared within the Electricity Department for the Minister noted that

the Order in Council is a comprehensive authority empowering the Minister to raise or lower the level or divert the waters of the rivers concerned and of any tributary lake, river or stream and so make use of the whole of the Waikato, Wanganui and Rangitikei Catchment areas for hydro-electric purposes, to construct incidental and related works such as dams, tunnels, transmission lines etc, and to sell the electrical energy generated. The [wording of the] Order in Council follows closely the wording of the Statute.⁷⁷¹

The Minister supported the issue of the Order in Council, and it was proclaimed in October 1958. It authorised the Minister of Electricity

to erect, construct, provide, and use such works, appliances and conveniences as may be necessary in connection with the utilisation of water power from the Wanganui, Tokaanu, Tongariro, Rangitikei and Whangaehu Rivers, and all their tributary lakes, rivers and streams ... for the generation and storage of electrical energy; and with the transmission, use, supply and sale of electrical energy when so generated; also to use electrical energy when so generated in the construction, working, or maintenance of any public work, or for the smelting, reduction, manufacture or development of ores, metals or other substances; also to raise or lower the level of all or any of the said rivers and their tributary lakes, rivers and streams, and impound or divert the waters thereof; also to construct tunnels under private land, or aqueducts and flumes over the same, erect pylons, towers or poles thereon, and carry wires over or along any such land, without being bound to acquire the same, and with right of way to and along all such works and erections; and also to supply and sell electrical energy and recover monies due for the same.⁷⁷²

⁷⁷⁰ Commissioner of Works to General Manager Electricity, 26 September 1958. Electricity Head Office file 21/75/1. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2698.

⁷⁷¹ Office Solicitor to General Manager, 17 October 1958. Electricity Head Office file 21/75/1. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2691.

⁷⁷² Order in Council, 29 October 1958. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2690. *New Zealand Gazette* 1958 page 1463. Supporting Papers #3095.

The Order in Council provided all the legal authority necessary for the Crown to divert water from the Rangitikei catchment into the Lake Taupo and Waikato catchment. There is no indication in Crown records that officials examined during 1957-1958 whether the waters referred to in the Order in Council were vested in the Crown and were available to be treated as they were by the Order in Council. The waters were not vetted to see if any rights to them were “lawfully held” by Maori or anyone else.

There were some subsequent approval steps, such as the approval by the Ministry of Works of the consultant’s engineering design and economic feasibility calculations in 1963, and the Cabinet’s financial approval to the commencement of the TPD project in 1964, but it was the 1958 Order in Council that represented a granting of legal authority to undertake the project. There was no consultation with any iwi or hapu grouping within the Taihape Inquiry District prior to the issue of the Order in Council. Even the consultation with Ngati Tuwharetoa prior to 1958 had been strictly limited, being confined to a single meeting with the owners of Lake Rotoaira in October 1955⁷⁷³. At that meeting the owners, while sympathising with the Crown’s proposals, chose to defer any decision on whether or not to agree to the use of their lake for power generation purposes. The absence of consultation was primarily because the Public Works Act 1928 was silent on the subject and did not require the Crown to take any such step.

Since 1958 the Crown has given itself additional rights over water, when it vested in itself all rights to use and management of natural water, not just rights to use water for hydroelectric power generation, under Section 21 Water and Soil Conservation Act 1967. However, the 1967 Act had a transitional provision protecting existing Orders in Council authorising damming, and all pre-existing rights to the use of water. Section 21(2) Water and Soil Conservation Act 1967 provided that any damming of a river authorised by an Order in Council made before September 1966, and notified to the relevant regional water board before April 1969, could continue in operation indefinitely under the 1967 legislation. The right to divert the waters of the Moawhango catchment had been authorised by the 1958 Order in Council, and had been notified to Rangitikei Regional Water Board in March

⁷⁷³ Lake Rotoaira occupies a central position in the TPD, being the point at which water from the Tongariro River (augmented by water from the Whangaehu catchment and the Moawhango River), and from the Whanganui River, combines before being fed through the Tokaanu power station into Lake Taupo, and thence down the Waikato River.

1969⁷⁷⁴, with the result that the Crown was able to disregard the new provisions in the 1967 legislation as construction work continued. In being exempt from the need to obtain a water right under the 1967 Act, the Crown was also exempted from the requirements for public notification and for allowing lodging of public objections.

The 1958 Order in Council retained full legal force and effect through to 2001⁷⁷⁵. It was only as a result of the repeal of the 1967 legislation by the Resource Management Act 1991, and the passing of Section 386(3) of the 1991 Act, that holders of pre-1967 rights of water use were required to apply within ten years to replace those rights with new time-limited water permits. It was this change of law that precipitated the hearings during the 1990s of Genesis Power Limited's resource consent applications for continued operation of the TPD.

7.7.2 Design of the scheme in the Moawhango catchment

The primary purpose of the Tongariro Power Development (TPD) is to capture and deliver additional water capacity to the Waikato River, so that the series of power stations along that river can be operated more intensively. The additional water in the Waikato catchment is achieved by transfer from the Whanganui, Whangaehu and Moawhango catchments through tunnels and canals. The transfers and diversions enable two further power stations (at Tokaanu and Rangipo) to generate electricity.

Transfer of water from the Whangaehu and Moawhango catchments starts with the capture and diversion of waters from tributaries of the Whangaehu River on the southern slopes of Mount Ruapehu into an artificial channel known as the Wahianoa Aqueduct. This aqueduct passes beneath the Whangaehu River itself (so that acidic waters in that river are not captured) and then tunnels through the watershed between the Whangaehu and Moawhango catchments to discharge the water into an artificial lake on the Moawhango River. The lake also receives waters that flow down the Moawhango River itself above the impoundment. From the lake another tunnel carries the combined waters to the headwaters of the Tongariro River in the Lake Taupo and Waikato catchment. The transfer of water from the Whangaehu

⁷⁷⁴ Project Engineer Turangi to Chief Engineer Rangitikei Catchment Board, 24 March 1969. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3929-3930.

The notice of the existing authority referred to a dam on the Moawhango River approximately 200 feet high affecting 100% of the water in the river at the dam site.

⁷⁷⁵ By Section 3(1)(a) Electricity Operators Act 1987 the authority given to the Minister of Electricity was transferred to the Electricity Corporation of New Zealand Limited, the new State-Owned Enterprise charged with the operation of the national electricity system.

and Moawhango catchments into the Tongariro River is collectively known as the Eastern Diversion.

The environmental impact of the TPD on waterways in the Rangitikei catchment is, therefore, associated with the following matters:

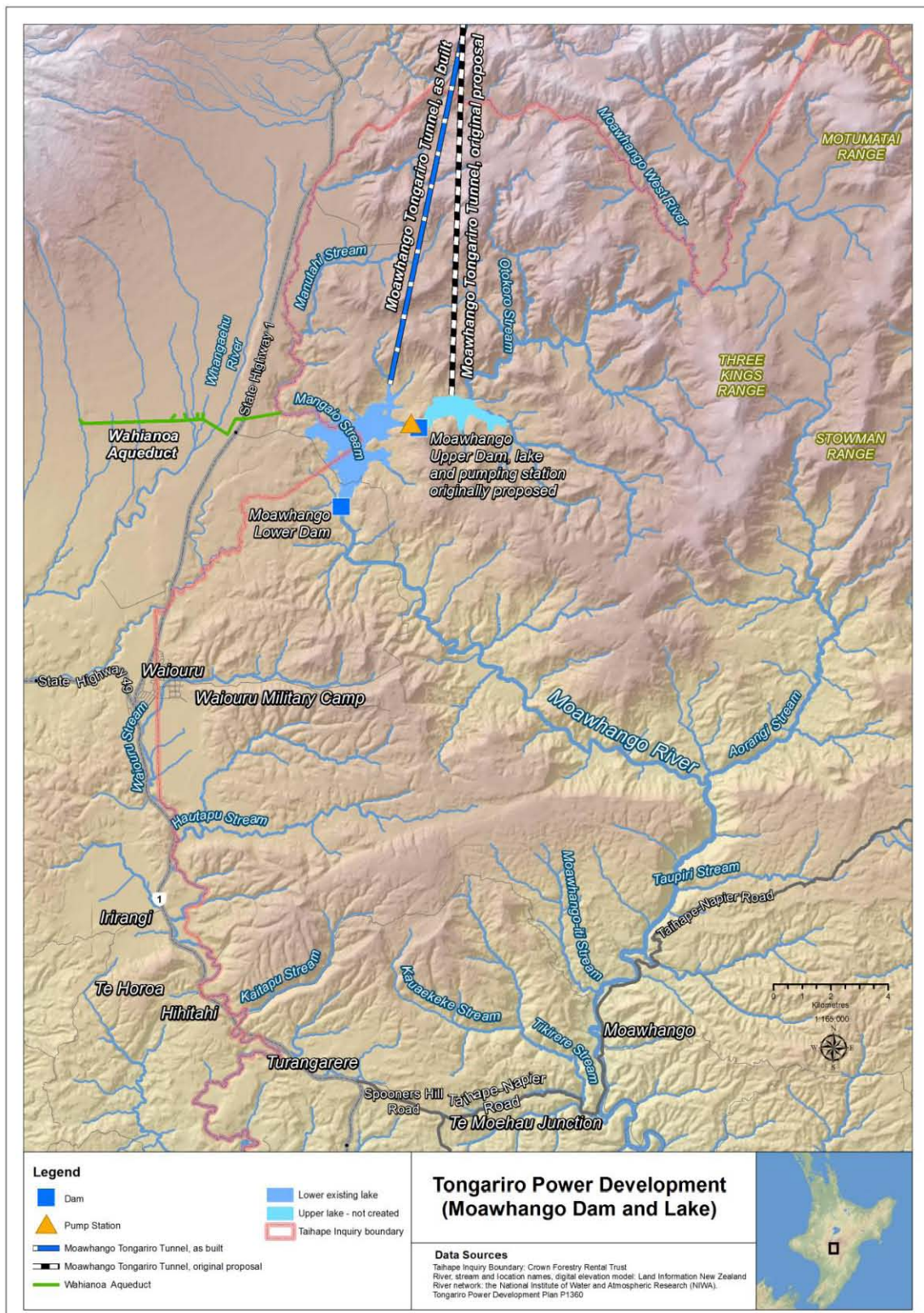
- The mixing of waters from two catchments (Whangaehu and Moawhango) and discharge into a third catchment (Tongariro);
- The damming of the Moawhango River;
- Loss of water quantity in the Moawhango and Rangitikei Rivers downstream of the dam;
- Downstream of the dam, changes to the quality of the remaining water in the Moawhango and Rangitikei Rivers, to the nature of the beds of the two rivers, to fishing, and to the uses of riparian land.

The design process for the TPD had an investigations phase during the period 1958-1962. This was when staff of the consulting engineers to the Government (Sir Alexander Gibb and Partners), relying on the right of entry on to land granted by the 1958 Order in Council, measured the flows in the rivers, examined the lands that might be affected by the TPD, identified suitable sites for dams, aqueducts, tunnels and power stations, and generally worked out how to bring together a number of disparate elements into a single workable (and cost effective) scheme. During much of this period, the following Maori-owned land adjoined and had riparian rights to the Moawhango River:

- Oruamatua-Kaimanawa 2A, 2O
- Oruamatua-Kaimanawa 3A, 3C, 3D, 3E, 3F
- Rangipo Waiu 2B1A, 2B1B, 2B1C, 2B4

Oruamatua-Kaimanawa 3C and 3E adjoined the site of Lake Moawhango, and would be partly flooded by the lake. Research for this report has not discovered any records of consultation with the Maori owners of any of the Moawhango lands with riparian rights. Part way through the investigations phase, in 1961, the Maori-owned land itemised above was taken under the Public Works Act for defence purposes, and as a result the dispossessed owners became totally excluded from consideration in the context of the TPD scheme⁷⁷⁶.

⁷⁷⁶ The Public Works takings are discussed in Philip Cleaver, *Takings of Maori Land for Public Works in the Taihape Inquiry District*, Chapter 5, November 2012, Wai 2180 #A9.



Map 12: Tongariro Power Development (Moawhango dam and lake)

Up until 1967, design of the Eastern Diversion was based on there being two dams on the Moawhango River. The Wahianoa Aqueduct would discharge water via the Mangaio Stream into a lake behind the lower of two dams. This lower dam would be located where the existing dam is today. Water in the lake behind the lower dam would be pumped into a second lake behind an upper dam. From this upper lake the water would then be transferred by tunnel to a point on the Tongariro River higher than the present-day discharge point on that river. The reason for this configuration was to discharge water into the Tongariro River at a high enough altitude in its headwaters that two power stations could be built on that river⁷⁷⁷. However, the two-lake design was abandoned in 1967 for both engineering and scheme economics reasons:

Originally the [upper] dam was to have been a concrete arch, but on further investigation the abutments were not considered sound enough, and latterly Sir Alexander Gibb and Partners have considered an earth dam. There is some doubt whether the only easily available core material [for an earth dam] is suitable.⁷⁷⁸

The one-lake alternative, as first considered in February 1967, would still involve pumping water, this time from the lower lake through a tunnel to the same discharge point on the Tongariro River as for the two-lake proposal⁷⁷⁹. However, in May 1967, the one-lake alternative was amended to become a gravity feed through a tunnel from the lower lake to a lower point on the Tongariro River, thereby removing the need for pumping but in the process reducing the potential generation capacity on the Tongariro River⁷⁸⁰. Economic studies (i.e. calculations of the construction cost per kilowatt hour of electricity generated) supported the one-lake alternative with a lower tunnel. This revised alternative was endorsed by the engineering consultants⁷⁸¹, by Ministry of Works after giving further consideration to the impact on power schemes on the Tongariro River (a reduction from two power stations to one power station)⁷⁸², and by New Zealand Electricity Department⁷⁸³. Rather belatedly in

⁷⁷⁷ J Davie, 'A general description of the Tongariro Hydro-electric Power Development, in *New Zealand Engineering*, Volume 22 No. 9, 15 September 1967. Supporting Papers #7405-7412.

⁷⁷⁸ Commissioner of Works to General Manager, 28 February 1967. Electricity Head Office file 21/75/1. Supporting Papers #127-138.

⁷⁷⁹ Commissioner of Works to General Manager, 28 February 1967. Electricity Head Office file 21/75/1. Supporting Papers #127-138.

⁷⁸⁰ Commissioner of Works to Sir Alexander Gibb and Partners, 5 May 1967, forwarded to General Manager, 5 May 1967. Electricity Head Office file 21/75/1. Supporting Papers #139-149.

⁷⁸¹ Sir Alexander Gibb and Partners to Commissioner of Works, 11 July 1967, attached to Commissioner of Works to General Manager, 25 August 1967. Electricity Head Office file 21/75/1. Supporting Papers #150-153.

⁷⁸² Commissioner of Works to General Manager, 15 November 1967. Electricity Head Office file 21/75/1. Supporting Papers #154-156.

This letter is also included in Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2809-2811.

September 1968 the Cabinet Works Committee was asked to approve the design change⁷⁸⁴; it did so that same month⁷⁸⁵. A briefing paper to the Minister of Works for this Cabinet Committee meeting explained the changes from the Ministry of Works perspective⁷⁸⁶.

The environmental impact on the Moawhango River of the design change was that elimination of the upper dam and lake reduced the construction footprint of the TPD in the catchment to just the lower dam and lake. However, there was no change to the intended reduction in flow in the river downstream of the lower dam; all downstream impacts would remain the same.

The engineering consultants undertaking the investigations and preliminary design and feasibility studies for the TPD provided their report to the New Zealand Government in 1962. Crown officials then worked through the options and prepared papers seeking preliminary approval from the Government. Their understanding of environmental impacts on the Moawhango and Rangitikei Rivers at that time was summarised in these papers, referred to below. In February 1964, the Government was advised that the purpose of the Eastern Diversion was:

- (i) To increase the flow through Tokaanu power station to supply a fourth 45 MW machine.
 - (ii) To augment the flow into Lake Taupo and thus increase the output of existing Waikato Stations.
 - (iii) To provide conditions for the later development of the Rangipo and Tongariro Power Stations.
- (i) and (ii) will give an additional 440 million units/year (.75 of a year's increase in North Island demand).⁷⁸⁷

⁷⁸³ Mr Blakeley to General Manager, 4 January 1968, and General Manager to Commissioner of Works 10 January 1968. Electricity Head Office file 21/75/1. Supporting Papers #157-158 and 159.

⁷⁸⁴ General Manager to Minister of Electricity, 13 September 1968. Electricity Head Office file 21/75/1. Supporting Papers #160-165.

⁷⁸⁵ Extract from minutes of Cabinet Works Committee, 29 September 1968. Electricity Head Office file 21/75/1. Supporting Papers #166.

⁷⁸⁶ Note for Minister of Works, undated. Electricity Head Office file 21/75/1. Supporting Papers #167-170. This note is also included in Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2802-2804.

⁷⁸⁷ Notes on Tongariro Power Development, February 1964, page 4, attached to General Manager to Minister of Electricity, 7 February 1967. Electricity Head Office file 21/75/1. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2637-2649.

In a further paper to the Minister of Electricity, this was phrased as:

This extra water [from the Eastern Diversion] would permit a further machine to be installed at Tokaanu power station, increasing its capacity to 182,000 kilowatts, and would enable a further 194 million units to be generated annually at Tokaanu and 250 million units in the existing Waikato power stations.

The effect of the Eastern Diversion would be to reduce water flows down the Rangitikei

River:

Rangitikei River: Mean flow is about 2,000 cusecs at Mangaweka.

Although it is proposed to investigate the power potential of the river more fully when staff become available, there is no doubt that the water proposed to be diverted will be utilised to much better effect down the Waikato system than in any possible schemes on the Rangitikei.

Construction of the two dams on the Moawhango tributary could tend to reduce floods in the lower Rangitikei, and would certainly not aggravate them.

The present low flow in the river will be decreased, but there will be no significant effect on groundwater levels.⁷⁸⁸

Fisheries staff of the Internal Affairs and Marine Departments had concluded that no eels from the Moawhango Stream would be able to reach the Tongariro River and Lake Taupo, and cause damage to the trout fishery there⁷⁸⁹. Separately the Minister of Works was told that “the mean annual flow at the point of diversion is 365 cusecs, of which 359 cusecs are diverted”⁷⁹⁰. Thus the consulting engineers were anticipating that only 6 cusecs of the flow in the Moawhango River above the lower dam site would pass through the dam site and into the river below⁷⁹¹. At more than 98%, this is to all intents and purposes total diversion of the waters of Moawhango River above the dam site.

7.7.3 During construction and commissioning, 1964 - 1979

Cabinet gave preliminary approval for the construction of the Tongariro Power Development (TPD) in March 1964. This approval in principle was subject to satisfactory arrangements being made with parties who might be adversely affected by the scheme. To this end the

General Manager to Minister of Electricity, 17 January [sic, should be February] 1964. Electricity Head Office file 21/75/1. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2635-2636.

⁷⁸⁸ Notes on Tongariro Power Development, February 1964, page 9. Electricity Head Office file 21/75/1. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2637-2649.

⁷⁸⁹ Notes on Tongariro Power Development, February 1964, Appendix C page 3. Electricity Head Office file 21/75/1. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2637-2649.

⁷⁹⁰ Commissioner of Works to Minister of Works, 16 March 1964. Works and Development Head Office file 92/12/67/14. Supporting Papers #2027-2029.

Of the 365 cusecs inflow at the dam site, the Mangaio Stream contributed 95 cusecs, and the Moawhango River contributed 270 cusecs.

⁷⁹¹ Notes on Tongariro Power Development, February 1964, Figure 9. Electricity Head Office file 21/75/1. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2637-2649.

Ministry of Works appointed one of its staff members to a new position of Liaison Engineer. The Crown records viewed for this report show that he liaised with the Army⁷⁹², the Rangitikei Catchment Board⁷⁹³, Moawhango farmers, and fisheries interests. However, no record has been located of him liaising with Maori with manawhenua interests in the Moawhango or Rangitikei catchments.

In December 1964 the Liaison Engineer prepared a schedule of those organisations that the Ministry of Works did consult with during 1964, and the matters of particular interest to them. For the Moawhango catchment, four organisations or sector groupings were identified:

- Army Department
 - (a) Moawhango dams tank crossings. Bridge over river may not be necessary.
 - (b) Powerlines to pumphouse vulnerable if overhead.
 - (c) Siting of construction village. Water supply and sewage disposal. Permanent houses useful at Waiouru.
 - (d) Access to site and aggregate supplies.
 - (e) Fishing rights over new lakes.
 - (f) R.E. Officers seconded for experience if possible.
 - (g) Fence off site across road.
 - (h) All liaison with Ministry of Works representatives, not contractor.
- Rangitikei Catchment Board
 - (a) Reduction of polluted Whangaehu dilution downstream of Wahianoa diversion.
 - (b) Moawhango village farmers.
 - (c) Whangaehu will not be diverted. Government undertaking. Minister of Electricity to Acclimatisation Societies 13 August 1964.
- Moawhango village and farmers
 - (a) Loss of water for stock and for farms.
 - (b) Control of stock.
 - (c) Gravel supplies and rabbit control.
 - (d) Fishing and scenery.
- Wellington Acclimatisation Society
 - Effect on Society's interest not important, but do not consider Woods' report will achieve desired result.
 - Moawhango headwaters.⁷⁹⁴

⁷⁹² Note for file by Liaison Engineer, 15 July 1964. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2036.

⁷⁹³ Note for file by Liaison Engineer, 28 July 1964. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2037.

⁷⁹⁴ Schedule of main authorities and individuals whose interests may be affected, December 1964. Works and Development Head Office file 92/12/67/14. Supporting Papers #2030-2035.

A copy of this schedule is on Electricity Head Office file 20/75/1. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2703-2708.

The above list of concerns about the TPD scheme would undoubtedly have been different if Maori exercising kaitiakitanga for the Moawhango and Rangitikei Rivers had been asked at the pre-construction stage what concerned them, and if they had been included in consultations with affected parties during the construction stage. Such consultation never occurred until the late 1990s, well after the TPD had been completed and was generating electricity. The difficulty for a historical researcher is that, because local Maori were never consulted, it is not known how different their concerns were, and to what extent they had concerns not expressed at all by other groups. As a result of these circumstances, what follows in the next three sections is a history of the discussions that the Crown had with groups other than tangata whenua. It is split into three categories, distinguishing between the discussions that took place with the Moawhango farming community, with sport fishing interests, and with the Rangitikei Catchment Board (and its successor Rangitikei-Wanganui Catchment Board).

7.7.3.1 Concerns of Moawhango Valley farming interests

A press statement was released in March 1964 that let people know that the Moawhango and Rangitikei Rivers would be affected by the Tongariro Power Development (TPD)⁷⁹⁵. The news prompted a petition from 23 farmers resident in the Moawhango Valley⁷⁹⁶. None of the petitioners' names suggested Maori ancestry. Problems the farmers identified as a consequence of reduction in flow of water in the river below the dam were:

1. Stock wandering along and across the river bed.
2. Fencing of river banks to prevent loss of stock consequent on (1) above.
3. Loss of stock access to water as a result of (2) above.
4. Pollution of domestic water supplies.
5. Loss of gravel supplies for cement work and private roading.
6. Loss of local trout fishing facilities.
7. The loss to the Taihape Rabbit Board of an effective natural barrier in their rabbit extermination operations.
8. The loss to the Taihape District of the scenic attractions of the Te Pouna and Pokaka waterfalls.
9. Moawhango School water supply.⁷⁹⁷

⁷⁹⁵ Press statement, 23 March 1964. Electricity Head Office file 21/75/1. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2625-2626.

⁷⁹⁶ Petition of 23 Moawhango Valley farmers and residents, 27 August 1964, attached to General Manager NZ Electricity Department to Commissioner of Works, 16 September 1964. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2044-2045.

⁷⁹⁷ Petition of 23 Moawhango Valley farmers and residents, 27 August 1964, attached to General Manager NZ Electricity Department to Commissioner of Works, 16 September 1964. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2044-2045.

A deputation of the Moawhango farmers met officials from Ministry of Works and the Electricity Department in Wellington in September 1964, at which an undertaking was given to visit the valley for a joint inspection, as a preliminary to meetings with individual property owners. The officials took the view that most of the difficulties for downstream farmers could be remedied by fencing to maintain stock barriers, and by providing alternative water supply arrangements; these would be at the Crown's expense:

The effect of reduced flows on trout fishing in the Moawhango is not yet clear, and the effect on the Te Ponga and Pokaka Falls is something about which little can be done....

[The deputation was] assured that it would not be the wish of the Government that any owner should suffer financially because of the advent of the Tongariro scheme.⁷⁹⁸

A similar response was given to solicitors for the owners of Ohinewairua Station, when they wrote to the Electricity Department in November 1964⁷⁹⁹. The solicitors' subsequent request for information about the extent of flow reduction in the Moawhango River⁸⁰⁰ was answered in generalities, because the limited period of flow records prevented precise figures to be calculated⁸⁰¹.

The joint inspection visit did not take place until October 1965⁸⁰²:

Mr Davies [Liaison Engineer in Ministry of Works Head Office] and Mr Bailey from Project Engineer's Office, Mangakino, met Mr JD Green (leader), Mr W Duncan, Mr Gilbert, Mr Batley and Mr Woollaston, all of the Moawhango Valley.

The Liaison Engineer's report on the visit noted that one-third of the Moawhango Valley was upstream of the proposed lower dam, and two-thirds downstream. For the first 14 miles below the lower dam site, downstream as far as the point where Oarenga/Aorangi Stream

⁷⁹⁸ General Manager NZ Electricity Department to Minister of Electricity, 2 October 1964. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2046-2047.

⁷⁹⁹ Nolan and Skeet, Barristers and Solicitors, Gisborne, to General Manager NZ Electricity Department, 26 November 1964, attached to General Manager NZ Electricity Department to Nolan and Skeet, Barristers and Solicitors, Gisborne, 2 December 1964. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2048-2049.

⁸⁰⁰ Nolan and Skeet, Barristers and Solicitors, Gisborne, to General Manager NZ Electricity Department, 4 December 1964, attached to General Manager NZ Electricity Department to Commissioner of Works, 7 December 1964. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2050-2051.

⁸⁰¹ Commissioner of Works to Nolan and Skeet, Barristers and Solicitors, Gisborne, 11 December 1964. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2052.

⁸⁰² Two reports about this inspection visit were prepared, one by the Liaison Engineer (File note by Liaison Engineer, 20 October 1965. Works and Development Head Office file 92/12/67/14/3 - Supporting Papers #2053-2058), and one by the Project team representative (Assistant Administration Officer to Project Engineer, 21 October 1965. Works and Development Head Office file 92/12/67/14/3 - Supporting Papers #2059-2061). This research report relies primarily on the Liaison Engineer's file note.

A copy of the Liaison Engineer's file note is on Electricity Head Office file 20/75/1. Supporting Papers to T Walz, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2745-2750.

flowed into the river, land ownership was either Army (defence land) or Ohinewairua Station.

Below Oarenga/Aorangi Stream:

The lower valley is for the most part well established and well worked farmland in tertiary sandstones and siltstones. Most farms are mixed sheep and cattle, but there is one dairy farmer. The surrounding hills rise in places up to 2000 feet above the river and stand back, say, ½ mile on either side. There are few river flats, and the river itself runs in increasingly deep cut banks, with gorges in places not more than 50 ft across and over 100 ft deep. Slips or ground configuration give stock access to water, though in places the cattle would require to be both agile and persevering.

There are about 30 farms along the river, and on some two-thirds of these there is stock access to the river itself. A high proportion of the paddocks fronting on the river are already fenced. Perhaps 16-18 miles (out of about 45 miles) remain unfenced on one side or the other, though steep cliffs may in some sections of this prevent access to the water without the need for fencing.

About a dozen of the farms have water pumps for stock supply and occasionally for domestic purposes. Some houses are dependent on rainfall collected from roof run-off. Only one farm (Mr Britton) has a deep bore (300 ft), and the water from it is said to be exceptionally hard.

The settlement of Moawhango itself lies alongside the river, and centres around the 2-3 teacher school. There are a very small number of houses, but no church, shops, hotel or garage – not on the main road anyway. The school draws all its water-supply from the river, including that for a small swimming pool.⁸⁰³

A notable exclusion from this description of the settlement is any reference to the marae at Moawhango, and their significance as a centre for Maori life. This aspect did not enter the consciousness of the Ministry of Works officials. It also suggests that the Ministry of Works officials met only with members of the local European settler community.

The report also recorded what was known about water flows in the Moawhango River:

Records of flow are of short duration, and comprise about six years at the lower dam site and 2 years near Moawhango itself.

The average flow at the point of diversion at the lower dam site may be in the order of 330 to 360 cusecs, and at Moawhango perhaps 450 to 500 cusecs.

Daily minimum dry weather flows might be in the order of 40 and 50 cusecs respectively, but these are tentative and need verification.

⁸⁰³ File note by Liaison Engineer, 20 October 1965. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2053-2058.

We were told the downstream tributaries dried up entirely or were reduced to an insignificant trickle during dry conditions.⁸⁰⁴

The two most significant matters identified during the site inspection were use of the river for stock watering, and the action of the river as a property boundary stock barrier. The barrier to stock would be lost when the flow down the river was reduced, while water entering the river from side streams downstream of the dam site might be sufficient for stock watering needs (though this was by no means certain during dry summer periods). The farmers also raised a further concern about noxious weeds in the fenced-off riverbed to add to the list of concerns in the 1964 petition. The identified solutions to the stock barrier and stock watering concerns once the TPD reduced flows in the river were:

In general:

1. To fence, on both sides of the river above flood level, sections at present unfenced because the river forms a stock barrier.
2. To provide pumping facilities, storage tank and watering troughs in cases where the new fencing prevents watering stock in the river.
3. To pass flushes or compensation water through the lower dam in periods of dry weather flow when pollution might otherwise be a danger to good health.

In particular:

1. To visit each individual farm and discuss with the farmer without commitment the extent of fencing and pumping necessary.
2. To visit the upper reach of the river, including the Aorangi confluence, to examine any site problems and to assess the extent of fencing required.
3. To ensure that in dry conditions measurements of flow are made at all points of interest, but particularly at the lower dam site and at Moawhango settlement.
4. To instruct Sir Alexander Gibb and Partners to make provision in the lower dam for passing any controlled discharge up to, say, 100 cusecs, for avoiding pollution.⁸⁰⁵

The proposed provision of up to 100 cusecs of compensation water was an increase on the 6 cusecs flow down through the dam site identified in the consulting engineer's report to the Government in 1962⁸⁰⁶. No particular figure seems to have been discussed with the farmers during the site inspection, and the 100 cusecs figure appears to have been initiated by the Liaison Engineer subsequently. Rather, during the inspection, there seems to have been a

⁸⁰⁴ File note by Liaison Engineer, 20 October 1965. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2053-2058.

⁸⁰⁵ File note by Liaison Engineer, 20 October 1965. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2053-2058.

⁸⁰⁶ Notes on Tongariro Power Development, February 1964, Figure 9. Electricity Head Office file 21/75/1. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2637-2649.

less specific discussion of compensation water as a possible alternative to the fencing and water supply arrangements. The report by the Project team representative stated:

An alternative to the above suggestions [fencing and pumps] would be for the New Zealand Electricity Department to guarantee a minimum flow of water down the river, but Mr Davies does not think they would agree to this.

Mr Davies is to have discussions with NZED on the problems and prepare a report and recommendations ...⁸⁰⁷

The consulting engineers were instructed to provide for a flow of compensation water through the dam in November 1965. They were told that “the amount will depend on the results of measurements of dry weather flow now being arranged, but something in the order of 100 cusecs seems a likely figure”⁸⁰⁸. The inclusion of the ability to discharge compensation water was a matter of keeping that particular option open, rather than a commitment to provide a compensatory flow. When writing to a Moawhango farmer on the same day as he wrote his instruction to the consulting engineers, the Liaison Engineer made no mention of compensation water, and stated that “the provision of fencing and alternative water supply ... is clearly the most satisfactory solution”⁸⁰⁹. For its part the Electricity Department converted the possible compensation water provision into monetary terms, when it calculated the value of electricity foregone because less water would flow through the TPD and Waikato River turbines. At November 1965 prices, 6 cusecs had an annual value (capitalised over 30 years) of £180,000, while 100 cusecs would have an annual capitalised value of £3 million⁸¹⁰; 100 cusecs (cubic feet per second) converts to 2.8 cumecs (cubic metres per second).

Of the other matters raised in the farmers’ petition, the report on the inspection noted:

The possibility of pollution of domestic water supplies was recognised but discussed only briefly.

⁸⁰⁷ Assistant Administration Officer to Project Engineer, 21 October 1965. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2059-2061.

⁸⁰⁸ Commissioner of Works to Sir Alexander Gibb and Partners, 4 November 1965. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2062.

A copy of this letter is on Electricity Head Office file 20/75/1. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2751.

⁸⁰⁹ Commissioner of Works to JD Green. Moawhango, 4 November 1965. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2063.

A copy of this letter is on Electricity Head Office file 20/75/1. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2752.

⁸¹⁰ Value of water spilled by flooding and for compensation purposes, 12 November 1965. Electricity Head Office file 21/75/1. Supporting Papers #126.

Loss of gravel supply did not seem serious in view of the bed load supposed to be travelling down the Aorangi Stream. Loss of an effective barrier for rabbit control was not seriously discussed, and may require further consideration.

Loss of trout fishing and some scenic amenity was briefly discussed. The farmers greatly regretted losses such as these, but felt that they may have to be accepted in the general interests of the country....

There will certainly be a loss of scenic amenity in what in my view is an attractive well-farmed valley. The moderation and spirit in which the farmers seem willing to accept this loss greatly increases, in my view, the sympathy with which their more tangible complaints should be regarded.⁸¹¹

A separate issue for downstream landowners was the possibility that periods of high rainfall could fill Lake Moawhango and require spilling over the crest of the dam, resulting in occasional high flow events downstream of the dam when at all other times there were minimal flows. However, calculations by the consulting engineers to simulate likely lake levels during the rainfall patterns that occurred between 1960 and 1964 showed that, if the lake had been in place and had been operated by Electricity Department to the best advantage for electricity generation, then on only one occasion, in late winter 1964, would spilling have been required⁸¹².

Landowners in the Moawhango Valley heard nothing more from the Crown for four years. In early 1969 the Ministry of Works re-activated its proposal that individual farms should be visited so that the effects of the TPD on their property could be discussed⁸¹³. However, it was not until September 1969 that the Ministry notified the convenor of the farmer's committee that it intended to distribute a statement about the extent of flow reduction in the river following diversion of the water, hold a meeting of local residents to discuss a programme of visits, and then make the visits⁸¹⁴. The information about changes in flow was then distributed⁸¹⁵, and the meeting was held at Moawhango Hall in October 1969⁸¹⁶. Those

⁸¹¹ File note by Liaison Engineer, 20 October 1965. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2053-2058.

⁸¹² Sir Alexander Gibb and Partners to Secretary for Internal Affairs, 16 November 1967. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2064-2065.

⁸¹³ Project Engineer Turangi to Moawhango Valley farmers, 15 April 1969, and Project Engineer Turangi to JD Green, Moawhango, 15 April 1969. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #2940 and 2941-2942.

⁸¹⁴ Project Engineer to RAL Batley, Moawhango, 10 September 1969, attached to Project Engineer to Commissioner of Works, 12 September 1969. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2066-2067.

⁸¹⁵ Project Engineer to Moawhango Valley Residents, 8 October 1969. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2068.

present were told that the delay in contacting them after the 1964 meeting was not a problem, as changes to the flow in the river were unlikely before 1974. The issues identified in the discussion at the meeting were a reduction in mean flow, fencing and stock barriers, rabbits, noxious weeds, stock water, loss of scenic quality (at Poukaka Falls), and trout fishing. It was explained that the visits to individual properties would examine what solutions could be provided to overcome the problems.

The first inspection of individual properties was a visit to Ohinewairua Station in November 1969⁸¹⁷. The remaining properties were visited on four different days between February and April 1971⁸¹⁸. In all, 46 properties were visited between the dam site and the confluence of the Moawhango River and Rangitikei River. In a summary provided to Head Office in July 1972⁸¹⁹, the inspections identified:

- Some 600 chains (approximately 12 kilometres) of fencing on about forty properties, there being some uncertainty about the numbers as compensation would only be agreed to if there was a loss of property value disclosed in Valuation Department reports still to be prepared.
- Alternative water supplies needed on five properties.
- Relocation of existing water pumps needed on seven properties.
- Fears expressed by three property owners that the purity of water for domestic use would be affected.

A more substantial summary was prepared by TPD staff in December 1972⁸²⁰.

This letter refers to an attached diagrammatic representation of the anticipated reduction in flows. The diagram (numbered TPD-MOA21) was not found among Ministry of Works and Development records, but was discovered among Catchment Board records. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3931.

⁸¹⁶ Notes of meeting, 16 October 1969. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #2943-2944.

⁸¹⁷ Report on visit to Ohinewairua Station on 24 November 1969. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #2945-2946.

⁸¹⁸ Report on visit to lower Moawhango valley farmers on 26 February 1971, Report on visit to lower Moawhango valley farmers on 11 March 1971, Report on visit to lower Moawhango valley farmers on 1 April 1971, and Report on visit to lower Moawhango valley farmers on 29 April 1971. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #2947-2949, 2950-2952, 2953-2955 and 2956-2957.

These were sometimes known as the Gillon reports after the name of their author, an Assistant Engineer in the Ministry of Works Moawhango Residency office.

⁸¹⁹ District Commissioner of Works Wanganui to Commissioner of Works, 28 July 1972. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2075-2077.

⁸²⁰ Project Engineer Turangi to Commissioner of Works, 20 December 1972. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2078-2090.

During the visits three types of remedial measures emerged in discussion with the owners:

- (a) Fencing to prevent stock access to the river. This will stop stock wandering along the river bed during periods of low flow after the diversion. Gates will be required to allow access to the river during higher flows to assist in grazing down the growth of various weeds in the areas between the farm boundaries and the river.
- (b) Supply and installation of pumps, troughs and reservoirs for stock water supply including the extension of the necessary power lines for some small distances. Alternatively, where suitable streams are present, a gravity fed water supply system could be installed.
- (c) Relocation of pump intakes for stock and domestic water where the present intake would be unsatisfactory in low flows. Reservoirs may be necessary to store domestic water over periods of low flow when water quality may be suspect.

Twenty four properties were identified where one or more of these types of measures would be required. The measures involved 11 kilometres of fencing, 6 resited pumps, 2 reservoirs, and 4 new stock water systems⁸²¹.

During the early 1970s there was a period when there was little progress made in connection with matters downstream of the Moawhango dam site, primarily because the TPD construction programme was delayed, with the completion of construction and commissioning rescheduled from 1974-75 to 1978-79. Matters picked up from 1975 onwards. At that time a hydrological study of the Moawhango River after diversion was being carried out (see the next section about fisheries matters), and a part of the work on this study was an assessment of downstream water users. It was agreed at a meeting in September 1975 between Ministry of Works and Development staff and Rangitikei-Wanganui Catchment Board staff that the Catchment Board would undertake this assessment⁸²².

While the Moawhango dam was being constructed, a special valve and pipe through the dam was incorporated which would allow compensation water to be passed through the dam and flow down the Moawhango River. Electricity Department was reluctant to see the size of the valve publicised, for fear that widespread knowledge about how much could be passed

⁸²¹ Project Engineer Turangi to Commissioner of Works, 20 December 1972. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2078-2090.

⁸²² Notes of meeting, 9 September 1975, attached to Project Engineer Turangi to Secretary Rangitikei-Wanganui Catchment Board, 29 September 1975. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2102-2105.

through the dam would be exploited to get the volume of compensation water raised. In May 1978, in the lead-up to the commissioning of the dam, the Electricity Department stated:

Although a special release valve capable of passing up to 2.8 cumecs has been provided, it is considered highly undesirable that this possible flow be included in any public statement. N.Z.E. policy is to advise possible affected parties that “provision has been made for possible special water releases, but the actual amount of water required to be released can be determined only after the reservoir has been filled, and sufficient time has passed to allow the actual situation regarding general water flows in the area to be properly taken into account”.⁸²³

It was in May 1978 that the first Whangaehu catchment water was diverted into the Moawhango catchment, as part of pre-commissioning checks of the Wahianoa Aqueduct⁸²⁴. This was some months before regular diversion, and the filling of Lake Moawhango, began. Since the mixing of catchment waters was not regarded by the Crown as a matter of significance, there was no notification to the public about it by either Ministry of Works and Development or NZ Electricity Department.

With filling of the lake and diversion imminent, Ministry of Works and Development TPD staff updated their list of “Moawhango Dam affected parties”⁸²⁵. This comprised various government departments, local authorities, and riparian farming landowners. As had been the case throughout the construction phase, their idea of “affected parties” did not include Maori iwi or hapu holding manawhenua (or the Department of Maori Affairs), or any Maori individual unless a riparian landowner happened to be Maori. Only five of the 36 riparian “affected parties” along the Moawhango River downstream of the dam were Maori (four tangata whenua and one from elsewhere in the North Island)⁸²⁶; this is discussed in a later section of this chapter about the effect on riparian lands.

In November 1978 an information paper was prepared about the effects of the TPD on the Moawhango River during and after commissioning of the dam and filling of the lake. With respect to commissioning, the paper stated:

⁸²³ General Manager to Commissioner of Works, 19 May 1978. Electricity Head Office file 21/75/1. Supporting Papers #171-173.

This letter is also included in Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2958-2960.

⁸²⁴ Notes of meeting, 24 May 1978, attached to Project Engineer Turangi to Secretary Rangitikei-Wanganui Catchment Board, 29 May 1978. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2113-2115.

⁸²⁵ Contact list for “Moawhango Dam affected parties”, undated (June 1978). Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2116-2118.

⁸²⁶ Richard Steedman, personal communication, 25 May 2015.

The first step will be the closure of the ground sluice in the dam. This will cause the Moawhango River to rise against the dam, thus forming the Moawhango Reservoir, and cutting off the flow through it.

After about 5 days, when the water level has risen 17 metres, the drawdown valves in the bottom part of the dam will be opened, releasing the normal river flow downstream so that the reservoir level will remain static while a concrete plug, poured to close the ground sluice, gains strength. This will take up to a week, after which the drawdown valves will be closed again, thus again cutting off the Moawhango River and allowing the reservoir to fill to its top.

The downstream effects of the variation of flow during the commissioning period are being discussed with affected parties, and if action becomes absolutely necessary special releases of water at the dam can be considered.

The total time needed to fill the reservoir will of course depend on the weather. Three months will be needed with average river flows, but in a very dry season it could well take much longer. In case of heavy rain and large inflows into the reservoir, the drawdown valves may have to be opened to release some of the water downstream. This is to restrict the rate of rise of the water level against the dam, so that there is adequate time available to monitor its behaviour under the gradually increasing water load.⁸²⁷

Of the consequences for the Moawhango River and landowners downstream, the information paper stated:

Between 30 and 40 property owners along the Moawhango will be affected by the reduction in flow. The effect is generally either loss of stock barrier or loss of water supply. The Ministry of Works and Development accepted responsibility for compensation, and officers of the Department have visited the owners to make arrangements for the erection of fences and for upgrading of water supply installations....

Provision has been made in the dam to allow possible special releases of water into the Moawhango River if these prove to be necessary. In view of the very high value of this water for electricity generation, the quantity will have to be kept to a minimum. Any possible special releases of water which may be required can be determined only at a stage after the reservoir has been filled, when the actual situation regarding general water flows in the area can be properly taken into account.⁸²⁸

⁸²⁷ The Moawhango Diversion information paper, undated, attached to Commissioner of Works to Project Engineer Turangi, 7 November 1978. Electricity Head Office file 21/75/1. Supporting Papers #174-183. This letter and information paper is also included in Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2947-2956.

⁸²⁸ The Moawhango Diversion information paper, undated, attached to Commissioner of Works to Project Engineer Turangi, 7 November 1978. Electricity Head Office file 21/75/1. Supporting Papers #174-183.

As part of the preparations for the commissioning of the dam, and the resulting reduction in flows downstream, a public meeting was held at Moawhango in December 1978⁸²⁹. While the names of all those attending were not recorded, the notes of the meeting imply that most were farming landowners or leaseholders. There was at least one person identified as representing Wellington Acclimatisation Society, and Catchment Board representatives also attended the meeting. Whether there were any Maori attendees is not known. Matters that were raised were the absence of negotiations about compensation, the poorer quality of the water that would be in the river, and the absence of any certainty about the quantity of compensation water. A local committee was formed to maintain contact with the Ministry of Works. Two branches of the Ministry were involved, project staff responsible for the commissioning, and property staff from the Wanganui District Office responsible for negotiating with the affected downstream landowners.

A further meeting was held with the local committee one week later⁸³⁰. At the outset it was explained that “this was an agricultural meeting”, and fisheries interests had not been invited. The committee heard some hard-nosed statements from the Crown officials, including the following recorded in the meeting minutes:

- “It was not NZE policy to provide compensating water as stock boundary. Fences preferred.”
- “Team had been working on no compensating water”.
- “Water would be no good for domestic supply due to runoff from farms after diversion”.
- “We should start [diversion from Lake Moawhango] with no compensating water, see what happens and if problems arise decide then”. The no compensation water arrangement would apply “indefinitely, provided boundary fences are OK”.
- “The water is for power. If water is put to other uses, it would make the scheme less viable”.

⁸²⁹ Notes of meeting at Moawhango, 6 December 1978. Electricity Head Office file 21/75/1. Supporting Papers #184.

These notes are also included in Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2944.

⁸³⁰ Notes of meeting with Moawhango Farmers Committee, 14 December 1978. Electricity Head Office file 21/75/1. Supporting Papers #185-192.

These notes are also included in Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2936-2943.

- There had been “no promise of compensating flow in minutes of 1969 meeting” with valley residents.

The absolute loss of water past the dam after commissioning was of major concern to the farmers at the meeting, especially as any river edge fencing would not be completed before commissioning. There was general agreement among the farmers present that a minimum compensation flow of 20 cusecs at all times should be pressed for⁸³¹. As the 100 cusecs figure was not mentioned at the meeting, it seems unlikely that the farmers knew that this volume was capable of being released downstream.

In February 1979 it was necessary as part of the commissioning process to stop all natural river flow through the dam site. However, Ministry of Works and Development project staff agreed that “a flow of approximately 0.6 cumecs would be maintained immediately downstream of the dam by pumping”. This was “equivalent to 30% of the natural minimum mean flow for the month” of February⁸³². 0.6 cumecs converts to 21 cusecs.

The filling of the reservoir, and the first time the flow downstream through the dam site would cease altogether, was going to start at the end of March 1979. However, in mid-March the Moawhango Farmers Committee asked the Commissioner of Works for a postponement:

Some farmers have not had their water supply altered in keeping with the agreements. They are looking to you for some action to assure them of a water supply immediately after diversion. There has been agreements between Ministry of Works and farmers to carry out essential fencing before diversion date, however only work carried out by farmers themselves has been carried out.

As this river runs through difficult terrain, it is the concern of this committee that the loss of stock, and perhaps human life, may occur due to the rise and fall of the river in the testing period, particularly as there are no notices or warning devices to indicate a rapid rise and flow.

We are looking for an assurance from you that the river diversion date for the 26th March be postponed until all the above essential work has been carried out.⁸³³

⁸³¹ Notes of meeting with Moawhango Farmers Committee, 14 December 1978. Electricity Head Office file 21/75/1. Supporting Papers #185-192.

⁸³² Project Engineer Turangi to General Manager, 2 February 1979. Electricity Head Office file 21/75/1. Supporting Papers #193.

⁸³³ MN Smith, Taihape, for Moawhango Action Committee, to Commissioner of Works, 14 March 1979. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2122-2123.

It was agreed that there would be a four-week postponement⁸³⁴. After valve checking, final lake filling began in May 1979, with a small ceremony held on site at the time the valve was closed to start the filling⁸³⁵.

7.7.3.2 Fisheries concerns for the Moawhango River

Discussions about fisheries matters was a central feature of Tongariro Power Development (TPD) planning from an early stage, because of the important Tongariro / Lake Taupo trout fishery. The four Government Departments involved, Ministry of Works, Electricity Department, Wildlife Service of the Department of Internal Affairs, and Fisheries Division of Marine Department (later incorporated into Ministry of Agriculture and Fisheries), had agreed among themselves the measures they considered to be necessary. With respect to the Moawhango River, the primary interest during the discussions between the agencies was to make sure that eels present in the Moawhango could not travel through the TPD tunnel and into the Tongariro River and Lake Taupo, and once there present a threat to the trout fishery. The solution agreed upon was the creation of a barrier immediately downstream of the Moawhango Dam that eels could not pass when travelling up the Moawhango River⁸³⁶. Fisheries in the Moawhango River below the dam, and in the wider Rangitikei catchment waterways, did not have the same high profile as the Tongariro / Lake Taupo trout fishery, and did not receive any attention from the central Government Departments.

The absence of consideration for the downstream fisheries was a concern for the Wellington Acclimatisation Society. In 1971 it asked questions about a matter that the Government Departments thought had already been settled, when it sought information about flows in the Moawhango River below the dam site, and the expected impact on the river fishery:

1. Has provision been made to ensure a permanent flow, through the Moawhango river bed, and if so of what magnitude will this be.
2. In the event of no permanent flow being maintained, has provision been made for fish salvage following the initial diversion of the river, and for the

⁸³⁴ Commissioner of Works to MH Smith, Taihape, for Moawhango Action Committee, 21 March 1979, and Construction Engineer to Chief Power Engineer, 26 March 1979. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2124 and 2125-2126.

⁸³⁵ *Wanganui Chronicle*, 9 May 1979. Copy on Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3964.

⁸³⁶ The correspondence summarising the events leading up to this decision was set out in Contracts Engineer to Project Inspection Engineer, 17 September 1973. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #2961-2963.

prevention of fish access upstream during possible flood discharges down the Moawhango River bed from the dam in the future.⁸³⁷

When asking about fish access and salvage, the Society is likely to have been thinking primarily of the trout fishery in the Moawhango River.

The Electricity Department replied to the request:

Close collaboration has been maintained with the Marine Department and Department of Internal Affairs to ensure that fishing interests are adequately protected. Recommendations of these departments have been adopted and are set out in paragraphs (1) to (3) below.

- (1) Upstream migration of trout and eels – A physical barrier will be constructed in the lower gorge area of the Moawhango River approximately four miles downstream of the dam. This preservation of an existing natural velocity barrier will ensure its effectiveness at reduced flows, and will be completed prior to the filling of the Moawhango Lake.
- (2) Access of fish over spillway – The spillway on the Moawhango Dam will be designed so that it will be impossible for fish to obtain access to the dam during periods in which the spillway is operating.
- (3) Screening on Wahianoa Aqueduct intake – Provision will be made for future screening in the pick-up locations on the Wahianoa Aqueduct Intake. Present studies have revealed the absence of foreign species but this may not always be the case.

No commitments were made about likely flows in the Moawhango River below the dam.

Whilst provision has been made to enable compensation water to be released from the dam, investigations have not yet been completed to establish the pattern and magnitude of compensation water releases.⁸³⁸

A less cautious response about flow rates was made at about this time by the Minister of Works to a similar inquiry by the Hunterville Branch of the Wellington Acclimatisation Society⁸³⁹, when he advised:

The first major tributary downstream of the dam is the Aorangi Stream, and the mean flow just upstream of the confluence of this stream with the Moawhango River will be reduced from about 400 cusecs to 50 cusecs. The mean flow at the Moawhango township will be reduced from 550 cusecs to 200 cusecs.

Flow measurements taken during the very dry summer of 1969/70 indicate that with no flow past Moawhango dam a flow of about 10 cusecs can be expected upstream of the Aorangi confluence, and 20 to 25 cusecs at Moawhango township.

⁸³⁷ Chief Field Officer Wellington Acclimatisation Society to General Manager NZ Electricity Department, 28 October 1971. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2069.

⁸³⁸ General Manager NZ Electricity Department to Wellington Acclimatisation Society, 1 December 1971. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2072-2073.

⁸³⁹ Honorary Secretary Hunterville Branch Wellington Acclimatisation Society to Minister of Internal Affairs, 1 November 1971, attached to Minister of Marine and Fisheries to Minister of Works, 29 November 1971. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2070-2071.

The dam will have a 2'0" diameter compensation water pipe installed in it, so that flows up to 100 cusecs can be passed.

During a normal year it is not expected there will be any need to release compensation water to meet farmers requirements, but during a dry year in the November - March period some compensation water will probably have to be passed. The actual amount of compensation water to be released can best be determined after dam filling commences.⁸⁴⁰

After failing to get any positive response from the Government Departments, Wellington Acclimatisation Society then tried a different approach. In December 1971 it applied to the Rangitikei Catchment Board and Regional Water Board for a water right to take 75 cusecs of water at the Moawhango Dam site and discharge it down the bed of the Moawhango River. In its application, the Society explained:

A permanent flow of 75 cusecs compensation water from the dam would maintain the fisheries aspects of the Moawhango River, which is a valuable nursery and spawning section of the Rangitikei River. It would also reduce the water depletion of the Rangitikei River below Utiku, as well as safeguarding water supply and stock control for the Moawhango Valley residents.⁸⁴¹

The reply from the Regional Water Board was that this application conflicted with the existing rights held by the Crown. The Crown's right was to divert and use the entire flow of the river at the dam site, so "any compensation water released is therefore entirely at the discretion of the Crown or Government Department operating the dam, and would be a matter for agreement between them and your Society"⁸⁴².

In April 1972 Wellington Acclimatisation Society tried to extract a firm commitment from the Electricity Department:

This society considers that a permanent flow of 75 cusecs compensation water from the dam would maintain the fisheries aspects of the Moawhango River, which is a valuable nursery and spawning section of the Rangitikei River. This flow would also reduce substantially the water depletion of the Rangitikei River below Utiku, which will occur when the Moawhango River is diverted, as well as safeguarding water supply and stock control for the Moawhango valley residents.

⁸⁴⁰ Minister of Works to Honorary Secretary Hunterville Branch Wellington Acclimatisation Society, 9 December 1971. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2074.

⁸⁴¹ Secretary Wellington Acclimatisation Society to Secretary Rangitikei Catchment Board, 21 December 1971. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3932-3933.

⁸⁴² Chief Engineer to Secretary Wellington Acclimatisation Society, 11 February 1972. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3934.

We would ask that consideration be given to the discharge of a permanent flow of 75 cusecs into the Moawhango River, and trust that this suggestion be favourably received.⁸⁴³

However, the Electricity Department declined to be more specific than the Minister of Works had been when he had replied to the Society's Hunterville Branch⁸⁴⁴.

In April 1973 Wellington Acclimatisation Society wrote to the Commissioner for the Environment asking him to undertake an investigation into the effects of the TPD on the fisheries of the Moawhango and Rangitikei Rivers:

It is the opinion of the Society that a permanent flow of not less than 75 cusecs of water, maintained through the Moawhango River bed at the dam site, would maintain the fisheries aspects of the river. The loss of water from the Moawhango River will have severe effects on not only the Moawhango but on the Rangitikei River, and the effect of this on agriculture and industry throughout the Catchment area should be borne in mind.⁸⁴⁵

The Commissioner for the Environment sought the comments of the Ministry of Works and Development, and the Commissioner of Works replied with some background comments about compensation water flows in the TPD:

Compensation water for fish [at the time of TPD approval in 1964] was a major issue on the Tongariro River, and determined the quantity of water which could be abstracted from the Tongariro River and diverted into Lake Rotoaira. Large sums of money have been spent to protect the Tongariro and Taupo fisheries.

In 1964 the Department of Internal Affairs considered that the fishery downstream of the Moawhango dam was of little importance, and discussions on the amount of compensation water have centred around farming needs....

We feel that it is rather late for a development like Tongariro to be undergoing the environmental scrutiny suggested, as it has been under construction for nine years and is now beginning to produce the much awaited electrical energy which was the original objective.

As to the Society's specific request:

The provision of 75 cusecs of compensation water in the Moawhango means less water available for power production, and if 10 cusecs are diverted for farming purposes then this would mean that an extra 65 cusecs would then be required for the

⁸⁴³ Secretary Wellington Acclimatisation Society to General Manager NZ Electricity Department, 14 April 1972, attached to Acting General Manager NZ Electricity Department to Secretary Wellington Acclimatisation Society, 23 May 1972. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #2958-2960.

⁸⁴⁴ Acting General Manager NZ Electricity Department to Secretary Wellington Acclimatisation Society, 23 May 1972. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #2958-2960.

⁸⁴⁵ Secretary Wellington Acclimatisation Society to Commissioner for the Environment, 19 April 1973, attached to Commissioner for the Environment to Commissioner of Works, 3 May 1973. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2091-2092.

fishery. On the assumption that Stage 4 (Rangipo) of the development will be approved by the Government, the extra 65 cusecs of compensation water would result in an overall reduction in electrical energy of about 97 million kilowatt hours per year. At the present time the units generated per head of population in the country are 5220 KWH. The 97 million KWH in question therefore represents the energy requirements of 18,500 people.

This energy would of course have to be provided by other means, and this would almost certainly be by generation from thermal power stations.

Taking a fuel cost of .4 cents per KWH, the additional annual expenditure to make up the energy would be \$388,000 per year.

It is therefore a matter of weighing up the fishery and environmental benefits that would be derived from the 75 cusecs, versus the annual expenditure of almost \$400,000 on the burning of fuel (coal, gas or oil).⁸⁴⁶

Later in 1973 the Nature Conservation Council weighed into the debate with its concerns that “insufficient information is known as to the effects of reducing the flow of the Moawhango River to the level proposed” when the Moawhango Dam and Lake came into operation. The Council recommended that “a full study” be carried out to determine what measures would be necessary to meet the following criteria:

- (a) Sufficient waters will be available to maintain a satisfactory fish stock in the river system,
- (b) Spawning waters are retained or provided for,
- (c) No eels or lamprey can enter the Moawhango Lake as a result of the velocity barriers (rapids, etc) being lost in the gorges,
- (d) The navigational waters in the Rangitikei above the confluence with the Hautapu River are not affected in respect of jet boats, and
- (e) Sufficient waters are available to meet the needs of users, particularly towns and farmers on the river terraces below the dam site out to the coast, and if necessary hydrological studies be undertaken to ensure this.⁸⁴⁷

The Commissioner of Works made a commitment that “a more detailed study of the hydrology of the catchment will be carried out to help assess the water remaining in the catchment after diversion”. He also provided some immediate comments about the five criteria set out in the Nature Conservation Council’s letter:

- (a) (b) No undertaking to leave sufficient water for fish stock was given, but nevertheless we will ask Internal Affairs Department for comments on this aspect after the hydrological review.

⁸⁴⁶ Commissioner of Works to Commissioner for the Environment, 25 May 1973. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2093-2094.

⁸⁴⁷ Secretary Nature Conservation Council to Commissioner of Works, 6 September 1973. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2095.

(c) We understand from Internal Affairs that their earlier requirement for an artificial barrier downstream of the dam will prevent eels or lamprey entering the Moawhango Lake. This feature has already been accepted as necessary.

(d) No undertaking was given regarding navigation, and this is not a requirement of the Water Right.

(e) As stated, further hydrological studies will be done. The Project Engineer Turangi has held meetings with farmers immediately downstream of the dam who will definitely be affected with the diversion of the Moawhango River.⁸⁴⁸

In April 1975 Wellington Acclimatisation Society made another attempt to gain recognition for fish life below the Moawhango dam, when it made a second application for a water right. This was for “a compensatory water right for 1000 cusecs”:

The Society has had several conferences with other bodies and fisheries experts, and believes that the minimum and continuing flow of 1000 cusecs in the Moawhanga [sic] River is necessary in order to maintain a reasonable fishery. We understand the Electricity Authorities have made plans for some water to be released into the Moawhanga River.

The purpose of this application is to formalise the position. A continuing flow of water of reasonable quantity is essential.⁸⁴⁹

For a second time the Catchment Board replied that its hands were tied, as the Crown’s existing rights prevented any other right being granted⁸⁵⁰.

While the eel barrier had been talked about and agreed to, no design work had been done on it. By mid 1975, to fit the construction schedule, it became necessary to consider what sort of barrier was envisaged. The Project Engineer started this off by asking for confirmation that a barrier was necessary, given that the dam face itself might be a sufficient barrier to prevent upstream movement by eels⁸⁵¹. Wildlife Service was asked for its views, and replied:

The possibility of these eels ascending the dam during the migration period on the rare occasions when the flow will be going over the top of the dam is very remote, but it is still a possibility. We have vivid memories of what occurred at Karapiro.

What is suggested is that ... somewhere within 400 or 500 yards or even closer to the dam, a small structure be built ... to try and contain the flow in as small an area as possible and run it through say a 3' diameter pipe so it drops straight out into air, making it impossible for eels to navigate.... The structure could be built in such a

⁸⁴⁸ Commissioner of Works to Secretary Nature Conservation Council, 26 February 1974. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2096-2097.

⁸⁴⁹ Secretary Wellington Acclimatisation Society to Secretary, 24 April 1975. Rangitikei-Wanganui Catchment Board file W327/220/1. Supporting Papers #3665.

⁸⁵⁰ Chief Engineer to Secretary Wellington Acclimatisation Society, 9 June 1975. Rangitikei-Wanganui Catchment Board file W327/220/1. Supporting Papers #3666.

⁸⁵¹ Project Engineer Turangi to Commissioner of Works, 30 June 1975. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2098-2099.

way that a major flow going over the dam would flow over the top, as should this occur the present situation would be repeated.⁸⁵²

When a design was prepared along these lines⁸⁵³, Wildlife Service agreed that it met their requirements⁸⁵⁴.

In December 1975 a meeting was held with fishing groups⁸⁵⁵. Those attending, besides Ministry of Works and Development and NZ Electricity Department staff, were representatives of Wildlife Service, the Department of Agriculture and Fisheries, Wellington and Waimarino Acclimatisation Societies, and Waiouru Rod and Gun Club. The Army and the Catchment Board were also represented. Maori were not represented. While the meeting was principally about the management of Lake Moawhango once it was filled, downstream matters were also discussed. A Ministry of Works and Development engineer explained that there was no commitment to providing compensation water:

The low flow rate at the Moawhango Dam site is 50 cusecs, between the dam and the confluence with the Aorangi Stream a further seven cusecs is added, and the low flow rate of the Aorangi is itself seven cusecs. This makes a total of 64 cusecs with no intercept. The subject of relief flow through the Moawhango Dam has been deferred meantime, and problems will be faced if and when they occur. Provision has been made for the release of 100 cusecs through the Dam if required.⁸⁵⁶

For their part Acclimatisation Society and Ministry of Agriculture and Fisheries representatives argued an alternative policy position at the meeting, that “a compensatory flow should be provided until it was proved unnecessary”. There was no resolution of the matter at the meeting, as it was acknowledged that it was something that would have to be decided at a more senior level in Wellington⁸⁵⁷.

Waiting until after the scheme had been commissioned, when it would then be possible to fully understand the effect of the diversion on flows below the dam, continued to be the

⁸⁵² Secretary for Internal Affairs to Commissioner of Works, 20 August 1975. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2100-2101.

⁸⁵³ Project Engineer Turangi to Commissioner of Works, 30 September 1975. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2106.

Acting Project Engineer Turangi to Chief Engineer, 2 July 1976. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3951-3953.

⁸⁵⁴ Director Wildlife Service to Commissioner of Works, 10 November 1975. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2107.

⁸⁵⁵ Minutes of the Moawhango Lake Committee, 8 December 1975. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2108-2112.

⁸⁵⁶ Minutes of the Moawhango Lake Committee, 8 December 1975. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2108-2112.

⁸⁵⁷ Minutes of the Moawhango Lake Committee, 8 December 1975. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2108-2112.

policy of New Zealand Electricity in connection with whether any compensation water would be provided. The policy was expressed again in May 1978⁸⁵⁸, when Wellington Acclimatisation Society made another approach asking for a 35 cusecs compensation flow⁸⁵⁹. The Society arranged a face-to-face meeting with New Zealand Electricity officials in July 1978, but found them unwilling to change their views. The Society's Secretary then poured out his frustration to the Chief Engineer of the Rangitikei-Wanganui Regional Water Board:

[The General Manager and the Engineer for New Zealand Electricity] reiterated their view that they cannot talk about compensatory flows until after the reservoir has been filled. They said that although they had a moral obligation to consider the environment, they had no legal obligation, since the proposals were signed and sealed before the Water and Soil Conservation Act (1967) came into force. They said that we would have to rely upon a good measure of "goodwill" which they had already demonstrated by putting in the compensation tunnel! In a rather candid moment, they admitted that every drop of water released in fact did represent money down the drain to them, as the dam had been built at considerable cost. They expressed the hope that seepage around the dam might obviate the need to release much water, and said that the flow from the Aorangi would help preserve the downstream fishery.

In summary, I can only say that the Society is not happy to be in the position of having to rely upon "goodwill". We feel that the NZED will allow to pass only that water which is surplus to their requirements. This may mean nil flow in the Moawhango River for some parts of the year, a prospect that is unacceptable to us. It seems amazing that in this day and age the NZED have no more than a "moral" obligation to leave some water in the river.⁸⁶⁰
[Underlining in original]

In response to the intransigent policy position adopted by New Zealand Electricity, a meeting was held in Wellington between New Zealand Electricity, Ministry of Works and Development, Wildlife Service and Ministry of Agriculture and Fisheries three months later in August 1978⁸⁶¹. In the lead-up to the meeting, Ministry of Works and Development construction staff at Turangi checked with local Ministry of Agriculture and Fisheries staff about their knowledge of the fishery downstream of the Moawhango dam:

I have checked with the Turangi officer of the Department of Agriculture and Fisheries to ascertain if any base data on water quality and quantity, as it may affect

⁸⁵⁸ General Manager NZ Electricity to Secretary Wellington Acclimatisation Society, 25 May 1978, attached to Secretary Wellington Acclimatisation Society to Chief Engineer, 27 July 1978. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3956-3961.

⁸⁵⁹ Secretary Wellington Acclimatisation Society to General Manager NZ Electricity, 29 July 1977, attached to Secretary Wellington Acclimatisation Society to Chief Engineer, 27 July 1978. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3956-3961.

⁸⁶⁰ Secretary Wellington Acclimatisation Society to Chief Engineer, 27 July 1978. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3956-3961.

⁸⁶¹ Notes of meeting, 10 August 1978. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2119-2121.

the fishery, has been collected to date for comparison with data collected post Moawhango lake filling. He advises me that he has not been requested to do any data collection. Nothing has been done since the “Wood report” published 1964, other than he has observed a minor number of anglers fishing the river downstream of the dam....

For the Moawhango River, our investigations have been limited to quantity of flow, thence the effect on land occupiers’ properties from the future reduced quantity of flows.

The Wood report includes data for the Moawhango river fishery. Is this report considered to have sufficient base information to compare with data collected post Moawhango lake filling? If not, then there is a need to define what further information pertaining to the fishery is required, and then action be taken to collect he necessary information before October 1978. Who is responsible for collecting this information, and to whom is the information to be reported?⁸⁶²

The Commissioner of Works advised that construction of the eel barrier “will have fulfilled the requirements of Internal Affairs”. Although there were unresolved questions about public use of Lake Moawhango and whether any compensation water should be released down the Moawhango River, “it is not considered necessary to carry out studies of the nature you have suggested”⁸⁶³.

It was only at the meeting of Government Departments in August 1978 that Agriculture and Fisheries was made aware that in conducting most of its dealings with Electricity Department, it had been dealing with the organisation with long term responsibility for the scheme once it had been commissioned⁸⁶⁴. Prior to commissioning and handover, responsibility lay with the Ministry of Works and Development. This affected the flows in the river while Lake Moawhango was being filled for the first time, and Works and Development were proceeding on the basis that there would be no release of water downstream during that time. To change that approach, argued the Works and Development representative, a reasoned scientific case that incorporated a rational request for a particular flow volume was necessary. The earlier request for 100 cusecs had not been supported by scientific evidence, and in any event was “an excessive figure”. Agriculture and Fisheries countered that there was not enough time before lake filling to carry out a scientific study, and that it would have to change its approach from one of seeking compensation water to one

⁸⁶² Project Engineer Turangi to Commissioner of Works, 6 June 1978. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #2975-2976.

⁸⁶³ Commissioner of Works to Project Engineer Turangi, 30 June 1978. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #2977.

⁸⁶⁴ Notes of meeting, 10 August 1978. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2119-2121.

of fish salvage. However, Works and Development insisted that fishing interests “must put facts and figures to the MWD, preferably to the Project Engineer”⁸⁶⁵.

The notes of the meeting had been prepared by New Zealand Electricity, and after the meeting the Works and Development representative clarified his reported statement that 100 cusecs was excessive:

MWD will not make the decision on what if any compensation water is to be released and it is inappropriate for us to pass judgement.

At the meeting I stated that I expected this decision to be taken at ministerial level. A value judgement will have to be made between the value of the potential electrical energy generated from any compensation water which might be released, and the value of the recreational and environmental asset which would otherwise be lost. 2.8 cumec (100 cusec) is much greater than the low flows which occur naturally, and a flow of 0.61 cumec (22 cusec) has been recorded. I expressed the opinion that in any value judgement, the lower the proposed compensation flow the lower the cost, and the better the chance of success of a case for release of compensation water.

MWD control the filling and operation of the dam until it is handed over to NZE. In matters such as release of compensation water, MWD operates as instructed by NZE, unless circumstances would make this unsafe or impracticable. At present there is no instruction to release compensation water, and MWD assume that the Ministry of Energy would be asked to decide what if any compensation water is to be released.... Requests for release of compensation water during the period of MWD control can be made to MWD, who will comment on the effect if any on commissioning and refer the matter for instruction to NZE.

He concluded by asking if New Zealand Electricity had any instructions⁸⁶⁶.

In December 1978, Ministry of Agriculture and Fisheries presented a hastily-prepared report on the Moawhango fishery and the need for compensation water⁸⁶⁷. This Fisheries Research Division report drew together historical observations about fish life in the Moawhango River, and angling use of the river. It concluded that the New Zealand Electricity approach (which it described as “let’s suck it and see”) was not appropriate on the Moawhango River “because the resource would be degraded and recovery afterward would be more difficult”. It would

⁸⁶⁵ Notes of meeting, 10 August 1978. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2119-2171.

⁸⁶⁶ Commissioner of Works to General Manager New Zealand Electricity, 7 September 1978. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2127-2128.

⁸⁶⁷ EJ Cudby, *The Moawhango River fishery: evidence in the case for a water concession*, Fisheries Research Division report, December 1978, attached to Director Fisheries Research Division to Commissioner of Works, 8 December 1978. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2129-2176 at 2130-2176.

be better to release some compensation water for an agreed period and then if appropriate reduce it:

The data indicate that the fishery is already degraded, and that this has occurred since construction began upriver during the '60s, but it is not proven that this activity or the sediment it produced caused the degradation, although it is evident that it affected the fishing. The deleterious effects of high sediment concentrations on fish, fish eggs and juveniles, and on their food, is well documented in overseas literature.

Of the earlier request of Wellington Acclimatisation Society for a flow of 75 cusecs, the report stated:

Wellington Acclimatisation Society's initial requests were made in order to open negotiations, rather than from any background knowledge of requirements, and their most recent request, based on the writer's recommendation after an examination of the flow figures at both Moawhango and Waiouru recorders and minimum summer flows (Cudby 1976), was an attempt to preserve existing conditions at a reduced level with no regard for specific criteria. It was considered that if trout (and the fishery) had existed in the past under conditions of summer minimum flows, then they should continue to do so in the future, albeit at a reduced level, and that natural floods and freshets from the catchment below the dam should be sufficient for flushing and spawning purposes. Their most recent request was:

1. In order to preserve fish in the Moawhango River downstream from the dam the flow should not be completely cut off at any stage; a constant flow of not less than 1000 l/sec (35 cfs [cusecs]) should be released from structure.
2. In order to maintain angling of a suitable quality in the Moawhango River the above releases should be adjusted to maintain the flow at Moawhango water level recorder at not less than 5000 l/sec (177 cfs), excepting when it would be less than this under natural conditions. At such times, all of the water entering Moawhango Lake from Mangaio Stream and the Moawhango River should be released....

[The] W.A.S. request gives a flow regime ranging between unacceptable and fair, according to the modification proposed by Fraser (op. cit.), and a decision within this range is recommended, with provision for future reviews.⁸⁶⁸

The Fisheries Research Division report recommended:

Flow in the Moawhango River below the dam should not be cut off at any time. A flow regime not less than that requested by the Wellington Acclimatisation Society should be maintained (minimum 1000 l/sec below the dam, and 5000 l/sec at Moawhango – see Appendix 1).

The river should be investigated as recommended by Graham [sic, should be Fraser] (1978) over a period of three to five years, to determine whether or not the release is effective.

⁸⁶⁸ EJ Cudby, *The Moawhango River fishery: evidence in the case for a water concession*, Fisheries Research Division report, December 1978, Appendix 1 pages 1-2, attached to Director Fisheries Research Division to Commissioner of Works, 8 December 1978. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2129-2176 at 2158-2159.

The release of trout yearlings was also recommended, as was a review of the proposed eel barrier in light of the findings of the report⁸⁶⁹.

Upon receipt of the report, Ministry of Works and Development made a number of comments to New Zealand Electricity, and requested instructions. In its comments, the Ministry noted that the recommended flow downstream of the dam of 1000 litres per second (which is 1 cumec) was greater than the lowest recorded flow at the dam of 0.6 cumecs, while 5000 litres per second (5 cumecs) at Moawhango was greater than the lowest recorded flow there of 2.1 cumecs. An initial review of the data suggested that a 5 cumecs flow at Moawhango would require of the order of 2 cumecs discharge at the dam:

The value of water to meet the suggested minimum flow downstream of the dam is thus \$500,000 - \$1,200,000 a year, and that of meeting both conditions \$1,000,000 - \$2,500,000 a year in present money values.

The Ministry regarded the claim that construction sediment had damaged the fishery as “unproven”, and considered the Moawhango River and its fishery to be “vulnerable to floods and droughts”, resulting in good and poor fishing seasons. It suspected that fishing interests were seeking to take advantage of the storage capacity of Lake Moawhango to obtain a better fishery in the Moawhango River than occurred naturally and historically⁸⁷⁰.

Some urgency was taken out of the situation by a meeting in January 1979 between the TPD Project Engineer and representatives of Wellington Acclimatisation Society, Ministry of Agriculture and Fisheries (the author of the December 1978 report), and Wildlife Service. The fishery representatives “agreed that there is no point in releasing some water during lake filling”, as “there appears to be little or no fish in the stretch of river that will become dry, and further downstream the Aorangi should keep alive what little fish there is”. However, they still sought 1 cumec of compensation water after the lake had filled in order to “re-establish the Moawhango fishery”, this flow rate to be reassessed after five years. At the same meeting, the fishery representatives all “expressed strong doubts regarding the need for an eel barrier” below the Moawhango dam, fearing that it would be a waste of money and

⁸⁶⁹ EJ Cudby, *The Moawhango River fishery: evidence in the case for a water concession*, Fisheries Research Division report, December 1978, page 21, attached to Director Fisheries Research Division to Commissioner of Works, 8 December 1978. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2129-2176 at 2155.

⁸⁷⁰ Commissioner of Works to Secretary for Energy, 19 December 1978. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2177-2178.

that it would be better to wait and see whether eels could reach the base of the dam. In advising his Head Office of these developments, the Project Engineer commented:

My impression is that the farmers have the stronger case, and will also exercise much stronger political pressure. If it is agreed to concede to their request by giving them say 20 cusecs (about half a cumec), the fishing interests would be sufficiently covered.⁸⁷¹

New Zealand Electricity provided its response to Ministry of Works and Development in February 1979. It considered that the fisheries report “does not establish justification for a special release”, because the Oarenga/Aorangi Stream and other tributaries would maintain a reduced flow in the portion of the Moawhango River of most interest to Fisheries Research Division. Matters of water quality could only be verified after diversion⁸⁷².

Of the farming needs, New Zealand Electricity considered that these also did not justify a special release, though the delays in providing riparian fencing in place of the river as a stock barrier might require Ministry of Works and Development, as the responsible agency until handover of the project upon commissioning, to consider alternatives such as pumping an adequate flow downstream during lake filling, or delaying the lake filling⁸⁷³. In making this comment, New Zealand Electricity was aware that at the beginning of February 1979 the Project Engineer had already decided to pump 0.6 cumecs past the dam during lake filling⁸⁷⁴ (see earlier section of this chapter about provision for farming interests).

While New Zealand Electricity quickly replied to Ministry of Works and Development, it was another six weeks before it advised Fisheries Research Division of its decision:

While this Division values greatly the technical advice which the Fisheries Research Division can offer, it must be remembered that NZ Electricity has the overall responsibility to make final decisions, and must thus consider all other relevant factors. Hence, recommendations to NZE from any one department or organisation form part of the whole scene only, and it must not be assumed that any particular recommendation will necessarily be adopted in the final decision.

⁸⁷¹ Telex Project Engineer Turangi to Chief Power Engineer, 15 January 1979. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2179-2180.

⁸⁷² General Manager New Zealand Electricity to Commissioner of Works, 28 February 1979. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2181-2182.

⁸⁷³ General Manager New Zealand Electricity to Commissioner of Works, 28 February 1979. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2181-2182.

⁸⁷⁴ Project Engineer Turangi to General Manager, 2 February 1979. Electricity Head Office file 21/75/1. Supporting Papers #193.

Although your recommendations, in this instance, have not been adopted, you can be assured that your representations were not ignored.⁸⁷⁵

In April 1979, at about the same time as the lake was being filled, the Minister of Defence announced that public access to Lake Moawhango would not be allowed⁸⁷⁶. This was a major blow to fishing interests, who had expected that, like other assets created by the TPD scheme, the lake would be publicly available. With easy access from the Desert Road, they had considered that a popular brook char (brook trout) fishery, or in the alternative a rainbow trout fishery, could be developed in the lake. Their disappointment at the Minister's decision was most articulately expressed in an article in the Ministry of Agriculture and Fisheries' *Freshwater Catch* magazine. The article argued that, while anglers had not given up their campaign to be able to fish Lake Moawhango, developing the Moawhango River fishery could be some form of compensation:

To compensate for loss of a lake fishery, efforts could be made to preserve and use the river fishery. This extends out about 19 km of the river between the Aorangi confluence (22 km downstream from the dam) and Shepherds Falls. Lack of access restricts activities elsewhere apart from the lower river which is rated highly as a scenic attraction and is accessible for some distance by boat from the Rangitikei River. The trout are much larger than around the dam site and in the past the river was widely known and advertised as prime fishing water and a place to catch large fish.

The Wellington Acclimatisation Society has tried repeatedly since 1971 to obtain an agreement from the New Zealand Electricity Division to release a permanent flow of water from the new dam. MAF supported the claim and a 42-page report was compiled on the fishery, with photographs on past catches and flow recommendations for consideration by the Ministries of Works and Energy.

Advice was recently received from the Electricity Division that proof of past usage by up to 100 anglers making 10-40 visits each and catching up to 250 fish each per year is insufficient evidence to justify a continuous release of water worth several millions of dollars per year. However, the door is not completely closed because the Electricity Division will examine water flows below the dam after it has filled and reconsider these in relation to fishery aspects....

Now that compensatory flows from the dam have been refused, and when construction pollution ceases, the trout population should redevelop at a reduced level over a long period. Some fishing may be done, but access is a problem. A lot of good places can only be reached by fit and active anglers, and most fishermen these days tend to be found near their cars. The new lake would attract more people than the

⁸⁷⁵ General Manager New Zealand Electricity to Director Fisheries Research Division, 2 April 1979. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3962-3963.

⁸⁷⁶ The decision to not allow public access is discussed in other evidence. D Alexander, *Environmental issues and resource management (land) in Taihape Inquiry district, 1970s-2010*, section 13.6, pages 464-478.

river which, however, would be highly treasured by a few. Although there are some accessible parts of the river with nice picnic spots and swimming holes, it is difficult to imagine Sunday trippers from Ohakune and Raetihi going to the river when Lake Taupo is only 80-odd kilometres away....

Whichever way things develop, the great changes soon to be wrought in the Moawhango catchment will change a previously popular river into an untouchable lake. Efforts are being made to maintain and restore the river, and no doubt when the lake is filled efforts will be made to obtain public access. Whether they succeed or not depends upon the support they receive from anglers and the general public.⁸⁷⁷

7.7.3.3 Regional Water Board concerns for the Rangitikei catchment

When the Crown decided in 1964 to proceed with the Tongariro Power Development (TPD), the Chief Engineer of the Rangitikei Catchment Board provided the Board with a briefing paper about the effects on the Rangitikei catchment. Noting that the objective of the scheme was to divert all water collected in Lake Moawhango northwards into the Tongariro River, and avoid discharging water downstream from the lake, he posed and answered five questions:

Will minimum summer flows be reduced?

Yes.

If so, by how much?

By 50 cusecs (i.e. approximately 10%).

If a significant reduction is likely, will there remain sufficient low flow for the use of riparian owners and for other future water demands?

Yes. The demand in the foreseeable future should not exceed 140 cusecs. The reduced low flow will be 450 cusecs.

Will maximum flood flows be increased?

No. In fact they should be substantially reduced.

Will dominant channel-forming flows be reduced in the Rangitikei River?

Yes, but this would be serious only in the event of there not being at least a corresponding reduction in peak flood flows. It is certain that all floods will be substantially reduced by the Moawhango reservoirs....

To summarise, it would appear that the Tongariro Scheme will be advantageous, perhaps greatly so, to the Board in its programme of river control. At the very worst the Scheme can but endow minor benefits on the Rangitikei River with only one loss – that of a small reduction in minimum summer flows.⁸⁷⁸

⁸⁷⁷ EJ Cudby, 'Moawhango lost to fishermen', in *Freshwater Catch*, No. 3 (winter 1979), pages 10-11. Supporting Papers #7413-7414.

⁸⁷⁸ Chief Engineer Rangitikei Catchment Board to Rangitikei Catchment Board, 20 August 1964, attached to Chief Engineer Rangitikei Catchment Board to Commissioner of Works, 7 September 1964. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2038-2043.

After this briefing, and up until 1975, Rangitikei Catchment Board (and from 1972 its successor Rangitikei-Wanganui Catchment Board) remained determined to avoid becoming involved. Equally, little attempt was made by the Crown to encourage the Board to become involved. This was remarked on in October 1973 by the District Water and Soil Officer in the Ministry of Works and Development in Wanganui, an officer who fulfilled a liaison role between Rangitikei Catchment Board and Regional Water Board and the Crown:

It is understood that apart from some consultation many years ago at a meeting of farmers in the lower Moawhango on diversion effects on stock water, your Board has not been kept in the picture on developments....

The writer gathers that the Board's view has been that the project would go ahead irrespective of what it thought, and that there was little it could do about it. This view is quite understandable, but it is felt that the effects of the scheme, good and bad, will be with all long after the project is completed. Furthermore, the Board, as regional water board, will be more or less involved with these effects too.⁸⁷⁹

At the invitation of the TPD Project Engineer, the Regional Water Board attended a meeting at Turangi in September 1975 to discuss "the effects (if any)" on the catchments in the Board's district (i.e. the Moawhango, Rangitikei, Whangaehu and Whanganui catchments) of the scheme's diversions of water⁸⁸⁰. The Ministry of Works and Development officials at the meeting were keen to discuss what happened after the scheme became fully operational, when their Ministry's involvement ended and they anticipated that the Regional Water Board would then have a far greater role to play. They felt that the changeover would be helped by increasing the level of liaison between the two organisations before the construction of the scheme ended. In terms of the Moawhango and Rangitikei catchments, the Board was asked to consider the effects of the diversion of water on affected parties other than the Moawhango Valley farmers who would be dealt with by direct negotiations. In particular it was asked to consider the effects further downstream⁸⁸¹. From the discussion at the meeting as recorded by one of the Regional Water Board's representatives, it is clear that TPD officials' agenda with respect to the meeting was to avoid time-consuming environmental reviews of the

⁸⁷⁹ District Commissioner of Works Wanganui to Chief Engineer, 16 October 1973. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3937-3938.

⁸⁸⁰ Project Engineer Turangi to Chief Engineer, 11 August 1975. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3939.

⁸⁸¹ Notes of Meeting, 9 September 1975, attached to Project Engineer Turangi to Chief Engineer, 29 September 1973. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3945-3946 at 3945A-3946.

scheme as already designed by the power engineers, and to pass some of the responsibility for considering effects on to the Board:

Considering problems (public relations wise) that had occurred over Whakapu and Poutu works, TPD hope by liaison with Board and District [office of MWD] to overcome satisfactorily objections of parties affected by Moawhango Dam and diversion of Whangaehu headwater tributaries.... [TPD] not interested in making a public issue at this stage. Commissioner for the Environment might start knocking on the door – Environmental Impact Report. Might result in unnecessary delays. Costly.

The TPD had not taken the matter of the effects of the Moawhango and Whangaehu diversionary works very far when following were pointed out:

Whangaehu ...

Moawhango

Farmers – domestic and stock supply of water, destruction of natural stock boundary, visual effects at Moawhango Village.

Rabbit Board – destruction of natural barrier.

Jet boats – 1st 2 miles of Moawhango picturesque and popular, scenic values.

Fisheries – effects on spawning grounds and fishing aspects.

Metal – replenishment affected, metal used by Defence Department for roading etc.

Rangitikei River. Reduction by 50 cusecs⁸⁸². What future effects – negligible at this stage....

TPD keen for Board to carry out survey covering the effects on any party with respect to Scheme works. I indicated that this would be a matter for the Board to decide, and would relate to present commitments, availability of staff, and other works priorities....

Asked TPD to write formally to Board on the matter as no commitment could be given at this stage.⁸⁸³

It was only following this meeting that the Rangitikei-Wanganui Regional Water Board started to seriously consider the effects of the TPD on the Moawhango and Rangitikei Rivers. Two days after the meeting with TPD officials, the Regional Water Board obtained its first knowledge about the Moawhango fishery from a discussion with an Acclimatisation Society field officer. As a result it discovered that because of the interconnected nature of the TPD in the upper catchments of central North Island rivers, the administrative boundary between the Acclimatisation Society and the Department of Internal Affairs (responsible for the Lake Taupo/Tongariro trout fishery) had been set at the Moawhango Dam, making Internal Affairs

⁸⁸² This was a Ministry of Works and Development estimate that there would be a reduction in flow at Mangaweka from 380 cusecs to 330 cusecs. District Commissioner of Works Wanganui to Chief Engineer, 16 October 1973. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3937-3938.

⁸⁸³ Notes of Meeting on 9 September 1975, prepared 10 September 1975. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3940-3942.

responsible for fishing matters related to Lake Moawhango and the Moawhango River upstream of the lake, and the Acclimatisation Society responsible for fishing matters in the Moawhango River downstream of the dam. It also discovered that there were problems sustaining the Rangitikei River trout fishery, variously attributed to lack of good spawning areas, siltation of the river bed, cowshed effluent, and farming practices such as sheep dip disposal. The Society was keen to promote a compensatory flow as otherwise the Moawhango River between the dam site and Oarenga/Aorangi Stream would “essentially be dry throughout the spawning season (late summer on) and some of the rest of the year”, and the lower flow below the Oarenga/Aorangi Stream confluence would affect spawning success there. The damage to the Moawhango River spawning areas would be significant as the extent of spawning areas in the Rangitikei catchment as a whole was already limiting the fishery⁸⁸⁴.

Two months after the meeting with TPD officials, the Regional Water Board obtained its first information about jet boating activity. Jet boaters were “particularly concerned” about the effects of Moawhango water diversion on the stretch of the Rangitikei River from Toe Toe Road (junction with the Hautapu River) and Mangatara Stream, which was only just navigable under then-existing water flows. Utiku rapid one mile below Toe Toe Road was navigable only by experienced operators in summer low flows. The Moawhango River was normally only boated for the lower 3 miles “which is scenically more attractive than Wanganui River”⁸⁸⁵.

At this stage the Regional Water Board agreed that it needed to become more heavily involved, and it commissioned a firm of consulting engineers to assist it with information gathering. The Board’s ultimate objective for the work it was carrying out was to be able to prepare a water allocation plan for the Rangitikei catchment as a whole for the circumstances that would prevail after the Moawhango water diversion was operational. As it explained to the consulting engineers:

Reducing flood flows ... is only one factor among several that concern us.

⁸⁸⁴ File note of discussion with Wellington Acclimatisation Society Senior Field Officer Masterton, 11 September 1975. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3943-3944.

⁸⁸⁵ Notes of discussion with P Coleman, 27 November 1975. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3947.

Our ultimate objective is to prepare a water allocation plan for the Rangitikei River Catchment, and this must have regard for fisheries, recreational uses, and the availability of water for water supplies of various types.

The Moawhango Dam will have various effects on all these interests right down the Rangitikei River, and because its operation and its effects can be managed to some extent, the way it will be managed is an important aspect of downstream allocation of the available water.

As the dam is being constructed solely for the purpose of power generation, this consideration must obviously dominate all other considerations, and if there are alternative operational patterns then it is a matter of arriving at a pattern that provides an acceptable balance between power generation requirements and those of other interests.

If we must allocate priorities at this stage in maximising benefits and minimising detriment, then for the purposes of studying operational alternatives, I would list them as follows:

- (a) Power generation requirements.
- (b) Maintenance of adequate supplies and adequate quality of water for downstream stock, domestic and irrigation use.
- (c) Minimising any detriment to fisheries and recreational users downstream of the dam.
- (d) Reducing flood flows.

I have virtually disregarded flood flow reduction as a specific objective, because to maximise this benefit would require wide fluctuations in lake level, and this I would think could be quite incompatible with any development of the lake for recreational purposes, where as stable a lake level as possible would be the desirable solution....

We have already had contact with acclimatisation and boating interests and feel we have sufficient knowledge of the likely problems and needs for compensation water should such questions arise, and I see no need at this stage for you to pursue independent inquiries, or at least not without discussion with us first.⁸⁸⁶

The consultants were asked to identify downstream river flow patterns based on maximising power generation requirements, and then factor in the consequences for flows of providing for other interests.

Notably absent from the listing of various interests and affected parties were tangata whenua in the Rangitikei Valley. Throughout the information gathering exercise by the Regional Water Board in the second half of the 1970s, there is no mention of tangata whenua being an interest group with a particular viewpoint about the management of the river, nor were they approached for their views.

⁸⁸⁶ Chief Engineer to Tonkin and Taylor, Consulting Civil Engineers, Auckland, 12 February 1976. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3948-3949.

In comments written in June 1978, the Regional Water Board's Chief Engineer assessed "the likely problems that might arise on the Rangitikei River as a result of the Moawhango Dam". He split his assessment into three stretches of river, the Moawhango, the Rangitikei above Utiku (confluence with the Hautapu), and the Rangitikei below Utiku:

Obviously there will be significant adverse effects on the Moawhango River itself, but I understand that as far as adjoining land owners are concerned, with respect to stockwater and loss of stock barrier, these matters can and will be resolved as matters of compensation. I am aware of no adverse comment or concern having been expressed by the affected land owners with the negotiations that have taken place to date. The Wellington Acclimatisation Society have, as you are aware, been concerned about fishery aspects of the Moawhango River. The last contact I had with the Society was to the effect that they were preparing a submission to be made to N.Z.E.D., seeking the release of compensation water for fishery protection purposes. How far they have got with this I do not know, but I will endeavour to update the situation with them as soon as I can.

The N.Z. Federation of Canoe Clubs also has an interest in the Moawhango River, but as far as I am aware they have not previously been asked for, nor have they volunteered, any comment on the possible effects on their interests. I do not think they would be seriously affected, however in view of the current environmental concern to establish the "Wild Rivers" concept it would be appropriate to at least consult them before any public meetings.⁸⁸⁷

Of the Rangitikei River between its confluence with the Moawhango River and its confluence with the Hautapu River, the Chief Engineer's assessment was:

Below the confluence of the Moawhango River, I see little to be concerned about with the Rangitikei River, other than as a result of earlier discussion with the N.Z. Jet Boat Association some concern was expressed about the effect on one or two rapids between Utiku and the Moawhango confluence. To gain access to the Rangitikei River between Utiku and The Narrows, which I understand is popular with jet boaters, the only practicable access is to launch boats at Utiku and proceed upstream from there. It may be appropriate to provide alternative access or do work on the rapids in question to ensure navigability at times of low flow as an answer to that particular problem. Again, it would be best to explore this before any public meeting, and I will raise this matter with the Jet Boat Association at the first available opportunity.⁸⁸⁸

The Chief Engineer also provided his assessment of the effect of Moawhango water diversion for the Rangitikei River downstream of Utiku:

⁸⁸⁷ Chief Engineer to Project Engineer Turangi, 21 June 1978. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3954-3955.

⁸⁸⁸ Chief Engineer to Project Engineer Turangi, 21 June 1978. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3954-3955.

Below Utiku I would anticipate little problem, provided the interested parties are consulted and given the opportunity to comment as early as possible. Apart from the organisations already mentioned above, the only other parties likely to raise any objections would be those drawing water supplies from the river or river berms, who may well wish to be satisfied that there will be no adverse effects on their intake works.⁸⁸⁹

The eventual result of the consulting engineers' work was the publication, in September 1980, of *Water Resources of the Rangitikei River*⁸⁹⁰, an assemblage of all the information considered necessary for the production of a water allocation plan. Some of the delay in completing the report is attributable to the preparation of a parallel report on the resources of the Whangaehu River, which was given a higher priority by the Board⁸⁹¹. With respect to the effects of the TPD on Rangitikei waterways, the *Water Resources* report assessed likely mean flows, low flows and flood flows:

Mean flows for the simulated post-diversion period are included in Table 9.

River	Site	Catchment Area (km²)	Pre-Diversion Mean Flow (cumecs)	Post-Diversion Mean Flow (cumecs)
Mangaio	Waiouru	14.8	0.45	
Moawhango	Waiouru	285	9.32	Nil
Moawhango	Moawhango	602	14.9	5.6
Rangitikei	Mangaweka	2787	71.3	62.0
Rangitikei	Kakariki	3595	84.5	75.2

Diversion of the upper Moawhango River effectively reduces the mean flow at Moawhango Bridge by 62 percent, from 14.9 m³/s to 5.6 m³/s; and at Mangaweka by 13 percent, from 71.3 m³/s to 62.0 m³/s. flow duration curves comparing pre-diversion and the simulated post-diversion conditions are shown in Figure 14(b). Flow over the Moawhango Dam spillway will only occur during large floods.⁸⁹²

On low flows the *Water Resources* report stated:

⁸⁸⁹ Chief Engineer to Project Engineer Turangi, 21 June 1978. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3954-3955.

⁸⁹⁰ Tonkin & Taylor, *Water Resources of the Rangitikei River*, September 1980, Rangitikei-Wanganui Catchment Board Report No. 80/1. Supporting Papers #6437-6515.

⁸⁹¹ In May 1978, the Chief Engineer Rangitikei-Wanganui Catchment Board stated that the Whangaehu catchment was "where most public interest appears to be, compared with Moawhango. Acclimatisation Societies appear to be dealing direct with the NZE on Moawhango". Notes of meeting, 24 May 1978, attached to Project Engineer Turangi to Secretary Rangitikei-Wanganui Catchment Board, 29 May 1978. Works and Development Head Office file 92/12/67/14/3. Supporting Papers #2113-2115.

⁸⁹² Tonkin & Taylor, *Water Resources of the Rangitikei River*, September 1980, pages 57 and 63, Rangitikei-Wanganui Catchment Board Report No. 80/1. Supporting Papers #6437-6515 at 6470 and 6473. Table 9 data abridged.

The impact of the Eastern Diversion will be greatest during dry periods when river levels are below normal. Between the Moawhango Dam and Aorangi Stream confluence, some 27 km downstream, the stream channel will be essentially dry throughout much of the summer months. Further downstream from the Rangitikei-Moawhango confluence, the impact on the low flow regime becomes progressively less....

The post diversion low flow estimates for these sites for selected periods are included in Table 10.

River	Site	Pre-Diversion 7-day duration Low Flow in m ³ /s for return period of			Post-Diversion 7-day duration Low Flow in m ³ /s for return period of		
		2.33 yrs	10 yrs	50 yrs	2.33 yrs	10 yrs	50 yrs
Mangaio	Waionuru	0.021	0.005	0.001			
Moawhango	Waionuru	2.1	1.7	1.6			
Moawhango	Moawhango	3.5	2.3	2.0	0.69	0.24	0.10
Rangitikei	Mangaweka	13.4	10.5	9.3	11.4	9.0	7.9
Rangitikei	Kakariki	15.2	12.3	10.7	13.2	10.8	9.3

Note: The average annual low flow has a return period of 2.33 years.

Comparing the 7-day 2.33-year low flows for the pre-diversion and post-diversion periods shows a reduction in low flow from 3.5 to 0.69 m³/s (80 percent) at Moawhango station; 12.7 to 10.9 m³/s (14 percent) at Mangaweka; and 15.2 to 13.4 m³/s (12 percent) at Kakariki.⁸⁹³

On flood flows, the *Water Resources* report stated:

To maximise hydro-electric power generation, the preferred control strategy for the new Moawhango dam is to maintain the lake at the minimum normal operating level of 838.2 m RL, which is 12.8 m below the spillway level. Because inflows to the dam can be considerably greater than the tunnel capacity of 21 m³/s, the lake level will vary considerably throughout the year, and during a major flood the change in lake level could be as much as 2 m, depending on the level at the onset of the flood. However, with the high live storage (69.2 million m³) available, flood flows over the spillway crest and down the existing Moawhango River will occur relatively infrequently. A simulation of the above dam operation using ten years of flow record, showed that overflow of the spillway occurred on only five separate occasions, and in each case persisted for only a few days. During the 10-year period analysed, the estimated peak flow over the spillway was only 26 m³/s.

⁸⁹³ Tonkin & Taylor, *Water Resources of the Rangitikei River*, September 1980, pages 66 and 67, Rangitikei-Wanganui Catchment Board Report No. 80/1. Supporting Papers #6437-6515 at 6475.
Table 10 data abridged.

The previous flood characteristics in the Moawhango River will be considerably changed by the dam operations. If the dam is full, the maximum flow over the spillway will, because of reservoir storage effects, be much less than the peak inflow to the lake. At the design maximum flood level of 853.4 m, the spillway has capacity to discharge 1100 m³/s down the existing flood channel. The 1000-year flood estimated for the dam site is 340 m³/s.

Spillway flows exceeding 50 m³/s will be extremely rare, probably no more than once in fifty years on average. Post-diversion flood frequency data for Moawhango at Moawhango can only be approximately estimated at this stage.⁸⁹⁴

7.7.4 The operation of the Tongariro Power Development after 1979

Lake filling was completed in about September 1979, and for the next eighteen months, valve testing and completion work on the Moawhango-Tongariro tunnel continued. During that period there was no compensatory flow down the Moawhango River⁸⁹⁵. The Eastern Diversion of the Tongariro Power Development (TPD) was formally handed over to New Zealand Electricity in March 1981. At that point, the situation reverted to the policy set earlier by New Zealand Electricity, with no compensation water discharge, and a ‘wait-and-see’ approach adopted.

This policy came under pressure following a storm in the upper Moawhango catchment in January 1981, which produced a large sediment load in the river that was clearly visible in the most easily accessible stretch of the river at Moawhango, and excited a strong public reaction, including a petition to the Minister of Energy⁸⁹⁶, and a public meeting at Moawhango in mid March 1981⁸⁹⁷. Valley residents were concerned that the increased sediment could be attributed to the TPD, though this was denied by the TPD Project Engineer⁸⁹⁸. Before the meeting, however, the Rangitikei-Wanganui Catchment Board had concluded that the sediment arose from runoff from land in the Oarenga/Aorangi Stream

⁸⁹⁴ Tonkin & Taylor, *Water Resources of the Rangitikei River*, September 1980, page 84, Rangitikei-Wanganui Catchment Board Report No. 80/1. Supporting Papers #6437-6515 at 6484.

⁸⁹⁵ In mid October 1979 the lake was so full that water spilled over the crest of the dam; this was because the Moawhango-Tongariro tunnel was not in operation, so there could be no draw-off of water in that direction. How much water was spilled is not known, though “the only evidence of the eel barrier was a low pressure wave across the surface of the river, and some ‘white water’ immediately downstream of the structure”. Wildlife Officer Fisheries to Conservator of Wildlife Rotorua, 16 October 1979. Internal Affairs (Wildlife Service) Rotorua file 21/0/1/6. Supporting Papers #2723-2724.

⁸⁹⁶ RS Woollaston, Taihape, to Minister of Energy, undated (received 9 March 1981). Electricity Head Office file 21/75/11. Supporting Papers #201-203.

⁸⁹⁷ Minutes of meeting at Moawhango, 16 March 1981. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3965-3969.

⁸⁹⁸ Project Engineer Turangi to RS Woollaston, Taihape, 17 February 1981, attached to District Manager Hamilton to General Manager, 24 February 1981. Electricity Head Office file 21/75/11. Supporting Papers #194-200 at 197-198.

catchment, plus the failure of pumice material used to form a track across a swamp on a side stream⁸⁹⁹. At the public meeting the residents were told that they could not blame the TPD for the sedimentation. Despite this, those at the meeting felt that the catchment was experiencing a range of problems, including the absence of any compensatory flow into the river from the dam, and passed a resolution asking the Catchment Board to investigate more widely and develop recommendations for future management of the river.

The representative of New Zealand Electricity who attended the public meeting reported to his superiors:

It is difficult to obtain the real gist of the meeting from the notes, but it came back basically to the fact that they wanted some compensation water. They maintained that their river has become a series of muddy pools, and can no longer be used as a supply for drinking water, for swimming, or for fishing, boating or other aquatic activity. All except one have been given alternative drinking water supplies, and that one apparently objected on principle. Several still use the river for stock water supplies and they are finding it very unsatisfactory. Filters block up in a matter of hours now, where they used to block up after several days. They pointed out that money cannot compensate for this extra work. Overall, they seemed reasonably happy with the monetary compensation they have been given. However, they made the point that [the General Manager New Zealand Electricity] had written and told them that they would not be worse off after the diversion than they were beforehand. They maintain they are much worse off.

They asked me several times if I could arrange some compensation water for them, or even make a favourable recommendation. I had to be very wary about discussing the value of the water to us, as they consider it is of very high value to them. I indicated that if any change is made in the present operating arrangements, it would probably be a political decision taking all factors into account....

The Catchment Board ... are just about to prepare a Management Plan for the Rangitikei River, including the Moawhango, and they will shortly be calling for submissions. Everyone agreed that such a Plan should define the existing problems of the river, and come up with proposed solutions, e.g. how best to remove the silt, if this is even practicable. The outcome was a motion passed unanimously by the meeting that the Secretary write to the Catchment Board requesting them to study the problems of the Moawhango River and to formulate a recommendation for the future management of the river in both the short and long term. Considerable fear was expressed that if the Moawhango problems become mixed up with the total Rangitikei River Management Plan it could be years before they saw any result. The Chairman of the [Catchment] Board said he appreciated this concern....

⁸⁹⁹ *Wanganui Chronicle*, 9 February 1981, attached to District Manager Hamilton to General Manager, 24 February 1981. Electricity Head Office file 21/75/11. Supporting Papers #194-200 at 199. The results of the Board's investigation were included in Rangitikei-Wanganui Catchment Board, *Moawhango River sedimentation reports*, May 1982, Report No. 82/3. Supporting Papers #6516-6561.

Conclusion

I think there is a problem, but I don't think we have enough information at this stage to solve it.... It would probably be a good idea to arrange for a discussion with [the Catchment Board]. We need to ensure that they cover such points as to how the silt could best be washed out, or whether this is even desirable.⁹⁰⁰

Over the next year the Catchment Board negotiated a financial contribution from New Zealand Electricity towards the study⁹⁰¹, and carried out its investigations. Its report on the Moawhango catchment was produced in May 1982⁹⁰². This set out how the Moawhango River below the dam was experiencing a period of adjustment, because annual water flows immediately below the dam had been reduced by 100%, and at Moawhango had been reduced by 50%. The waterway was larger than the flows in the river required, flow rates had declined, and the reduced flows made it less easy for the river to move its sediment load through the system. As a result, in the aftermath of the 1981 rainstorm large quantities of sediment were deposited in the reach around Moawhango, and stayed in place on the banks of the river until the waterway narrowed to create a new equilibrium with the reduced amount of flow in the river, after which sediment could then be transported slowly downstream by subsequent flood flows. While the highly visible sediment remained on the banks of the river channel, there was a significant deterioration in recreation attractiveness and in amenity values.

What the 1981 storm had done was highlight in dramatic fashion a more general change of character that the Moawhango River was experiencing. Algal growth making river stones slippery because of shallower warmer water added to the loss of amenity values caused by sedimentation. All these changes stemmed from the reduction in flow once the dam became operational. The Catchment Board report recommended that to avoid a repeat of the post-1981 experience, there should be provision for a minimum flow at Moawhango:

It would therefore appear to me to be desirable to establish a base minimum flow below which the river should not fall. If that were to be established as say the average annual low flow of 690 litres per second at Moawhango, then to date since diversion a release of make-up water from the dam would only have been required for 13 days in

⁹⁰⁰ District Manager Hamilton to General Manager, 20 March 1981. Electricity Head Office file 21/75/11. Supporting Papers #204-205.

⁹⁰¹ Chief Engineer to General Manager New Zealand Electricity, 5 June 1981; General Manager New Zealand Electricity to Chief Executive Officer, 18 June 1981; Chief Engineer to General Manager New Zealand Electricity, 2 July 1981; and General Manager New Zealand Electricity to Chief Executive Officer, 16 July 1981. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3970-3972, 3973, 3974-3977 and 3978.

⁹⁰² Rangitikei-Wanganui Catchment Board, *Moawhango River sedimentation reports*, May 1982, Report No. 82/3. Supporting Papers #6516-6561.

mid-February 1982. A minimum of 500 litres per second would have required only 7 days of release.

How onerous that might be for N.Z.E. in the long term only time will tell, but it would not appear to me to be great, in relation to the problems likely to arise during mid-summer low flows.

I would favour the 690 litres per second minimum.⁹⁰³

The resulting recommendation was:

That N.Z. Electricity be advised:

- (1) That in the Board's opinion a case has been established for releasing from time to time as may be necessary sufficient flow from the Moawhango Dam to flush sediment from the Moawhango River for the purpose of maintaining its summer amenity value to the local community.
- (2) That consideration should also be given to maintaining a minimum residual flow at Moawhango Village at or about 690 litres per second.⁹⁰⁴

The report was adopted by the Rangitikei-Wanganui Catchment Board in August 1982, and forwarded to New Zealand Electricity⁹⁰⁵. The Department responded in March 1983. While it was "interested in providing flows to flush sediment", it wanted to take this one step at a time by first only agreeing to a single "trial flushing flow" at a time of the Catchment Board Chief Technical Officer's choosing:

No commitment will be made to provide further flushing flows until we have assessed the effectiveness of the trial flushing flow and the overall benefits of flushing flows.

It set a limit of 21 cumec-days on the volume of water it was prepared to release. New Zealand Electricity also agreed to an "interim" minimum residual flow of 500 litres per second (calculated on a 7 days low flow basis). It was interim "until the effects of this minimum flow can be properly assessed, with a view to decreasing or holding the minimum flow at this level"⁹⁰⁶.

Discussion within New Zealand Electricity leading up to the decision to make the flushing flow and minimum flow offers shows that what was being offered was considered to be the minimum that New Zealand Electricity thought it could get away with:

⁹⁰³ Rangitikei-Wanganui Catchment Board, *Moawhango River sedimentation reports*, May 1982, Report No. 82/3, Section 1 Chief Technical Officer's report, page 10. Supporting Papers #6516-6561 at 6526.

⁹⁰⁴ Rangitikei-Wanganui Catchment Board, *Moawhango River sedimentation reports*, May 1982, Report No. 82/3, Section 1 Chief Technical Officer's report, page 16. Supporting Papers #6516-6561 at 6533.

⁹⁰⁵ Chief Technical Officer to General Manager New Zealand Electricity, 12 August 1982. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3979-3980.

⁹⁰⁶ General Manager New Zealand Electricity to Chief Executive Officer, 22 March 1983. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3981-3982.

[The proposed offer] appears a very reasonable stance for NZE to adopt, and hopefully will “defuse” the situation....

It is unrealistic to expect to take every last drop of Moawhango water for generation. If we don't appear flexible and prepared to offer something, we are likely to have a water right hearing (or similar). It is very unlikely that we would get away with as little as we are presently offering.

I recommend that the recommendations ... be adopted.⁹⁰⁷

The New Zealand Electricity offer was announced at a public meeting at Moawhango in April 1983⁹⁰⁸. In response, the meeting passed a resolution calling for the minimum flow to be increased from 500 litres per second (0.5 cumecs) to 690 litres per second (0.69 cumecs), the flow rate proposed by the Catchment Board's Chief Technical Officer.⁹⁰⁹

That same month the Catchment Board undertook a further survey of the Moawhango River, and produced a report that set out the survey results, described some fresh computer analysis of flow records, and commented on the New Zealand Electricity offer. The report was produced “to assist in the continuing minimum flow negotiations”⁹¹⁰. The survey found that the sediment resulting from the January 1981 flood had worked its way through the river system, and a stony riverbed had been re-established:

The river is settling into its low flow regime. Banks on which silt had previously been deposited had stabilised and grassed over, and meander patterns were appearing.

Debris accumulation was noticeable. The main cause was log jams which are not likely to occur naturally. In at least one gorge site, the log jam had extended across the whole river.

Extensive weed growth had occurred in deeper parts of the river, and was commented on by a number of locals. If this problem worsens, a solution could be to flush the river.

Also noted by a number of locals was the fall off in fish numbers.⁹¹¹

⁹⁰⁷ WA Lowrie to M McCully, 18 March 1983. Electricity Head Office file 21/75/11. Supporting Papers #206-207.

⁹⁰⁸ *Wanganui Chronicle*, 9 April 1983. Copy on Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3983.

⁹⁰⁹ Excerpt from Rangitikei-Wanganui Catchment Board minutes, 5 May 1983. Rangitikei-Wanganui Regional Council file W327/466/1. Supporting Papers #3984.

⁹¹⁰ Rangitikei-Wanganui Catchment Board, *An examination of low flows in the Moawhango and Wanganui Rivers*, 1983, Report No. 84/6. Supporting Papers #6658-6679.

⁹¹¹ Rangitikei-Wanganui Catchment Board, *An examination of low flows in the Moawhango and Wanganui Rivers*, 1983, Report No. 84/6, page 2. Supporting Papers #6658-6679 at 6661.

Fresh computer analysis of the flow regime in the Moawhango River calculated that low flows would not be as severe as earlier anticipated. In 1980, with fewer years of records, the average annual low flow was assessed to be 540 litres per second⁹¹², while the new analysis calculated the average annual low flow as 710 litres per second. An annual low flow of 500 litres per second was estimated to have a frequency return period of five years.

In its comments on the New Zealand Electricity offer, the report stated:

The NZED have indicated a minimum flow of 500 [litres per second] as being acceptable to them. This appears reasonable in light of the above results, and the locals' attitude to flows this summer.

In order to maintain the agreed river levels, requests for compensation flow releases should be initiated and coordinated through the Catchment Board. Assessment of compensation water depends on obtaining frequent flow data from the Moawhango gauge. A problem exists in that this gauge is an automatic recorder, is not telemetered, and is in a relatively isolated location....

The offered 21 cumec-day flushing flow would be useful to flush both deposited silt and weed from the river. The flushing flow should be coordinated by the Catchment Board, but initiated by requests from local residents.⁹¹³

The Catchment Board confirmed its acceptance in June 1983, setting out a series of conditions that it understood had been agreed upon. There had been discussions with New Zealand Electricity at the beginning of the month about these conditions, as a result of which the residual low flow figure had been increased to 700 litres per second, in line with the new analysis⁹¹⁴. In its letter of confirmation, the Catchment Board stated:

The arrangements [you offered] stand without alteration with respect to flushing flows.... The Board will be responsible for notifying landowners adjoining the river, and for any public notices that may be required to warn the public of the intended releases. NZE will maintain the notices on the banks of the river.

The target minimum residual flow is to be 700 litres per second at Moawhango, applying in the months of January, February and March only of each year.... NZE will carry out trial openings to determine appropriate valve settings by December 1983. The Board will be responsible for making any necessary arrangements for monitoring the flows at Moawhango, and will have those arrangements in place by December 1983.... The target figure, operating tolerances and periods of release are reviewable, as and when necessary, by consultation between NZE and the Board.

⁹¹² Tonkin and Taylor, *Water Resources of the Rangitikei River*, September 1980, Report No. 80/1, Table 10 (page 66). Supporting Papers #

⁹¹³ Rangitikei-Wanganui Catchment Board, *An examination of low flows in the Moawhango and Wanganui Rivers*, 1983, Report No. 84/6, pages 4-5. Supporting Papers #6658-6679 at 6663-6664.

⁹¹⁴ Notes of meeting, 1 June 1983. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3985-3986.

The matters to be taken into account in any such review will be:

1. Need to conserve water in unusually dry years, requiring temporary suspension of releases.
2. Operating difficulties, in terms of frequency of valve adjustment, or in achieving target minimum flows at Moawhango.
3. Average annual releases required in relation to the forecast figure of no more than 1.8 cumec-days per year on average.
4. Any changes in the need to maintain recreational and environmental values in the river as they may be reassessed from time to time.⁹¹⁵

After considering a technical assessment of the impact of the arrangements set out in the Catchment Board's letter⁹¹⁶, which referred to the volume of the proposed minimum residual flow as amounting to 4 cumec-days of water on the basis of the revised computer calculations of the ratings curve, New Zealand Electricity confirmed its acceptance⁹¹⁷. The arrangements were formally approved by the Rangitikei-Wanganui Catchment Board⁹¹⁸. Moawhango Valley residents were then informed⁹¹⁹.

7.7.5 Genesis Power resource consent applications, 1999

As a consequence of the State-Owned Enterprises reform of Government in 1987, the Tongariro Power Development (TPD) became operated by Electricity Corporation of New Zealand (ECNZ). There was no change to the operating arrangements agreed by New Zealand Electricity in 1983, which committed to a release of water from the Moawhango Dam to ensure that the volume of flow in the Moawhango River at Moawhango would not fall below 700 litres per second (0.7 cumecs) during the months of January to March each year. A report in 1993 noted that meeting this commitment had only rarely required releases of water at the Moawhango Dam⁹²⁰.

⁹¹⁵ Chief Technical Officer Rangitikei-Wanganui Catchment Board to General Manager, 10 June 1983. Electricity Head Office file 21/75/11. Supporting Papers #208-210.

⁹¹⁶ JR Rutherford to Chief Engineer (Design and Construction), 27 June 1983, and Chief Engineer (Design and Construction) to Assistant General Manager, 5 July 1983. Electricity Head Office file 21/75/11. Supporting Papers #211-212 and 213.

⁹¹⁷ General Manager New Zealand Electricity to Chief Executive Officer, 8 July 1983. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3987-3988.

⁹¹⁸ Excerpt from minutes of Rangitikei-Wanganui Catchment Board, 7 July 1983. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3989.

⁹¹⁹ Chief Executive Officer to All Moawhango Valley residents, 22 September 1983. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3990-3991.

⁹²⁰ Kingett Mitchell & Associates Ltd, *Moawhango Pond pre-environmental effects assessment*, 1993, page 13. Supporting Papers #6336-6360 at 6340.

The Resource Management Act 1991 introduced some changes with consequences for the TPD. Up until the passing of that legislation, the Order in Council issued in 1958 had provided the legal authority for the construction and operation of the TPD. There had been no need for the Crown to obtain water rights under the Water and Soil Conservation Act 1967. The 1991 Act brought that arrangement to a close, though with a sunset provision. It specified that users of water who were relying on pre-1967 existing use rights (as ECNZ was with respect to the TPD) had to obtain resource consents if they wished to continue their activity beyond October 2001⁹²¹.

ECNZ realised that obtaining consents for the TPD would be a huge task, because of the number of waterways (in four different large catchments) affected, and because of the extent of the changes that those waterways and the landscape had experienced. It started its preparations in the early 1990s. This included an assessment of the then-existing knowledge about the environmental effects of Lake Moawhango, prepared in 1993⁹²². The title of this report rather disparagingly referred to the lake as Moawhango Pond, perhaps reflecting how hydro engineers saw it in terms of its contribution to the TPD, though in the process divorcing the lake from its wider environment and its place in the landscape.

For the rest of the 1990s reports were commissioned by ECNZ on all aspects relative to an assessment under the Resource Management Act about the appropriateness of the environmental effects of the hydroelectric works, and whether any changes in operating procedure were necessary to amend or mitigate some of those effects. The process continued after March 1999, when ECNZ (as it existed at that date) was split into three smaller State-Owned Enterprises (Genesis Power, Mighty River Power and Meridian Energy). The whole of the TPD scheme became owned and operated by Genesis Power Limited.

It was during the consideration of possible mitigation measures that the concept of flushing flows was resurrected. While there had been some talk of such flows in 1983, and a single trial flushing flow at that time, nothing further eventuated and instead the interest had focused on ensuring a minimum low flow in the Moawhango River. Flushing flows were intended to be a larger release of water over a short period that would mimic a natural fresh, and have the

⁹²¹ Section 386(3) Resource Management Act 1991.

⁹²² Kingett Mitchell & Associates Ltd, *Moawhango Pond pre-environmental effects assessment*, 1993, page 13. Supporting Papers #6336-6360 at 6340.

effect of clearing algal growth on stones in the riverbed, moving sediment downstream, and preventing the growth of vegetation in the riverbed. A trial of flushing flows in March 2000 saw flows of varying magnitude (5 cumecs, 10 cumecs and 20 cumecs) released for six-hour periods through the dam⁹²³.

The preparatory stage during the 1990s prior to lodging resource consent applications included consultation with Rangitikei River Maori. This contrasted with the total absence of consultation at earlier stages in the planning, approval and construction of the TPD, which has been referred to earlier in this chapter. However, the consultation during the 1990s was not perfect, as for most of that period ECNZ believed that its contact with Ngati Tuwharetoa would suffice to meet any obligations it had towards Rangitikei River Maori. It was only from 1999 that other iwi with interests in the Rangitikei River catchment (including the Moawhango catchment) advised the power operator that they wished to have a direct relationship. These events, and the subsequent relationships that developed between the power operator and Ngati Whitikaupēka, Ngati Tamakopiri, Ngati Hauiti and Ngati Rangi, have been discussed in a separate report⁹²⁴. Besides the consultation with tangata whenua, there was an extensive consultation programme with the wider public and with public and community organisations during the 1990s. During this wider consultation, a common objective was agreed on that could be shared by all those with an interest in the river, that the Moawhango River should be managed to be representative of “a healthy high-country lake-fed watercourse”⁹²⁵. The extent to which this objective was discussed with tangata whenua prior to its adoption by Genesis Power is not known.

The consents sought would include the right to discharge Whangaehu catchment water into the Moawhango catchment, to dam the Moawhango River, to take water from the Moawhango catchment for discharge into the Tongariro catchment, and to release compensatory flows of water from the dam down the Moawhango River.

⁹²³ Referred to in Opus International Consultants Ltd, *The effect of flushing the Moawhango River on sediment deposition and ecology of the Rangitikei River*, May 2009, pages 2-3. Manawatu-Wanganui Regional Council file 7/2/GPL Applications 101275-296 & 101302-310. Supporting Papers #4512-4578 at 4519-4520.

⁹²⁴ D Alexander, *Environmental issues and resource management (land) in Taihape Inquiry District, 1970s-2010*, September 2015, section 7.7.5.

⁹²⁵ Decision of TPD Consents Hearing Committee, 30 August 2001, page 93. Supporting Papers to T Walzl, *Environmental Impacts of the Tongariro Power Development Scheme*, July 2006, Wai 1130 Doc #E12(p), Volume 15, #51-193 at #148.

Genesis Power took the view that the baseline for the assessment of environmental effects was the environment as it stood in its modified state after construction of the TPD was completed, rather than as it was in its natural state before construction started on the TPD:

It is important to clarify from the outset the focus of this assessment of environmental effects. Genesis Power acknowledges the fact that the presence of the TPD has affected the environment in the vicinity of the structures and the access ways to them. However, the applications for resource consents are for the continued operation of the TPD scheme, and hence the assessment of effects must be an assessment of the effects of continued operation, rather than a post facto assessment of effects as if the scheme had never been put in place.... [An] historical comparison is not the appropriate threshold at which mitigation of adverse effects under the RMA is required.⁹²⁶

To overcome any adverse environmental effects of continued operation in the Moawhango catchment, a series of mitigation measures was offered by Genesis Power and discussed with community groups in advance of the resource consent hearing. These covered:

- Repair of lakeshore erosion;
- Flushing flows;
- Minimum flow;
- Willow control;
- Swimming hole and facilities at Moawhango road bridge;
- Offset assistance with management of the upper Rangitikei trout fishery;
- Flood warning system.

Each of these is addressed below by relevant quotes from the assessment of environmental effects report.

With respect to repairs of lakeshore erosion, it was stated:

Localised shoreline erosion around Lake Moawhango is occurring, at least partially as a result of the fluctuations in lake level. This is of concern to the Ministry of Defence, particularly insofar as it relates to the integrity of their roading infrastructure and access to and around the lake....

Genesis Power proposes to monitor the scale and extent of shoreline erosion on a regular basis, and repair any erosion that has the potential to, or has, damaged roading infrastructure. The company proposes accomplishing this by way of a specific arrangement with the Ministry of Defence.⁹²⁷

⁹²⁶ Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 10.1.1, page 319. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(I), Volume 11, #16-653 at #354.

⁹²⁷ Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 14.2.2, page 488. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(I), Volume 11, #16-653 at #523.

With respect to flushing flows, it was stated:

The provision of regular flushing flows during the summer is considered by Genesis Power to be the single most important measure to improve the physical and biological characteristics of the Moawhango River, especially downstream of the Aorangi Stream confluence. Such flows would mimic the effects of natural floods and remove accumulated sediment and detritus from the river, thereby improving water quality and preventing the problems associated with anoxic sediments.

Based on the trial flushing programme undertaken during the 1999/2000 summer, Genesis Power proposes that there be four flushing flows released from the Moawhango Dam each year, one in each of the months December to March. The size of each flow should be not less than 30 m³/s and should occur for at least 9 hours.

To provide certainty for residents and to maximise the potential for rafters and kayakers to use the flushing flows, it was initially suggested by Genesis Power that the flushing flows occur at a set time and date each month. However, the very clear feedback from local residents was that it would be preferable if the flush could be made to coincide with a natural fresh, thereby increasing the total flow and hence its benefits. This suggestion has been adopted by Genesis Power....

Genesis Power has proposed a seven year review period, with the review being based on the results of annual monitoring, details of which still need to be developed.⁹²⁸

With respect to a minimum flow in the Moawhango River, it was stated:

A very firm view has been expressed by conservation interests and local residents that a continuous minimum flow from the Moawhango Dam should also be provided, primarily to restore some of the natural character of the river between the Moawhango Dam and its confluence with the Aorangi Stream, and to improve overall water quality.

Genesis Power did not initially propose a minimum flow for the Moawhango River, for three main reasons:

- There is little or no public access to the upper reaches of the Moawhango River, and hence any environmental enhancements will not be observable.
- The provision of a minimum flow would create habitat for aquatic invertebrates, but given the distance from the sea and the presence of natural barriers (i.e. waterfalls) further downstream, there would be very limited benefits for native fish. As such, there would be very little overall ecological benefit that would accrue, other than an intrinsic one.
- The flushing flows will provide significant benefits for river health, especially downstream of the Aorangi confluence, and the minimum flow will provide only a very small incremental benefit over and above this.

⁹²⁸ Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 14.2.3, page 489. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(l), Volume 11, #16-653 at #524.

Genesis Power remains of the view that a minimum flow is not necessary, but in the interests of reaching agreement with residents adjacent to the Moawhango River, and to satisfy, in part at least, the aspirations of the Department of Conservation, the Taranaki/Wanganui Conservation Board and the Royal Forest and Bird Protection Society, a minimum flow of 0.6 m³/s is now proposed....

As is the case for the flushing flow regime, Genesis Power considers that the effectiveness of the minimum flow should be monitored on an annual basis and then reviewed periodically to ensure that the regime is effective in providing the anticipated benefits. To allow for an integrated consideration of both the flushing and minimum flows, this review should occur at seven-year intervals.⁹²⁹

The minimum flow being proposed was a release of 0.6 m³/s at the Moawhango Dam on a continuous basis, and should not be confused with the 0.7 m³/s minimum low flow of the river at Moawhango village during the months of January to March that had been agreed to in 1983.

With respect to willow control, it was stated:

Genesis Power is not responsible for the introduction of willows to the Moawhango River, nor for the spread of willows along the banks. However, the “choking” effect of willows has been exacerbated by the flow reductions as the vegetation can encroach further into the river bed than would otherwise be the case.

Genesis Power is proposing that each year willows be removed from a 200 m reach of river, and that these areas be maintained throughout the term of the resource consent. This would mean that at the end of a 35-year consent term, a 7 km reach of river would have been cleared of willows.

Rather than defining the willow control locations and methods now, it is proposed that a Willow Control Management Plan be prepared after the consent is granted, in consultation with the Moawhango community and the Department of Conservation.⁹³⁰

With respect to swimming facilities, it was stated:

Once the water quality of the Moawhango River is enhanced by the flushing and minimum flows, and the control of willows has begun, the river should be able to be enjoyed by the community for recreation and family activities. To provide a catalyst for this to occur, Genesis Power proposes to construct a “Community Amenity Facility”, and to maintain it for a period of two and a half years. Details of the facility are yet to be confirmed, but it is envisaged that it would include:

- The creation of a swimming hole in the river.

⁹²⁹ Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 14.2.3, pages 490-491. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(I), Volume 11, #16-653 at #525-526.

⁹³⁰ Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 14.2.3, page 491. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(I), Volume 11, #16-653 at #526.

- The provision of picnic facilities adjacent to the swimming hole, as well as toilets and vehicle access.
- Amenity planting of the area.

The tentative location for this facility is on the true right bank of the Moawhango River, immediately downstream of the road bridge in the Moawhango Village. No access arrangements for this land have been confirmed, but the landowner, Mr Batley, has expressed his keen support for the initiative⁹³¹. Successful implementation of this initiative would be contingent on Genesis Power being able to obtain an access agreement and any necessary resource consents.⁹³²

With respect to offset fishing, it was stated:

Because it is not considered realistic to attempt to recreate the rainbow trout fishery in the Moawhango River, Genesis Power and the Wellington Fish & Game Council have agreed that Genesis Power will assist Fish & Game in their management of the wilderness rainbow trout fishery on the upper Rangitikei River. This would be achieved by a “side agreement” and not by consent conditions.⁹³³

With respect to a flood warning system, it was stated:

During consultation, the need to provide some form of flood warning system in relation to spills from Moawhango Dam was raised, as water levels can rise quickly. Genesis Power will explore the best avenues for providing such a system, in consultation with the Moawhango community.⁹³⁴

In addition to the measures outlined above, Genesis Power proposed that it convene an annual public consultation meeting at Moawhango, to which the Moawhango community, tangata whenua, and conservation and recreation interests would be invited⁹³⁵. It also proposed contributing for ten years to a programme on a scheme-wide scale for the improvement of whio (blue duck) populations⁹³⁶.

⁹³¹ It was subsequently determined that the river bank on the true right downstream of the road bridge at Moawhango is legal road administered by Rangitikei District Council.

⁹³² Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 14.2.3, page 492. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(l), Volume 11, #16-653 at #527.

⁹³³ Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 14.2.3, page 492. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(l), Volume 11, #16-653 at #527.

⁹³⁴ Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 14.2.3, page 492. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(l), Volume 11, #16-653 at #527.

⁹³⁵ Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 14.2.3, pages 494-495. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(l), Volume 11, #16-653 at #529-530.

⁹³⁶ Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 14.3.1, page 506. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(l), Volume 11, #16-653 at #541.

The various proposed mitigation measures were set out in an assessment of environmental effects report that accompanied the resource consent applications⁹³⁷, and was a requirement of the Resource Management Act. The assessment report stated that the minimum low flow volume of water to be maintained at Moawhango was 0.6 cumecs (i.e. 600 litres/second)⁹³⁸. How the low flow requirement had changed from the originally agreed 700 litres/second (0.7 cumecs) during the intervening 17 years was not explained.

The set of applications for the continued operation of the TPD scheme as a whole was made by Genesis Power Limited in July 2000, and was heard in 2000 by a joint hearing committee of Environment Waikato and Manawatu-Wanganui Regional Council. The decision given by the joint hearing committee in August 2001 was to grant the consents sought⁹³⁹, because:

The ongoing operation of the TPD represents a sustainable use of natural and physical resources. Furthermore, conditions of consent are able to be included that satisfy the requirements of the various statutory planning documents of both Councils, and result in the actual and potential adverse environments of the Scheme being adequately mitigated.⁹⁴⁰

The decision approved the mitigation offers made by Genesis Power, and incorporated them into a set of conditions attached to each of the various resource consents that were granted. The consents were granted for a term of 35 years, with provision for a review of conditions every five years.

The decision of the Manawatu-Wanganui Regional Council was appealed to the Environment Court by a number of Whanganui River Maori organisations with respect to that river, and by Ngati Rangi with respect to all rivers in their tribal territory. Ngati Rangi's appeal meant that the diversion of water between catchments and the spilling of water over the Moawhango Dam were matters for the Environment Court's consideration. In giving its decision on the appeals in May 2004, the Court confirmed the issue of the resource consents and made no

⁹³⁷ Genesis Power Ltd, Tongariro Power Development: resource consent applications and assessment of environmental effects, July 2000. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(l), Volume 11, #1-654, at #3-15 (resource consent applications) and #16-653 (assessment of environmental effects).

⁹³⁸ Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 14.3.1, page 57. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(l), Volume 11, #16-653 at #98.

⁹³⁹ Decision of TPD Consents Hearing Committee, 30 August 2001. Supporting Papers to T Walzl, *Environmental Impacts of the Tongariro Power Development Scheme*, July 2006, Wai 1130 Doc #E12(p), Volume 15, #51-193.

⁹⁴⁰ Decision of TPD Consents Hearing Committee, 30 August 2001, page 127. Supporting Papers to T Walzl, *Environmental Impacts of the Tongariro Power Development Scheme*, July 2006, Wai 1130 Doc #E12(p), Volume 15, #51-193 at #182.

change to the conditions, while reducing the term of the permits to 10 years. The reduction in term was a recognition that there had been insufficient dialogue between the power generator and Whanganui River Maori, and that the requirement for a fresh application in ten years time would encourage both parties to come to “a meeting of the minds” during the intervening period⁹⁴¹.

Genesis Power appealed the Environment Court’s 10-year consent term decision to the High Court. There was then extensive legal debate spread over the years 2004 to 2010, which has not been examined for this report. In summary, the High Court found fault with how the Environment Court had interpreted the requirements of the Resource Management Act, and referred the case back to the Environment Court for further consideration⁹⁴². The iwi then appealed the High Court decision to the Court of Appeal. This appeal failed⁹⁴³, and the iwi then lodged an appeal with the Supreme Court. Only at this stage did Genesis, the Whanganui River iwi and Ngati Rangi agree to suspend legal proceedings and enter into discussions. Those discussions resulted in relationship agreements being signed in December 2010. With the relationship agreements in place, the appeals to the Supreme Court were withdrawn, the High Court decision was accordingly retained, and return of the case to the Environment Court was revived. At the Environment Court all parties supported a 35-year term for the consents, and the Court adopted this length of term in June 2011⁹⁴⁴.

A condition included in the consents granted as a result of this legal process tied in the requirements of the Resource Management Act with Treaty of Waitangi claims settlement legislation. The condition states:

The Manawatu-Wanganui Regional Council shall, within 12 months of the enactment of legislation which settles any Treaty of Waitangi claim in respect of rivers, lakes or other waterways dammed or diverted or otherwise affected by the TPD, serve notice on the consent holder under Section 128 of the Resource Management Act 1991 of its intention to review any or all of the conditions of this consent for the purpose of making the consent consistent with all matters contained in the said legislation that

⁹⁴¹ *Ngati Rangi Trust and Others v Manawatu-Wanganui Regional Council*, Decision 067/2004 of the Environment Court, 18 May 2004, Paragraph 475. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, 2006, Wai 1130 Doc #E12(s), Volume 18.

⁹⁴² *Genesis Power Limited v Manawatu-Wanganui Regional Council*, 14 May 2007, Decision No. CIV-2004-485-1139. Not included in Supporting Papers.

⁹⁴³ *Ngati Rangi Trust v Genesis Power Limited*, 2 June 2009, Decision No. [2009] NZCA 222. Not included in Supporting Papers.

⁹⁴⁴ Decision of the Environment Court, 8 June 2011, Decision No. [2011] NZEnvC 152. Copy on Manawatu-Wanganui Regional Council file 7/2/GPL Applications 101275-296 & 101302-310. Supporting Papers #4612-4617.

affect the application or operation of the Resource Management Act 1991 or the application or operation of this consent.

For the avoidance of doubt, any review pursuant to this condition may impose further or additional review conditions for the purpose of making the consent consistent with all matter contained in the said legislation that affect the application or operation of the Resource Management act 1991 or application or operation of this consent.⁹⁴⁵

Despite the appeals against the granting of consents, Genesis Power released 0.6 cumecs of water on a continuous basis from the Moawhango Dam from January 2001. The provision of flushing flows and other mitigation measures were delayed by the appeals to the Environment Court, and did not commence until 2004. From December that year the resource consents were treated as operative, as the appeal from the Environment Court's decision concerned the term of the consents rather than their content. This has meant that all the reporting to the Regional Council required as conditions of consent has been complied with by Genesis Power (now Genesis Energy) since then.

As a result of the side agreements with Rangitikei River iwi, there is a direct relationship between Genesis Energy and the iwi. This relationship does not rely on the Crown, or the Crown's delegated agent under the Resource Management Act (Manawatu-Wanganui Regional Council) to act as intermediary or be in any way involved. This means that the historical records relied on for this report, being principally Crown and local authority records, do not explain how the relationship has fared since 2001. While there are references to the relationship in Genesis Energy's annual environmental reporting for the Tongariro Power Scheme, available online⁹⁴⁶, these do not describe a Crown/iwi relationship, nor should they be regarded as a substitute for a Crown/iwi relationship in the twenty-first century. Tangata whenua evidence is better able to provide information about the ongoing relationship with Genesis Energy than can this report.

7.7.6 Environmental impact of the TPD in the Moawhango catchment

This section is a synthesis by topic of the information collected about the Moawhango catchment prior to and during construction of the Tongariro Power Development (TPD), once the power scheme became operational, and as presented to the Genesis Power resource

⁹⁴⁵ *Ngati Rangi Trust and Others v Manawatu-Wanganui Regional Council*, Decision 067/2004 of the Environment Court, 18 May 2004. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, 2006, Wai 1130 Doc #E12(s), Volume 18.

⁹⁴⁶ www.genesisenergy.co.nz/tongariro-environmental-reporting

consent hearing. It attempts to itemise the environmental changes that the TPD has caused in the catchment, and therefore goes to the heart of the impact of the TPD on the kaitiaki responsibilities of tangata whenua. These changes are grouped under the following headings:

- Lake levels
- Sedimentation in Lake Moawhango
- River flows
- Sedimentation in Moawhango River
- Water quality
- River fauna
- Riverbed and riparian lands
- Landscape

7.7.6.1 Lake Levels

To maximise electricity generation, the operating strategy is to get water out of Lake Moawhango and flowing through the tunnel as quickly as possible. This allows the lake's capacity to be freed up for further inflows. The result is that lake levels can fluctuate within a maximum 15.25 metre vertical range, though the normal operating range is 14 metres:

The normal maximum operating level is 851 m asl [above sea level] as set by the height of the spillway crest. The maximum level to which the lake can be operated in a flood is 853.44 m asl. The minimum level is 835.75 m asl as set by the level of the intake to the Moawhango Tunnel. The lake is normally operated above 837.0 m asl, to prevent debris from entering the intake.⁹⁴⁷

At high lake levels the lake covers nearly 700 hectares and the shoreline is more than 30 kilometres in length.

The more aggressive the drawing down of the level of Lake Moawhango, the less the likelihood of flood flows overtopping the dam spillway crest and flowing down the river. The flood flow pattern downstream of the dam has lower peaks because of the sponge effect of the lake's storage capacity and the continual restoration of that storage capacity. This was why Rangitikei-Wanganui Catchment Board's Chief Engineer welcomed the contribution made by the TPD draw-off to lower flood peaks in the lower part of the Rangitikei River subject to the flood protection scheme.

⁹⁴⁷ Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 6.3.2, page 144. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(I), Volume 11, #16-653 at #180.

When the decision was taken in 1979 that the general public would not be allowed to have access to Lake Moawhango, it became less essential to understand the pattern of lake levels. It would not be necessary to reconcile public use needs (including the needs of a fishery open to the public) with electricity generation operation needs. Levels would be whatever operational requirements dictated, and no compromises aimed at minimising fluctuations in level were necessary.

Modelling of lake levels had been included in the original investigation studies, and were updated in 1976. The conclusions were:

1. Lake Moawhango is an undesirable reservoir in which to hold water because the tunnel limits the outflow to about 13% of mean inflow. The general strategy should be to get water out of Moawhango as quickly as possible. The rule preventing foreign water from being discharged into the Tongariro River when Taupo is above MCL has been excluded from the simulation. This will make water in Lake Moawhango appear more secure in the simulation than it really is. Thus it is even more important to get water out of Moawhango quickly.
2. The full 15.25 m operating range of Lake Moawhango will be used.
3. Better utilisation of the Moawhango energy is achieved by spilling water from Moawhango down the Tongariro River when the level rises above 13 m, than by holding more water in Moawhango and increasing spill into the Moawhango River.
4. Incremental utilisation of compensation water from Moawhango is about 97%, which results in a replacement cost of about \$1.3 million / cumec-year of compensation flow.
5. Flood flows down the Moawhango River will tend to be less than in the past because the lake, even when full at the onset of a flood, will cushion flood flows.⁹⁴⁸

The study also noted that the inflows are higher during winter, so that the level of Lake Moawhango will tend to rise in winter, and that the lake level can rise by more than 1m/day during high inflows.

In 2002, the crest of the Moawhango Dam was raised by 1.2 metres. The implications of this change for lake levels or for the lake operating regime were not identified during research for this report.

⁹⁴⁸ An examination of the daily operation of the Moawhango Diversion of the Tongariro Power Development, April 1976, attached to General Manager New Zealand Electricity to Commissioner of Works, 5 May 1976. Works and Development Head Office file 92/12/81/1. Supporting Papers #2183-2203 at 2184-2203.

7.7.6.2 Sedimentation and shoreline erosion in Lake Moawhango

Over time sediments are and will continue to settle on the bed of Lake Moawhango. The sediments are from two sources, the wider catchment (transported into the lake by stream inflows), and the lakeshore (eroding material slumping into the lake). The TPD made the 'wider catchment' wider still, as the streams contributing to the Wahianoa Aqueduct became part of the Lake Moawhango catchment.

The streams contributing to the Wahianoa Aqueduct contains higher levels of sediment than the streams in the Moawhango that contribute water to Lake Moawhango. This is because the volcanic material on the slopes of Mount Ruapehu is less consolidated, and more prone to movement into waterways. Above the intake on each stream contributing to the Wahianoa Aqueduct there is provision for sediment to settle out (and to then be removed), and thereby reduce the amount of sediment that flows along the Aqueduct and into Lake Moawhango⁹⁴⁹. On reaching the lake it is effectively trapped, and does not go anywhere further. The assessment of environmental effects report in 2000 did not quantify the amount of sedimentation entering the Mangaio arm of Lake Moawhango via the Wahianoa Aqueduct.

The sediment entering the lake from all sources will infill the inflow stream arms first. At some stage this arm infilling will extend to and impact upon the intake pipe into the tunnel. In 1971 it was noted:

The [Sir Alexander] Gibb report, 1962, Basic Data, Vol IV, pp 54 et seq., permits a rough estimate of the life of the Moawhango (lower) dam dead storage, i.e. 150 years up to 2740, tunnel invert level.⁹⁵⁰

It was also noted at the same time that the abandonment of the upper lake since that calculation was made meant that the storage life of the lower lake would be less than 150 years, though how much less was not stated.

The sediment storage area in the lake was remarked upon in advice to the Electricity Department in 1979:

⁹⁴⁹ Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 6.4.2, page 156. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(l), Volume 11, #16-653 at #192.

⁹⁵⁰ File note, 14 December 1971. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #2964.

While the lake as a whole has a large volume available for storage, and also sufficient dead storage to hold sediment for 1,000 years or so if it can be got to below the tunnel invert level, the tunnel is in a narrow arm into the head of which flows the majority of the water entering the lake. Therefore there is no natural process to carry sediment into the lake depths. This is not helped by the headward drift of water from the Mangaio tunnel which brings in the water from the southern slopes of Ruapehu. A flow towards the dam will be generated only when water is being spilt, either through the disperser valve or over the spillway.

[Based on Tongariro River calculations] it appears likely that some 53,000 m³/year of sediment will be carried into the upper arm of Moawhango Lake. The effective volume of this arm upstream of the Moawhango tunnel is such as to cause us to suspect that possibly 20 years after the lake is filled sediment movement into the tunnel could become apparent, and within 60 years it would be a nuisance curtailing the diversion of water to the Tongariro.⁹⁵¹

The potential for lakeshore erosion was examined in a report in 1976⁹⁵². This noted that the lakeshore lands had highly erodible pumice soils, and only sparse native vegetation with limited binding capability. Since meteorological data had not been analysed, the influence of strong winds whipping up wave action to erode the lakeshore was not known. Yet the large potential lake level fluctuation of up to 15.25 metres in height (the difference between the dam crest and the tunnel invert level) meant a large area of lakeshore would be exposed to erosion. The commentary arising from this report was that there was going to be a problem:

The section of lake shoreline from ESE to SW (i.e. southern lake) will be the most exposed to the high velocity winds, also the highest frequency of winds.

This section corresponds to land classed VIIIe4 and VIIe8 under the Land Capability Assessment System.... These units represent land with a high erosion hazard, and under normal land use systems a policy of retirement from grazing, and maintenance of a good plant cover, would be advocated.

Along the western shoreline the soil profile comprises over 1 metre of unconsolidated pumice sand in places – highly erodible material.

Because of the large fluctuation in lake level, vegetative protection is not feasible, and alternative shore protection would have to be investigated if found to be justified.

Depending upon shoreline slope, an exposed area between high and low water could range from 30 to 130 metres wide. This could result in 100-200 hectares of soil profile on the lake perimeter exposed to erosive processes....

⁹⁵¹ Commissioner of Works to General Manager NZ Electricity, 7 September 1979. Works and Development Head Office file 92/12/81/1. Supporting Papers #2213-2214.

⁹⁵² NC Lambrechtsen, *Moawhango Lake: shore erosion*, 27 October 1976, attached to District Commissioner of Works Wanganui to Project Engineer Turangi, 9 November 1976. Works and Development Head Office file 92/12/81/1. Supporting Papers #2204-2211.

A major implication must be the expected life of the lake – which would seem to be severely limited if the problems are to be overlooked.⁹⁵³

The water storage capacity of Lake Moawhango from an electricity generation point of view is the volume of water between the base of the dam, and the invert level of the tunnel entrance where the water is drawn off (RL 2730 feet). From a downstream impacts point of view, the water storage capacity is the volume between the base of the dam and the spillway crest of the dam (RL 2800 feet).

The assessment of environmental effects reports produced in July 2000 proposed repair and remediation of shoreline erosion rather than avoidance of the problem by managing lake levels to minimise erosion risk; it accepted erosion as a likely consequence of managing the lake for the principle purpose of its contribution to electricity generation capability:

Localised shoreline erosion around Lake Moawhango is occurring, at least partially as a result of the fluctuations in lake level. This is of concern to the Ministry of Defence, particularly insofar as it relates to the integrity of their roading infrastructure and access to and around the lake....

Genesis Power proposes to monitor the scale and extent of shoreline erosion on a regular basis, and repair any erosion that has the potential to, or has, damaged roading infrastructure. The company proposes accomplishing this by way of a specific arrangement with the Ministry of Defence.⁹⁵⁴

As a result a condition was included in the resource consents for the operation of Lake Moawhango that there should be annual monitoring of the state of the shoreline.

7.7.6.3 River flows

In 1964, at the time of approval of the Tongariro Power Development (TPD) scheme and its construction, not enough was known about water flows in the Moawhango and Rangitikei River to quantify the effect. It was known that 359 cusecs out of the 365 cusecs flowing downstream at the dam site would be diverted into the Tongariro River. The impact this loss of water would have downstream of the dam site was not known other than in terms of generalities, such as that “the present low flow in the [Rangitikei] river will be decreased”,

⁹⁵³ District Commissioner of Works Wanganui to Commissioner of Works, 27 January 1977. Works and Development Head Office 92/12/81/1. Supporting Papers #2211-2212.

⁹⁵⁴ Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 14.2.2, page 488. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(I), Volume 11, #16-653 at #523.

and that the scheme “could tend to reduce floods in the lower Rangitikei”⁹⁵⁵. The implication was that the benefits of electricity generation far outweighed any environmental costs in the Rangitikei catchment.

In 1974, the assessment was⁹⁵⁶:

Table 7: Moawhango River flow assessment, 1974

Location	Low flow without Dam (cusecs)	Low flow with Dam (cusecs)
Moawhango at Waouru	54	0
Moawhango above Oarenga/Aorangi confluence	67	13
Moawhango below Oarenga/Aorangi confluence	74	20
Moawhango at Moawhango	80.5	26.5
Moawhango at confluence with Rangitikei	90.5	36.5

For conversion purposes when analysing the various flow figures in this and other tables, 1 cusec = 0.028 cumecs, and 1 cumec = 35.3 cusecs.

In November 1978, just prior to filling Lake Moawhango, the expected change in river flows was explained in an information paper prepared for public meetings to be held the following month:

The Moawhango River at the dam includes the Mangaio Stream flow and carries an average of 9.2 cumecs. The flow will be cut off when diversion begins. There are a number of minor side streams running into the Moawhango River below the dam; the first major inflow is the Aorangi which joins the Moawhango some 16 km below the dam. Following are pre and post diversion flows at various points in the Moawhango River.

	Pre-diversion		Post-diversion	
	Average (cumecs)	Dry period (cumecs)	Average (cumecs)	Dry period (cumecs)
Moawhango Dam	9.2	1.5	0	0
Just above Oarenga/Aorangi confluence	11.3	1.8	1.4	0.3
Moawhango township	15.6	2.1	5.7	0.6

⁹⁵⁵ Notes on Tongariro Power Development, February 1964, page 9. Electricity Head Office file 21/75/1. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2637-2649.

⁹⁵⁶ File note, undated (early 1976). Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3950.

The above post-diversion flows may be increased if special releases of water are proven to be necessary to supplement general stream flows.⁹⁵⁷

An assessment of river flows was carried out in about 1993 for the then-operator of the TPD, Electricity Corporation of New Zealand. This assessment was prior to further analysis at the end of the 1990s for inclusion in Genesis Power Limited's Assessment of Environmental Effects reporting. It calculated that the flow of the Moawhango River at Moawhango had been reduced by 62-65% from its pre TPD flows. The residual flow, it stated, was "part of an informal agreement between residents and ECNZ". However, because the residual flow arrangement was for 700 litres per second at Moawhango for the months of January to March, flows into the river from tributaries below the dam usually meant this minimum flow obligation was met naturally, so that opening valves to release water at the dam had "rarely been needed"⁹⁵⁸.

All the studies referred to above took the flows at different stations along the Moawhango and Rangitikei Rivers as they had been measured during the period up to 1980 and subtracted the flows as measured at Moawhango Dam to calculate the effect of reduced flows below the dam. For the 2000 resource consents application Genesis Power's hydrologist adopted a different approach. Using computer modelling based on rainfall and evaporation rates, he calculated what the river flows would have been if the waterways were flowing naturally and there had been no diversion of water (referred to as simulated natural data), then compared those calculations to the actual river flows since 1980 to determine the effect of the TPD on flows. His results were⁹⁵⁹:

⁹⁵⁷ The Moawhango Diversion information paper, undated, attached to Commissioner of Works to Project Engineer Turangi, 7 November 1978. Electricity Head Office file 21/75/1. Supporting Papers #174-183.

This letter and information paper is also included in Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2947-2956.

⁹⁵⁸ Kingett Mitchell & Associates Ltd, *Moawhango Pond pre-environmental effects assessment*, 1993, page 13. Supporting Papers #6336-6360 at 6340.

⁹⁵⁹ Genesis Power Ltd, *Tongariro Power Development: assessment of environmental effects*, July 2000, table 6.3 (page 146), and page 153, relying on RD Henderson, *The effect of TPD diversions on the hydrology of the Moawhango and Rangitikei Rivers*, NIWA Client Report CHC 98/75, 1998. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(l), Volume 11, #16-653 at #182 and 189.

Table 8: Moawhango and Rangitikei Rivers flow assessment, 1998

Site	Mean Annual 7-Day Low Flow (cumecs)			Mean Flow (cumecs)			Mean Annual 3-Hour Flood Flow (cumecs)		
	Nat	Mod	% Loss	Nat	Mod	% Loss	Nat	Mod	% Loss
Moawhango at Waiouru	2.3	0.0	100	9.3	0.0	100	99.0	0.0	100
Moawhango at Oarenga/Aorangi Stream	3.2	0.7	78	12.7	3.4	73	113	49	56
Moawhango at Moawhango	3.4	0.8	78	14.1	4.7	67	142	78	45
Moawhango at Rangitikei	-	-	59	-	-	55	-	-	30
Rangitikei at Moawhango River	12.8	10.1	21	54.1	44.8	17	610	560	8
Rangitikei at Hautapu River	14.4	11.7	19	61.2	51.9	15	670	638	5
Rangitikei at Kawhatau River	15.8	13.1	17	68.5	59.2	14	751	724	4
Rangitikei at Mangaweka	16.3	13.6	17	71.2	61.8	13	781	766	2
Rangitikei at Kakariki	-	-	16	-	-	11	-	-	0.4

Note 1 Nat = Simulated natural flow; Mod = Modified flow; % Loss = percentage reduction in flow

Note 2 Records at river confluences are for flows immediately downstream of the confluence, except for 'Moawhango at Rangitikei' which is on the Moawhango River immediately upstream of its confluence with the Rangitikei River

The 1998 assessment that the Moawhango River at Moawhango lost two-thirds of its flow as a result of the operation of the TPD during the 1980s and 1990s is consistent with the expectations of change in flows estimated prior to the TPD becoming operational.

The Hearing Committee considering the resource consent applications accepted the worth of the minimum continuous flow of 0.6 cumecs from the dam proposed by Genesis Power. While it was asked by some objectors to require a higher minimum continuous flow, it declined to do so as it considered the benefit of the continuous flow was primarily to enhance invertebrate habitat and natural character in the stretch of the river between the Dam and

Oarenga/Aorangi Stream. The reduction in water available for electricity generation, with a market value of \$2-4 million a year was, in its opinion, “an unreasonable price to pay for maximising invertebrate habitat in 22 km of the Moawhango River”⁹⁶⁰. The Hearing Committee also agreed with Genesis Power’s proposal for four 30-cumec flushing flows each year⁹⁶¹.

The introduction in 2001 of a continuous small flow of 0.6 cumecs through the dam, and the introduction in 2004 of four flushing flows each summer, has meant that the flows in the Moawhango River below the dam since then have not been as low as they were before 2001. In general terms the total annual volume of water at Moawhango village has increased by about 20% compared to 1980s and 1990s volumes. The majority of this increase is due to the flushing flows.

The discussion of river flows above has only addressed physical changes to water volumes. However, Rangitikei River Maori do not consider the physical changes on their own, believing that there is a spiritual dimension that is also relevant. While Ngati Whitikaupeka and Ngati Tamakopiri did not present evidence to the resource consents hearing in 2000 because of the side agreement they had reached with Genesis Power, both Ngati Hauiti and Ngati Rangi presented evidence of their concern about the mixing of waters from different catchments⁹⁶². The transfer of water from the Whangaehu catchment into Lake Moawhango means that the waters of the lake are spiritually impure, and that causes cultural offence. Releases from the lake down the Moawhango River allow that spiritual impurity to also affect the Rangitikei River. The flow of “foreign water” into the Moawhango River was dealt with in the assessment of environmental effects report only in terms of biochemical impact on

⁹⁶⁰ Decision of TPD Consents Hearing Committee, 30 August 2001, page 93. Supporting Papers to T Walzl, *Environmental Impacts of the Tongariro Power Development Scheme*, July 2006, Wai 1130 Doc #E12(p), Volume 15, #51-193 at #148.

Because the flow recording station is located a short distance below the Moawhango Dam, rather than at the Dam itself, the amount of continuous flow discharged through the dam valve is calibrated so that the flow at the recording station does not fall below 0.8 cumecs.

⁹⁶¹ Decision of TPD Consents Hearing Committee, 30 August 2001, pages 94-95. Supporting Papers to T Walzl, *Environmental Impacts of the Tongariro Power Development Scheme*, July 2006, Wai 1130 Doc #E12(p), Volume 15, #51-193 at #149-150.

⁹⁶² Decision of TPD Consents Hearing Committee, 30 August 2001, page 93. Supporting Papers to T Walzl, *Environmental Impacts of the Tongariro Power Development Scheme*, July 2006, Wai 1130 Doc #E12(p), Volume 15, #51-193 at #92 and 94-95.

water quality⁹⁶³. The Hearing Committee's comments on the evidence about mixing of waters were:

Ngati Rangi and Ngati Hauiti oppose the imposition of a minimum residual flow as they find the mixing of the Whangaehu catchment waters with those of the Moawhango catchment waters to be culturally offensive. While not necessarily accepting the view of Mr Mikaere [witness for Genesis Power] that based on traditional evidence the mixing of water is not of itself a culturally harmful act and is an evolved religious issue, the Committee does accept the submission of Mr Majurey [counsel for Genesis Power] that Maori interests are but part of a range of interests to be considered within the rubric of sustainable management. On balance, the Committee considers that the environmental benefits of introducing a minimum residual flow in the Moawhango River outweigh the adverse effects Ngati Rangi and Ngati Hauiti have suggested would occur.⁹⁶⁴

7.7.6.4 Sedimentation in the Moawhango River

There was a sediment problem in the Moawhango River downstream of the dam site during the construction era. A fisheries officer of the Marine Department complained in 1971:

Serious sedimentation is being caused in the Moawhango River by contractors which your Department is supervising. The worst offender is the metal plant operated by Wilkins and Davies Ltd which, when it is operating, discharges its washings into the river upon unconsolidated ground, and which apparently extracts most of its metal directly from the river course. The second contractor is Codelfa-Cogefar Ltd, whose tunnel washings flow into a small stream which adjoins the Moawhango near the above metal plant. The situation here is not as serious as in the case of the metal plant, but discharges of water carrying a heavy sediment load occur occasionally and flow unrestricted into the main river....

From a fisheries viewpoint, the condition of the river is serious, and I urge that you cause the contractors concerned to take immediate steps to prevent any further sediment discharge.⁹⁶⁵

From an increase in sediment in the Moawhango River during construction, the situation reversed when the flow at the dam was cut off once the TPD became operational. Gravel and finer sediments below the dam site were no longer replenished. The result has been that the

⁹⁶³ Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 10.4.3, pages 348-349. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(l), Volume 11, #16-653 at #383-384.

⁹⁶⁴ Decision of TPD Consents Hearing Committee, 30 August 2001, page 93. Supporting Papers to T Walzl, *Environmental Impacts of the Tongariro Power Development Scheme*, July 2006, Wai 1130 Doc #E12(p), Volume 15, #51-193 at #148.

⁹⁶⁵ Technical Officer Marine Department Turangi to Resident Engineer Moawhango, 15 April 1971. Works and Development Turangi Project Office file 81/1. Supporting Papers #2939.

stretch of river between the dam site and the confluence with Oarenga/Aorangi Stream has become more dominated by large rocks in the riverbed⁹⁶⁶.

The most serious sedimentation problem in the river occurred after the dam became operational and the flow in the river was severely reduced, and before any compensatory flow was commenced. During this period, in January 1981, a storm event in the Moawhango catchment caused substantial erosion and discharge of sediments into the river. The reduced flows of the river were unable to move the sediment through the system, and deposition occurred around Moawhango village⁹⁶⁷. The river stayed discoloured for longer after rain. Pumps suffered wear and tear due to the presence of silt in the water⁹⁶⁸. Discolouration of the water and muddy banks made the river unattractive for swimming and other recreational use at the height of the 1980-81 summer. Ultimately, later freshes in the river moved much of this sediment downstream and, according to a 1993 report, “the channel has adjusted to the lower flows, as deposits became vegetated and formed the new banks of the smaller river”⁹⁶⁹.

The introduction of four flushing flows was designed to overcome the sedimentation in the river at Moawhango village. While the trial flows in March 2000 resulted in sediments being removed from in front of the village, there was a build up at Kirikiri south of the village⁹⁷⁰. As a consequence the flushing flows proposed by Genesis Power as conditions of consent were increased in volume and duration. A study in 2009 showed that the flushing flows now have the effect of removing sediment build-up at Moawhango village and from the Moawhango River generally, though there is now some build-up in the Rangitikei River below its confluence with the Moawhango River⁹⁷¹. This is primarily because water velocity is high in the Moawhango River during flushing flows, and the flows are confined by the narrow shape of the river channel, while in the Rangitikei River a reduced velocity and wider

⁹⁶⁶ Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 6.4.2, page 157. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(I), Volume 11, #16-653 at #193.

⁹⁶⁷ Rangitikei-Wanganui Catchment Board, *Moawhango River sedimentation reports*, May 1982, Report No. 82/3. Supporting Papers #6516-6561.

⁹⁶⁸ Telex Project Engineer Turangi to Chief Power Engineer, 20 March 1981. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #3001-3003.

⁹⁶⁹ Kingett Mitchell & Associates Ltd, *Moawhango Pond pre-environmental effects assessment*, 1993, page 15. Supporting Papers #6336-6360 at 6341.

⁹⁷⁰ Opus International Consultants Ltd, *The effect of flushing the Moawhango River on sediment deposition and ecology of the Rangitikei River*, May 2009, pages 2-3. Manawatu-Wanganui Regional Council file 7/2/GPL Applications 101275-296 & 101302-310. Supporting Papers #4512-4578, pages 4519-4520.

⁹⁷¹ Opus International Consultants Ltd, *The effect of flushing the Moawhango River on sediment deposition and ecology of the Rangitikei River*, May 2009. Manawatu-Wanganui Regional Council file 7/2/GPL Applications 101275-296 & 101302-310. Supporting Papers #4512-4578.

river channel encourage sediment deposition. The deposited sediment gets picked up and transferred further downstream during the next natural flood event. The implication to be drawn from the study is that the flushing regime set by the consent conditions should not be regarded as immutable, and may be capable of refinements to improve its environmental impact.

Genesis Power commissioned a study on possible refinements to the flushing regime⁹⁷². A key constraint set for this study was that the total volume of water released at the dam by the four existing flushing events would not be increased. The study identified that changes to the regime would have an effect on sedimentation:

The sediment deposition [in the Rangitikei River] could be mitigated by making it disperse further downstream. This could be achieved by making the flush last longer, by making it more effective at entraining sediment in the Rangitikei channel, or both. Options include simply increasing the duration of the existing ‘rectangular’ 30 m³/s flushes (by having three flushes per year instead of the current four), or running a double-flush. The first wave of the double-flush would be optimised to move fine inorganic sediment and organic material out of the Moawhango channel. The second wave, released 24 or 48 hours later, would be optimised to re-entrain and disperse the Moawhango sediment down the Rangitikei channel. It could either be released as a ramped wave or as a ‘chasing’ wave designed to form a surge of maximum height just at the Moawhango/Rangitikei confluence.⁹⁷³

Trial flushes were proposed to identify the most suitable new regime, bearing in mind that the flushing flows were not just about mitigating sedimentation, but were about meeting a range of ecological objectives.

Community feedback was that the modified flushing flow regime was more complicated and less certain than the four-flush regime, and that would have public safety implications. As a result the proposal was not taken further. However, interest in designing methods that would reduce adverse environmental effects still further has not gone away, and continues to resurface at community meetings. The extent to which tangata whenua are involved with and have contributed to the ongoing discussions is not known.

⁹⁷² DM Hicks and D Goring, *Modifying flushing flows in the Moawhango River to mitigate downstream effects*, NIWA Client Report CHC2009-164, November 2009. Manawatu-Wanganui Regional Council file 7/2/GPL Applications 101275-296 & 101302-310. Supporting Papers #4579-4611.

⁹⁷³ DM Hicks and D Goring, *Modifying flushing flows in the Moawhango River to mitigate downstream effects*, NIWA Client Report CHC2009-164, November 2009, page i. Manawatu-Wanganui Regional Council file 7/2/GPL Applications 101275-296 & 101302-310. Supporting Papers #4579-4611 at 4583.

7.7.6.5 Water quality

The assessment of environmental effects report in 2000 noted that Lake Moawhango received water from both the Whangaehu catchment and the Moawhango catchment:

The two source catchments have quite different water qualities, one being influenced by the volcanic events of Mt Ruapehu catchment, and the other by runoff from forested sedimentary rock.... The characteristics of this water are important as they have the potential to influence the quality of the Tongariro River and its receiving waters in Lake Taupo, and also the Moawhango River when water is spilled or discharged from the dam.⁹⁷⁴

It then went on to summarise the nature of the differences between the waters of the two catchments:

- The influence of waters from the Ruapehu catchments is reflected in anion and cation concentrations in the lake, which are higher than those from the surrounding catchment. Concentrations of anions (chloride, sulphate) and cations (calcium and magnesium) are higher in the Mangaio Tunnel discharge, but are at low concentration in waters of the natural catchment.
- There are no data available for sulphate concentrations in the lake's waters, but White et al suggested that the concentration is likely to be about 10 g/m³.
- There is a low biochemical oxygen demand in the lake water.
- The water in Lake Moawhango is devoid of nitrate in summer and contains low concentrations in winter.
- The water in Lake Moawhango contains low concentrations of dissolved reactive phosphorus.

In relation to the physical and chemical features of the Lake Moawhango water noted above, White et al and Payne have noted that water temperatures in Lake Moawhango are relatively high compared to the Tongariro River.

In summary, the water in Lake Moawhango is of high quality....⁹⁷⁵

Prior to 1983, when no compensation flow through the Moawhango Dam was being offered, farmers and other users of the Moawhango River were well aware of the consequences for water quality. At the public meetings in December 1978, there were comments that if the only flows in the Moawhango River were coming from below the dam site, then the water would be more polluted, as the water would be runoff from farmland undiluted by better quality water originating higher up in the catchment. It was accepted that the quality would

⁹⁷⁴ Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 6.5.4, page 164. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(l), Volume 11, #16-653 at #200.

⁹⁷⁵ Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 6.5.4, page 165, relying on E White, MM Gibbs, GW Payne, S Pickmere and K Teavae, *Water quality of the Tongariro River at low flow*, DSIR Taupo Research Laboratory, 1991. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(l), Volume 11, #16-653 at #201.

not be suitable for household needs, and that those farmers who drew water from the river for domestic use would need to be compensated⁹⁷⁶.

The water quality studies carried out after the 1981 storm showed that the water in the river was not just unsuitable for domestic household and drinking use, but was also undesirable for use of the river for swimming⁹⁷⁷. The poor quality of the water in the river at Moawhango in the absence of any compensatory flow was one of the arguments for a compensation flow to be introduced.

A further survey of water quality in the Moawhango River in 1997 confirmed that its water quality had declined after the Moawhango Dam became operational, the key factor being a loss of dilution capability. While dissolved reactive phosphorus levels were generally low, nitrogen and faecal coliform levels were elevated:

This trend is likely to reflect the influences of land use, and the transition which occurs between undeveloped tussock grasslands in the upper catchment and agricultural pasture downstream of the Aorangi confluence, as well as reduced dilution due to reduced flows....

At all sites upstream of the Aorangi confluence, nutrient levels were below [Ministry for the Environment guideline] levels. Dissolved inorganic nitrogen levels were generally higher than these guideline values at the sites lower in the catchment....

As expected, faecal coliform levels were low at all sites upstream of the Aorangi confluence. Elevated faecal coliform counts were recorded at the two sampling sites furthest downstream, reflecting the influences of runoff from the associated agricultural catchment.⁹⁷⁸

The assessment of environmental effects in 2000 commented that “under natural flow conditions these changes would have been masked by the dilution afforded by the Moawhango River”⁹⁷⁹.

⁹⁷⁶ Notes of meeting at Moawhango, 6 December 1978, and Notes of meeting with Moawhango Farmers Committee, 14 December 1978. Electricity Head Office file 21/75/1. Supporting Papers #184 and 185-192.

⁹⁷⁷ Rangitikei-Wanganui Catchment Board, *Moawhango River sedimentation reports*, May 1982, Report No. 82/3. Supporting Papers #6516-6561.

⁹⁷⁸ Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 6.5.5, pages 168-169. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(I), Volume 11, #16-653 at #204-205.

⁹⁷⁹ Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 6.5.5, page 169. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(I), Volume 11, #16-653 at #205.

A frequently-used indicator of water quality, and increased nutrient levels in particular, is periphyton growth, most readily seen in the growth of algae on stones in the riverbed making them slippery. The assessment of environmental effects report in 2000 reported on increased periphyton growth in the Moawhango River, increasing with distance travelled downstream from the dam. This increase was attributed to nutrient enrichment in the catchment arising from agricultural development, combined with an absence of flood disturbance. The introduction of flushing flows was proposed to remedy this contributing factor⁹⁸⁰. A further environmental effect of periphyton growth is an odour problem as algae die and rot away in hot summer weather.

The conditions of consent to dam the Moawhango River included four flushing flows during the period December to March, in order to mimic floods that would dislodge periphyton growth and prevent its build-up during the warm summer months. The consent would not address the nutrient runoff from agricultural land, as that was beyond Genesis Power's control, but it would attempt to reduce the adverse environmental effect of the nutrients in the river.

The flushing flows appear to have improved water quality in the river, especially during the summer months. A microbiological study in September 2005 measured the presence of periphyton during the first season of flushing flows (2004-2005), finding that they had "reduced periphyton biomass by 53% on average, and nuisance algal cover was reduced by an average of 40%". It concluded:

We suggest that implementation of the new flow regime has improved benthic communities in the Moawhango River below the dam, reflecting conditions expected in high-country lake-fed ecosystems. Flushing flows had a positive effect on controlling nuisance periphyton cover and silt downstream of the dam.⁹⁸¹

7.7.6.6 River fauna

The Wildlife Service wish to actively develop Lake Moawhango as a brook char (brook trout) and rainbow trout fishery did not immediately disappear after the Cabinet decided in 1979

⁹⁸⁰ Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 6.6.2, pages 173-175. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(l), Volume 11, #16-653 at #209-211.

⁹⁸¹ D Kelly and B Briggs, *Moawhango River: quantification of the effect of increased residual flows and flushing flows on stream communities*, NIWA Client Report CHC2005-073, September 2005, page ii. Copy on Manawatu-Wanganui Regional Council file 7/2/GPL Applications 101275-296 & 101302-310. Supporting Papers #4479-4511 at 4483.

that there would be no public access to the lake. In early 1980 a Senior Fisheries Officer proposed some netting of fish in the new lake to determine whether the resident fish were thriving. While he acknowledged that there was no public access, he considered that “we have a management responsibility to at least document some of the development of the fishery”⁹⁸². However, he was overruled as “it would on reflection not be politic for us to undertake management on this lake whilst the Defence Department are maintaining public access restraints”, and “we do not want to prejudice our current discussions which are in a delicate situation”⁹⁸³.

The impact for river fauna of reduced flow in the Moawhango River below the dam was fourfold:

- There was less total habitat as the volume of water and the extent of wetted riverbed shrank.
- Lower volumes did not flow over shingle banks and thereby create turbulence that assisted oxygenation of the waters.
- Temperature of the water increased.
- There was less dilution of pollutants.

The Nature Conservation Council had identified some of these matters in 1973⁹⁸⁴, so they were not unexpected.

During the period September 1978 to June 1979, just before and during the time that the flow in the Moawhango River was reduced, Ministry of Agriculture and Fisheries conducted a series of fish surveys of the river below the dam site. These surveys were associated with salvage of stranded fish, and were intended to record the changes in fish populations during the change in flows in the river both above and below the confluence with the Oarenga/Aorangi Stream. Rainbow trout, brown trout, brook char, and one longfinned eel were sighted and/or salvaged. The survey report stated:

The presence of good-sized trout adjacent to the Aorangi confluence is somehow attributable to it being the only sizeable tributary to which trout have access. Whether

⁹⁸² Senior Wildlife Officer (Fisheries) to Assistant Conservator of Wildlife Rotorua, 12 February 1980. Internal Affairs (Wildlife Service) Rotorua file 21/0/1/6. Supporting Papers #2725.

⁹⁸³ Assistant Conservator of Wildlife Rotorua to Senior Wildlife Officer (Fisheries), 21 February 1980. Internal Affairs (Wildlife Service) Rotorua file 21/0/1/6. Supporting Papers #2726.

⁹⁸⁴ Secretary Nature Conservation Council to Secretary, 8 May 1973. Rangitikei-Wanganui Catchment Board file W327/466/1. Supporting Papers #3935-3936.

it functions as a “seed source” or a refuge in times of stress is not known. Further observations will be made to see whether or not trout extend downstream with time.

The presence of an eel near the dam was unexpected, because none had ever been caught or seen in that area before, despite extensive electric fishing, observing, and salvage after river diversions. This shows that eels could exist above the dam now, but there are unlikely to be very many....

It also shows that occasionally eels must be able to penetrate the river’s many obstacles and reach the area where the dam is. From the mouth to the dam is a distance of 60km and a climb of 457m. There are four waterfalls and numerous fast rapids to surmount. The smallest eel caught near the Aorangi confluence by earlier investigators was 15cm long, while the optimum length for climbing over obstacles is about 9cm. My earlier report suggested that the 15m high Popotai Falls and the 6m Shepherds Falls would be a barrier to many eels, and that by the time any which passed these reached the Aorangi area they would be too big to climb up wet rock faces. It is evident that there are exceptions, but the gorge which prevented eels from reaching the dam in the past will continue to do so. The reduced volume of water should make no difference to their ability to climb the waterfalls but some of the rapids will be easier. Summer low flow conditions will be checked on.⁹⁸⁵

The report also recorded that Wellington Acclimatisation Society was not planning to restock the river with trout or undertake other measures to improve the Moawhango River fishery because the absence of any compensation release of water made conditions too uncertain. This loss of interest in the river fishery under these circumstances meant that Ministry of Agriculture and Fisheries would also not be surveying the changes in fish populations so avidly in the future.

The Agriculture and Fisheries report was criticised by Wildlife Service, because of longstanding antipathy between Wildlife Service and the author of the report about the necessity of an eel barrier on the Moawhango River to prevent eels gaining access to Lake Taupo. The Conservator of Wildlife in Rotorua wrote to his Head Office:

There is however a disconcerting aspect to this report which does concern me in that the author, Mr Cudby, apparently strongly opposes the erection of an eel barrier downstream of the Moawhango Dam, and he has made a number of references to this, implying that the original decisions were based primarily by the local management authority of the Wildlife Service without consulting his agency which has national management expertise, and indeed he goes on to strongly recommend against it.

The recommendation to construct this was not made lightly. While it is known as an eel barrier, it will also serve, we hope, as a barrier to lampreys should the water abstraction create conditions in which lampreys may or may not reach this section of

⁹⁸⁵ EJ Cudby, Moawhango River and Lake, June 1979, attached to Technical Officer Ministry of Agriculture and Fisheries Turangi to Conservator of Wildlife Rotorua, 27 July 1979. Internal Affairs (Wildlife Service) Rotorua file 21/0/1/6. Supporting Papers #2712-2720.

the Rangitikei system. It is known that they are in the Rangitikei system, but unfortunately little is known of their ability to negotiate obstructions, and in view of what has occurred in overseas countries it is felt that it is far better to be cautious at this stage of events, rather than be sorry afterwards.

We previously were criticised by Agriculture and Fisheries due to the fact that they stated eels were not present in the Lower Moawhango River, but have subsequently found them there immediately below the dam, which confirms the work that we did in the 1960's which followed work originally done by Mr Woods of the then Marine Department. He at that time failed to locate eels, but I was quite confident they could at least obtain access into the lower sections of the Moawhango River and, with the abstraction of water and a reduction in velocity of rapids, that it was possible that young migrants could gain access into the upper section at a size that might enable them to by-pass the dam and consequently gain access to Taupo.

It was felt that the barrier, which is not costly, should be built, if only for insurance purposes, and that the building should be undertaken whilst Ministry of Works and Development were present with all their services, rather than have to await a problem and then perhaps be involved in a very costly operation after Ministry of Works and Development had pulled out.⁹⁸⁶

An electro-fishing survey was carried out on the Moawhango River in 1999 as part of the data gathering on environmental effects of the TPD. While numbers of trout were not high, the authors of the report on the survey noted that the numbers and diversity of species compared well with other rivers in New Zealand at similar elevations above sea level. There had been a decline in rainbow trout numbers in the middle reach of the Moawhango, “and this may be partly due to lack of recruitment from above the dam, as well as to reduced flows”. As a result the Moawhango River had changed from a predominantly rainbow trout fishery in a wilderness setting to a predominantly brown trout fishery⁹⁸⁷.

7.7.6.7 Riverbed and riparian lands

While remedial measures were accepted by the Crown, officials did not regard their extent as particularly significant when placed in a national perspective, as they were unlikely to extend to the payment of compensation for loss of grazing land, loss of land value, or loss of income (farming capacity). Valuation Department officials stated in 1978:

The effect on land values will be negligible because of the topography of the Moawhango, which is mainly inaccessible and creates a natural boundary in the

⁹⁸⁶ Conservator of Wildlife Rotorua to Director Wildlife Service, 3 August 1979. Internal Affairs (Wildlife Service) Rotorua file 21/0/1/6. Supporting Papers #2721-2722.

⁹⁸⁷ Genesis Power Ltd, Tongariro Power Development: assessment of environmental effects, July 2000, section 6.7.3, pages 188 and 351-352. Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(l), Volume 11, #16-653 at #224 and 386-387.

majority of properties. In some properties, however, where the river forms a boundary and no fences are erected, a reduction in flow will cause stock to cross into neighbouring farms, and fencing of these areas should be clearly defined in coordination with the owners regarding the type of fence and the positioning.

General feeling is mainly regards the quality and quantity of water, and this may not be apparent immediately, and we suggest the remedial measures regarding fencing and resiting of water intakes and provision of reservoirs should be carried out, and later, if any loss of grazing or reduction in land values occur, then a reassessment should be undertaken.⁹⁸⁸.

Each individual riparian landowner was approached and arrangements made to compensate for any losses resulting from the reduced flow in the Moawhango River. At least 17 agreements were negotiated, and there may have been up to 24 agreements in all. While most were with European landowners, and included one with Wanganui Education Board for the impact on Moawhango School, there were four agreements reached with Maori landowners. These four are discussed below. In each of the four cases the land was in Moawhango village rather than being large rural properties with extended river frontages.

Taonui Matana (Tony Martin) owned Awarua 2C12C1. He lost an effective natural stock barrier when the flow in the Moawhango River was reduced. This required 440 metres of fencing along the riverbank to reinstate the stock barrier. A spring on his property had to be developed as a source of domestic and stock water to replace use of the river as a source. A monetary payment of just over \$3000 was agreed⁹⁸⁹.

Dixie McCarthy leased part of Awarua 2C13J2B from multiple Maori owners. The agreement that Ministry of Works and Development reached with him provided for the construction of 304 metres of fence and one gate to recreate the river boundary of the property as a stock barrier, and the installation of a pump, reservoir and troughs to replace use

⁹⁸⁸ District Commissioner of Works Wanganui to Project Engineer Turangi, 21 March 1978. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #2965-2966.

⁹⁸⁹ District Commissioner of Works Wanganui to Commissioner of Works, 8 January 1979. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #2967-2970.

of the river for stock watering. The monetary payment for these measures was just over \$5000. Payment was agreed in February 1979, and approved in April 1979⁹⁹⁰.

Stanley Tokorangi Walker and Carol Kateraina Walker owed Awarua 2C13J2A1 and 2C13J2A2A. They lost use of the river as a source of domestic and stock water, and stock barrier. To replace the losses required a storage tank to catch rainwater from house and garage roofs for domestic supply, a pump, reservoir and troughs for stock water supply, and some small lengths of river bank fencing. A monetary payment of \$5850 was agreed⁹⁹¹.

Ratima Hakopa owned Part Awarua 2C13C. The loss of the river as a stock barrier required 30 metres of fencing. A monetary payment of \$100 was agreed⁹⁹².

Moawhango School was able to arrange an alternative water supply with the adjoining marae. The request for approval of the agreement reached between Ministry of Works and Development and Wanganui Education Board noted:

The river, though not a land boundary, is close by and provides a suitable water supply for the school needs.

The school was originally a Maori school on Maori land, but was transferred to Wanganui Education Board in 1920. Later transferred to the Crown in 1944.

The surrounding land is held as a Maori reservation for the Ngati Whiti Tama Tribe Marae. The diversion of the river water will undoubtedly have an effect on this community, and the Marae Committee are prepared to cooperate to alleviate the injury by giving an agreement to draw water from the spring on their land. Use of their pumping equipment will be available to the school....

While the river water is not within the school land boundary, the school is dependent on the water for servicing toilet facilities, the swimming baths, and on occasion augmenting the domestic supply to the schoolmaster's dwelling.

The local community expect the school requirements to be protected following diversion, and the Maori People have offered to cooperate for a continued suitable water supply....

⁹⁹⁰ District Commissioner of Works Wanganui to Commissioner of Works, 9 April 1979. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #2971-2974.

⁹⁹¹ District Commissioner of Works Wanganui to Commissioner of Works, 16 November 1979. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #2991-2994.

⁹⁹² District Commissioner of Works Wanganui to Commissioner of Works, 10 January 1980. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #2998-3000.

I recommend approval be obtained for the Ministry of Works and Development to arrange a suitable contract for implementation of the remedial work to the property described herein.⁹⁹³

There had been one general issue that had threatened the negotiations, mainly because it had arisen at a late stage after negotiations had commenced. This was the realisation by Ministry of Works and Development property negotiators that some properties did not have river frontage as they had at first thought. Instead the properties were separated from the river by a one chain (20 metre) strip of legal road or Crown Land:

Although [property owners] are farming the land to the river bank (the river acting as stock barrier), they don't in fact own all the land. Along the river bank is a strip of Crown reserve plus a road reserve which the farmers have used and maintained free of noxious weeds, but over which they have no legal ownership.

Erecting a fence on the actual farm boundary will deny the farmers the use of quite a few acres which they have been grazing for many years. Erecting a fence along the river bank is legally not possible, according to the Wanganui District Property Officer.

We have undertaken to compensate affected parties for losses suffered through our river diversions, and must not go back on that. If there is some legal tangle, we should be able to sort that out, if necessary through a Cabinet decision.... It would be most desirable to have this matter resolved before we have our public meetings early December, as the farmers concerned are very worried about it, and could put the Department in a very bad light.⁹⁹⁴

A separate report noted that the public land strip "precludes a right to compensation", and was a matter "appreciated by a few landowners, disturbing to some, and rejected by others"⁹⁹⁵. The immediate reaction of Head Office staff was that "we are fully prepared to meet our liability under the Public Works Act, but if additional compensation has been promised we could be in trouble"⁹⁹⁶.

Despite hopes that the matter could be resolved prior to the public meetings in December 1978, this did not occur, and it was discussed at the Moawhango meeting. The notes of the meeting record that the Ministry's property officer stated that "there was no way round it".

⁹⁹³ District Commissioner of Works Wanganui to Commissioner of Works, 5 November 1979. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #2987-2990.

⁹⁹⁴ Telex Project Engineer Turangi to Chief Power Engineer, 27 October 1978. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #2978.

⁹⁹⁵ Assistant Land Purchase Officer Wanganui to District Commissioner of Works Wanganui, 31 October 1978, attached to District Commissioner of Works Wanganui to Commissioner of Works, 31 October 1978. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #2979-2983.

⁹⁹⁶ Telex Director of Property Services to Project Engineer Turangi, 1 November 1978. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #2984.

While this may have been true with respect to the Ministry's standardised compensation procedures, the Project Engineer stated that he still hoped that an answer could be found to solve the problem. The sentiment of the meeting, according to the notes, was that the legal difficulties were "a glorious let out" for the Crown⁹⁹⁷. The difficulties were still not resolved in March 1981, at which time "the farmers concerned are very unhappy about it"⁹⁹⁸. The Crown records examined for this report did not reveal how, if at all, the problem was resolved. However, it seems that the legal interpretations of the extent of Crown liability under the Public Works Act could have denied a few European landowners of a right to be compensated for the effects of a reduced river flow.

One of the matters of concern if fences could not be erected on the riverbank, and instead were erected along the landward boundary of any one chain strip, was that the subsequent absence of grazing would allow a noxious weed problem to develop on the one chain strip. There was, of course, a threat of noxious weeds on the ungrazed side wherever any fence along the riverbank might be located. This had been discussed at the meeting with Moawhango farmers in December 1978:

P Chapman	Asked Mr Egan about weed control.
L Egan	It is difficult without stock grazing.
M Smith	Would subsidy be available to plant trees to control weeds?
L Egan	This has been done on Wanganui River. He had not realised extent of problem. He had hoped that stock could be let in behind fences to graze weeds – now not sure.
R Parkes	RO Batley Trust had fenced river beds. Could they advise?
T Batley	The stock had never had access to river.
M Smith	With Romney sheep, weeds prospered on river banks – now grazed off with Perendale sheep who fossick more. ⁹⁹⁹

It was also a concern for the Rangitikei District Noxious Plants Authority, which wrote to the Ministry of Works and Development in August 1979:

With the commissioning of the Moawhango Dam and the consequent reduced flow of water in the Moawhango River, it has already become apparent that islands will be formed in the riverbed.

⁹⁹⁷ Notes of meeting at Moawhango, 6 December 1978. Electricity Head Office file 21/75/1. Supporting Papers #184.

These notes are also included in Supporting Papers to T Walzl, *Environmental Impacts of the TPD Scheme*, Wai 1130 Doc #E12(g), Volume 6, #2944.

⁹⁹⁸ Telex Project Engineer Turangi to Chief Power Engineer, 20 March 1981. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #3001-3003.

⁹⁹⁹ Notes of meeting with Moawhango Farmers Committee, 14 December 1978. Electricity Head Office file 21/75/1. Supporting Papers #185-192.

The concern of the Rangitikei District Noxious Plants Authority is that with the formation of these islands they can foresee an increase in the incidence of noxious plants in the Moawhango River, which will in turn affect all property owners downstream.

Because these changed circumstances are the result of the Power Project being developed by your Department, the Authority would ask you to accept responsibility for the clearance of any infestations as they occur.¹⁰⁰⁰

However, the Ministry declined to accept responsibility, as it was not a landowner with obligations under the noxious plants legislation:

The responsibility for noxious plant growth control is set out in the Noxious Plants Act 1978.

Though the Ministry of Works and Development has carried out certain work on behalf of the Ministry of Energy utilising part of the water flow for electric power generation, no acquisition of land has been made in river compensation agreements with land occupiers or owners, and any work carried out is with full agreement of landowners.

Under the circumstances, this department denies liability for any upsurge in noxious plant growth if this should occur.¹⁰⁰¹

When resource consents were necessary in 2001, it was the growth of willows rather than of noxious weeds that was the concern. The Hearing Committee accepted the need for the clearance of willows primarily because the proposal was not controversial and was accepted by all parties, rather than because of the significance of the environmental benefits that would arise¹⁰⁰².

7.7.6.8 Landscape

The flooding of the Moawhango valley and creation of Lake Moawhango as a result of the damming of the river has changed the natural character of the upper Moawhango valley. However, the Hearing Committee, in its decision on Tongariro Power Development (TPD)

¹⁰⁰⁰ Administration and Property Officer Rangitikei County Council to Resident Engineer Wanganui, 21 August 1979, attached to Resident Engineer Wanganui to Project Engineer Turangi, 27 August 1979. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #2985-2986.

¹⁰⁰¹ District Commissioner of Works Wanganui to County Clerk Rangitikei County Council, 22 November 1979, attached to District Commissioner of Works Wanganui to Commissioner of Works, 22 November 1979. Works and Development Turangi Project Office file 81/6/3. Supporting Papers #2995-2997.

¹⁰⁰² Decision of TPD Consents Hearing Committee, 30 August 2001, page 96. Supporting Papers to T Walzl, *Environmental Impacts of the Tongariro Power Development Scheme*, July 2006, Wai 1130 Doc #E12(p), Volume 15, #51-193 at #151.

resource consents in August 2001, was not convinced that all the changes should be viewed in a negative light:

The overall affect of the formation of Lake Moawhango on natural character has been minor. A lake has replaced a former tussock valley. However, the lake itself adds to the character of the area, even though it is not readily accessible to the public. Ample areas of tussock-dominated landscape remain in the wider area, and the land flooded by the Moawhango Dam was neither unique nor special in the overall landscape setting. However, the Committee agrees that a minimum lake level control should be established at 835.75 m above Moturiki datum, as advised by the [Regional Council] Officers.¹⁰⁰³

This conclusion was arrived at without the Hearing Committee having had the benefit of tangata whenua evidence from iwi about the spiritual connection that tangata whenua have with the upper Moawhango landscape and the Moawhango River in its undisturbed state. This was because all the affected iwi apart from Ngati Rangi had reached agreement with Genesis Power that consent could be granted subject to the mitigation and other conditions volunteered by Genesis Power, and as a result did not prepare or present evidence to the Hearing Committee setting out any injury caused to their viewpoint by the changes brought about by the TPD. In particular the mixing of waters from different catchments may have only a small landscape impact, but its impact on the perceptions of tangata whenua about the movements of water in the landscape will be significant.

The other landscape change brought about by the TPD has been the effect of reduced flows on the landscape character of the Moawhango River below the dam. While the visual impact of this change has been small in the context of the overall landscape, it has had a large impact on the perceptions of the river's character in the minds of the local community. The petition by the Moawhango community in March 1981 highlighted their feelings about the changes that had occurred to the river immediately after the TPD became operational:

A story of a small river that got smaller, and then the Ministry of Works decided to ruin it by adding many tonnes of mud.

The Moawhango was once a clear fast-running little river with a clean stony bottom. It was a place to swim, to fish, and to drink, and a place to draw fresh water for homes, schools and stock. Clean enough to drink without filters or any other means of processing or purification. Like most good things it was too good, so good in fact that it was decided by the powers that be to take approximately half the flow and divert it to Taupo and on down the Waikato for hydro-electric use....

¹⁰⁰³ Decision of TPD Consents Hearing Committee, 30 August 2001, page 92. Supporting Papers to T Walzl, *Environmental Impacts of the Tongariro Power Development Scheme*, July 2006, Wai 1130 Doc #E12(p), Volume 15, #51-193 at #147.

The theory being the river would settle down to a lesser flow, but continue to be of use to locals and sportsmen alike....

During the building of the dam a certain amount of pollution built up in the river. This was also accepted with little more than a shrug of dismay. It became necessary to filter drinking water. At this stage we did not worry as the building of the dam would soon be over, and our little river, although smaller, would once more become clean and fresh.

Except for one thing, this would have been true. When they built the dam, they put a pipe at the lowest place. Now, some little men like to open that pipe and let all the sediment out of their dam and into our river. I say their dam because we, the people, the ratepayers and taxpayers are not allowed to get near it. They do have reasons for this, one being that the dam site is an old Army shelling range.

We object, not to the dam, not to the lack of access, but to the total disregard the Ministry has to what is left of our river....

The result being a polluted, filthy, mud-bottomed, health hazard, from the dam to Moawhango and far beyond....

I ask that we be given back what is left of our little river, so it can settle down and once more water our homes and stock.¹⁰⁰⁴

While it might be possible to quibble with some of the statements made in the petition, it nevertheless encapsulates the concerns of the European farming community along the banks of the Moawhango River about the environmental and landscape changes to the river brought about by the operation of the TPD.

In 1964 there had been a concern expressed about the impact of reduced flows on the scenic appeal of the falls in the Moawhango River below Moawhango. This does not appear to have attracted comment at later stages of the development, or at the resource consents hearing.

7.8 Local hydroelectric power proposals since the 1970s

After the Tongariro Power Development (TPD) came the Waitaki power development and Clutha dam. These were the last nationally-organised hydroelectric developments created by a Government Department workforce. The Government signalled in about 1977 that thereafter any further hydroelectric power development would be smaller scale, and would be the responsibility of others to develop. Local Electric Power Boards stepped into this vacuum, and examined the potential of rivers in their respective districts.

¹⁰⁰⁴ RS Woollaston, Taihape, to Minister of Energy, undated (received 9 March 1981). Electricity Head Office file 21/75/11. Supporting Papers #201-203.

Even before these new players in the hydroelectric sphere became involved, consulting engineers had undertaken a preliminary examination of the Rangitikei River. This was carried out as part of the investigations for a water management plan for the river, which had been commissioned when New Zealand Electricity wanted to know what impact the Moawhango Dam would have on downstream water resources. The investigations on behalf of the Rangitikei-Wanganui Regional Water Board were drawn together in the publication *Water Resources of the Rangitikei River*, in September 1980. It had a section on the hydroelectric power potential, divided into two parts, one for the upper Rangitikei catchment, and one for the middle Rangitikei catchment.

In the upper Rangitikei catchment, the report summarised studies undertaken in the 1960s. The hydroelectric potential lay in the higher altitude of the Rangitikei River compared to the neighbouring Taruarau River, providing opportunities for the gravity transfer of water by tunnel out of the Rangitikei catchment and into the Taruarau catchment. Increasing the volume of water in the Taruarau River then improved the viability of diverting that river's flow, also by tunnel and through a power station's turbines, into the Ngaruroro River. Alternatively power stations could be established on the Ngaruroro River below the confluence with the Taruarau to make use of both rivers' flow. A third possibility was to divert water out of the Rangitikei River, pick up additional water from the Taruarau and Ngaruroro Rivers, and feed the combined volume into a power station discharging into the Mohaka River. All these possibilities were little more than musings developed from looking at maps and comparing the height above sea level of different rivers at different points. However, that is how the TPD had originally started too. The *Water Resources* report noted that the most serious objection to diversion of water out of the Rangitikei River was what it would mean for water use in the middle and lower reaches of the Rangitikei River. Average flow at Mangaweka would reduce from 62 cumecs (post TPD diversion of the Moawhango flow) to 47-48 cumecs¹⁰⁰⁵.

¹⁰⁰⁵ Tonkin and Taylor, *Water Resources of the Rangitikei River*, September 1980, pages 22-24. Supporting Papers #6437-6515 at 6451-6452.

In the middle Rangitikei catchment, the *Water Resources* report summarised a study the authors had conducted for the Manawatu-Oroua Electric Power Board two years earlier¹⁰⁰⁶. This study looked at a sequence of two dams and associated power stations in cascade fashion, where the foot of one dam was the upper end of the lake formed behind the second dam down the river. The two dams would be sited at Soldiers Road (48 metres high and impounding a lake drowning Mangarere Road bridge by 12 metres) and Vinegar Hill (62 metres high and impounding a lake drowning Otara Road bridge by 2.5 metres). The *Water Resources* report also introduced the concept of a third cascade dam and power station above the other two, at Mangaweka (73 metres high and impounding a lake 23 kilometres long up to Taoroa and up the lower Hautapu River). In addition, without going into any details, it identified that both the Hautapu River and the lower Moawhango River offered hydroelectric possibilities¹⁰⁰⁷.

In early 1985, after publication of the *Water Resources* report, Wanganui-Rangitikei and Manawatu-Oroua Electric Power Boards jointly commissioned a study of hydroelectric potential on the Rangitikei River and its tributaries¹⁰⁰⁸. The author of the study was the same firm of consulting engineers that had prepared the *Water Resources* report, so the dam cascade configuration naturally featured in the report for the Power Boards. However, the cascade was cut back to two dams, with the Mangaweka dam ignored, probably because the deviation of the North Island Main Trunk Railway across the Rangitikei River and back again prevented that dam and associated storage lake being developed, and because ancient landslides at Utiku presented stability problems. The report noted that in the pursuit of hydroelectric power State Highway 1 would require a higher-level deviation at Makohine, and that a lake fishery would replace the river fishery.

The 1985 report identified some investigations in the late 1970s that had not been included in the *Water Resources* report. These were proposals for dams and power stations on the

¹⁰⁰⁶ Tonkin and Taylor, *Manawatu-Oroua Electric Power Board: hydroelectric development potential pre-feasibility study report*, October 1978. Not included in Supporting Papers.

¹⁰⁰⁷ Tonkin and Taylor, *Water Resources of the Rangitikei River*, September 1980, pages 25-37. Supporting Papers #6437-6515 at 6452-6460.

¹⁰⁰⁸ Tonkin & Taylor Ltd, *Rangitikei River and tributaries: Pre-feasibility review of potential hydroelectric schemes*, 12 March 1985, attached to Submissions by Wanganui-Rangitikei Electric Power Board and Manawatu-Oroua Electric Power Board objecting to the national water conservation order application, undated (March 1985). Works and Development Head Office file 76/327000. Supporting Papers #1239-1369 at 1267-1369.

Hautapu River, the Whakaurekou River, and on the Rangitikei River at The Narrows¹⁰⁰⁹. The Hautapu River proposal would draw off water from the river at Turangarere, and divert it via canal, tunnel and pipeline to a power station about 13 kilometres downstream near Taihape Golf Course. The stretch of the Hautapu River that was bypassed would not flow except during floods, and the intake for the Taihape town water supply would become inoperative. The Whakaurekou River proposal would create four storage lakes in tributaries of the river, and divert the combined flow via a tunnel to a power station on the Rangitikei River near the end of Mokai Road. The Narrows proposal would dam the Rangitikei River above Te Papa a Tarinuku (The Narrows) and divert it by tunnel to a power station at the end of Mangahoata Road. Three kilometres of the river including The Narrows would be bypassed, and five kilometres of river above the intake site would become a storage reservoir. Rafting through The Narrows would have to rely on periodic releases of water down the river.

The 1985 report then identified some further possibilities not previously investigated. The topography of the Rangitikei River suggested two possible dam sites between Mokai Road and Utiku. A site on the Kawhatau River was also identified. The previously identified lower Moawhango possibilities were not included among the potential sites, as the river's "downstream flow is significantly reduced and precludes any economically attractive hydro potential"¹⁰¹⁰.

For all the potential sites, the engineering, geological, sediment movement and environmental constraints were identified. Each proposal was evaluated for its economic attractiveness, with the results showing that:

Based on these preliminary costing, the Hautapu River scheme is economically attractive in present terms, and the Narrows, Soldiers Road and Vinegar Hill (Rangitikei River) schemes, while less attractive under present criteria, represent local and renewable resources appropriate for progressive development.¹⁰¹¹

¹⁰⁰⁹ Barrowclough Associates, *Proposed Hautapu River hydroelectric scheme*, 1977. Not included in Supporting Papers.

Mandeno, Chitty and Bell, *Whakaurekou River: Map study of hydroelectric potential*, September 1975. Not included in Supporting Papers.

Barrowclough Associates, *Proposed Rangitikei Narrows hydroelectric scheme*, 1977. Not included in Supporting Papers.

¹⁰¹⁰ Tonkin & Taylor Ltd, *Rangitikei River and tributaries: Pre-feasibility review of potential hydroelectric schemes*, 12 March 1985, page 16, attached to Submissions by Wanganui-Rangitikei Electric Power Board and Manawatu-Oroua Electric Power Board objecting to the national water conservation order application, undated (March 1985). Works and Development Head Office file 76/327000. Supporting Papers #1239-1369 at 1286.

¹⁰¹¹ Tonkin & Taylor Ltd, *Rangitikei River and tributaries: Pre-feasibility review of potential hydroelectric schemes*, 12 March 1985, page 22, attached to Submissions by Wanganui-Rangitikei Electric Power Board and

It needs to be stressed that none of the proposals outlined in the various reports during the 1970s and 1980s were examined beyond what engineers refer to as the ‘pre-feasibility’ stage. The only advance since then on the work done in that period that has been identified during the research for this report is an acknowledgement in a report commissioned by the Ministry of Economic Development in 2004 that a Hautapu River hydroelectric scheme remains the sole scheme in the Rangitikei catchment with potential (both engineering and economic) for early development¹⁰¹². However, this proposal would have to overcome the development constraints on river damming established by the Hautapu River Local Conservation Notice 1991, and continued to the present day in the Manawatu-Wanganui Regional Council’s One Plan (see the chapter on water conservation orders).

7.9 Concluding remarks

The legislation vesting in the Crown the right to use waters for hydroelectric power generation explicitly anticipated that there would be occasions where waters would not be so vested, because they were already subject to “rights lawfully held” by others and those rights had not been acquired by the Crown. There was an apparent willingness on the part of the Minister for Public Works, when speaking on the Bill that became the Water-power Act 1903, to consider Maori rights to waterfalls (and by extension other stretches of river) as among those “rights lawfully held”. It would follow that there should be evidence in the Crown’s administrative records of an assessment as to whether or not the Crown could validly exercise its vested power in any particular circumstance. The evidence in this chapter, and evidence on the same subject submitted to other Tribunals, has found no such assessment. This demonstrates that the Crown consistently did not assess whether Maori rights to waters existed.

Both the Mangaweka and Taihape hydroelectric power schemes had precedent-setting aspects to the Crown’s administration of the waters vesting legislation. In particular, they determined that local authorities would not have to pay a rental to the Crown for the use of water for hydroelectric power generation. However, that does not detract from the Crown’s initial

Manawatu-Oroua Electric Power Board objecting to the national water conservation order application, undated (March 1985). Works and Development Head Office file 76/327000. Supporting Papers #1239-1369 at 1296.

¹⁰¹² Ministry of Economic Development, *Waters of national importance: identification of potential hydroelectric resources*, East Harbour Management Services Ltd for Ministry of Economic Development, Wellington, 2004. Not included in Supporting Papers.

decision to monetise the right it had vested in itself, and thereby generate an income stream from the vesting.

Besides failing to consider whether any lawful Maori rights might already exist when processing applications for licences to use water for hydroelectric power generation, or when deciding whether to use water for hydroelectric power generation itself, the Crown consistently failed to consult with Maori holding mana (arising from rangatiratanga authority) over those waters. There was no consultation with tangata whenua on the Hautapu River (the Taihape power scheme), the Mangawharariki River (the Mangaweka power scheme) or the Moawhango River (the Tongariro Power Development scheme). Even the consultation with Ngati Tuwharetoa, the iwi more affected than any other by the Tongariro scheme, and whose rights “lawfully held” to Lake Rotoaira had been recognised by the Crown, was flawed.

In the case of the two early twentieth century hydroelectric schemes at Mangaweka and Taihape, obstructions in the waterway (dam/weir) remain as a legacy today.

The Tongariro Power Development (TPD) has had a far more significant impact on Rangitikei River Maori than the Mangaweka and Taihape schemes. The two earlier schemes had little storage, and were more in the nature of run-of-the-river schemes, with water taken from a situation close to that of the natural river, and returned to the river shortly after. The Mangaweka scheme had a greater environmental impact than the Taihape scheme, because the discharge from the powerhouse was into the Rangitikei River via a new channel, and a part of the channel of the Mangawharariki Stream was bypassed and became dry as a result. The TPD both introduced water into the Moawhango catchment from another catchment, and diverted water out of the Moawhango catchment into another catchment. These are particularly damaging impacts to the mauri, or life-essence, of the Moawhango River, and represent a damaging hurt caused to the spiritual connection of Rangitikei River Maori¹⁰¹³ with their river as much as a physical hurt inflicted on the river itself. The Crown failed to recognise the insensitivity of its actions, and amplified that insensitivity by failing to involve Rangitikei River Maori in any shape or form while the TPD was being planned, constructed, and used to generate electricity during the first twenty years of its operation. There was neither active protection of the interests of Rangitikei River Maori, nor any opportunity

¹⁰¹³ In this context the term ‘Rangitikei River Maori’ includes Ngati Rangi with respect to any interests they may have in the Moawhango catchment.

provided for them to exercise kaitiakitanga for their waterway. Local government (Rangitikei-Wanganui Catchment Board and Regional Water Board) took its cue from central government, and equally failed to include or provide for Rangitikei River Maori.

Speculation about what the Crown's response to concerns of particular significance to Rangitikei River Maori would have been if it had consulted with them may not be helpful. However, the priorities of the Crown in the late 1950s and in the 1960s are clear enough. Electricity demand was expanding rapidly, and the Crown, which saw itself as the only player with the resources to respond, was struggling to keep up. Large development projects were needed to provide large blocks of electricity, and adverse environmental impacts were regarded as an inevitable and acceptable consequence, a sacrifice necessary to meet a greater good. If environmental concerns did not deflect the Crown from the course it took, it is unlikely that cultural concerns would have either.

Since 1999 or 2000, dealings by Rangitikei River Maori in connection with the operation of the TPD have been conducted in the context of the existence of a direct relationship between iwi and Genesis Energy. That has precluded the need for a relationship with the Crown on that specific matter. However, the need for a relationship with the Crown still exists with respect to the regulation by the Crown (and its delegated agency Manawatu-Wanganui Regional Council) of Genesis Power's ability to operate, and with respect to the ability of Rangitikei River Maori to exercise kaitiakitanga for the Moawhango River waterway. Iwi were not involved when Manawatu-Wanganui Regional Council undertook reviews of the conditions of consent, as allowed for by the consents every five years. Moawhango River matters that cannot be controlled through the relationship that iwi have with Genesis Energy, and that would need to be addressed by a relationship that tangata whenua as kaitiaki have with the Crown and its delegated agents, include nutrient runoff from agricultural land, access to the river, recreational use, and water use downstream of the dam.

While it is for Rangitikei River Maori to express their own feelings about the Crown's actions with respect to hydroelectric development in the Rangitikei catchment, it may be helpful to reflect on the views of Ngati Tuwharetoa presented in a statement to the resource consents Hearing Committee in 2000:

- (i) Ngati Tuwharetoa are angry and resentful that the hydro scheme was imposed upon them with no regard to the very negative consequences it

has had, and continues to have, for generations of Ngati Tuwharetoa people;

- (ii) Ngati Tuwharetoa lament the negative cultural effects on Ngati Tuwharetoa of the construction and ongoing operation of the Tongariro Power Development (TPD);
- (iii) Ngati Tuwharetoa acknowledge that the damage is done. The TPD will continue to sit astride their rohe for the foreseeable future, and there is a pragmatic recognition that the damage done to them and their **taonga** by the construction of the TPD is practically irreversible; and
- (iv) Ngati Tuwharetoa continue to resent the situation, and will continue to protest against their plight.¹⁰¹⁴

¹⁰¹⁴ Legal submissions of Ngati Tuwharetoa to TPD Consents Hearing Committee, 23 November 2000, paragraph 21, page 4. Supporting Papers to T Walzl, *Environmental Impacts of the Tongariro Power Development Scheme*, July 2006, Wai 1130 Doc #E12(c), Volume 2, pages 222-230, at page 227.

8. FLOOD PROTECTION AND RIVER CONTROL WORKS

8.1 Introduction

There have now been over sixty years of determined efforts to prevent riparian lands in the lower reaches of the Rangitikei River from being flooded. The whole of the river below Rewa has become primarily devoted to this one task. Crown money has been poured into flood protection works, supported by money raised from local ratepayers. While many of those works have, on more than one occasion, been lost to the river when it flooded, the resolve to control the river has never faltered.

River protection on the Rangitikei River has largely been a European obsession. Maori have been involved and affected to the extent that they are ratepayers, and when particular works have had an impact on the limited area of land that they still own alongside the river. To describe Maori involvement only in these terms is in itself a statement about the absence of a Maori dimension to the work that has been carried out. The mauri of the river has been completely overwhelmed by the control and protection works that have been carried out. Maori have been unable to exercise kaitiakitanga for their tupuna awa.

Flood protection measures have changed over the years. Today's large earthmoving machinery constructing substantial straight-lined ramparts, and rock riprap being trucked in from hard rock quarries many kilometres away, is far removed from the less substantial, even flimsy, measures of earlier years. Since engineers then had to rely on materials available at hand, macrocarpa trees were felled, willows were intertwined, and manuka mattresses were laid on which river gravels were piled.

Inevitably ambitions grew as technology made more substantial measures possible. This was assisted by political and administrative developments, with the establishment of a specific organisation responsible for river control works. The Soil Conservation and Rivers Control Act 1941 provided a statutory structure that was the impetus for the establishment of the Rangitikei Catchment Board in 1944. The Board employed engineering staff and had rating powers to develop protection works in a more coordinated fashion than the ad hoc small-scale efforts of earlier organisations such as county councils.

8.2 Nineteenth century interventions in the river channel

The consequences of a river that could rampage across the countryside during flood situations were not really appreciated by Crown agents and officials when they first arrived in the Rangitikei district. Having acquired the land on the true right (western) bank of the lower reaches of the Rangitikei River in 1849 (in the Rangitikei-Turakina Purchase), and the land on the true left (eastern) bank of the river in 1866 (in the Rangitikei-Manawatu Purchase), and having provided for the reserves for tangata whenua promised as part of those purchases, the Crown considered that it then had a blank canvas on which it could fashion its colonial settlement ambitions. The first surveyors saw a flat landscape intersected by the main river and smaller tributaries, and tended to divide the land into a series of sections with straight-line boundaries in an overall geometric pattern. Along the rivers and streams, the top of the bank that separated the flat country from the watercourse became the section boundary. Their motivation when choosing the section boundary was to allow the section to have access to water for stock, to enable as full use as possible to be made of fertile alluvial deposits, and to make available to settlers timber growing on the edge of the waterways. These factors encouraged the section boundary they chose to be located on a low bank close to the water's edge, rather than set back and located in relation to an historical riverbank that might have been the sign of a major flood in times past.

Only one example has been located of a surveyed set-back specifically related to Rangitikei River flooding. This was downstream of Bulls bridge on the true left (eastern) bank, where Sections 282 and 283 Town of Sandon were surveyed and reserved in 1879 for “the improvement and protection of the Rangitikei River”¹⁰¹⁵. Both sections fronted Pakapakatea Native Reserve (Section 138 Town of Sandon) that had been acquired from Maori owners by James Bull by that time. They appear to have been defined as a consequence of a re-survey of the river bank in 1878, because the Pakapakatea Native Reserve when originally defined was shown as having the riverbank as a boundary¹⁰¹⁶. The background to the separate

¹⁰¹⁵ Wellington plan SO 10965, and *New Zealand Gazette* 1879 pages 468-470. Supporting Papers #3013-3015. Section 283 Town of Sandon (in Block XV Rangitoto Survey District) was subsequently vested in Manawatu County Council, a step that may be related to the section being the site for the Council's metal crusher. *New Zealand Gazette* 1923 page 2258. Supporting Papers #3055.

¹⁰¹⁶ Wellington plan SO 11007 Sheet 1. Supporting Papers #3287.

A further plan showing the Native Reserves downstream of Bulls, prepared in 1877, is Wellington plan SO 10991 Sheets 1 and 3. This is easier to view, as it is a copy of the original redrawn in 1955. Supporting Papers #3285 and 3286.

definition and reservation of Sections 282 and 283 was not identified during research for this report.

Beyond that single example, the only known nineteenth century interventions in the river channel (i.e. the area not included in surveyed sections) were around river crossings, which are discussed in a separate chapter. A ferry operated at the mouth of the Rangitikei River from the late 1840s, to meet the needs of travellers between Wellington and Wanganui who used the beach as a highway. Named after its operator, Scotts Ferry needed little in the way of works in the riverbed to operate. Later a wharf was built to assist loading and unloading of coastal shipping vessels. The first bridge at Bulls was built in 1873. A railway bridge was constructed at Kakariki, and another road bridge was constructed at Onepuehu. Apart from the driving of piles, there was no change to the flow of the river or to the character of the riverbed. All the bridges and the coastal shipping ‘port’ were destroyed in the 1897 flood.

Apart from the rebuilding of bridges, there was little Crown intervention in the Rangitikei River arising from the 1897 flood. While it overwhelmed the property boundaries defining the riverbank, this was not seen as a matter requiring a collective government response. European settlers, and Maori inhabitants of the reserves provided under the land purchases, were largely left to muddle through on their own. The experience of the Ohinepuhiawe owners, described in the chapter on riverbed legalities, demonstrates the limited response of the Crown.

8.3 First Crown-approved river control works, 1917

As early as 1882 the Public Works Act had authorised bank protection measures or river diversion works required “for the safety or proper maintenance of any public work”. Such works were to be treated as public works themselves, and could thereby have public monies spent on them, subject to the notification of such works by the Governor¹⁰¹⁷. The Crown treated such works as a valid exercise of kawanatanga for the benefit of the whole community. There was no obligation written into the legislation to recognise the tino rangatiratanga rights of hapu that still existed after the land purchases, as provided for by the Treaty of Waitangi. The 1882 provision (carried through to and repeated in the Public Works Act 1908) was used for the first time in connection with the Rangitikei River in 1915.

¹⁰¹⁷ Section 126 Public Works Act 1882.

In January 1914 Rangitikei County Council wrote to the Minister of Public Works seeking central government assistance with the cutting of a diversion channel near Scotts Ferry. It wanted to divert the river through private land, in order to protect the road between Bulls and Scotts Ferry. In its request it described how the Rangitikei River had been “a menace to both Council and settlers” for many years, washing out roads and destroying many hundreds of acres of valuable land. The outer edge of a bend of the river, along which the road was built, was subject to erosion, and the Council wanted to cut through a narrow neck of land on the inside of the bend, and divert the river away from the bend altogether. However, local opinions differed on how effective such a diversion would be, and the Minister’s assistance was sought to arrange for a Government engineer to visit and report on the matter¹⁰¹⁸. The report from the District Engineer in Wellington agreed that a diversion cut was practicable and would provide some relief, though considered more substantial works were also necessary. He advocated that on the south (true left when facing downstream) bank there should be “a belt of shelter trees and willows, about two chains in width by about three miles in length, parallel to the line of diversion”, while the north (true right) bank needed reinforcing “by putting in at least six concrete pile groynes in the bend”¹⁰¹⁹. The Engineer in Chief supported this view, advising that in his opinion only temporary relief would be obtained if the river was diverted, as it would have a tendency to want to restore the meander pattern¹⁰²⁰. The two reports were sent to the County Council for its information¹⁰²¹.

Nothing further was heard from Rangitikei County Council for three years. In 1917 it arranged for a survey plan to be prepared that showed the changes to the meander pattern of the river in the Scotts Ferry / Tangimoana district since 1874¹⁰²². Later that year the County Council asked that the Governor notify the river diversion it had discussed in 1914 as a public work. It advised that Manawatu County Council had consented to the work being carried out,

¹⁰¹⁸ Notes of meeting, 27 January 1914, and County Clerk Rangitikei County Council to Minister of Public Works, 29 January 1914. Works and Development Head Office file 96/327000. Supporting Papers #2215 and 2216-2220.

¹⁰¹⁹ District Engineer Wellington to Engineer in Chief, 5 March 1914. Works and Development Head Office file 96/327000. Supporting Papers #2221-2224.

¹⁰²⁰ Engineer in Chief to Minister of Public Works, 19 March 1914. Works and Development Head Office file 96/327000. Supporting Papers #2225.

¹⁰²¹ Under Secretary for Public Works to Chairman Rangitikei County Council, 25 March 1914. Works and Development Head Office file 96/327000. Supporting Papers #2226.

¹⁰²² Wellington plan SO 17293. Supporting Papers #3295.

This plan relied on the river as plotted in 1874 possibly on plan SO 10258 Sheet 1, and the river as plotted in 1877 on plan SO 10989 Sheet 3, plus new survey work undertaken in 1917. Not included in Supporting Papers.

and the owner of the land had agreed to sell that portion of his land that would become located on the other side of the river as a result of the diversion, as well as the land required for the diversion cut¹⁰²³. There was no suggestion in the Council's request that the diversion of the river required consultation with or the consent of tangata whenua. Nor was that something that Crown officials considered, probably because the legislation was silent on the matter. When the officials advised the Minister, they told him that further information was necessary from Rangitikei County Council about what public work was in danger from the action of the river. They also recommended that the application be assessed by Crown Law Office to see if it was lawful to authorise a county council to carry out work situated in another county¹⁰²⁴.

Rangitikei County Council replied that the diversion was "necessary for the maintenance of a portion of the Bulls – Scotts Ferry Road". The river had encroached to within half a chain (10 metres) of the road, and its efforts to protect the road "during the past thirty years" had been only partially successful¹⁰²⁵. Crown Law Office advised that it was possible for a county council (in this case Manawatu) to authorise another county council (in this case Rangitikei) to carry out work in its district, and as Manawatu County Council had consented to the proposal a notification was "applicable in this case"¹⁰²⁶. The Governor's notification was then gazetted¹⁰²⁷. With the authority to undertake the diversion provided by the Crown, Rangitikei County Council then carried out the work to protect the road. So far as is known, the county ratepayers paid for it out of ordinary rates.

8.4 Prior to Rangitikei Catchment Board (established 1944)

After the bridging points (discussed in another chapter), it was the lowest reaches of the river that were of greatest concern to the European community. Individual landowners carried out works to protect their own properties, and the Rangitikei and Manawatu County Councils were concerned for roads and other community facilities. Greater central government involvement commenced in the mid 1930s, when the residents of Tangimoana lobbied for the

¹⁰²³ County Clerk Rangitikei County Council to Minister of Public Works, 11 September 1917. Works and Development Head Office file 96/327000. Supporting Papers #2227.

¹⁰²⁴ Under Secretary for Public Works to Minister of Public Works, 27 September 1917. Works and Development Head Office file 96/327000. Supporting Papers #2228.

¹⁰²⁵ County Clerk Rangitikei County Council to Under Secretary for Public Works, 4 October 1917. Works and Development Head Office file 96/327000. Supporting Papers #2229.

¹⁰²⁶ Crown Solicitor to Under Secretary for Public Works, 16 October 1917. Works and Development Head Office file 96/327000. Supporting Papers #2230.

¹⁰²⁷ *New Zealand Gazette* 1917 page 4229. Supporting Papers #3052.

protection of their settlement from a meandering river channel. A Public Works Department engineer reported in April 1934:

A cut was put through at Kapiro several years ago [the 1917 diversion], and appears to have been a success.

The river has been eating its way into the banks at the settlement for some years now, with the result that several sections have been washed away and several houses have had to be shifted back. At present it looks as if more houses will be endangered. The river is now eroding into the Forestry plantations, and quite a number of small trees have been lost already.

He proposed a diversion cut, noting that this was in tidal waters, and that tidal scour might prevent any new channel silting up. He added that “as the settlement is all Crown Land, and no local authorities are interested, it would seem that the Government would have to bear the cost alone”¹⁰²⁸. This was during the depression years, and the digging of the new channel was proposed as an unemployment scheme project¹⁰²⁹. However, the proposal did not proceed¹⁰³⁰.

In 1936 Rangitikei County Council started gathering public support for a proposal that the Government should be asked to undertake a comprehensive river control scheme for the lower Rangitikei River. It secured the consent of the Manawatu County Council, and organised two meetings of ratepayers, in June and August 1936. Before it had a chance to present its proposal to the Crown, Rangi Marumaru, Chairman of the Parewanui Maori Labour Committee (“duly affiliated to and registered under the constitution of the NZ Labour Party as endorsed by the 1936 Conference”), wrote to the Labour Government Minister of Public Works:

At the last meeting [of ratepayers in August], it was understood that the Chairmen of the Rangitikei and Manawatu Counties were to proceed to Wellington to interview the Government over the matter. But to the present we have heard nothing from either the Chairman of the Rangitikei County or the Chairman of the Manawatu County.

Therefore, on behalf of myself, a land owner, and other Maori and Pakeha land owners in the area where the work is required to be done, and supporters of our party, I beg to respectfully ask you to come and have a look at the places where the Rangitikei River is causing havoc to good land, and if allowed to continue next winter

¹⁰²⁸ District Engineer Wellington to Under Secretary for Public Works, 17 April 1934. Works and Development Head Office file 96/327000. Supporting Papers #2234-2237.

¹⁰²⁹ Engineer in Chief to Commissioner of Unemployment, 24 April 1934, and Commissioner of Unemployment to Engineer in Chief, 30 April 1934. Works and Development Head Office file 96/327000. Supporting Papers #2238 and 2239.

¹⁰³⁰ Under Secretary for Lands to Engineer in Chief, 18 April 1935. Works and Development Head Office file 96/327000. Supporting Papers #2240-2241.

there is every likelihood of the river breaking through, and quite near the Flock House station buildings.

The most vital points where the encroachment is greatest are on property owned by myself, by Mr W Homes, and by A Young. These people are all supporters of our party and are very loyal....

There is just one other thing I would like to say before closing, and that is to say that most of the settlers along the river would be agreeable to pay their rates to the Public Works Department if the Government will take over the proposed protection work on the Rangitikei River.¹⁰³¹

The Minister asked for a report from his Department, and the District Engineer in Stratford reported:

This lower Rangitikei River is a rapid stream which is constantly changing its course over a wide bed, and attacking its banks first at one point and then at another, and although some protective works have been carried out from time to time they have been dictated by the exigencies of the moment and are not necessarily contributions towards a final solution of the problem.

There is, therefore, a definite need for coordination of authority, and the development of a comprehensive scheme of river training works from Bulls to the sea, and possibly as far up as Rata, the effect of which would be not only to protect existing farm lands but eventually to reclaim considerable areas which have already been lost.

It is not suggested that a large programme of protective works should be launched immediately, but rather that a definite scheme should be prepared and worked to over a period of years, taking all possible advantage of the vagaries of the river.

Obviously the first step in this direction would be to place the whole of the river under one controlling authority, as at present the boundary between the Rangitikei and Manawatu Counties is in the centre of the river.¹⁰³²

The approach to the Minister of Public Works by the two County Councils was eventually made at Bulls in January 1937. At the meeting, the Minister told the County representatives that “it was proposed to station an Engineer at Palmerston North to study river control in that area, and arrangements would be made for that officer to report also on the Rangitikei River problem”¹⁰³³.

¹⁰³¹ Chairman Parewanui Maori Labour Committee to Minister of Public Works, 24 November 1936. Works and Development Head Office file 96/327000. Supporting Papers #2242-2247.

¹⁰³² District Engineer Stratford to Under Secretary for Public Works, 28 January 1937. Works and Development Head Office file 96/327000. Supporting Papers #2248-2249.

¹⁰³³ Minister of Public Works to Under Secretary for Public Works, 29 January 1937. Works and Development Head Office file 96/327000. Supporting Papers #2250.

The promised report from the Resident Engineer Palmerston North, known as the Grant report after the name of its author, did not become available until March 1939¹⁰³⁴. In background information in his report, the Resident Engineer stated that the 1897 flood had an estimated maximum flow at Bulls of about 150,000 cubic feet per second (cusecs), and that “subsequent floods, e.g. in 1902, 1936 were substantially lower than this”. It was the western slopes of the Ruahine Range, particularly the Kawhatau catchment, which contributed the bulk of the coarse shingle supply, and also had the highest annual rainfall:

The balance of the catchment, including the Moawhango and Hautapu Streams, drains from and through papa and conglomerate country. This area receives low rainfall.

The shingle was a problem from about 8 miles south of Bulls, as the grade of the river declined from a fairly uniform 12 feet per mile above that point to become almost flat when reaching tidal water about 15 miles south of Bulls at Tangimoana. In the final seven-mile stretch before reaching tidal water, three meanders slowed both water flows and shingle movement:

The main channel below Bulls is constantly changing its course. The river makes its way to the sea through wide deposits of its own shingle, and the channel is in many places broken up by islands large and small. There are also numerous other channels used only in flood. The main current frequently alters from one subsidiary channel to another, and will as quickly alter its course again, with continuing erosion and accretion to the low shingle banks adjoining. The shingle brought down is coarser and in larger quantity than the river can usually transport, and this is the main reason for the instability of the channel.... An examination suggests very strongly that the bed is rapidly rising and thus causing unstable conditions of flow....

There is no prospect that this tendency will decline, and means that any works to stabilise the current in one channel would have a very limited life. There is evidence on the ground that excessive deposits of shingle and sand dune encroachment have caused major alterations to the river course in the lower reaches. One old course is particularly well defined about 2 miles to the north of the present river near Flock House. Evidence of several other courses has been partly obliterated.¹⁰³⁵

Having set out the general conditions, Grant narrowed the extent of the problem requiring resolution, remarking that “there are no areas of river flats above Bulls that warrant flood protection”, and that “on the left bank below Bulls, no stopbanking is warranted”. The problems he identified were a combination of river channel movement and shingle build-up:

¹⁰³⁴ Report by Resident Engineer Palmerston North on Rangitikei River, 31 March 1939. Works and Development Head Office file 96/327000. Supporting Papers #2313-2323.

On the Head Office file, the Resident Engineer’s report has become separated from the covering letter it had when first received in Head Office. District Engineer Wellington to Under Secretary for Public Works, 6 April 1939. Works and Development Head Office file 48/10. Supporting Papers #796.

¹⁰³⁵ Report by Resident Engineer Palmerston North on Rangitikei River, 31 March 1939. Works and Development Head Office file 96/327000. Supporting Papers #2313-2323.

The lower valley is choked with shingle, the channel is unstable, and the whole aspect of the bed suggests strongly that it is being built up fairly rapidly. Measurements at Bulls and Greatford indicate a rise in the bed of nearly 3 feet in 40 years.

However, grandiose solutions were not the answer:

A proposal to restrict the wandering of the channel – to a width of 10 chains – would reclaim 1,130 acres of river bed at a cost of not less than £30,000. The work is far too costly and would not be permanent.

Instead, a more modest expenditure of “£5,000 on clearing scrub from the river bed would be very beneficial.” Grant felt that “as a matter of policy, the river should be left to wander over its present bed to raise the level of the whole width, with no heavy control into one channel until it is more entrenched”¹⁰³⁶.

Grant also recommended two cut-off channels be dug near Flock House (a property below Parewanui that had been acquired by the Crown) to reduce flood levels and lessen the tendency for shingle build-up, though subsequently noted that just before submitting his report, the river had adopted the line of one of these cut-off channels of its own accord. In his opinion, however, this was just an example of the unpredictability of the river, and the temporary nature of any of the river control works that were constructed¹⁰³⁷.

During the next twelve months, having furthered his understanding of the dynamics of the Rangitikei River, Grant wrote two more reports. On the first occasion he was asked to report on a new channel being cut by the river that threatened the road to Tangimoana, and stated:

This point is just above the upper limit of tidal influence, and therefore under flood conditions the velocity is unaffected by the tide.... The material is a friable sand clay and under the influence of a major bend in the Rangitikei River a considerable amount of erosion on the left bank has occurred. Over a length of 40 chains the river is very close to the [road]....

[On a recent inspection it was observed that] the current now shows a distinct tendency to swing away to the other bank, and a heavy deposit of coarse shingle has now been laid down inside the embayment. It would seem, therefore, that there is no immediate threat to the highway....

I conclude, therefore, that heavy protection works are premature at this stage, but I would recommend that the local authority controlling the highway (Manawatu County Council) be advised to establish willow along this bank and the recent accretion.

¹⁰³⁶ Report by Resident Engineer Palmerston North on Rangitikei River, 31 March 1939. Works and Development Head Office file 96/327000. Supporting Papers #2313-2323.

¹⁰³⁷ Report by Resident Engineer Palmerston North on Rangitikei River, 31 March 1939. Works and Development Head Office file 96/327000. Supporting Papers #2313-2323.

There is every prospect that this willow could be established before the river returns to the attack.¹⁰³⁸

On the second occasion, Grant reported on a flood event in February 1940:

At the Bulls bridge, flood levels were [at level] 136.6. This compares with 139.0 for the record floods of 17th April 1897. All levels are in terms of mean sea level.

From a comparison between a cross section of the river taken in 1938 with one taken in 1897, it is evident that the river bed has risen about 2.3 feet in this interval. Thus the 1940 [flood] ran shallower by 4.7 feet. Taking this into account, I estimate the 1940 flood as about 45% of the 1897 flood, or say about 70,000 cusecs. I have no information from which a more accurate assessment can be made¹⁰³⁹.

Flooding – Right Bank

In the lower reaches, the low-lying pasture lands adjoining the river were mostly flooded. Flood water covered Scotts Ferry Road for short distances above Flock House and for about 1¼ miles below. The inundation was not deep. The greater part of Flock House property between Scotts Ferry Road and the River was under water, and also some of area north of the end of this road.

I still consider that stopbank protection is not warranted, but in case this matter is ever brought up I have recorded the river flood level at various points.

Flooding – Left Bank

Floodwaters crossed the [road to Tangimoana] at a point just east of the Tangimoana School, but not to an extent to do any damage. Otherwise flooding was confined to low-lying river flats adjoining the river.

Erosion

When the previous report was prepared, it was recommended that a cut-off be constructed on the left bank at 10 [mile point below Bulls bridge] to eliminate a meander which was causing bad erosion on the Flock House property.

Subsequently the river cut through this meander, but on poor alignment. The river has now corrected this, and is now flowing on ideal alignment hard against the high bluff on the left bank. In view of this and the fact that the river may return later to the meander, the Flock House property should during the spring plant willow on the whole of the abandoned river bed.¹⁰⁴⁰

¹⁰³⁸ Resident Engineer Palmerston North to District Engineer Wellington, 8 January 1940, attached to District Engineer Wellington to Under Secretary for Public Works, 16 January 1940. Works and Development Head Office file 48/10. Supporting Papers #797-799.

¹⁰³⁹ Grant subsequently reported that river levels during the 1940 flood had been 21.10 feet lower than the 1897 level at Mangaweka, and 14.97 feet lower than the 1897 level at Vinegar Hill, so that “the recent flood was really of quite ordinary dimensions”. Resident Engineer Palmerston North to District Engineer Wellington, 20 March 1940, attached to District Engineer Wellington to Under Secretary for Public Works, 1 April 1940. Works and Development Head Office file 48/10. Supporting Papers #803-804.

¹⁰⁴⁰ Resident Engineer Palmerston North to District Engineer Wellington, 1 March 1940, attached to District Engineer Wellington to Under Secretary for Public Works, 7 March 1940. Works and Development Head Office file 48/10. Supporting Papers #800-802.

At the end of 1940 Rangitikei County Council again tried to interest central Government in addressing river control and flood protection on the Rangitikei River. The County Engineer described the Government's inaction as "fiddling while Rome is burning", and called out the Minister of Public Works for failing to follow through on promises he had made when he visited Bulls in 1937¹⁰⁴¹. In February 1941 the Minister replied that in 1937 he had promised that Grant would prepare a report, that the report had been written and had identified "remedial measures where they could be economically recommended", and that the Government was working on legislation to improve administrative arrangements for the control of various rivers¹⁰⁴². The legislation would be passed later that year as the Soil Conservation and Rivers Control Act.

A joint inspection by Rangitikei County Council and Public Works Department staff of the Flock House district in October 1943 caused some slight variation in views. The District Engineer commented:

Referring to Mr Grant's report, he shows that the home paddocks around Flock House are above flood level. (This was my opinion until recently.) Nevertheless recent floods which were at least 2 [feet] lower than what might be termed high flood in the Rangitikei River 15 miles upstream covered the area.

In view of flooding on the Crown-owned Flock House property, and on other lands south towards Scotts Ferry, which he estimated threatened some 2,000 acres of land, the District Engineer agreed that "a thorough investigation is necessary beyond that already carried out by Mr Grant"¹⁰⁴³. Following receipt of this report, the Department's Engineer in Chief made his own inspection of the Flock House district, and instructed that a field survey be prepared with a view to the construction of a stopbank between Flock House and Scotts Ferry, as "it is evident that the river is building up its bed fairly rapidly, and straightening of the river as much as is practicable is most desirable"¹⁰⁴⁴.

Members of the Soil Conservation and Rivers Control Council made their own inspection of the Flock House district in March 1944. The appointment of a Catchment Board was

¹⁰⁴¹ County Engineer Rangitikei County Council to Minister of Public Works, 18 December 1940. Works and Development Head Office file 48/10. Supporting Papers #805-809.

¹⁰⁴² Minister of Public Works to County Engineer Rangitikei County Council, 13 February 1941. Works and Development Head Office file 48/10. Supporting Papers #810.

¹⁰⁴³ District Engineer Wanganui to Under Secretary for Public Works, 15 October 1943. Works and Development Head Office file 48/10. Supporting Papers #811-812.

¹⁰⁴⁴ Engineer in Chief to District Engineer Wellington, 8 November 1943. Works and Development Head Office file 48/10. Supporting Papers #813.

discussed, but it was agreed that, while desirable and “the ultimate object of the district”, this would take time. A more immediate solution was needed in the meantime, such as a local rating district being formed and administered by Rangitikei County Council. The Soil Conservation and Rivers Control Council members explained that central Government money was limited, and local property owners would have to contribute to the cost of flood protection works¹⁰⁴⁵.

The field survey was completed later the same month. This showed that shingle deposition had built up the bed of the river to such an extent that even in small floods the channel banks were overtopped and floodwaters spread out on to surrounding farmland between Flock House and Scotts Ferry.

From an examination of the cross sections, the only comprehensive scheme appears to be one of control in a defined channel. Mr Grant in his report of 1939 does not favour this from an economical standpoint, but it is felt with the additional information now available, and if he spread the cost over the land safeguarded as well as the area which would be reclaimed, the merits of control are far more apparent.

With respect to one low-lying area, “the river has to rise only 2 feet, and about 50 acres of good flats are covered”. The “defined channel” being discussed was one where the channel was dug out and re-contoured for an even grade along its length, the banks of the new channel were raised and strengthened to accommodate higher volumes of water, and the river was encouraged by groynes to remain within the new channel and maintain sufficient velocity of flow to keep it scoured clear of any fresh shingle deposition that might block it. The proposal had been discussed with property owners who agreed to contribute if the Government provided a subsidy of £3 for every £1 raised locally. Total expenditure would be £9,000. Some of the local funding would also come from the Government, as 1190 acres of the 2790 acres that stood to benefit was “Government land controlled by the Agriculture Department”, being the Flock House property¹⁰⁴⁶.

The 3:1 subsidy arrangement on £9,500 (including £500 allowed for minor stopbanking) was approved by the Soil Conservation and Rivers Control Council in May 1944, with the raising of the local contribution the responsibility of the Rangitikei County Council¹⁰⁴⁷. At the same

¹⁰⁴⁵ Notes of meeting, 4 March 1944. Works and Development Head Office file 48/10. Supporting Papers #814.

¹⁰⁴⁶ Acting District Engineer Wanganui to Under Secretary for Public Works, 10 March 1944. Works and Development Head Office file 48/10. Supporting Papers #815-828.

¹⁰⁴⁷ Engineer in Chief to Acting District Engineer Wanganui, 4 May 1944. Works and Development Head Office file 48/10. Supporting Papers #830.

meeting, a 3:1 subsidy on £5000 was approved for channel protection and stopbanking (using weighted pine trees from a nearby plantation) on the opposite (left) bank of the river in Manawatu County¹⁰⁴⁸. This was the first Crown money put into river control on the Rangitikei River.

The Engineer in Chief's instructions for the work were:

[The design of the cut channel] is regarded as rather meagre to bring about scour in coarse shingle for the cut to develop quickly into the main channel, and therefore special assistance may have to be given to assist in this development. The cut should be excavated as deeply as possible and, if practicable, this extra depth could be obtained at the expense of narrowing the cut or steepening the batters....

The general scheme of work, to get as much benefit from the river as possible, should be to excavate a pilot channel to the neat proportions shown. After the first flood has been through it, return the bulldozer to it to widen where necessary and remove obstructions.¹⁰⁴⁹

When the Soil Conservation and Rivers Control Council's decision became known locally, there was concern by the property owners on the true left bank of the river, opposite where the stopbanking and channelling would be carried out, that the effect of the works would be to push the river towards the left bank and their lands. They sent a petition to the Minister of Works and the Control Council which stated that:

The river will by such cut be brought a considerable distance from its natural and present course towards our respective properties, thereby endangering the lands and rendering them liable to flooding and erosion; and we now give notice that in the event of the said lands being damaged or injured by reason of the proposed works, we hold you or such other Councils, Boards or persons from time to time controlling the execution of the said works, responsible for damage or injury to our respective lands¹⁰⁵⁰.

This was the first written expression of a recurring underlying preoccupation that continues to the present day, that any benefit to one set of landowners, or to one side of the river, would be to the detriment of another group of landowners, or to the other side of the river. The

¹⁰⁴⁸ Engineer in Chief to District Engineer Wellington, 4 May 1944. Works and Development Head Office file 48/10. Supporting Papers #829.

¹⁰⁴⁹ Engineer in Chief to District Engineer Wanganui, 13 June 1944. Works and Development Head Office file 48/10. Supporting Papers #831.

¹⁰⁵⁰ Petition of Rangitikei River true left (south) bank landowners, 26 June 1944, attached to Fitzherbert Abraham & Crossley, Barristers and Solicitors, Palmerston North, to Minister of Works, 27 June 1944. Works and Development Head Office file 48/10. Supporting Papers #832-833.

Minister merely acknowledged receipt of the petition, rather than responding to its substance¹⁰⁵¹.

8.5 Establishment of Rangitikei Catchment Board, 1944

The Rangitikei Catchment Board was constituted in December 1944¹⁰⁵², and held its first meeting in April 1945¹⁰⁵³. The following month the Board went on its first inspection tour of the Rangitikei valley, from the river's mouth to the Springvale bridge on the Napier-Taihape Road¹⁰⁵⁴.

The establishment of the Rangitikei Catchment Board ushered in a new era for the administration of flood protection on the Rangitikei River. Up to 1944 the key agencies involved were the Crown (Public Works Department) and the territorial local authorities. After the Board's establishment in 1944, County Councils ceased to be directly involved, and the Crown became one step removed from a direct involvement. The Catchment Board assumed the direct responsibility, subject to technical review of its operations by Public Works Department engineers. Financially the Crown provided subsidies through the Soil Conservation and Rivers Control Council for protection works approved by the Council, which the Catchment Board applied for. The Board was able to directly rate landowners in the catchment for the local contribution to subsidised operations. Getting the new rating system designed and accepted by ratepayers was a part of the bedding in of the new administration.

In addition to the element of financial control, the Crown stayed closely involved with Catchment Boards through representation on the membership of the Board. The Rangitikei Catchment Board was made up of ten elected members¹⁰⁵⁵ and five Crown appointees¹⁰⁵⁶. The Crown appointees were the Resident Engineer of the Public Works Department, and officers from the State Forest Service, Department of Agriculture, Department of Lands and Survey, and Department of Scientific and Industrial Research. The administrative structure

¹⁰⁵¹ Minister of Works to Fitzherbert Abraham & Crossley, Barristers and Solicitors, Palmerston North, 25 July 1944. Works and Development Head Office file 48/10. Supporting Papers #834.

¹⁰⁵² *New Zealand Gazette* 1944 pages 1503-1504 and 1504-1505. Supporting Papers #3086-3087 and 3087-3088.

¹⁰⁵³ *New Zealand Gazette* 1945 page 386. Supporting Papers #3090.

¹⁰⁵⁴ *Taihape Times*, 28 May 1945. Copy on Works and Development Head Office file 48/10. Supporting Papers #837.

¹⁰⁵⁵ *New Zealand Gazette* 1944 pages 1503-1504. Supporting Papers #3086-3087.

¹⁰⁵⁶ *New Zealand Gazette* 1945 page 384. Supporting Papers #3089.

was designed to allow the Catchment Boards to operate freely, though only within certain Crown-set bounds.

During the period immediately after the Board's establishment in 1944-45, the Public Works Department continued to play a large role. The Board's first appointee as Engineer filled that role in a part-time capacity only – he was also the Rangitikei County Engineer. It was the Public Works Department that carried out the work on the flood protection project that had been approved in 1944¹⁰⁵⁷. In a report on the work in August 1946, after it had been completed, the Resident Engineer in Wanganui commented:

The position today can be considered generally satisfactory, nevertheless it must be realised that the continued success of the work depends on constant maintenance, particularly the clearing of logs which might become stranded in the cuts, thereby causing increased meanders with serious consequences not only to the cuts themselves but the possibility of diverting the stream back into its old channels. Therefore it must be impressed upon the settlers that constant vigilance is necessary; also that the planting which has been done must be consolidated....

The time has now arrived when it is essential that the maintenance be assumed by some controlling authority, which it is felt should be the Rangitikei Catchment Board, but as far as this Department is concerned, as the work was initiated by [Rangitikei County Council], it is felt that [the Council] should take the necessary steps.¹⁰⁵⁸

These remarks indicate the extent of the maintenance burden that the new Rangitikei Catchment Board would be taking on, and that was just with respect to normal flows and minor freshes in the river. Clean-ups and reinstatements after larger floods would add a further and more substantial dimension to the task of maintaining the river protection works in good order. However, maintenance was regarded as a local responsibility by the Soil Conservation and River Control Council:

As to maintenance monies, the [Soil Conservation and Rivers Control] Council would not find money for routine maintenance, but if future development of the cut requires further substantial work to be done the Council would no doubt readily assist as it has done in the past.¹⁰⁵⁹

The stage was being set for some original thinking on the part of the Catchment Board to justify works as new work or repair of major flood damage, thereby attracting Crown

¹⁰⁵⁷ Resident Engineer Wanganui to Chairman Soil Conservation and Rivers Control Council, 11 May 1945. Works and Development Head Office file 48/10. Supporting Papers #835-836.

¹⁰⁵⁸ Resident Engineer Wanganui to Chairman Rangitikei County Council, 21 August 1946. Works and Development Head Office file 48/10. Supporting Papers #842-850.

¹⁰⁵⁹ Chairman Soil Conservation and Rivers Control Council to District Engineer Wellington, 17 September 1946. Works and Development Head Office file 48/10. Supporting Papers #851.

subsidy, rather than as routine maintenance the costs of which would be borne solely by local ratepayers.

In the initial years of the Rangitikei Catchment Board, it was important for the Board to persuade local residents of the worth of the work it was doing, and to develop a community understanding that the threat posed by the river should be looked at as a whole rather than as a series of isolated local problems. This resulted in production of a pamphlet in 1948. Reflecting its production in the aftermath of the Second World War, *At war with a river* adopted a militaristic tone, regarding river control as a tactical battle against a wily foe¹⁰⁶⁰. The defence against the attacker had to be on two broad fronts:

- Slowing the amount and rate of runoff from the land, through retaining protection forests, improving forest health by controlling threats such as deer and goats, retiring unproductive land from grazing, controlling the burning of tussocks, maintaining rabbit control, improving the density of the grass sward, planting trees to hold hillsides, planting willows and building debris dams to protect riverbanks, improving soil structure, and constructing ponding areas and dams to hold back floodwaters.
- Allowing the river to have “an unrestricted passage along a controlled and defended corridor to the sea”, by preserving a wide enough channel to take floodwaters, keeping the channel clear of tree and other vegetation growth that would hinder water flow, and strengthening the banks of the channel against erosion¹⁰⁶¹.

With the local circumstances of the Rangitikei River in mind, *At war with a river* advocated a meander channel so that the river would run “in a series of very gradual curves, in preference to a sharp zig-zag course”. It was necessary to prevent the river wandering at will, as this would allow the bed to aggrade with the deposit of gravels. By contrast a river “under control” would remain in and continually scour out and degrade its narrowed channel. Bank protection strengthened the weak spots between hard high banks not subject to erosion. Planting of willows in particular, plus other species such as poplar, macrocarpa and eucalypts, and protecting them from being eaten by stock, was the main method of bank protection. Stone groynes were costly and could only be justified where the current was very swift, and a breakout through a bank would have serious consequences. Because willows

¹⁰⁶⁰ RF Scott, *At war with a river*, 1948. Rangitikei Catchment Board Publication No. 1. Supporting Papers #6361-6368.

¹⁰⁶¹ RF Scott, *At war with a river*, 1948, pages 4 and 9. Rangitikei Catchment Board Publication No. 1. Supporting Papers #6361-6368 at 6364 and 6366.

would not grow in seawater or brackish water, the tidal part of the river was best dealt with by dredging a straight outlet to the sea supported by embankments at danger spots¹⁰⁶².

At war with a river had one paragraph about Maori land:

There is the problem of the native land. This is generally the best of the land and where the least protective work has been carried out. That is not the fault of the native owners, because in years gone by it may have belonged to two or three people. Today, after several divisions among their families, each owner may have less than an acre and be an absentee owner.¹⁰⁶³

The pamphlet concluded with a call to arms:

In conclusion, in this war with a river, there will be, as in all wars, many armchair strategists who would profess to know more than the man on the spot of what should, and how it should, be done. There are two things I would ask them to remember – firstly, the terrific force and power of a river in high flood; and secondly, that the band of engineers, soil conservators and others, who have to direct the fight, are men who make such work their profession....

To all those front-line settlers on the rivers, many of whom occupied the front line in another war, I would ask them to remember how they used to take pride in making their particular section of the line stronger, safer and better to resist attack – to them I say “Carry on!” To all those settlers in the hill country, the heads of the rivers and their tributaries, the old pioneer’s advice still stands – “Plant trees for your lives.”

Until such time as many of these defences and others are functioning, the river will be able to claim that it is the master and not the servant of man.¹⁰⁶⁴

Since the early 1950s there has been a continual series of schemes for the coordinated development of protection works that would constitute a barrier to the lower river overtopping its banks and flooding surrounding countryside. The series of schemes were:

- First scheme approved 1952, for 10-13 years of works;
- Scheme No. 2, approved 1965 and intended to continue to 1981, but then extended while a new scheme was being prepared;
- Consolidation Scheme, approved 1983;
- Review No. 3, completed in 1994;
- Review No. 4, completed in 2010.

¹⁰⁶² RF Scott, *At war with a river*, 1948, pages 9-11. Rangitikei Catchment Board Publication No. 1. Supporting Papers #6364-6368 at 6366-6367.

¹⁰⁶³ RF Scott, *At war with a river*, 1948, page 10. Rangitikei Catchment Board Publication No. 1. Supporting Papers #6364-6368 at 6367.

¹⁰⁶⁴ RF Scott, *At war with a river*, 1948, page 12. Rangitikei Catchment Board Publication No. 1. Supporting Papers #6364-6368 at 6368.

Each of the schemes is examined in turn below.

8.6 The first Rangitikei River Scheme, 1952

The first steps in coordinated management were taken in the early days of Rangitikei Catchment Board's existence. As early as January 1947 it had defined the boundaries and basic intent of the scheme, as a result of a report it had received from a consulting engineer¹⁰⁶⁵:

It is not considered that any major problem will occur above Rewa (near Hunterville on the left bank), and that it will only be necessary to take into consideration the length from Rewa to the sea-coast, a distance of about 48 river miles.¹⁰⁶⁶

Aerial photographs showed the river flowing in "a series of S bends", creating erosion points "when pressure is exerted on the curves, especially during flood periods". The channel also had numerous islands of shingle and other debris, lowering the rate of flow and causing braiding:

The Board is of the opinion that the only effective scheme for controlling the river is to fix the boundaries of a meander course and to institute a long term planting policy with the ultimate object of having the banks adjacent to this course firmly established in trees. In addition, works will have to be carried out in the river bed from time to time to assist the water to flow into a central channel.¹⁰⁶⁷

A ten-year programme of work was proposed, for which the Catchment Board sought a £5 for £1 subsidy from the Crown.

The engineer who had prepared the major report on the river in 1939 was by this time the Engineer (i.e. chief technical advisor) to the Soil Conservation and Rivers Control Council. He was therefore familiar with the Rangitikei River when he made his comments on the Catchment Board's proposals:

Except for major items such as cuts at Tangimoana, the scheme is to maintain river in better condition by clearing shoals and debris, by an organisation built round bulldozer equipment.

¹⁰⁶⁵ HR Farquhar, Consulting Engineer, Palmerston North, to Chairman Rangitikei Catchment Board, 29 April 1946, attached to Clerk Rangitikei Catchment Board to Chairman Soil Conservation and Rivers Control Council, 4 February 1947. Works and Development Head Office file 48/10. Supporting Papers #852-859 at 854-859.

Wanganui Chronicle, 24 January 1947. Copy on Works and Development Head Office file 48/10. Supporting Papers #860.

¹⁰⁶⁶ Rangitikei Catchment Board to Chairman Soil Conservation and Rivers Control Council, 4 February 1947, attached to Clerk Rangitikei Catchment Board to Chairman Soil Conservation and Rivers Control Council, 4 February 1947. Works and Development Head Office file 48/10. Supporting Papers #852-859 at 853.

¹⁰⁶⁷ Rangitikei Catchment Board to Chairman Soil Conservation and Rivers Control Council, 4 February 1947, attached to Clerk Rangitikei Catchment Board to Chairman Soil Conservation and Rivers Control Council, 4 February 1947. Works and Development Head Office file 48/10. Supporting Papers #852-859 at 853.

As channel gradually improves, the Board would build up accretion by planting with willow and poplar.

I consider it probably the best method to handle a river of this character, although it is in the nature of [being] major maintenance.

The plantations would not be wholly successful and would have to be supplemented by local protection works. Nevertheless, there would be gradual improvement.

I would recommend Council offer subsidy year to year on basis of £3 for £1. Ask Catchment Board to review on this basis. The work should be given a trial, and reviewed at end of 12 months.¹⁰⁶⁸

The Council accepted this recommendation at its March 1947 meeting¹⁰⁶⁹.

When the Catchment Board explained its proposals, and the reduced subsidy, to a public meeting of affected landowners at Bulls in June 1947, it was told that the Board should be more ambitious in its thinking, and be prepared to spend more than it had budgeted for¹⁰⁷⁰. This, however, was before the Catchment Board had decided what part of the district would be subject to a special rate, how the rating district would be split into separate classification areas subject to different levels of rating according to the degree of benefit received, what rates would be struck in each classification area, and what proportion of the protection work would be financed by rates rather than by loans. These decisions were made later, and the affected landowners at the June 1947 meeting did not have full information when making their comments.

The Catchment Board provided the Soil Conservation and Rivers Control Council with an update in October 1947 in the form of a “general specification”. The work to be undertaken was split into six categories:

- Planting both edges of the river channel with a minimum width of one chain of willows, poplars, pines and deciduous trees, plus fencing;

¹⁰⁶⁸ File note by AP Grant, 28 February 1947. Works and Development Head Office file 48/10. Supporting Papers #861-862.

¹⁰⁶⁹ Excerpt from minutes of meeting, 6 March 1947, on HR Farquhar, Consulting Engineer, Palmerston North, to Secretary Soil Conservation and Rivers Control Council, 14 February 1947. Works and Development Head Office file 48/10. Supporting Papers #863.

¹⁰⁷⁰ *Wanganui Herald*, 10 June 1947. Copy on Works and Development Head Office file 48/10. Supporting Papers #864.

- Protection works along the banks, consisting of groynes, live willows and/or poplar poles, and willow trees overlaid with macrocarpa, all trees to be well anchored to prevent lifting and removal by floods;
- Clearing all growth and obstructions on islands;
- Excavation of small cuts, pilot channels or diversions “to induce the river to flow within the boundaries of the approved channel”;
- Erection of stone, timber or live willow groynes into the waterway “to coax the river into new channels, or to protect weak or threatened areas”;
- Improvement of existing small courses within the approved channel, and closing off undesirable courses¹⁰⁷¹.

At this stage, before the Catchment Board had made any further progress with the preparation of its overall flood protection scheme, the Maori Affairs Department asked for some flood protection measures at Te Reureu:

A number of Maori settlers are farming on the Reureu block on the south side of the Rangitikei River about 8 miles from Halcombe. Some of these properties are affected by flooding and erosion by the Ruamahanga and another stream nearby.

I shall be pleased if you will have the matter investigated with a view to remedial measures being taken to prevent flooding and further erosion.¹⁰⁷²

Two months later, in further explanation, it was clarified that there were concerns for Ohinepuhiawe lands as well, which were subject to erosion by the Rangitikei River. Some details about erosion caused by side streams at Te Reureu were also provided:

1. Waters flowing from hill on opposite side of road, causing extensive erosion and shingle deposits on Reu Reu No. 1 Sections 17B3 and 17C.
2. Creek crossing road and running through Reu Reu No. 1 Section 15C3 to Rangitikei River.
3. Reu Reu No. 1 Sub 1A is subject to erosion by watershed from property across new road farmed by a Mr Price.¹⁰⁷³

Although the District Engineer in Wanganui was asked for a report, no response from him has been located during research for this report.

¹⁰⁷¹ Rangitikei River Control Scheme General Specification, 1 October 1947, attached to District Engineer Wanganui to Chairman Soil Conservation and Rivers Control Council, 21 October 1947. Works and Development Head Office file 48/10. Supporting Papers #865-866.

¹⁰⁷² Under Secretary for Maori Affairs to Chairman Soil Conservation and Rivers Control Council, 13 February 1948. Works and Development Head Office file 48/10. Supporting Papers #868.

¹⁰⁷³ Under Secretary for Maori Affairs to Chairman Soil Conservation and Rivers Control Council, 8 April 1948. Works and Development Head Office file 48/10. Supporting Papers #869-870.

The next step in the preparation of the overall control scheme for the lower Rangitikei River was an engineering report written by the Rangitikei Catchment Board's Engineer in December 1949¹⁰⁷⁴. However, while the Catchment Board might have thought that this report would gain the approval of the Soil Conservation and Rivers Control Council, the Council decided only to approve it in principle, "subject to approval of detailed sectional engineering proposals and the submission of a full economic report"¹⁰⁷⁵. The Board's engineer reacted with some comments¹⁰⁷⁶, but the Council's engineer remained unconvinced that a "meander scheme" would suffice¹⁰⁷⁷. The Catchment Board supplied the economic report, and production increase report, in December 1950¹⁰⁷⁸.

In March 1951 Rangitikei Catchment Board adopted the different components of the control scheme documentation (i.e. revised engineering proposals and estimate of cost, phasing of the work, economic report, and local rating), and sought the approval of the Soil Conservation and Rivers Control Council to the scheme and the rate of Crown subsidy¹⁰⁷⁹. An engineer briefed the Council:

It is considered that the engineering proposals covered herein are necessary to prevent further deterioration of very good agricultural lands and to increase production, that the engineering proposals are adequately designed, and, together with soil conservation measures in the headwaters, should satisfactorily control the flooding. It is considered that there is ample justification for the scheme on economic grounds, both locally and nationally. It is considered that the district could reasonably bear approximately one quarter share of the capital cost of the works, but that any heavier local contribution would probably be beyond the capacity of the district under present land use....

¹⁰⁷⁴ Engineer Rangitikei Catchment Board to Chairman Soil Conservation and Rivers Control Council, 2 December 1949. Works and Development Head Office file 48/10. Supporting Papers #893-903.

¹⁰⁷⁵ Excerpt from minutes, 7 December 1949, on Engineer Rangitikei Catchment Board to Chairman Soil Conservation and Rivers Control Council, 2 December 1949; and Chairman Soil Conservation and Rivers Control Council to Chief Engineer Rangitikei Catchment Board, 15 December 1949. Works and Development Head Office file 48/10. Supporting Papers #893-903 at 893; and 904-906.

¹⁰⁷⁶ Engineer Rangitikei Catchment Board to Chairman Soil Conservation and Rivers Control Council, 31 January 1950. Works and Development Head Office file 48/10. Supporting Papers #908-911.

¹⁰⁷⁷ File note, 10 March 1950, on Engineer Rangitikei Catchment Board to Chairman Soil Conservation and Rivers Control Council, 31 January 1950. Works and Development Head Office file 48/10. Supporting Papers #908-911 at 910.

¹⁰⁷⁸ Rangitikei River Control Scheme economic report, 2 December 1950, attached to Engineer Rangitikei Catchment Board to Chairman Soil Conservation and Rivers Control Council, 2 December 1950; and Engineer Rangitikei Catchment Board to Chairman Soil Conservation and Rivers Control Council, 7 December 1950. Works and Development Head Office file 48/10. Supporting Papers #914-921 and 923.

Rangitikei River Control Scheme: analysis of land use, gross production and production increases likely from above Scheme, 13 December 1950. Works and Development Head Office file 48/10. Supporting Papers #924-928.

¹⁰⁷⁹ Engineer Rangitikei Catchment Board to Chairman Soil Conservation and Rivers Control Council, 5 March 1951. Works and Development Head Office file 96/327000. Supporting Papers #2251-2252.

It is considered that before such a major river work is commenced, adequate arrangements must first be made to ensure that maintenance will be carried out; not only to ensure that the whole scheme operates for all time as designed, but also steadily to improve the safety factor of the project and to protect Government funds invested.

Within a few years of the commencement of the work, annual expenditure on maintenance will exceed annual repayments on the works loan. It is therefore considered necessary that a fixed rate of subsidy be approved before any capital work is commenced, so that the Board will be enabled to rate for maintenance from the commencement of the work.

The engineer therefore recommended approval of the scheme at an estimated cost of £160,750 and with a Crown subsidy on a £3 for £1 basis, completion over a ten-year period, an annual cash payment of £500 in lieu of Crown-owned land that was exempt from rates (specifically Flock House farm, Parewanui land development block, Ohakea airbase and some Forestry land), and ordinary maintenance subsidised on a 1:1 basis¹⁰⁸⁰. The Council approved his report and recommendation at its June 1950 meeting¹⁰⁸¹.

The Soil Conservation and Rivers Control Council's approval could not be transmitted to Rangitikei Catchment Board immediately, as the expenditure of Government funds also required Treasury approval and the approval of the Commissioner of Works. In addition, because of the total size of the Crown contribution, some officials (though not all) thought that Cabinet should give its approval. While awaiting those approvals, the Council assured the Catchment Board that its commitment to a 3:1 subsidy made in March 1947 still stood, and that "monetary authority [of up to £4000 per annum] will be available under this scheme until it is superseded by the new scheme"¹⁰⁸².

While the Commissioner of Works favoured granting approval, he had discussed the matter with the Minister of Works, and was aware that there were some doubts about granting approval among members of Cabinet (including doubts held by the Minister himself). When Treasury advised that there did not seem to be any necessity to obtain Cabinet approval,

¹⁰⁸⁰ Soil Conservation Engineer to Chairman Soil Conservation and Rivers Control Council, undated (approximately May/June 1951). Works and Development Head Office file 96/327000. Supporting Papers #2253-2261.

¹⁰⁸¹ Excerpt from minutes of meeting, 9 June 1951, on page 8 of Soil Conservation Engineer to Chairman Soil Conservation and Rivers Control Council, undated (approximately May/June 1951). Works and Development Head Office file 96/327000. Supporting Papers #2253-2261 at 2260.

¹⁰⁸² Chairman Soil Conservation and Rivers Control Council to Secretary Rangitikei Catchment Board, 24 August 1951. Works and Development Head Office file 96/327000. Supporting Papers #2266.

officials backtracked from taking that step¹⁰⁸³. They also decided to wait until after the 1951 General Election because of the Minister's objections "and the uncertain political situation"¹⁰⁸⁴. After the election brought a change of Government, it seems that the policy also changed and a Cabinet decision would now be necessary. In December 1951 the new Cabinet considered the narrower matter of a Crown grant in lieu of Flock House not being rateable, and agreed in principle to a grant of £600, at the same time declaring that this decision did not commit the Government to supporting or funding the overall control scheme¹⁰⁸⁵. This still left the matter of what Treasury would recommend to the Minister of Finance in the lead-up to Cabinet consideration. In January 1952 the Commissioner of Works urged approval¹⁰⁸⁶, and Treasury agreed to support the scheme, subject to the basis of subsidy being reduced from 3:1 to 5:2, to there being no subsidy on maintenance expenditure, and to the work programme being spread over a slightly longer period of 12 years instead of 10 years. Its justification for the reduction in Crown expenditure was that after discounting the special case of Flock House (which had been dealt with separately), there were few Crown assets that would benefit, as compared to other schemes elsewhere in New Zealand that had been approved¹⁰⁸⁷. Some of the Crown assets on the Rangitikei River, such as railway and road bridges, were assessed as being able to withstand the scheme's design flood of 70,000 cusecs¹⁰⁸⁸, only being at risk in flood volumes larger than that, and would therefore not benefit from the level of protection that the scheme was designed to provide.

In March 1952 a paper was prepared for the Minister of Works to take to Cabinet recommending approval of the financial arrangements as amended by Treasury's views¹⁰⁸⁹. Cabinet agreed later that month¹⁰⁹⁰. With Cabinet approval secured, the Soil Conservation

¹⁰⁸³ Commissioner of Works to Mr Adams, 26 July 1951. Works and Development Head Office file 96/327000. Supporting Papers #2264.

¹⁰⁸⁴ Soil Conservation Engineer to Commissioner of Works, 14 August 1951. Works and Development Head Office file 96/327000. Supporting Papers #2265.

¹⁰⁸⁵ Secretary of the Cabinet to Minister of Agriculture, 18 December 1951. Works and Development Head Office file 96/327000. Supporting Papers #2267.

¹⁰⁸⁶ Commissioner of Works to Secretary to the Treasury, 11 January 1952. Works and Development Head Office file 96/327000. Supporting Papers #2268-2269.

¹⁰⁸⁷ Secretary to the Treasury to Chairman Soil Conservation and Rivers Control Council, 24 January 1952. Works and Development Head Office file 96/327000. Supporting Papers #2270.

¹⁰⁸⁸ The design flood of 70,000 cusecs was believed to represent a flood of at least 25 years periodicity, and probably between 30 and 40 years. Senior Engineer to Chief Investigations Engineer, 25 July 1951. Works and Development Head Office file 96/327000. Supporting Papers #2262-2263.

¹⁰⁸⁹ Chairman Soil Conservation and Rivers Control Council to Minister of Works, 21 March 1952. Works and Development Head Office file 96/327000. Supporting Papers #2271-2279.

¹⁰⁹⁰ Secretary of the Cabinet to Minister of Works, 1 April 1952. Works and Development Head Office file 96/327000. Supporting Papers #2280.

and Rivers Control Council approved the scheme in terms of Section 128 Soil Conservation and Rivers Control Act 1941¹⁰⁹¹, and this was endorsed by the Minister of Works in May 1952 pursuant to the same section of the Act¹⁰⁹². Rangitikei Catchment Board was then informed¹⁰⁹³.

Throughout the whole process of Catchment Board preparation and Crown approval, there had not been a single reference to the relationship of Rangitikei River Maori with their tupuna awa, to Maori ownership of riverbank land, to consultation with Maori, or to the effect of the scheme on tangata whenua once it went ahead. The scheme was considered only in terms of river engineering technicalities, and in financial terms.

Approval of the scheme ended ad hoc financing of individual projects on a case-by-case basis. Thereafter, all funding approvals were considered to be the spending of a portion of the \$160,750 total cost of the scheme, and projects were judged on the basis of their place in the scheme's programme of works and their impact on the scheme as a whole. The only exception was approvals for repairs to protection works damaged by flooding, which being emergency works were subsidised by the Crown 3:1. Because there was no Crown subsidy on maintenance works, meaning that the full cost had to be found from local funding, the Catchment Board became proficient at taking advantage of the Crown's procedures to maximise the amount of work that was attributable to flood damage. This was probably with the willing cooperation of the Crown engineers who favourably processed the numerous applications received.

A description of the flood protection scheme in 1957 explained:

The scheme is designed to control the river from Rewa village to the sea, a distance of 39 river miles. From Rewa northwards the river presents few problems as it flows through high country and is bounded by precipitous high banks often over 200 feet in height, with only occasional river flats. From Rewa to the sea the adjoining country gradually falls in height and the width between the step banks widens considerably. The river slowly changes from a well defined channel with steep banks of hard material to a meandering course traversing relatively flat country of an alluvial nature.

¹⁰⁹¹ Resolution of Soil Conservation and Rivers Control Council, 22 April 1952, on Secretary of the Cabinet to Minister of Works, 1 April 1952. Works and Development Head Office file 96/327000. Supporting Papers #2280.

¹⁰⁹² Chairman Soil Conservation and Rivers Control Council to Minister of Works, 8 May 1952, approved by the Minister 15 May 1952. Works and Development Head Office file 96/327000. Supporting Papers #2281.

¹⁰⁹³ Chairman Soil Conservation and Rivers Control Council to Secretary Rangitikei Catchment Board, 19 May 1952. Works and Development Head Office file 96/327000. Supporting Papers #2282.

The river banks on this length are subject to severe erosion and many hundreds of acres of good land are endangered by flooding.¹⁰⁹⁴

The work consisted of:

- Defining the meander channel;
- Clearing it of gorse, willows and lupins and stabilising it with belts of willows on either side;
- Controlling bank erosion by means of anchored and weighted trees;
- Correcting alignment by means of pilot cuts;
- Preventing flooding by means of stopbanks to contain floods of 70,000 cusecs with 2 [feet] freeboard between Kakariki and Bulls, and 3 [feet] below Bulls;
- Improving drainage by the construction of 10 miles of main drains.
- Two special works, being the protection of McKelvie's Bend and Okanagan village.¹⁰⁹⁵

The description continued:

During the past five years vegetation has been cleared from the channel below Bulls, and armoured training banks built to define the course over most of this length. Much of the willow planting has been done, and the works to protect McKelvie's and Okanagan completed. Upstream of Bulls eroding banks have been protected, and some training works carried out....

A feature of the type of construction used is that as the river is induced to adopt the desired channel, further strengthening and extension of the control works is necessary. As work extends, more and more of this type of activity becomes necessary and absorbs an ever increasing proportion of the rate revenue. This is a handicap with schemes financed

¹⁰⁹⁴ File note, undated (between March and June 1957). Works and Development Head Office file 96/327000. Supporting Papers #2283-2284.

¹⁰⁹⁵ File note, undated (between March and June 1957). Works and Development Head Office file 96/327000. Supporting Papers #2283-2284.

from revenue and, following a flood in July 1956, the Board had to raise a small loan to eke out its rate revenue.¹⁰⁹⁶

A table in the chapter of this report concerned with flooding indicates that a flood in 1958 was the third largest since the major flood in 1897. It severely tested the flood protection works, and overwhelmed them in some places, resulting in some flooding. The Catchment Board's Engineer reported on the 1958 flood:

Onepuhi to Bulls reach – fairly extensive flooding of the lower flats occurred, some 800-1,000 acres being so affected.

Bulls to Sea reach – In this reach a total area of over 4,000 acres was flooded, and of this area some 2,000-2,500 acres lay at the lower end of Parewanui Road, from and including Flock House seawards. Flooding in the last-mentioned area, in particular, was the worst for many years, being influenced by the advent of spring tides and a relatively prolonged flood crest.

Townships – Both Tangimoana and Okanagon suffered inundation of a substantial proportion of the settlement in each case....

Apart from the fact that any major flood has its own significance, this flood approached the design figure of 70,000 cusecs, and is therefore of special interest in relation to the general performance of the Control Scheme, and the works which have been carried out over the past nine years. In general, it may be said that, consistent with the scheme's progress to date, such performance has been satisfactory and that no single item of additional major damage has occurred to the works. As might be expected, there are a number of instances of relatively minor flood damage to works at rather scattered points, and further deterioration in existing weak areas....

Appreciable flooding occurred but, with various exceptions, for instance in parts of the lower Parewanui area where stopbanking proposals are yet to be carried out, the Control Scheme was designed primarily with the objects of improving channel alignment, controlling bank erosion, certain drainage improvements, and prevention or reduction of flooding by means of the channel improvements together with a limited system of stopbanking. Such a policy has been dictated by the economics of the scheme in relation to flood frequencies, possible damage, etc, and can no doubt be reviewed within reason as the Scheme develops, the primary essential being to first obtain reasonable control of the river channel.¹⁰⁹⁷

By 1959 the Soil Conservation and Rivers Control Council was becoming increasingly concerned at the amount of flood damage it was having to regularly subsidise, and it wrote to the Rangitikei Catchment Board:

¹⁰⁹⁶ File note, undated (between March and June 1957). Works and Development Head Office file 96/327000. Supporting Papers #2283-2284.

¹⁰⁹⁷ Report by Engineer Rangitikei Catchment Board on the flood of February 24th-25th 1958, 20 March 1958. Works and Development Head Office file 96/327000. Supporting Papers #2285-2292.

Although a certain amount of damage must be expected after floods, particularly a prolonged series of floods as occurred in May, some concern is felt at the comparative impermanence of Rangitikei River Control Scheme works. The stage has now been reached where a large part of the rate revenue is being spent on the repair and strengthening of existing works, instead of on new scheme works.

It is fully realised that conditions are very difficult, and the Board deserves credit for what has been achieved in spite of the lack of suitable materials, and even these are becoming more difficult to obtain. However, if the cost of any typical length of protection, and the cost of strengthening and repairing it over a few years, is considered, it will be found that the cost per chain will be very high. Anchored trees do not provide permanent protection when the water runs deep and the banks are easily eroded, as at Tangimoana or McKelvie's. The very high cost of maintaining such protection over a period throws considerable doubt on the economy of anchored trees in many parts of the Rangitikei in spite of the high cost of alternative materials.¹⁰⁹⁸

The Council advocated more placement of rock riprap barriers, notwithstanding the extra expense because larger rock could not be excavated from among the river shingles and would have to be quarried (probably in the Manawatu Gorge) and transported to the river:

You may have other suggestions, and the riprap is only put forward as a suggestion. The time, however, is ripe for consideration to be given to more permanent forms of bank protection not only at Tangimoana but at Home's Reach and other parts of the river where the heavy tree work suffers during every big flood. Though the cost of more permanent work will be heavy, it should show a saving in the long run or it would not be worthwhile.

A very substantial degree of control over the river has been won, and great credit is due to those who designed and built the works that brought it about. The system of training banks has been particularly effective. Experience has shown, however, that the comparatively light method of protecting banks has been vulnerable to scour, and has not been cheap in the long run.¹⁰⁹⁹

The letter from the Soil Conservation and Rivers Control Council sparked some debate among Catchment Board members at the Board's next meeting. Some saw the wisdom of what the Council was proposing, while others felt that further work on basic taming of the river (training banks, more planting, etc) was necessary before the Board could confidently embark on more permanent measures. All members agreed that more investigation was needed before setting any future policy¹¹⁰⁰. Meanwhile the Council put some pressure on the

¹⁰⁹⁸ Chief Soil Conservation and Rivers Control Engineer to Chief Engineer Rangitikei Catchment Board, 24 August 1959. Works and Development Head Office file 96/327000. Supporting Papers #2293-2294.

¹⁰⁹⁹ Chief Soil Conservation and Rivers Control Engineer to Chief Engineer Rangitikei Catchment Board, 24 August 1959. Works and Development Head Office file 96/327000. Supporting Papers #2293-2294.

¹¹⁰⁰ *Wanganui Chronicle*, 28 August 1959. Copy on Works and Development Head Office file 96/327000. Supporting Papers #2295.

Catchment Board by requiring that the intended investigation report be completed in time to be taken into account during the drawing up of the following year's work programme¹¹⁰¹.

The result of the investigation was a "progress report 1948-1959"¹¹⁰², looking back over the scheme's past rather than forward in order to set new policy. It first noted that given that the approval in 1952 had been for a 10-13 year period, then "the end of the construction period should be in view, and that near complete control had been achieved". However, this was not the case, because the river's floods had interfered with annual construction programmes, and retarded progress. In addition, since costs had increased, less work could be carried out with the money approved. However, a more fundamental reason for less progress than expected was that the scheme had "evolved":

To review the progress of the scheme in relation to the original proposal is very difficult, as there are certain types of work which have been evolved during the past 10 years which were not envisaged in the original scheme.¹¹⁰³

The report examined what had been achieved under each of the six categories of work referred to when the general specification for the scheme was drawn up in October 1947:

- Plantations (including fencing). 3042 chains of riverbank proposed in 1947, 585 chains constructed. This was an underestimate, as further fencing had been undertaken as part of bank protection, and there was therefore a considerable area of land ready for planting out;
- Bank protection. 345 chains of anchored tree works proposed in 1947, 655 chains constructed. 780 chains of stopbanks proposed in 1947, 94 chains constructed. Stopbanks could only be built in the correct spot once the channel had settled into a more stable and more confined pattern, and this stage was still underway. The greater amount of less permanent bank protection was to meet individual ratepayer demands, and because of a high failure rate during floods;
- Clearing vegetation growth in the channel. 631 acres proposed in 1947, 70 acre undertaken. This had been given a lower priority while the channel was still quite wide, and vegetation was not a limiting factor on channel capacity;

¹¹⁰¹ Chief Soil Conservation and Rivers Control Engineer to Chief Engineer Rangitikei Catchment Board, 15 February 1960. Works and Development Head Office file 96/327000. Supporting Papers #2296.

¹¹⁰² Chief Engineer Rangitikei Catchment Board to Chief Soil Conservation and Rivers Control Council Engineer, 26 May 1960. Works and Development Head Office file 96/327000. Supporting Papers #2297-2301.

¹¹⁰³ Chief Engineer Rangitikei Catchment Board to Chief Soil Conservation and Rivers Control Council Engineer, 26 May 1960. Works and Development Head Office file 96/327000. Supporting Papers #2297-2301.

- Small cuts and pilot channels. None undertaken, as more control in a more confined channel was required before such measures would be effective.
- Groynes into the waterway. None undertaken, though 170 chains of training banks had been constructed;
- Improving small watercourses and closing off undesirable courses. Not mentioned in the progress report.

The major departure from the originally approved scheme was the institution of training banks:

This method of channel training did not form a part of the original scheme, but has been evolved during the last 6 years during which time considerable progress has been made in restricting the river to a single channel. The banks are relatively cheap to construct, but the induced scour as a result of the restricted width makes the banks very vulnerable to erosion, and maintenance has proved rather costly. Rock rip rap protection should undoubtedly form a part of any future training bank proposals.¹¹⁰⁴

The only forward thinking the progress report did was to discuss what might be an appropriate channel width. A well-recognised formula suggested that a “design flood flow” of 70,000 cusecs would require a channel width of 10.7 chains. However, the scheme prepared in 1947 had “for some unaccountable reason” adopted a channel width of 20 chains. It postulated that a “dominant flow” of 35,000 cusecs and a channel width of just 7.5 chains should be used when designing where to plant trees in future. Such a width already existed on some reaches of the Rangitikei River¹¹⁰⁵. What the Catchment Board engineer appears to have had in mind was to adopt a channel width that could operate and maintain itself during minor freshes, rather than ensuring an open channel for bigger floods. In those bigger floods there would be overflow into berm areas planted in trees¹¹⁰⁶.

The District Commissioner of Works was not convinced by the explanations in the progress report:

- (i) This report gives the present position of the scheme. It does not outline what the Board proposes to do in the near future. The Board’s engineer stated that firm proposals to the future policy can be formulated after much new survey and design. However, the need for much in [the] way of new surveys is doubted. It is thought that a new approach to the problem is needed.

¹¹⁰⁴ Chief Engineer Rangitikei Catchment Board to Chief Soil Conservation and Rivers Control Council Engineer, 26 May 1960. Works and Development Head Office file 96/327000. Supporting Papers #2297-2301.

¹¹⁰⁵ Chief Engineer Rangitikei Catchment Board to Chief Soil Conservation and Rivers Control Council Engineer, 26 May 1960. Works and Development Head Office file 96/327000. Supporting Papers #2297-2301.

¹¹⁰⁶ Chief Engineer Rangitikei Catchment Board to Chief Soil Conservation and Rivers Control Council Engineer, 26 May 1960. Works and Development Head Office file 96/327000. Supporting Papers #2297-2301.

- (ii) The channel is to be kept clear, not only for the dominant flow but for a major flood.
- (iii) The weakness of the bank protection system used to date, namely anchored trees and stone sausages, is the readiness with which it is undercut. It is consequently not very suitable for use on sharp bends on the river where the river naturally tends to deepen.
- (iv) It is considered that a greater amount of clearing is a prime need. All the parts of the river bed carrying vegetation that gets covered by flood water are building up with every flood. So everywhere where such conditions exist the state of the river channel is getting worse.
- (v) The bank protection work done to date is not permanent. About half the Board's annual expenditure is taken up in what is really maintenance of existing work. Little progress can be made without expenditure at an increased rate, and little progress is likely without a change [to] a more permanent and more costly type of work.¹¹⁰⁷

However, the District Commissioner of Works revised his assessment after one of his subordinates had a meeting with the Catchment Board's Engineer and then better understood his thinking. There might be benefits from a narrower and straighter channel. The wider 20 chain channel encouraged a meander pattern during non-flood flows, and it was the meander pattern that resulted in sharp bends close to bank protection. The sharper the bend, the greater the depth of water at the bend and the greater the risk of undercutting and scouring of the bank protection. Containing the river in a narrower channel would encourage a sweeping curve pattern, with silt deposition on the outer edge of the curve and thus less risk of bank erosion:

At first sight the narrow channel would appear restrictive to the largest floods, but this would be largely offset by the improved channel which would develop. The big floods are so infrequent that they do not clean out islands, etc, and in actual fact in many cases the available channel is not a large one though the braided courses occupy an extensive width. Siltation does now occur on the islands in just the same way as it would in the planted berms. There is, of course, a limit to the siltation which will occur dependent on the height of the floods.

It may well be that the flood rise will be higher than at present, and as a consequence a greater use of stopbanks necessary. This will be offset, in all likelihood more than offset, by the greater protection to the land behind the willow planting, so that the farmers will be encouraged to sow and use land which is at present completely unproductive.

¹¹⁰⁷ District Commissioner of Works Wanganui to Commissioner of Works, 27 June 1960. Works and Development Head Office file 96/327000. Supporting Papers #2302.

I feel that [the Rangitikei Catchment Board engineer] has proposed a sound change in plan to the scheme, and I recommend its acceptance.¹¹⁰⁸

The District Commissioner endorsed this recommendation, as the Catchment Board engineer wanted to “stabilise the annual flood channel, with berms to take the bigger floods. Main need is to ensure bends of good radius”¹¹⁰⁹.

In December 1960 a senior Crown hydrologist visited the Catchment Board and had a discussion with Board staff about the design of river training works on the Rangitikei River. He felt that the hydraulic conditions (flow, slope, sediment) favoured the development of a “single thread sinuous channel”. He supported a 35,000 cusecs dominant flow design basis, a 7.5 chain clear channel width, and curves in the channel with a radius of 30-35 chains. Much of the river within the scheme (i.e. south of Rewa) already conformed to these specifications, and perhaps 30% of the river would need training works. The difference between the 7.5 chain open channel and the 20 chain berm width could be grazed. The reach between Bulls and Tangimoana should be the priority for future work, and included in the work should be a realignment at Okanagon:

The original AP Grant plan for a cut-off below Okanagon was shown to me and appears to have several advantages. It would relieve the high flood grades above Tangimoana, simplify the erosion protection problems at Tangimoana, and would lead in the right direction to develop more permanent mouth stability. My impression was that this cut-off should be investigated for inclusion now, either as a full cut-off or as a floodway overflow.

He advocated a trial scheme “of well defined training works over a limited length” between Bulls and the sea, with the trial requiring good channel surveys to measure the results and effectiveness of the scheme¹¹¹⁰.

A formal reply to the “progress report 1948-1959” from the Soil Conservation and Rivers Control Council was not sent to Rangitikei Catchment Board until February 1961. The 7.5 chain open channel width was “provisionally accepted”, and work could start on one side (the concave or inner bend side) thereby leaving the option open to decide on the final width at a later date. The 20-chain floodway would remain, and could contain willow plantations or

¹¹⁰⁸ Resident Engineer Wanganui to District Commissioner of Works Wanganui, 18 August 1960. Works and Development Head Office file 96/327000. Supporting Papers #2303-2304.

¹¹⁰⁹ File note by District Commissioner of Works Wanganui, 14 September 1960, on Resident Engineer Wanganui to District Commissioner of Works Wanganui, 18 August 1960. Works and Development Head Office file 96/327000. Supporting Papers #2303-2304.

¹¹¹⁰ Senior Engineer Hydrologist to Chief Soil Conservation and Rivers Control Engineer, 19 December 1960. Works and Development Head Office file 96/327000. Supporting Papers #2305-2307.

stopbanks along the margins. A one-chain belt of planting was supported. The berms between 7.5 chains and 20 chains had to be able to allow the passage of major floods. They should be built up “to a suitable level” by planting trees to trap sediment, but once they reached the “suitable level”, the trees should be removed and the raised berm then maintained by grazing. The reply concluded by stating:

There is a good deal of work ahead of you before an amended scheme can be drawn up, but the sooner this can be done the better. In the meantime it is agreed that you will proceed with willow and poplar planting and with such other works as are necessary, including possibly riprap, generally on the lines discussed. It is regretted that it has taken so long to make a detailed examination of the river and reply to the matters raised in your letter of 26 May, but I feel we have all benefited by our on-the-spot discussions and that the wait has been worthwhile.¹¹¹¹

In 1963, when the remainder¹¹¹² of the £160,750 approved in 1952 was being granted in a “twelfth and final” annual instalment, the retrospective assessment of the scheme by the Crown agency (Soil Conservation and Rivers Control Council) was:

It was one of the first major schemes approved and much has been learnt from it. Too much was expected of the comparatively light types of construction proposed, and much of the work has had to be done several times over to the detriment of overall progress. No increase in estimate is sought, but a second scheme will be submitted for the Council’s consideration shortly.... The scheme now terminating has resulted in the reclamation of some 3,000 acres of riverbed, some of which has been developed to equal adjacent land valued at £100 an acre.¹¹¹³

A further retrospective assessment was given in the introduction to the Council paper recommending approval of the follow-up scheme (see the next section):

The scheme was an early one and attempted too much for too little money. Further, it was financed from revenue and progress was not sufficiently rapid for training works to become mutually supporting.... Flooding has been reduced, both by improvement of channel efficiency and by a very limited amount of stopbanking.... However, the river is in a very tender condition, and these gains can only be held by heavy expenditure on maintenance costing not much less than the average annual scheme expenditure of £16,000. A second scheme, carried out more rapidly and aggressively,

¹¹¹¹ Chief Soil Conservation and Rivers Control Engineer to Chief Engineer Rangitikei Catchment Board, 1 February 1961. Works and Development Head Office file 96/327000. Supporting Papers #2308-2310.

¹¹¹² The remaining amount was calculated in October-November 1962. District Commissioner of Works Wanganui to Commissioner of Works, 31 October 1962, and Extract from Agenda for Rivers and Drainage Committee, 19 November 1962. Works and Development Head Office file 96/327000. Supporting Papers #2330

¹¹¹³ Extract from Agenda for Rivers and Drainage Committee, 16 September 1963, on Chief Engineer Rangitikei Catchment Board to Secretary Soil Conservation and Rivers Control Council, 3 September 1963. Works and Development Head Office file 96/327000. Supporting Papers #2338-2342 at 2341-2342.

is essential to consolidate what has been won and to protect adequately the investment that has been made in river control.¹¹¹⁴

8.7 Rangitikei River Scheme No. 2, 1964

While initial planning for a revision of the scheme approved in 1952 had begun with the “progress report 1948-1959” prepared in May 1960, more detailed work got underway in 1962. In May 1962 the Catchment Board’s Chief Engineer produced a “draft revision”. This was recognition that the finance approved in 1952 was likely to be almost completely spent by March 1963. He considered that “the taming of the Rangitikei is less than $\frac{1}{3}$ complete”, and his draft programme of work proposed stopbanks, tree planting, bank edge protection, riprap bank protection, berm draining, fencing, and a new diversion cut at Okanagan, at a total cost of £370,000¹¹¹⁵.

The report on the proposed Scheme No. 2 was presented to Rangitikei Catchment Board at its March 1964 meeting¹¹¹⁶. In its introduction describing the progress that had been made under the original scheme, the report generally updated the “progress report 1948-1959” prepared in 1960. The economic benefits expected from the scheme, being land reclamation, reduced flooding and land drainage, had been broadly achieved. Some 1200 acres had been brought into farming production by the confining of the river to a narrower overall flood channel, the worst flooded areas downstream of Parewanui had already received stopbank protection against a 10-year flood (and with further work were due to receive protection against a 50-year flood), and drains had been dug at Parewanui that had allowed settlement of the land development block there.

The objectives of Scheme No. 2 were described as:

- (a) The development of a single thread channel of easy curving alignment, capable of discharging the dominant flow of 35,000 cusecs (2 year flood) without significant overflow.
- (b) The stabilisation of the clear flow channel between willowed river banks with heavy willow mattress and rock rip rap bank protection, only in places where alignment is poor and is not remediable by channel training.

¹¹¹⁴ Chief Soil Conservation and Rivers Control Engineer to Chairman Soil Conservation and Rivers Control Board, 6 July 1964. Works and Development Head Office file 96/327000. Supporting Papers #2400-2405.

¹¹¹⁵ Draft Revision of Major Scheme, prepared by Chief Engineer Rangitikei Catchment Board, 2 May 1962. Works and Development Head Office file 96/327000. Supporting Papers #2311-2312.

¹¹¹⁶ Rangitikei River Control Scheme No. 2, undated (March 1964). Works and Development Head Office file 96/327000. Supporting Papers #2346-2377.

- (c) Stopbanking to protect low lying land from floods of 70,000 cusecs (50 year frequency). This will be necessary mainly on the right bank below Bulls.¹¹¹⁷

The extent of intensification of agricultural use on adjoining land outside the flood control corridor justified a higher standard of protection that “complete stability” of the river could provide. A total budget of £350,000 was itemised. The Catchment Board hoped for a 3:1 subsidy from the Crown. Of the finance to be raised locally, the bulk would come from rates, with about one-third expected to come from shingle royalties¹¹¹⁸.

Included in the budget for Scheme No. 2 was land purchase, described as a “2 chain strip 50 miles long”¹¹¹⁹. The extent to which Rangitikei Catchment Board should own land on which flood protection works were constructed was raised in a letter from the Board to the Soil Conservation and Rivers Control Council in February 1964. This queried the two-chain strip approach incorporated in the report on proposed Scheme No. 2 as perhaps not being sufficient or suitable¹¹²⁰. The Secretary of the Council responded that the Council’s view was that reclamation (i.e. human intervention) displaced accretion (i.e. gradual and imperceptible natural accumulation), and the whole of the riverbed subject to flood protection works should be acquired:

As it is seen here, river accretion is a natural process which may take place over a very lengthy period, whereas land reclamation results from a deliberate act of man and normally takes place over a short period. The object of most major river schemes is not only to provide protection from flooding, but in effect to reclaim land. The opinion here is that such land should be classified as reclamation and not river accretion.

The policy of the Council is that Catchment authorities should own “out to out” of stop banks. Where there are no stop banks a strip along the river banks is normally necessary for the protection of willows, etc. Your proposal that a strip of land two chains wide along each river bank be acquired is sensible and this area should be increased to include the stop banks where applicable.¹¹²¹

The Crown policy was therefore that the Catchment Board should own the river channel and the width of the riverbanks on which protection works such as willow planting and stopbanks

¹¹¹⁷ Rangitikei River Control Scheme No. 2, undated (March 1964). Works and Development Head Office file 96/327000. Supporting Papers #2346-2377.

¹¹¹⁸ Rangitikei River Control Scheme No. 2, undated (March 1964). Works and Development Head Office file 96/327000. Supporting Papers #2346-2377.

¹¹¹⁹ Rangitikei River Control Scheme No. 2, undated (March 1964). Works and Development Head Office file 96/327000. Supporting Papers #2346-2377.

¹¹²⁰ Chief Engineer Rangitikei Catchment Board to Secretary Soil Conservation and Rivers Control Council, 28 February 1964. Works and Development Head Office file 96/327000. Supporting Papers #2343-2344.

¹¹²¹ Secretary Soil Conservation and Rivers Control Council to Chief Engineer Rangitikei Catchment Board, 5 March 1964. Works and Development file 96/327000. Supporting Papers #2345.

were placed. If this resulted in rights to claim accretion being overridden, or Maori with land on the banks losing their legal connection to the river, then so be it. Following the policy became a feature of Scheme No. 2 and its Consolidation Scheme successor.

While the Catchment Board was preparing its new scheme, ratepayers were becoming concerned about the size of the burden that would fall on them, and also about their inability to have an input into what the new scheme would contain. In April 1964 a petition was presented to the Minister of Works. It had been drawn up by a body calling itself the Rangitikei River Ratepayers' Association, and stated:

We, the undersigned, being Ratepayers to the Rangitikei River control scheme special area, desire to join with the Rangitikei River Ratepayers' Committee [sic] in requesting you to take action to rectify the present position whereby we, who bear a heavy rate burden for the purpose of attempting to control the ravages of the Rangitikei River to our lands, have no voice in the administration of rates that have been and will be in the future collected from us.¹¹²²

The petition contains approximately 200 signatures on a number of different pages. A simple analysis suggests that each page was circulated in a different locality. The signatures of Maori ratepayers are to be found on the pages that appear to have been circulated in the Rata and Te Reureu localities. When Ratepayers' Association representatives met the Minister of Works later in April, however, they found the Minister unwilling to allow the Association to be represented as of right on the Rangitikei Catchment Board. The Minister wrote to the Association after the meeting:

The basis of representation on Catchment Boards is provided for in Sections 41 and 42 of the Soil Conservation and Rivers Control Act 1941. Members are elected from constituent districts, which are determined having regard to the relative populations of those districts, to the relative values of the rateable property therein, and to the amount of rates levied or proposed to be levied therein, and to all other relevant considerations. There are also a number of non-elective members of Boards who are Government nominees appointed for their special knowledge.

The amending of the legislation to provide for special non-elective representation from ad hoc organisations would meet with opposition from both Catchment Boards and territorial local authorities, and this course is not favoured.¹¹²³

Although he did agree to consult with Rangitikei Catchment Board on whether the elected representation from the constituent districts needed to be revised, nothing ultimately came of this consultation and there was no change.

¹¹²² Petition to Minister of Works, undated (March 1964), attached to DR Willis, Greatford, to N Skelton MP, 1 April 1964. Works and Development Head Office file 96/327000. Supporting Papers #2379-2393.

¹¹²³ Minister of Works to DR Willis, Greatford, 16 April 1964. Works and Development Head Office file 96/327000. Supporting Papers #2394.

In May 1964 Rangitikei Catchment Board formally forwarded Scheme No. 2 to the Soil Conservation and Rivers Control Council for Crown approval, and for approval of a 3:1 subsidy on the works. The scheme was costed at a total of £350,000, and was to be spread over a period of seven years¹¹²⁴.

As a preliminary to consideration of the scheme by the Control Council, a report was provided by the Resident Engineer in Wanganui and endorsed by the District Commissioner of Works in Wanganui. The Resident Engineer's main concern was that completing all of the scheme works in seven years might be over-ambitious, and that the quick return expected had therefore over-emphasised the extent of the financial benefits that would result. However, he concluded:

There is little doubt that this is a good scheme, and the basic design assumption of producing a single thread channel is sound. On paper the tangible benefits would appear to be overwhelmingly in favour of proceeding with the scheme at an early date.¹¹²⁵

Soil Conservation and Rivers Control Council staff then apparently decided that the proposed budget provided by the Catchment Board was on the low side. Rather than re-work the figures, they wanted the contingency amount increased. The increase was arranged by the Catchment Board Chief Engineer in a quiet fashion, as revealed in a personal note he wrote to a Council staff member:

The question of adding £50,000 to the contingency item of the Rangitikei Scheme was put to a committee of the Board yesterday, but it declined to approve the increase meanwhile, saying it was a matter for the whole Board. They did however agree that it seemed a wise move to provide such a contingency at this stage, if possible. The main concern of members at this stage is the carrying of the Loan Poll for the Porewa Scheme, and for this reason their anxiety to avoid publicity on an increase in the estimate for the Rangitikei Scheme is understandable.

I will suggest to the Chairman that we have a special meeting next week to approve the addition to the contingencies, but if this is not possible then I see no alternative but to hold up the submission of the scheme to Council for yet another month, regrettable as this may be.

¹¹²⁴ Chief Engineer Rangitikei Catchment Board to Secretary Soil Conservation and Rivers Control Council, 4 May 1964. Works and Development Head Office file 96/327000. Supporting Papers #2395.

¹¹²⁵ Resident Engineer Wanganui to District Commissioner of Works Wanganui, 3 June 1964, concurred with by District Commissioner of Works Wanganui, 8 June 1964. Works and Development Head Office file 96/327000. Supporting Papers #2396-2397.

I will endeavour to channel the additional £50,000 for follow-up work and contingencies through my Board and to you without any press reports, as our River Ratepayers' Committee seem to have adopted the role of the opposition, and would not be receptive at present to the increase. This delicate handling of what is such an obvious safeguard to the successful completion of the scheme must seem a little odd to you, but I trust that you will bear with me while a few local hazards are negotiated.¹¹²⁶

The revision of the contingency amount increased it from £30,888 to £80,888, or 20% of the total estimated cost.

When formally requesting the extra budget in writing, the Chief Engineer stated:

I am directed by my Board to make application to have an additional £50,000 contingency added to the estimate for the Rangitikei River Control Scheme No. 2 to cover secondary training works....

The provision of a little flexibility of time and finance will allow an energetic attack on training to be pursued to the stage where a single thread channel with continuous self-supporting works has been achieved regardless of the severity of flooding.

The additional £50,000 would be clearly for secondary training works if necessary, and is recommended for inclusion in the estimate to create an awareness now of a situation which may occur later. It is not intended that the additional money should be itemised at this stage, but rather that it be added as a contingency, and be detailed towards the end of the seven year works programme, for spending over the following three to five years if necessary.¹¹²⁷

The proposed Scheme No.2 was presented to the Soil Conservation and Rivers Control Council at its July 1964 meeting. The Council was told:

This is primarily a river training scheme to extend and reinforce the work done in Scheme No. 1, together with some 9½ miles of stopbanks to protect major areas liable to inundation. Much has been learnt from the earlier scheme and in this one heavier types of construction will be used in situations where experience has shown their need. Elsewhere the rapid expansion of training works will take full advantage of mutual support and will permit economies. In essence the scheme involves developing a single thread channel to contain the dominant flow (2 year flood) without significant overflow; the stabilising of a flood fairway between belts of willows with heavy mattress or riprap where attack is severe; stopbanking, mainly below Bulls, to contain the 50 year flood where the area to be protected justifies the cost; [and] a cut below Okanagon to provide a new mouth, to remove the erosion

¹¹²⁶ Chief Engineer Rangitikei Catchment Board to T Nevins, 16 June 1964. Works and Development Head Office file 96/327000. Supporting Papers #2398-2399.

¹¹²⁷ Chief Engineer Rangitikei Catchment Board to Chief Engineer Soil Conservation and Rivers Control Council, 20 July 1964. Works and Development Head Office file 96/327000. Supporting Papers #2406.

threat to Tangimoana, and to counteract the tendency to aggrade in the lower reaches.¹¹²⁸

The Control Council gave its approval to Scheme No. 2, and recommended to Government that the Scheme receive a 3:1 subsidy of the estimated cost of £400,000¹¹²⁹. £350,000 would be spent in the first seven years, and £50,000 in the following three years.

Government approval required a similar range of steps as the original scheme had encountered in 1951-52. The Minister of Works was asked to obtain Cabinet Works Committee approval¹¹³⁰, and the Commissioner of Works and the Secretary to the Treasury were alerted so they could advise their respective Ministers¹¹³¹. Both Departmental heads recommended approval¹¹³², though with a four month unexplained gap between the two recommendations. Cabinet Works Committee then approved the subsidy in January 1965¹¹³³, and the Soil Conservation and Rivers Control Council provided its approval pursuant to Section 128 Soil Conservation and Rivers Control Act 1941¹¹³⁴, a decision endorsed by the Minister of Works¹¹³⁵. In August 1965 Rangitikei Catchment Board was advised that all Crown approvals had been completed¹¹³⁶. To forestall any political problems, the Catchment Board obtained an undertaking from the committee of the Rangitikei River Ratepayers' Association that it would support the scheme and recommend it to its members¹¹³⁷.

¹¹²⁸ Chief Soil Conservation and Rivers Control Engineer to Soil Conservation and Rivers Control Council, 6 July 1964. Works and Development Head Office file 96/327000. Supporting Papers #2400-2405.

¹¹²⁹ Resolution of Soil Conservation and Rivers Control Council, 20 July 1964, on Chief Soil Conservation and Rivers Control Engineer to Soil Conservation and Rivers Control Council, 6 July 1964. Works and Development Head Office file 96/327000. Supporting Papers #2407.

¹¹³⁰ Secretary Soil Conservation and Rivers Control Council to Minister of Works, 6 August 1964. Works and Development Head Office file 96/327000. Supporting Papers #2408-2409.

¹¹³¹ Secretary Soil Conservation and Rivers Control Council to Secretary to the Treasury and Commissioner of Works, 11 August 1964. Works and Development Head Office file 96/327000. Supporting Papers #2410-2411.

¹¹³² Commissioner of Works to Secretary to the Treasury, 21 August 1964, and Paper for Cabinet Works Committee, 14 January 1965. Works and Development Head Office file 96/327000. Supporting Papers #2412 and 2413.

¹¹³³ Decision of Cabinet Works Committee, 27 January 1965, and Secretary Soil Conservation and Rivers Control Council to Chief Engineer Rangitikei Catchment Board, 5 February 1965. Works and Development Head Office file 96/327000. Supporting Papers #2414 and 2415.

¹¹³⁴ Chief Engineer Rangitikei Catchment Board to Secretary Soil Conservation and Rivers Control Council, 16 June 1965; Secretary Soil Conservation and Rivers Control Council to Chairman Soil Conservation and Rivers Control Council, 23 June 1965; and Decision of Soil Conservation and Rivers Control Council, 19 July 1965. Works and Development Head Office file 96/327000. Supporting Papers #2416-2417; 2418-2419; and 2420.

¹¹³⁵ Secretary Soil Conservation and Rivers Control Council to Minister of Works, 27 July 1965, approved by the Minister 28 July 1965. Works and Development Head Office file 96/327000. Supporting Papers #2421.

¹¹³⁶ Secretary Soil Conservation and Rivers Control Council to Secretary Rangitikei Catchment Board, 3 August 1965. Works and Development Head Office file 96/327000. Supporting Papers #2422.

¹¹³⁷ DR Willis, Marton, to Chairman Rangitikei Catchment Board, 26 August 1965, attached to Chief Engineer Rangitikei Catchment Board to Secretary Soil Conservation and Rivers Control Council, 8 September 1965. Works and Development Head Office file 96/327000. Supporting Papers #2423-2427.

As with the original scheme, throughout the whole process of Catchment Board preparation and Crown approval, there had not been a single reference to the relationship of Rangitikei Maori with their tupuna awa, to Maori ownership of riverbank land, to consultation with Maori, or to the effect of the scheme on Maori once it went ahead. The scheme was considered solely in terms of river engineering technicalities, and in financial terms.

In 1971 a “review of progress and costs” was completed¹¹³⁸. This was because the seven years of Scheme No. 2 would soon expire. The report began bluntly:

The Rangitikei Control Scheme No. 2 cannot be completed within the original programme, neither as far as time nor finance is concerned, and consideration must be given to either leaving some of the work uncompleted or seeking approval for additional subsidy expenditure on the basis of revised estimates.¹¹³⁹

While spending had fallen behind estimates, with only \$455,000 out of an expected \$600,000 spent up to the end of the sixth year, inflation and associated increased construction costs meant that what was spent did not result in as much protection work being constructed as had been envisaged. The concerns expressed by the Crown engineers at the time of the approval of Scheme No. 2, that the Catchment Board was being over-ambitious in trying to fit the work programme into a seven-year period, had proved correct.

In addition to the financial problems, amendments were needed to the works programme. A stopbank at Parewanui was not achieving its purpose because it was capable of being outflanked by the river at one end, and an additional length of stopbank was needed. Another stopbank built in 1962 at the end of Burns Ford Road needed to have its height raised. The Okanagon pilot cut had not been scoured out and made larger by the river, and additional work was needed to make it operate as intended. On other banks not requiring stopbanks, the bank protection work had not proceeded as expected:

Bank protection and training works were aimed at training the river into a single thread channel 7.5 chains wide by closing off the numerous back-channels by retards, and holding existing alignment where this fitted the proposed final alignment. Holding alignment was to be done by tree bank protection work supplemented where necessary with rock bank protection work.

¹¹³⁸ Chief Engineer Rangitikei Catchment Board to Director of Water and Soil Conservation, 21 July 1971. Works and Development Head Office file 96/327000. Supporting Papers #2437-2444.

¹¹³⁹ Chief Engineer Rangitikei Catchment Board to Director of Water and Soil Conservation, 21 July 1971. Works and Development Head Office file 96/327000. Supporting Papers #2437-2444.

Efforts early in the scheme were concentrated on channel training and tree bank protection work. Closing off of side channels and silting of colmatage¹¹⁴⁰ areas proved very successful, and much has been achieved in confining the river to a single channel, but as the river bed has been narrowed the difficulties of holding alignment have increased markedly. This has resulted in approximately 3 times the originally estimated length of tree bank protection work having been completed to date, but this has been offset to some extent by reduced costs in doing tree protection work. Little rock protection work has been done, in spite of its inclusion in the original scheme and the emphasis placed on this in subsequent annual reviews. The use of heavier training works including rock works has been postponed, probably because of the high capital cost involved, and its use now is seriously affected by escalating costs.

This use of [an] increasing length of tree protection work has resulted in a substantial increase in the incidence of flood damage, and the depletion of tree resources in some areas. It now appears necessary to concentrate on a lesser amount of heavier work at strategic points only.

For the most part a single channel has been developed, but only in limited sections has the 7.5 chains width been achieved. To narrow the river to 7.5 chains width over the whole scheme length of river now appears beyond the financial resources of the scheme. Any further expenditure on bank protection work and river training must be directed at consolidating the progress made to date, and to protect and allow the development of planting work which will require several years yet to become established.¹¹⁴¹

The “review of progress and costs” also discussed land purchase, which had been only a single line in the Scheme No. 2 proposal:

It is not clear from the original scheme report exactly what was proposed by way of land purchase and compensation, but the intention has been to acquire all land on the river side of stopbanks, plus a strip of land 1½ chains wide up each bank of the river where no stopbanks are to be constructed, to provide 1 chain width for planting and ½ chain for access.

Progress on land purchase had not been as fast as expected because of survey requirements, negotiations, and legal work:

It is not now considered necessary or possible within the financial limits of the scheme to acquire reserves of land on both banks of the entire scheme length of the river, and provision in the estimates is now made only for acquiring land between stopbanks and reserves along those sections of river bank where it is of greatest importance to protect river works.¹¹⁴²

¹¹⁴⁰ Where the impounding of silt-laden water will build up low-lying areas.

¹¹⁴¹ Chief Engineer Rangitikei Catchment Board to Director of Water and Soil Conservation, 21 July 1971. Works and Development Head Office file 96/327000. Supporting Papers #2437-2444.

¹¹⁴² Chief Engineer Rangitikei Catchment Board to Director of Water and Soil Conservation, 21 July 1971. Works and Development Head Office file 96/327000. Supporting Papers #2437-2444.

The net result of the changes itemised in the “review of progress and costs” was a request to approve the scheme cost being increased from the \$800,000 approved in 1965 to a new total of \$921,150¹¹⁴³. Separately, Rangitikei Catchment Board had to keep its ratepayers informed, and a circular letter about the proposed works changes and their greater cost was prepared and sent out in November 1971¹¹⁴⁴.

The application for approval was considered by the Soil Conservation and Rivers Control Council at its March 1972 meeting. Staff told the members that they supported the Catchment Board’s application:

Considerable progress has been made towards the achievement of the benefits originally envisaged, and areas now enjoying protection are fully realising their potential. The Board has commendably attempted to effect the desired control with minimum expenditure. In places this has shown handsome dividends, but in others the river has demonstrated the need for more expensive work with more permanent materials. In an area where the nearest source of suitable heavy rock lies outside the district, this means a substantial cost increase.¹¹⁴⁵

The Council agreed and gave its approval, recommending also that the Government agree to the additional cost of the 3:1 subsidy for the higher scheme cost estimate¹¹⁴⁶. Advice to the Government supported the increase¹¹⁴⁷, and the Cabinet Works Committee gave its approval in October 1972¹¹⁴⁸. The Catchment Board was informed the following month¹¹⁴⁹.

A further review of Scheme No. 2 was prepared in 1976¹¹⁵⁰. It examined progress under the main types of work:

- Stopbanking – Of 19,600 metres approved, 16,000 metres had been completed, and the remaining length had become either unnecessary or uneconomic. There was no

¹¹⁴³ Chief Engineer Rangitikei Catchment Board to Director of Water and Soil Conservation, 21 July 1971. Works and Development Head Office file 96/327000. Supporting Papers #2437-2444.

¹¹⁴⁴ Chairman Rangitikei Catchment Board to All Rangitikei River Ratepayers, 22 November 1971. Works and Development Head Office file 96/327000. Supporting Papers #2445-2446.

¹¹⁴⁵ Director of Water and Soil Conservation to Chairman Soil Conservation and Rivers Control Council, undated (March 1972). Works and Development Head Office file 96/327000. Supporting Papers #2447-2450.

¹¹⁴⁶ Resolution of Soil Conservation and Rivers Control Council, 20-21 March 1972. Works and Development Head Office file 96/327000. Supporting Papers #2451.

¹¹⁴⁷ Director of Water and Soil Conservation to Minister of Works, 6 June 1972, Director of Water and Soil Conservation to Secretary to the Treasury, 6 June 1972, and Commissioner of Works to Secretary to the Treasury, 27 September 1972. Works and Development Head Office file 96/327000. Supporting Papers #2452-2453, 2454-2455, and 2456.

¹¹⁴⁸ Minute of Cabinet Works Committee, 18 October 1972. Works and Development Head Office file 96/327000. Supporting Papers #2457.

¹¹⁴⁹ Director of Water and Soil Conservation to Chief Engineer Rangitikei-Wanganui Catchment Board, 10 November 1972. Works and Development Head Office file 96/327000. Supporting Papers #2458.

¹¹⁵⁰ Rangitikei River Control Scheme No. 2, scheme review, undated (1976). Works and Development Head Office file 96/327000. Supporting Papers #2459-2481.

further “land adjacent to the river which at present have sufficient production potential, and which flood with sufficient frequency, to justify flood protection by stopbanking”. The existing stopbanking protected 1400 hectares of land with very high production potential, and “must constitute the greatest single achievement of the scheme”.

- Okanagan Cut – Blasting of the cut had been undertaken in 1972. It continued to develop “reasonably satisfactorily” and the old channel around Tangimoana was progressively silting up.
- Bank protection work (rock) – 2200 metres had been completed. In retrospect more should have been done using rock riprap, as there would have been savings of local funds on flood damage repair work. Rock riprap “has a very necessary place on the Rangitikei River”.
- Bank protection work (trees) – 20,000 metres had been protected using trees since 1952, at a cost of \$220,800, but flood damage repairs had cost an additional \$290,000. Most tree protection in the early days was regarded by 1976 as “light tree works”; it had lasted only if it had been able to be “consolidated” before being subjected to attack by the river. About 5000 metres did not provide adequate protection.
- Training works and clearing – In channel training works (e.g. groynes) had been undertaken since 1971 with good results. Five unstable sections would still benefit from such works.
- Planting and fencing – most planting was ‘in-channel’ to encourage silting of back channels, create berm areas behind retards, and define the limits of the single thread normal flow channel. Further planting could be for afforestation outside the flood channel and not at risk from erosion. All proposed fencing had been completed.¹¹⁵¹

The review also commented on the land purchase programme. It had been developed to meet two circumstances, first all land on the river side of stopbanks (on the true right bank south of bulls, at Tangimoana, and at Kakariki), and second freehold land that extended into the flood channel (true left bank south of Bulls, true left bank above Bulls bridge, true right bank at Onepuehu):

¹¹⁵¹ Rangitikei River Control Scheme No. 2, scheme review, undated (1976). Works and Development Head Office file 96/327000. Supporting Papers #2459-2481.

The principle object of the proposed land acquisition is to obtain the necessary control of the land concerned such that the scheme investment in river control and flood protection works is adequately safeguarded.

While it is now proposed, and allowance has been made, to only acquire reserve in those areas where it is at present of greatest importance to safeguard river works, as opposed to the original scheme intention to acquire a 30 m wide reserve up each bank of the river, it should be stressed that future changes in land ownership could well create the need to acquire yet further reserves.

The land acquisition programme was running behind schedule and over budget, with inflation eating into the cost of the programme and the value to the scheme that could be obtained from it¹¹⁵².

Inflation was the main reason why the amount of money approved for Scheme No. 2 would be inadequate, and additional financial approval was required, though slow progress in undertaking the work was a contributory factor. Approval for additional expenditure of \$139,750 was sought, which would allow continuation of Scheme No. 2 through to March 1980¹¹⁵³. However, no action was taken by the Soil Conservation and Rivers Control Council to grant additional funds. It had its own nationwide funding crisis to deal with.

As inflation continued eating into the worth of the funding approved for Scheme No. 2, it was apparent by mid 1978 that all approved funds would be spent by March 1979. Rather than seek an extension of Scheme No. 2, Rangitikei-Wanganui Catchment Board developed the concept of a separate five-year programme of works running from 1979 to 1984. It dressed this up as being part of a contribution to a coordinated wider programme of Catchment Board activities in the Rangitikei catchment as a whole. To this end it developed a Rangitikei River management plan¹¹⁵⁴, to identify how the various management and control functions for which the Board was responsible “inter-relate in the Rangitikei River catchment, [and] to identify how they impinge in particular on the management of the lower river”¹¹⁵⁵.

¹¹⁵² Rangitikei River Control Scheme No. 2, scheme review, undated (1976). Works and Development Head Office file 96/327000. Supporting Papers #2459-2481.

¹¹⁵³ Rangitikei River Control Scheme No. 2, scheme review, undated (1976). Works and Development Head Office file 96/327000. Supporting Papers #2459-2481.

¹¹⁵⁴ Rangitikei-Wanganui Catchment Board, *Planning needs and management objectives for the Rangitikei River*, 1978. Report No. 78/7. Supporting Papers #6369-6400.

¹¹⁵⁵ Rangitikei-Wanganui Catchment Board, *Planning needs and management objectives for the Rangitikei River*, 1978, page 1. Report No. 78/7. Supporting Papers #6369-6400 at 6371.

The management plan, the full title of which was *Planning needs and management objectives for the Rangitikei River*, had as a sub-title “a management review and proposals for continuing river control works within the context of catchment management planning”. It identified five objectives for Rangitikei-Wanganui Catchment Board’s river control works:

- (a) The continued protection of land adjoining the lower river from erosion and flooding;
- (b) The protection of community assets either in the bed or on the banks of the river;
- (c) The management of the gravel resources of the river without conflict with other objectives;
- (d) The conservation of the river as a water resource;
- (e) The protection of the recreational values of the river.¹¹⁵⁶

Protection of the mauri of the river and support for recognition by tangata whenua of the river as a tupuna awa were not among the objectives.

The management plan canvassed land use, water use, and recreation use in the catchment generally, before focussing on gravel extraction, river control and flood protection in the lower river. Its overall prescription for the lower river was:

Proposals ... for continuing river control works are directed to stabilising the river at its present bed profile, width and general alignment. No further confinement of the river channel, the objective of past works schemes, and which has contributed along with gravel extraction to the depression of the bed, is proposed.¹¹⁵⁷

In describing the achievements of Scheme No. 2 during the 1964-1978 period, the management plan stated:

- i The protection planting programme commenced under No. 1 Scheme has been continued and extended. Continuous belts of willow and poplar planting have now been established along the 130 km length of river bank within the scheme, to provide basic bank stability in addition to continuing supplies of tree bank protection material.
- ii Many examples of poor channel alignment causing bank stability problems have been corrected by the use of various channel training techniques.
- iii As a result of the channel confinement which has been achieved through channel training and planting programmes, extensive areas of river bed have been reclaimed, built up through siltation, and brought into varying degrees of production.
- iv Approximately 1400 hectares of extremely fertile land has been protected from regular flooding as a result of the construction of 16 km of stopbank.

¹¹⁵⁶ Rangitikei-Wanganui Catchment Board, *Planning needs and management objectives for the Rangitikei River*, 1978, page 1. Report No. 78/7. Supporting Papers #6369-6400 at 6371.

¹¹⁵⁷ Rangitikei-Wanganui Catchment Board, *Planning needs and management objectives for the Rangitikei River*, 1978, page 7. Report No. 78/7. Supporting Papers #6369-6400 at 6377.

- v The stability of banks containing the much confined main channel has been progressively improved with the construction of extensive lengths of bank protection work. The greater part of this work comprises weighted and anchored live willow mattress, however over the past 3 or 4 years there has been an increase in the use of rock or rubble rip-rap.¹¹⁵⁸

For the completion of Scheme No. 2 over the next five years, work activities would fit into five categories:

- Further development of live tree protection work;
- Improvement of river alignment over 4 or 5 remaining unstable reaches;
- Reinforcement or replacement of tree bank protection with rock rip-rap;
- Carrying out flood damage repair works;
- Maintenance of drainage schemes.

An increased reliance on rock riprap would be the main change of emphasis from the earlier years of the Scheme No. 2¹¹⁵⁹.

As part of the management plan preparation process, an environmental impact statement was produced. This gave Scheme No. 2 a clean bill of environmental health in the following terms:

Aesthetic

Apart from existing river protection and plantation reserve, the land adjoining the river is well developed grazing and cropping land with few if any remaining indigenous trees or wetlands. An occasional gravel crushing plant, water intake or similar structures are all that intrude into the essentially rural scene.

The establishment of exotic plantings adjoining the river have added to the recreational and aesthetic values of the river, and although rip rap bank protection work does at times have a visual impact not consistent with the general appearance of the river, it is preferable to bare eroding banks.

Wildlife

The river is not a favoured habitat of any native fish or bird life, although a number of sea birds are known to frequent the river estuary.

Introduced game birds and fish are present in the river, but conditions are not conducive to the establishment of larger populations than exist at present.

The proposed works in providing additional cover and limiting any further encroachment of land development on the river should improve the wildlife values of the river, and no adverse impact can be identified. Any detriment to fisheries or wildlife interests are more likely to arise from other recreational activities and water

¹¹⁵⁸ Rangitikei-Wanganui Catchment Board, *Planning needs and management objectives for the Rangitikei River*, 1978, page 21. Report No. 78/7. Supporting Papers #6369-6400 at 6391.

¹¹⁵⁹ Rangitikei-Wanganui Catchment Board, *Planning needs and management objectives for the Rangitikei River*, 1978, pages 23-24. Report No. 78/7. Supporting Papers #6369-6400 at 6393-6394.

uses, which are subject to other management controls and not directly related to the programme of physical works on the river.

Cultural and Social

There are no known geological or historical features of the lower river valley that require any consideration, nor are there any features of cultural significance to the Maori people of the district that have or will be affected by river control works.

The only cultural values to the community associated with the river are recreational values, and these in terms of better access, the creation of a zone of separation from farming and commercial activity, and improved stability of the riverbed and channel, will enhance those values.

General

No adverse effects on the environment can be identified as likely to arise from the proposed works programme, nor any social or cultural values that need to be compensated for or weighed against the economic benefits of the proposal.

Any environmental impacts will generally be beneficial rather than detrimental.¹¹⁶⁰

On what basis the Catchment Board was concluding that there were no “features of cultural significance to the Maori people” is not known. No evidence of any Catchment Board discussions with or approaches to Rangitikei River Maori during the years up to and including 1978 were identified during research for this report.

While couched in language that addressed the whole catchment, the management plan was developed principally as a means of persuading the Crown to subsidise a further five years of river control works. This is apparent from the manner in which the management plan was presented to the Ministry of Works and Development and the Soil Conservation and Rivers Control Council, when it was forwarded under cover of a letter that sought approval for a five-year programme of works and associated grant of subsidy¹¹⁶¹. As an integral part of the request for funding, it obviously worked to a certain degree, with the District Commissioner of Works calling the plan ‘most comprehensive’ and recommending the work programme it contained¹¹⁶². However, the plan and its associated request for subsidy funding faltered at the Soil Conservation and Rivers Control Council. Despite being made in August 1978, the application for additional funding was not considered by the Council until September 1979,

¹¹⁶⁰ Environmental impact statement: Rangitikei River control works, undated, attached to Chief Engineer Rangitikei-Wanganui Catchment Board to Director of Water and Soil Conservation, 17 August 1978. Works and Development Head Office file 96/327000. Supporting Papers #2482-2486.

¹¹⁶¹ Chief Engineer Rangitikei-Wanganui Catchment Board to Director of Water and Soil Conservation, 17 August 1978. Works and Development Head Office file 96/327000. Supporting Papers #2482-2486.

¹¹⁶² District Commissioner of Works Wanganui to Commissioner of Works, 29 September 1978. Works and Development Head Office file 96/327000. Supporting Papers #2487-2488.

when it resolved to terminate Scheme No. 2 as at March 1979, approve an urgent works programme for the 1979-80 financial year, and request Rangitikei-Wanganui Catchment Board “to set out in specific terms its proposals for achieving the objectives”¹¹⁶³. It is likely that the delay in Council consideration was a method being used to ration scarce central government funding.

The tenor of the Council’s resolution was not appreciated by the Catchment Board, and it sought a meeting “seeking a more positive understanding of the proposal’s acceptability or otherwise, and the priority likely to be given to continuing river works in future allocation of grants”¹¹⁶⁴. In January 1980, following a discussion with the Board’s Chief Engineer, the Director of Water and Soil Conservation set out central government’s expectations:

The 1977 draft review itemised expenditure but it was commented that there was no quantitative measure of work done in comparison with the original objectives in 1972. The main reason for this was due to the need to change the method of working. River training was by live protection and revetments – this suffered damage in floods. With the confinement of river flows between stopbanks, the channel of necessity had to improve its efficiency and had done this by erosion of the bed.

From the discussion I record being informed that recent surveys have shown that more gravel is going out to sea than is extracted. Degradation is leading to problems with protection works. The Board is planning a change in its approach to river protection by increasing the width of the floodway. Sections of berms will be cleared and lowered by gravel extraction.

There is now a severe shortage of finance, and only proposals for essential and important river works to safeguard the scheme works and cope with changes occurring within the river regime are likely to have a reasonable chance of approval.

I record my view that government is unlikely to approve quickly the new policy submitted for follow up schemes (i.e. bulk allocation to Council to approve 5 year programmes of work to sustain capital investment), and affirm that I have asked the Board to prepare a new scheme for the river detailing objectives and all benefits.¹¹⁶⁵

Rangitikei-Wanganui Catchment Board accepted that a substantial study and investigation would be required, which would not be a simple exercise. It sought continuing carryover

¹¹⁶³ Staff report to Soil Conservation and Rivers Control Council, undated (September 1979), and Director of Water and Soil Conservation to Secretary Rangitikei-Wanganui Catchment Board, 2 October 1979. Works and Development Head Office file 96/327000. Supporting Papers #2500-2505 and 2506-2507.

¹¹⁶⁴ Chief Engineer Rangitikei-Wanganui Catchment Board to Director of Water and Soil Conservation, 18 December 1979. Works and Development Head Office file 96/327000. Supporting Papers #2508-2509.

¹¹⁶⁵ Director of Water and Soil Conservation to Secretary Rangitikei-Wanganui Catchment Board, 31 January 1980. Works and Development Head Office file 96/327000. Supporting Papers #2510-2511.

funding until the study was completed¹¹⁶⁶. On considering the request for funding for the 1980-81 financial year, the Soil Conservation and Rivers Control Council decided to resurrect Scheme No. 2, which it had brought to a close one year earlier, and approve additional funding which increased Scheme No. 2's total expenditure from the figure of \$921,150 approved in 1971 to a new figure of \$1,221,333. This total amount would take Scheme No. 2 through to March 1981, and allow expenditure of \$160,000 during the 1980-81 year. The review report was required by March 1981, and should contain:

[The Catchment Board's] programme over the next five years for specific essential follow-up works on the Rangitikei River, together with a concise review of all scheme works since 1952, highlighting the achievements in terms of objectives, necessary changes in methods over that period, and objective for the future.¹¹⁶⁷

The extension of Scheme No. 2 required the approvals of the Minister of Works and Development and the Minister of Finance, which were obtained over the next four months¹¹⁶⁸.

A draft of a five-year works programme was produced before the March 1981 deadline. It argued that the original scheme and Scheme No. 2 had been overly concerned with the horizontal width of the flood channel, with the original scheme aiming for a clear channel of 300 metres width upstream of Bulls and 400 metres downstream of Bulls, and Scheme No. 2 aiming for further confinement into a single thread channel of 150 metre width. However, it was necessary to also consider the vertical dimension, as degradation and aggradation of the bed would affect the capacity of the river channel. The bed was susceptible to erosion, and degradation had happened as the river had been confined in a narrower channel under Scheme No. 2, which encouraged increased velocities (i.e. greater ability to transport bed load downstream), scouring of the bed and undercutting of bank protection works during floods. Continuing gravel extraction had added to these natural effects:

The confinement and deepening of the river channel has of course reduced flood levels, frequency and duration of flooding, and saltation of the river berms. It has improved drainage and enabled significant areas of land to be reclaimed for

¹¹⁶⁶ Chief Engineer Rangitikei-Wanganui Catchment Board to Director of Water and Soil Conservation, 3 March 1980. Works and Development Head Office file 96/327000. Supporting Papers #2512-2513.

¹¹⁶⁷ Supplementary staff report and revised recommendation, undated (September 1980), and Director of Water and Soil Conservation to Secretary Rangitikei-Wanganui Catchment Board, 16 September 1980. Works and Development Head Office file 96/327000. Supporting Papers #2514-2515 and 2516-2517.

¹¹⁶⁸ Director of Water and Soil Conservation to Minister of Works and Development, 22 September 1980; Assistant Commissioner of Works to Minister of Works and Development, 3 October 1980; Secretary to the Treasury to Minister of Finance, 26 November 1980, approved by the Minister 28 November 1980; and Director of Water and Soil Conservation to Secretary Rangitikei-Wanganui Catchment Board, 30 January 1981. Works and Development Head Office file 96/327000. Supporting Papers #2518-2520; 2521; 2522-2523; and 2524.

productive use from the river bed. Increased productivity has more than recovered the capital cost of the works. However, the consequent delayed response of channel deepening and local scour from river confinement and gravel extraction has left a legacy of unstable high banks. If the banks are not held or other remedies found, including restraints on gravel extraction, until that delayed response has run its course there is a very real risk that some if not most of those works and benefits will be lost. The risk of a breakout by the river from its present banks is very real, particularly so with respect to a possible stopbank breach.¹¹⁶⁹

Thus, while the original scheme had been a confinement scheme that in retrospect had not confined the river enough, Scheme No. 2 had continued the channel narrowing but had confined it too much.

The ideal solution suggested in the 5-year programme was to maintain the existing channel, because of the substantial benefits it provided to the agricultural land protected from flooding, and make the bank protection more resistant to undercutting and erosion by greater use of rock rip rap. However, the difficulty with this option was that rock protection was expensive and since funds were limited little could be achieved, even as the delayed response of the river to confinement meant that degradation and damage would continue. A less expensive option was therefore recommended. This would reverse the trend towards confinement by allowing a different channel form to develop that was less restrictive than that being aimed for under Scheme No. 2:

This would mean encouraging the river bends to move more freely within a defined meander width, rather than become fixed for long periods of time, as many have done and others are tending progressively to do. In effect it would mean attempting to establish a channel form intermediate between that proposed by Scheme No. 1 and that sought by Scheme No. 2.

Beach, island and berm clearing would be required to encourage meander movement, and the retirement and planting of berms where break-outs are likely to occur.... Gravel extraction can be directed to berm areas to assist in establishing cleared meander width. The objective would be a wider, shallower, more mobile bed form.¹¹⁷⁰

A final report and works programme was not submitted to central government until August 1981¹¹⁷¹. While the intent of the report had not changed, there were some refinements:

¹¹⁶⁹ Draft of 5-year works programme, undated (March 1981). Works and Development Head Office file 96/327000. Supporting Papers #2525-2528.

¹¹⁷⁰ Draft of 5-year works programme, undated (March 1981). Works and Development Head Office file 96/327000. Supporting Papers #2525-2528.

¹¹⁷¹ Interim works programme, 13 August 1981, attached to Chief Engineer Rangitikei-Wanganui Catchment Board to Director of Water and Soil Conservation, 14 August 1981. Works and Development Head Office file 96/327000. Supporting Papers #2529-2534.

The description of the river channel as an over-narrowed, entrenched channel is true of most of the river channel, but not all of it. There are short specific short lengths which exhibit different characteristics.

A 10 km length of the river downstream of the principal gravel extraction reach is aggrading against the general degradation trend of the remainder of the 55 kms of river channel. Where entrenchment is greatest at the concentrated gravel extraction points, at Bulls and Kakariki, the channel gradient has been flattened downstream and steepened upstream of those points. The flatter reaches are narrow and deep, but generally stable. The steeper upstream sections are unstable, widening and braiding. Any long term programme of work requires examination of these different characteristics and appropriate treatments, as well as the obvious need to develop new policies of gravel extraction management.¹¹⁷²

The five-year programme of works had become a three-year programme:

During the course of the next two years it is intended to fully evaluate option 3 [develop a wider channel form requiring less rock rip rap protection] by using the available survey and design data, and to have completed by 1984 a fully documented 5-year works proposal with an integrated gravel extraction management plan.¹¹⁷³

In October 1981 the Soil Conservation and Rivers Control Council considered Rangitikei-Whanganui Catchment Board's proposals. It approved a three-year works programme for the period 1981 to 1984 costing \$736,000, towards which it would provide a 60% subsidy¹¹⁷⁴. No comment was made on the interim report, though it was implicitly accepted that the stated intention to produce a "fully documented 5-year works proposal" by 1984 would be undertaken.

The interim works programme report had made some comments about land purchase:

An important element of this proposal [developing a wider channel form] is the retirement of berm lands, and acquisition of private titles in and immediately adjoining the river. That is necessary to reduce development pressure on the risk prone berms, and remove impediments to the Board's ability to manage the river and its immediate berms. Acquisition of berm strips along the full length of the river, and the removal of all private titles in the river bed was one of the objectives in River Scheme No. 2. Because of the complexity of determining and extinguishing such titles, little progress was made towards achieving that objective. However, it has been

¹¹⁷² Interim works programme, 13 August 1981, attached to Chief Engineer Rangitikei-Wanganui Catchment Board to Director of Water and Soil Conservation, 14 August 1981. Works and Development Head Office file 96/327000. Supporting Papers #2529-2534.

¹¹⁷³ Interim works programme, 13 August 1981, attached to Chief Engineer Rangitikei-Wanganui Catchment Board to Director of Water and Soil Conservation, 14 August 1981. Works and Development Head Office file 96/327000. Supporting Papers #2529-2534.

¹¹⁷⁴ Staff report to Soil Conservation and Rivers Control Council, 25 August 1981, and Director of Water and Soil Conservation to Chief Engineer Rangitikei-Whanganui Catchment Board, 13 October 1981. Works and Development Head Office file 96/327000. Supporting Papers #2535-2540 and 2541-2542.

pursued particularly with respect to stopbanked berms, and a number of protracted negotiations for compensation will come to charge in the next 2 years. Provision has been made for that in the programme and estimates.¹¹⁷⁵

One of the proposed acquisitions that had been delayed was the Catchment Board's intention to acquire the bed of the Rangitikei River where it passed through Ohinepuhiawe reserve and Maori still owned parts of the riverbed. The land required had been surveyed in 1976, and a notice of intention to take it under the Public Works Act had been notified in 1978. The taking itself did not occur until April 1981, four months before the interim works programme report had been prepared. Negotiations with the Maori owners over compensation had not been started. Because the negotiations that did subsequently take place were particularly concerned with the value of gravel in the riverbed, the history of the Ohinepuhiawe taking and associated compensation is covered in the chapter on gravel extraction.

The introduction to the report on the next scheme in the sequence summarised the achievements of Scheme No. 2:

1. The protection planting programme commenced under No. 1 Scheme was continued and extended. Belts of willow and poplar planting were established along the 130km length of river bank within the scheme, to provide basic bank stability in addition to continuing supplies of tree bank protection material.
2. Many instances of poor channel alignment causing bank stability problems were corrected by the use of various channel training techniques.
3. As a result of the channel confinement, which was achieved through channel training and planting programmes, further areas of river bed were reclaimed, built up through siltation and brought into varying degrees of production.
4. Approximately 1400 hectares of highly fertile land was protected from regular flooding as a result of the construction of 16km of stopbank.
5. The stability of banks containing the much confined main channel were progressively improved with the construction of extensive lengths of bank protection work. The greater part of this work comprised weighted and anchored live willow mattress, however over the latter 5 years of the scheme there was an increase in the use of rock or rubble rip rap.

The move to greater use of rock or rubble rip rap was a direct result of repeated damage or total loss of heavy tree bank protection work at critical pressure points along the single thread channel....

The present situation is, therefore, one in which the benefits of past river work are being sustained, and the river contained, only by replacement of existing works with

¹¹⁷⁵ Interim works programme, 13 August 1981, attached to Chief Engineer Rangitikei-Wanganui Catchment Board to Director of Water and Soil Conservation, 14 August 1981. Works and Development Head Office file 96/327000. Supporting Papers #2529-2534.

materials limited in supply and high in initial cost, even though providing a more assured level of erosion risk protection with a longer term cost effectiveness.¹¹⁷⁶

8.8 Rangitikei River Consolidation Scheme, 1983

In April 1983, while work was proceeding on preparation of the next scheme, the Rangitikei-Wanganui Catchment Board proposed to its Rangitikei River ratepayers that they elect a Liaison Committee, with six members drawn from each bank of three different reaches of the river (below Bulls bridge, Bulls to Onepuehu, and above Onepuehu)¹¹⁷⁷. Ratepayers from Te Reureu were among those who attended a meeting at Kakariki to elect a representative for the true left bank between Bulls and Onepuehu¹¹⁷⁸. The membership of the Liaison Committee was confirmed by the Catchment Board in July 1983¹¹⁷⁹. It is, however, debateable how influential the Liaison Committee was, as it held its inaugural meeting in September 1983¹¹⁸⁰, and the report on the replacement scheme was sent to Wellington the following month¹¹⁸¹.

The new scheme was described as a consolidation scheme because its purpose was to “safeguard the present benefits derived from flood and erosion risk protection works undertaken over the past 30 years”¹¹⁸². However, it was considered too costly to continue the “safeguarding” process underway under Scheme No. 2, and an alternative approach was proposed.

The Consolidation Scheme designed in 1983 proposed establishing a uniform standard of protection down both banks of the river. That had not been the direction in which Scheme No. 2 had been progressing:

The present channel form, in terms of water and bed load transport capacity, is considerably different from that intended, or expected, when the Scheme No. 2 works programme was drawn up and implemented. There are marked differences from reach to reach, and the standard of flood and erosion risk protection achieved varies

¹¹⁷⁶ Rangitikei-Wanganui Catchment Board, *Rangitikei River consolidation scheme, 1983*, Rangitikei-Wanganui Catchment Board Report No. 83/11. Supporting Papers #6562-6657.

¹¹⁷⁷ Chief Executive Officer to All Rangitikei River Ratepayers, 18 April 1983. Rangitikei-Wanganui Catchment Board file 327/RS/CON. Supporting Papers #3415.

¹¹⁷⁸ Notes of meeting, 10 May 1983. Rangitikei-Wanganui Catchment Board file 327/RS/CON. Supporting Papers #3416.

¹¹⁷⁹ Minutes of Rangitikei-Wanganui Catchment Board, 7 July 1983. Rangitikei-Wanganui Catchment Board file 327/RS/CON. Supporting Papers #3417.

¹¹⁸⁰ Minutes of meeting of Rangitikei River Ratepayers Liaison Committee, 13 September 1983. Rangitikei-Wanganui Catchment Board file 327/RS/CON. Supporting Papers #3418.

¹¹⁸¹ Chief Technical Officer to Director of Water and Soil Conservation, 20 October 1983. Rangitikei-Wanganui Catchment Board file 327/RS/CON. Supporting Papers #3419-3421.

¹¹⁸² Rangitikei-Wanganui Catchment Board, *Rangitikei River consolidation scheme, 1983*, Rangitikei-Wanganui Catchment Board Report No. 83/11. Supporting Papers #6562-6657.

considerably as a result of changes induced by river control works and the impacts of gravel extraction.¹¹⁸³

As examples, the Consolidation Scheme report cited a stopbank below Kakariki bridge where degrading of the river channel meant there was a channel capacity well in excess of its design capacity, while at Parewanui the stopbank provided less than design capacity because the river bed had aggraded. To overcome these different effects in different parts of the river, the Catchment Board aimed to encourage gravel deposition and minimal movement in areas of bed degradation:

In places this will mean retirement of erosion protection works, requiring time to establish protection in greater depth, allowing for movement of the river in that time, and coping with any serious breaches of the existing protection works. Changes in the channel as a result of any changes in gravel extraction patterns also have to be accommodated.¹¹⁸⁴

The Board was demonstrating how the studies it had conducted in the 1979-1981 period into the effects of gravel extraction (discussed in the chapter on gravel extraction) had influenced thinking about the protection scheme as a whole.

The Consolidation Scheme report outlined how continuing with further river control work to create a uniform 7.5 chain (150 metre) single thread channel (the Scheme No. 2 objective) would be expensive and not economically viable. Indeed, it argued that “control” was a misleading term with respect to a river such as the Rangitikei, giving a false sense of security to riparian landowners, as a big flood could never be contained within the channel. The confining of the channel had increased scour and also increased bank erosion risk. The scheme proposed a less confined channel some 500 metres wide (compared with 350-400 metres wide in Review Scheme No. 2) that accepted some freely-moving bends within a wider meander width, and which would require less riprap rock protection from erosion at vulnerable points. The less-confined channel would be defined on either bank by an erosion line, whereby if the river reached that line it would trigger efforts to prevent it spreading more widely. Because the less-confined channel would include planted trees and would only occasionally be filled with water, it was given a new name in the documentation, and described as a “fairway”¹¹⁸⁵.

¹¹⁸³ Rangitikei-Wanganui Catchment Board, *Rangitikei River consolidation scheme, 1983*, Rangitikei-Wanganui Catchment Board Report No. 83/11. Supporting Papers #6562-6657.

¹¹⁸⁴ Rangitikei-Wanganui Catchment Board, *Rangitikei River consolidation scheme, 1983*, Rangitikei-Wanganui Catchment Board Report No. 83/11. Supporting Papers #6562-6657.

¹¹⁸⁵ Rangitikei-Wanganui Catchment Board, *Rangitikei River consolidation scheme, 1983*, Rangitikei-Wanganui Catchment Board Report No. 83/11. Supporting Papers #6562-6657.

When forwarded for approval to the National Water and Soil Conservation Authority (successor to the Soil Conservation and Rivers Control Council), the Consolidation Scheme's objectives were stated as being:

- (a) [To] strengthen and consolidate identified key works;
- (b) To establish a uniform standard of erosion risk protection down both banks of the river;
- (c) To minimise potential risk of overtopping or failure of stopbanks;
- (d) To identify flood and erosion risks in a way that enables the affected land to be managed and used recognising those risks;
- (e) To rationalise conflicts of use of river berms between adjoining land owners, river protection works, recreational uses and gravel extraction;
- (f) To minimise future maintenance beyond the consolidating period.

The Catchment Board proposed two successive 5-year programmes of \$1,500,000 and \$1,000,000 respectively, for which it sought a 70% Crown subsidy¹¹⁸⁶.

There was an extended delay while the Water and Soil Division of Ministry of Works and Development undertook an assessment reviewing the economic benefits already achieved by Scheme No. 2, and carried out an economic assessment of the benefits likely to arise if the consolidation scheme was implemented.

In November 1984 the Ministry of Works and Development advised that a 70% subsidy, the highest rate allowable, was unlikely to be agreed to by Treasury and the Government. It was suggested that the Catchment Board revise its request down to a 60% subsidy, in which case the application would be processed more readily¹¹⁸⁷. This was accepted by the Board¹¹⁸⁸.

In March 1985 the Catchment Board was advised that the National Water and Soil Conservation Authority and the Government had approved the Consolidation Scheme in principle, and would provide a 60% subsidy on total expenditure of \$1,250,000 during the first five-year period. A review of the Scheme was required after five years¹¹⁸⁹. The

¹¹⁸⁶ Chief Technical Officer to Director of Water and Soil Conservation, 20 October 1983. Rangitikei-Wanganui Catchment Board file 327/RS/CON. Supporting Papers #3419-3421.

¹¹⁸⁷ District Commissioner of Works Wanganui to Chief Executive Officer, 26 November 1984. Rangitikei-Wanganui Catchment Board file 327/RS/CON. Supporting Papers #3422-3427.

¹¹⁸⁸ Chief Technical Officer to Director of Water and Soil Conservation, 20 December 1984. Rangitikei-Wanganui Catchment Board file 327/RS/CON. Supporting Papers #3428-3431.

¹¹⁸⁹ Director of Water and Soil Conservation to Secretary, 25 March 1985. Rangitikei-Wanganui Catchment Board file 327/RS/CON. Supporting Papers #3432-3433.

expenditure of \$1,250,000 for the first five years was amended to the originally requested figure of \$1,500,000 in June 1985¹¹⁹⁰.

During the first five years of the Consolidation Scheme the administrative landscape changed substantially. The Ministry of Works and Development and the National Water and Soil Conservation Authority were abolished in March 1988, after which the responsibility for distributing river control grant monies already agreed upon as a central government commitment was passed to the Ministry for the Environment. This meant that grant monies for the Consolidation scheme would continue up to the end of the first five-year period in 1990. Distributing the grant monies was a minor carryover accounting task for the Ministry for the Environment, and did not include technical or engineering supervision of river control schemes. In 1989 the Rangitikei-Wanganui Catchment Board was abolished, and its functions and responsibilities incorporated into the new Manawatu-Wanganui Regional Council, which was made responsible for its own decisions, and no longer had to seek central government approval for its actions.

The Operations Support Engineer for Manawatu-Wanganui Regional Council produced a first progress report on the Consolidation Scheme in June 1990. It covered the final year of the five-year programme, and summarised the state of affairs at that time as:

While the objectives of the Consolidation Scheme could never be entirely achieved, progress towards that end has been substantial.

The basic philosophy and objectives of the scheme have turned out to be extremely appropriate given the unforeseen changes in grant policy which have occurred subsequent to the scheme's preparation.

It was intended to continue with the same general direction, though "at a lower level of activity to reflect the loss of subsidy"¹¹⁹¹. This "lower level" turned out to be 21% lower during the first non-subsidised year¹¹⁹². The conclusion of the report on the first non-subsidised year was:

The transition from a regime of substantial and assured works subsidies to the present one of minimum and uncertain subsidies has been made without apparent short-term

¹¹⁹⁰ Director of Water and Soil Conservation to Secretary, 4 July 1985. Rangitikei-Wanganui Catchment Board file 327/RS/CON. Supporting Papers #3433A.

¹¹⁹¹ Rangitikei River Consolidation Scheme report, April 1989 to March 1990. Manawatu-Wanganui Regional Council file RE 02 60. Supporting Papers #6123-6131.

¹¹⁹² Rangitikei River Consolidation Scheme report, April 1990 to June 1991. Manawatu-Wanganui Regional Council file RE 02 60. Supporting Papers #6132-6137.

detriment to the standard of scheme works. This has largely been made possible by the continued absence of damage-causing floods.

The present level of activity must however be regarded as an absolute minimum, and there is every possibility that when a return to the pattern of floods experienced in the 70's does occur, additional resources will need to be directed to the river if the very substantial benefits gained over the past years are to be maintained.¹¹⁹³

However, cross-section surveys of the riverbed were not presenting such a reassuring picture. These surveys were carried out to tell whether the riverbed was aggrading or degrading. Results analysed after a survey in January 1991 showed aggradation below Bulls ("for the 7 year period 1984-1991 ... an average increase in mean bed level downstream of the Bulls extraction zone of approximately 0.15 metres"), and degradation between Bulls and Kakariki ("a decrease in mean bed level between Bulls and the upper limit of the Kakariki extraction zone of approximately 0.1 metres"). This meant that aggradation below Bulls had been continuing since 1975, the date of the first cross-section surveys, though at a lower rate than the 1975-1984 period. The continuing aggradation represented a flattening of the grade of the river channel that was encouraging further aggradation, which had extended upstream by about 3 kilometres. The conclusions drawn from the latest survey results were:

- Continued degradation in the gravel extraction zone was a cause for concern. There were finite limits to degradation, and therefore to gravel extraction, beyond which the flood protection works were put at unacceptably high risk and unacceptably high cost for repair/replacement.
- Continued aggradation was also a cause of concern, as it reduced the flood carrying capacity in the fairway, and increased the risk of stopbanks, at Parewanui in particular, being overtopped.
- Aggradation progressing upstream might eventually result in recharge of the gravel extraction zone just below Bulls bridge.
- The rate of gravel extraction in the Bulls to Kakariki reach was unsustainable, and the greatest benefit to river management would come if gravel extraction pressures were shifted downstream to the reach that was aggrading.

¹¹⁹³ Rangitikei River Consolidation Scheme report, April 1990 to June 1991. Manawatu-Wanganui Regional Council file RE 02 60. Supporting Papers #6132-6137.

The report recommended adjustments to gravel extraction charges to incentivise gravel extractors to move to the aggrading reach¹¹⁹⁴.

The results from the cross-section surveys conducted in 1991, combined with the impact of the loss of central government subsidies, precipitated a decision to initiate a further review of the flood protection and river control scheme. These issues had become dominant in Regional Council thinking, yet were not addressed in the Consolidation Scheme report completed in 1983. Scheme Review No. 3 is covered in the next section. The introduction to the review report explained the stage reached with the scheme by the early 1990s:

There have been concerns since the early 1980s that commercial gravel extraction from the Rangitikei and Kawhatau Rivers is causing bed degradation which is increasing scheme maintenance costs. An increasing body of survey data has now made it possible to assess these effects more closely. At the same time, aggradation in the lower river has reduced stopbank capacities to the extent that the “20 year return period” flood of 23 July 1992 almost overtopped the “50 year return period” scheme stopbanks. Causes of this aggradation were unknown and needed to be determined.

The scheme has remained costly despite being in a maintenance phase. Despite a 30% reduction of works in 1991, costs to scheme ratepayers rose by 70%, due to removal of Government grants, and have been maintained at the current level by substantial contributions from gravel extractors. It was therefore desirable to consider means of reducing scheme expenditure.¹¹⁹⁵

Just before the Consolidation Scheme was superseded by Scheme Review No. 3, a paper was prepared about land purchase associated with the Rangitikei River Scheme. This paper was a summary intended to provide information for a new set of administrators of the scheme (Manawatu-Wanganui Regional Council) about the reasons why land had been acquired. It explained that “the greatest proportion” of riverbed land was the reserve for soil conservation and river control that the Catchment Board had been appointed to control and manage in 1959:

The difficulty with the reserve is that it is not surveyed, so the boundaries are considered to be the adjacent title boundaries at the time of reservation – but subject to the normal rules applicable to moveable boundaries (accretion and erosion).

At the time of reservation in 1959, many of the adjoining titles had either been eroded or had significant areas of accretion land on their river frontages which was being

¹¹⁹⁴ Rangitikei River Channel Survey, June 1992. Manawatu-Wanganui Regional Council file RE 02 60. Supporting Papers #6138-6145.

¹¹⁹⁵ Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 3*, July 1994, page 1. Supporting Papers #6875-6966 at 6879.

occupied. Consequently the reserve did not, and still does not, necessarily correspond to the actual river channel. In fact some sections of river channel were entirely located on title land.¹¹⁹⁶

As part of Scheme No. 2, the report explained, there had been “a concentrated effort” to extinguish titles in the riverbed, on the banks on the river side of fence lines, and where occupied by stopbanks. The sections of river which were “substantially tidied up” in this way were at Tangimoana, Okanagan, Parewanui and upstream of the Bulls bridge:

Survey work on the left bank below Ohakea was completed and purchase negotiations commenced, when a decision was made to defer further land purchase on account of both a shortage of Scheme funds and the administrative difficulties being encountered.

Those pieces of land that were purchased had, as a condition of NWASCO subsidy, to be transferred to Crown ownership. Many pieces of land were so transferred by way of individual gazette notices. A subsequent process vested management and control in the Board – again by way of gazette notice.

Once those processes had been completed, the status of the land affected was similar to that of the original [1959] reserve, but it did have legal description.

However, the processes were not followed through and completed for all land. Some lands which had been taken were not declared Crown Land, and some lands declared Crown Land were not reserved¹¹⁹⁷.

This still left a further category of land where the title was outside the riverbed but a claim to accretion extending into the protection scheme land could be made. If that claim was successful, the accretion title would be in the situation that had been addressed by acquisition during the Scheme No. 2 era.

The report concluded:

Generally speaking, very few problems in managing the Scheme have been encountered as a result of all land affected not being directly under the Council’s control. However uncertainty as to land status and tenure may cause some difficulties in future as an effort is made to maximise the returns to the Scheme from either grazing leases or forestry. Certainly it is imperative that Council has secure tenure of any land on which future forestry is to be established.

¹¹⁹⁶ Area Engineer - Northern to Director of Corporate Services, 19 July 1994. Manawatu-Wanganui Regional Council file RE 02 60. Supporting Papers #6149-6151.

¹¹⁹⁷ Area Engineer - Northern to Director of Corporate Services, 19 July 1994. Manawatu-Wanganui Regional Council file RE 02 60. Supporting Papers #6149-6151.

It would therefore be desirable to have the whole situation tidied up, however I suspect that the exercise involved would be very complex and could possibly involve a qualified person working full time for 9-12 months.

It may be preferable to progressively work towards an end result by having detailed examinations undertaken in each area where it is proposed to establish new forestry, and to record the results in a standard format.¹¹⁹⁸

8.9 Rangitikei River Scheme Review No. 3, 1994

Review No. 3 was reported on in July 1994¹¹⁹⁹. It first referred to the problems that the Consolidation Scheme had faced, but had not addressed when it had been developed in 1983:

- (a) River bed degradation – associated with commercial gravel extraction;
- (b) River bed aggradation in the lower river, and loss of flood carrying capacity – demonstrated recently during the 23 July 1992 flood;
- (c) The undermining and loss of tree bank protection; and
- (d) The shortage of funding caused by a relatively recent loss of government subsidy.¹²⁰⁰

Of the problems, it was crucial to get some control over gravel extraction by making changes to the way that activity was managed. The 1979 gravel extraction study's recommendations had been based on gravel extraction being beneficial to flood protection and river control operations, yet that was not happening because of the degradation that it was causing. Degradation of the riverbed had the following effects:

- (a) Undermining scheme works,
- (b) Reducing the embedment of bridge piers;
- (c) Destabilising river banks and promoting bank erosion;
- (d) Creating a deeper river which may be less accessible or enjoyable for recreation;
- (e) Possible but unknown effects on fish and other aquatic fauna.¹²⁰¹

Meanwhile aggradation made the stopbanks, a major benefit resulting from the scheme, less effective:

Gravel extraction and scheme works are interlinked. Scheme managers typically wish to fix river bends in place to control erosion [while] natural river processes tend to deposit and build beaches which promote bend erosion and bend migration. Gravel extraction is often seen as the only viable means of easing the pressure on bend protection. Short term, it is cheaper than alternative methods, however unchecked

¹¹⁹⁸ Area Engineer - Northern to Director of Corporate Services, 19 July 1994. Manawatu-Wanganui Regional Council file RE 02 60. Supporting Papers #6149-6151.

¹¹⁹⁹ Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 3*, July 1994. Supporting Papers #6875-6966.

¹²⁰⁰ Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 3*, July 1994, page 7. Supporting Papers #6875-6966 at 6885.

¹²⁰¹ Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 3*, July 1994, page 7. Supporting Papers #6875-6966 at 6885.

gravel extraction would ultimately be very costly, causing continuing degradation which would lead to a collapse of the Scheme....

Unfortunately gravel has for 30 years been extracted well in excess of the river's natural supply. [The 1983 Consolidation Scheme report] recognised that excessive gravel extraction was damaging scheme works, promoting undermining of bank protection. The report did not recognise that river confinement by rip-rap protection causes local scour and also promotes undermining.¹²⁰²

The conclusions reached by Review No. 3 were:

14. River control works are managed efficiently and cannot be reduced without detrimentally affecting the Scheme. A minor increase in funding is required to keep the river in its current course.
15. Three distinct zones are recognised for river management purposes. Zone divisions occur at 19 km and 37 km from the river mouth. Works in each zone are largely independent of those in neighbouring zones, and can reasonably be split to facilitate financial management.
16. Three of the Scheme's four stopbanks will need to be raised to maintain the design protection standard (the 2% annual exceedance probability flood). The major work involves the Parewanui stopbank, which protects about 1,600 hectares of valuable dairying and cropping land near Flock House. This presently has a 3-4% annual risk of being overtopped in a flood.
17. Continuation of the Scheme maintenance programme, and proposed stopbank upgrading works, are shown to provide an acceptable economic return.
18. Forestry can provide the majority of Scheme funds from year 2008, or earlier via loans if necessary.
19. The programme of noxious plants control should be strengthened in recognition of the importance of noxious plants control to the Scheme, to Scheme ratepayers, and to areas further afield.
20. A reclassification of the Rangitikei River Scheme will be required in order that the future scheme is funded equitably.
21. Gravel extraction from the Rangitikei River upstream of 15 km should be reduced to not more than the natural rate of supply within a reasonable period. In the interim, social and economic considerations indicate that gravel extraction should be gradually reduced to a more sustainable level. Environmental harm to the river and the Scheme can be mitigated in the short term through financial contributions in respect of gravel extracted from the river.
22. Further monitoring and investigation is required to establish the natural rate of supply of gravel into the Rangitikei River, to confirm trends and improve gravel resource management.¹²⁰³

Review No. 3 identified continuing problems of bed aggradation and berm siltation caused by gravel choking the river fairway. To maintain the degree of protection that ratepayers had

¹²⁰² Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 3*, July 1994, pages 8-9. Supporting Papers #6875-6966 at 6886-6887.

¹²⁰³ Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 3*, July 1994, pages 2-3. Supporting Papers #6875-6966 at 6880-6881.

come to expect, stopbanks needed to be upgraded. It recommended that this upgrade work be carried out over a 20-year period. The design protection standard required a bank that contained a 50-year flood and still retained 600mm freeboard during the flood. The only exception to this was the stopbank between Parewanui and Scotts Ferry, which provided protection to a large area of land and for which the consequences of a flood would be particularly costly; that stopbank had to protect against a 100-year flood and still have 600 mm freeboard¹²⁰⁴.

Besides a new gravel extraction regime (discussed in the chapter on gravel extraction), Review No. 3 also recommended:

- The use of rock rip rap for bank protection, rather than the use of whole trees fastened to anchorages with wire ropes;
- A closer link between the level of work provided and the zoning that determined the level of rates collection;
- A noxious plants control programme costing \$20,000 annually;
- The planting of 5 hectares of pine forest each year up to 2008, and 10 hectares each year thereafter¹²⁰⁵.

The report had a section headed “Reduced Works in Tokorangi Area” of particular relevance to Te Reureu landowners and ratepayers:

Representatives of the Tokorangi area, on the left bank upstream of Kakariki, have indicated that a lesser standard of protection for this area may be preferred to the anticipated increase in rates. Under the current capital value based classification, the Tokorangi area is rated less per hectare than most other sections of the river because of the area’s generally lower property values. Rates for this area could be expected to increase substantially in percentage terms, although not necessarily in dollar terms, under a new area based classification.

A reduced level of works could be implemented for this section of Zone 3. Such a reduced programme would retain works for the general good of the scheme such as planting, fairway clearing and weed control, but would delete rock and tree protection components which are the most expensive. It is estimated that relatively modest erosion would occur overall, and that the right bank opposite would not be significantly affected.

¹²⁰⁴ Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 3*, July 1994, pages 18-19. Supporting Papers #6875-6966 at 6896-6897.

¹²⁰⁵ Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 3*, July 1994, pages 3 and 25-26. Supporting Papers #6875-6966 at 6881 and 6903-6904.

However, this option does not appear to be necessary provided that the level of funding indicated in Table 5 is implemented. The projected rates increases to the Tokorangi area are modest in dollar terms and this is expected to meet the concerns of Tokorangi ratepayers....

Council staff should continue to consult with representatives from the Tokorangi area to clarify the outcomes of the review and note any concerns of the local people.¹²⁰⁶

The 50-year flood in February 2004 was a shock reminder about the vulnerability of riparian land:

Floodwaters overtopped sections of stopbank, and natural terraces acting as stopbanks, on the right bank of the river downstream of Bulls, and flowed down the landward side of the stopbank system to become impounded by sand dunes and to inundate Scotts Ferry settlement.

On the opposite side of the river at Tangimoana a sand dune upstream of the stopbank system was breached and floodwater entered the settlement, to join other water which backed up from the river estuary. Floodwater entered approximately 60 houses.

Damage to residential property at Parewanui, Scotts Ferry and Tangimoana, to farmland, crops and improvements, particularly on the right bank between Kakariki and Parewanui, and to roading infrastructure, was substantial. Approximately 1550 ha of highly productive lower terrace land was flooded.¹²⁰⁷

The flooding dramatically demonstrated that the protection works were not capable of doing what they were designed for. It prompted an engineering review of stopbank capacity and design that looked particularly at what works were necessary to bring the stopbanks up to a standard that would protect against 50-year or 100-year floods. What constituted a 50-year or 100-year flood (i.e. a flood with 2% or 1% annual exceedence probability respectively) was found to have changed, with new calculations showing a larger flood discharge than previously assessed had to be allowed for to meet these design standards. The combination of an aggrading riverbed (which had been continuing since the 1994 report) and an increased flood channel capacity requirement, meant that 13 kilometres of the total of 17 kilometres of existing stopbanks in the scheme needed to be raised in height, and nearly 4 kilometres of new stopbanks needed to be constructed¹²⁰⁸. The results of the stopbank review were notified for comment by the ratepayers who paid the special rate for the protection scheme, where the engineering requirements were measured against the cost of the additional works. As a result

¹²⁰⁶ Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 3*, July 1994, page 31. Supporting Papers #6875-6966 at 6909.

¹²⁰⁷ Paper to Manawatu-Wanganui Regional Council meeting on 15 June 2005, Item 7. Manawatu-Wanganui Regional Council file RE 02 60. Supporting Papers #6152-6173.

¹²⁰⁸ Paper to Manawatu-Wanganui Regional Council meeting on 15 June 2005, Item 7. Manawatu-Wanganui Regional Council file RE 02 60. Supporting Papers #6152-6173.

of the consultation process, most of the stopbank review's recommendations were adopted¹²⁰⁹.

However, no sooner had the Regional Council embarked on a programme of stopbank upgrades in response to the findings of the review than another flood, in July 2008, caused more damage. The Council decided that a more substantial review of channel management design and protection levels was required.

8.10 Rangitikei River Scheme Review No. 4, 2011

This review is notable, as compared to earlier reviews, in having a minor amount of Maori involvement. How useful that has been to the review, and whether that involvement had any effect on the outcome of the review, is analysed below.

In a paper to Manawatu-Wanganui Regional Council setting out the scope of the review, it was stated that “the region is currently in a period of increased flood activity, and this review needs to confirm or revise current design, with particular regard to sustainability”¹²¹⁰. The statement about increased flood activity is believed to be related to the close proximity in time between the 2004 and 2008 floods. However, it is not borne out by records that were included in the review document when it was eventually produced. These show that during the 54-year period 1955-2008 inclusive, the top 10 annual maximum flows recorded at Mangaweka occurred in 1958, 1965, 1967, 1968, 1980, 1988, 1992, 1999, 2004 and 2008¹²¹¹. The briefing paper may have been unduly alarmist in this respect.

The briefing paper also stated:

There is some urgency to have the proposed review completed. Some significant erosion problems exist at the present time, and it is not considered prudent to commit the considerable expenditure required to address those until the overall channel management design has been reviewed.¹²¹²

¹²⁰⁹ Paper to Manawatu-Wanganui Regional Council meeting on 20 December 2005, Item 9. Manawatu-Wanganui Regional Council file RE 02 60. Supporting Papers #6174-6185.

¹²¹⁰ Paper to Catchment Operations Committee meeting on 10 December 2008, Item 7. Manawatu-Wanganui Regional Council file PRD 05 25. Supporting Papers #6005-6014.

¹²¹¹ Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 4 (final draft report)*, June 2010, page 5. Supporting Papers #7302-7404 at 7310.

¹²¹² Paper to Catchment Operations Committee meeting on 10 December 2008, Item 7. Manawatu-Wanganui Regional Council file PRD 05 25. Supporting Papers #6005-6014.

Annexed to the briefing paper was an outline of the scope of the proposed review. Topics to be covered were:

- Identify areas suffering erosion, and assess the causes of this erosion;
- Document design flood estimates;
- Determine and cost a new set of design channel alignments and boundaries. This was to include a review of whether a 500-metre wide channel fairway would be appropriate, and might require the presentation of options for discussion with stakeholders;
- Update gravel extraction data and provide a gravel extraction policy for the future;
- Consult with stakeholders¹²¹³.

The scoping of the review shows that flood protection was not the focus of the review, as that aspect of Regional Council intervention in the river had, in the Council's opinion, been covered by the stopbanking review conducted in 2006. Rather it was about how to manage the channel between the stopbanks and the dryland berm areas controlled by the Regional Council on either side of the river. Management was a matter of reacting to and training/guiding the changes caused by the river in the channel. The review was not questioning the continuation of the flood protection and channel management work on the Rangitikei River that had been going on for over fifty years, but rather was more narrowly focussed on the technicalities of the engineering parameters to be applied to the channel management task. There was also no reference in the scoping brief to the Resource Management Act, administration of which was another function of Manawatu-Wanganui Regional Council. The project would be an operational review siloed within one branch of the Regional Council organisation.

Having got approval from Manawatu-Wanganui Regional Council to undertake the review in December 2008, staff notified the immediately affected landowners ("direct benefit category ratepayers") in April 2009. The list of such ratepayers included Maori landowners at Parewanui and Te Reureu. They were told:

The substantial amount of damage to channel alignment control and erosion protection assets suffered during the February 2004 flood, and exacerbated in subsequent events, was substantially reinstated over a period of three years and was largely funded by a combination of insurance claim payments and Central Government grants. However, despite the substantial works undertaken, either as part

¹²¹³ Paper to Catchment Operations Committee meeting on 10 December 2008, Item 7. Manawatu-Wanganui Regional Council file PRD 05 25. Supporting Papers #6005-6014.

of the 2004 damage reinstatement programme, or as repairs to subsequent flood damage funded from scheme reserves, sections of the river have remained in a state of relative instability. As a result ongoing damage to erosion protection assets continues to be incurred in even moderate flood events.

In July 2008 a flood estimated to have a discharge of 1265 cumecs and a return period of 10 years caused damage with an estimated repair cost of \$900,000. The scheme does not have sufficient financial resources available to undertake these repairs, and accordingly a decision has been made to complete only a limited amount of high priority repairs, pending a full review of the channel management aspects of the scheme. It is not considered prudent to commit further funds, which would need to be borrowed, until the overall channel management philosophy and design have been thoroughly reviewed.¹²¹⁴

Directly affected stakeholders were told that during the review the Scheme Liaison Committee would be kept informed, and that there would also be consultation opportunities. The Scheme Liaison Committee by this time included one Maori representative, Dennis Karatea, six representatives of landowners on different reaches of the river, and four elected members of the Regional Council.

One such consultation meeting with a group of “key scheme stakeholders” took place in August 2009. It was attended by Scheme Liaison Committee members, representatives of Fish and Game New Zealand, Department of Conservation, and the aggregate industry, plus Chris Shenton of Ngati Apa, described as a “Rangitikei River iwi representative”¹²¹⁵. Regional Council staff involved with regional planning (the One Plan) were not included among those invited. Another meeting of the key stakeholder group took place in March 2010 when a first draft review report had been completed¹²¹⁶. In neither case do minutes or notes seem to have been taken to record the views of attendees.

A paper to the Regional Council was prepared in April 2010 to report that a first draft of the review had been completed¹²¹⁷. This was a full explanation of the key findings, and is relied on for this report, rather than the draft review report itself (which was soon overtaken by a final draft three months later, discussed below). Three channel width options were identified:

¹²¹⁴ Group Manager Operations to All Direct Benefit Category Ratepayers, 17 April 2009. Manawatu-Wanganui Regional Council file PRD 05 25. Supporting Papers #6015-6018.

¹²¹⁵ Group Manager Operations to key stakeholder group invitees, 11 August 2009. Manawatu-Wanganui Regional Council file PRD 05 25. Supporting Papers #6019-6020.

¹²¹⁶ Group Manager Operations to key stakeholder group invitees, 2 March 2010. Manawatu-Wanganui Regional Council file PRD 05 25. Supporting Papers #6022-6024.

¹²¹⁷ Paper to Catchment Operations Committee meeting on 12 April 2010, Item 7. Manawatu-Wanganui Regional Council file PRD 05 25. Supporting Papers #6025-6031.

- Wide fairway – 250 metre wide channel plus 100 metre wide buffer, 450 metres overall width. This option would permit some migration of the meander pattern, and would rely on vegetation cover (willows, etc) to contain bank erosion.
- Narrow fairway – 150 metre wide channel plus 50 metre buffer, 250 metres overall width. This option was similar to the historical 7.5 chain channel. It would permit a limited amount of migration of the meander pattern, and would require strengthening of the banks against erosion.
- Extreme minimum – 100 metre wide channel plus 20 metre wide buffer, 140 metres overall width. This option would have to prevent mobile meanders, and would require stronger channel banks that would be under regular and severe pressure of being subject to erosion.

The first draft review recommended adopting the wide fairway option above Kakariki, a mix of the wide and narrow fairways between Kakariki and Bulls, and the narrow fairway option downstream of Bulls. In essence, this was to be a slight broadening of the width of the fairway then in existence in 2010 that had been established under previous schemes and scheme reviews¹²¹⁸.

The number of key findings about gravel extraction indicated how much attention had been devoted in the review to managing this activity in the river channel:

- The Rangitikei River continues to generally aggrade (apart from fluctuations near the river mouth) in the lower 15 km, and degrade from that point to Rewa;
- There is still relatively little extraction through the lower 15 km. This has averaged 33,000 cubic metres per annum through this reach between 2004 and 2008;
- In contrast the extraction between 15 km and Rewa has continued at high levels, averaging 105,000 cubic metres per annum between 2004 and 2008;
- This is far in excess of the 1994 report recommendation that extraction not exceed 40,000 cubic metres per annum from this reach;
- Generally between 15 km and Kakariki there is “naturally” no increase in bed volume, and that reach cannot be extracted without inevitable bed degradation. There are two apparent areas of deposition at Bulls and Kakariki; but this may be due to the bed there recovering from extraction from infilling in subsequent floods, and gravel to the reaches downstream being deprived;
- Since the previous survey in 2008, there has been a very serious drop in riverbed volume and levels in the reach from Kakariki to Rewa, amounting to a loss of 2.4 million cubic metres of riverbed;

¹²¹⁸ Paper to Catchment Operations Committee meeting on 12 April 2010, Item 7. Manawatu-Wanganui Regional Council file PRD 05 25. Supporting Papers #6025-6031.

- This equates to 207,000 cubic metres per annum, as against the long term average (1977-2009) of 107,000 cubic metres per annum;
- This has been due to the very large 2% AEP (50-year) flood in 2004, and gravel extraction from this reach and the Mingaroa Road reach downstream of Kakariki, totalling 57,000 cubic metres per annum;
- Between 1977 and 2009 mean bed levels have dropped by 0.6m between 33 km and 46 km, with around 50% of this drop since 1998;
- It is clear that the serious drop in bed levels is a major factor in the increasing scale of river erosion problems.¹²¹⁹

In short the review of gravel extraction highlighted how the Regional Council had not followed its own policy direction set in 1998 to cut down on gravel extraction at Kakariki, Mingaroa Road and Bulls, and to boost gravel extraction in the aggrading lower 15 km of the river. Lack of action in this regard had resulted in increased costs for ratepayers in combating erosion.

Three causes of riverbank erosion were identified:

- Vegetative constrictions. This is evident in particular in the lower 15 kilometres of the river where 19% by length is affected by erosion (note the % is the ratio of the total length of erosion divided by the total reach length – if it were divided by the total length of riverbank on both banks, then the ratio would be largely halved);
- Excessive gravel extraction in the degradation reach. Erosion in the degradation reach (upstream of 15 kilometres) varies between 27 and 46% by length of the river;
- Impacts of the 2004 flood.¹²²⁰

Given that the meander pattern would not result in erosion on both banks of the river at the same point in the reach, it probably would have been more useful to apply the figures to the length of riverbank (being double the length of the river). The briefing paper did not report on the relative contribution of the three causes, though the message coming through was that gravel extraction was the most significant cause. However, both vegetation clearance and gravel extraction were under the regulatory and operational control of the Regional Council, and the Council had been found wanting.

There were two types of intervention, high cost and low cost, which the Council would have to engage in over the next 10-15 years. High cost intervention was the strengthening of banks at erosion points using rock riprap and building groynes, though for cost reasons the

¹²¹⁹ Paper to Catchment Operations Committee meeting on 12 April 2010, Item 7. Manawatu-Wanganui Regional Council file PRD 05 25. Supporting Papers #6025-6031

¹²²⁰ Paper to Catchment Operations Committee meeting on 12 April 2010, Item 7. Manawatu-Wanganui Regional Council file PRD 05 25. Supporting Papers #6025-6031.

Council intended to keep such capital-intensive works to a minimum. Greater reliance would be placed in lower cost measures, which were vegetation clearance and more stringent directing of gravel extraction into locations where it would do most good for management of the channel¹²²¹.

There was a third meeting of the key stakeholder group in May 2010 before the final draft report was produced. No minutes or notes appear to have been taken. The final draft report was completed in June 2010¹²²². The identified problems and solutions remained unchanged, and the main difference as compared to the first draft report completed in March 2010 was the addition of chapters on environmental assessment, cost estimates, funding and conclusions, plus the attachment of maps and plans showing the location of proposed works. Among the conclusions was a “gravel extraction forward policy”, which proposed “decisive steps” directing extraction towards the lower river (where an annual supply of 100,000 cubic metres was available), while extraction in the middle reaches would be “markedly lowered” (with production not exceeding 30,000 cubic metres overall, and in two sub-reaches being “curtailed to the absolute minimum”). It put forward the idea that gravel extraction should shift out of the river fairway and become a land-based operation on the banks of the river¹²²³.

The chapter on environmental assessment (2½ pages in an 81 page document) acknowledged that “consideration of ecological principles and amenity values has not been inherent in the Scheme” since its inception in the 1950s. It argued that a stable riverbed improved in-stream values, that what was being proposed was “as little intervention as possible”, that the Resource Management Act imperative about the preservation of the natural character of rivers and their margins being a matter of national importance was being recognised, that the increased fairway width would allow a greater diversity of river habitats, and that opportunities for public access, amenity enjoyment and recreation use would become available¹²²⁴.

¹²²¹ Paper to Catchment Operations Committee meeting on 12 April 2010, Item 7. Manawatu-Wanganui Regional Council file PRD 05 25. Supporting Papers #6025-6031.

¹²²² Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 4 (final draft report)*, June 2010. Supporting Papers #7302-7404.

¹²²³ Paper to Catchment Operations Committee meeting on 9 June 2010, Item 7. Manawatu-Wanganui Regional Council file PRD 05 25. Supporting Papers #6032-6037.

¹²²⁴ Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 4 (final draft report)*, June 2010, chapter 9, pages 65-67. Supporting Papers #7302-7404 at 7370-7372.

The final draft report made provision for a chapter on Tikanga Maori. However this chapter was blank in the report, apart from a brief note, “input requested from Rangitikei River iwi”¹²²⁵. The request had been in the form of a letter to Chris Shenton of Ngati Apa at the beginning of June 2010:

You will note that we have included provision (Section 10.0) for some discussion on Tikanga Maori. I would in due course appreciate some input from you in completing that section in the final report.¹²²⁶

This request was made after the remainder of the final draft report had been completed.

At its June 2010 meeting, the Catchment Operations Committee approved the final draft report being circulated for comment by directly affected ratepayers and other stakeholders¹²²⁷. A newsletter was sent to ratepayers in September 2010¹²²⁸, and a public meeting was held in Marton the same month. In the newsletter submissions were invited. Eight submissions were received, and were heard and considered in December 2010.

Of the submissions, two were from gravel extraction organisations, one from a company owning property in Bulls, three from European riparian landowners (one in the lower reach and two in the middle reach), and two from Maori.

Neither of the two Maori submitters, Turoa Karatea and Danny Paranihi, seem to have provided written statements at the submissions hearing – none were located on Regional Council files examined during research for this report. A summary of what they told the hearing panel is recorded in the report on the hearing presented to the full Regional Council later in December:

Turoa Karatea introduced himself as a representative of Ngati Waewae, and was concerned that gravel extraction since 1890 had lowered the riverbed. He asked why the Council continues to allow gravel extraction in the area.

Previous floods spread over a wider area, but did little damage because the river was wider and shallower.

¹²²⁵ Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 4 (final draft report)*, June 2010, chapter 10, page 69. Supporting Papers #7302-7404 at 7374.

¹²²⁶ Group Manager Operations to C Shenton, Marton, 2 June 2010. Manawatu-Wanganui Regional Council file PRD 05 25. Supporting Papers #6038.

¹²²⁷ Paper to Catchment Operations Committee meeting on 9 June 2010, Item 7. Manawatu-Wanganui Regional Council file PRD 05 25. Supporting Papers #6032-6037.

¹²²⁸ Newsletter sent to ratepayers, September 2010, attached as Appendix C to Paper to Catchment Operations Committee meeting on 9 December 2010, Item 2. Manawatu-Wanganui Regional Council file PRD 05 25. Supporting Papers #6039-6098 at 6093-6098.

Mr Karatea and Danny Paranihi were concerned that previous river engineers' designs for the river had not worked, and were reserving their trust of the current review. A cut at Scotts Ferry some years ago had not worked.

The river is a huge part of the local iwi's life and history. It is the local iwi's river, who have been there for generations, unlike HRC [Regional Council], and there are many Maori titles.

2.5 million cubic metres of gravel have been extracted, and the adjacent landowners should have received royalties, which would have enabled them to contribute back to the health of the river. Ngati Waewae were refused a consent to extract gravel, however their intention was to put the potential earnings back into the river, as they felt their interests were not being taken care of.

Ngati Waewae wanted more consultation, and believed the Nga Pae o Rangitikei, that was established for the protection of the river, was making disappointing progress.

Bill Paranui was concerned that the river was too confined due to extraction, there was inadequate maintenance, and trees were being washed away. At the Kakariki bridge cylinders were being exposed.¹²²⁹

The hearing panel made two recommendations to the Regional Council about the final draft report as a result of their consideration of the submissions:

1. That Rangitikei River Scheme Review No. 4, including recommended changes to river and gravel management practices, be adopted with the one change referred to in recommendation 2 below.
2. That a new section 4.5 entitled "One Plan Policies and Rules" be added to the draft review. This is to include reference to Policies 6-32 and 6-32A, and Rules 16-15 and 16-15A. Furthermore, to keep the review in balance with the facts, that a sentence be added to the end of the third bullet point in Section 7.4, "Clearly the average recorded extraction rates for decades have been above the sustainable rates, necessitating this reduction".¹²³⁰

There was a series of other recommendations about the implementation of the review, including that land-based extraction be supported, that gravel extraction charges be reviewed, that the target of 30,000 cubic metres in the middle reach of the river be "strictly adhered to", and that there be stricter monitoring of extraction operations. The full Council accepted all the recommendations, and submitters were notified in February 2011¹²³¹.

¹²²⁹ Paper to Manawatu-Wanganui Regional Council meeting on 21 December 2010, item 7. Manawatu-Wanganui Regional Council file PRD 05 25. Supporting Papers #6099-6112.

¹²³⁰ Paper to Manawatu-Wanganui Regional Council meeting on 21 December 2010, item 7. Manawatu-Wanganui Regional Council file PRD 05 25. Supporting Papers #6099-6112.

¹²³¹ Manager Investigations and Design to T Karatea, Halcombe, 8 February 2011, and to DW Paranihi, Feilding, 8 February 2011. Manawatu-Wanganui Regional Council file PRD 05 25. Supporting Papers #6113-6114 and 6115-6116.

Review No. 4 had been completed and was being implemented. However, there had still been no written input providing a Maori perspective. In March-April 2012 Manawatu-Wanganui Regional Council made efforts to obtain the views of Maori. This comprised a meeting with Chris Shenton of Ngati Apa and Rangi Hawira of Rauhuia Environmental Services about “arrangements for compiling a Te Ao Maori section” for the Review No. 4 report, following which the Regional Council staff member at that meeting recorded in a letter to Rangi Hawira:

1. Environmental conference. An environmental conference has been arranged for May (tentatively last weekend in May), to discuss Rangitikei River issues in general. The opportunity will be taken to explore the issues that should be addressed in the section to be drafted for the Scheme Review report.... Horizons will make available a river engineer and a compliance officer to speak at the conference.
2. Report writing. Rauhuia Environmental Services will engage a suitably qualified person to attend the above conference and to write the Te Ao Maori section, based on conference proceedings. The section will be completed and submitted to Horizons for inclusion in an updated version of the Scheme Review document, by the end of 2012. Horizons will meet costs not exceeding \$4,000 for the writing of the report....

Thank you for your cooperation in finding a way forward with the completion of this important work.¹²³²

However, there has been no further progress since then on the preparation of a Te Ao Maori chapter, or on upgrading the final draft report as a whole to a final report.

An update on the Rangitikei River Scheme following approval of Review No. 4 was provided to ratepayers in April 2012. It spoke of “a shift in river management emphasis from reactive (erosion protection) to pro-active (channel clearing and alignment improvement) works”:

The object of the new channel management regime is to progressively achieve a wider and better aligned clear flood channel, such that lateral erosion pressures are reduced. Accordingly, new channel widths and alignments have been designed and mapped, and all erosion protection works will now be assessed and prioritised against those channel design parameters. Priority will be given to works required to correct serious mis-alignment and to maintain the channel within the design alignment. The budget for vegetation clearance will be ‘ring-fenced’ and only applied to that work. That means that in a number of situations, damaged protection works will not now necessarily be repaired, and erosion may be allowed to continue until it threatens to encroach on the design channel limits.

¹²³² Group Manager Operations to Environmental Officer Rauhuia Environmental Services, 4 April 2012. Manawatu-Wanganui Regional Council file PRD 05 25. Supporting Papers #6117-6118.

Meanwhile the flood protection upgrade initiated following the 2006 report was continuing, with work completed at Tangimoana, and the next project being the raising of an existing stopbank along a 5.9 km stretch between Scotts Ferry and Flock House¹²³³.

8.11 River control elsewhere on the Rangitikei River and tributaries

The 65 km of the Rangitikei River south of Rewa was not the only area where there could be flooding or bank erosion. Others parts of the catchment could also be affected and be brought to the attention of the Rangitikei Catchment Board and its successors.

A flood control scheme on the Makowhai Stream was investigated in 1970-1971. However it failed to gain the support of the landowners who would be responsible for funding the local contribution, and was not proceeded with¹²³⁴.

The Pourewa¹²³⁵ catchment was very flood-prone, with frequent consequences for the township of Hunterville, for the State Highway and Main Trunk Railway¹²³⁶, and for flat land in the river's lower reaches. Severe flooding in October 1955 prompted the Catchment Board to commence work on designing a flood control scheme. The causes of flooding were the almost total clearance of forest cover, resulting in fast runoff from the grassed hillsides during storms, and accompanying soil erosion leading to silting up of the waterways. There was a sharp peak in runoff volumes that the waterways could not cope with. Willows along the banks of the Pourewa Stream were both a help and a hindrance, holding back water that would otherwise cause greater flooding in the lower part of the catchment, but in doing so adding to flooding problems for landowners in the upper and middle parts of the catchment.

The Catchment Board developed a flood control scheme for the Pourewa valley in 1957. There was then a lengthy process over the next four years to persuade the roading and railway authorities to contribute to the costs of the scheme. Despite railway houses at Rata being

¹²³³ Group Manager Operations to All Rangitikei River Scheme ratepayers, 17 April 2012. Manawatu-Wanganui Regional Council file PRD 05 25. Supporting Papers #6119-6122.

¹²³⁴ Rangitikei-Wanganui Catchment Board, *Planning needs and management objectives for the Rangitikei River*, 1978, page 14. Report No. 78/7. Supporting Papers #6369-6400 at 6384.

¹²³⁵ While Porewa is the spelling most commonly used, and its adoption on all maps and official records may mean it has some official recognition, Pourewa is the spelling preferred by tangata whenua, and has been used during the writing of this report. References to Porewa are retained where that name was used in historical documents.

¹²³⁶ In the Pourewa valley, State Highway 1 crosses Pourewa Stream 6 times, and the Main Trunk Railway line crosses Pourewa Stream five times.

affected by flooding, and the railway bridge over the Pourewa Stream being a constriction at times of flood flows, the Railways Department declined to contribute to the local share of the costs that would attract Government subsidy. The National Roads Board also declined to contribute. During the four years of negotiations preceding approval, problems in the valley got worse:

Firstly, large areas of manuka have been cleared recently, and the land sown to grass, and these areas will produce more slipping than formerly anticipated. In fact quite severe slipping on cleared land did result in a storm in March of this year.

Secondly, a severe storm in 1961 caused slipping over the catchment which in individual cases amounted to 10% of the area of the farm concerned, and silt from these slips is even yet being fed into the main stream.

These factors have resulted in increasingly severe siltation on the upper flood plain.¹²³⁷

The objective of the Porewa Valley Flood Control Scheme was the slowing down of water runoff by the construction of a series of 23 detention dams in side valleys and gullies in the valley. These were earth dams with an outlet pipe through them, with the diameter of the pipe determining the rate at which water could be released into the valley below. While a seemingly simple solution, there was a science involved that determined the choice of site and design of the dam. The ponding area behind the dam would be dry most of the time, filled to a few feet deep perhaps twice a year and then draining within 6-12 hours, filled to half capacity in a 5-year flood, and filled to full capacity and draining within 48 hours in a 30-year flood¹²³⁸. In the upper valley a larger scale detention dam would be built across the Pourewa Stream itself at Poukiore. This would require construction of silt traps upstream of the dam to maintain the capacity of the ponding area behind the dam. There would be only limited clearance of the Pourewa Stream channel. While the scheme would not eliminate flooding, it would reduce the area flooded and the length of time the flooding lasted, by accommodating runoff resulting from rainfall with a 30-year return period¹²³⁹.

It was not until November 1961 that the Soil Conservation and Rivers Control Council approved the control scheme, and agreed to provide a £3 subsidy on every £1 collected

¹²³⁷ Secretary to Secretary Soil Conservation and Rivers Control Council, 25 May 1965. Rangitikei-Wanganui Catchment Board file 327/070. Supporting Papers #3338-3343.

¹²³⁸ Chief Engineer to affected landowners, 19 November 1962. Rangitikei-Wanganui Catchment Board file 327/070. Supporting Papers #3333-3334.

¹²³⁹ History and Investigations of the Scheme, undated, attached to Reporter Wanganui Chronicle to Secretary, 13 June 1963. Rangitikei-Wanganui Catchment Board file 327/070. Supporting Papers #3335-3337.

locally for dam and channel improvements, and a £2 for £1 subsidy for soil conservation works¹²⁴⁰. This represented a Crown contribution of £111,625 towards the total £150,000 cost of the scheme. The Minister of Railways later argued that this rate of subsidy took into account and included a Railways contribution towards the control scheme. He further argued that the control scheme was of little benefit to Railways as its protection against 30-year floods did not match the Railways standard of designing bridges to survive 100-year floods¹²⁴¹.

The Porewa River runs through Maori-owned land on the Taraketi block in its lower reaches. In May 1967 Rangitikei-Mate Kingi wrote about bank erosion on his land:

The damage was inspected by Mr Simons [Catchment Board Chief Engineer] on 14th November 1966 and I was given to understand that repair work would be done in February 1967 when funds would be available.... There has been further considerable damage since, and several chains of boundary and other fences destroyed, while several large trees were washed out. The stream is cutting out large areas at an alarming rate.

I would stress the urgency of the situation and ask that urgent consideration be given this matter.¹²⁴²

The Chief Engineer replied that reinforcing the banks by laying and anchoring trees along them would be carried out:

I am pleased to be able to tell you that we now have a party working on the Porewa Stream in your area. I expect that your work will be carried out within the next week or so.

The work has been inspected and it is felt that there will be a shortage of trees to use for this work. Will you please advise our men of which trees are available for use when they arrive on the site.¹²⁴³

When approved, it had been intended that the Porewa Valley Flood Control Scheme would be constructed over a seven-year period. However, the start of dam construction work was delayed until early 1965, and the Scheme was not completed until 1973¹²⁴⁴.

¹²⁴⁰ Secretary Soil Conservation and Rivers Control Council to Secretary, 8 November 1961. Rangitikei-Wanganui Catchment Board file 327/070. Supporting Papers #3332.

¹²⁴¹ Chief Engineer to Minister of Railways, 20 October 1966, and Minister of Railways to Chief Engineer, 2 February 1967. Rangitikei-Wanganui Catchment Board file 327/070. Supporting Papers #3344-3349 and 3350.

¹²⁴² WR Mate Kingi, Rata, to Secretary, 7 May 1967. Rangitikei-Wanganui Catchment Board file 327/070. Supporting Papers #3351.

¹²⁴³ Chief Engineer to WR Mate Kingi, Rata, 15 May 1967. Rangitikei-Wanganui Catchment Board file 327/070. Supporting Papers #3352.

Manawatu-Wanganui Regional Council took over responsibility for the Porewa Flood Control Scheme from Rangitikei-Wanganui Catchment Board in 1989. The Regional Council produced a pamphlet about the Scheme, describing it “one of the most successful flood protection schemes in the country”:

The Porewa Valley Flood Control Scheme has worked successfully for more than 25 years. It has almost eliminated the flooding that used to devastate the Porewa Valley annually....

The gentle trickle of the Porewa Stream and the green fields of rapidly growing crops on fertile river silt are a far cry from the roaring torrents remembered by farmers and residents in the Porewa Valley. At all too frequent intervals the river raged down the valley, flooding houses and shops in Hunterville, sweeping away stock and destroying pastures in its path.

The Porewa Valley Scheme pioneered the successful use of multiple detention dams to control the flow of water, under flood conditions, in the Porewa Stream and its tributaries.

The Rangitikei Catchment Board, when commencing this unique Scheme in 1961, claimed that the Porewa Valley Scheme would solve all the major flooding problems in the Porewa Valley; that claim has stood the test of time. Thanks to the cooperation of farmers on whose land the dams are sited, and the continuing support of the ratepayers in the Valley, the dams have been well and inexpensively maintained....

Those Hunterville residents who originally lobbied for flood protection, together with designers and builders of this successful flood control scheme, are to be congratulated for their foresight and progressive thinking. The continuation of the excellent cooperation between the owners of the dam sites, ratepayers and the Regional Council, will ensure the maintenance of this very affordable flood protection scheme for future generations.

Today’s residents of the Porewa Valley can be very proud of the enhanced beauty of the countryside on their doorstep.¹²⁴⁵

Upstream of Rewa, flood control works on the Rangitikei River could be carried out to address particular problems on an individual property basis. A proposal for bank protection near Otara bridge affected a site that is known to be of Maori cultural significance¹²⁴⁶. It involved the placing of “a retard of trees anchored down to rails driven into the river bed” constructed out into the river, plus a series of anchored tree groynes. Application was made

¹²⁴⁴ Chief Engineer to Director of Water and Soil Conservation, 22 July 1971, and Map of Porewa Valley Control Scheme showing expenditure to 31.3.73. Rangitikei-Wanganui Catchment Board file 327/070. Supporting Papers #3353-3356 and 3357.

¹²⁴⁵ Manawatu-Wanganui Regional Council, *Porewa Valley Flood Control Scheme*, 1998. Supporting Papers #6967-6970.

¹²⁴⁶ Richard Steedman and Rangi Hawira, personal communication, 29 October 2014.

to the Crown in 1968 for a subsidy payment for the work¹²⁴⁷, and this was approved¹²⁴⁸. The local contribution came from the individual landowners whose land was at risk of erosion. There is no mention in the correspondence of any Maori interest in the site, or the impact of the work on Maori values. The engineering design and the erosion protection capabilities were treated as being the only matters that concerned the Catchment Board and the Crown.

For the sake of completeness, it should be noted that the Tutaenui Stream also flooded frequently, the most significant event being the flooding of Marton's main street, Broadway, in 1958. Flood protection measures were instituted along the stream. These have not been examined for this report, as they are in the Ngati Apa area of interest.

8.12 Concluding remarks

From the establishment of the Rangitikei Catchment Board in 1944 and the first Crown-funded diversion of the river in 1945 to the present day, there has been seventy years of continual flood protection and channel changing activity in the lower 65 kilometres of the Rangitikei River. During that time there was no mention or reference made by those undertaking the changes to a Maori interest in that stretch of the river. Yet it is inconceivable that there are no Maori treasured places, no food gathering sites, no places whose names give them special meaning, no stories, no kaitiaki responsibilities. All the records examined and reported on in this chapter indicate that river engineers corresponded with river engineers, and that tangata whenua might be concerned about what was happening to the river never entered their consciousness.

Treating the river as an engineering problem requiring an engineering solution sidelined Maori. It set a tone where there was no place for Maori involvement, and no opportunity for Maori to 'bend' the objectives of the work so that it could accommodate both their requirements as kaitiaki for the river and the requirements of farmer landowners. Instead a focused objective of flood protection has been tightly maintained over the years. While leaving it to a regional government body to establish and operate the protection scheme (under delegated statutory authority), the Crown in its supervision of that body failed to adopt

¹²⁴⁷ Chief Engineer Rangitikei Catchment Board to District Commissioner of Works Wanganui, 5 March 1968. Works and Development Head Office file 96/327000. Supporting Papers #2433-2435.

¹²⁴⁸ Resident Engineer Wanganui to Chief Engineer Rangitikei Catchment Board, 11 March 1968. Works and Development Head Office file 96/327000. Supporting Papers #2436.

a wider perspective that would ensure active protection of Maori interests, and did nothing to get the regional body to alter its behaviour in that regard.

Maori are not the only ones who have been sidelined. Other parties with an interest in the river, such as anglers, conservationists and recreationists, have also been virtually ignored. There is no conception, because alternatives have not been explored, of multiple objectives for the river. What could the river be like if wetlands, backwaters and other still water areas were deliberately provided in the fairway? Could whitebait spawning be actively encouraged? Is it possible to have a sandy bed and other measures that would allow patiki to once again freely venture upstream? How much food can be gathered from a fairway managed with that use also in mind? How can the mauri of the river be reinvigorated? Right now, no one knows because nothing has been tried along these lines.

A multiple objective approach to management of the fairway, and the edge land alongside the fairway primarily devoted to supporting flood protection, would challenge the free rein that river engineers have had up to now. It would, however, help to identify what are river engineering imperatives (“must haves”) and what engineering works are less essential (“nice to haves”). Right now, no one knows because the information seems to be tightly held within the technical jargon and mathematical formulae of the river engineering profession. Of course, which works fall into which category can vary depending on overall design scenarios. In general terms, the more restricted is the width of the fairway / flood channel, the more engineering works are required that are essential to maintain the river in its course.

The Resource Management Act is nearly 25 years old. With its emphasis on sustainable management and retaining the life-supporting capacity of the rivers, it might be thought that the Act would have had a greater influence. Yet that does not seem to be the case. While gravel extraction and other works in the bed of the river require resource consent approval, Review No. 4 was able to be undertaken with no more than a token acknowledgment of the Act’s existence. The Crown was absent during the review. However, the permitted baseline approach, against which environmental change is measured for its significance, looks at change to the existing river, not change to the river as it was 150 years ago, or 50 years ago, or even as it was before the last review. The concept of remedying historically unsustainable management of the environment does not get sufficient traction in the way the Act is administered. It is unlikely that Resource Management Act mechanisms will be sufficient to

achieve the more substantial structural change that would be required to incorporate Maori values in or alongside decision-making about the flood fairway.

In the absence of knowing what could be achieved with multiple management objectives for the fairway, there are still plenty of opportunities to mitigate unsustainable management by encouraging restoration projects in the side-streams that flow into the main river below Rewa. Such projects on the side-streams might be more productive for Maori and for the environment than mitigation measures in the main fairway. Of course, restoration measures in both the side-streams and the main fairway would be even better.

There remains a long way to go when a resource management review like Review No. 4 can be conducted without Maori input, and with only minimal environmental assessment. To be asked to contribute to such a study when its findings have already been decided upon, approved, and are in the process of being implemented would be an unenviable assignment for any writer. It may be better to recognise it as an empty gesture not deserving of any effort to complete, and instead adopt other measures to influence the future debate.

9. GRAVEL EXTRACTION

9.1 Introduction

Extracting gravel from the bed of the Rangitikei River and its tributaries has been a longstanding use of the river since European settlement. The gravels of the Rangitikei River have an excellent reputation in the lower North Island for their hardness and durability, making them valuable as railway ballast and for metalling roads.

Because transport costs have tended to be a key factor when pricing gravel removal and its delivery to the site where it is to be used, initial gravel extraction was primarily for local use, resulting in many small operations spread along the rivers, from Springvale on the Napier-Taihapa Road southwards. Nearly every point where a road or other accessway came down to a river became an opportunity for gravel extraction in the horse and cart days. However, mechanisation had the effect of concentrating operations into fewer locations. Trucks required metalled roads, and hauling the gravel out of the riverbed relied on draglines and excavators. Once larger operations became established they developed their own inertia. Their operators were reluctant to move to other sites in response to changes in river conditions, and wanted river control works at existing extraction sites that would allow them to continue at those sites and would advantage their gravel removal operations there.

In 1939 AP Grant, in his report on flood protection works on the Rangitikei River¹²⁴⁹, identified that the majority of the gravel in the lower sections of the river was sourced from the Kawhatau River draining the Ruahine Range. North of Mangaweka, where the Kawhatau joins the Rangitikei River, the river's ability to renew supplies of gravel at points where it is extracted is more limited, and gravel operations are more constrained by what the river can deliver on a year-by-year basis.

Gravel extraction has been an exclusively European activity dominated by the Crown and local authorities, both in the regulation of operations and in the extraction itself. In particular, the local Catchment Board has sought to make gravel extraction an operational tool that can be utilised to assist what it has considered to be its more important objective of control of the

¹²⁴⁹ Report by Resident Engineer Palmerston North on Rangitikei River, 31 March 1939. Works and Development Head Office file 96/327000. Supporting Papers #2313-2323.

river channel and protection of lands adjoining the river from flooding. A Maori perspective has consistently been lacking, right up until the present day.

9.2 Early gravel extraction operations

Research for this report has not focused on the early years of gravel extraction, given the small scale and minor impact of those operations, and the more pressing issues for Maori that have developed in more recent years. The exception is the situation at Kakariki. The arrival of the railway there in 1878 generated a demand for railway ballast. During the nineteenth century, this demand seems to have been satisfied by land quarrying on the Piaka block, which was land taken from the Maori owners of Te Reureu under the Public Works Act in 1888¹²⁵⁰. It was returned to Maori ownership in 1915¹²⁵¹, some years after quarrying ceased. Because this taking was not associated with the Rangitikei River, it has not been researched for this report.

It is possible that the early establishment of Kakariki as a ballast supply site encouraged the continuation of that activity when attention later turned from land quarrying to river gravel extraction. When the Railways Department became interested in the river gravels as a ballast source, rather than Piaka quarry, is not known. A small portion of Maori-owned land (Part Te Reureu 2L) immediately adjoining the railway approaches to the bridge across the river was taken for ballast pit purposes in 1901¹²⁵²; judging by its location, this may have been to create a railway siding for ballast wagons rather than as a site for ballast extraction.

However, railway ballast requirements had their most significant legal impact on the river when land was taken under the Public Works Act for railway purposes in 1912¹²⁵³. Nearly all of the taken land (41 acres out of a total of 42 acres) was described in the Proclamation as Crown Land. This was almost certainly riverbed¹²⁵⁴. Only one acre was Maori-owned Te

¹²⁵⁰ Wellington plan SO 12779 and *New Zealand Gazette* 1888 page 631. Not included in Supporting Papers.

¹²⁵¹ Section 13 Native Land Amendment and Native Land Claims Adjustment Act 1915.

¹²⁵² Wellington plan SO 14618 and *New Zealand Gazette* 1901 page 749. Not included in Supporting Papers.

¹²⁵³ Wellington plan SO 16440 and *New Zealand Gazette* 1912 pages 957-958. Supporting Papers #3293 and 3037-3038.

¹²⁵⁴ A survey plan in 1908 (Wellington plan ML 2117 - not included in Supporting Papers) shows a flood channel and “river silt” through the land claimed as Crown Land; it also shows “toi toi and grass” on the land claimed as Crown Land immediately adjoining Te Reureu 2M. The survey plan for the taking, prepared in 1911, does not show where the riverbank was, though another survey in 1915 (Wellington plan ML 2814 - not included in Supporting Papers) claims accretion to Te Reureu 2N up to the surveyed boundary of the taken land. Whether additional land might have been claimed as accretion to Te Reureu 2N, but was prevented from being claimed because of the existence of the taking in favour of the Crown, is not known.

Reureu land (Part Te Reureu 2M). Unfortunately, despite sustained searching, it has not been possible to locate any contemporary Crown records about the taking¹²⁵⁵, so it is not possible to know the basis on which the Crown claimed the riverbed as Crown Land, or what Maori at the time thought about the Crown claim. If the riverbed taken for railway purposes had gradually and imperceptibly become dry land, the owners of Te Reureu 2M and the adjoining Te Reureu 2N could have claimed it as accretion. Having regard to the claims by the Crown to other parts of the Rangitikei River bed over the years (see the chapter on riverbed legalities), the deeming of the riverbed at Kakariki to be Crown Land in 1912 is inconsistent and perhaps to be treated as an aberration; it has the appearance of being a legal construct used in a specific circumstance to facilitate a specific outcome, allowing the riverbed to become railway land with the least legal impediment.

As well as being unable to locate Crown records about the taking of the riverbed, research efforts have not discovered any records about the winning of ballast material from the site immediately subsequent to the taking. So far as is known, a branch siding was put in running down from the bridge approach embankment on to the river gravels. Railways Department was not extracting ballast from the site in 1943 when it licensed Kakariki Sand and Gravel Limited to occupy the land for its own gravel winning operations¹²⁵⁶. By 1952 Kakariki Sand and Gravel was supplying ballast from the site to the Railways Department¹²⁵⁷. In 1954 a report noted:

The boundary of the land taken by Proclamation in 1912 is approximately in the centre of the present waterway, and I am informed by the Land Officer that this boundary remains as it was and erosion is not taken into account.

The Company is taking the shingle from the full width of the waterway. In other words, half the shingle is at present being taken from Railway land. The Company's operations consist of dragging a channel in the river which is subsequently filled with shingle by the river.¹²⁵⁸

The course of the river is likely to have remained fairly constant because of the fixed position of the river just upstream where it passed under the railway bridge.

¹²⁵⁵ The relevant Railways Head Office file is likely to have been 1911/3236, which is known to have still been in use in 1944.

¹²⁵⁶ District Engineer Wanganui to Chief Engineer, 20 September 1943. Chief Civil Engineer Railways Head Office file 100. Supporting Papers #675.

¹²⁵⁷ Chief Civil Engineer to General Manager, 23 May 1952. Chief Civil Engineer Railways Head Office file 100. Supporting Papers #676.

¹²⁵⁸ District Engineer Wanganui to Chief Civil Engineer, 21 June 1954. Chief Civil Engineer Railways Head Office file 100. Supporting Papers #677.

On the other side of the river at Kakariki, Rangitikei County Council established a substantial investment in the early 1920s:

One of the most important extensions to County plant during the early 1920s was finalised with the purchase of 15 hectares of land from the Westoe property of the Howard family. On this area along the riverbank above Kakariki bridge the metal-crushing plant was established.¹²⁵⁹

Rangitikei County Council's action matched that of Manawatu County Council, which had established its own gravel extraction and crushing plant for both pit-excavated metal and river metal just downstream of the Bulls bridge on the Ohakea side of the river in 1913¹²⁶⁰.

The establishment of heavier investment in particular locations acted in a similar manner to the building of bridges, encouraging river engineers to train the river in ways that catered to the needs of the particular operations. In 1945 it was reported that Rangitikei County Council had undertaken works in the river channel at Kakariki to suit its metal crushing plant on the western bank. The river "follows a channel on the eastern bank to a dam constructed by the Council, where it is diverted back on its course to enter a channel to pass the Council's crusher"¹²⁶¹. Three months later the County Council wrote to the Soil Conservation and Rivers Control Council about its Kakariki site:

The successful working of this Council's crushing plant depends on a continuous supply, brought by the river, of fairly large sized stone. The river for various reasons has taken a turn away from the works and instead of running directly past now passes them after running round a large bend, with the result that the larger stone is left where the river is rounding the bend above the works and we get only small stone in the pond where the bucket operates.

The Rangitikei Catchment Board has been consulted and it is now proposed to place a groyne that will turn the river and send it directly into the pond.¹²⁶²

Rangitikei County Council sought an assurance from the Public Works Department engineers that the proposed work would achieve its purpose. The Department was not willing to oblige, instead recommending that a consulting engineer be engaged¹²⁶³; this was an instance of the

¹²⁵⁹ SG Laurenson, *Rangitikei: the day of striding out*, Dunmore Press, Palmerston North, 1979, page 111.

The land acquired was Lot 1 DP 6888.

¹²⁶⁰ County Engineer Manawatu County Council to Chief Engineer, 15 November 1979. Rangitikei-Wanganui Catchment Board file 327/RMP-G. Supporting Papers #3368-3370.

¹²⁶¹ *Wanganui Herald*, 14 December 1945. Copy on Works and Development Head Office file 48/10. Supporting Papers #838.

¹²⁶² Chairman Rangitikei County Council to Chairman Soil Conservation and Rivers Control Council, 8 March 1946. Works and Development Head Office file 48/10. Supporting Papers #839-840.

¹²⁶³ Chairman Soil Conservation and Rivers Control Council to Chairman Rangitikei County Council, 26 March 1946. Works and Development Head Office file 48/10. Supporting Papers #841.

lesser level of direct involvement by the Crown following the establishment of the Rangitikei Catchment Board.

In 1948 it was the Railways Department's turn to approach the Soil Conservation and Rivers Control Council. Its complaint was that the river as it approached the railway bridge and the adjacent road bridge was not being guided under the bridges at the correct angle, instead approaching the bridges obliquely¹²⁶⁴. A draft of a letter to the District Engineer asking him to investigate stated:

The crux of the problem is the relative values of the Rangitikei County Council's shingle plant and of the railway bridge. If the river is to be held to the proposed course instead of to one of greater curvature following more nearly the old course, the County Council might be expected to make some contribution towards protective works at the bridge. Has any consideration been given to this aspect?¹²⁶⁵

The actual letter sent to the District Engineer did not explain the matter in the same terms, instead noting:

I am not surprised that the Railways Department object to the channel that is proposed to be developed between the crushing plant and the bridge, but it is realised that some concession is to be made to the County Council in regard to ensuring supply of gravel to their plant. If it were not for the crushing plant, I consider that the river would be better in the old channel on the left bank following high flood.

It would appear that protective work should be provided from D to E as soon as possible, but I consider that the Rangitikei County council should be asked to make a substantial contribution towards the work....

Would you please discuss the matter with the County Council and Catchment Board, and forward suitable recommendation.¹²⁶⁶

In August 1948 the Railways Department sent a more assertive letter, as recent erosion had increased the risk of damage to the railway and road bridges occurring:

I know that the river in its present position best suits the operation of the shingle plant, but the successful operation of this plant is only of very minor importance compared with that of keeping the railway in operation. The erosion now occurring below the shingle works is a serious threat to the security of the railway, and for that reason is viewed with great concern by this Department's engineers.

¹²⁶⁴ Chief Civil Engineer New Zealand Railways to Chairman Soil Conservation and Rivers Control Council, 10 December 1947 and 23 April 1948. Works and Development Head Office file 48/10. Supporting Papers #867 and 871-872.

¹²⁶⁵ Draft of letter to be sent to District Engineer Wanganui, undated (May 1948). Works and Development Head Office file 48/10. Supporting Papers #873.

¹²⁶⁶ Chairman Soil Conservation and Rivers Control Council to District Engineer Wanganui, 7 May 1948. Works and Development Head Office file 48/10. Supporting Papers #874.

I would like to be assured that the safety of the road and railway bridges and their approaches is treated by the Rangitikei Catchment Board as a vital matter overriding any interests that the County Council may have because of its ballast plant, and that the necessary works to control the channel of the river will be undertaken without delay.¹²⁶⁷

Rangitikei County Council responded¹²⁶⁸, and a conference was then held between the Soil Conservation and Rivers Control Council, Rangitikei Catchment Board, New Zealand Railways, Main Highways Board and Rangitikei County Council¹²⁶⁹. This did not resolve the differences between the parties, and the debate continued on through 1949 and 1950¹²⁷⁰.

The exchange of correspondence during 1948-1950 ignored the existence of a further stakeholder at Kakariki, albeit not a financial contributor. Upstream of the railway and road bridges, and on the opposite side of the river from the County Council's shingle plant, the riverbank was Maori-owned, being part of Te Reureu block. There was no contact made with the Maori owners to ascertain their views. This was not an isolated instance of neglect. There have been a number of subsequent occasions since 1948 when Rangitikei County Council or bridge operators proposed river control works at the Kakariki site to aid gravel extraction or bridge protection there, and the proposals were dealt by the Catchment Board as being a matter solely between the Board and the County Council or the bridge operators.

9.3 Catchment Board control of gravel extraction

The first Rangitikei Catchment Board bylaws in 1947 had exercised control over the removal of metal from the riverbed, and had allowed a licence fee of £1 per 1000 cubic yards (up to a maximum of £10) to be levied¹²⁷¹. The Board's authority over riverbeds was enhanced by a Crown policy codified in 1956, and by the reservation of the bed of the Rangitikei River downstream of the Kawhatau River confluence in 1959. The 1956 policy was jointly drawn

¹²⁶⁷ Chief Civil Engineer New Zealand Railways to Chairman Soil Conservation and Rivers Control Council, 26 August 1948. Works and Development Head Office file 48/10. Supporting Papers #875.

¹²⁶⁸ District Engineer Wanganui to Chairman Soil Conservation and Rivers Control Council, 3 February 1949. Works and Development Head Office file 48/10. Supporting Papers #876-886.

¹²⁶⁹ Rivers Engineer to Chairman Soil Conservation and Rivers Control Council, 14 April 1949. Works and Development Head Office file 48/10. Supporting Papers #887-889.

¹²⁷⁰ District Engineer Wanganui to Chairman Soil Conservation and Rivers Control Council, 6 September 1949; Chairman Soil Conservation and Rivers Control Council to Chairman Main Highways Board, 6 October 1949; Chairman Rangitikei County Council to District Engineer Wanganui, 19 January 1950; Chairman Soil Conservation and Rivers Control Council to District Engineer, 27 September 1950; and County Clerk Rangitikei County Council to District Engineer Wanganui, 5 December 1950. Works and Development Head Office file 48/10. Supporting Papers #890-891; 892; 907; 912-913; and 922.

¹²⁷¹ Chief Engineer to FC Christensen, Solicitor, Marton, 26 February 1971. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3436-3443.

up by Department of Lands and Survey and the Ministry of Works, and the Crown agencies they provided administrative services to, the Land Settlement Board and the Soil Conservation and Rivers Control Council respectively. It provided that the Land Settlement Board approved the issue of blanket licences to catchment boards pursuant to Section 165 Land Act 1948, with the boards then having the power to sub-let the rights to third parties. As a licence to occupy land, it allowed a rent or royalty to be charged, with the policy requiring any income received to be spent on river protection works. Because the licences relied for their authority on the Land Act, they could only be issued for land that was Crown Land. However, as the chapter on riverbed legalities shows, there were doubts as to what degree the bed of the Rangitikei River could be deemed to be Crown Land.

The control and management of gravel extraction was at the heart of the Catchment Board's efforts in 1958-59 to obtain legal control of the bed of the Rangitikei River. The chapter on riverbed legalities covers how the bed was deemed to be navigable so that it could be treated as Crown Land, and how in April 1959 it was then reserved for soil conservation and river control purposes, with control and management made the responsibility of the Rangitikei Catchment Board. The impact of the control and management authority on gravel extraction was apparent to the Catchment Board from the outset. Immediately after being advised of the authority, the Board wrote to the Commissioner of Crown Lands:

As yet the full significance of the appointment of the Board to control the Reserve has not been fully apprehended, but it is felt that when the powers thereby confirmed are fully understood, many of our present administrative problems will be eliminated, and possibly some considerable revenue will be derived from the sale of gravel, etc.

The Board is therefore very appreciative of the action taken by your Department.¹²⁷²

The reservation of the riverbed was an alternative, as far as gravel extraction was concerned, to the issue of a blanket licence to Rangitikei Catchment Board under Section 165 Land Act 1948. Once the riverbed was reserved, Section 29 Reserves and Domains Act 1953 allowed control and management authorities of reserves to issue licences for temporary occupation of a reserve for stone and gravel winning. Rangitikei Catchment Board treated the whole of the riverbed downstream of the Rangitikei / Kawhatau Rivers confluence as Crown-owned, and from 1961 charged a royalty fee of one shilling per cubic yard for any gravel removed

¹²⁷² Secretary Rangitikei Catchment Board to Commissioner of Crown Lands Wellington, 4 June 1959. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2824.

downstream of the Rangitikei / Kawhatau Rivers confluence¹²⁷³. The royalty income was credited to the Rangitikei River Control Scheme account. Prior to this, income had been credited to a general administration account.

Because the authority to issue gravel extraction licences under the 1959 reservation only applied to the bed of the Rangitikei River downstream of its confluence with the Kawhatau River, there was a gap in the authorities held by Rangitikei Catchment Board. This was remedied in 1971, when a Section 165 blanket licence was issued for all Crown-owned riverbeds throughout the Catchment Board's district¹²⁷⁴. The approval was silent on what riverbeds were Crown-owned.

As at 1971, Rangitikei Catchment Board charged under the Board bylaw working in conjunction with the riverbed reservation a fee of 10 cents per cubic yard of gravel removed from the riverbed, this figure being made up of 9.16 cents royalty and 0.84 cents supervision fee¹²⁷⁵.

The Catchment Board's policy towards gravel extraction was minimal during the 1960s and 1970s. A report in 1967 about the Manawatu County Council's gravel removal and crushing plant at Bulls, following a complaint made by the County Council to the Minister of Works that another operator working in the same area would jeopardise the Council's operations¹²⁷⁶, stated:

The Engineer to the Catchment Board stated that it is his Board's general but unstated policy to permit various bodies to remove metal from the Rangitikei River, provided the operations do not injuriously affect the river bed or berms. Conditions are included accordingly in the permits as a safeguard, and supervision is exercised by the Board's officers.

[In the Board Engineer's opinion], complete knowledge on the movement of metal down the river has not been acquired, as this is a complicated matter and subject to

¹²⁷³ Chief Engineer to FC Christensen, Solicitor, Marton, 26 February 1971. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3436-3443.

¹²⁷⁴ Submission to Commissioner of Crown Lands Wellington (holding delegated authority from the Land Settlement Board), approved 22 October 1971, and Commissioner of Crown Lands Wellington to Secretary Rangitikei Catchment Board, 27 October 1971. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2836-2837 and 2838-2839.

¹²⁷⁵ Chief Engineer Rangitikei Catchment Board to FC Christensen, Barristers and Solicitors, Marton, 2 April 1971, attached to FC Christensen, Barristers and Solicitors, Marton, to Commissioner of Crown Lands Wellington, 2 April 1971. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2833-2835.

¹²⁷⁶ County Clerk Manawatu County Council to Minister of Works, 23 December 1966. Works and Development Head Office file 96/327000. Supporting Papers #2428-2429.

many vagaries. However, the Board's Engineer considers that metal is moved in large quantities only when a flood of 17 feet or thereabouts occurs. When such a flood does occur, then he considers that there will be sufficient movement of a sufficient quantity of metal to restock the area being worked by the Manawatu County Council and the area proposed to be worked by Pukenui Metal Supplies Ltd.

The Board's Engineer considers that smaller floods will not have a marked effect on metal movement.¹²⁷⁷

It was this willingness to allow greater gravel extraction a short distance downstream of the Bulls road bridge that was called into question when the pier foundations of the bridge were undermined and part of the bridge collapsed in 1973. This aspect is discussed in the chapter on bridging the river.

While it did not have an interventionist policy towards gravel extraction, Rangitikei Catchment Board was very happy to allow as much extraction as commercial demand required. This was because it had over a number of years become financially dependent on gravel royalties. This had already occurred by the early 1960s. Scheme No. 2, designed in 1962-64, relied on gravel royalties providing about one-third of the local contribution for flood protection and river control¹²⁷⁸, with rates providing the other two-thirds. Each £1 raised locally attracted £3 in central government funding. Therefore without gravel royalties the Catchment Board could not do as much flood protection work. Alternatively it would have had to rate its ratepayers more heavily, which was not a politically attractive prospect. Crown officials were well aware of the crucial contribution that gravel royalties paid to the flood protection scheme, and condoned it¹²⁷⁹.

9.4 Control of gravel washing discharges

When addressing the environmental impacts of gravel extraction, it was not the effect on bed levels or the sustainability of extraction in relation to gravel supply that first attracted the attention of Rangitikei-Wanganui Catchment Board. It was the discharge of discoloured sediment-laden water back into the river by extractors as a consequence of their gravel washing and cleaning operations.

¹²⁷⁷ Resident Engineer Wanganui to District Commissioner of Works Wanganui, 19 January 1967. Works and Development Head Office file 96/327000. Supporting Papers #2430-2432.

¹²⁷⁸ File note by T Nevins to Secretary Soil Conservation and Rivers Control Council, undated (April 1964). Works and Development Head Office file 96/327000. Supporting Papers #2378.

¹²⁷⁹ Draft Revision of Major Scheme, prepared by Chief Engineer Rangitikei Catchment Board, 2 May 1962, and file note by T Nevins to Secretary Soil Conservation and Rivers Control Council, undated (April 1964). Works and Development Head Office file 96/327000. Supporting Papers #2311-2312 and 2378.

In July 1975 a water officer working for the Catchment Board reported on his observations of the discharges of a number of Rangitikei River operators. This was in the context of a number of water rights applications to continue with gravel extraction that had been applied for at that time. In all cases concentrations of suspended solids in the discharge waters was high, and the settling of those sediments was a slow process. He examined what might happen if the Catchment Board set a discharge standard of either 50 micrograms per litre of suspended solids or 80 micrograms per litre. The Wellington Regional Water Board had apparently set a standard in its region of 80 micrograms per litre. He considered that operators would be able to achieve this standard by establishing holding ponds, or preferably a series of holding ponds each capable of holding one day's effluent from the washing plant, where the discharge water was given a chance to settle out its sediment load. Recirculation of water could be undertaken. Another alternative he referred to was the use of flocculation chemicals, where the sediment became bound to the chemicals (e.g. alum or aluminium sulphate) and settled out more quickly¹²⁸⁰.

The Catchment Board considered the report, and decided that conditions setting standards on discharge of gravel washing waters should be applied. However, it did not follow the water officer's report in the standard that it set, instead proposing a maximum level of 300 micrograms per litre of suspended solids, and requiring that such a condition be discussed with the operators¹²⁸¹.

The proposal was circulated to the operators:

Although individual variations are apparent with each application, e.g. size of plant, water usage, processing methods, products etc, the nature and treatment of the resulting effluents are essentially similar.... Continued discharge of untreated or insufficiently treated metal extraction effluent cannot be permitted in terms of the [Water and Soil Conservation] Act, and also particularly because of the effects which the settleable material has on the substrate of the river and subsequently on the aquatic life and fisheries aspects of the river system.... This may be overcome by suitable treatment of the effluent to standards which will ensure:

- (a) That the colour and clarity of the receiving waters will not be altered noticeably;

¹²⁸⁰ Report by Water Resources Scientist, 1 July 1975. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3848-3850.

¹²⁸¹ Extract from minutes of Rangitikei-Wanganui Catchment Board meeting, 4 September 1975. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3851.

- (b) That the effluent shall be substantially free from suspended materials in relation to subsequent effects on the receiving water; and
- (c) That the natural aquatic fauna (fish and their food) shall not be destroyed or reduced in numbers and availability by the deposition of material which would alter the nature of the river bed, or by clogging the river flow to such an extent that would cause asphyxiation and/or present a barrier to the essential migration of fish throughout the river system....

The Board has found that a suspended solids level of 300 mg/litre (or 300 parts per million, or grams per cubic metre) is both reasonably attainable and will have minimal effect on receiving water appearance and quality, and aquatic life.¹²⁸²

Rangitikei-Wanganui Catchment Board's proposal was apparently acceptable to the operators, as a series of water rights were granted for three-year terms in December 1975, each including a condition that "the suspended solids content of the effluent ... shall not exceed 300 mg/l at the point immediately prior to discharge into the receiving waters"¹²⁸³.

The 1975 work had assumed some uniformity in the wash-water discharges and the way that suspended solids would settle out of the water. Later work found considerable variability in the characteristics of the wash-water at different sites, with the solids taking longer to settle out at some sites than at others. It also found that the standard set for the effluent when discharged to the river needed to be tailored to the nature of the receiving waters, particularly the volume of natural flow (which affected dilution rates). On these counts a study in 1983 found that the wash-water at Capill's Transport Ltd's plant at Toe Toe Road near Utiku required a higher order of treatment because its suspended solids took longer to settle out, and the flow in the river was lower and had a higher background quality, as compared to other sites further downstream such as at Kakariki and Ohakea¹²⁸⁴. However, this finding was academic, as all the plants had water rights that set a common standard of 300 micrograms per litre of suspended solids at the point of discharge into the river, and the Catchment Board was not inclined to change that standard.

An analysis in 1985 determined that the key to improved performance and the meeting of the standards set in each water right was not skimping on the number of settling ponds, and better education of plant operators so that they took greater responsibility for their effluent

¹²⁸² Chief Engineer to All Metal Extractors, undated (September 1975). Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3852-3854.

¹²⁸³ Chief Engineer to Applicants for Water Rights, 10 December 1975. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3855-3857.

¹²⁸⁴ Rangitikei-Wanganui Catchment Board, *The establishment of effluent standards for the discharge of metal extraction wastes into natural waters*, October 1983. Report No. 83/10. Not included in Supporting Papers.

treatment systems. This was not a straightforward matter as the treatment system was frequently peripheral to the operators' primary focus on washed gravel production:

Recently, problems have been experienced with a number of newly-installed plants, because:

- (a) The operators ignore advice and/or directions given to them by Board staff; and/or
- (b) Discharges to natural water occur before water rights have been granted, or ground soakage methods cannot cope with the nature or volume of the effluent produced.

A considerable amount of discussion and information is required when dealing with metal extractors prior to the operation of plants where discharges may occur, as the nature of the wastes generated, size [of plant], and importance of the receiving waters varies. Also, various other interested parties (e.g. Internal Affairs, Acclimatisation Societies) are more than likely to become involved.

Recent problems have occurred (for a variety of reasons) at Taumarunui, Waimarino and Toe Toe Road and Kawhatau River.

Every occasion on which metal extraction plants are visited should include an inspection of the waste treatment facilities and the effluent discharge. This should be done despite the water right sampling requirements (monthly from November to May, 2-monthly rest of year). It has become apparent that the performance of the settlement ponds varies during the week's operation of a plant, as well as over a longer period, as sediment accumulates in the pond(s).

Some plants have been found to have small discharges (e.g. seepage from stockpiles, bins, etc, etc) of untreated wastes which reach receiving water. These require tidying up and re-routing through existing treatment systems, or provided with additional treatment to meet water right conditions.

Increased ponding facilities appear to be necessary in many of the plants currently discharging to natural water. Existing facilities may be totally inadequate, become inadequate after initially operating satisfactorily, or cause problems when the time arrives for cleaning of the treatment ponds. This is particularly important in reference to the frequency of cleaning, which is generally only performed when plant management has the time.¹²⁸⁵

The report then summarised the forms of treatment systems that should be installed:

- One or two easily and frequently cleaned shallow pre-treatment ponds, then transfer to larger settling ponds; or
- Twin series of two or three ponds that could be used alternately; or

¹²⁸⁵ Water Resources Scientist to Resources Manager, July 1985. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3893-3896.

- Duplicate initial ponds, to be used alternately, before settlement in one final pond with a gravel filter on the outlet; or
- Combinations of the above systems, “depending on plant operations and available area”¹²⁸⁶.

The report continued:

The essential features are that there must be more than one pond (to facilitate cleaning in particular, but to provide improved (polishing) treatment of the effluent as retention time is reduced in the first pond due to accumulating sediment); that rapid settlement occurs immediately following waste discharge from most plants and this material can be trapped in smaller shallow wedge-shaped basins if frequent cleaning is undertaken by management. This then provides improved performance of the following larger ponds(s). A duplicated system permits cleaning to be undertaken without interference (and deterioration) to the final effluent discharge. It may also permit cleaning to be effected while the plant continues to operate, rather than necessitating plant shutdown.¹²⁸⁷

A separate report made specific recommendations for each of the gravel extraction plants on the Rangitikei River¹²⁸⁸.

The common experience was that the setting of a suspended solids maximum discharge amount in the water rights in 1975, which were still running on ‘at the pleasure of the Board’ in 1985, was still applicable. However, the standard was being undermined by poor performance, poor regulatory supervision, and inadequate education of the plant operators. The 1985 report was timed to precede reviews of each of the water rights for gravel washing discharges at the end of that year. This review was accompanied by a policy that those plants that failed to meet the standards would be subject to extra inspection visits, and the costs of those extra visits would be payable by the plant operator. The impact of these matters is discussed in connection with the gravel extraction operation at Toe Toe Road near Utiku in a later section in this chapter.

9.5 The inter-relationship between gravel extraction and river control

During most of the 1960s and 1970s gravel extraction was seen purely in terms of the financial contribution it could make to river control, The Chief Engineer to Rangitikei

¹²⁸⁶ Water Resources Scientist to Resources Manager, July 1985. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3893-3896.

¹²⁸⁷ Water Resources Scientist to Resources Manager, July 1985. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3893-3896.

¹²⁸⁸ Report by Water Resources Scientist, July 1985. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3897-3905.

Catchment Board in a letter in 1971 set out the income that had been received by the Board as a result of gravel extraction. His analysis showed that income was minimal in the early years when the authority was the Board's 1947 bylaws was minimal, and then climbed steeply from 1961 when the licence and supervision fee system relying on the Crown ownership of the riverbed was instituted:

The income from royalties provides a substantial income to the Rangitikei River Scheme in carrying out river works. It forms an integral part of financing the scheme, and without it the only source of additional local income is from river ratepayers. An increase of some 35% in rates would be necessary to cover this item, and without it future maintenance of the river would be seriously jeopardised.¹²⁸⁹

In the same letter the Chief Engineer expressed his concern about the effect of gravel extraction on the river control works:

River metal is a valuable natural resource and has been removed from the Rangitikei River for many years for use on public and private works. Little is known of the rate of movement of gravel in the Rangitikei River, except that up until approximately 1940 more metal was coming down the river than was being removed, and the excess was accumulating in the riverbed, with consequent raising of the bed and increasing channel instability. Although it is not possible to be precise, with increasing demand for metal 1950-1960 was a period when removal reached the rate of supply of metal in the river. Since 1960 it has become obvious that the rate of removal of metal has exceeded the rate of replenishment by the river, with severe degradation of the riverbed in localised areas of metal winning activity.

The four longstanding removers of metal with established processing plants naturally became established at sites where access and services were readily available – Manawatu County Council and Pukenui Metal Supplies at Bulls Bridge, and Rangitikei County Council and Kakariki Sand and Gravel at Kakariki Bridge. The effects of over-extraction are most pronounced at these two sites....

The Board in supervising and controlling metal extraction is aware of the economic value to the community of river metal as a mineral resource, and this is reflected in the present policy.... However, with regard to the Rangitikei River, this liberal policy must alter as the balance of use of metal as a community asset against the increasing cost of maintaining river control works changes.¹²⁹⁰

Despite these concerns, there was no immediate change to the amount of gravel extracted or the reliance on gravel royalties.

Towards the end of the 1970s the physical contribution that gravel extraction could make as a direct and active agent of river control became more widely recognised. A management plan

¹²⁸⁹ Chief Engineer to FC Christensen, Solicitor, Marton, 26 February 1971. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3436-3443.

¹²⁹⁰ Chief Engineer to FC Christensen, Solicitor, Marton, 26 February 1971. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3436-3443.

produced in 1978 summarised what had been happening during the earlier years of that decade:

The possibility of over-extraction of river bed gravels in the lower river was first raised in 1970, at which time river cross sections were established at Kakariki and Bulls to monitor bed changes. Added emphasis was given to the need for extending and completing the survey of the gravel resources of the river by the collapse of the Bulls Bridge in 1973, which raised questions as to whether or not gravel extraction had been a contributing factor in the collapse.

Whether it was or not remains a matter of conjecture, but there can be no doubt that gravel extraction in combination with river control works has resulted in a significant change in the character of the river channel....

There can be no doubt that the extraction rate from the lower river since 1968 cannot be sustained without an unacceptably high cost in river protection works and an unacceptable risk to public utilities in and on the banks of the river.

Following [a] 1976 report, decisions were made on immediate steps to be taken to impose some restraints on extraction rates, but these will have to be followed by more positive steps....

As control of gravel extraction is essential to the maintenance of a stable river channel, it must be an integral part of river management.¹²⁹¹

As a follow-up to the 1978 management plan, Rangitikei-Wanganui Catchment Board produced a report titled *Gravel Resources of the Rangitikei River* in January 1979¹²⁹². It set out that the Board had two specific objectives governing its control functions, firstly to prevent any damage to the bed or banks, or adjoining land, from allowing gravel extraction, and secondly to allocate the gravel resource among private, local authority and Crown agency extractors. As background to the need to prepare the report, the Chief Engineer wrote:

Up until as recently as 5 years ago, the available resource had been regarded as unlimited, and it was only necessary to allocate sites and ensure that no direct damage to river protection or other works resulted from extraction operations. Since that time it has become apparent that the resource is far from limited [sic, should be unlimited], and that slow degradation of the river, imperceptible from year to year, has been taking place over a long period of time. The first noticeable effect was a rapid increase in flood damage to river protection works, and the high cost of repair and replacement. Initially this was assumed to be the result of confining the river, and induced scour from river training works. River training works stopped at least 8 years ago, but continued degradation has persisted, and is obviously a direct result of gravel extraction.

¹²⁹¹ Rangitikei-Wanganui Catchment Board, *Planning needs and management objectives for the Rangitikei River*, 1978, page 11. Report No. 78/7. Supporting Papers #6369-6400 at 6381.

¹²⁹² Rangitikei-Wanganui Catchment Board, *Gravel Resources of the Rangitikei River*, 1979. Report No. 79/3. Supporting Papers #6401-6436.

The purpose of this report is to endeavour to establish, from the survey data available to date, what the safe future extraction limits of the river gravels are, and if possible how that resource should be allocated among competing interests.¹²⁹³

The impact of gravel extraction could be measured by surveying cross-sections of the height (referred to as mean bed level (MBL)¹²⁹⁴) and the shape of the riverbed, to assess whether the bed was building up (aggrading) or being eroded (degrading), and by surveying longitudinally along the river to record the gradient of the river as it flowed down to the sea. From these surveys, it was found that at Bulls and Kakariki, both areas of concentrated extraction, there was a flattening of the bed gradient below the extraction area, and a steepening of the bed gradient upstream. There was also a more stable river channel below the extraction area, while upstream the channel varied more over time and there were bank erosion problems. This was especially significant at Bulls, where most extraction was below the road bridge; the bridge site was in the upstream zone of greater river instability, and the bridge had been damaged by the river in 1973. The flatter grades between Bulls and the sea resulted in gravel accumulation.

The *Gravel Resources* report came up with some broad-brush results for the lower river:

The nett annual loss of bed material approximates 600,000 cubic metres. This compares with an extraction quantity of 200,000 cubic metres per annum, and even if an allowance for 25% for undeclared extraction is made it would still leave an unaccounted for loss of 350,000 cubic metres. The only explanation for such a loss would be that the river is transporting out to sea, from the lower 65km of the river, far more material than is being supplied from the upper river. This is possible but hardly likely in the quantities indicated, and a more likely explanation is that although the survey is as accurate as time and costs can justify, the method simply is not accurate enough to define quantities of bed movement in the short term.¹²⁹⁵

For the upper river, the report showed little change over time:

Changes in M.B.L. at the upper catchment sites have generally been very small. At Otara Bridge (Ohingaiti) there has been an increase of 0.2m in 16 years, at Mangaweka a similar increase over 30 years, and at Springvale no measured change

¹²⁹³ Rangitikei-Wanganui Catchment Board, *Gravel Resources of the Rangitikei River*, 1979, page 1. Report No. 79/3. Supporting Papers #6401-6436 at 6403.

¹²⁹⁴ "M.B.L. values are computed by dividing the cross-sectional area of the channel below a selected level line by a channel width, both of which remain constant for all subsequent surveys. The values of 'change in M.B.L.' between successive surveys ... give a direct measure of overall aggradation/degradation at a given cross-section". Rangitikei-Wanganui Catchment Board, *Gravel Resources of the Rangitikei River*, 1979, page 3. Report No. 79/3. Supporting Papers #6401-6436 at 6405.

¹²⁹⁵ Rangitikei-Wanganui Catchment Board, *Gravel Resources of the Rangitikei River*, 1979, page 7. Report No. 79/3. Supporting Papers #6401-6436 at 6409.

in 15 years. The channel appears stable at each of these sites, and surveys confirm that this is the case.

Surveys in the Kawhatau catchment, which is assumed to be the principal source of river gravel, indicate movement of gravel into the upper river and tributaries, but not to the extent that the appearances of the catchment would suggest, and the M.B.L. at the Potaka Road Bridge has only risen 0.4m over 70 years. The increase may have taken place only recently and simply be the beginning of a sustained rise in bed level.

In the event there can be no suggestion that the present accelerated erosion in the Ruahine Ranges will in any way offset the present degradation in the lower river in the reasonably foreseeable future.¹²⁹⁶

Testing of the gravels for hardness and abrasion loss confirmed that they were “of a high quality”, complying with standards for railway ballast and highway base course. The market showed that Rangitikei River gravels were in demand over a wide area, with no known comparable source within the region¹²⁹⁷.

If the extraction rate was spread over the whole of the lower river, the *Gravel Resources* report stated, there would be little impact on the river. It was because extraction was concentrated at Kakariki and Bulls in particular that the bed of the river at these points was degrading, and the finiteness of the resource was becoming an issue. Because the extraction infrastructure was already in place, ceasing gravel removal at these two sites was not regarded as a practicable option, though that would have to happen at some point in the future (possibly in 5 to 6 years time) if there was no change. The river could not be treated merely as a gravel pit, ignoring recreational and environmental considerations, so a more sophisticated management regime was required, starting with spreading extraction out over a longer length of the river, and reducing the rate of extraction at the sites where degradation was at its greatest. This would require consultation, discussion and negotiation with the principal extractors¹²⁹⁸. While recognising the need to have regard for recreational and environmental considerations, the *Gravel Resources* report was silent on having regard for Maori cultural and spiritual considerations.

¹²⁹⁶ Rangitikei-Wanganui Catchment Board, *Gravel Resources of the Rangitikei River*, 1979, page 7. Report No. 79/3. Supporting Papers #6401-6436 at 6409.

¹²⁹⁷ Rangitikei-Wanganui Catchment Board, *Gravel Resources of the Rangitikei River*, 1979, pages 7-8. Report No. 79/3. Supporting Papers #6401-6436 at 6409-6410.

¹²⁹⁸ Rangitikei-Wanganui Catchment Board, *Gravel Resources of the Rangitikei River*, 1979, pages 9-10. Report No. 79/3. Supporting Papers #6401-6436 at 6411-6412.

The next step by the Catchment Board was to present the *Gravel Resources* report to gravel extractors. A meeting was held in June 1979, and as a result of the feedback received at that meeting it was decided to prepare a management options paper about gravel extraction¹²⁹⁹. The paper argued that the existing licensing system would need to be restructured. While the role of the Rangitikei River as a source of gravel for the Manawatu region and the wider lower North Island was acknowledged, the Catchment Board's principal concern was the impact on the Rangitikei River. It advocated a search for alternative sources of supply, such as pit extraction on river terraces away from the river channel, and a reduction in the number of river extraction licences, so that there would be perhaps four extractors, the two local authorities (Manawatu County Council at Ohakea, and Rangitikei County Council at Kakariki) and two private operators. Alternatively the Catchment Board could become the sole extraction operator, stockpiling gravel as necessary and supplying it to existing processing plants. However, the preferred option was to reduce the term of licences to two years, with private operators required to extract from sites on the river under the direction and control of the Board as to location and quantity. The two local authorities would be allowed to continue at their existing sites to supply public body requirements¹³⁰⁰.

The options paper was circulated to interested parties, including the gravel extractors, and not surprisingly attracted some vigorous comments favouring the status quo and expressing reluctance to abandon their capital investments at particular sites. Private companies complained that the local authorities were being unfairly given preference¹³⁰¹, while local authorities were concerned that future supply would be restricted¹³⁰². New Zealand Railways put in a particularly strong submission, suggesting that as a Crown Department it could override any Catchment Board regulation of extraction:

¹²⁹⁹ Gravel extraction – Rangitikei River: management options, 20 July 1979, attached to Chief Engineer to Director of Water and Soil Conservation, 13 August 1979. Works and Development Head Office file 96/327000. Supporting Papers #2489-2499.

¹³⁰⁰ Gravel extraction – Rangitikei River: management options, 20 July 1979, attached to Chief Engineer to Director of Water and Soil Conservation, 13 August 1979. Works and Development Head Office file 96/327000. Supporting Papers #2489-2499

¹³⁰¹ B Bullock & Co Ltd, Wanganui, to Rangitikei-Wanganui Catchment Board, 18 September 1979; Earthmovers (Waikato) Ltd, Cambridge, to Chief Engineer, 24 September 1979 and 22 April 1980; and Kakariki Sand & Gravel Co Ltd, Wanganui, to Chief Engineer, 15 November 1979 and 1 May 1980. Rangitikei-Wanganui Catchment Board file 327/RMP-G. Supporting Papers #3360-3364; 3365-3367 and 3383-3384; and 3371-3372 and 3392-3394.

¹³⁰² County Engineer Manawatu County Council to Chief Engineer, 15 November 1979, and County Engineer Rangitikei County Council to Chief Engineer, 20 November 1979. Rangitikei-Wanganui Catchment Board file 327/RMP-G. Supporting Papers #3368-3370 and 3373-3376.

NZR has to date made every effort to cooperate with your Board at all times by consulting you before letting ballast contracts involving river extraction, and by reducing the quantities extracted when requested....

However, it is essential that your Board bears in mind that the Railways Department, although always prepared to consider requests for reduced extraction levels, re-siting of supplies, etc where these are justifiable, must also take account of its own requirements for the maintenance of the permanent way.

The Public Works Act, Section 17, authorises the removal of gravel for authorised public works. The Soil Conservation and Rivers Control Act 1941, Section 169, provides that nothing in that Act shall prejudice or affect any power or authority vested in the Crown under any Act authorising the erection, construction, carrying on or maintenance of any work. River gravel required by the Railways Department for ballast is a requirement for the maintenance of the railway, which is a work authorised by statute to be carried on by the Minister of Railways on behalf of the Crown, and therefore comes within the terms of Section 169.

It is clear that the Railways Department does in fact possess powers conferring on it the right to extract gravel or let contracts for the extraction of gravel to meet its requirements for ballast supply....

While NZR is naturally reluctant to apply these powers in individual cases where this is likely to prejudice the effective control of rivers by Catchment Board, or could adversely affect the demands of local industry, etc, the Department must reserve the right to overrule such considerations in emergency situations or where economic considerations become of paramount importance.¹³⁰³

Ministry of Works and Development supported production of a regional aggregate resources survey that would identify alternative sources of supply, and considered that the Catchment Board becoming the sole supplier of river metal had “considerable merit”, because of the advantages for riverbed management and control¹³⁰⁴.

The strong reaction from the extractors made the matter of gravel extraction a more political issue. The Catchment Board appointed a sub-committee of its members to hear submissions from the extractors¹³⁰⁵. The sub-committee reported back to the full Board in May 1980, and the Board passed a resolution reflecting the sub-committee’s recommendations:

1. That no immediate limit be placed on the total quantity of metal currently being extracted from the lower 65km of the river, but the extraction be spread more

¹³⁰³ Submission on gravel extraction by Chief Civil Engineer, 16 April 1980, attached to Chief Civil Engineer New Zealand Railways to Chief Engineer, 16 April 1980. Rangitikei-Wanganui Catchment Board file 327/RMP-G. Supporting Papers #3378-3382.

¹³⁰⁴ District Commissioner of Works Wanganui to Chief Engineer, 13 September 1979. Rangitikei-Wanganui Catchment Board file 327/RMP-G. Supporting Papers #3358-3359.

¹³⁰⁵ Extract from minutes of Board meeting, 6 December 1979, and Notes of meeting, 23 April 1980. Rangitikei-Wanganui Catchment Board file 327/RMP-G. Supporting Papers #3377 and 3385-3391.

evenly over the lower river, particularly to encourage extraction from unoccupied river berms.

2. That future extraction of gravel be from sites indicated by the Board as available for extraction in the interests of river management, rather than on the present basis of extractors applying for sites preferred by them. To provide interim supplies until alternative sites can be identified, the current applications will be granted for the sites applied for up to the quantities that could safely be taken from those sites. Where there is a difference between those quantities and the quantities applied for, the applicants are to identify the sites from which they wish to obtain the balance, subject to the Board's policy for the current licensing year.
3. That future returns and payments of royalties and fees should be based upon quantities of gravel removed from the river bed. Accepting that matters of detail concerning administration will need to be considered, in terms of quantities, including stockpile on site, and any cash flow problem at the time of any change. These considerations are to be taken into account with a view to introduction of the new system in twelve months.¹³⁰⁶

On the basis of this policy, interim extraction volumes for the period May 1980 to March 1981 at the sites already occupied were set as follows:

• Kakariki (Rangitikei County Council)	33,000 cubic metres ¹³⁰⁷
• Kakariki (Kakariki Sand & Gravel Co Ltd)	5,000 cubic metres ¹³⁰⁸
• Wilson's Beach (Earthmovers (Waikato) Ltd)	1,200 cubic metres ¹³⁰⁹
• Bulls (Bullocks Concrete & Gravel Ltd)	3,000 cubic metres ¹³¹⁰
• Bulls (Manawatu County Council)	7,000 cubic metres ¹³¹¹

The operators were invited to apply for additional volumes from other sites elsewhere on the river.

Coincident with the limitations on quantity of gravel that could be extracted, royalty fees were increased. From April 1981 they were set at a royalty of 60 cents per cubic metre, plus

¹³⁰⁶ Extract from minutes of Board meeting, 1 May 1980. Rangitikei-Wanganui Catchment Board file 327/RMP-G. Supporting Papers #3405.

¹³⁰⁷ Chief Engineer to County Engineer Rangitikei County Council, 15 May 1980. Rangitikei-Wanganui Catchment Board file 327/RMP-G. Supporting Papers #3395-3396.

¹³⁰⁸ Chief Engineer to Secretary Kakariki Sand & Gravel Co Ltd, Wanganui, 21 May 1980. Rangitikei-Wanganui Catchment Board file 327/RMP-G. Supporting Papers #3401-3402.

¹³⁰⁹ Chief Engineer to General Manager Earthmovers (Waikato) Ltd, Cambridge, 21 May 1980. Rangitikei-Wanganui Catchment Board file 327/RMP-G. Supporting Papers #3403-3404.

¹³¹⁰ Chief Engineer to Director Bullocks Concrete & Gravel Ltd, Wanganui, 19 May 1980. Rangitikei-Wanganui Catchment Board file 327/RMP-G. Supporting Papers #3397-3398.

¹³¹¹ Chief Engineer to County Engineer Manawatu County Council, 20 May 1980. Rangitikei-Wanganui Catchment Board file 327/RMP-G. Supporting Papers #3399-3400.

a supervision fee of 10 cents per cubic metre¹³¹². From April 1982 they were increased to a royalty fee of \$1.10 per cubic metre, plus an inspection fee of 13 cents per cubic metre¹³¹³.

The significance of the change to gravel extraction as a result of the Catchment Board's consideration of the matter during 1979-80 can be seen in data on volumes of gravel extracted from the Rangitikei River (all volumes in cubic metres)¹³¹⁴:

Table 9: Gravel extraction from the Rangitikei River, 1961-1982

Year	Extraction below Rewa	Extraction above Rewa	Total Extraction
1961	91,000	12,000	108,000
1962	112,000	6,000	118,000
1963	106,000	12,000	118,000
1964	118,000	0	118,000
1965	126,000	0	126,000
1966	111,000	17,000	128,000
1967	115,000	17,000	132,000
1968	170,000	19,000	189,000
1969	194,000	19,000	213,000
1970	209,000	24,000	233,000
1971	218,000	32,000	250,000
1972	230,000	30,000	260,000
1973	162,000	38,000	200,000
1974	178,000	52,000	230,000
1975	231,000	40,000	271,000
1976	198,000	47,000	245,000
1977	175,000	71,000	246,000
1978	168,000	70,000	238,000
1979	126,000	64,000	190,000
1980	169,000	58,000	227,000
1981	96,000	24,000	120,000
1982	92,000	26,000	118,000

¹³¹² Extract from minutes of Board meeting, 5 March 1981. Rangitikei-Wanganui Catchment Board file 327/RMP-G. Supporting Papers #3406.

¹³¹³ Extract from minutes of Board meeting, 4 February 1982. Rangitikei-Wanganui Catchment Board file 327/RMP-G. Supporting Papers #3407.

¹³¹⁴ Rangitikei-Wanganui Catchment Board, *Rangitikei River Consolidation Scheme*, 1983, Appendix V, Gravel extraction management – Rangitikei River, page 3. Supporting Papers #6562-6657 at 6647.

The key feature of the Catchment Board's efforts described above during 1979-80 was the bringing of gravel extraction policy more closely into harmony with wider river management, and incorporating gravel management as a sub-set of river protection work generally. This trend was developed further when the Rangitikei River Consolidation Scheme was prepared in 1983 to cover the following ten years. Gravel extraction management was one of five main chapters in the Consolidation Scheme report¹³¹⁵.

The chapter on gravel extraction management noted that:

Efforts to implement 1 and 2 [of the Board's May 1980 policy] have met with only limited success, with little sign of any positive response from the extractors. To achieve those objectives, some more direct action is required beyond mere encouragement.¹³¹⁶

Although there had been some changes since 1980, these were primarily due to changes in the demand for gravel rather than due to the effectiveness of the Catchment Board's policy. Extraction volumes were on a downward path during the period 1976 to 1979, showed a spike in volume in 1980, and then were substantially lower during 1981 and 1982. Rangitikei County Council (at Kakariki) and Manawatu County Council (at Ohakea) between them accounted for about half of all the gravel removed. Extraction methods had changed, with less use of fixed-location draglines and more use of moveable diggers, loaders and scrapers. However, the pattern of permanent extraction sites being predominantly in the degradation zone between just below Bulls and Kakariki, rather than in the aggradation zone between the sea and 15 kilometres upstream, meant that gravel extraction was still not properly aligned to river management objectives.

During the period of the Consolidation Scheme, the Catchment Board stated in 1983 in its report on the Scheme, that it would continue to control extraction by refusing licences at unacceptable sites and granting licences for preferred sites. It required, however, that the Board had "a firm resolve", and "the operators must be prepared to cooperate". This approach was considered to be more likely to be effective than other options, such as the Board taking over gravel extraction operations itself, or manipulating fees and royalties¹³¹⁷.

¹³¹⁵ Rangitikei-Wanganui Catchment Board, *Rangitikei River Consolidation Scheme*, 1983, Appendix V, Gravel extraction management – Rangitikei River. Supporting Papers #6562-6657 at 6643-6657.

¹³¹⁶ Rangitikei-Wanganui Catchment Board, *Rangitikei River Consolidation Scheme*, 1983, Appendix V, Gravel extraction management – Rangitikei River, page 1. Supporting Papers #6562-6657 at 6645.

¹³¹⁷ Rangitikei-Wanganui Catchment Board, *Rangitikei River Consolidation Scheme*, 1983, Appendix V, Gravel extraction management – Rangitikei River, pages 11-13. Supporting Papers #6562-6657 at 6655-6657.

There was another review of river control and flood protection in the lower Rangitikei River in 1994¹³¹⁸. Its conclusions on gravel supply and movement in the river were:

- (a) Most of the gravel supply to the Rangitikei River is from the Kawhatau River, which delivers an estimated average annual supply of 20-30,000 m³ per annum.
- (b) More than 120,000 m³ of gravel had been removed from the Rangitikei and Kawhatau Rivers annually since 1961. This is based on the amounts reported by commercial extractors, but are believed to underestimate the total. The annual amounts exceeded 240,000 m³ for many years.
- (c) Between 1977-90 gravel extraction has caused a mean bed lowering of 0.5 metres in the 28 kilometre reach upstream from the Tutaenui Stream (i.e. from 4km downstream of Bulls to 15km upstream of Kakariki Bridge);
- (d) A moderate amount of gravel aggradation is occurring as a natural process in the reach from 2.5km to 14 km. This amount equated to an average rate of 26,250 m³ per annum between 1977-89; equivalent to a bed rise of 30mm per annum;
- (e) The gravel deposition in the reach from 2.5 to 14km is causing the main channel to become significantly narrower and shallower; and
- (f) In the same reach from 2.5 to 14km, 3,000,000 m³ of silt has accumulated on the river margins between 1972 and 1994; with the average rate of accumulation being 130-140,000 m³ per annum.¹³¹⁹

While acknowledging that supply of gravel may be greater than estimated, because of the large amounts that could be brought down the river in large floods, the 1993 review's recommended maximum amounts of gravel extraction were:

- Up to 300,000 cubic metres immediately, then 25,000 cubic metres a year in the lower 15 km of the Rangitikei River;
- 40,000 cubic metres a year above 15 km; and
- 35,000 cubic metres a year from the Kawhatau River¹³²⁰.

This was to be achieved by progressively reducing the amount of extraction allowed above 15 km, and by bringing extraction in the Kawhatau River down to a sustainable rate. In addition, extraction upstream of 15 km was levied an environmental charge of \$2.50 per cubic metre, while there was no such charge for extraction downstream of 15km¹³²¹.

¹³¹⁸ Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 3*, July 1994. Supporting Papers #6875-6966.

¹³¹⁹ Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 3*, July 1994, page 8. Supporting Papers #6875-6966 at 6886.

¹³²⁰ Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 3*, July 1994, page 12. Supporting Papers #6875-6966 at 6890.

To place this in some context, the total amount allowed to be extracted from all rivers in the Rangitikei catchment was 37% of the total allowable extraction from the Manawatu-Wanganui Region as a whole. Manawatu-Wanganui Regional Council, *Measures of a changing landscape: state of the environment report Manawatu-Wanganui Region, 1999*, 1999, page 41.

¹³²¹ Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 3*, July 1994, page 11. Supporting Papers #6875-6966 at 6889.

During the 1990s, figures on total gravel extraction from the Rangitikei River were published in a State of the Environment report¹³²²:

Table 10: Gravel Extraction from the Rangitikei River, 1992-1998

Year	From active channel (cubic metres)	From berm areas (cubic metres)
1992	49,595	0
1993	196,837	0
1994	134,752	0
1995	123,879	0
1996	198,951	0
1997	163,892	17,606
1998	133,102	60,384
Total	1,001,008	77,990

The most recent review, Review No. 4, took place in 2010¹³²³, and is discussed in some detail in the chapter on flood protection works. With respect to gravel extraction, it recommended that the amounts and locations were to be determined primarily by flood protection and river control demands. A set of critical factors in this regard were identified:

- Maintaining bed levels within a desirable range;
- Keeping bed levels compatible with existing river protection assets;
- Keeping roughly in balance with natural supply rates;
- Maintaining good river alignments;
- Minimising any adverse impacts on in-stream and riparian ecology;
- Minimising any adverse impacts on tangata whenua values; and
- Impacts on the gravel extraction industry.¹³²⁴

What was meant by “tangata whenua values” was described in the review in only generalised terms:

All rivers and streams are regarded as a ‘**taonga**’ (highly regarded physical or spiritual treasure) by the respective tangata whenua. As such the tangata whenua expect wise environmental management. Therefore, gravel management has to be carried out in a fashion that minimises and avoids adverse environmental effects. Any extraction that

¹³²² Manawatu-Wanganui Regional Council, *Measures of a changing landscape: state of the environment report Manawatu-Wanganui Region, 1999*, 1999, page 41.

¹³²³ Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 4 (final draft report)*, June 2010. Supporting Papers #7302-7404.

¹³²⁴ Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 4 (final draft report)*, June 2010, page 26. Supporting Papers #7302-7404 at 7331.

causes erosion, flood risk, siltation, pollution, landscape or other impacts would be culturally offensive.

The tangata whenua, in conducting their right of 'kaitiakitanga' (the ethic of stewardship and guardianship) under the Treaty of Waitangi, and pursuant to Section 7(a) of the Resource Management Act 1991, wish to have an appropriate level of consultation in gravel extraction.

Obviously great care has to be taken to avoid damaging any wahi tapu site, and gravel extraction must stay well clear of these. Should any sites be discovered, then works should cease and appropriate procedures followed.¹³²⁵

Despite being identified as a problem since the early 1980s, there was still under-extraction in the aggrading riverbed between the sea and 15 km upstream, and over-extraction in the reach from 15 km to Rewa. Between 2004 and 2008 an average of 170,000 cubic metres of gravel a year had been extracted from the Rangitikei River and the Kawhatau River. There had been an annual average of 33,000 cubic metres of gravel taken out of the river between the sea and 15 km, yet that reach could sustain an extraction rate of 100,000 cubic metres a year. Between 15 km and Rewa during the same period, an annual average of 105,000 cubic metres of gravel had been extracted, even though Review No. 3 in 1994 had recommended a maximum of 40,000 cubic metres per annum. What was recommended on paper and what had happened in practice were two different things. Over-extraction had consequences. Any extraction between 15 km and Kakariki would cause degradation because there was no incoming gravel in that reach that could be taken out, any degradation increased river erosion problems, and any river erosion imposed bank protection costs.

Review No. 4's recommendations were:

- Reduce extraction in the Kawhatau River from 35,000 cubic metres a year (as set in Review No. 3) to 20,000 cubic metres a year;
- Reduce extraction in the reach from 15 km to Rewa to 30,000 cubic metres a year;
- A 4.9 km reach immediately upstream of Kakariki Bridge, and a 3.6 km reach downstream of Onepuehu, were degrading so severely that extraction "must be curtailed to the absolute minimum".

The Review stated that "decisive steps need to be taken to implement this policy, with a phasing in of extraction restrictions over a maximum of a three-year period"¹³²⁶.

¹³²⁵ Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 4 (final draft report)*, June 2010, page 29. Supporting Papers #7302-7404 at 7334.

It emerged during Review No. 4 that gravel extraction in the middle reach of the river averaged 98,300 cubic metres a year between 2006 and 2009. The environmental charge of \$2.50 therefore raised nearly \$250,000. This approximated the amount being spent on erosion control. It could be argued that the Regional Council was conflicted in its attitude, on the one hand being aware of the damage caused by excessive gravel extraction, yet on the other accepting payment for that damage which largely funded the remedial works.

A consequence of Review No. 4 was the different treatment of an application to extract gravel at Onepuehu, as compared to the treatment of a similar application prior to the review being carried out. The contrasting treatments of the two applications are discussed in a later section in this chapter.

9.6 Gravel extraction under the Resource Management Act 1991

Review No. 3 of the flood protection scheme took place in 1993. While this was after the Resource Management Act 1991 had been passed, no new planning documents had been prepared under that legislation. When the first regional planning documents (a Regional Policy Statement and second-order Regional Plans) were prepared later in the decade they established a management regime governing future gravel extraction from riverbeds.

The totality of the resource management planning statutory documents, as they relate to the Rangitikei River and its tributaries, are discussed in another chapter of this report. This section discusses the provisions in the statutory documents having a bearing on gravel extraction.

The Regional Policy Statement, which became operative in August 1998, sought to protect the existing natural character of rivers and their margins (Objective 15 and Policies 15.1 and 15.2), and ensure that the adverse effects of activities in riverbeds were avoided, remedied or mitigated (Objective 16 and Policy 16.2). There was an objective and policy specifically about gravel extraction:

Objective 17

To balance the extraction and natural rates of recharge of the Region's fluvial gravel resources.

¹³²⁶ Manawatu-Wanganui Regional Council, *Rangitikei River Scheme Review No. 4 (final draft report)*, June 2010, page 57. Supporting Papers #7302-7404 at 7362.

Policy 17.1

To manage fluvial gravel extraction from river reaches so extraction does not significantly exceed natural rates of gravel recharge.¹³²⁷

In explanation of this approach, there was reference to “inadequate natural recharge to meet the rate of extraction” between Vinegar Hill and Bulls, with consequential adverse effects including deeper river channels and greater erosion. Conversely there was reference to sites such as the Rangitikei River downstream of the Tutaenui Stream confluence where the rate of natural recharge exceeds the rate of extraction, where aggrading riverbeds could affect habitats and increase the risk of flooding¹³²⁸.

It was also a regional policy that resource consents for gravel extraction should generally be for five year’s duration (Policy 34.1)¹³²⁹.

The Regional Plan for the Beds of Rivers and Lakes and Associated Activities applied from March 2001. It had Objectives drawn from the Regional Policy Statement, and closely following the 1991 legislation. Its Policy 4 also flowed from the Regional Policy Statement:

To ensure gravel extraction in river reaches does not exceed natural rates of replenishment, except where extraction is necessary to decrease the risk of potential damage to essential structures, while ensuring that any adverse environmental effects are avoided, remedied or mitigated.¹³³⁰

Consistent with that Policy, “maximum annual total combined volumes of fluvial gravel available for extraction for specified rivers” were defined. For the Rangitikei River, the maximum allowable extraction was¹³³¹:

• Makahikatoa Stream to Mangarere Road Bridge	15,000 cubic metres
• Mangarere Road Bridge to Rewa	25,000 cubic metres
• Rewa to 4 km downstream of SH1 Bridge	75,000 cubic metres
• 4 km downstream of SH1 Bridge to mouth	100,000 cubic metres

Notes to these allowable volumes explained:

¹³²⁷ Manawatu-Wanganui Regional Council, *Regional Policy Statement for Manawatu-Wanganui*, operative 18 August 1998, section 24.5, pages 167-168. Supporting Papers #6971-7073 at 7068-7069.

¹³²⁸ Manawatu-Wanganui Regional Council, *Regional Policy Statement for Manawatu-Wanganui*, operative 18 August 1998, section 24.2, Issue LRW5, page 157. Supporting Papers #6971-7073 at 7058.

¹³²⁹ Manawatu-Wanganui Regional Council, *Regional Policy Statement for Manawatu-Wanganui*, operative 18 August 1998, section 31.6, page 265. Not included in Supporting Papers.

¹³³⁰ Manawatu-Wanganui Regional Council, *Regional Plan for the Beds of Rivers and Lakes and Associated Activities*, operative 14 March 2001, section 10, page 55. Supporting Papers #7074-7117 at 7092.

¹³³¹ Manawatu-Wanganui Regional Council, *Regional Plan for the Beds of Rivers and Lakes and Associated Activities*, operative 14 March 2001, section 10, pages 55-56. Supporting Papers #7074-7117 at 7092-7093.

This Schedule represents approximate annual rates of extraction which are considered to be sustainable, and will guide the Council in making decisions on applications for resource consents to extract gravel from the rivers and streams listed. Where information is presented that clearly established that actual sustainable rates are higher or lower than those in the Schedule, this will also be given regard to when making any decisions on applications for extraction.

Annual is defined as the year from 1 July to 30 June of the following year....

The volume for the Lower Rangitikei (4 km below SH1 near Bulls to river mouth) has been based on averaging the 300,000 cubic metres recommended to be initially taken out of this reach (by the Rangitikei Scheme Review 1994) over the life of this Schedule.¹³³²

The Rules for gravel extraction set out in the Regional Plan stated that extraction in the Rangitikei River upstream of Makahikatoa Stream, and in the Hautapu River upstream of Oraukura Stream, was a non-complying activity under BRL Rule 13¹³³³, because it would clash with water conservation order provisions. Downstream of these reaches gravel extraction was a restricted discretionary activity under BRL Rule 15¹³³⁴. This meant that Manawatu-Wanganui Regional Council had decided to restrict its discretion to certain specified matters. It could decide on an application, and set conditions of consent, having regard for matters such as effects on water quality and water flows, impact on the riverbed, effects on fish, effects on public access, and “effects on Maori spiritual and cultural values”.

The Regional Policy Statement, the Regional Plan for the Beds of Rivers and Lakes and Associated Activities, and the Regional Plan for Land and Water were the only relevant planning documents prior to 2007. In May 2007 the replacement planning document for the Regional Policy Statement and the Regional Plans, known as the Proposed One Plan, was publicly notified. There was then a process where the replacement document’s provisions, while important from its date of notification as a statement of Manawatu-Wanganui Regional Council’s latest thinking, assumed progressively greater prominence as the Proposed One Plan got closer to being approved. The 1998 Regional Policy Statement and the 2001 and 2003 Regional Plans still had to be considered, as they remained operative, though their

¹³³² Manawatu-Wanganui Regional Council, *Regional Plan for the Beds of Rivers and Lakes and Associated Activities*, operative 14 March 2001, section 10, pages 56-57. Supporting Papers #7074-7117 at 7093-7094.

¹³³³ Manawatu-Wanganui Regional Council, *Regional Plan for the Beds of Rivers and Lakes and Associated Activities*, operative 14 March 2001, section 11.1.6, pages 100-101. Supporting Papers #7074-7117 at 7105-7106.

¹³³⁴ Manawatu-Wanganui Regional Council, *Regional Plan for the Beds of Rivers and Lakes and Associated Activities*, operative 14 March 2001, section 11.1.6, pages 105-106. Supporting Papers #7074-7117 at 7110-7111.

statutory relevance declined as the process progressed. A particularly significant date in the process occurred in 2010 when decisions on public submissions to the Proposed One Plan were announced. From that point the objectives, policies and rules of the Proposed One Plan were fixed unless they were subject to appeal. When the One Plan became operative in December 2013¹³³⁵, the 1998 and 2001 documents were entirely superseded.

The Regional Policy Statement within the One Plan sets out provisions relevant to gravel extraction¹³³⁶. For resource management purposes, waterways in Manawatu-Wanganui Region are divided into a series of water management zones under Objective 6-1 and Policy 6-1. In each zone a different set of values are identified, which under Policy 6-27 have to be recognised and provided for. These values can include general life-supporting capacity, aquatic significance, riparian significance, trout fishery, contact recreation, and mauri. Under Policy 6-29, activities are not allowed to reduce the level of flood protection or erosion control in a Scheme such as on the Rangitikei River between Rewa and the sea. Policy 17-3 specifically covers gravel extraction, and as in the previous Regional Plan prescribed the following maximum volumes of gravel annually available for extraction, “unless better information is available”, in order that extraction could be carried out sustainably¹³³⁷:

- Makahikatoa Stream to Mangarere Road bridge 15,000 cubic metres
- Mangarere Road bridge to Rewa 25,000 cubic metres
- Rewa to 7 km downstream of SH1 bridge 30,000 cubic metres
- 7 km downstream of SH1 bridge to mouth 100,000 cubic metres

These maximum allowable extractions are the same as for the 2001 Regional Plan, except for a reduction from 75,000 cubic metres a year to 30,000 cubic metres a year for the Rewa to Bulls reach. When the Proposed One Plan was published in 2007, it set a figure for the Rewa to Bulls reach of 50,000 cubic metres a year, and the further reduction to 30,000 cubic metres was a result of Review No. 4 conducted in 2010. With respect to the relationship between the Proposed One Plan and the 2001 Regional Plan, the lower figure of 50,000 cubic metres had precedence from 2007.

¹³³⁵ Manawatu-Wanganui Regional Council, *One Plan*, operative 19 December 2014.

The operative One Plan is available online, www.horizons.govt.nz/about-us/one-plan/one-plan-operative-version/

¹³³⁶ Manawatu-Wanganui Regional Council, *One Plan*, operative 19 December 2014, Chapter 5, pages 5-1 to 5.29.

The relevant part of the Proposed One Plan (publicly notified 31 May 2007) was Chapter 6.

¹³³⁷ Manawatu-Wanganui Regional Council, *One Plan*, operative 19 December 2014, Policy 17-3, pages 17-4 to 17-6.

The relevant part of the Proposed One Plan (publicly notified 31 May 2007) was Policy 6-32.

The Regional Plan within the One Plan classes gravel extraction and discharges from gravel washing as a discretionary activity (Rule 17-17 and Rule 14-30 respectively), whereby any matter (unlike the restricted range of matters in the 2001 Regional Plan) can be considered¹³³⁸. The One Plan therefore gives Manawatu-Wanganui Regional Council more scope to intervene than the 2001 Regional Plan had. Among the matters to be considered are whether any activity in a riverbed would recognise and provide for flood management matters. All resource consents in the Rangitikei catchment are required to be issued with a common expiry date of 2017, in order that the cumulative effect of activities can be considered at that time¹³³⁹.

The One Plan set a policy for all waterways in the Manawatu-Wanganui Region that “the mauri of the waterbody is maintained or improved” (Policy 5-1 and Schedule B)¹³⁴⁰. While other rules governing water quality and protection of the life-supporting capacity of rivers go some way towards protecting some individual physical aspects of mauri, only one provision has been identified in the One Plan that comes close to recognising a spiritual aspect of mauri. This provides for inclusion of a condition for any riverbed resource consent that human remains (the remains of the ancestors) in riverbeds are not to be disturbed, and if discovered work should cease and certain protocols be followed for the removal of the remains (Section 16.2, standard conditions of consent)¹³⁴¹.

Setting out the policies and rules in planning documents is one thing; applying them in day-to-day management is another matter. While the maximum allowable extraction in the Rewa to Bulls reach was set at 75,000 cubic metres a year in 2001, reducing to 50,000 cubic metres a year in 2007, consents issued as at 2008 allowed the taking of 104,000 cubic metres a year within the Rewa to Kakariki reach alone, and that year another consent was granted for the

¹³³⁸ Manawatu-Wanganui Regional Council, *One Plan*, operative 19 December 2014, Rule 14-30, pages 14-43 to 14-44, and Rule 17-17, page 17-24.

The relevant part of the Proposed One Plan (publicly notified 31 May 2007) was Rules in Chapter 13 and 16.

¹³³⁹ Manawatu-Wanganui Regional Council, *One Plan*, operative 19 December 2014, Policy 12-5, pages 12-3 to 12.5.

The relevant part of the Proposed One Plan (publicly notified 31 May 2007) was Policy 11.4.

¹³⁴⁰ Manawatu-Wanganui Regional Council, *One Plan*, operative 19 December 2014, Policy 5-1 and Part B.3, pages 5-10 to 5-11 and B-117.

The relevant part of the Proposed One Plan (publicly notified 31 May 2007) was Policy 6.1 and Schedule D.

¹³⁴¹ Manawatu-Wanganui Regional Council, *One Plan*, operative 19 December 2014, Section 17.3, pages 17-4 to 17-6.

The relevant part of the Proposed One Plan (publicly notified 31 May 2007) was Section 16.2, standard conditions of consent.

taking of an additional 50,000 cubic metres a year. While not all consents were being acted on, and special reasons could be found for particular extractions, the trend was inconsistent with the policy, and demonstrates that Manawatu-Wanganui Regional Council was struggling in its management of gravel extraction, as it and its predecessor had been for the previous thirty years.

The application of the provisions of planning documents prepared under the Resource Management Act 1991 are discussed in later sections of this chapter in relation to gravel extraction at Toe Toe Road near Utiku, and proposed gravel extraction at Onepuehu.

9.7 Ownership of gravel on titled land in riverbeds

The chapter on riverbed legalities demonstrates how Rangitikei Catchment Board's rights under its 1959 control and management arrangement with the Crown only covered (in the main) the wetted riverbed as it was at any particular point in time, not the full width of the riverbed between established banks on either side. The Catchment Board's rights did not apply in two circumstances:

- Where Maori and European landowner rights existed because riparian land had been surveyed and titles had been issued, but the land had then been eroded or the course of the river had changed so that the land had become riverbed. It was a common law rule that the bed of a navigable river could not be vested in the Crown if it had already been expressly granted, and titled ownership of dry riverbed land was not affected.
- On dry parts of the riverbed where there was a presumption that owners of lands bordering the river (riparian landowners) owned to the centre of the river.

The first circumstance, with surveyed and titled land eroding and physically becoming part of the riverbed, occurred at Ohinepuhiawe in 1897 when the river had cut through the reserve. The river maintained its new course through the reserve into the 1970s (and continues to hold to this course today). The bed of the new course was a complex pattern of Maori-owned partition blocks, and the ownership of the gravel stayed with the title. This first circumstance is discussed in this section.

The second circumstance was the situation at Otara Road when the Kiwitea County Council purchased riverbank land as a forerunner to extracting gravel from the adjoining riverbed; at

issue in that instance was whether the ownership of gravel in the riverbed by the Maori owners justified the paying of a higher purchase price than for the value of the land alone. The circumstance also applies in a comprehensive fashion upstream of the stretch of the Rangitikei River asserted by the Crown to be navigable. The ownership of gravel and control of gravel extraction operations in this second circumstance is discussed in the next section of this chapter, with a discussion of the gravel extraction operation at Toe Toe Road near Utiku.

In the early and mid 1970s Rangitikei-Wanganui Catchment Board, as part of a wider drive to acquire title to the flood channel (see the chapter on flood protection), decided it wanted to acquire the Maori-owned riverbed at Ohinepuhiawe, and to do that opted to use the taking powers of the Public Works Act. All takings follow standardised procedures established by the Crown and set out in the Public Works Act. What is noteworthy about the Ohinepuhiawe takings is what happened after the takings had been proclaimed, when some of the Maori owners struggled to ensure that the compensation they would receive for the lands they had lost covered the value of the gravel resource in the riverbed as well as a land value. It is this aspect that justifies the placement of the history of the takings and the determination of compensation in this chapter on gravel extraction, rather than inclusion in the flood protection chapter. For the sake of completeness the events covered include the lead-up to the takings as well as the compensation struggle afterwards.

The survey plans showing the land to be taken were completed in 1976¹³⁴². These plans showed that some of the partition blocks would be affected for a second time by a Public Works Act taking, having had portions compulsorily acquired in 1932 for river protection (see the chapter on bridge crossings). The following partition blocks would be affected:

¹³⁴² Wellington plans SO 30830 and SO 30831. Supporting Papers #3309-3310.

Table 11: Ohinepuhiawe lands taken under the Public Works Act, 1981

Partition Block	Original Area¹³⁴³ (hectares)	Subject to 1932 Taking	Area to be Taken (hectares)	Maori Land in 1976
Part Ohinepuhiawe 140A	11.4700	Yes	(whole) 11.4700	Yes
Part Ohinepuhiawe 140B3	14.9730	Yes	(whole) 14.9730	Yes
Ohinepuhiawe 141A1A	6.2220	No	(part) 0.9958	No
Ohinepuhiawe 141A1B	2.6557	No	(part) 0.5252	No
Ohinepuhiawe 141A1C	2.6810	No	(part) 0.4991	No
Part Ohinepuhiawe 141A2	1.7140	No	(whole) 1.7140	No
Part Ohinepuhiawe 141A2	5.7600	No	(whole) 5.7600	Yes
Ohinepuhiawe 141A3	2.7139	No	(part) 0.5984	No
Ohinepuhiawe 141A4B	4.9296	No	(part) 0.6300	Yes
Ohinepuhiawe 141A5A	11.4197	No	(part) 0.2485	No
Part Ohinepuhiawe 141A5B	6.7405	No	(part) 1.5284	No
Part Ohinepuhiawe 141A5B	2.0841	No	(part) 0.4468	No
Part Ohinepuhiawe 141B1	1.0450	Yes	(whole) 1.0450	Yes
Ohinepuhiawe 141B2	3.2375	No	(part) 1.5660	Yes
Ohinepuhiawe 141B3	11.7865	No	(part) 1.6320	No
Ohinepuhiawe 141B4B	12.1355	No	(part) 4.9876	Yes
Part Ohinepuhiawe 141B5	2.9289	No	(whole) 2.9289	Yes
Part Ohinepuhiawe 141B5	6.2300	No	(whole) 6.2300	Yes
Total	110.7269		57.7787	

In January 1977 the Catchment Board wrote to its solicitors:

The Board as part of the Rangitikei River Control Scheme has acquired, or is in the process of acquiring, the control and management of all land between stopbanks where they have been built. In areas within the scheme where there are obvious anomalies regarding title position, the Board has also had land surveys carried out for the purpose of purchasing land, and thereby tidy up the title situation as it stands at present....

[Parts of the river channel and berm land at Ohinepuhiawe] had been considered to be part Old River Bed, and thereby accretion to an area of land which the Board purchased from the Rangitikei County Council in 1962, and has been let out in terms of the Board's standard licence to occupy since 1962....

¹³⁴³ Data on original area is sourced from District Officer Maori Affairs Wanganui to Chief Engineer, 24 August 1979. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3514-3515. When the whole of a part block was taken, this was because the other part had been partitioned prior to the taking in 1981.

[The Ohinepuhiawe] area of land above the Bulls Bridge has been one of the most serious as far as title anomalies are concerned, and this was the reason the Board had the survey carried out. It is possible that the areas of Maori Land will have to be taken by proclamation, because of the number of owners involved and the difficulty in tracing some of these owners. I will initiate discussions with the Land Purchase section of the Ministry of Works and Development, and possibly the Maori Trustee, and advise you of what progress can be made regarding purchase, but this could take some time.¹³⁴⁴

The supposed status of the riverbed as accretion to Catchment Board-owned land was refuted by the Board's solicitors, who stated that "although the land may now physically be part of the bed of the Rangitikei River, it is still Maori land, the title of which is vested in various owners". Taking Maori Land under the Public Works Act was endorsed by the solicitors, because "the Board is unlikely to be able to purchase the land through usual Maori land procedures"¹³⁴⁵.

Public notification of intention to take the Maori-owned riverbed land was given in November 1978¹³⁴⁶. The notice explained that objections had to be lodged with the Town and Country Planning Appeal Board within 40 days. At the same time, a copy of the notice was sent to the Department of Maori Affairs offices in Palmerston North and Wanganui¹³⁴⁷. The interest that was shown in the notice indicating the Catchment Board's intentions resulted in an informal meeting being held at Parewahawaha marae in December 1978. While there is no record of minutes being taken at the meeting, the following matters were apparently agreed to:

- (a) Objections be lodged to the Town and Country Planning Appeals Board by persons affected.
- (b) That the Chief Engineer recommend to your Board postponement of further action being taken until say the middle of February 1979 so that time may be permitted for a meeting of owners to be properly convened to consider the Board's proposals.
- (c) That the Chief Engineer recommend to the Board that serious consideration be given to the question of an easement with restrictions, rather than an actual "taking", the effect being that while the title to the lands remain in Maori

¹³⁴⁴ Chief Engineer to Treadwell Gordon & Co Ltd, Barristers and Solicitors, Wanganui, 12 January 1977. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3486-3488.

¹³⁴⁵ Treadwell Gordon & Co Ltd, Barristers and Solicitors, Wanganui, to Chief Engineer, 9 February 1977. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3489-3491.

¹³⁴⁶ *New Zealand Gazette* 1978 page 3089. Supporting Papers #3109.

¹³⁴⁷ Chief Engineer to District Officer Maori Affairs Palmerston North and District Officer Maori Affairs Wanganui, 15 November 1978. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3492.

ownership the Board will still be able to carry out its work fully and effectively.¹³⁴⁸

Following the meeting, three objections were lodged with the Town and Country Planning Appeal Board. One was from the Parewahawaha Marae Committee objecting to the proposed taking and asking for a stay of proceedings until February-March 1979, as the notice “has only given us a limited time to object”¹³⁴⁹. This is an example of Public Works Act timeframes for response not accommodating the Maori style of forming a consensus view, including the calling of meetings on the marae. The second objection was from Oma Cribb, Huia Maeke and Erina Hill, acting jointly in their capacity as trustees in the estate of Rangi Reweti, an owner in Ohinepuhiawe 140A, 140B3 and 141B1. Their grounds for objection were:

1. That it is unnecessary for the Board to take the said land.
2. That the Board’s objectives can be served by ways and means other than taking the said land.
3. That the amount of land proposed to be taken is excessive.
4. That the taking of the land will restrict our access to the Rangitikei River.
5. That the taking of the land is prejudicial to our interests.
6. That the taking of the land is inequitable and unjust.¹³⁵⁰

The third objection was from R Jamieson; no reasons were provided¹³⁵¹.

In February 1979 a further meeting was held at Parewahawaha marae. This had been formally notified in compliance with Maori Land Court requirements, and the meeting passed recommendations that agents be appointed with power to negotiate with the Catchment Board. In April 1979 the Maori Land Court appointed the agents nominated at the February meeting:

- Ohinepuhiawe 141B4 – Darcy Kereama, and Ropine Rogan¹³⁵²
- Ohinepuhiawe 141B4B – John Te Momo, and JFC Henderson (solicitor)

¹³⁴⁸ Registrar Maori Land Court Palmerston North to Chief Executive Officer, 4 January 1978 [sic, should be 1979]. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3495-3496.

¹³⁴⁹ Secretary Parewahawaha Maori Committee to Chairman, 18 December 1978. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3493.

¹³⁵⁰ Notice of objection by Oma Cribb, Huia Maeke and Erina Hill, 19 December 1978. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3494.

¹³⁵¹ RS Jamieson, Bulls, to Town and Country Planning Appeal Board, 8 January 1979, attached to Registrar Planning Tribunal to Chief Executive Officer, 23 February 1979. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3497-3498.

¹³⁵² Deputy Registrar Maori Land Court Palmerston North to Chief Executive Officer, 28 February 1979. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3499.

- Ohinepuhiawe 140B3 – Emere Reweti, Ngaroimata Rowena Hawea, and Orma [sic] Cribb¹³⁵³

The agents held a meeting with the Catchment Board at the beginning of June 1979:

The suggestion put forward by the agents present, that an area of land already under the control and management of the Board be made available in a land swap as settlement, was placed before the Board at its meeting on 7th June 1979. The Board agreed in principle with the suggestion, on condition that the land swap would be in settlement for all areas of land [surveyed in 1976] and that all owners affected (known or unknown) would be completely satisfied by the deal.¹³⁵⁴

The area the Catchment Board had in mind for an exchange was part of the Ohinepuhiawe land taken by Rangitikei County Council for river protection in 1932. This land was transferred from the County Council to the Catchment Board in 1972, and was then reserved under the Reserves and Domains Act 1953 for soil conservation and river control purposes (see the chapter on bridging the river).

One of the agents (Oma Cribb) expressed concerns about the land exchange offer, because of a lack of information about which area was being offered in exchange, and whether the Maori owners would face any costs¹³⁵⁵. The Catchment Board's position was summed up in a file note of a meeting with Oma Cribb:

Explained that we wished to get their approval in principle, and then values would be obtained and further discussion could take place. Told her that if we did not get agreement from the agents, then we would proceed with hearing objections and the taking of the land. Board's solicitors have been instructed to file reply to objections.¹³⁵⁶

Rangitikei-Wanganui Catchment Board was distinguishing between what it considered to be the necessity for taking the riverbed land, and what form compensation for the taking should be. It felt that continuing with the hearing of objections and obtaining a decision on whether or not the Board was right to take the land was the higher priority. In addition, an exchange arrangement could not be quickly put together because there would be a third party taking

¹³⁵³ Maori Land Court minute book 142 Whanganui 238. Not included in Supporting Papers.

Order of the Court appointing agents of the owners, 19 April 1979, attached to Registrar Maori Land Court Wanganui, 23 April 1979. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3500-3502.

¹³⁵⁴ Chief Engineer to All Appointed Agents, 20 June 1979. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3503-3504.

¹³⁵⁵ O Cribb, Bulls, to Chief Executive Officer, 27 June 1979. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3505.

¹³⁵⁶ File note, undated, on O Cribb, Bulls, to Chief Executive Officer, 27 June 1979. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3505.

part, with the Crown (Department of Lands and Survey) becoming involved because the land was a public reserve¹³⁵⁷.

As well as meeting with Catchment Board staff, Oma Cribb also took another initiative, approaching the Aotea District Maori Land Advisory Committee (a land use committee advising the Department of Maori Affairs) for its support. In its first consideration of the matter in August 1979, the Committee acknowledged that it did not have full information and deferred consideration to a later meeting, though not before expressing its concerns that compensation would have to recognise a loss of riparian rights and loss of access to the river. It was also concerned that there was little evidence on aerial photographs of protection works on the land taken for river protection in 1932¹³⁵⁸. The Catchment Board welcomed further information being obtained, and offered to contribute to that exercise¹³⁵⁹.

It was in August 1979 that the first mention of the gravel resource on the land to be taken appears in the Catchment Board correspondence file, when the Maori Affairs District Officer wrote to the Board:

Yesterday I received a visit from Mrs O Cribb and her co-trustees ... [who were] concerned that river metal was being taken off these blocks, and wished to ensure that it is stopped.

They say that metal is being removed from the Maori land which is the subject of the intention to take notice ... and that this removal has persisted over many years.¹³⁶⁰

A second meeting of the Aotea District Maori Land Advisory Committee was held in September 1979, by which time further information was available and Catchment Board representatives were present to explain why the Board wanted to take the riverbed land¹³⁶¹. A number of owners and their agents were also present. The further written information from a

¹³⁵⁷ Chief Engineer to Evans, Harris & Co, Barristers and Solicitors, Marton, 13 July 1979. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3506-3508.

¹³⁵⁸ District Officer Maori Affairs Wanganui to Chief Executive Officer, 13 August 1979. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3509-3511.

¹³⁵⁹ Chief Engineer to District Officer Maori Affairs Wanganui, 15 August 1979. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3512-3513.

¹³⁶⁰ District Officer Maori Affairs Wanganui to Chief Engineer, 24 August 1979. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3514-3515.

¹³⁶¹ Minutes of meeting, 27 September 1979, attached to District Officer Maori Affairs Wanganui to Chief Executive Officer, 17 October 1979. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3529-3534.

A Catchment Board officer present at the meeting also made a file note about the meeting. Notes of meeting, 27 September 1979. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3527-3528.

Maori Affairs Department field officer supported river protection work to protect land on the true left (eastern or Ohakea) bank of the river's course, and accepted that taking land to achieve this was justifiable. On the true right (western or Bulls) bank, however, it appeared that more land than was necessary for river protection works would be taken, and the land already held by the Catchment Board (the soil conservation and river control reserve) was also more than was necessary for the Board to fulfil its functions, effectively making it surplus to requirements and available for possible exchange. The field officer thought that only two-thirds of the grassed area (i.e. beyond the bare shingle riverbed) on the right bank that it was proposed would be taken was needed for protection works, and that any exchange of lands should be on an equal area basis¹³⁶².

The Catchment Board representatives at the meeting stressed the importance of ensuring a flow pattern and direction past Ohinepuhiawe that resulted in the pattern and direction downstream being appropriate for the protection of the Bulls road bridge. While Maori Affairs Department staff were not challenging this particular purpose, they were concerned that more land than required was being sought by the Catchment Board. On a separate matter of particular concern to Maori owners, the potential loss of access to the river, the Catchment Board representatives stated that they would not restrict access for recreation purposes, though they did not agree to formal surveyed legal easements as access suitability would change as the river changed.

However, a more fundamental issue discussed at the meeting was the state of the titles to the river channel where it ran through Ohinepuhiawe land. Had the Maori title to the river channel in use since 1897 somehow been negated by the Crown treating the bed of the river as Crown Land in 1959, reserving it for soil conservation and river control purposes and appointing the Rangitikei Catchment Board to control and manage it? Whether the Crown had a stake in the river channel would affect the size of compensation payments. The Maori Affairs District Officer was recorded in the minutes as stating:

It is only now that we have become aware of the fact that the Catchment Board are offering compensation for stable land only and are treating the Maori land title in the river as being Crown Land despite its inclusion in the Intention to Take. It was not thought necessary to include Crown Land in any such notice. It appears that the legal position is that if the river changes course, that is just the owners' bad luck. This is

¹³⁶² Senior Field Officer Maori Affairs Palmerston North to Chairman Aotea District Maori Land Advisory Committee, 18 September 1979. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3516-3526.

not right. Out of a total of 385 acres, the Maori owners lost approximately 150 acres by the change of the river.

Because of the title uncertainties, the meeting resolved to ask the Chief Surveyor to research and clarify the ownership of the riverbed¹³⁶³.

Because the legal status of a notice of intention to take would expire if the land was not taken within 12 months, a fresh notice confirming the intention to take was issued in October 1979¹³⁶⁴.

The Planning Tribunal (successor to the Town and Country Planning Appeal Board) considered the objections to taking the Ohinepuhiawe land under the Public Works Act at a hearing in October 1979. In a decision two months later it concluded that the Catchment Board needed the land for flood protection and river control:

The majority of titles to land intended to be taken are on the right bank of the river between the existing river protection reserve acquired by the Board from the Rangitikei County Council in 1963 and the river itself. The river protection reserve is on a higher level than the land subject to objection. This particular area has been managed by the Board since it became essentially dry land on the assumption that it was accretion to the existing river protection reserve. The existence of the old Maori titles came as somewhat of a surprise when the Board was asked for rental plus compensation for damage to the land.... The area of land subject to objection is critical in respect of river control.... Implementation of effective river protection programmes with the degree of flexibility inherent in such a programme must be within the control of the Catchment Board.... We are satisfied on the evidence that the Catchment Board needs the area of land for the purpose of river control and flood protection....

¹³⁶³ Minutes of meeting, 27 September 1979, attached to District Officer Maori Affairs Wanganui to Chief Executive Officer, 17 October 1979. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3529-3534.

¹³⁶⁴ Confirming notice of intention to take land, 18 October 1979. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers # 3535-3536.

Accordingly, in respect of that land, we hold the taking is fair, sound and reasonably necessary to achieve the objectives of the Catchment Board, and we report accordingly. We have no further recommendation to make.¹³⁶⁵

The Chief Surveyor reported his findings to the Maori Affairs Department in January 1980:

Your interpretation of Section 206 Coal Mines Act 1925 is correct. The beds of navigable rivers are Crown Land except where the bed has been granted by the Crown.

As Ohinepuhiawe 140 and 141 were granted by the Crown to the Maori owners, that part of the river bed passing through these blocks is not Crown Land. The reservation for Soil Conservation and River Control Purposes of the river bed by Gazette 1959 p.566 does not include any of this land.

[The survey plans prepared for taking purposes] correctly illustrate this situation.¹³⁶⁶

The Maori Affairs District Officer, when forwarding the Chief Surveyor's opinion to the Catchment Board, added:

Full compensation as a matter of course must be paid, and as a market for Rangitikei River metal from this area has already been established, the land value on which compensation is to be based must include a metal potential value.

A further matter of great importance to the Maori owners then arises. Your Board, on the misconception that the river bed was Crown Land, has taken quantities of metal from Maori owned freehold land. The owners will have a right of action for trespass and unlawful removal of metal from their land. The owners' nominees appointed under Sections 71-73 Maori Affairs Act 1953 to conduct compensation claims will no doubt appoint solicitors to prosecute this further claim....

The intention of this letter is to advise your Board of the legal position regarding this land, and ask that until the land has been officially taken no further metal should be extracted. The Maori Land Court could now issue an injunction to this effect if necessary.¹³⁶⁷

The Maori Land Court did issue an injunction two months later prohibiting the Catchment Board from removing or authorising the removal of metal from the Maori Land¹³⁶⁸. Relying

¹³⁶⁵ Decision of Planning Tribunal, 3 December 1979. Wanganui City Council file 3/21/1. Supporting Papers #3311-3319.

¹³⁶⁶ Chief Surveyor Wellington to District Officer Maori Affairs Wanganui, 18 January 1980, attached to District Officer Wanganui to Chief Executive Officer, 25 January 1980. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3537-3539 at 3539.

¹³⁶⁷ District Officer Wanganui to Chief Executive Officer, 25 January 1980. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3537-3539.

¹³⁶⁸ Order of the Court by way of Injunction, 20 March 1980, attached to Registrar Maori Land Court Palmerston North to Chief Engineer, 3 April 1980. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3542-3544.

The relevant Maori Land Court minutes (82 Otaki 170-171) are attached to Dorrington, Poole & Barclay, Barristers and Solicitors, Dannevirke, to County Clerk Manawatu County Council, 9 April 1981. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3554-3558 at 3557-3558.

on the provisions of the Maori Affairs Act¹³⁶⁹, the Catchment Board was not served notice of the application for the injunction, which might have allowed it to attend the Court hearing if it had wished to do so. The response of the Catchment Board was that no gravel had been removed from the lands set out in the injunction, either by the Board or under any authority issued by the Board¹³⁷⁰.

Upon receiving the District Officer's letter, the Catchment Board sought legal advice from its solicitors:

The letter is obviously intended to establish a basis for compensation beyond anything that was previously anticipated.

As much as anything, I find the tone of the letter rather disturbing and not conducive to persuading further negotiations for settlement by agreement.

He asked for an opinion on six points:

1. The ownership of the bed of the river underlying the original Sections 140 and 141.
2. The ownership of the metal in those portions of the river bed.
3. Whether or not any action could be taken against the Board for trespass or removal of metal, insofar as the Board itself has never done so but may have licensed others to remove metal in the vicinity, pursuant to its powers under the Soil Conservation and Rivers Control Act.
4. If it is established that the metal in the river bed belongs to the owners of Sections 140 and 141, would they in fact be entitled to remove it without first having obtained a licence from the Board for that purpose.
5. The extent to which the Board has rights of access across those portions of river bed for the purpose of carrying out river protection works, or must it treat that part of the river bed as private property.
6. If those portions of the river bed are private land, then to what extent are they entitled to compensation for taking the titles? Presumably it is limited to its market value – willing seller, willing buyer.¹³⁷¹

The Catchment Board's solicitor replied in April 1980. With respect to each of the numbered questions above, they stated:

1. The Maori Affairs Department is correct.... The sections cannot be regarded as Crown Land by virtue of Section 206 [Coal Mines Act 1925].
2. The general rule of common law is that the owner of land owns the soil and everything below the surface of the land, including minerals (other than gold and silver).... In our opinion it follows from this general rule that if the

¹³⁶⁹ Section 449 Maori Affairs Act 1953, as amended by Section 62 Maori Affairs Amendment Act 1974.

¹³⁷⁰ Chief Engineer to Dorrington, Poole & Barclay, Barristers and Solicitors, Dannevirke, 14 April 1981 and 12 June 1981. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3559 and 3562.

¹³⁷¹ Chief Engineer to Treadwell Gordon & Co, Barristers and Solicitors, Wanganui, 27 February 1980. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3540-3541.

Ohinepuhiawe sections are owned by the Maoris, then the metal in the land belongs to them as well.

3. For practical purposes we think the Board should accept that it can be sued [by the owners or by an unlawfully licensed contractor] and be found liable, [though there are] various defences available to an action for trespass.
4. In theory, the owners in fact have the right to remove metal from the Blocks without licence from the Board.... The grant of a licence to remove metal amounts to an ‘alienation’ [requiring Maori Land Court consent and following other Maori Affairs Act procedural steps].... The Maori Land Court might well take into account the wishes of the Board in considering the terms of any licences to be granted.
5. The Ohinepuhiawe Blocks are in the same position as privately owned land and the Board must treat it as private property.... However, your Board has considerably wide powers [such as the power of entry and access under Section 135(c) Soil Conservation and Rivers Control Act, which] can be exercised in relation to Maori Land in the same way as any other private property.
6. Compensation is assessed on the basis of market value. The value would undoubtedly reflect the value of the metal contained in the land.¹³⁷²

In the same reply, the solicitors recommended that the Catchment Board proceed immediately with the taking of the land, as that would “settle once and for all the various problems of title and control”. They noted that Section 19 Public Works Act 1928 normally excluded minerals from any taking for a local authority, though if it wished the Board could ask that the taking Proclamation expressly include the taking of minerals in the land¹³⁷³. The Catchment Board accepted their solicitors’ advice and resolved to proceed with the issue of the taking Proclamation as soon as possible; the Board also agreed that the Proclamation incorporate a reference to the taking of the minerals¹³⁷⁴.

Despite the Catchment Board’s desire for urgency, there had been no taking when the notice of intention to take reached the end of its 12-month life, and was confirmed again in October 1980¹³⁷⁵. The Maori-owned riverbed lands were eventually taken in April 1981¹³⁷⁶. There

¹³⁷² Treadwell Gordon & Co, Barristers and Solicitors, Wanganui, to Chief Engineer, 29 April 1980. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3545-3550.

¹³⁷³ Treadwell Gordon & Co, Barristers and Solicitors, Wanganui, to Chief Engineer, 29 April 1980. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3545-3550.

¹³⁷⁴ Chief Engineer to Treadwell Gordon & Co, Barristers and Solicitors, Wanganui, 9 May 1980. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3551.

¹³⁷⁵ Confirming notice of intention to take land, 30 October 1980. Rangitikei-Wanganui Catchment Board file 327/RS2/B. 3552-3553.

¹³⁷⁶ District Commissioner of Works Wanganui to Commissioner of Works, 16 March 1981. Works and Development Head Office file 96/327000/0. Supporting Papers #2557-2565.

New Zealand Gazette 1981 page 1194. Supporting Papers #3113.

This proclamation did not take the portions of “part old river bed” defined on Wellington plans SO 30830.

was nothing in the Proclamation about minerals being included in the taking, though it later emerged, and was acknowledged by the Catchment Board at the Land Valuation Tribunal hearing (see below), that the absence of a statement about taking the minerals was not relevant as the taking had in fact included the taking of the minerals.

Shortly after the taking, the Catchment Board confirmed with the Maori Land Court that it was still interested “to find by negotiation some mutually acceptable basis for settlement”¹³⁷⁷. This would require the appointment of agents for those blocks that did not have them already. It was later clarified that the Catchment Board was only prepared to consider an exchange if it could be negotiated “with all the owners of all the blocks, and not on a piecemeal basis”¹³⁷⁸. However, nothing was heard back from the Court, and the agents already appointed did not contact the Catchment Board to open compensation negotiations. Nor did the Catchment Board make any effort to approach the agents or the owners. The option of a land exchange was abandoned by neglect. Instead, in November 1981, having obtained special valuations from the Valuation Department, the Catchment Board sent out offers of monetary compensation, as follows:

European-owned lands at Ohinepuhiawe had been taken in October 1980 by *New Zealand Gazette* 1980 pages 3257-3258. Not included in Supporting Papers.

¹³⁷⁷ Chief Engineer to Deputy Registrar Maori Land Court Wanganui, 14 May 1981. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3560-3561.

¹³⁷⁸ Chief Engineer to Dorrington, Poole & Barclay, Barristers and Solicitors, Dannevirke, 17 June 1981. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3563-3564.

Table 12: Compensation offered to Maori owners of Ohinepuhiawe lands

Block	Area Taken (hectares)	Compensation Offered
Ohinepuhiawe 140A, 141B1 & 141B5	21.6739	\$8875 ¹³⁷⁹
Ohinepuhiawe 140B3	14.9730	\$4900 ¹³⁸⁰
Ohinepuhiawe 141A4B	0.6300	\$250 ¹³⁸¹
Ohinepuhiawe 141B2A	0.1277	\$30 ¹³⁸²
Ohinepuhiawe 141B2B	0.4570	\$200 ¹³⁸³
Ohinepuhiawe 141B2C	0.5498	\$240 ¹³⁸⁴
Ohinepuhiawe 141B2D	0.4087	\$180 ¹³⁸⁵
Ohinepuhiawe 141B4B	4.9876	\$600 ¹³⁸⁶

Letters of acceptance were quickly received from the owner of Ohinepuhiawe 141B2C¹³⁸⁷, and one of the two agents for the owners of Ohinepuhiawe 141B4B¹³⁸⁸. The owner of Ohinepuhiawe 141B2D was deceased, and a successor had to be appointed¹³⁸⁹. The owner of Ohinepuhiawe 141B2A did not accept the offer until November 1982¹³⁹⁰. These were the only responses the Catchment Board received to its offers during the 12 months following the making of the offers.

¹³⁷⁹ Chief Engineer to O Cribb, Bulls, HA Maeke, Bulls, and E Hill, Bulls, 26 November 1981. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3565.

¹³⁸⁰ Chief Engineer to E Reweti, Auckland, O Cribb, Bulls, and NR Hawea, Bulls, 27 November 1981. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #

¹³⁸¹ Chief Engineer to J Te Momo, Levin, and JFC Henderson, Solicitor, Marton, 26 November 1981, and Chief Engineer to J Kenrick, Levin, 21 January 1982. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3566 and 3573.

¹³⁸² Chief Engineer to P Winiata, Bulls, 1 December 1981. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3569.

¹³⁸³ Chief Engineer to GJ Hunt, Bulls, 1 December 1981. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3570.

Mr Hunt, a European, had recently purchased Ohinepuhiawe 141B2B from its Maori owner.

¹³⁸⁴ Chief Engineer to IR Skogstad, Palmerston North, 1 December 1981. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3569.

¹³⁸⁵ Chief Engineer to G Wereta c/- Maori Affairs Palmerston North, 1 December 1981. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3571.

¹³⁸⁶ Chief Engineer to D Kereama, Bulls and R Rogan, Titahi, 26 November 1981. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3567.

¹³⁸⁷ IR Skogstad, Palmerston North to Chief Engineer, 2 December 1981. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3572.

¹³⁸⁸ R Rogan, Titahi Bay, to Chief Engineer, 6 February 1982. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3574.

¹³⁸⁹ Registrar Maori Land Court Wanganui to Chief Executive Officer, 9 September 1982. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3575.

¹³⁹⁰ P Winiata, Bulls, to Chief Engineer, undated (received 22 November 1982). Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3577.

Making the payments was another matter. The payments had to be approved by the Ministry of Works and Development, and in the case of the offer for Ohinepuhiawe 141B2C that had been accepted soon after being made in December 1981, approval to make the payment was not given until October 1982. No interest was paid in recognition of the time delay¹³⁹¹. Payment for Ohinepuhiawe 141B2A, by contrast, was made fairly quickly, being approved and paid by mid January 1983¹³⁹². No payment was made for Ohinepuhiawe 141B4B, as that would require a letter of acceptance from the second of the two agents for the owners, and no such letter was received.

The most substantial compensation offers had been made to the agents for the owners of Ohinepuhiawe 140A, 140B3, 141B1 and 141B5. These blocks could broadly be described as the lands on the true right (western or Bulls side) of the channel cut through the Maori reserve by the river in 1897. Their owners were the most likely to have benefited from any land exchange involving the land taken for river protection in 1932, as that land was on the same side of the river. The agents for the owners eventually responded to the offers, via solicitors, in January 1983. They had obtained their own valuation advice, and their response was a counter-claim seeking compensation based on their valuer's report. The main differences were that the owners' valuer assessed the land value of the blocks to be approximately three times the amount assessed by the Catchment Board's valuer, and the owners were also seeking compensation for the value of the gravel on the blocks, while the Catchment Board had not offered any compensation for the minerals¹³⁹³.

The offers and counter-claims were as follows:

¹³⁹¹ Resources Manager to IR Skogstad, Palmerston North, 13 October 1982. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3576.

¹³⁹² District Property Officer Wanganui to District Commissioner of Works Wanganui, 26 November 1982, and Resources Manager to P Winiata, Bulls, 20 January 1983. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3578-3579 and 3597.

¹³⁹³ Claims for compensation, 21 December 1982, 30 December 1982, and 11 January 1983; and Morice, Watson & Associates, Registered Valuers, Napier, to Dorrington, Poole & Barclay, Barristers and Solicitors, Dannevirke, 14 December 1982, all attached to Dorrington, Poole & Barclay, Barristers and Solicitors, Dannevirke, to Secretary, 13 January 1983. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3580-3596.

Table 13: Ohinepuhiawe lands taken in 1981 where valuations disputed

Block	Area Taken (hectares)	Land Value Offered	Land Value Claimed	Mineral Value Claimed	Other Value¹³⁹⁴ Claimed	Total Value Claimed
Ohinepuhiawe 140A	11.4700	\$5,800	\$17,900	\$4,300	\$4,100	\$26,300
Ohinepuhiawe 140B3	14.9730	\$4,900	\$12,825	\$23,000	\$7,200	\$43,025
Ohinepuhiawe 141B1	1.0450	\$700	\$2,100	-	-	\$2,100
Ohinepuhiawe 141B5 (Part)	2.9289	\$2,075	\$5,750	-	-	\$5,750
Ohinepuhiawe 141B5 (Part)	6.2300	\$300	\$900	\$12,800	\$14,400	\$28,100
Total	36.6469	\$13,775	\$39,475	\$40,100	\$25,700	\$105,275

The counter-claims were not dealt with by Catchment Board staff, but instead were passed to the Ministry of Works and Development for processing, in its capacity as the financial approval authority¹³⁹⁵. The Ministry does not seem to have contemplated negotiation, instead deciding that “we cannot accept the basis” of the counter-claim. It did, however, decide that the sums offered by the Catchment Board, plus interest since the effective date of taking (i.e. 30 April 1981), could be treated as an advance and paid out¹³⁹⁶.

Because no agreement could be reached on the parameters for the claim, in particular whether or not a mineral value could rightfully be included, the matter was referred to the Land Valuation Tribunal as an independent arbitration body. This step transferred responsibility back to the Catchment Board as the named party for whom the taking had been proclaimed. Thus it was the Catchment Board’s solicitors who prepared for and appeared at the Tribunal hearing, rather than Crown lawyers. There was, however, some liaison between the Board’s solicitors and Ministry of Works and Development staff during the lead up to the hearing.

A few days before the Land Valuation Tribunal hearing was due to take place, there was a discussion between the solicitor acting for the Catchment Board and the Ministry of Works

¹³⁹⁴ This was referred to as “replenishment” value, being the value of shingle that would replenish the land after removal of the shingle that was already on the land.

¹³⁹⁵ Resources Manager to Dorrington, Poole & Barclay, Barristers and Solicitors, Dannevirke, 31 January 1983. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3598.

¹³⁹⁶ District Commissioner of Works Wanganui to Resource Manager, 22 March 1983 and 30 March 1983. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3599 and 3600-3606.

and Development's Property Services Division. The solicitor thought that it would be better if a private valuer provided valuation evidence to the Tribunal on behalf of the Catchment Board, rather than the Valuation Department valuer who had advised the Catchment Board up to that time. This would require him seeking an adjournment of the hearing. He sought support from the Crown officials for this action. It was apparently not what his clients wanted, as the Catchment Board wanted the matter to proceed as soon as possible so that the amount of compensation to be paid was known that financial year. The official who had the discussion with the solicitor advised the Director of Property Services:

The danger as I see it is that a fixture has been set, and if abandoned because of our insistence on an independent valuer could lead to adverse comment being made against the Crown.¹³⁹⁷

The Director of Property Services notified the Director of Water and Soil Conservation:

Clearly it is the Board's decision whether they proceed or not – it is a local work.

I propose advising the solicitor that it would be improper for us to attempt to intervene.

Having said that, I think the Board are most unwise to proceed to a hearing with only one expert witness – we would not.¹³⁹⁸

The Land Valuation Tribunal heard the matter in February 1984, and issued its decision two months later¹³⁹⁹. It had heard from three witnesses on behalf of the Maori owners, the owners' valuer, a gravel extraction contractor, and Oma Cribb. The Chief Engineer of the Catchment Board, the valuer working for the Board, and the Planning Officer for Manawatu County Council had appeared on behalf of the Catchment Board. Oma Cribb told the Tribunal, as reported in its decision:

She remembered the land being farmed by her grandfather up to 1956, when it was leased out. Mrs Cribb gave evidence of the removal of some 4500 cubic metres of metal from the land in the month of September 1978. After the issue of the injunction, the Maori owners were paid compensation for the stockpile of metal which had been built up.¹⁴⁰⁰

¹³⁹⁷ Property Officer to Director of Property Services, 1 February 1984. Works and Development Head Office file 96/327000/0/13. Supporting Papers #2566-2567.

¹³⁹⁸ Director of Property Services to Director of Water and Soil Conservation, 1 February 1984, on Property Officer to Director of Property Services, 1 February 1984. Works and Development Head Office file 96/327000/0/13. Supporting Papers #2566-2567.

¹³⁹⁹ Decision of Land Valuation Tribunal, 27 April 1984. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3610-3620.

¹⁴⁰⁰ Decision of Land Valuation Tribunal, 27 April 1984, page 2. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3610-3620 at 3611.

The gravel extraction contractor gave evidence that the metal in the river was of “a very high quality” and “there was a ready demand for such metal, firstly because of its quality, and secondly because of its situation near a main highway”. The Tribunal stated that it “was left with the strong impression” that the contractor would bid for the right to take metal from the Ohinepuhiawe land, thus meaning the metal had a market value¹⁴⁰¹.

The Land Valuation Tribunal made some uncomplimentary remarks about the Catchment Board’s evidence:

It seemed to the Tribunal that the evidence adduced on behalf of the Board was aimed at showing up the land and its metal reserves in the worst possible light....¹⁴⁰²

[The Chief Engineer] attempted to show that the only access to the site was through Board property; that the Board would not permit the winning of metal from the land in question; that the trees which had been planted would not be allowed to be removed; that the Board was progressively reducing gravel extraction from the river; and that the river gravels were a finite resource.

The Tribunal had difficulty in accepting such a hard line, and considered that many of the statements were unnecessarily slanted to make the land appear worthless.¹⁴⁰³

It then assessed the valuer’s evidence that he had not given any value to the metal resource “because of the negative attitude adopted by the Board to any such exploitation”:

It could be that his attitude was affected by the Board’s initial view that the original Proclamation “did not include the taking of mineral rights”. This incorrect assertion was referred to by the Board in its letter to the solicitors for the claimants dated 18 December 1981. It is noted that [the valuer] did his inspection on 14 October 1981. The Board did not resile from its mistaken position until the date of the hearing.

[The valuer] denies that this attitude affected his decision. The Tribunal simply notes that in the whole of his written valuation, the metal deposits are referred to once, and written off on the basis of the difficulty with access and the uncertainty of obtaining quarrying rights.¹⁴⁰⁴

On the matter of land value, the Land Valuation Tribunal found the correct valuation was “somewhere in between” the differing approaches of the two valuers. It determined that valuations should be based as a guide on \$1100-\$1200 per hectare for “the good land”, and

¹⁴⁰¹ Decision of Land Valuation Tribunal, 27 April 1984, page 3. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3610-3620 at 3612.

¹⁴⁰² Decision of Land Valuation Tribunal, 27 April 1984, page 3. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3610-3620 at 3612.

¹⁴⁰³ Decision of Land Valuation Tribunal, 27 April 1984, page 4. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3610-3620 at 3613.

¹⁴⁰⁴ Decision of Land Valuation Tribunal, 27 April 1984, page 5. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3610-3620 at 3614.

“half that amount for the lower lying and rougher areas”. On the matter of metal value, it stated:

In this case the Tribunal is satisfied that there is a large amount of metal available of a high quality. There is a market demand for it, and there is a suggestion that the resource is replenished with each flood. Balanced against these facts are the Board’s allegations that access could be stopped and planning approval could be prevented. In addition the Board has further powers of hindering the exploitation of the resource under its By-Laws and it considers the river gravels in total are finite.¹⁴⁰⁵

The Tribunal gave its reasons for discounting the significance and effect of these arguments, before concluding that the land the subject of the hearing had an additional value of \$22,500 over and above its land value on account of the existence of the metal resource and its potential for replenishment. It then apportioned the value among the five blocks, as follows¹⁴⁰⁶:

Table 14: Ohinepuhiawe valuations determined by the Land Valuation Tribunal

Block	Value Offered	Value Claimed	Value Determined
Ohinepuhiawe 140A	\$5,800	\$26,300	\$12,185
Ohinepuhiawe 140B3	\$4,900	\$43,025	\$19,835
Ohinepuhiawe 141B1	\$700	\$2,100	\$1,150
Part Ohinepuhiawe 141B5	\$2,075	\$5,750	\$3,000
Part Ohinepuhiawe 141B5	\$300	\$28,100	\$7,855
Total	\$13,775	\$105,275	\$44,025

The Tribunal awarded interest on its valuations from the date of taking to the date of decision, and also awarded the Maori owners costs of \$3000.

When recommending approval to pay the compensation ordered by the Land Valuation Tribunal, the Property Officer in the Property Section of the Ministry of Works and Development stated:

I consider the award suggested by the Tribunal as a middle of the road compromise that they hope will not upset either party, and will not open up the inevitable discussions on the valuation of minerals. It should be noted that the intrinsic value of the metal they apply is only to those areas of open beach, and does not concern itself with land in pasture cover with mineral deposits underneath.

¹⁴⁰⁵ Decision of Land Valuation Tribunal, 27 April 1984, page 7. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3610-3620 at 3616.

¹⁴⁰⁶ Decision of Land Valuation Tribunal, 27 April 1984, page 10, and Order of Land Valuation Tribunal, 27 April 1984. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3610-3620 at 3618, and 3621-3622.

The Rangitikei-Wanganui Catchment Board's attitude, aside from the emotional reaction at the Tribunal's virtual statement of fabrication of facts and policies relating to metal extraction, is that they can live with this settlement.¹⁴⁰⁷

Payment of the compensation plus interest as awarded by the Tribunal, less the amount already paid as an advance in March 1983, was made in June 1984¹⁴⁰⁸.

This still left two compensation offers, for Ohinepuhiawe 141A4B and Ohinepuhiawe 141B4B, uncompleted. After eventually obtaining the agreement of both agents for the owners of Ohinepuhiawe 141B4B, payment of compensation plus interest since 1981 was made in April 1984¹⁴⁰⁹. In October 1982 one of the agents for Ohinepuhiawe 141A4B had his appointment cancelled, though this was not notified to the Catchment Board until early in 1984¹⁴¹⁰. The Catchment Board continued to try to get in touch with the remaining agent up until at least December 1985¹⁴¹¹, without success. In February 1986, the appointment as agent was cancelled, though yet again the Catchment Board only found out some time later, in March 1987¹⁴¹². The last correspondence on the Catchment Board file indicates that the Maori Land Court was attempting to find another owner who could act as agent to negotiate and accept on behalf of all the owners compensation from the Catchment Board¹⁴¹³. It is not known if any compensation payment has been paid to the owners of Ohinepuhiawe 141A4B since April 1987, the date of the most recent correspondence identified during research for this report.

¹⁴⁰⁷ Assistant District Property Officer Wanganui to District Commissioner of Works Wanganui, 11 May 1984, attached to District Commissioner of Works Wanganui to Commissioner of Works, 11 May 1984. Works and Development Head Office file 96/327000/0/13. Supporting Papers #2568-2583.

¹⁴⁰⁸ Chief Executive Officer to Dorrington & Poole, Barristers and Solicitors, Dannevirke, 22 June 1984. Rangitikei-Wanganui Catchment Board 327/RS2/B. Supporting Papers #3623.

¹⁴⁰⁹ Resources Manager to Maori Trustee Wanganui, 2 April 1984. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3609.

¹⁴¹⁰ Order of the Court cancelling the appointment of an agent, 28 October 1982, attached to Registrar Maori Land Court Wanganui to Chief Engineer, 7 February 1984. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3607-3608.

¹⁴¹¹ Resources Manager to J Kenrick, Levin, 13 December 1985. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3624.

¹⁴¹² Order of the Court cancelling the appointment of an agent, 24 February 1986, attached to Registrar Maori Land Court Wanganui to Chief Engineer, 18 March 1987. Supporting Papers #3625-3627.

¹⁴¹³ Resources Manager to Registrar Maori Land Court Wanganui, 2 April 1987, and Registrar Maori Land Court Wanganui to Resources Manager, 7 April 1987. Rangitikei-Wanganui Catchment Board file 327/RS2/B. Supporting Papers #3628 and 3629.

9.8 Gravel Extraction at Toe Toe Road, Utiku

In the mudstone and siltstone country in the upper middle part of the Rangitikei River upstream of the confluence with the Kawhatau River, the river is one of the few sources of gravel and stone, so is of high economic importance for communities in that district. Unlike the lower part of the river, where the gravel resource has accumulated in past years and there can be more extraction than the annual replenishment, operations upstream of the Kawhatau River confluence are more in the nature of ‘run of the river’ works dependent on whatever the river brings down each year. The most substantial extraction site of this nature is at Toe Toe Road near Utiku, just downstream of the confluence of the Rangitikei and Hautapu Rivers. Extraction there has been carried out by Capill’s Transport Ltd prior to 1980, and by Byford’s Contracting and Construction Co Ltd since then.

Capill’s were already operating at Toe Toe Road prior to 1975¹⁴¹⁴, when they first applied for a water right. When operations started at the site is not known. Their application was to take water for their shingle washing plant¹⁴¹⁵. It was put on hold while the Rangitikei-Wanganui Catchment Board investigated suitable standards for effluent discharged back into the river from washing operations (see an earlier section of this chapter), then issued in December 1975 for a three-year term for the taking and discharging of 140,000 litres per day¹⁴¹⁶.

Prior to obtaining their water right, Capill’s had secured a right to take gravel from what was referred to as “the foreshores of the Kawhatau River and Rangitikei River”. This Grant of Metal Rights was an agreement made with the riparian landowners of Part Awarua 1A2 West A. These owners were Maori, being Paamoana Hauiti Potaka (as to a two-thirds share) and Pene Winiata Potaka (as to a one-third share). The metal rights gave Capill’s:

The full and exclusive liberty and power to take, carry away and crush all sand, shingle and boulders from the foreshores of the Kawhatau River and Rangitikei River adjoining the said land on the down-river side from the Toi Toi Bridge, such quantities or quantity of sand shingle and boulders as the Grantee shall see fit.

And also the full, free and unrestricted liberty and power to build, make, construct, use and place all such building sheds, roadways, tramways, skids, loading banks,

¹⁴¹⁴ They held a licence to take gravel from the waterway (Licence No. 75/24) in terms of the Rangitikei Catchment Board bylaws prior to applying for a water right. Current metal licences, 1975/76. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3846.

¹⁴¹⁵ Application for Water Right, 3 April 1975. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3847.

¹⁴¹⁶ Chief Engineer to Applicants for water rights, 10 December 1975. Rangitikei-Wanganui Catchment Board W327/290. Supporting Papers #3855-3857.

stockpiles, plant and machinery as is necessary and proper for the purpose of taking, carrying away, loading, chipping and crushing the said sand, shingle, boulders and “chips” on a part of the said land as is adjacent and convenient to the said foreshore and not exceeding in area one acre, and for that purpose to enter upon the said land and pass and re-pass thereover with or without workmen and agents and trucks, lorries, bulldozers and machinery of all kinds at any time and from time to time by day or by night during the said term.

The term of the grant was five years from March 1975, and provided for a royalty payment of 25 cents per cubic yard for the first 1000 cubic yards taken each month, and 20 cents per cubic yard for any further amount taken that same month. A minimum annual payment of \$1200 was to be paid¹⁴¹⁷. The grant allowing extraction of gravel from the riverbed is a legal expression of the *ad medium filum aquae* rights to the centre of the river enjoyed by the Maori riparian owners.

The water right required Capill’s to submit plans of its wash-water settling pond for approval, which it did in June 1976¹⁴¹⁸. Advice was provided about the settling plant, and permission was given for a temporary settling pond while awaiting the construction of the permanent pond¹⁴¹⁹. However, the company failed to construct the permanent pond and was identified as being non-compliant with its water right in July 1977¹⁴²⁰. One year later there was still no sign of a permanent settling pond:

The discharge from the plant is run into a temporary type pond on the edge of the river. This has been in operation since before October 1976 and seems to work quite satisfactorily. The system requires reasonable management, as when the river floods it is necessary to rebuild the pond after the flood recedes.... The temporary ponds are cleaned from time to time.¹⁴²¹

In 1982, the Catchment Board retrospectively described Capill’s operation as “most unsatisfactory”¹⁴²².

In December 1978, when its three-year term expired, the water right was allowed to run on at the pleasure of the Catchment Board¹⁴²³. By June 1980, however, Capill’s had abandoned the

¹⁴¹⁷ Wellington Land Registry Transfer of Grant of Rights 076146.1. Supporting Papers #3263-3266.

¹⁴¹⁸ Capill’s Transport Ltd, Taihape, to Rangitikei-Wanganui Catchment Board, 3 June 1976. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3858-3859.

¹⁴¹⁹ Senior Water Officer to Capill’s Transport Ltd, Taihape, 17 June 1976. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3860-3861.

¹⁴²⁰ File note on site inspection, 19 July 1977, and Chief Engineer to Capill’s Transport Ltd, Taihape, 1 August 1977. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3862 and 3863.

¹⁴²¹ File note on site inspection, 26 September 1978. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3864.

¹⁴²² Resources Manager to Manager Byford’s Contracting & Constructing Co Ltd, Taihape, 14 September 1982. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3875.

site, and “Byfords have set up a mobile crusher slightly downstream of the old plant, but there are no signs of any metal washing”¹⁴²⁴. Capill’s water right was formally cancelled in December 1981¹⁴²⁵.

The importance that Byford’s Contracting and Construction Co Ltd attached to the Toe Toe Road gravel extraction site is apparent from the preliminary legal moves made by the company in the early 1980s. These were:

- Obtaining a grant of metal rights from the riparian landowners in 1980
- Obtaining town and country planning consent from Rangitikei County Council in 1982
- Obtaining a water right from Rangitikei-Wanganui Catchment Board in 1982 to take and discharge water as part of gravel-washing operations

Each legal right is discussed below.

The grant of metal rights that Byford’s entered into with the riparian landowners was on the same general terms as that negotiated by Capill’s five years earlier, with three main differences. The term of the grant was increased from 5 years to 10 years from 1 April 1980, the royalty payment was set at 45 cents per cubic yard for the first 1000 cubic yards taken each month, and 40 cents per cubic yard for any further amount taken that same month, and the royalty rate was reviewable each year. The minimum annual payment of \$1200 was retained¹⁴²⁶.

Town and country planning consent for a conditional use of “quarrying, mining and processing metal” was applied for in September 1982¹⁴²⁷. There were still some remnants of Capill’s operation on the site, and Byford’s explained in their application that “we will undertake to clear the site of the old crushing plant and of all debris”. They later added that “when we first took over the site a considerable amount of debris, old machinery, trucks etc,

¹⁴²³ Chief Engineer to Capill’s Transport Ltd, Taihape, 3 October 1978. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3865.

¹⁴²⁴ File note on site inspection, 25 June 1980. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3866.

¹⁴²⁵ Chief Engineer to Managing Director Capill’s Transport Ltd, Taihape, 8 December 1981. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3867.

¹⁴²⁶ Wellington Land Registry Transfer of Grant of Rights 368907.1. Supporting Papers #3268-3273.

¹⁴²⁷ Application for planning consent, 10 September 1982, attached to County Clerk Rangitikei County Council to Town Planner Wanganui City Council, 7 October 1982. Wanganui City Council file 3/21/1. Supporting Papers #3320-3329 at 3322-3324.

were lying around partly buried in the undergrowth”¹⁴²⁸. There were no objections lodged against the granting of consent, though the Ministry of Works and Development and Wellington Acclimatisation Society did make written requests for certain matters to be governed by conditions of consent¹⁴²⁹. The application was approved in October 1982, subject to conditions to prevent any slipping that might affect the stability of Toe Toe Road, reinstatement of the land if the use ceased, avoidance of fuel spills, and no impediments to angler access and the launching of jet boats. The conditions were said to be “sufficient to ensure no deleterious effects on the existing and foreseeable future amenities of the neighbourhood, and on the economic, cultural, social and general welfare of the people of the district”¹⁴³⁰. There is no indication in the records examined for this report that tangata whenua made submissions or commented on the application.

Byford’s applied for water rights from Rangitikei-Wanganui Catchment Board in August 1982¹⁴³¹:

Water for washing of the metal will be taken at the rate of 218 m³ per day from the Rangitikei River ... by means of an electrical submersible pump....

The crusher effluent will go into a 20m x 15m x 3m (900 m³) settling pond, which will give about 4 days retention, before being discharged into a drain which will flow into a second slightly smaller settling pond which is yet to be constructed. The discharge from this pond will go into another drain before being discharged into the river.... The distance between the two ponds will be about 100 m, and about 150 m from the second pond to the river. At the end of the second drain a gravel filter will be installed.¹⁴³²

The water right applications attracted an objection from Wellington Acclimatisation Society concerned about the increased sediment load discharged back to the river and its effect on the aquatic environment¹⁴³³. Byford’s responded to the concerns¹⁴³⁴, and the Catchment Board’s

¹⁴²⁸ Byford’s Contracting and Construction Co Ltd to County Clerk Rangitikei County Council, 5 October 1982, attached to County Clerk Rangitikei County Council to Town Planner Wanganui City Council, 7 October 1982. Wanganui City Council file 3/21/1. Supporting Papers #3320-3329 at 3328.

¹⁴²⁹ District Commissioner of Works Wanganui to County Clerk Rangitikei County Council, 23 September 1982, and Secretary Wellington Acclimatisation Society to County Clerk Rangitikei County Council, 28 September 1982, attached to County Clerk Rangitikei County Council to Town Planner Wanganui City Council, 7 October 1982. Wanganui City Council file 3/21/1. Supporting Papers #3320-3329 at 3325 and 3326-3327.

¹⁴³⁰ Assistant County Clerk Rangitikei County Council to Byfords Contracting and Constructing Co Ltd, 8 November 1982. Wanganui City Council file 3/21/1. Supporting Papers #3330-3331.

¹⁴³¹ Managing Director Byford’s Contracting and Construction Co Ltd to Chief Engineer, 26 August 1982, and Application for water right, 1 September 1982. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3868 and 3869-3871.

¹⁴³² File note on site inspection, 1 September 1982. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3872.

¹⁴³³ Filed Officer Wellington Acclimatisation Society to Secretary, 28 September 1982. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3876-3877.

Resources Manager advised the Acclimatisation Society that he intended to recommend the granting of the rights subject to a maximum of 300 micrograms per litre of suspended solids in the discharged effluent, monthly sampling of the effluent during summer months, and two-monthly sampling during the rest of the year¹⁴³⁵. On this basis the Acclimatisation Society withdrew its objection¹⁴³⁶. After Byford's had provided a more accurate site layout for its operation¹⁴³⁷, which cleared up some earlier confusion, the taking and discharge water rights were issued¹⁴³⁸. They had a term of three years, with a clause that they would continue after expiry "at the pleasure of the Board".

There is no indication in the Catchment Board records examined for this report that the Board considered Maori interests in the river at Toe Toe Road when it decided to grant the water rights to Capill's in 1975 and Byford's in 1982.

Between 1982 and 1985 Byford's was generally non-compliant with the terms of its water right. Initially the problem was that there was only a single settlement pond that had not been cleaned out¹⁴³⁹. Later, when a second pond was installed, the discharge failed to meet the suspended solids standard set in the water right¹⁴⁴⁰. At about the end of the three-year term of the water rights, inspection reports revealed how important day-to-day management and giving a sufficiently high priority to effluent management was to achieving a compliant discharge standard:

A routine inspection of the plant reveals that a discharge of effluent was occurring from the ponds to the Rangitikei River. This was the first discharge observed since the 28th March 1985. Since that date the outlet channel from the 3rd pond had been blocked off and the effluent had been going to ground soakage in the adjacent bush area.

¹⁴³⁴ Managing Director Byford's Contracting and Construction Co Ltd to Resources Manager, 5 October 1982. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3878.

¹⁴³⁵ Resources Manager to Field Officer Wellington Acclimatisation Society, 18 October 1982. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3879.

¹⁴³⁶ Field Officer Wellington Acclimatisation Society to Resources Manager, 27 October 1982. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3880.

¹⁴³⁷ Site layout diagram, undated (October/November 1982). Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3881.

¹⁴³⁸ Chief Executive Officer to Managing Director Byford's Contracting and Construction Co Ltd, 12 November 1982, and Water Rights RTK 820961 and RTK 820962. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3882-3883, 3884-3885, and 3886-3888.

¹⁴³⁹ File note of site inspection, 18 November 1983, and Resources Manager to Managing Director Byford's Contracting and Construction Co Ltd, 8 December 1983. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3889 and 3890.

¹⁴⁴⁰ Resources Manager to Managing Director Byford's Contracting and Construction Co Ltd, 4 April 1985. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3891-3892.

However, sometime in the previous week 29/10-1/11, the outlet channel had been cleared and the effluent allowed to discharge via the partially-filled gravel drain....

The effluent was muddy brown in colour, and once discharged into the river was clearly visible for some 60-70 m downstream.

I spoke with the plant manager, who said that he had unblocked the channel to let some of the effluent go while the river was up and dirty.... He had meant to block it off again when the river had cleared, but had not got around to it.

The pond levels had dropped about 15 cm and a large area of solids had become visible in the first pond (approx 1/3rd of the ponds surface area is now silt). As far as I am aware, no attempt has been made to clean out the first pond since the somewhat unsuccessful attempt in August last year. At that time they had tried to use a dragline but found that the silt turned into a slurry, and that it was impossible to extract with the methods that they were using.

The outlet channel has now been blocked off again and the plant manager told that unless the effluent can meet the standards set for the discharge some other method of disposal should be utilised.¹⁴⁴¹

Some maintenance work was carried out on the effluent settling system over the next month, though not with entirely satisfactory results¹⁴⁴². A review report then concluded:

No problems have been encountered with the right to take, and a recent check on the extraction rate showed that they are within the right issued to them (27 m³/hr actual, 28 m³/hr right).

However, problems have been experienced right from the start with the disposal of the effluent. Various combinations of ponds and gravel-filled ditches have been utilised but with very limited success.

At present the discharge from the final pond has been diverted out through an area of natural bush and no direct discharge of effluent to the river is occurring, however there is a damp area in the papa bank that probably is all that remains of the effluent.

A small pond at the plant catches the larger fines and sand, and is cleaned out when full.¹⁴⁴³

A laboratory test was conducted on the Byford's effluent to check if there was any reason why suspended solids might not settle out so readily. Beyond a tendency to return to suspension when agitated, which might occur during transfer of the effluent between ponds, the effluent appeared to be capable of settling at a rate that would allow the standard set out

¹⁴⁴¹ File note on site inspection, 7 November 1985, and Resources Manager to Manager Byford's Contracting & Construction Co Ltd, 21 November 1985. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3906-3910 and 3911-3912.

¹⁴⁴² File note on site inspection, 6 December 1985 and 11 December 1985. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3913 and 3914.

¹⁴⁴³ Review report on Water Rights RTK 820961-2, undated (December 1985). Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3915.

in the water right to be achieved¹⁴⁴⁴. The water right was then allowed to continue at the Catchment Board's pleasure.

In a submission made in 1985 in connection with the proposed national Water Conservation Order, Byford's explained that it operated concrete plants at Waiouru and Taihape:

We rely entirely for our raw materials, sand and aggregate on the Rangitikei River. If this raw material from the river was no longer available to us, it would have widespread repercussions, not only on this company but also the staff we employ. We would be compelled to curtail most of our operation.

We also have portable crushing plants that operate at various points along the banks of the Rangitikei River. These have been working in the district for the last twenty-five years.

We wish you to seriously consider our submissions when you finally make your decision on the Rangitikei River.¹⁴⁴⁵

Byford's managing director also spoke to the National Water and Soil Conservation Authority's special tribunal considering the Water Conservation Order application when it held a public hearing in Taihape in October 1985:

The company was founded on the first day of March 1945. It employs a staff of 33. About 50% of that number would be engaged in the processing of shingle at our gravel crushing and screening plants. Most of these are portable or semi-portable.

One of these plants is on a permanent site 600 metres downstream of the Toe Toe Bridge on the left bank of the Rangitikei River. The supply of raw material from this plant has become very sparse, and the Rangitikei-Wanganui Catchment Board has only allowed 2500 cubic metres this year to be taken from the beach adjacent to the plant.

However, a licence was granted to take more shingle from a site on the Kawhatau River. This entails an approximately three kilometre haul to the Toe Toe plant.

The Toe Toe plant produces six grades of tar-sealing chips, concrete aggregate and sand for Byford's Ready-Mix Limited, a subsidiary company to Byford's Contracting and Construction Company Limited, plus a small amount of road metals.... The staff employed at the Toe Toe plant consists of a plant manager and two and at times three assistants.

¹⁴⁴⁴ File note by Water Resources Scientist, 19 December 1985. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3916-3918.

¹⁴⁴⁵ Managing Director Byford's Contracting and Construction Co Ltd to Secretary National Water and Soil Conservation Authority, 13 March 1985. Works and Development Head Office file 76/327000. Supporting Papers #1189.

The water right issued by the Rangitikei-Wanganui Catchment Board is for 218 cubic metres per day maximum. Before returning to the River, the effluent has to pass through two settlement ponds....

We have other workings on the banks of the Rangitikei River with portable plants, but all these are dry plants and on old river flats.

As this is the furthestmost greywacke shingle river to the north, it is imperative that it not be lost to the Ready-Mix Concrete industry.¹⁴⁴⁶

Continuing problems with the effluent treatment system during 1986¹⁴⁴⁷ resulted in two pre-treatment ponds being dug, to be used alternately while the other one was allowed to dry out before being cleaned¹⁴⁴⁸. At this time, Byford's was sent a 'please remedy' letter:

During the time that these water rights have been in operation there has been no problem regarding the taking of water, but there have been a number of times where samples of discharged effluent have not complied with the conditions set out in the water right.

Because of this non-compliance with the conditions, it was demonstrated to you the type of effluent you are dealing with and the time required to allow the solids to settle until you have a discharge which would comply with the water rights standards.

The sample of effluent discharging direct from the crushing plant (sample taken by yourself) had a suspended solids loading of close to 25,000 mg per litre. The suspended solids loading at various times after that were 22 hours – 442 mg per litre, 46 hours – 286 mg per litre, 120 hours – 132 mg per litre. It was also demonstrated to you that the amount of solids which settled out was substantial. At the end of 120 hours the solids were 6% of the original quantity placed in the cone. Therefore, as was discussed, the solids content that has to be dealt with is in the order of 12 cubic metres per day.

These quantities should be taken account of in your design of a ponding system which will be able to effectively settle out the solids to give you a final effluent which complies with the standards set out in the water rights.

Byford's was asked to set out its plans for improvement of the effluent treatment system. It was also told that non-compliance would result in extra monitoring costs for the Catchment

¹⁴⁴⁶ Submission by Managing Director Byford's Contracting and Construction Co Ltd to National Water and Soil Conservation Authority, October 1985. Works and Development Head Office file 76/327000. Supporting Papers #1131.

¹⁴⁴⁷ File note on site inspection, 3 July 1986. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3919.

¹⁴⁴⁸ File note on site inspection, 14 August 1986. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3920.

Board, and the Board would recover the costs of extra visits (additional to a standard set of 9 visits a year) from the company¹⁴⁴⁹.

Initial results after the 'please remedy' letter was sent showed the water right standard was still not being met¹⁴⁵⁰. In April 1987 Byford's was told:

Although another pond has been dug, recent sampling and analysis of the treated effluent has revealed that you continue to exceed the suspended solids limits set on the right.... Your right granted allows a suspended solids limit of 300 mg per litre, and the sample taken has a result of 889 mg per litre, which is obviously well over the limit.

On reviewing the inspection data of the last 3 years, there have been 50 inspections and on 21 occasions samples of treated effluent have been taken for analysis. Samples are taken on each occasion that the site is inspected and a discharge of any form to the river is occurring. The results of the samples taken have the suspended solids concentration ranging from 80 mg per litre to 3791 mg per litre. On only 5 occasions when a discharge was sampled did the effluent comply with the terms of the water right.

The reasons for this non-compliance would be either insufficient maintenance of the system installed, or the ponds you have constructed are not large enough to handle your effluent.

Because you have been unable to comply with the standards set, it will be necessary to carry out inspections at more regular intervals, and as explained to you in my letter dated 20 August 1986 the costs incurred in the inspections will be passed on to you.

If it is found that you continue to discharge an effluent outside the terms of the water right granted, the history of this water right would need to be considered by the Board with a view to the possibility of bringing a prosecution against you.¹⁴⁵¹

As a result of receiving this letter, Byford's started to dose the treatment ponds with a flocculant chemical (aluminium sulphate) to settle out the suspended solids more quickly¹⁴⁵².

Subsequent to Rangitikei-Wanganui Catchment Board being replaced by Manawatu-Wanganui Regional Council in 1989, and the Water and Soil Conservation Act 1967 being

¹⁴⁴⁹ Resources Manager to Manager Byford's Contracting and Construction Co Ltd, 20 August 1986. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3921-3922.

¹⁴⁵⁰ Resources Manager to Manager Byford's Contracting and Construction Co Ltd, 7 October 1986 and 9 December 1986. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3923-3924 and 3925.

¹⁴⁵¹ Resources Manager to Manager Byford's Contracting and Construction Co Ltd, 16 April 1987. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3926-3927.

¹⁴⁵² File note on site inspection, 14 August 1987. Rangitikei-Wanganui Catchment Board file W327/290. Supporting Papers #3928.

replaced by the Resource Management Act 1991, it became necessary for Byford's to apply to the Regional Council for consents under the new legislation¹⁴⁵³. In June 1992 the company submitted its application for one metal extraction permit, one water take permit and two wastewater discharge permits. These would allow extraction of up to 10,000 cubic metres per year of metal for a five-year period¹⁴⁵⁴, and the use of up to 100 cubic metres of water per day for metal washing for a ten-year period¹⁴⁵⁵. The land use permit to extract metal from the bed of the river for five years was granted in January 1993, though for a lesser volume of 8000 cubic metres per year "as there is a shortage of material available for excavation at the site". The conditions required excavation from dry beaches only "to prevent significant adverse effects on the river biota", and no excavation within 50 metres of the road bridge "to ensure there is no scouring of the bridge foundations"¹⁴⁵⁶. The water permit was granted for ten years in February 1993¹⁴⁵⁷. The two discharge permits, for 100 cubic metres per day and 218 cubic metres per day of pond-treated metal washing effluent were granted for ten years later the same month¹⁴⁵⁸.

Prior to the resource consents being granted, Manawatu-Wanganui Regional Council wrote to Byford's in connection with the Toe Toe Road applications and similar applications made for a site on the Kawhatau River at Potaka Bridge:

It has been brought to my attention you may not have consulted with the local iwi prior to lodging the applications. Before processing the applications I am obliged to forward a copy to the local iwi for their comment. I urge you to contact them separately to discuss your applications, which may help avoid any further possible delays.¹⁴⁵⁹

However, the Regional Council seems to have had a poor understanding of the cultural landscape at this time, as the only iwi it sent the applications to was Te Runanga o Ngati

¹⁴⁵³ Director of Environment and Planning to Manager Byford's Contracting and Construction Co Ltd, 29 May 1992. Manawatu-Wanganui Regional Council file 5/3/BCC Application 913037. Supporting Papers #4185.

¹⁴⁵⁴ Application for resource consent, 30 June 1992. Manawatu-Wanganui Regional Council file 5/1/BCC Application 913035. Supporting Papers #4175-4177.

¹⁴⁵⁵ Application for resource consent, 30 June 1992. Manawatu-Wanganui Regional Council file 5/3/BCC Application 913037. Supporting Papers #4175-4177.

¹⁴⁵⁶ Decision of Director of Resources, 13 January 1993, and General Manager to Byford's Contracting and Construction Co Ltd, 14 January 1993. Manawatu-Wanganui Regional Council file 5/1/BCC Application 913035. Supporting Papers #4180-4181 and 4182-4184.

¹⁴⁵⁷ Decision of Hearings Commissioner, 3 February 1993, attached to General Manager to Byford's Contracting and Construction Co Ltd, 11 February 1993. Manawatu-Wanganui Regional Council file 5/3/BCC Application 913037. Supporting Papers #4190-4191.

¹⁴⁵⁸ Referred to in Consents Administrator to Byford's Construction Co Ltd, 23 May 2002. Manawatu-Wanganui Regional Council file 5/3/BCC Application 913037. Supporting Papers #4192.

¹⁴⁵⁹ Director of Resources to Byford's Contracting and Construction Co Ltd, 25 September 1992. Manawatu-Wanganui Regional Council file 5/1/BCC Application 913035. Supporting Papers #4178.

Raukawa¹⁴⁶⁰. Ngati Hauiti were not notified. There was no iwi response to the 1992 applications.

The mismatch between the consent to take 100 cubic metres of water from the river and discharge 218 cubic metres of water back to the river was remedied in 1996 when Byford's applied for and was granted consent to take 218 cubic metres of water per day from the Rangitikei River¹⁴⁶¹. The consent was for a term expiring in January 2003, to coincide with the expiry date of the ten-year discharge permit granted in 1993.

By the time the metal extraction consent expired in January 1998, Manawatu-Wanganui Regional Council realised that the principal iwi to be consulted was Ngati Hauiti. Upon receipt of a renewal application in May 1997¹⁴⁶², the Regional Council told Byford's that it required "written evidence of iwi consultation with Ngati Hauiti". The written approval of the landowner, Wellington Fish and Game Council, New Zealand Railways and Rangitikei District Council was also required¹⁴⁶³. The consents of the Maori landowner¹⁴⁶⁴, Rangitikei District Council¹⁴⁶⁵ and Wellington Fish and Game Council were obtained, while New Railways indicated it had no concerns. Te Runanga o Ngati Hauiti provided written agreement to the consent being granted:

We are of the opinion that such gravel extraction at this point and time does not affect the cultural values of Ngati Hauiti.

Therefore it is recommended to the Manawatu-Wanganui Regional Council that [the application] be approved subject to the following conditions being met:

1. That the quantity of metal to be extracted is not a sufficient amount to cause damage to the river or its environs.
2. That the extraction be undertaken to the complete satisfaction of the Manawatu-Wanganui Regional Council, and that regular inspections of the site are carried out by them.

¹⁴⁶⁰ Director of Resources to Te Runanga o Ngati Raukawa, 25 September 1992. Manawatu-Wanganui Regional Council file 5/1/BCC Application 913035. Supporting Papers #4179.

¹⁴⁶¹ Application for resource consent, 25 July 1996, and Decision of Director of Resources, 22 August 1996. Manawatu-Wanganui Regional Council file 5/3/BCC Application 6790. Supporting Papers #4193-4194 and 4195-4197.

¹⁴⁶² Application for resource consent, 27 May 1997. Manawatu-Wanganui Regional Council file 5/1/BCC Application 7171. Supporting Papers #4240-4243.

¹⁴⁶³ Consents Administrator to Byford's Contracting and Construction Co Ltd, 29 May 1997. Manawatu-Wanganui Regional Council file 5/1/BCC Application 7171. Supporting Papers #4244.

¹⁴⁶⁴ Jack, Riddet, Tripe, Lawyers, Wanganui, to Chief Executive, 31 October 1997. Manawatu-Wanganui Regional Council file 5/1/BCC Application 7171. Supporting Papers #4247.

¹⁴⁶⁵ Design Engineer Rangitikei District Council to Byford's Construction Ltd, 28 June 1997. Manawatu-Wanganui Regional Council file 5/1/BCC Application 7171. Supporting Papers #4245.

3. That the resource consent contain the standard Regional Council clause which outlines the procedures to be followed should any artefacts, human remains or evidence of human occupation be discovered.
4. That gravel extraction operations be limited to the confinements of the existing river bed.
5. That the Runanga may monitor the conditions of this approval from time to time.¹⁴⁶⁶

Consent was granted in December 1997 for a five-year period, because “the reach of the river in which extraction is proposed is not currently affected by over-extraction, and the granting of this consent ... will not exceed the maximum volumes recommended in the Proposed Regional Plan for the Beds of Rivers and Lakes and Associated Activities”¹⁴⁶⁷. This was because Policy 5 of the Proposed Regional Plan allowed up to 15,000 cubic metres per year of gravel to be taken from the Rangitikei River between Mangarere Road and Makahikatoa Stream (i.e. the Middle River as defined in the national Water Conservation Order). A condition of consent was that “excavation shall be in narrow strips aligned parallel to the main flow of the river, commencing from the downstream end of the work area and moving upstream”. Only material 200 mm above river level was allowed to be taken. Other conditions included were that excavation had to cease if the bed of the river degraded at the central pier of Toe Toe Road bridge, and the requirement requested by Ngati Hauiti with respect to the finding of cultural artefacts or human remains¹⁴⁶⁸.

All consents relating to the Toe Toe Road gravel extraction operation expired in 2003, and renewal applications for a further five years were submitted in July 2002¹⁴⁶⁹. The applications were accompanied by letters of approval from the Maori landowner, Rangitikei District Council and Wellington Fish and Game Council¹⁴⁷⁰. Separately a letter of approval

¹⁴⁶⁶ Executive Officer Te Runanga o Ngati Hauiti to Byford’s Contracting and Construction Co Ltd, 15 August 1997. Manawatu-Wanganui Regional Council file 5/1/BCC Application 7171. Supporting Papers #4246.

¹⁴⁶⁷ Decision of Resource Consents Manager, 1 December 1997. Manawatu-Wanganui Regional Council file 5/1/BCC Application 7171. Supporting Papers #4248-4252.

¹⁴⁶⁸ Decision of Resource Consents Manager, 1 December 1997. Manawatu-Wanganui Regional Council file 5/1/BCC Application 7171. Supporting Papers #4248-4252.

¹⁴⁶⁹ Applications for resource consent, 1 July 2002. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5112-5147.

¹⁴⁷⁰ Jack, Riddet, Tripe, Lawyers, Wanganui to Byford’s Construction Co Ltd, 12 June 2002, Statement of Rangitikei District Council, 24 June 2002, and Fish and Game Resource Officer Wellington Fish and Game Council to Byford’s Construction Co Ltd, 19 June 2002, attached to Applications for resource consent, 1 July 2002. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5112-5147 at 5144-5145, 5143, and 5146-5147.

was provided by the Department of Conservation¹⁴⁷¹. Following receipt of the applications, the Regional Council advised Byford's:

As a result of recent discussions, Poupatate Marae have indicated a wish to be consulted as affected parties for activities on the Rangitikei River.

Please consult with Poupatate Marae, Reu Reu Road, RD9, Halcombe, as parties affected by your application.

In order to process your discharge to land and gravel extraction non-notified, please obtain the Marae's written approval for these activities.¹⁴⁷²

Byford's then tried to make contact with Marae members, but were unsuccessful. In the end, in mid November 2002, the Regional Council wrote to the Marae indicating that if no response was received by the end of the month, "I will assume that you are not an affected party to these matters"¹⁴⁷³. There was no response.

At the beginning of December 2002 Rauhuia Environmental Services wrote on behalf of Te Runanga o Ngati Hauiti that Ngati Hauiti gave its consent to the gravel extraction, because the Runanga was "confident that the cultural issues that Ngati Hauiti have regarding the proposed activity as outlined in a cultural impact report will be fully addressed by the applicant"¹⁴⁷⁴. The nature of the "cultural issues" was not disclosed to the Regional Council, and the cultural impact report is a confidential document.

Staff reports on the applications were all positive, subject to the provision of appropriate conditions. The Regional Council's river engineer responsible for gravel extraction in the Rangitikei River advised that the existence of large beaches of gravel downstream of the extraction site indicated that the 8000 cubic metres per year extracted in the past had not resulted in bed degradation or increased erosion, and was therefore sustainable, so there was no objection to extraction at this rate continuing¹⁴⁷⁵. A resource officer commented on the water discharge proposals, noting that the settling ponds primarily discharged wash water to

¹⁴⁷¹ Community Relations Manager Department of Conservation Wanganui to Byford's Construction Co Ltd, 11 July 2002. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5149.

¹⁴⁷² Senior Consents Planner to Byford's Construction Co Ltd, 9 July 2002. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5148.

¹⁴⁷³ Senior Consent Planner to Poupatate Marae, Halcombe, 14 November 2002. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5152.

¹⁴⁷⁴ Resource Management Officer Rauhuia Environmental Services to Consent Administrator, 5 December 2002. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5153.

¹⁴⁷⁵ Report by Area Engineer - Northern, 23 July 2002. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5150-5151.

land by soakage, with discharge to the river only if the ponds overflowed (in which case water containing aluminium sulphate, a flocculant to bind small sediment particles and allow them to settle out, would be released). He reported that there had been no compliance problems with the previous consents¹⁴⁷⁶. The Regional Council's environmental scientist (surface takes) noted that there would be little effect on the river because the amount of water taken was such a small proportion of the river's flow¹⁴⁷⁷. As a result the consents were granted for five years in December 2002, subject to the same conditions as previously plus further conditions requiring production of a water conservation plan that encouraged water efficiency and reduced water usage during very low river flows, and the installation of a flow meter on the water intake¹⁴⁷⁸.

In the decision report, the effect of the Water Conservation Order was discussed:

Byford's site falls within the defined "Middle River" reach of the Rangitikei River in the Conservation Order. The Order recognises the Middle River as including outstanding scenic characteristics and outstanding recreational and fisheries features.

Byford's discharge permits and water permit are subject to Part 5(2) of the Order that specifically provides for the renewal of resource consents that were current on commencement of the Order. Nothing in the Order can prevent the granting of new resource consents for activities existing and consented prior to the Order's commencement.

The Order applies to the 'waters' of the river rather than the landscape. It applies to the discharge to water and surface water abstraction sought, but is only applicable to potential discharges of sediment in relation to gravel extraction, rather than the extraction itself. Such discharges will be avoided, remedied or mitigated by consent conditions in particular conditions restricting extraction to above water level.¹⁴⁷⁹

The consenting officer, in making the decision to grant the consents, was "satisfied that the activities, subject to compliance with consent conditions, are not inconsistent with the provisions of the National Water Conservation Order (Rangitikei River) 1993 and in particular the provisions for the Middle River"¹⁴⁸⁰.

¹⁴⁷⁶ Report by Resource Officer, 9 December 2002. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5154-5155.

¹⁴⁷⁷ Report by Environmental Scientist (Surface Takes), 11 December 2002. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5156-5164.

¹⁴⁷⁸ Decision by Team Leader Consents, 18 December 2002. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5165-5180.

¹⁴⁷⁹ Decision by Team Leader Consents, 18 December 2002, page 8. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5165-5180 at 5172.

¹⁴⁸⁰ Decision by Team Leader Consents, 18 December 2002, page 16. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5165-5180 at 5180.

In September 2004 Rauhuia Environmental Services complained that Byford's was not complying with the requirements of its resource consents. Specifically it was extracting gravel from below the waterline:

Byfords are currently digging gravel out well below the waterline and have been doing so for a number of months now by mining a channel behind a dyke up to 600 mm below the adjacent waterline. This deep channel is also being left exposed overnight, in fact over days and weeks.

We have photographic evidence of this occurring in May of this year to the present day, and this practice has been conducted after every flood event during this winter.

We make this complaint and seek action on behalf of Te Runanga o Ngati Hauiti. We request that a compliance officer inspects the site and require the applicant complies with the resource consent conditions. We also request a report so that we may in turn report back to the Runanga.¹⁴⁸¹

A compliance officer visited the site and reported:

I found a small area of the gravel beach (about 20 square metres) had been excavated below water level, and that a mound of gravel had been left in the upstream side of the excavation.

I instructed the operator on site to tidy up, and have discussed the issue with Wayne Byford. Wayne advises that, whilst the operators on site have a copy of consent conditions, it is apparent that the temporary operator had not been made fully aware of his responsibilities.

The area affected was very small, and I believe the effects would not be more than minor.

Notwithstanding, Horizons does not permit breaches of consent conditions, and a non-compliance notice has been recorded.¹⁴⁸²

Rauhuia disputed the compliance officer's findings, and provided some of the photographic evidence it had. This showed, according to Rauhuia, that the excavation below the water level was of the order of 300 square metres:

As to Mr Byford's contention that it was because the temporary operator had not been made fully aware of his responsibilities, on the day I inspected the site several of his fulltime workers were on site and at least one was operating a front end loader in the excavation area.

¹⁴⁸¹ Resource Management Officer Rauhuia Environmental Services to Manawatu-Wanganui Regional Council, 7 September 2004. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5181-5182.

¹⁴⁸² Environmental Management Adviser to Resource Management Officer Rauhuia Environmental Services, 22 September 2004. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5183.

This is not an isolated event, the applicant has been following this practice for a while now, we have video evidence from earlier in the year where the excavations have extended the full length of the beach to within 5 metres of the upstream boundary, to a depth of 600mm plus below the water. Additionally a gravel wall had been constructed between the river and the area being excavated.

Furthermore, I had forgotten to mention in the previous letter that there is an illegal refuse dump on site, we desire that the dumpsite be cleaned out and the practice discontinued. Should we observe any further breaches of the consent conditions or illegal practices, we will certainly take the matter further.¹⁴⁸³

The next steps undertaken by the Regional Council are not entirely clear from the Council's records examined for this report. It seems that a further inspection identified a non-compliance issue other than those complained of by Rauhuia. The water take consent was limited to 100 cubic metres per day, but was being exceeded by a large amount, though the actual exceedance was unknown as a water flow meter had not been installed. Abatement notices were issued¹⁴⁸⁴. After the flow meter was installed, Byford's identified that it needed to apply for an alteration to its water take consent to allow up to 700 cubic metres per day to be extracted, and its ground seepage discharge consent needed to be similarly altered¹⁴⁸⁵.

When Byford's sought consent from affected parties, it quickly gained the agreement of the Maori landowners, Wellington Fish and Game Council, Department of Conservation, and the Regional Council's river operations group¹⁴⁸⁶. However, Te Runanga o Ngati Hauiti decided to play things by the book. Rather than agree to the variation straight away, it proposed the preparation of an initial assessment report, after which a formal response would be provided¹⁴⁸⁷. The company paid for the initial assessment to be undertaken, at the end of which Rauhuia Environmental Services on behalf of the Runanga advised that the proposed

¹⁴⁸³ Resource Management Officer Rauhuia Environmental Services to Manawatu-Wanganui Regional Council, 24 September 2004. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5184-5185.

¹⁴⁸⁴ Environmental Management Adviser to Byford's Construction Co Ltd, 18 November 2004 and 31 March 2005. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5187 and 5204.

¹⁴⁸⁵ Byford's Construction Co Ltd to Manawatu-Wanganui Regional Council, 15 November 2004 and 23 November 2004. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5186 and 5188.

¹⁴⁸⁶ Letters of agreement attached to Byford's Construction Co Ltd to Manawatu-Wanganui Regional Council, 14 February 2005. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5189-5203.

¹⁴⁸⁷ Resource Management Officer Rauhuia Environmental Services to Byford's Construction Co Ltd, 30 November 2004, attached to Byford's Construction Co Ltd to Manawatu-Wanganui Regional Council, 14 February 2005. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5189-5203 at 5196-5197.

change to the consent conditions raised questions about the operation of the gravel washing operation generally, and the variation could not be supported until it was demonstrated that:

- The treatment system is effective in processing the true volumes being discharged; and
- The disposal of the silt is being conducted with minimal environmental effects; and
- The treatment with aluminium sulphate is monitored and recorded; and
- The discharge to the river is metered and recorded.¹⁴⁸⁸

After a face-to-face discussion with Byford's managing director, where Byford's argued that there would be no change to the actual volumes of water taken and discharged, only a change to the consented volumes¹⁴⁸⁹, Rauhuia on behalf of the Runanga reiterated its opinion that a more comprehensive assessment of impact on the river was required. The history of non-compliance meant that the Runanga had lost confidence in Byford's ability to operate in a manner that would have minimal impact on the environment and that would mitigate any adverse effects¹⁴⁹⁰.

At this point the Regional Council intervened and arranged a site meeting. As a result of that meeting, it was agreed by the parties that an independent environmental assessment of the instream effects of Byford's gravel extraction works should be undertaken. A proposal for a research study was drawn up by Massey University and accepted as a proposed condition of consent¹⁴⁹¹. Acceptance allowed the application for a variation of consent conditions to be decided upon. In August 2005 Manawatu-Wanganui Regional Council approved the change of conditions to allow for the taking and discharge of 700 cubic metres per day rather than 100 cubic metres per day. In its decision, it was noted that:

Te Runanga o Ngati Hauiti provided conditional approval, subject to a review once an Environmental Assessment Report has been completed on the River environment by Dr Russell Death. The Applicant has agreed to include iwi as an affected party and

¹⁴⁸⁸ Resource Management Officer Rauhuia Environmental Services to Byford's Construction Co Ltd, 18 January 2005, attached to Byford's Construction Co Ltd to Manawatu-Wanganui Regional Council, 14 February 2005. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5189-5203 at 5194-5195.

¹⁴⁸⁹ Byford's Construction Co Ltd to Resource Management Officer Rauhuia Environmental Services, 2 February 2005, attached to Byford's Construction Co Ltd to Manawatu-Wanganui Regional Council, 14 February 2005. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5189-5203 at 5193.

¹⁴⁹⁰ Resource Management Officer Rauhuia Environmental Services to Byford's Construction Co Ltd, 10 February 2005, attached to Byford's Construction Co Ltd to Manawatu-Wanganui Regional Council, 14 February 2005. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5189-5203 at 5190-5192.

¹⁴⁹¹ R Death, Institute of Natural Resources, Massey University, proposal for Environmental assessment of instream effects of gravel extraction works, Utiku, undated. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5205-5208.

involve them in any review that occurs as a result of the Russell Death study.... On this basis Horizons Regional Council's Consents Planner was satisfied that the applications could be processed non-notified pursuant to Section 94(2) of the Act.¹⁴⁹²

The resulting Massey University report was not located in the files examined during research for this report. A subsequent reference to the completed report stated:

The report concludes that there is no evidence that the site is having a detrimental effect on the invertebrate communities or the periphyton biomass in the Rangitikei River.¹⁴⁹³

All the consents for the Toe Toe Road operation expired in December 2007. Byford's applied for renewal consents in June 2007, for the same volumes of water and gravel as previously, though for a 10-year term¹⁴⁹⁴. Two months later, the approval of the Maori landowners, Rangitikei District Council and Te Runanga o Ngati Hauiti were provided¹⁴⁹⁵.

The letter of approval from the Runanga stated:

Rauhuia Environmental Services have carried out the reassessments of the activities on behalf of Te Runanga o Ngati Hauiti (Runanga). The Runanga is satisfied that the applicant will continue to mitigate the concerns they hold over the impacts of the activities on the significance of the area and the river environs.

Therefore, Rauhuia, on behalf of Te Runanga o Ngati Hauiti, give agreement to the above resource consents being granted subject to the previous conditions of agreement, except for the one pertaining to the conducting of an Environmental Assessment Report, which has been completed.¹⁴⁹⁶

Written approvals from Wellington Fish and Game Council and Department of Conservation were also provided¹⁴⁹⁷.

Regional Council staff reports supported the renewal consents being granted. The Environmental Scientist (Water Quantity) reported that water volumes taken from the river

¹⁴⁹² Decision on change of conditions to Consents 102339 and 102341, 4 August 2005. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 102339-342. Supporting Papers #5209-5223

¹⁴⁹³ Report by Consulting Water Quality Scientist, 14 February 2008. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 104078-081. Supporting Papers #5398-5406.

¹⁴⁹⁴ Application for Resource Consents, 6 June 2007. Manawatu-Wanganui Regional Council file 5/1/BCC Application 104078-081. Supporting Papers #5377-5385.

¹⁴⁹⁵ Moore and Associates, Land Management Consultants, Wanganui, to Consents Manager, 13 August 2007. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 104078-081. Supporting Papers #5386-5389.

¹⁴⁹⁶ Resource Management Officer Rauhuia Environmental Services to Byford's Quarries Ltd, 19 July 2007, attached to Moore and Associates, Land Management Consultants, Wanganui, to Consents Manager, 13 August 2007. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 104078-081. Supporting Papers #5386-5389 at 5389.

¹⁴⁹⁷ Moore and Associates, Land Management Consultants, Wanganui, to Consents Manager, 7 January 2008. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 104078-081. Supporting Papers #5395-5397.

had been recorded since 2005, initially manually and later via telemetry. While problems were identified with the telemetry records, the available figures showed abstraction to have generally been lower than the maximum allowable volume of 700 cubic metres per day. Given the flow volumes in the river, the take was a minor abstraction:

However, water demand in this Water Management Zone [Middle Rangitikei Water Management Zone and Pukeokahu-Mangaweka Water Management sub-zone] is increasing, and it is the cumulative effects of the abstractions that are of concern.

At the time of reporting, 20.7% of the core allocation for the Middle Rangitikei WMZ is allocated (this includes the applicant's current consent for 700 m³/day). The core allocation limit for the Pukeokahu-Mangaweka WM sub-zone is 0.670 m³/s. At the time of reporting, 0.021 m³/s is allocated from this sub-zone, so approximately 3% of the available allocation is allocated.

The abstraction volume proposed by this consent application fits within the core allocation for the Middle Rangitikei Water Management Zone.

Because the minimum flow and core allocation limit for the Middle Rangitikei WMZ and its sub-zones have been set to ensure that the original intention of the NWCO [National Water Conservation Order] is achieved, the abstraction proposed by this application in no way compromises the requirements of the NWCO.¹⁴⁹⁸

A consultant acting in a capacity as a staff Environmental Scientist (Water Quality) advised that the principal discharge consent sought was discharge to land by overnight ground soakage. The other consent for discharge to the river was a contingency option, and had only been used in the past when heavy sustained rain prevented overnight soakage of the working day's wash water accumulation. The soakage ponds were de-silted about once a month. Based on the Massey University report, he did not identify any adverse environmental effects of the discharges, provided the discharge to the river only occurred during high river flows (as would be the case if it happened during periods of heavy rain), and was reported to the Regional Council on each occasion. He considered the aluminium-based flocculant in the discharge would not be in sufficiently heavy concentrations to be toxic to the river's aquatic communities. The water quality standards set in the National Water Conservation Order would not be breached¹⁴⁹⁹.

¹⁴⁹⁸ Report by Environmental Scientist (Water Quantity), 19 September 2007. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 104078-081. Supporting Papers #5390-5394.

¹⁴⁹⁹ Report by Consulting Water Quality Scientist, 14 February 2008. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 104078-081. Supporting Papers #5398-5406.

The Environmental Manager (Biodiversity) reported that the beach below the confluence of the Rangitikei and Hautapu Rivers was a natural gravel storage point. Past extraction showed that a rate of 8000 cubic metres a year had been sustainable, with no adverse environmental effects.

The consents sought by Byford's were granted in April 2008. With respect to the National Water Conservation Order, the decision noted:

Byford's discharge permits and water permit are subject to 5(2) of the Order that provides for the renewal of resource consents that were current on the inauguration of the Order.

The Order applies to the 'waters' of the river. [It applies to] the discharge and abstraction of water, but is only applicable to the discharge of sediment in relation to the gravel extraction, rather than the extraction itself. Such discharges will be avoided, remedied or mitigated by consent conditions, and extraction will be restricted to occurring above the water level.¹⁵⁰⁰

Similar conditions as had applied to the previous consents were imposed. Rather than grant the consents for a term of ten years, they were granted with an expiry date of 7 April 2017 (i.e. a term of nine years). This was a common expiry year for all resource consents in the Middle Rangitikei Water Management Zone (and indeed the Rangitikei catchment generally), and was part of a region-wide approach for common expiry years specified in Policy 11.4 of the Proposed One Plan¹⁵⁰¹. It will allow for more informed consideration of cumulative effects of consents at the time of expiry.

A recent compliance inspection report, in May 2013, found the Toe Toe Road gravel extraction operation to be compliant with the terms and conditions of its resource consents¹⁵⁰².

9.9 Two contrasting proposals for gravel extraction at Onepuehu

This section concerns two separate proposals for gravel extraction at Onepuehu during the 2000s. They are contrasting because one proposal was accepted by the Manawatu-Wanganui Regional Council, while the other was rejected. The proposals are:

¹⁵⁰⁰ Decision on Applications 104078-081, 7 April 2008. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 104078-081. Supporting Papers #5407-5424.

¹⁵⁰¹ This is now Policy 12-5 in the operative One Plan, operative 19 December 2014. The operative One Plan is available online, www.horizons.govt.nz/about-us/one-plan/one-plan-operative-version/

¹⁵⁰² Compliance inspection report, 23 May 2013. Manawatu-Wanganui Regional Council file 5/1/BCC Applications 104078-081. Supporting Papers #5425-5435.

- Application 103677, Rangitikei Aggregates Limited
- Application 104444, Ngati Waewae

9.9.1 Application 103677, Rangitikei Aggregates Limited

In March 2006 Rangitikei Aggregates Limited applied for consent to extract up to 50,000 cubic metres of metal per year for five years. The proposed site was a 4.8 km length of the Rangitikei River upstream and downstream of Onepuehu.

Within the consent area the location of extraction and the volume of extraction (within the proposed maximum) would be at the discretion and instruction of the Horizons Area River Engineer.

The removal of river gravel is deemed to be beneficial to the river management by the Regional Engineer. Extraction of gravel maintains river capacity and alignment.¹⁵⁰³

The company had an established record of gravel extraction from the river, and was well known to Regional Council staff. It was familiar with the type of conditions attached to gravel extraction consents, and attached to its application was a statement of the company's River Extraction Procedures which had been prepared one year earlier and which was already in use elsewhere.

Upon receipt, Regional Council staff reaction was:

The Manager – Biodiversity/Water Quality expressed some concern over the volumes being sought ..., this concern was also held by the Group Manager Operations.¹⁵⁰⁴

A site visit was proposed, and was held in May 2006. A report by engineering consultants to the company, which can be regarded as an Assessment of Environmental Effects report, was produced in July 2006¹⁵⁰⁵. The report argued that the 2004 flood had changed the previous channel by widening it and creating more substantial meanders, and that the task of returning the channel to its previous pattern both allowed more gravel extraction and made that extraction more useful to the flood protection scheme. Rangitikei Aggregates already had resource consent for the river immediately downstream of the length it was applying for, and extending downstream as far as Kakariki, where its processing plant and storage facilities were located. For the company, the proposal was an upstream extension of its operations that would provide more flexibility for the Regional Council's operations staff to direct where

¹⁵⁰³ Application for resource consent, 2 March 2006. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5224-5231.

¹⁵⁰⁴ File note, 13 March 2006. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5232.

¹⁵⁰⁵ G&E Williams Consultants Ltd to Rangitikei Aggregates Ltd, 27 July 2006. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5233-5238.

extraction could most usefully occur. While there had historically been over-extraction along the length of river applied for, which had “exacerbated a natural trend of river degradation”, the 2004 flood had changed that temporarily, moving gravel into the reach at Onepuehu and making it available for extraction during the period applied for without degrading the historical contour of the channel.

For an unexplained reason, no progress was made with the processing of the application for the next 18 months. Further work on the application was only triggered when Ngati Waewae became aware of the proposal in December 2007. The hapu wrote to the Regional Council, and attended a Council meeting that month to express their concern. In their letter, Ngati Waewae explained:

Ngati Waewae hold manawhenua / kaitiaki status over 10,000 acres which adjoin the Rangitikei River.

We wish to make the Horizons Regional Council aware of the following:

1. That Ngati Waewae has only become aware of this application by accident. We have not been consulted as required and defined under the Resource Management Act.
2. Further, as landowners directly affected by the proposal, the applicant has failed to consult Ngati Waewae and their whanau.
3. That Ngati Waewae has ownership rights to the present bed of the river.
4. That Ngati Waewae is currently pursuing a clear definition of these rights in the Maori Land Court and through the Waitangi Tribunal (WAI 651).
5. That when these rights are recognised, the Horizons Regional Council and other relevant authorities will need to redefine their approaches to the management of this stretch of the riverbed.
6. That given the above, the Rangitikei Aggregates consent application must be frozen until appropriate options have been explored.
7. That Ngati Waewae is currently preparing its consultation framework for parties to follow, and that we invite the Council to engage with us in [this] process.¹⁵⁰⁶

In notes prepared for presentation at the Council meeting, Ngati Waewae was more direct, stating that “ownership of these lands is held by Ngati Pikiahu-Waewae Hapu, and not by Horizons or the Crown”, that the right to consent “is the hapu’s only, not yours”, and that there should be direct consultation about “any further issues dealing with our lands and rivers in Te Reureu”¹⁵⁰⁷.

¹⁵⁰⁶ Chairperson Hapu Executive Ngati Pikiahu-Waewae to Chief Executive, 17 December 2007. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5239-5240.

¹⁵⁰⁷ Notes for meeting with Manawatu-Wanganui Regional Council, undated (December 2007). Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5241-5242.

Regional Council staff responded to both the general concerns expressed by Ngati Waewae, and to the specific concern about the gravel extraction application. With respect to the general concern, the Council staff asked for a meeting on the marae:

The reason I suggest this is because there are a large number of extraction and use issues within the reach of the Rangitikei River over which you identified your manawhenua status. It might be useful to work through both those issues and the way you wish us to consult in the future.

[In terms of consultation] it has been our practice in recent years to ensure Rauhuia Environmental Services is notified of all applications, in order that Rangi Hawira can coordinate and respond for iwi and hapu on the River. This initiative was driven by iwi and we strongly support it. Having said that, the call is yours and we are very happy to change the process for notification.

I think a meeting might also be useful in order that we can clarify the use, ownership, health and river quality issues you raise.¹⁵⁰⁸

The Regional Council's response to the Rangitikei Aggregates application was to publicly notify it and call for submissions¹⁵⁰⁹. The potentially interested parties included the owners (Maori and Pakeha) of lands adjoining the river, Ngati Pikiahu-Waewae, Rauhuia Environmental Services, Te Tikanga Marae, Poupatate Marae Komiti, Tanenuiarangi Manawatu Inc, and Raukawa District Maori Council. Twenty submissions were received, of which 18 were in opposition and two were regarded as neutral¹⁵¹⁰. Of the submissions in opposition, 14 used the same wording, with opposition expressed on the grounds of "lack of consultation with local iwi and land owners, the effect on cultural issues, ownership of the river, the effect of the gravel extraction on the land, and erosion of the land"¹⁵¹¹; these 14 submissions were effectively from Maori individuals. Ngati Waewae lodged a submission in opposition that had been prepared by a firm of quarrying and resource management consultants. The submission argued that consultation had been non-existent, that the proposal was contrary to the Resource Management Act and Regional Plans, that cultural and riverbed ownership issues had not been addressed, and that erosion of riparian lands could occur. On the erosion concern, the submission stated:

¹⁵⁰⁸ Group Manager Regional Planning and Regulatory to Chairperson Hapu Executive Ngati Pikiahu-Waewae, 8 January 2008. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5243.

¹⁵⁰⁹ Consents Administrator to Potentially Interested Parties, 18 January 2008. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5244-5247.

¹⁵¹⁰ List of submitters, undated. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5248-5249.

¹⁵¹¹ As examples, Submission by Daniel Winiata Paranihi, 5 February 2008, and Submission by William Kane, Chairman Pikiahu-Waewae Marae Trustees, 19 February 2008. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5250 and 5251.

Large areas of land have been eroded away through previous extraction and so-called river protection schemes. It is considered that erosion has been so dramatic in some areas that some areas of the river flow through Ngati Waewae property.

The proposed extraction will have an effect on river erosion, especially in larger flows. The straightening of rivers increases velocities and hence increases the potential for erosion. The effects of erosion have not been addressed in the application, more specifically on Ngati Waewae's land of which they have an interest.¹⁵¹²

Because of the opposition to the gravel extraction, a hearing before three hearing commissioners was necessary at which the applicant and the submitters could present their cases, and Regional Council staff could present their technical reports. The hearing took place in November 2008.

Rangitikei Aggregates' evidence showed the strong and longstanding relationship the company had with the flood protection scheme (engineering operations) staff of the Regional Council. They worked with the staff for the mutual benefit of both parties, obtaining a supply that met the company's needs by removing gravel from areas considered advantageous to river management at no cost to the Regional Council. The particular application had been lodged because "in early 2006 the local Horizons river engineer identified a stretch of the Rangitikei River near Onepuhi Road which had undergone considerable aggradation, which in turn was causing severe bank erosion"¹⁵¹³. The river would benefit from removing the build-up of gravel river beaches on "inside bends in order to avoid bank erosion on the outside bends and subsequent course change of the river"¹⁵¹⁴. The gravel extraction proposed was, according to the company, sustainable management, and was consistent with the Regional Policy Statement and the Regional Plan for Beds of Rivers and Lakes. Because the One Plan provisions for gravel extraction were the subject of submissions not yet decided upon, the One Plan in its proposed form could not be given much weight, in the company's opinion¹⁵¹⁵. Of consultation with Te Reureu Maori, Rangitikei Aggregates' company manager stated:

¹⁵¹² Submission by Ngati Waewae, 20 February 2008, attached to Hazel-Hewitt & Associates Ltd, North Shore, to Manawatu-Wanganui Regional Council, 14 February 2008. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5252-5257.

¹⁵¹³ Evidence of RD Mason, Company Manager, Rangitikei Aggregates Ltd. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5268-5269.

¹⁵¹⁴ Evidence of NP Burton, resource management consultant planner. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5258-5267.

¹⁵¹⁵ Evidence of NP Burton, resource management consultant planner. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5258-5267.

Once the consent was notified, a raft of new objections were submitted, some from parties who had previously given approval when the consent was being progressed on a non-notified basis. In an effort to resolve the objections, which had a significant cultural basis, the company used the services of Rangī Hawira to endeavour to find a way forward. He reported back that following a meeting of the key objectors there was no common ground from where we could reach an amicable solution.¹⁵¹⁶

Evidence on behalf of Ngāti Waewae was presented by a principal of the firm of quarrying and resource management consultants, and by Danny Paranihi and Turoa Karatea. The consultant argued that the Regional Council and the applicant had totally ignored the requirements in the Regional Policy Statement and the Regional Plan for the Beds of Rivers and Lakes, and in the Proposed One Plan, for the enhancement of the relationship with Māori. There had been no consideration of the effect on Ngāti Waewae lands, even though erosion of those lands was apparent from a comparison of 1990 and 2007 aerial photographs; “the photographs also indicate that erosion is prevalent on the left [Te Reureu] bank as opposed to the right [western], where in the past most of the erosion protection has been completed”¹⁵¹⁷.

Danny Paranihi provided a strongly-expressed submission based on ownership of the river by Māori. For him the Regional Council should be acting as steward on behalf of the Māori owners, rather than for the benefit of “people who want to steal our land, water, resources etc, and without our people being involved or consulted”. However, the Regional Council’s role as steward was not required in this instance, as the Māori owners were present to speak for themselves, and they wanted the application refused. He concluded his statement by asking for the application to be “declined, thrown out, burnt, completely destroyed until such time you consult with the hapu and the iwi of the Rangitikei River”¹⁵¹⁸.

Turoa Karatea expressed his frustration about the manner in which Crown institutions and Europeans chose to manage the river:

In my lifetime, Ngāti Waewae treasured many aspects of the mauri of the Rangitikei River. Today we are continually battling Councils over issues that have not been addressed in the past which pertain to the wellbeing of our people.

¹⁵¹⁶ Evidence of RD Mason, Company Manager, Rangitikei Aggregates Ltd. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5268-5269.

¹⁵¹⁷ Evidence of RN Stevenson, Principal Partner Hazel-Hewitt & Associates Ltd. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5270-5275.

¹⁵¹⁸ Evidence of DW Paranihi. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5276-5278.

Firstly, we have not been consulted over **wahi tapu** and urupa when the extraction of metal has resulted in the subsidence of **urupa** into the river. Such insensitivity has been totally ignored by the Councils, as no consultation has taken place between parties.

Secondly, I have previously opposed resource consents on the Rangitikei River, and given evidence that has been totally overruled and the applicant has been granted the consent.

The issue for the umpteenth time is this; Fish and Game oppose these consents on the basis of one species of fish, that is, the trout. My issue is, we have a fishery in the Rangitikei River besides trout, which are eel, whitebait, koura, piharau, patiki, and not once in any of these applications have we been given the time of day to protect these species for our use. As youngsters growing up in the 1950s the fishery in the Rangitikei River was plentiful and sustained four hapu that lived in harmony in the Te Reureu reserve.

Thirdly, there are areas along the river that were used solely for baptismal and healing purposes that were considered sacred. I know of one area where metal was extracted which desecrated this particular site. Protestations to the Council were totally ignored.

The Rangitikei River was my family's backstop. I was taught to fish in it by my Uncle and Aunty, with the emphasis being on sustainability. Today the fishery is in serious decline no matter what anyone with a BA, PhD says. I've lived there, I know what we once had, and what we have today. I do not need a degree to know what has happened to our resources.¹⁵¹⁹

Regional Council staff provided the hearing commissioners with three briefs of evidence, from a river engineer, a water quality scientist, and a resource management planner. The river engineer agreed with the applicant that, while the Onepuehu stretch of the river was historically a degrading or down-cutting channel, the 2004 flood "brought a surge of gravel through the upper and middle Rangitikei River causing the river to become braided in places and to also alter alignment and character in other locations". The wider channel and development of meanders had resulted in erosion of riparian lands. Gravel extraction from large beaches in the main channel was essential to return the river to its former more constrained pattern. While there had been no updated cross-section surveys at Onepuehu since the 2004 flood, so that "it is difficult to ascertain with absolute certainty the volumes of gravel aggrading through this reach of the river network", in his opinion there could be no doubt that the channel had aggraded, and that gravel removal would be beneficial. The operative Regional Plan for the Beds of Rivers and Lakes allowed for the extraction of

¹⁵¹⁹ Evidence of T Karatea. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5279-5280.

75,000 cubic metres per year from the stretch between Rewa and just below Bulls, and the Proposed One Plan wanted this to be reduced to 50,000 cubic metres. While resource consents for a total of 104,500 cubic metres existed for this stretch, this departure from the plan limits was acceptable and sustainable while the mass of additional gravel since the 2004 flood was moving through¹⁵²⁰.

The water quality scientist tried to explain why the Proposed One Plan indicated that the lower Rangitikei River was important for one particular species of native fish, redfin bully, and for brown and rainbow trout, but made no specific provision for other species of native fish:

Native fish are a particularly important factor when considering any activities that may affect the water quality or instream habitat of the Rangitikei River at this reach. Many native fish species, including the redfin bully, are migratory and require free passage to and from the sea to complete their life cycles and successfully reproduce.

The SOS-A [Site of Significance – Aquatic for redfin bully] value does not specifically provide for the protection of the migratory pathways of regional rare and threatened fish to and from the sea, as this value is adequately covered by the maintenance of water quality and beds of rivers and lakes standards in the POP for the Life-Supporting Capacity (LSC) value. Ensuring that disturbance of the river bed, sedimentation and contaminants do not interfere with the migration of native fish/trout is consistent with the protection of the LSC value.

Relying on data collected by Pakeha scientists, native species present in the Rangitikei River catchment were said to be eels, torrentfish, bullies, smelt, inanga, brown mudfish, and koura. Piharau and patiki, which had been mentioned by Turoa Karatea, were not included in the list of native fish provided by the scientists. So long as habitat diversity was maintained by not disturbing pool-run-riffle sequences and instream cover of rocks and wood, the effects on native fish and on trout could be mitigated. While two particular native bird species, banded dotterel and black-fronted dotterel, relied on the gravel beaches as nesting sites, avoiding the nesting season would mitigate any adverse impacts of gravel extraction on them. Other conditions could reduce the impact of gravel extraction on trout fishing amenity, and on water clarity and sedimentation¹⁵²¹.

¹⁵²⁰ Evidence of DJ Veale, consulting engineer. Manawatu-Wanganui Regional Council 5/1/RAL Application file 103677. Supporting Papers #5281-5290.

¹⁵²¹ Evidence of CA Nicholson, research associate – water quality. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5291-5305.

The resource management planner considered that with the environmental values concentrated in the wetted river channel while the gravel extraction would be on the raised beaches alongside the channel, the impact on water quality, fish life, and recreational values, and on many of the particular concerns of Ngati Waewae, would be limited. The impact on dotterel habitat on the raised beaches could be mitigated. However, the planner was unable to comment on the impact for Ngati Waewae at a more spiritual level. A condition that work stop if human remains or artefacts were discovered was recommended. Because the maximum extraction volumes set out in the Proposed One Plan were figures that extraction “shall generally be limited to ... unless better information is available”, granting the application was sustainable and would not be contrary to the intent of the One Plan. The planner commented on some of Ngati Waewae’s expressed concerns:

Several submissions raised concerns regarding the ownership of the River and disputed the statement that the River was owned by the Crown / HRC. Ngati Waewae dispute that the Crown have ownership, and claim Ngati Waewae have kaitiaki of the River. For the present, however, the ownership is legally regarded as being with the Crown. While I consider it clear that the statutory processes in respect of Treaty claims under the Treaty of Waitangi Act 1975 and matters under the Resource Management Act are separate, I am aware of other consents where [there is] a review condition that could be triggered subject to the settlement of Treaty claims on the area. This type of review condition could be imposed with the agreement of the Applicant in accordance with the ‘Augier’ principle.¹⁵²²

The decision of the three hearing commissioners was to grant the consent¹⁵²³. There was a section in the decision headed “iwi issues”:

Ngati Waewae representatives were particularly concerned with the lack of recognition by the applicant of their status as tangata whenua and kaitiakitanga, the ownership of the river bed and adjacent land, the potential erosion of Ngati Waewae land, and protection of urupa and other wahi tapu on the left bank of the River.

We acknowledge Ngati Waewae’s status as tangata whenua and kaitiakitanga, and note that they currently have claims before the Waitangi Tribunal in relation to the

¹⁵²² Evidence of T Manderson, senior consultant planner. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5306-5340.

The ‘Augier’ principle takes its name from a precedent-setting legal case. Essentially the Resource Management Act sets statutory boundaries about what matters can be covered by conditions of consent. However, the Augier principle is that those boundaries can be overstepped by agreement, where the consent applicant is willing to allow a condition to be included that cannot be statutorily insisted upon. Once included under this principle, the regulatory agency must monitor and enforce its compliance, in a similar manner to any other condition. The type of extra condition the consultant planner had in mind would have been one similar to that included in consents granted to Genesis Power Ltd for the Tongariro Power Development scheme tying the Resource Management Act in with Treaty of Waitangi claims settlement legislation, which is referred to in another chapter of this report.

¹⁵²³ Decision of Hearing Commissioners on Application 103677, 5 December 2008. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5341-5355.

land and associated resources. The hapu acknowledged that the gravel extraction is important for river management, but contend that they should control the activity. The resolution of ownership issues is beyond the scope of these proceedings. However, a condition to allow the review of the conditions of this consent should the Waitangi Tribunal claims be resolved in favour of Ngati Waewae has been included, as recommended by Ms Manderson in her report.

We note that Ngati Waewae have a representative on the Rangitikei River Scheme Liaison Committee and Nga Pae o Rangitikei, and believe communication issues may be improved by continued participation in both of these groups.

We have been advised of the proposed development of a Rangitikei River Management Plan, and we will encourage the continued development of relationships between Council and local iwi during this process.

We believe that Condition 27 will provide a remedy for potential effects on **urupa** and **wahi tapu**.... [With respect to] the erosion effects of the extraction on the left bank, and the consequential threat to **urupa**, ... [there are] risks associated with any stockpiles being located in the river bed or on adjacent berms, as these have the potential to divert the flow of the river and increase erosion on the opposite bank. We consider these potential effects, and the potential adverse effects of stockpiling gravel on the flood plain, will be avoided with the inclusion of a condition regulating the forming of stockpiles.

Setting a condition that gravel extraction was “for river management purposes” only, and would be under the instruction of the Regional Council’s river engineer, made it possible for the commissioners to allow extraction at a rate greater than the maximum allowable volumes. They found that the evidence presented to them showed that the higher volume was sustainable in the circumstances. As a result the removal of 50,000 cubic metres of gravel each year for five years was approved¹⁵²⁴.

Ngati Waewae appealed the decision to the Environment Court, on the grounds that the consent did not protect areas of significance to the hapu, the cultural values of the hapu had not been properly provided for, the impact on the hapu of previous gravel extraction had not been properly assessed, consultation had been inadequate, and the proposal was contrary to Part II of the Resource Management Act 1991¹⁵²⁵. The parties (Regional Council, applicant, and appellant) agreed to Court-assisted mediation in August 2009, as this might avoid the need for a full Court hearing. The mediation was successful, with the parties agreeing to an

¹⁵²⁴ Decision of Hearing Commissioners on Application 103677, 5 December 2008. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5341-5355.

¹⁵²⁵ Notice of Appeal to Environment Court, 21 January 2009, attached to Tamatekapua Law, Auckland, to Environment Court, 21 January 2009. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5356-5360.

additional condition requiring an annual work programme to be prepared by Rangitikei Aggregates “in consultation with Ngati Waewae” and submitted to the Regional Council’s river engineer for approval¹⁵²⁶. This allowed Ngati Waewae to know about and be involved in planning the gravel extraction operations, and if necessary ensure that any **wahi tapu** were avoided. The Environment Court agreed to the amendment to the resource consent in December 2009¹⁵²⁷.

There was also an appeal lodged by Margaret Karatea, one of the Maori individuals who had made one of the standardised submissions¹⁵²⁸. Although she subsequently paid an application fee when asked to do so, she did not communicate again with the Environment Court, despite repeated requests from the Court. Eventually the Court struck out her appeal¹⁵²⁹.

Despite all the effort put into the consenting process, Rangitikei Aggregates Limited never made use of the resource consent. No annual work programme was ever submitted for Regional Council approval, and no returns of gravel extracted showed any gravel extracted from the Onepuehu stretch of the river. The consent expired in December 2013.

9.9.2 Application 104444, Ngati Waewae

Ngati Waewae were concerned that the Rangitikei Aggregates application was allowing control of their destiny to slip away from them. Accordingly the hapu lodged its own application for gravel extraction in June 2008. This was after the Rangitikei Aggregates application had been publicly notified and submissions lodged in January/February 2008, but before the application and submissions were heard in November 2008. The original Ngati Waewae application to Manawatu-Wanganui Regional Council sought to take up to 50,000 cubic metres of gravel a year for five years; however, this was amended in April 2010 to a maximum of 35,000 cubic metres a year. The stretch of the river was approximately 10 kilometres long, and included an overlap with the site of the Rangitikei Aggregates application. Contemporaneously Ngati Waewae applied to Manawatu District Council for

¹⁵²⁶ New condition 4A in Land Use Consent 103677, attached to Consent Order of Environment Court, 21 December 2009. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5367-5376 at 5370.

¹⁵²⁷ Consent Order of Environment Court, 21 December 2009. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5367-5376.

¹⁵²⁸ M Karatea, Feilding, to Environment Court, 16 January 2009. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5361-5362.

¹⁵²⁹ Decision of Environment Court W039/2009, 29 May 2009. Manawatu-Wanganui Regional Council file 5/1/RAL Application 103677. Supporting Papers #5363-5366.

consent to process and stockpile the gravel on the riverbank at Onepuehu (at the end of Makino Road)¹⁵³⁰.

The Ngati Waewae application to the Regional Council was not processed until after May 2009, when an Assessment of Environmental Effects report was received from the applicant. This report was prepared by the same quarrying and resource management consultants who had supported Ngati Waewae at the hearing of the Rangitikei Aggregates application in November 2008¹⁵³¹. Its introductory and background remarks stated:

Ngati Waewae as kaitiaki of the Rangitikei River have for a number of years been concerned about the erosion of the Rangitikei River (River), particularly of their whenua. Ngati Waewae now have the opportunity (by means of river gravel extraction) to assist in the overall river management by reducing erosion and improving river flow paths....

Over a number of decades, erosion of Ngati Waewae lands has been dramatic, and it is of major concern for Ngati Waewae, local iwi and its tangata whenua. While a limited amount of erosion protection has been completed over the years, erosion still continues at an alarming rate, exacerbated by the floods of 2004.

The River has changed its course significantly from a relatively straight course with gentle flowing bends to a more oxbow type of course that has formed significant beaches with large gravel deposits.

In association with engineers from Horizons, it is proposed to extract river gravels from these areas, in order to alleviate the potential for river bank erosion and assist in the maintenance and management of a suitable river flow course.¹⁵³²

The report considered that there was sufficient gravel in the river that the volume extracted would “not impact on the available resources”. Gravel removal would occur above the river water line and outside the trout spawning season. The main focus of Ngati Waewae’s interest in gravel extraction lay in three beaches located just upstream of Onepuhi Road.

The application was publicly notified in June 2010, one year after receipt of the Assessment of Environmental Effects report. Sixteen submissions were received, one of which was withdrawn prior to the hearing. As some submitters lodged separate submissions on the river

¹⁵³⁰ Decision of Hearing Commissioner on Application 104444, 30 September 2010, page 1. Manawatu-Wanganui Regional Council file 5/1/NGA Application 104444. Supporting Papers #5551-5561 at 5551.

¹⁵³¹ Hazel-Hewitt & Associates Ltd, *Ngati Waewae: proposed Rangitikei River gravel extraction and crushing*, May 2009. Copy on Manawatu-Wanganui Regional Council file 5/1/NGA Application 104444. Supporting Papers #5436-5459.

¹⁵³² Hazel-Hewitt & Associates Ltd, *Ngati Waewae: proposed Rangitikei River gravel extraction and crushing*, May 2009, page 4. Copy on Manawatu-Wanganui Regional Council file 5/1/NGA Application 104444. Supporting Papers #5436-5459 at 5439.

extraction and the gravel processing plant, there were eleven different parties who made submissions. The decision of the hearing commissioner categorised the eleven submissions as follows:

Two were in support of the application (Laing William Henry Estate and Te Tikanga Marae); four were in opposition (Fish and Game New Zealand, Paul Murphy, the Maori Trustee, and Te Runanga o Ngati Apa Inc), and five were neutral (Transpower New Zealand Ltd, Kahi Dickinson Manaunui Administration Services Ltd, Tanenuiarangi Manawatu Inc, Te Runanga o Ngati Hauiti, and the Department of Conservation.¹⁵³³

The opposing submitters' concerns were summarised as follows:

- Lack of clarity about the proposals,
- Lack of consultation,
- Lack of notification of Maori owners as well as lessees of affected land,
- The legality of the applicant's status in making the application,
- Sustainability of the proposed extraction rates,
- Potential noise,
- Effect on a water right,
- Protection of wahi tapu and wahi taonga,
- Protection of natural character of river,
- Protection of habitat of trout,
- Protection of angler amenity value,
- Protection of monitoring sites, and
- Prevention of further river bank damage.¹⁵³⁴

Manawatu-Wanganui Regional Council and Manawatu District Council decided that a joint hearing of the applications should take place, and appointed an independent hearing commissioner to conduct the hearing and reach a decision on the applications. The hearing was held in September 2010. All three persons appearing on behalf of Ngati Waewae were the same persons who had appeared at the Rangitikei Aggregates hearing in November 2008. Three staff members of the Regional Council, a river engineer, an ecologist and a resource management planner, presented staff reports. All three were different from the staff who had presented reports at the hearing in November 2008; whether this was intentional or a consequence of staff turnover is not known. The staff reports identified two relevant matters that had changed during the period between November 2008 (the Rangitikei Aggregates hearing) and September 2010 (the Ngati Waewae hearing).

¹⁵³³ Decision of Hearing Commissioner on Application 104444, 30 September 2010, page 4. Manawatu-Wanganui Regional Council file 5/1/NGA Application 104444. Supporting Papers #5551-5561 at 5554.

¹⁵³⁴ Decision of Hearing Commissioner on Application 104444, 30 September 2010, page 4. Manawatu-Wanganui Regional Council file 5/1/NGA Application 104444. Supporting Papers #5551-5561 at 5554.

The first relevant matter was progress with the Proposed One Plan. In 2008 the gravel extraction sections of the Plan were the subject of submissions and objections that had not been decided upon, making the operative Regional Policy Statement and the operative Regional Plan for the Beds of Rivers and Lakes more influential and determinative than the Proposed One Plan. By 2010, decisions had been made on the submissions and objections. While the One Plan was still a Proposed Plan, as appeals had not been decided, the status and influence of the Plan was more settled and therefore more determinative than it had been in 2008, and the previous operative plans had become subordinated¹⁵³⁵.

The second relevant matter was that in the intervening period the Regional Council had carried out a review of its Rangitikei River flood protection scheme (discussed in more detail in the flood protection chapter of this report). The review had been adopted by the Council as a draft, and was the subject of an ongoing consultation process. The river engineer submitted to the hearing commissioner that, while the review's recommendations were still being debated, the scientific and engineering information it contained was not open to amendment. The cross-sectional survey data in the review showed that the stretch of the river between Rewa and just below Bulls was a degrading channel, while the river channel in the 15 kilometres closest to the sea was aggrading. This pointed to the need to divert extraction to the aggrading reach, and reduce gravel extraction from the degrading reach. Extraction from the degrading reach was 211,000 cubic metres consented (though only half this volume was actually taken), and this figure needed to be reduced to 30,000 cubic metres over the next three years. Even though the 2004 flood had contributed a surge of gravel through the degraded reach, the cross-section surveys made between 1977 and 2009 showed that overall the surge had not replenished the bed to the level it had been in 1977¹⁵³⁶.

On the basis of the review's overview information about gravel extraction in the Rangitikei River, the river engineer's report at the hearing was that, while it might appear that the raised beaches at Onepuehu suggested there was an excess of gravel at that location that could be skimmed off by extraction, the gravel in those beaches was also needed downstream to reduce the amount of degradation in the channel and allow recovery of bed levels between

¹⁵³⁵ Report of N James, Consents Planner, summarised in Decision of Hearing Commissioner on Application 104444, 30 September 2010, pages 6-7. Manawatu-Wanganui Regional Council file 5/1/NGA Application 104444. Supporting Papers #5551-5561 at 5566-5567.

¹⁵³⁶ Report of PL Blackwood, Manager Investigations and Design. Manawatu-Wanganui Regional Council 5/1/NGA Application 104444. Supporting Papers #5460-5502.

Onepuehu and Bulls. From a river management point of view, it would be better to mechanically rip and loosen gravel accumulated in beaches than to remove the gravel, so that floods could carry the gravel downstream to replenish lowered bed levels. He also pointed out that any Ngati Waewae extraction would come on top of the extraction by Rangitikei Aggregates that was already consented. Indeed, under the degradation circumstances, and given that Rangitikei Aggregates' consent allowed extraction only for river management purposes, he doubted whether the company would be allowed to remove much gravel despite the maximum volumes theoretically allowed by its consent. While not making any recommendation on Ngati Waewae's application, he concluded his evidence with the statement that "the scale of gravel extraction in the degradation reach must be very significantly decreased"¹⁵³⁷.

The ecologist thought that in most respects the proposed gravel extraction would have little adverse impact on environmental values if conditions were imposed to restrict sediment disturbance and suspension, avoid oil spills and the introduction of unwanted organisms, and retain the diversity of instream habitats. He was also concerned to ensure that the Regional Council's long-term biomonitoring site at the end of Onepuhi Road was not disturbed, and that potable water could still be drawn from the Stanway rural water supply scheme intake¹⁵³⁸.

The resource management planner considered that, while many of the potentially adverse environmental effects could be mitigated by appropriate conditions, the problems for the downstream stretches of the Rangitikei River were so significant and severe, and the likelihood of a river engineer approving gravel extraction for river management purposes was so slim, that the application should be declined¹⁵³⁹.

The hearing commissioner's decision was to decline the application, for the following reasons:

¹⁵³⁷ Report of PL Blackwood, Manager Investigations and Design. Manawatu-Wanganui Regional Council 5/1/NGA Application 104444. Supporting Papers #5460-5502.

¹⁵³⁸ Report of JS Lambie, Environmental Scientist – Ecology. Manawatu-Wanganui Regional Council file 5/1/NGA Application 104444. Supporting Papers #5503-5550.

¹⁵³⁹ Report of N James, Consents Planner, summarised in Decision of Hearing Commissioner on Application 104444, 30 September 2010, pages 6-7. Manawatu-Wanganui Regional Council file 5/1/NGA Application 104444. Supporting Papers #5551-5561 at 5556-5557.

- The Rangitikei River is severely degraded and gravel extraction needs to be reduced from the current levels to much lower levels in order to be sustainable.
- No reasonable conditions could be placed on consents to extract further gravel to mitigate the specific effects (natural character, morphological diversity, and flood capabilities) of over-extraction of the gravels from the River.
- There was no evidence provided to indicate that taking gravel from the three beaches specified, or from other parts of the 10 km reach, would assist in reducing erosion.
- Granting the application to extract gravel is likely to have more than minor effect on the environment.
- The potential effects of extracting up to 35,000 cubic metres of gravel each year is considerably different in scale and intensity from the 1000 cubic metres each year permitted under Rule B7 7.1.1.A(iv) of the Manawatu District Operative Plan 2002.
- The proposed extraction is inconsistent with a number of the objectives and policies in the Horizons Regional One Plan as Amended by Decisions (August 2010), and with Objective NH1 of the Manawatu District Operative Plan 2002.
- On balance, the proposed extraction is not consistent with the overall purpose and principles of the Act.¹⁵⁴⁰

9.10 Concluding remarks

While gravel extraction from the Rangitikei River began as small-scale individual occasional operations serving local communities, it grew into a limited number of substantial permanent operations each taking large volumes of gravel out of the riverbed to supply a regional market. Wider social and economic conditions made this transition possible, and in so doing gave the permanent operations the characteristics of an ‘essential’ industry. The larger operations developed both inertia in terms of their location, and an economic importance that could not be ignored by regulators.

Since much of the demand for gravel was for public infrastructure projects, such as railways and roads, there were limits to the willingness of Crown and local authorities to regulate gravel extraction. This meant that when it was deemed desirable for the wellbeing of the Rangitikei River that constraints should be applied to gravel extraction, there were vested interests that wanted to continue with the status quo and challenged any change. Regulators were conflicted by the need of the region for gravel supplies and their duties to manage the impact on the river.

A second conflict of interest developed within the regulatory agencies (both Crown and local government) between gravel extraction and river control. While these two matters can be

¹⁵⁴⁰ Decision of Hearing Commissioner on Application 104444, 30 September 2010, page 10. Manawatu-Wanganui Regional Council file 5/1/NGA Application 104444. Supporting Papers #5551-5561 at 5560.

complementary in theory, they are anything but in practice, and the history of regulation (under Crown authority delegated first to Rangitikei-Wanganui Catchment Board and more recently to Manawatu-Wanganui Regional Council) has been about the struggling efforts to manage both activities.

Rangitikei River Maori have played virtually no part in management of gravel extraction. They have not been consulted, and they have been ignored when they have wanted to be involved. They have seen damage done to the mauri of the river and to their interests in the river, yet they have been unable to exercise an ability to be kaitiaki. The Crown's authority has been exercised in an exclusive fashion. The Crown has not monitored the actions of its delegated agents towards tangata whenua.

While it is conjecture to imagine what might have happened if Rangitikei River Maori had been given the opportunity to be involved, there is every chance that more gravel would be extracted from pit operations on land rather than from the parts of the riverbed where excessive extraction generates erosion problems. There might also have been some use of the so-called environmental levy applied to extraction in degrading reaches of the river to create off-site benefits such as restoration programmes on side streams to boost food supplies from those streams, rather than the levy being used to deal solely with erosion consequences.

Instead, Rangitikei River Maori consider that they have been treated unjustly. The rejection of Ngati Waewae's application to extract gravel at Onepuehu is still fresh in their minds. While Manawatu-Wanganui Regional Council saw the application in river engineering and technical terms as a proposal to be opposed, Ngati Waewae saw it as an expression of its rangatiratanga and connection with the river. The Regional Council did not view the application as an opportunity to build bridges with the Maori community, and was unwilling to put any effort into working with Ngati Waewae to re-shape the proposal to meet multiple objectives.

10. HUMAN WASTE DISCHARGES INTO RANGITIKEI WATERWAYS

10.1 Introduction

There are numerous sources of contaminants and pollutants that affect the quality of the waters of the Rangitikei River and its tributaries. These include effluent discharges from industrial sites, stormwater from urban areas, and runoff from agricultural land. Because of the breadth of the subject of discharges affecting water quality, it has not been possible to address all of the possible discharge types in this historical report. In accordance with claimant priorities identified at an early stage in the preparation of this report, the discharge of human wastes from urban sewage treatment plants was chosen as the type of discharge to be concentrated upon. It is of particular significance to Maori, and one of their core concerns about how waterways are used and managed.

At the beginning of the twentieth century, the initial standard for the disposal of sewage in urban areas in the Rangitikei region was into septic tanks. At Taihape, Mangaweka and Hunterville the septic tank was communally operated, with a single large tank taking the waste from each town. At that time septic tank treatment was regarded as a sophisticated solution. As time went on, as populations increased, and as water use per person grew, the initial tanks became overloaded. However, since sewage treatment was not as exciting an investment for communities as other facilities, the result was that for many years the poor quality of the treatment provided had a consequence for the natural environment with polluting discharges into streams and rivers.

From the 1950s there were increasingly louder calls for something to be done about the poor quality effluent. At the forefront of this movement was the Department of Health, concerned about the risk to public health of untreated or barely treated human wastes. The Department's public health staff encouraged local authorities to install modern sewage treatment plants. "Modern" in the 1960s and 1970s era was primarily based around aeration of the effluent in oxidation ponds, which would allow the breakdown of bacteria and the cycling of nutrients under controlled conditions, with the introduction of oxygen to replace that lost during the nutrient-fuelled decomposition process. The treated effluent from the ponds was then discharged to waterways. Under the Water and Soil Conservation Act 1967, the disposal of effluent was seen as one of the functions of natural water. Additional treatment methods, such as digestion tanks, nutrient stripping and ultraviolet radiation, were

not contemplated at that time. They have since become accepted as catchment boards, regional councils, and public opinion progressively increased their expectations about the standards to be met if effluent was to be allowed to discharge into rivers and streams.

A major factor slowing progress in improving sewage treatment was the cost. Local authorities balked at the costs involved, and allowed projects to be deferred. The Crown intervened by offering loans and subsidies. If ratepayers agreed, the Local Authorities Loans Board would advance monies to local authorities. The Department of Health was a primary adviser to the Loans Board on the merits or otherwise of treatment schemes and the granting of loans for them. It also administered the Crown's subsidy scheme, with technical and engineering assistance from the Ministry of Works. The loans and subsidies were subject to conditions. These conditions were of a financial or engineering design nature and did not have any Maori dimension to them.

To Maori, discharge of human effluent into natural waterways, whether untreated or treated, is an anathema, because of the offence caused to the mauri of water. Human waste should instead be discharged to land, to allow the healing and cleansing qualities of Papatuanuku to be utilised. Historically, neither the Crown nor local authorities have shared this view, though the concept of discharge to land as an alternative to discharge to waterways is now accepted as a valid option that needs to be assessed when sewage treatment upgrades are contemplated.

The legacy today of past sewage treatment programmes is that the sewerage (the piped network of sewers) drains downhill to a treatment site invariably located on the edge of a waterway. This becomes the starting point for consideration of any upgrade. For instance, it would usually mean that treated effluent would have to be pumped uphill if it were to be discharged to any land soakage field. It tends to also mean that disposal of wastewater to waterways continues to be the first option to be considered. Maori are placed at an inherent disadvantage if they seek to turn the tide and promote alternatives to effluent disposal into waterways. They generally have to compromise on their principles and focus instead on the minutiae of improving the quality of the effluent that is discharged into waterways. Although effluent quality has improved substantially in the lifetime of most people alive today, further improvements are still possible.

This chapter examines the various community sewage discharges into the Rangitikei River and its tributaries in sequence from the upper to the lower catchment. The low populations in the upper catchment mean no community discharges exist. Waiohuru, while drawing its town water supply from the Hautapu catchment, discharges its treated sewage into the Whangaehu catchment. Sewage discharge from Taihape has traditionally been a poorly performing pollution hotspot, which has seen relatively substantial improvement only in very recent years. Mangaweka has progressed from a nineteenth century solution (communal septic tank) direct to a twenty-first century solution. Hunterville installed oxidation ponds in the 1970s, and then upgraded those ponds in the 2000s. In the lower catchment, the river runs a gauntlet of discharges from Bulls township, Ohakea airforce base, and two meatworks. Tangata whenua have been involved in all the improvement developments implemented since the passing of the Resource Management Act in 1991.

10.2 Standards for human effluent discharge

The standards referred to in this section are those set in policy and planning documents, primarily since the introduction of the Resource Management Act in 1991.

The predecessor to the Resource Management Act, the Water and Soil Conservation Act 1967, required that all communal discharges of effluent to waterways had to obtain a water right from regional water boards. Although no standards were laid down in the Act, the preamble to the legislation implicitly acknowledged that discharges of effluent were allowable, and that the receipt and dilution of effluent was a valid use and purpose of a natural waterway. Maori were not consulted about or involved in the drawing up of the 1967 legislation; the exclusion of Maori from such matters was commonplace at the time. Separately the Water Pollution Act 1963 allowed for water quality standards to be applied by the national Water Pollution Council (subsequently the Water Resources Council) via a classification process, though no classification standards were ever formally applied to the Rangitikei River or its tributaries.

The Water and Soil Conservation Act created a series of Regional Water Boards around the country, responsible for determining how natural waters in their area would be used and managed. The existing catchment boards took on this new role. For the Rangitikei catchment the full name of the organisation became the Rangitikei Catchment Board and

Regional Water Board (from 1968 to 1972), then the Rangitikei-Wanganui Catchment Board and Regional Water Board (from 1972 to 1989).

When the Rangitikei-Wanganui Catchment Board and Regional Water Board initiated planning for the Rangitikei River in the late 1970s, its management objectives were primarily focused on river control works in the lower catchment, and on making sure that use of the waters of the river by taking or discharging did not jeopardise those control works. A management plan for the river produced in 1978 stated:

Water quality in the river for all the present uses made of the river is good.

The only discharge that can be regarded as having insufficient treatment at present is the Taihape sewage discharge. Improved treatment is planned, and provided the present level of attention to waste treatment is maintained by the Board, adequate reserves of assimilation capacity will be maintained.

More detailed consideration of management objectives with respect to the management of the river water resource will be made when the current resource survey is completed. All that is necessary now is to identify any obvious issues which would affect continuing river control policies and objectives.¹⁵⁴¹

The *Water Resources* report in 1980 described sewage treatment in the catchment without sounding alarmed about what was happening:

Oxidation pond systems provide adequate sewage treatment for the townships of Hunterville, Marton, Sanson and Bulls, and have undoubtedly produced improvements in downstream water quality since the elimination of septic tank discharges. Where summer low flows in the receiving waters may produce limited dilution of oxidation pond effluent discharges, further polishing or tertiary treatment by grass plots is encouraged, for example at Sanson and Marton. A small Pasveer Ditch treatment plant serves Ohakea Air Base. Taihape Borough Council has plans for the replacement of the various septic tank discharges with a comprehensive oxidation pond system. The treated sewage effluent from Waouru is discharged outside the Rangitikei catchment.¹⁵⁴²

With the passing of the Resource Management Act 1991, water rights under the Water and Conservation Act were replaced by resource consents to discharge to land or to water. Water rights continued to their expiry date, before which an application had to be lodged for a resource consent. A provision of the 1991 Act prescribed that if an application for a new consent was made more than six months before the existing water right or resource consent

¹⁵⁴¹ Rangitikei-Wanganui Catchment Board, *Planning needs and management objectives for the Rangitikei River*, 1978, page 6. Report No. 78/7. Supporting Papers #6369-6400 at 6376.

¹⁵⁴² Tonkin & Taylor, *Water Resources of the Rangitikei River*, September 1980, page 114. Rangitikei-Wanganui Catchment Board Report No. 80/1. Supporting Papers #6437-6515 at 6500.

expired, then the discharge previously authorised could continue while awaiting a decision on the new application¹⁵⁴³.

A number of the discharges of sewage effluent were so longstanding that they had been in existence since before the 1967 Act which required that water rights be obtained. Provided they had been notified to the Regional Water Board during 1968-1969 as existing uses, they were allowed to continue without the need to obtain a water right. However, under the Resource Management Act 1991 such existing use rights were regulated under a sunset clause restricting their continued validity to a period of 10 years from the passing of the Act, at the end of which time an application for a resource consent had to be submitted¹⁵⁴⁴.

Under the Resource Management Act 1991 (prior to the gazetting of national freshwater guidelines in 2005), the Manawatu-Wanganui Regional Policy Statement¹⁵⁴⁵ was the highest-order planning document. Made operative in 1998, its policies (among others) were:

Policy 11.1

To promote water quality of all rivers in the Region to be at least suitable for contact recreation when below half their median flows, within fifteen years, recognising that:

- a. Higher standards may be set in a regional plan to manage water in particular rivers or sections of a river for other uses, and
- b. Lower standards may be set in a regional plan for a river or particular sections of a river

Policy 11.2

To avoid, remedy or mitigate the adverse effects of point source discharges, in particular adverse effects caused by:

- a. biochemical oxygen demand (to reduce growth of sewage fungus);
- b. suspended sediment discharges (to improve water clarity and aquatic habitat);
- c. particulate organic matter (to improve aquatic habitat);
- d. bacterial contamination (to reduce the risk to human health);
- e. dissolved reactive phosphorus and dissolved nitrogen, whichever is limiting (to control growths of filamentous algae);
- f. ammonia (to protect aquatic life); and
- g. toxic contaminants (to protect aquatic life).

Policy 11.3

To promote discharges of contaminants to land rather than water, wherever practicable:

¹⁵⁴³ Section 124 Resource Management Act 1991.

¹⁵⁴⁴ Section 386(3) Resource Management Act 1991.

¹⁵⁴⁵ Manawatu-Wanganui Regional Council, *Regional Policy Statement*, operative 18 August 1998. Supporting Papers #6971-7073.

- a. in areas where groundwater will not be adversely affected, and adverse effects from runoff to surface water can be minimised or avoided; and
- b. where particular concerns have been expressed by tangata whenua, and to ensure discharges of human sewage to rivers and streams are stopped within 15 years, unless:
 - (i) It is consistent with Policy 11.1 for them to continue; and
 - (ii) Discharging to water better meets the purpose of the Act than discharging to land.¹⁵⁴⁶

One level beneath the Regional Policy Statement was the Manawatu-Wanganui Land and Water Regional Plan¹⁵⁴⁷, which had the following Discharge to Surface Water (DSW) objectives (among others):

DSW Objective 1, Surface Water Quality

To maintain or enhance water quality in rivers to standards at least suitable for contact recreation at flows less than half-median wherever practicable.

DSW Objective 2, Maintaining Surface Water Quality

To maintain water quality in those rivers that have existing high water quality....

DSW Objective 4, Ecological Values

Where appropriate, to maintain, enhance or safeguard the existing life-supporting capacity, natural character, ecological, intrinsic, cultural and amenity values of lakes, rivers and wetlands.¹⁵⁴⁸

....

From the objectives, certain policies were derived, including (among others):

DSW Policy 3: Maintaining features and characteristics of the Hautapu River, Makuri River and the Mangatainoka River

To ensure that any discharge of contaminants or water to water in the

- a. Hautapu River and its tributaries above the confluence with the Oraukura Stream does not significantly diminish the fisheries habitat of any part of those rivers;

....

DSW Policy 5, High Value Rivers

To ensure discharges of contaminants to water do not compromise the high values identified in the National Water Conservation Order for the ... Rangitikei River.¹⁵⁴⁹

¹⁵⁴⁶ Manawatu-Wanganui Regional Council, *Regional Policy Statement*, operative 18 August 1998, section 23.3.1, pages 133-134. Supporting Papers #6971-7073 at 7034-7035.

¹⁵⁴⁷ Manawatu-Wanganui Regional Council, *Land and Water Regional Plan*, operative 30 September 2003. Supporting Papers #7118-7139.

¹⁵⁴⁸ Manawatu-Wanganui Regional Council, *Land and Water Regional Plan*, operative 30 September 2003, section 12, page 47. Supporting Papers #7118-7139 at 7125.

¹⁵⁴⁹ Manawatu-Wanganui Regional Council, *Land and Water Regional Plan*, operative 30 September 2003, section 13.1, pages 49-50. Supporting Papers #7118-7139 at 7127-7128.

The National Water Conservation Order is relevant to discharges from Mangaweka township into the Rangitikei River.

Following on from objectives and policies, the Land and Water Regional Plan then established rules. Discharge of untreated human sewage or human sewage treated to only primary standard (such as a septic tank) was a prohibited activity, while discharge of treated sewage was a discretionary activity.

Both the Regional Policy Statement and the Land and Water Regional Plan were intended to have ten-year lifetimes, and have since been superseded by Manawatu-Wanganui Regional Council's combined One Plan. The One Plan was proposed in May 2007, when it was notified for public comment¹⁵⁵⁰, and became approved and operative in December 2014¹⁵⁵¹. Sewage discharges have to comply with all the policy requirements set for point source discharges to water, plus an additional policy specifically about sewage effluent, which was expressed in the 2007 Proposed One Plan in the following terms:

Notwithstanding targets for water quality and other policies in this chapter:

- a. All new discharges of treated human sewage shall be applied onto land, or flow overland, or pass through a rock filter or wetland treatment system before entering a surface waterbody;
- b. All existing direct discharges of treated human sewage into a surface waterbody shall change to a treatment system described under subsection (a) by the year 2020.¹⁵⁵²

The additional policy was amended during the public consultation process, and in the operative One Plan that came into effect in December 2014 it reads:

Policy 5-11: Human sewage discharges

Notwithstanding targets for water quality and other policies in this chapter:

- (a) Before entering a surface water body, all new discharges of treated human sewage must:
 - (i) Be applied onto or into land, or
 - (ii) Flow overland, or
 - (iii) Pass through an alternative system that mitigates the adverse effects on the mauri of the receiving water body, and
- (b) All existing direct discharges of treated human sewage into a surface water body must change to a treatment system described under (a) by the year 2020 or on renewal of an existing consent, whichever is the earlier date.¹⁵⁵³

¹⁵⁵⁰ As a proposed plan reflecting the most recent regulatory thinking, it became the principal planning document, though the effect of previous operative planning documents still had to be taken into consideration.

¹⁵⁵¹ As an operative plan, it is now the only planning document to be taken into consideration, with previous planning documents rendered redundant.

¹⁵⁵² Manawatu-Wanganui Regional Council, *Proposed One Plan*, publicly notified 31 May 2007, Policy 6-11, page 6-13. Not included in Supporting Papers.

Discharge of untreated sewage into water is not permitted (Rule 13-14), while the use of land for sewage treatment and pond storage is a permitted activity (Rule 13-13). The discharge of treated sewage into water is a discretionary activity (Rule 13-27).

In 2007 regulations setting National Environment Standards for Sources of Human Drinking Water were issued. These Standards require that Regional Councils shall not grant a discharge permit for an activity that will occur upstream of an abstraction point if the discharge will result in drinking water not meeting health quality criteria or exceeding aesthetic guidelines (Regulation 7). It also requires a consent authority to consider whether an activity could result in an event, or as a consequence of an event, that may have a significant adverse effect on the quality of water at any abstraction point (Regulation 12)¹⁵⁵⁴.

In 2011 a National Policy Statement on Freshwater Management was issued. This requires Regional Councils to include freshwater objectives and quality limits in their planning documents, and to define targets and implementation methods where the objectives are not currently met. Conditions on discharge permits have to ensure that the quality limits and any targets for improvement can be met, “and require the best practicable option to prevent or minimise adverse effects resulting from the discharge of contaminants to freshwater”¹⁵⁵⁵. The 2008 Policy Statement was superseded by a new National Policy Statement in 2014¹⁵⁵⁶.

10.3 Taihape sewage disposal

Taihape’s first sewage treatment plant was a communally-operated two-compartment septic tank on the bank of the Hautapu River that was installed in 1911 as an integral part of the hydroelectric power plant, water supply and sewerage scheme initiated by Taihape Borough

¹⁵⁵³ Manawatu-Wanganui Regional Council, *One Plan*, operative 19 December 2014, Policy 5-11, pages 5-15 to 5-16.

The operative One Plan is available online, www.horizons.govt.nz/about-us/one-plan/one-plan-operative-version/

¹⁵⁵⁴ *Resource Management (National Environmental Standard for Sources of Human Drinking Water) Regulations 2007*, December 2007. Statutory Regulation 2007/396. Not included in Supporting Papers.

¹⁵⁵⁵ Ministry for the Environment, *National Policy Statement on Freshwater Management*, operative 1 July 2011.

Available online at www.mfe.govt.nz/publications/rma-fresh-water/national-policy-statement-freshwater-management-2011

¹⁵⁵⁶ Ministry for the Environment, *National Policy Statement on Freshwater Management*, operative 1 August 2014.

Available online at www.mfe.govt.nz/publications/rma-fresh-water/national-policy-statement-freshwater-management-2014

Council at that time (discussed in the chapter on hydroelectric power schemes). The septic tank site was formerly part of the Taihape Domain (a scenery and recreation reserve)¹⁵⁵⁷, and the overflow from the tank discharged into the Hautapu River. As the population expanded and the town got bigger, an additional communal septic tank and associated trickling filter was added on the bank of the Otaihape Stream near the end of Wren Street, which discharged into that stream. The Railways Department also constructed a septic tank for housing in Kakapo Place that discharged into the Otaihape Stream. However, this did not alleviate the problems, but merely extended them to the Otaihape Stream. A report in 1957 noted that the septic tank on the bank of the Hautapu River had a capacity of 51,000 gallons, but a tank with a capacity of 90,000 gallons would be required to service the part of Taihape (with a population of 2200) whose sewers connected to that tank¹⁵⁵⁸.

The Taihape Borough Council discharges were notified to the Rangitikei Catchment Board and Regional Water Board as existing uses when the Water and Soil Conservation Act 1967 came into force¹⁵⁵⁹. At about this time, there was some publicity about pollution of the Hautapu River and Otaihape Stream¹⁵⁶⁰, with adverse comments by the Wellington Acclimatisation Society and the Medical Officer of Health in Wanganui, and a rebuttal by the Mayor arguing that there was “no bad pollution problem” and no local residents had complained¹⁵⁶¹. As a result of the publicity, the Regional Water Board wrote to Taihape Borough Council:

The Acclimatisation Society has powers under the Freshwater Fisheries Regulations to take action if fish habitats are being injuriously affected, but to my mind appear to be taking an unreasonable attitude, and I intend taking the matter up with them. However, before doing so it is desirable that the Board have a clear statement of your Council’s policy with regard to sewage disposal and what progress if any is being made towards improving the present method of disposal.

The Board recently granted a right to the Railways Department to continue its present septic tank effluent discharge at Taihape on the understanding that connection to the Borough sewage system would be made if and when this became available. This right

¹⁵⁵⁷ Land for the septic tank was taken from the reserve under the Public Works Act in June 1914 (Wellington plan SO 16692 and *New Zealand Gazette* 1914 page 2519). Not included in Supporting Papers.

¹⁵⁵⁸ Report of visit on 20-21 February 1957. Health Head Office file 32/39. Supporting Papers #214.

¹⁵⁵⁹ Town Clerk Taihape Borough Council to Engineer, 18 August 1970; Engineer to Town Clerk Taihape Borough Council, 8 September 1970; Town Clerk Taihape Borough Council to Engineer, 25 September 1970; and Engineer to Town Clerk Taihape Borough Council, 21 October 1970. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3724-3725; 3726-3727; 3728; and 3729-3730.

¹⁵⁶⁰ Apparently in a television programme. Director of Public Health to Medical Officer of Health, 20 March 1969. Health Head Office file 32/39. Supporting Papers #215.

¹⁵⁶¹ Unnamed newspaper, unknown date (July 1970). Copy on Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3721.

is subject to annual review and is dependent on progress with any new Borough reticulation scheme. An objection to the granting of this right was lodged by the Acclimatisation Society, who wanted the Railways Department to install its own separate treatment plant, but this was disallowed in the belief that your Council did in fact have plans for improving and extending its sewage system.

The Board is aware of the economic and practical difficulties associated with improving existing waste disposal methods, and provided it can be assured that a responsible attitude is being adopted by all parties concerned is prepared to cooperate and assist where possible in abating pollution problems.¹⁵⁶²

Intertwined with this Regional Water Board reply was another issue, whether the Board could accept the notification of the existing use. While acknowledgement of receipt of notification was one thing, acceptance of the existing right status was another matter, as it carried with it the notion that the treatment and discharge system was functioning as intended when it was designed. The Regional Water Board was convinced the Taihape septic tanks were not functioning as intended, and were discharging little better than raw sewage into the waterways¹⁵⁶³. This was especially the case in wet weather, because stormwater entered the sewers and overwhelmed the capacity of the septic tank. It therefore declined to accept the notifications of existing use, rendering the discharges unlawful, and required applications to be made for discharge rights under the 1967 Act¹⁵⁶⁴. Taihape Borough Council then disputed the Regional Water Board's approach¹⁵⁶⁵. In part, the dispute may have been a strategy on the part of the Regional Water Board to persuade the Borough Council to take seriously the need to improve the quality of its discharges. At a site visit of Board members, Borough councillors and their respective staff in April 1971, it was apparent that the septic tanks were operating as efficiently as could be expected of them, and that the Borough councillors were well aware of the need to make improvements¹⁵⁶⁶.

¹⁵⁶² Chief Engineer to Town Clerk Taihape Borough Council, 24 July 1970. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3722-3723.

¹⁵⁶³ Discharge of virtually raw sewage was confirmed in tests in early 1975. Senior Water Officer to Chief Engineer, 20 June 1975. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3770-3771.

¹⁵⁶⁴ Chief Engineer to Town Clerk Taihape Borough Council, 21 October 1970 and 21 December 1970. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3729-3730 and 3731-3732.

¹⁵⁶⁵ Town Clerk Taihape Borough Council to Secretary, 17 February 1971. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3733.

¹⁵⁶⁶ File note of site inspection and meeting on 27 April 1971. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3734-3737.

Over the next three years the state of the sewer reticulation system in the town was analysed, and a recommended scheme for the treatment and discharge of sewage was drawn up¹⁵⁶⁷. With respect to treatment and discharge, the report recommended that all sewage, including the Wren Street and Railways Department's sewage, be collected at the lower end of Huia Street, before being piped to a treatment plant. Two plant sites were identified, one across the Hautapu River on a lower terrace (thereby enabling a gravity flow from the collection point), and the other south of Mangaone Stream on the eastern side of State Highway 1 (which would involve pumping). Although not stated in the report, the Mangaone site would have been close to, if not opposite, Winiata Marae. Of the two sites, the one across the Hautapu River was recommended, as construction costs were cheaper, and there would be no ongoing pumping cost. At the plant site there would be two oxidation ponds in sequence, with an outlet pipe taking treated effluent down the cliff face to discharge into the Hautapu River. The existing septic tank would play no part in the new scheme.

The report was not immediately made available to the Rangitikei-Wanganui Regional Water Board, which in December 1974 decided that progress had not been as fast as the Board had expected when the matter had been discussed with Borough councillors in April 1971, and that it would be prepared to prosecute the Borough Council for an illegal discharge if "substantial progress" had not been made by June 1975¹⁵⁶⁸.

After the report on the proposed scheme was belatedly sent to the Regional Water Board shortly after this resolution was passed, the Chief Engineer of the Board advised that he agreed with its recommendations to proceed with oxidation pond treatment on the east side of the Hautapu River. He added that he continued to be concerned at what he regarded as Taihape Borough Council delays in proceeding with the various steps required to get the treatment scheme underway. These initial steps included loan application, subsidy application, environmental impact statement preparation and water right application, none of which had to his knowledge been started¹⁵⁶⁹.

¹⁵⁶⁷ Worley, Downey, Muir and Associates, and Payne, Ives and Sewell, *Taihape Borough Council: proposed modifications and extensions to existing sewerage system*, March 1974. Copy on Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3738-3757.

¹⁵⁶⁸ Chief Engineer to Town Clerk Taihape Borough Council, 6 December 1974. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3758.

¹⁵⁶⁹ Monthly report of Chief Engineer for February 1975, and excerpt of minutes of Board meeting, 6 March 1975. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3759 and 3760.

Rather than initiating the measures mentioned by the Chief Engineer, his report started off a public war of words between the two bodies, with Taihape Borough Council arguing that it was proceeding as fast as it could prudently go, given the large size of the intended capital investment by a relatively small rating base. Treatment was just one part of the project, which included improvements to the water supply system and upgrading of the sewer reticulation network to separate stormwater from sewage¹⁵⁷⁰. For its part the Regional Water Board was unmoved, and continued to accuse the Borough Council of delaying tactics¹⁵⁷¹.

Tensions were somewhat reduced after a Ministry of Works and Development public health engineer visited Taihape at the request of the Borough Council in May 1975. He expressed his support for the construction of oxidation ponds on the other side of the Hautapu River from the town, though qualified this by explaining that what water quality classification standard was set for the Hautapu River would govern the extent of treatment required. If a high standard (Class C classification) was required because the river was used by the public for bodily-contact recreation then two oxidation ponds would be needed, while to meet a lower Class D standard would probably only require one oxidation pond¹⁵⁷². Having received what amounted to a peer review of its consultants' March 1974 report, Taihape Borough Council adopted the report, and agreed to proceed with gaining the necessary approvals to get the project underway¹⁵⁷³.

Despite this decision, Taihape Borough Council was still slow to act, perhaps because of a lack of political will. In an August 1975 report to ratepayers, the Mayor wrote:

Considerable progress has been made during the past year in endeavouring to reach agreement upon the type of treatment required, and how this can be achieved. The Borough's existing system of reticulation to two collection points is in good order and only requires routine maintenance. The effluent resulting from the two collection points can no longer be permitted to be discharged into the streams and rivers without purification. The streams and rivers themselves act as a very efficient purifying system which conservationists forbid us to use. The cost being forced upon each community, small or large, is of real concern.... Recent information received

¹⁵⁷⁰ *Central District Times*, 1 May 1975. Copy on Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3761.

¹⁵⁷¹ *Wanganui Chronicle*, 2 May 1975. Copy on Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3762.

¹⁵⁷² Report on site visit on 6 May 1975, attached to Town Clerk Taihape Borough Council to Chief Engineer, 4 June 1975; and Commissioner of Works to Payne Ives and Sewell, Consulting Engineers, Wanganui, 15 May 1975, attached to Resident Engineer Wanganui to Chief Engineer, 4 June 1975. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3767-3769 and 3763-3766.

¹⁵⁷³ Town Clerk Taihape Borough Council to Chief Engineer, 4 June 1975. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3767-3769.

indicates that pollution of the river upstream of the present effluent entry point is not significantly lower than the pollution downstream. The degree of pollution caused by the effluent discharge is, in fact, not very significant.¹⁵⁷⁴

The Mayor's remarks were directly contradicted by chemical and biological tests carried out on the Hautapu River by Rangitikei-Wanganui Regional Water Board staff. Their tests had found a major difference between points upstream and downstream of the septic tank discharge, with high faecal coliform levels extending a considerable distance downstream¹⁵⁷⁵. Meanwhile the Regional Water Board sent letters to Taihape Borough Council querying why no application had been lodged for water rights for the oxidation ponds¹⁵⁷⁶, as this was the Board's expectation once the Council had made the decision to proceed.

The water right application was eventually submitted in October 1975¹⁵⁷⁷. It was to discharge 300 gallons per minute from an oxidation pond into the Hautapu River, plus allow emergency overflow discharges from two pumping stations if the pumps failed. The Regional Water Board sought additional information about the size of the oxidation ponds. The ponds as described in the March 1974 report were believed to be "on the small side" for the expected volume of effluent expected to be created by a population of 4000 persons, and the query was whether the proposed treatment site of 18 acres would allow larger ponds to be constructed, or whether the site could be increased in size to accommodate larger ponds¹⁵⁷⁸. The consulting engineers responded that the size of the ponds would still allow effluent to be detained for longer than the Ministry of Works guidelines, and it was unlikely there would be space for them to be increased in size¹⁵⁷⁹. Following receipt of this advice, the Regional Water Board publicly notified the application in February 1975, and called for public submissions¹⁵⁸⁰.

¹⁵⁷⁴ Report to ratepayers by Mayor of Taihape, 21 August 1975. Copy on Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3772-3774.

¹⁵⁷⁵ Senior Water Officer to Chief Engineer, 20 June 1975. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3770-3771.

¹⁵⁷⁶ Chief Engineer to Town Clerk Taihape Borough Council, 8 September 1975 and 22 September 1975. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3775 and 3776-3777.

¹⁵⁷⁷ Application for water right, 1 October 1975, attached to Town Clerk Taihape Borough Council to Chief Engineer, 1 October 1975. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3828-3831.

¹⁵⁷⁸ Chief Engineer to Payne Ives and Sewell, Consulting Engineers, Wanganui, 10 December 1975. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3832-3833.

¹⁵⁷⁹ Payne Ives and Sewell, Consulting Engineers, Wanganui, to Secretary, 19 December 1975. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3834-3836.

¹⁵⁸⁰ Chief Engineer to Acting Town Clerk Taihape County Council, 17 February 1976. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3778.

One objection was received, from Wellington Acclimatisation Society, though this was only with respect to the two emergency discharges at the proposed pumping stations:

At the present time few or no anglers fish the Hautapu River below Taihape because of polluted effluent discharged from Borough septic tanks entering the river at Taihape. The installation of proposed sewage oxidation ponds will improve the river quality by reducing the oxygen demanding organic load and by cancelling out the possibility of suspended solids entering the river and settling on the riverbed. Delicate forms of life basic to the food chains of trout will return to the river area now affected by the Taihape sewage. Anglers will be attracted who in the past would not fish this area due to the health hazards associated with human waste.

However, if the Taihape Borough Council were granted discharge rights [for emergency overflows], the river could revert to its present condition. The Otaihape Stream particularly would be severely affected by an emergency discharge even for a very short period....

It appears that the Taihape Borough are making a costly and responsible decision to help revert the Hautapu River and Otaihape Stream to their natural condition. Unfortunately their proposed scheme has one flaw, this being that in time of pump malfunction or power failure the preceding good work done in cleaning this river and stream is undone. The Wellington Acclimatisation Society requests that the Taihape Borough Council buy two fuel-powered pumps to be maintained and kept ready for use, one at each of the above pumping stations. This would make the proposed plan fail-safe.¹⁵⁸¹

The Medical Officer of Health in Wanganui also sent an advisory letter. He offered no objection, though added that when the Crown considered any loan application, conditions of approval would include the installation of an alarm at each pumping station, and the clean-up of any discharge¹⁵⁸².

Once the closing date for submissions passed, Rangitikei-Wanganui Regional Water Board staff drew up a draft set of conditions to form part of the water right. For the oxidation ponds discharge these included a maximum volume of 2000 cumecs (cubic metres per day), a 10-year term plus extension “at the pleasure of the Board”, regular sampling of BOD₅ (biochemical oxygen demand), pH, suspended solids and faecal coliforms, and a maximum waste loading in the first of the two oxidation ponds of 84 kg of BOD₅ per hectare per day. For the two emergency overflows, the water right would allow discharges of 14,000 litres per

¹⁵⁸¹ Secretary Wellington Acclimatisation Society to Secretary, 24 February 1976. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3837.

¹⁵⁸² Medical Officer of Health Wanganui to Chief Engineer, 27 February 1976. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3838.

hour and 3,500 litres per hour for a 3-year term and thereafter at the pleasure of the Board, with conditions that repeated the matters raised by the Medical Officer of Health¹⁵⁸³.

At this point, rather than make a decision on the application, Rangitikei-Wanganui Regional Water Board opted to meet with Taihape Borough Council to discuss the draft conditions¹⁵⁸⁴. When the meeting was held at the end of March 1976, it was apparent that the Borough Council was keen on a single oxidation pond, as a cost saving measure. However the Regional Water Board's view was that two oxidation ponds were provided in the consulting engineers' March 1974 report, it was prepared to issue a water right on the basis of that report, and two ponds were therefore essential. By the end of the meeting the Borough Council had accepted the draft conditions, and had agreed that the other preliminary steps such as land purchase and loan and subsidy applications would be proceeded with. The Regional Water Board agreed in principle to grant the water right subject to the draft conditions, though further consideration of the application would be deferred until after the preliminary steps had been completed¹⁵⁸⁵. The Regional Water Board's insistence on two oxidation ponds was confirmed at a Board meeting one week later¹⁵⁸⁶. Both parties then formally signified their acceptance of the arrangements that had been made at the meeting¹⁵⁸⁷.

Progress stuttered when the cost of the scheme was updated from the March 1974 report in preparation for the loan approval application, and was found to have increased from just over \$200,000 to nearly \$280,000. One councillor remarked that this could mean a rise in rates of at least 50% "when the scheme was of no tangible benefit to Taihape people"¹⁵⁸⁸. However, the Borough Council confirmed its intention to apply for loan approval in November 1976.

¹⁵⁸³ Draft conditions for Application 75/281, undated (March 1976). Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3779.

¹⁵⁸⁴ Excerpt from Board minutes of meeting, 4 March 1976. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3780.

¹⁵⁸⁵ Minutes of meeting on 25 March 1976. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3781 and 3782-3784.

Central District Times, 6 April 1976. Copy on Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3785.

¹⁵⁸⁶ Chief Engineer to Town Clerk Taihape Borough Council, 12 April 1976. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3786.

¹⁵⁸⁷ Town Clerk Taihape Borough Council to Chief Engineer, 28 April 1976, and Chief Engineer to Town Clerk Taihape Borough Council, 7 May 1976. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3787 and 3788.

¹⁵⁸⁸ *Wanganui Chronicle*, 21 October 1976. Copy on Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3789.

Taihape Borough Council made both the loan approval application and the subsidy application to the Crown in December 1976¹⁵⁸⁹. Attached to the subsidy application was an environmental impact assessment that had been prepared in July 1975. With respect to discharge into waterways, the statement noted:

The basis of design of the oxidation ponds is to provide an effluent which will meet the quality standards of a “C” classification in the Hautapu River from a ‘design’ population (domestic or trade waste equivalent) of 4,000. The present population is about 2,800.

It is pointed out that although in terms of a national policy the Water and Soil Conservation Act required the classification of all waters by 1975, the Hautapu River has not yet been classified. It is possible that a “D” classification may be applied to the part of the river at which the effluent is to be discharged, in which case a single pond system will deal adequately with the classification requirements. Therefore pond designs cannot be finalised until the river classification is decided upon.¹⁵⁹⁰

Both the Health Department and the Ministry of Works and Development were advisors to the Local Authorities Loans Board. Both told the Loans Board that a treatment upgrade was essential at Taihape, and that oxidation ponds were an appropriate solution¹⁵⁹¹. However, the Health Department noted that Taihape Borough Council had recently been given approval to raise a loan for town water supply improvements, and expressed reservations about whether the Borough Council could financially cope with both projects proceeding at the same time; it felt that approval of the sewage treatment loan should be deferred for 12 months¹⁵⁹². The Local Authorities Loans Board approved the raising of a loan of \$200,000 for “sewerage improvements” in May 1977¹⁵⁹³.

Proceeding with both projects at the same time was apparently a concern shared by Taihape Borough Council itself, and in March 1977 the Medical Officer of Health reported that the Council “have decided that the water works improvements are of greater importance and

¹⁵⁸⁹ Application for sewage treatment and disposal subsidy, 23 December 1976. Health Head Office file 32/39. Supporting Papers #216-222.

¹⁵⁹⁰ Environmental impact assessment, July 1975, attached to Application for sewage treatment and disposal subsidy, 23 December 1976. Health Head Office file 32/39. Supporting Papers #216-222 at 220-222.

¹⁵⁹¹ Director of Public Health to Secretary Local Authorities Loans Board, 16 March 1977, and Commissioner of Works to Secretary Local Authorities Loans Board, 17 March 1977. Health Head Office file 32/39. Supporting Papers #223 and 224-225.

¹⁵⁹² Director of Public Health to Secretary Local Authorities Loans Board, 16 March 1977. Health Head Office file 32/39. Supporting Papers #223.

¹⁵⁹³ Referred to in Commissioner of Works to Secretary Local Authorities Loans Board, 11 December 1981. Health Head Office file 32/39. Supporting Papers #224-225.

should be proceeded with without delay”¹⁵⁹⁴. In any event the calls on the subsidy fund operated by the Crown were greater than the funds available, so Taihape Borough Council would have to join a queue. The local Member of Parliament was advised in July 1977 that if a subsidy was approved, “it is likely that the subsidies will not be able to be paid until the 1979/80 financial year”¹⁵⁹⁵.

In September 1977 the Ministers of Health and Finance approved a subsidy of \$61,000 (with a 10% margin if costs exceeded estimates raising this to a potential maximum of \$68,000), subject to final design plans being accepted by the District Commissioner of Works, and subject to no payment of subsidy being made until after 1 April 1979¹⁵⁹⁶. The subsidy amount was calculated on the basis of \$1 for every \$2 raised locally, on what was termed ‘subsidisable costs’, certain costs not being eligible for subsidy.

Even once the loan approval and the subsidy had been approved, Taihape Borough Council had one final chance to decide whether it would proceed. This was in early 1980, once work on the water supply improvements had been largely completed. At the Borough Council meeting, there was still opposition expressed that the rates would be raised too much and the treatment scheme was not wanted by the people of Taihape. However, the majority of councillors voted in favour of proceeding, some remarking that any delay would result in an even higher cost in the future. While the alternative treatment plant site at Winiata (that had been identified in the March 1974 report) was referred to in the discussions, there was no support for it because of its higher costs than for the site on the other side of the Hautapu River¹⁵⁹⁷. On receiving this decision¹⁵⁹⁸, Rangitikei-Wanganui Regional Water Board agreed to reactivate its consideration of the water right applied for in 1975, once treatment pond design plans were received¹⁵⁹⁹.

¹⁵⁹⁴ Medical Officer of Health Wanganui to Director General of Health, 2 March 1977. Health Head Office file 32/39. Supporting Papers #226-228.

¹⁵⁹⁵ Minister of Health to Sir R Jack MP, 4 July 1977. Health Head Office file 32/39. Supporting Papers #229.

¹⁵⁹⁶ Director of Public Health to Minister of Health, 17 August 1977, and Secretary to the Treasury to Minister of Finance, 30 August 1977, approved by the Ministers 5 and 6 September 1977; and Director of Public Health to Town Clerk Taihape Borough Council, 4 October 1977. Health Head Office file 32/39. Supporting Papers #230-233; 234-236; and 237-238.

¹⁵⁹⁷ *Wanganui Chronicle*, 2 April 1980 and 3 April 1980. Copy on Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3816 and 3817-3818.

¹⁵⁹⁸ Town Clerk Taihape Borough Council to Chief Executive Officer, 8 April 1980. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3819.

¹⁵⁹⁹ Chief Engineer to Town Clerk Taihape Borough Council, 15 April 1980. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3820.

The need to finalise design plans brought back into play the concept of a single oxidation pond, rather than two ponds in sequence. There were discussions between the Borough Council's consulting engineer and Regional Water Board staff, which resulted in a new agreement in September 1980:

- (a) You would agree to the single pond concept provided that the BOD₅ loading to the Hautapu River from the pond does not exceed 100 kg per day.
- (b) You would like to see a 40-day detention time in the pond if possible.
- (c) A grass plot area should be provided for secondary treatment, the use of the plot probably being necessary only in the summer.
- (d) Discharge from the pond and the grass plot may be by way of a piped outlet to the adjacent cliff face, from the foot of which cliff the effluent may find its own way to the river. Some protective work at the foot of the cliff may be necessary.¹⁶⁰⁰

In signifying its agreement with the new arrangement, the Rangitikei-Wanganui Regional Water Board commented:

All that I am referring to is the order of confidence that the design criteria can or will be met. That order of confidence has been reduced by going from the original two-pond system to a single pond, and accordingly the need for proper monitoring, operation and maintenance will be the greater.

We will have to give more careful thought to the conditions that might be attached to any water right granted, and the Borough Council should be made aware that for what savings in cost there might be in your current proposal, there may well also be a need for greater attention to operation and maintenance, including control of infiltration, to ensure that design treatment criteria are met.¹⁶⁰¹

The water right applied for in 1975 was finally granted in December 1980. It was for a 10-year term, and allowed the discharge of up to 1600 cubic metres per day into the Hautapu River, with the grass plot used during November to April and at all times when the flow in the river would be less than 1 cumec, and with BOD₅ not exceeding 100 kg per day¹⁶⁰².

During the 1976 to 1980 period, inflation had increased construction costs, requiring a fresh application for a reassessment of the subsidy provided by the Crown. The 1980 estimate was \$455,000, compared to the 1976 estimate of \$280,000. The Borough Council made its

¹⁶⁰⁰ Payne Sewell & Partners, Consulting Engineers, Wanganui, to Chief Engineer, 11 September 1980, and Chief Engineer to Payne Sewell & Partners, Consulting Engineers, Wanganui, 22 September 1980. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3821-3825 and 3826-3827.

¹⁶⁰¹ Chief Engineer to Payne Sewell & Partners, Consulting Engineers, Wanganui, 22 September 1980. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3826-3827.

¹⁶⁰² Chief Engineer to Town Clerk Taihape Borough Council, 15 December 1980. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3839-3841.

application for reassessment in June 1980¹⁶⁰³, and the total subsidy amount was increased from \$68,000 to \$178,000¹⁶⁰⁴. Costs continued to rise, requiring further support. In about December 1981, approval was given by the Local Authorities Loans Board for the Borough Council to raise a further loan of \$120,000¹⁶⁰⁵. In October/November 1983 the Ministers of Health and Finance approved an additional subsidy of \$5,350¹⁶⁰⁶. A final additional subsidy of \$3,400 was approved in October 1984¹⁶⁰⁷.

The oxidation pond came into operation in early 1982. In November the grass plot came into use, and in early 1983 it became clear that it drained into adjoining bush and over the cliff edge on a broad front rather than into the discharge channel leading down to the Hautapu River¹⁶⁰⁸. By 1985 it was apparent that an absence of wind in summer would allow algal blooms to develop in the pond, and create an odour problem noticeable across the river at the high school. The solution was to operate a boat round and round the pond to aerate the water.

The water right expired in December 1990. By this time Taihape Borough Council and Rangitikei County Council had amalgamated and become Rangitikei District Council, while the regulatory agency had become the Manawatu-Wanganui Regional Council. Research for this report did not locate the Regional Council file records concerning the water right renewal. However, those records about the water right that have been located show that a new water right was applied for in May 1991, that a willingness to grant a renewal was decided upon on 20 August 1991, and that the new water right was granted on 17 September

¹⁶⁰³ Town Clerk Taihape Borough Council to Medical Officer of Health Wanganui, 27 June 1980. Health Head Office file 32/39. Supporting Papers #239-243.

¹⁶⁰⁴ Director of Public Health to Minister of Health, 26 May 1981, approved by the Minister 29 May 1981, and Director of Public Health to Town Clerk Taihape Borough Council, 18 June 1981. Health Head Office file 32/39. Supporting Papers #244-247 and 248-249.

¹⁶⁰⁵ Commissioner of Works to Secretary Local Authorities Loans Board, 11 December 1981. Health Head Office file 32/39. Supporting Papers #251.

¹⁶⁰⁶ Application for sewage treatment subsidy, 2 March 1983; Director of Public Health to Minister of Health, 11 October 1983, approved by the Minister on 21 October 1983; Secretary to the Treasury to Minister of Finance, 28 October 1983, approved by the Minister on 1 November 1983; and Director of Public Health to Town Clerk Taihape Borough Council, 14 November 1983. Health Head Office file 32/39. Supporting Papers #252-254; 255-258; 259-260; and 261-263.

¹⁶⁰⁷ Application for sewage treatment subsidy, 21 March 1984; Director of Public Health to Minister of Health, 19 September 1984, approved by the Minister on 20 September 1984; Secretary to the Treasury to Minister of Finance, 10 October 1984, approved by the Minister on 12 October 1984; and Director of Public Health to Town Clerk Taihape Borough Council, 23 October 1984. Health Head Office file 32/39. Supporting Papers #264-266; 267-270; 271; and 272-274.

¹⁶⁰⁸ Inspection report, 2 February 1983. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3842-3845.

1991¹⁶⁰⁹. Therefore the processing period for the application was three to four months, and the granting of the water right occurred just eleven days before the Resource Management Act 1991 came into force. The granting of the water right has all the appearance of a concerted effort by both the District Council and the Regional Council to rush through the process before the introduction of the new Act. This was despite the poor performance of the sewage treatment plant due to poor aeration on windless summer days, and overloading of the oxidation pond as a result of stormwater infiltration. Because consideration of tangata whenua values was not part of the old legislation (the Water and Soil Conservation Act), and would be part of the new legislation, Taihape Maori lost a chance to express a point of view about the treated sewage disposal into the Hautapu River as a result of the timetable that was followed. The new water right allowed the discharge of up to 1600 cubic metres per day of oxidation pond effluent for a term of 10 years. From 1993 (when records were computerised) until 1997, compliance monitoring visits approximately every three months gave the discharge a “default rating”¹⁶¹⁰.

In August 1992 the sewer main ruptured when a slip pushed out of alignment the bridging framework supporting the pipe where it crossed above the Hautapu River, and untreated sewage spilled into the river¹⁶¹¹. This discharge of all of Taihape’s sewage had to continue under repairs were made. To prevent a recurrence, Rangitikei District Council applied for consent to re-lay the sewer main under the bed of the Hautapu River, rather than over it¹⁶¹². The Department of Conservation and Wellington Fish and Game Council were approached by the District Council, and both advised the Regional Council that the proposal had their consent¹⁶¹³. Consent was granted in December 1992 for a 20-year term¹⁶¹⁴, and the new pipe

¹⁶⁰⁹ Director of Operations and Services Rangitikei District Council to Director of Resources, 13 August 1992, and Resource Consent Detail Report for MWC 912342. Manawatu-Wanganui Regional Council file 5/3/RDC Applications 912342 and 913257. Supporting Papers #4152 and 4172-4174.

¹⁶¹⁰ Resource Consent Detail Report for MWC 912342. Manawatu-Wanganui Regional Council file 5/3/RDC Applications 912342 and 913257. Supporting Papers #4172-4174.

¹⁶¹¹ Report by Services Manager to Rangitikei District Council, 26 August 1992. Manawatu-Wanganui Regional Council file 5/3/RDC Applications 912342 and 913257. Supporting Papers #4153-4155.

¹⁶¹² Services Manager Rangitikei District Council to Director of Resources, 4 September 1992; Director of Resources to Services Manager Rangitikei District Council, 8 September 1992 and 22 September 1992; and Application for resource consent, 2 October 1992, attached to Services Manager Rangitikei District Council to Regional Conservator Wanganui, 5 October 1992. Manawatu-Wanganui Regional Council file 5/3/RDC Applications 912342 and 913257. Supporting Papers #4156-4157; 4158 and 4159; and 4160-4164.

¹⁶¹³ Field Officer Wellington Fish and Game Council to Director of Resources, 12 October 1992, and Regional Conservator Wanganui to General Manager, 12 October 1992 and 23 October 1992. Manawatu-Wanganui Regional Council file 5/3/RDC Applications 912342 and 913257. Supporting Papers #4165, 4166 and 4167.

¹⁶¹⁴ Decision on resource consent application 913257, 1 December 1992. Manawatu-Wanganui Regional Council file 5/3/RDC Applications 912342 and 913257. Supporting Papers #4168-4170.

beneath the river was installed the following month¹⁶¹⁵. Taihape Maori had not been consulted.

Two floating aerators were added to the oxidation pond in 1998. By 2001 a concrete trench along the lower edge of the grass plot diverted runoff flowing in a broad front over the cliff into a drain leading to a single discharge point over the cliff and ultimately into the Hautapu River. The entrance to the drain was the monitoring point for the testing of the biochemical quality of the discharge.

The water right expired in September 2001. In March 2001 an application was lodged with Manawatu-Wanganui Regional Council for a renewal of the consent¹⁶¹⁶. By being applied for before the expiry of the existing right, Rangitikei District Council (successor to Taihape Borough Council from 1989) was able to lawfully continue its discharge of treated effluent beyond the expiry date, up until the new consent was granted.

No action was taken on the application until an Assessment of Environmental Effects report was submitted in June 2001¹⁶¹⁷. The report explained that the District Council was seeking to continue its existing pattern of discharge with no provision for upgrading of the quality of the discharge. This was because aquatic studies of the Hautapu River environment showed that the receiving waters were not being adversely affected by the discharge (after dilution), as the river was already contaminated by agricultural runoff higher in the catchment. However, the downstream (after dilution) water quality tests were limited to just two sampling occasions, and the bacterial component of those two tests were for general enterococci bacteria (derivable from a range of decaying sources) rather than for E.coli (derivable from human sewage waste)¹⁶¹⁸. The District Council wanted to do more water quality sampling, and investigate measures to reduce discharge volumes by minimising inflows of stormwater into the sewerage system.

¹⁶¹⁵ Fax Payne Sewell Ltd to Manawatu-Wanganui Regional Council, 6 January 1993. Manawatu-Wanganui Regional Council file 5/3/RDC Applications 912342 and 913257. Supporting Papers #4171.

¹⁶¹⁶ Application for resource consent, undated, attached to Assets Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 20 March 2001. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101724. Supporting Papers #4805-4809

¹⁶¹⁷ Meritec Ltd, *Taihape wastewater oxidation pond discharge*, March 2001, attached to Assets Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 7 June 2001. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101724. Supporting Papers #4810-4869 at 4812-4869.

¹⁶¹⁸ Meritec Ltd, *Taihape wastewater oxidation pond discharge*, March 2001, pages 10-11, attached to Assets Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 7 June 2001. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101724. Supporting Papers #4810-4869 at 4825-4826.

At the time the Assessment of Environmental Effects report was prepared, consultation with iwi had determined that Ngati Whitikaupeka Environmental Working Party would coordinate a response on behalf of Ngati Whitikaupeka, Ngati Tamakopiri and Ngati Hauiti, though no response had yet been provided¹⁶¹⁹. When a response was provided in August 2001, it was prepared by Rauhuia Environmental Services on behalf of Ngati Whitikaupeka Environmental Working Party and Te Runanga o Ngati Hauiti:

There are sites of significance to the tangata whenua in close proximity to the activity, however we have been unable to pinpoint exact locations within the scope of this initial assessment.

Furthermore, to the tangata whenua the discharge of human wastes into waterways is offensive and affects their cultural, spiritual and physical wellbeing. Another issue of concern is the seeming lack of effective monitoring carried out over the past 12 years.

We are of opinion that the activity does affect the cultural values of the tangata whenua....¹⁶²⁰

A more substantial assessment, known as a cultural impact assessment, was recommended, which could become the basis for discussions between tangata whenua and the District Council.

The cultural impact assessment (CIA) was presented to the District Council in April 2002. While it was (and remains) a confidential document to the iwi and the District Council, its contents were summarised, and its executive summary was repeated verbatim, in an Assessment of Environmental Effects report produced in December 2004. The summary commenced:

The cultural impact assessment discusses the importance of the Rangitikei River to Nga Hapu i Mokai Patea as a **taonga**, food provider, whanau recreational facility, and source of mana and mauri. The CIA continues to state that Nga Hapu i Mokai Patea have been alienated from the Hautapu River and are unable to carry out their role as kaitiaki of the River.

The CIA identified that the wastewater discharge has an impact on the mana and mauri of the Hautapu River, as well as impacting on the mana of Nga Hapu i Mokai Patea. The CIA clearly states that the discharge of any human effluent to water is

¹⁶¹⁹ Meritec Ltd, *Taihape wastewater oxidation pond discharge*, March 2001, page 14, attached to Assets Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 7 June 2001. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101724. Supporting Papers #4810-4869 at 4829.

¹⁶²⁰ Resource Consents Officer Rauhuia Environmental Services to Assets Manager Rangitikei District Council, 27 August 2001, attached to Assets Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 30 August 2001. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101724. Supporting Papers #4870-4872.

culturally offensive. However, Nga Hapu i Mokai Patea also recognise the cost implications for the community associated with ceasing to discharge to water. They have therefore suggested a number of remedial and mitigational measures. These are set out in the Executive Summary of the CIA, which is repeated below.

Executive Summary of Cultural Impact Assessment

The Rangitikei District Council (Council) is currently seeking resource consent to continue to discharge treated sewage wastewater to the Hautapu River for a period of 35 years. Council and the affected tangata whenua, being Ngati Tamakopiri, Ngati Whitikaupeka, Ngati Hauti, Ngati Paki and Ngati Hinemanu (Nga Hapu i Mokai Patea), have jointly commissioned this report to outline the cultural impact of the discharge upon the tangata whenua.

This report has established

- Nga Hapu i Mokai Patea's traditional rights over the affected area,
- Customary practices of environmental and resource management have relevance in this contemporary world,
- The Hautapu River's cultural, spiritual and physical importance has been degraded to beyond customary use.

Following a comprehensive assessment of the impact, it has been determined that the discharge of any human effluent to waterways is culturally offensive. Issues of concern for Nga Hapu i Mokai Patea [are] the impact that this discharge is having culturally, spiritually and physically. In particular regarding the loss of mauri and mana which has alienated Nga Hapu i Mokai Patea from the Hautapu River.

In light of the cultural imbalance caused by the activity, Nga Hapu i Mokai Patea require the discharge to the Hautapu River to cease. The Council has failed to assure Nga Hapu i Mokai Patea through its Submissions for Resource Consent that the cultural, spiritual and physical effects raised in this report will be addressed.

However, Nga Hapu i Mokai Patea do recognise that the cost of any alternative method of waste disposal must be borne by the Taihape Community through rate levies. Therefore Nga Hapu i Mokai Patea will consider remedial and mitigation measures that will eventually see the total removal of the wastewater discharge to the Hautapu River.

Suggested Remedial Measures

In the Short Term

- Reducing output through water conservation measures,
- Screening station implementation,
- Cease discharge of waste from Hautapu Pine Products Ltd.

In the Long Term

- Set up an investigative committee to research and report on and implement alternative or additional treatment methods and/or alternative disposal methods,
- Set implementation timetable in place.

Mitigational Measures

- Nga Hapu i Mokai Patea will have full participation on the Investigative Committee, and will be recompensed for that participation,
- Nga Hapu i Mokai Patea will be provided with the necessary resources to carry out a regular monitoring programme of the Hautapu River.

Furthermore, it is recommended that:

1. Both parties thoroughly consider the contents of this assessment, and use it as a basis for future discussions.
2. Discussions and negotiations begin immediately regarding the options identified in this assessment.
3. Resources be made available to Nga Hapu i Mokai Patea to enable them to effectively participate in discussions.
4. The parties remain open to the introduction of further options by any one of the parties.
5. That an agreement is reached between the parties before resource consent hearings take place.¹⁶²¹

While awaiting the assessment, and while discussions with tangata whenua were continuing, the resource consent application was put on hold and not processed by the Regional Council.

Manawatu-Wanganui Regional Council received an interim report in June 2003¹⁶²². It noted problems with the operation of the oxidation pond, the poor quality of the effluent being discharged, another possible source of human wastes contamination in the locality besides the oxidation pond discharge, and an absence of any consideration of alternative treatment options such as land disposal. All these matters required further work, and it was not until December 2004 that an updated Assessment of Environmental Effects report was completed¹⁶²³, making it possible for processing of the application to be restarted.

The updated Assessment of Environmental Effects examined the water quality of the Hautapu River upstream of the oxidation pond discharge (i.e. the background levels in the river) against the criteria in the Land and Water Regional Plan, and concluded as follows:

¹⁶²¹ Good Earth Consulting Ltd, *Rangitikei District Council: Taihape sewage treatment plant assessment of environmental effects*, December 2004, section 7.4, pages 33-34, attached to Good Earth Matters Consulting Ltd to Manawatu-Wanganui Regional Council, 15 December 2004. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101724. Supporting Papers #4732-4774 at 4765-4766.

¹⁶²² Good Earth Matters Consulting Ltd to Rangitikei District Council, 23 June 2003, attached to Email Good Earth Matters Consulting Ltd to Manawatu-Wanganui Regional Council, 26 June 2003. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101724. Supporting Papers #4873 to 4879.

¹⁶²³ Good Earth Consulting Ltd, *Rangitikei District Council: Taihape sewage treatment plant assessment of environmental effects*, December 2004, attached to Good Earth Matters Consulting Ltd to Manawatu-Wanganui Regional Council, 15 December 2004. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101724. Supporting Papers #4732-4774 at 4733-4774.

- Suitable for contact recreation at half median flow – enterococci standards for this type of use unlikely to be met;
- Suitable for supporting aquatic ecosystems – pH and ammonia standards for this type of functioning unlikely to be met;
- Suitable for a brown trout recreational fishery – standards for this type of use likely to be met;
- Suitable for livestock watering – nitrate, nitrite and faecal coliform standards for this type of use unlikely to be met.

The Hautapu River was therefore in a degraded condition even before assessing the addition of treated sewage. While the discharged sewage had, with a few exceptions, met the water quality standards set in the 1991 water right, there had still not been an extensive range of monitoring results about the quality of the waters in the Hautapu River, though the report argued that the discharge was not making a poor situation significantly worse. However, the District Council recognised that the Regional Plan did require that improvements had to be made to the quality of the discharge. Three upgrade options were examined:

- Ultraviolet light disinfection and discharge through a rock filter (described as the ‘do minimum’ option);
- ‘Do minimum’ plus solids removal screening at the inlet to the pond and dividing the pond to create two ponds; and
- Disposal to land after treatment.

Rangitikei District Council was prepared to carry out the ‘do minimum’ option within 2½ years:

Installation of UV disinfection and a rock filter, or similar land passage structure, is considered to be essential works by RDC, to partially address iwi concerns and to minimise microbiological contamination and subsequent public health risks. However, RDC considers that the additional expenditure required to provide an inlet screen and pond baffles is not warranted at this time. The main effect of dividing the pond would be to improve BOD and suspended solids levels in the discharge. However, ... the available monitoring data and mixing calculations does not indicate that there are significant changes in the downstream water quality in terms of BOD and suspended solids as a result of the discharge.¹⁶²⁴

¹⁶²⁴ Good Earth Consulting Ltd, *Rangitikei District Council: Taihape sewage treatment plant assessment of environmental effects*, December 2004, section 6.4, page 24, attached to Good Earth Matters Consulting Ltd to Manawatu-Wanganui Regional Council, 15 December 2004. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101724. Supporting Papers #4732-4774 at 4756.

The Assessment of Environmental Effects report had been supplied in draft form to Nga Hapu i Mokai Patea, but no comments or feedback had been received prior to the report being finalised and submitted to the Regional Council¹⁶²⁵.

The application was publicly notified in January 2005, and four submissions were received, from Fish and Game New Zealand, MidCentral Health, Nga Hapu i Mokai Patea, and a neighbouring landowner. Fish and Game opposed the application being granted unless more than 'do minimum' was implemented; it was concerned that unless solids and suspended solids were reduced by installing an inlet screen and by the pond reconfiguration, the discharge would not be clear enough to allow ultraviolet light disinfection to work properly. Fish and Game also wanted high phosphorus levels in the effluent to be addressed as this impacted on mayfly larvae populations (food of brown trout). Overall, Fish and Game thought the Council's proposed upgrade was directed towards public health improvements rather than aquatic ecosystems improvements¹⁶²⁶. MidCentral Health wanted consent to be subject to conditions avoiding visible pollution of the waters of the Hautapu River and avoiding the production of odours¹⁶²⁷.

Nga Hapu i Mokai Patea opposed the granting of consent, both as a matter of cultural principle and because of the extent of pollution at Taihape¹⁶²⁸.

As tangata whenua of the lands bordering on both sides of the Hautapu River for most of its length, the Hautapu River is one of the last easily accessible major streams to them as a source of traditional foods and recreation. This cultural value has however been significantly devalued over the years from the point and non-point sources of pollution over the past century.

The Taihape Sewage Treatment plant discharge is a major source of contamination, and the discharge of human effluent to water is abhorrent to Maori in general.

¹⁶²⁵ Good Earth Consulting Ltd, *Rangitikei District Council: Taihape sewage treatment plant assessment of environmental effects*, December 2004, section 8.1, page 38, attached to Good Earth Matters Consulting Ltd to Manawatu-Wanganui Regional Council, 15 December 2004. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101724. Supporting Papers #4732-4774 at 4770.

¹⁶²⁶ Fish and Game Resource Officer Fish and Game NZ Wellington Region to Manawatu-Wanganui Regional Council, 11 February 2005. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101724. Supporting Papers #4880-4886.

¹⁶²⁷ Senior Health Protection Officer MidCentral Health to Manawatu-Wanganui Regional Council, 14 February 2005. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101724. Supporting Papers #4887-4889.

¹⁶²⁸ Resource Management Officer Rauhuia Environmental Services to Manawatu-Wanganui Regional Council, 15 February 2005. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101724. Supporting Papers #4890-4892.

However, while the hapu were willing to be pragmatic and recognise that land disposal was not readily feasible, they did not consider that the ‘do minimum’ option provided sufficient mitigation of the effects of the discharge:

It is pointless to implement a UV treatment system if the turbidity of the discharge and solids entering it will not permit it to function at its maximum potential. Additionally the rock passage does very little to treat the discharge, and nothing to mitigate the cultural impact upon the tangata whenua.

It is also understood that RDC have proposed a compromise between Option 1 and 2 with the implementation of baffles in the pond in an attempt to obtain better circulation of the effluent. This option is also rejected by the tangata whenua as again there is no proof that this will achieve any improvement in the quality of the discharge.

Therefore, Option 2 with screening at inflow, division of the pond with baffle, UV treatment, and biologically treated rock filter is the tangata whenua preferred option.

Nga Hapu i Mokai Patea also wanted more comprehensive monitoring of the condition of the receiving waters and the aquatic life in it, and repairs to the sewer network to reduce stormwater infiltration¹⁶²⁹.

A Manawatu-Wanganui Regional Council staff report on water quality in the Hautapu River noted:

As part of its State of the Environment (SOE) monitoring, Horizons Regional Council monitors water quality at two sites on the Hautapu River: upstream of Taihape (at the old NIWA station), and just above the confluence with the Rangitikei River....

The water quality monitoring results ... show a significant increase in E.coli and DRP [dissolved reactive phosphorus] concentration between the two monitoring points, while nitrate, ammonia and dissolved oxygen levels remain unaffected. The observed increases come from either or both point sources (discharges) or non point sources (runoff and leaching from agricultural land). In the present case, we have insufficient data to determine the contribution of the different sources of pollution, particularly the Taihape STP discharge.¹⁶³⁰

While this conclusion was scientifically cautious, the combination of known pollutants from a sewage treatment plant increasing in concentration, while known pollutants from agricultural runoff did not increase, is certainly a clear pointer to the Taihape sewage effluent having a substantial part to play in the deteriorated water quality of the Hautapu River downstream of the town.

¹⁶²⁹ Resource Management Officer Rauhuia Environmental Services to Manawatu-Wanganui Regional Council, 15 February 2005. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101724. Supporting Papers #4890-4892.

¹⁶³⁰ Technical report on Application 101724 by Environmental Scientist – Water Quality, 9 November 2005. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101724. Supporting Papers #4775-4786.

The Regional Council prepared a set of draft conditions that included a more comprehensive monitoring regime, but required only the 'do minimum' option. In response to the concern about the risk of turbid water passing through the ultraviolet light, it required that the disinfection unit be fitted with a sensor that monitored the intensity of UV light passing through the water, and set off an alarm if it detected ineffective light levels. A report on monitoring results was required one year after the upgrades had been installed. Rangitikei District Council accepted the draft conditions¹⁶³¹, and they were then distributed to the objectors for comment. Fish and Game, MidCentral Health and the neighbouring landowner accepted the draft conditions and withdrew their objections¹⁶³².

Four months later, nothing had been heard from Nga Hapu i Mokai Patea. As long as their objection remained it would be necessary to schedule a hearing. At the beginning of April, the Regional Council wrote to Nga Hapu:

I understand that Rangitikei District Council has been consulting with you on your submission for some time now, and that you are seeking payment for monitoring the sewage discharge they seek consent for.

Please be aware that such an agreement is outside the scope of matters for which conditions can be imposed on any discharge permit granted to Rangitikei District Council. Those matters can only be dealt with via a side agreement, and that process can take place outside of and independent of the resource consent process.

In light of this you may wish to consider withdrawing your wish to be heard on your submission. If you wish to be heard, a Hearing date will be set this week for later April 2006. However, please understand that your monitoring requirements are unlikely to be imposed upon Rangitikei District Council by the Hearing Committee, as they are not requirements that are enforceable.¹⁶³³

Faced with these circumstances, a leader of Ngati Hauiti, acting on behalf of Nga Hapu i Mokai Patea, signed a notice of withdrawal of its wish to be heard¹⁶³⁴. This meant a hearing was not needed, and Regional Council staff could proceed with making a decision on the consent application.

¹⁶³¹ Good Earth Matters Consulting Ltd to Manawatu-Wanganui Regional Council, 12 August 2005. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101724. Supporting Papers #4893.

¹⁶³² Fish and Game Resource Officer Fish and Game NZ Wellington Region to Manawatu-Wanganui Regional Council, 16 August 2005, notice of withdrawal by MidCentral Health, 1 September 2005, and notice of withdrawal by AW Gordon, 23 September 2005. Manawatu-Wanganui Regional Council file 5/3/RDC Application file 101724. Supporting Papers #4894, 4895 and 4896.

¹⁶³³ Team Leader Consents to Nga Hapu i Mokai Patea, 3 April 2006. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101724. Supporting Papers #4897.

¹⁶³⁴ Notice of withdrawal of request to be heard, 13 April 2006. Manawatu-Wanganui Regional Council file 101724. Supporting Papers #4898-4899.

The resource consent was granted in April 2006¹⁶³⁵. It allowed a discharge of up to 1600 cubic metres of treated effluent per day. The term of the consent was five years, rather than a term of 20 years sought by the District Council in 2003, because of the degree of uncertainty about discharge volumes and the actual effects on the receiving waters of the Hautapu River. This would allow time for installation of the upgrade, and to gather some data in a comprehensive monitoring programme, before further consideration was given by the District Council and the Regional Council to suitable conditions covering a longer period.

Rangitikei District Council was tardy in installing the upgrade. No ultraviolet disinfection unit had been installed in early 2009, despite the consent requiring installation by mid 2007¹⁶³⁶. The Regional Council gave the District Council a lot of leeway, with no penalty applied apart from written assessments of non-compliance with the terms of the consent, and it was not until 2011 (four years late) that the ultraviolet disinfection unit and rock filter were installed. Associated with the installation of the unit was the installation of a package plant that took the oxidation pond discharge and, prior to disinfecting it, chemically dosed it with a coagulant that bound with the phosphorus in the water and precipitated it out, then passed the effluent through a micro-filter to remove algae, suspended solids and the phosphorus-binding coagulant¹⁶³⁷. The package plant was designed to reduce turbidity, thereby enabling ultraviolet light to disinfect the effluent more effectively, and reduce the amount of phosphorus discharged into the Hautapu River. Up until 2011, measurements of E coli and dissolved phosphorus in the Hautapu River were higher than allowed by the 2006 consent. Again, no penalty was applied.

In November 2010 Rangitikei District Council applied to renew the consent that was due to expire in April 2011, and provided an Assessment of Environmental Effects report the following month¹⁶³⁸. By lodging the application when it did, the 2006-2011 consent was allowed to run on (making the discharge lawful) pending the issue of a new consent.

¹⁶³⁵ Decision on Application 101724, 27 April 2006. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101724. Supporting Papers #4787-4804.

¹⁶³⁶ Compliance Inspection Report on Consent 101724, 27 January 2009. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101724. Supporting Papers #4900-4902.

¹⁶³⁷ Rangitikei District Council, *Proposed wastewater treatment for Taihape*, 9 September 2009. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101724. Supporting Papers #4903-4911.

¹⁶³⁸ The application and the accompanying Assessment of Environmental Effects report were not copied for inclusion in Supporting Papers.

However, the application was lodged before the Council had installed the upgrade required by the previous consent. This meant that in the accompanying Assessment of Environmental Effects report there was no opportunity to assess the success of the upgrade in improving the quality of the discharge. When granting the previous consent, it had been expected that there would be about three years of post-upgrade monitoring results available to assist in determining what future conditions of discharge should be imposed.

The absence of the upgrade had a bearing on the submissions made about the new application when it was publicly notified in April 2011. It was advertised as an application to discharge to land that enters water. Five submissions were received, from MidCentral Health, Wellington Fish and Game Council, the Department of Conservation, two individuals from Palmerston North, and the same neighbour who had objected in 2005, plus a late submission from Nga Iwi i Mokai Patea.

- MidCentral Health's submission was broadly similar to its submission in 2005, seeking a comprehensive monitoring programme and no visual or odour pollution¹⁶³⁹.
- Fish and Game complained that the application had not provided sufficient information to enable a judgement to be made about the impact of the discharge of Taihape sewage effluent on fish life in the Hautapu River¹⁶⁴⁰.
- The Department of Conservation sought a set of conditions compliant with national guidelines, and a 15-year consent term¹⁶⁴¹.
- The two Palmerston North based individuals expressed surprise at the amount of dissolved phosphorus in the Hautapu River upstream of Taihape, as they regarded the volcanic soils as strongly capable of binding phosphorus and preventing it leaching into the river. To them this background situation, where high phosphorus and nitrogen levels result in nutrient enrichment and potential for algal growth, means that the river is already in a substandard condition before more nutrients (particularly nitrogen if phosphorus is being reduced by the upgrade) are added by the sewage treatment plant. Because adding nitrogen and phosphorus from the treatment plant

¹⁶³⁹ Health Protection Officer MidCentral Health to Manawatu-Wanganui Regional Council, 5 May 2011. Manawatu-Wanganui Regional Council file 5/3/RDC Application 105518. Supporting Papers #5562-5565.

¹⁶⁴⁰ Fish and Game Environmental Officer Wellington Fish and Game Council to Manawatu-Wanganui Regional Council, 12 May 2011. Manawatu-Wanganui Regional Council file 5/3/RDC Application 105518. Supporting Papers #5566-5569.

¹⁶⁴¹ Area Manager Manawatu Rangitikei Area Office Department of Conservation to Manawatu-Wanganui Regional Council, 12 May 2011. Manawatu-Wanganui Regional Council file 5/3/RDC Application 105518. Supporting Papers #5570-5572.

would worsen the contamination of the river, they wanted more effort to be put into examining land disposal of effluent as an option¹⁶⁴².

- The neighbouring landowner, while supporting the planned upgrade, opposed the 35-year term of consent applied for as the quality of the discharge after the upgrade was still uncertain. Land disposal was in his opinion the most reliable disposal method having least impact on the river environment¹⁶⁴³.

Nga Iwi i Mokai Patea advised that it had not been necessary to compile another cultural impact assessment report, as the report prepared in 2002 was still relevant. Given the level of investment by the District Council, Nga Iwi would support a 15-year term with strong monitoring requirements:

Tikanga Maori dictates that all human bodily wastes should be discharged directly to Papatuanuku (Mother Earth), in whom is endowed the ability to recycle, rather than to the awa (waterways), which provides freshwater, food, cleansing, blessing and recreation.

While it is recognised that the final discharge is predominantly water, there remains the fact that not only does it contain traces of faecal matter but wastes from medical and mortuary facilities. It is a major compromise for Maori to continue to accept this practice, and they will continue to seek to raise the bar on the quality of discharges of this nature.¹⁶⁴⁴

Two pre-hearing meetings were held to allow submitters and Rangitikei District Council to discuss the issues, in July 2011 and December 2011. At the second meeting a draft set of conditions was presented for consideration.

In January 2014 Te Runanga o Ngati Hauiti (acting as lead body for Taihape iwi) and Rangitikei District Council signed a memorandum of understanding, under which they agreed as follows:

Rangitikei District Council's Obligations

1. To contribute resources for suitable river restoration works at an agreed location in and around the Hautapu or Rangitikei River catchment.

¹⁶⁴² C Teo-Sherrell and W Demchick, Palmerston North, to Manawatu-Wanganui Regional Council, 12 May 2011. Manawatu-Wanganui Regional Council file 5/3/RDC Application 105518. Supporting Papers #55735581.

¹⁶⁴³ AW Gordon, Taihape, to Manawatu-Wanganui Regional Council, 12 May 2011. Manawatu-Wanganui Regional Council file 5/3/RDC Application 105518. Supporting Papers #5582-5585.

¹⁶⁴⁴ Resource Management Officer Rauhuia Environmental Services to Manawatu-Wanganui Regional Council, 30 May 2011. Manawatu-Wanganui Regional Council file 5/3/RDC Application 105518. Supporting Papers #5586-5590.

2. The Council will budget two thousand dollars (\$2,000) annually for the next 10 years from the 2013/14 financial year to meet costs relating to river restoration projects as collectively agreed to by Te Runanga o Ngati Hauiti, Te Runanga o Ngati Whitikaupeka and Te Runanga o Ngati Tamakopiri.
3. Suitable representatives from the Council will meet with representatives from Te Runanga o Ngati Hauiti, Te Runanga o Ngati Whitikaupeka and Te Runanga o Ngati Tamakopiri to discuss how consultation in the future could be undertaken. The meeting shall occur before the end of 2014.

Te Runanga o Ngati Hauiti Obligations

1. Te Runanga o Ngati Hauiti will assist the Rangitikei District Council with obtaining any necessary permission to enter any property to undertake river restoration works in any particular year.
2. Te Runanga o Ngati Hauiti will coordinate representatives from Te Runanga o Ngati Whitikaupeka and Te Runanga o Ngati Tamakopiri to meet with representatives from Rangitikei District Council to discuss how consultation in the future could be undertaken. This meeting shall occur before the end of 2014.¹⁶⁴⁵

The consequence of signing a memorandum of understanding was that the effect of the discharge on cultural values had been mitigated to an extent that was satisfactory for iwi. Following the signing of the memorandum, Nga Iwi i Mokai Patea advised that they no longer wished to be heard at a hearing¹⁶⁴⁶.

The other five submitters had also dropped their wish to attend a hearing. When Nga Iwi i Mokai Patea withdrew their request for a hearing, the need for a hearing lapsed, and Regional Council staff were able to process a decision on the District Council's application. In May 2014 consent was granted to the discharge of up to 500 cubic metres per day of treated effluent during low flows (less than 2.8 cumecs in the Hautapu River), and up to 1200 cubic metres per day during higher flows. During the first two years intensive monitoring is required to ensure that all measured parameters meet the standards set out in the One Plan; this requirement effectively duplicates the requirement for monitoring after the upgrade set out in the previous consent. If One Plan water quality standards are met, a less intense monitoring programme can be followed in subsequent years. Stormwater infiltration into the sewer network was to be investigated and remedial measures identified within 4 months. A

¹⁶⁴⁵ Memorandum of Understanding, 30 January 2014. Copy on Manawatu-Wanganui Regional Council file 5/3/RDC Application 105518. Supporting Papers #5591-5592.

¹⁶⁴⁶ Email Transitional Manager Te Runanga o Ngati Hauiti to Manawatu-Wanganui Regional Council, 27 April 2014. Manawatu-Wanganui Regional Council file 5/3/RDC Application 105518. Supporting Papers #5593-5594.

report on the feasibility of land disposal was to be provided within 2 months. The term of the consent is 13 years, expiring in July 2027¹⁶⁴⁷.

Within the first year of the consent being granted, Manawatu-Wanganui Regional Council sent a 'please explain' letter to Rangitikei District Council about "significant non compliance" with the terms of the discharge consent. There had been emergency overflows from the sewerage system even though (by contrast with the earlier 2006 consent) such discharges were not included in the new consent¹⁶⁴⁸. The District Council replied that stormwater was infiltrating and overloading the sewage pipes:

Last year the average flow into the plant was approximately 800 m³/day, and the peak inflow was approximately three times this....

The dry weather flow for Taihape is estimated to be 550 m³/day, and therefore over 30% of the flow into the plant is [infiltration and inflow]. (Note that even with a perfect reticulation the discharge from the plant is likely to exceed the 500 m³/day limit in dry weather.)

Inflow and infiltration rates in Taihape are high due to high earth movements and the effect of this old reticulation. A large part of Taihape is in an area with high groundwater and significant earth movement....

We have identified \$725,000 of sewer and stormwater renewals in the Taihape network, and programmed this into our Long Term Plan over the next five years.

The District Council acknowledged that as emergency discharges would need to occur over this lengthy period, it needed to apply for consents to be able to continue to do so¹⁶⁴⁹. Its reply did not address the exceeding of the dry weather discharge volume from the treatment plant.

As at May 2015 there was no response from Manawatu-Wanganui Regional Council recorded on the Regional Council file. Nor, up to that time, was there any indication on the Regional Council file that either the problem or the explanation had been communicated to tangata whenua.

¹⁶⁴⁷ Decision on Application 105518, 12 May 2014. Manawatu-Wanganui Regional Council file 5/3/RDC Application 105518. Supporting Papers #5595-5634.

¹⁶⁴⁸ Acting Regulatory Manager to General Manager Infrastructure Manawatu District Council, 13 February 2015. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5930-5931.

¹⁶⁴⁹ Utility Asset Manager Rangitikei District Council to Acting Regulatory Manager, 9 March 2015. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5932-5936.

10.4 Mangaweka sewage disposal

Mangaweka township's first sewage treatment plant was a communally-operated septic tank installed as an integral part of the hydroelectric power plant, water supply and sewerage scheme initiated by Mangaweka Town Board (discussed in the chapter on hydroelectric power schemes). The tank was installed in about 1913. It was located on the edge of the river terrace on which the township had been built, allowing gravity feed from the township to the tank, and the overflow from the tank was allowed to discharge over the terrace edge and ultimately into the Rangitikei River below.

In 1970, in a comparison between Mangaweka's septic tank and Taihape's septic tanks, the tank at Mangaweka was described as "properly maintained and to all intents and purposes is still functioning in the manner it was designed and built to operate". This was "different from other local authority sewage discharges"¹⁶⁵⁰, and apparently an unusual occurrence, caused largely by the population of the township being little changed from its population in 1913.

A report on a site visit following removal of accumulated sludge from the septic tank in 1989 recorded:

The tank desludging effluent was discharged over the edge of a cliff and into what was the Mangataweka [sic] Stream (this stream was diverted and re-routed for the purpose of realignment of the highway and at the same time alleviate flooding in Mangaweka).

The stream carries some stormwater, with very small residual flow, to the Rangitikei River a probable 100m below the point of discharge of the sludge.

The septic tank discharge of effluent is piped to the stream also. No measurement of discharge was made owing to the inaccessible nature of the site.

The discharge site is a DOC reserve, mainly of old man's beard (*Clematis vitalba*) and almost inaccessible except by a boat from the Rangitikei River. The reserve does not appear to be used for other than growing clematis.

The Rangitikei River at this site is probably a fairly high use recreational area, i.e. rafting, canoeing etc, as a lot of this recreation is based on Mangaweka domain and appears to be a growing industry in the district.

¹⁶⁵⁰ Chief Engineer to Town Clerk Taihape Borough Council, 21 October 1970. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3729-3730.

As far as could be ascertained without going to the extent of water samples etc, [the impact upon] the actual reserve or public land and the dumping of the sludge could be classed as a minor event. The impact upon the Rangitikei River could have been reasonably severe for a short period. The discharge from the septic tank probably reaches the river in a diluted form depending upon the flow in the Mangataweka Stream.¹⁶⁵¹

Rangitikei-Wanganui Catchment Board and Regional Water Board wrote to Rangitikei County Council about the disposal of the septic tank sludge, saying that “it cannot condone this type of activity”¹⁶⁵². However, no other action was taken. The County Council later advised that the sludge had been disposed of in this manner every two to three years since the tank was installed in 1913, and as far as it was concerned sludge disposal was to land with no discharge to a watercourse¹⁶⁵³. The County Council did not comment on the septic tank overflow.

No water right was issued under the Water and Soil Conservation Act 1967 during the period 1968-1991. Instead the septic tank discharge was allowed to continue as an existing use that predated the legislation¹⁶⁵⁴. After the passing of the Resource Management Act 1991, such existing uses were allowed to continue for a further ten years before resource consent was required¹⁶⁵⁵. There was no monitoring of the Mangaweka discharge by the Manawatu-Wanganui Regional Council between 1989 and 2001.

When the need for resource consent became due in 2001, Rangitikei District Council’s initial reaction was to seek to have the right rolled over:

Up to 66 separate properties are serviced by a community septic tank at Mangaweka. Of these 58 are occupied land. There is no reason to expect that any additional properties would be connected to the system. Mangaweka is a poor community and it is unlikely that an upgrade to the existing system can be financially justified. We therefore propose no change to existing consent. We understand that the discharge is theoretically to land immediately adjacent to Mangaweka Stream. The discharge is not readily accessible, and considerable mixing of the effluent occurs prior to the stream cascading into the Rangitikei River. It is unlikely that the impact of the discharge would be measurable. Apart from iwi and one or two other parties, the

¹⁶⁵¹ File note, undated (January 1989). Rangitikei-Wanganui Catchment Board file W327/280/6. Supporting Papers #3715-3718.

¹⁶⁵² Director of Resources to Chief Executive Officer Rangitikei County Council, 24 February 1989. Rangitikei-Wanganui Catchment Board file W327/280/6. Supporting Papers #3719.

¹⁶⁵³ File note, 5 July 1989. Rangitikei-Wanganui Catchment Board file W327/280/6. Supporting Papers #3720.

¹⁶⁵⁴ This was allowed by Section 21(2) Water and Soil Conservation Act 1967.

¹⁶⁵⁵ This was allowed by Section 386(3) Resource Management Act 1991.

residents of Mangaweka comprise the immediate affected parties. We will be consulting with these people over the next four weeks.¹⁶⁵⁶

The application was for consent to discharge up to 90 cubic metres per day of septic tank treated domestic waste into Mangaweka Stream; 90 cubic metres per day was the maximum flow, with an average flow around 36 cubic metres per day:

The river quality hasn't deteriorated due to this discharge and there are no known adverse effects to date. The water quality is very good in Rangitikei River. The septic tank is cleaned every 2-3 years.

Mean annual flow of Rangitikei River is 63 cumecs, when compared with the discharge which is 0.00042 cumecs, which is too low to cause any significant adverse effects. (Effects are not measurable.)

If any upgrade is required, then this would damage the socio-economic status of the community of Mangaweka beyond recovery, as the money required would need to be repaid by the community.

The septic tank provides basic biological digestion of the waste, and based on the low discharge volumes this activity should not cause any adverse effects. Rangitikei River flows provide enough dilution.¹⁶⁵⁷

The application was lodged prior to the expiry of the existing water right, which meant that the discharge could legally continue beyond the expiry date, until a new consent was granted. During the remainder of 2001 the District Council consulted with Te Runanga o Ngati Hauiti, Wellington Fish and Game Council, and Department of Conservation on water take and discharge applications at both Taihape and Mangaweka. While the Department of Conservation offered no comment on the Mangaweka discharge, the other two parties provided some written feedback.

Te Runanga o Ngati Hauiti advised Rangitikei District Council of its concerns in August 2001:

Our investigations involved an assessment of the activity and initial research into relevant Maori Land Court records. Analysis of research findings indicates that there are known sites of significance to the tangata whenua in close proximity to the activity, however the precise locations are unknown. Further research will be required to ascertain the locations.

¹⁶⁵⁶ Assets Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 20 March 2001. Manawatu-Wanganui Regional Council file 5/1/RDC Application 101726. Supporting Papers #4912-4917.

¹⁶⁵⁷ Application for Resource Consent, 19 March 2001, attached to Assets Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 20 March 2001. Manawatu-Wanganui Regional Council file 5/1/RDC Application 101726. Supporting Papers #4912-4917.

I also carried out an inspection of the stream below the discharge point on 10 August 2001 as well as the site visit with you on 16 July 2001. The inspection of the stream revealed that the wastewater is flowing over the papa rock face and directly into the stream below. The effect of this upon the stream is very distinct in that the stream is lifeless downstream to its confluence with the Rangitikei River. The odour of the effluent is very strong and nauseating from quite a distance.

To Ngati Hauiti, any discharge of human wastes into waterways is offensive and affects their cultural, spiritual and physical wellbeing.

Ngati Hauiti advised that when given the opportunity they would object to the resource consent application. They also recommended that the District Council should commission “a comprehensive cultural impact assessment as a starting point to addressing iwi opposition”¹⁶⁵⁸. The District Council accepted the need to produce a cultural impact assessment¹⁶⁵⁹.

Wellington Fish and Game Council advised the District Council:

I am not concerned with the quality of the effluent per se, but more in the effect of the discharge on the receiving water. Monitoring of this discharge in the receiving environment is essential. If monitoring data should show this discharge is having an adverse effect on water quality, alternative options will have to be investigated further, and implemented. The community appear to have indicated they are not happy with the current discharge. An alternative site may also need to be investigated due to the apparent instability of the current site.¹⁶⁶⁰

During 2002 Rangitikei District Council accepted that any new discharge consent was likely to require a significant upgrade of discharge water quality. It commissioned three reports, one on the biological quality of the Rangitikei River at Mangaweka, one on the cultural impact of a discharge to the river on Ngati Hauiti, and the third on alternative treatment issues and options for the future. The Mangaweka biomonitoring report found that visually there was a brown algal film at the discharge point that was not present either upstream or downstream of the discharge point. Invertebrate numbers did not alter much at the discharge site, the conclusion being that “the results do not show an instream community that has been

¹⁶⁵⁸ Resource Consents Officer Rauhuia Environmental Services to Assets Manager Rangitikei District Council, 27 August 2001, attached to Assets Manager Rangitikei District Council to Rauhuia Environmental Services, 30 August 2001. Manawatu-Wanganui Regional Council file 5/1/RDC Application 101726. Supporting Papers #4918-4920.

¹⁶⁵⁹ Assets Manager Rangitikei District Council to Rauhuia Environmental Services, 30 August 2001. Manawatu-Wanganui Regional Council file 5/1/RDC Application 101726. Supporting Papers #4918-4920.

¹⁶⁶⁰ Fish and Game Resource Officer Fish and Game NZ Wellington Region to Rangitikei District Council, 17 September 2001, attached to Fish and Game Resource Officer Fish and Game NZ Wellington Region to Manawatu-Wanganui Regional Council, 11 December 2001. Manawatu-Wanganui Regional Council file 5/1/RDC Application 101726. Supporting Papers #4921-4931.

adversely affected by the discharge, although they do indicate some influence”. The report produced for Rangitikei District Council argued that the environmental effect of the discharge was minor¹⁶⁶¹.

Ngati Hauiti produced a Cultural Impact Assessment report in August 2002. It was and remains a confidential document, and because Ngati Hauiti were ultimately supportive of the discharge consent application did not need to be presented to or examined by the Regional Council as part of its consideration of the application. Despite this, an Assessment of Environmental Effects report prepared in late 2003 did quote from the Cultural Impact Assessment report, presumably with the consent of Ngati Hauiti:

The central section of the Rangitikei River from Omatane in the north to Rata in the south falls within the tribal boundaries of Ngati Hauiti. The rights and interests of Ngati Hauiti have evolved over a period of some 30 generations. At various times these traditional rights have been re-enforced through warfare, occupation, intermarriage and alliances....

Their unbroken occupation of the area is acknowledged by their Tangata Whenua status. While Ngati Hauiti has undertaken significant social and economic change, they have maintained their cultural heritage....

The Rangitikei River is central to the mana of Ngati Hauiti. It is revered by Ngati Hauiti as a **taonga** that embodies the essence of the people who are sustained by its physical, spiritual and cultural features....

Much of Ngati Hauiti history was made along the banks of the Rangitikei River, both Matangi and Tamatea, for example, named many of the places along the river including river beaches and flats upon which many subsequent tupuna lived and died.

The Rangitikei has provided a fresh clean water supply for drinking, an essential food supply such as tuna and waterfowl, and its forest covered banks provided food, building materials, fertile flats for cultivation, and plants and herbs for medicine.

Historically the Rangitikei River was a focal point of activity, and formed a natural ‘highway’ of transportation. As such it linked together many of the hapu and iwi that resided along its banks.¹⁶⁶²

The Assessment of Environmental Effects report also quoted from the Cultural Impact assessment report’s executive summary:

¹⁶⁶¹ Glasson Potts Fowler, *Rangitikei District Council: Mangaweka biomonitoring report*, June 2002. Copy on Manawatu-Wanganui Regional Council file 5/1/RDC Application 101726. Supporting Papers #4932-4947.

¹⁶⁶² Rangitikei District Council, *Mangaweka sewage treatment plant: assessment of environmental effects*, December 2003, pages 33-34, section 6.4, attached to Good Earth Matters Consulting Ltd to Manawatu-Wanganui Regional Council, 22 December 2003. Manawatu-Wanganui Regional Council file 5/1/RDC Application 101726. Supporting Papers #5033-5077 at 5066-5067.

In light of the cultural imbalance caused by the [discharge] activity, Ngati Hauiti requires the discharge to the Rangitikei River to cease. The Council has failed to assure Ngati Hauiti through its submissions for resource consent that the cultural, spiritual and physical effects raised in this report will be addressed.

However Ngati Hauiti recognise that the cost of any alternative method of waste disposal must be borne by the Mangaweka Community through rate levies. Therefore Ngati Hauiti will consider remedial and mitigation measures that will eventually see the total removal of the wastewater discharge to the Rangitikei River.

Recommended remedial measures:

- Set up an investigation committee to research and report on and implement alternative or additional treatment methods and/or alternative disposal methods.
- Set in place a reasonable implementation timetable.

Mitigation measures:

- Ngati Hauiti to have full participation on the Investigative committee and will be recompensed for that participation.
- Ngati Hauiti to be provided with the necessary resources to carry out a regular monitoring programme of the discharge.

Furthermore, it is recommended that:

1. Both parties thoroughly consider the contents of this assessment and use it as a basis for future discussions.
2. Discussions and negotiations begin immediately regarding the options identified in this assessment.
3. Resources be made available to Ngati Hauiti to enable them to effectively participate in discussions.
4. The parties remain open to the introduction of further options by any one of the parties.
5. That an agreement is reached between the parties before resource consent hearings take place.¹⁶⁶³

The issues and options report looked at both sewage treatment alternatives and discharge alternatives that would be financially affordable for the small community¹⁶⁶⁴. It noted that the septic tank was only capable of reducing the amount of suspended solids, and had no effect on pH, ammonia or BOD₅. Discharge into the minor tributary stream was significantly degrading water quality in the stream, though not in the Rangitikei River because of the

¹⁶⁶³ Rangitikei District Council, *Mangaweka sewage treatment plant: assessment of environmental effects*, December 2003, pages 34-35, section 6.4, attached to Good Earth Matters Consulting Ltd to Manawatu-Wanganui Regional Council, 22 December 2003. Manawatu-Wanganui Regional Council file 5/1/RDC Application 101726. Supporting Papers #5033-5077 at 5067-5068.

¹⁶⁶⁴ Good Earth Matters Consulting Ltd, *Rangitikei District Council: Mangaweka sewage and water – issues and options* (draft), September 2002, attached to Good Earth Matters Consulting Ltd to Rangitikei District Council, 18 September 2002. Manawatu-Wanganui Regional Council file 5/1/RDC Application 101726. Supporting Papers #4948-4990.

extent of dilution. The main issue facing the District Council was the unacceptability to the community of discharge of poorly treated effluent into waterways, as set out in regional policies and plans. The options for Mangaweka were a more substantial central treatment plant (activated sludge treatment or oxidation pond), or requiring individual properties to treat their own effluent. Disposal options were discharging treated effluent to land (requiring at least 45 hectares for communal disposal), or discharging direct to the Rangitikei River bypassing the minor tributary stream. On-site septic tank and soakage field disposal on individual town sections would not be a universal solution as some sections were too small. Other options included composting toilets, grey-water reuse and other water saving measures, combined with viewing wastes as a potential beneficial resource, which the report called a 'permaculture' solution. In ranking the options, the report found that permaculture and individual treatment and disposal would be the most desirable options.

The issues and options as outlined in the report were presented to the Mangaweka community at a public meeting in November 2002. After the meeting Te Runanga o Ngati Hauiti advised that it had completed its Cultural Impact Assessment report for Rangitikei District Council, and its preference was for complete removal of effluent discharge from the Rangitikei River. However, it would wait to see what the Council decided after receiving community feedback before commenting further¹⁶⁶⁵. In order to encourage feedback, the District Council prepared a flyer for distribution to Mangaweka residents in early 2003. This summarised the different options, and also summarised the overall situation, so far as the river was concerned, into a single statement:

What we put back into the River is far worse than what we take out. This impacts on fish, recreational use, tourism on the river, downstream users.¹⁶⁶⁶

The District Council decided that the community feedback narrowed the options down to two:

- An upgrade of the communal sewage treatment plant with a discharge to the Rangitikei River;

¹⁶⁶⁵ Resource Management Officer Rauhuia Environmental Services to Manawatu-Wanganui Regional Council, 28 November 2002. Manawatu-Wanganui Regional Council file 5/1/RDC Application 101726. Supporting Papers #4991.

¹⁶⁶⁶ Information sheet for Mangaweka residents, undated (prior to March 2003). Manawatu-Wanganui Regional Council file 5/1/RDC Application 101726. Supporting Papers #4992-4994.

- Individual on-site treatment systems (septic tanks or similar) located on private properties, with reticulation to a polishing treatment plant (e.g. trickling filter, wetland filter, ultraviolet disinfection), and then discharge to the Rangitikei River.

In June 2003 sewage treatment plant designs for each of these options were prepared¹⁶⁶⁷. The recommended design was a communal plant where the effluent was collected in the existing septic tank then passed through a recirculating tank, sand filter and ultraviolet disinfection before discharge through a rock filter into the river. Whether the rock filter as a land disposal method would be adequate to meet iwi concerns would be discussed with Te Runanga o Ngati Hauiti.

Throughout the period 2001-2003 the resource consent application lodged in March 2001 had been placed on hold. Rangitikei District Council asked for the application to be reactivated in December 2003, when it presented an Assessment of Environmental Effects for its preferred treatment and discharge option¹⁶⁶⁸. As recommended, the treatment plant would be a recirculating tank, sand filter and ultraviolet disinfection. Of the rock filter, the report stated:

One of the key considerations of the upgrade for the STP is cultural concerns associated with discharge of treated wastewater to water. A rock filter has been included in the upgrade as a means of partially addressing these concerns, recognising that land disposal options are prohibitively expensive for the community.

It is proposed that the rock filter will be used to address cultural concerns only, and no allowance has been made for any treatment of effluent through the filter.¹⁶⁶⁹

The rock filter was therefore only a passing nod to Papatuanuku's healing and restorative powers. However, Ngati Hauiti was pragmatically prepared to accept the proposed treatment and discharge proposal. They had corresponded with the District Council, and their letter of support was included in an appendix to the Assessment of Environmental Effects:

The Rangitikei District Council has completed an extensive consultation process with Ngati Hauiti, this process has produced a comprehensive Cultural Impact Assessment report that confirms:

- Ngati Hauiti's traditional rights over the affected area,

¹⁶⁶⁷ Good Earth Matters Consulting Ltd, *Rangitikei District Council: Mangaweka sewage treatment plant upgrade – preliminary design*, June 2003. Manawatu-Wanganui Regional Council file 5/1/RDC Application 101726. Supporting Papers #4995-5032.

¹⁶⁶⁸ Rangitikei District Council, *Mangaweka sewage treatment plant: assessment of environmental effects*, December 2003, attached to Good Earth Matters Consulting Ltd to Manawatu-Wanganui Regional Council, 22 December 2003. Manawatu-Wanganui Regional Council file 5/1/RDC Application 101726. Supporting Papers #5033-5077.

¹⁶⁶⁹ Rangitikei District Council, *Mangaweka sewage treatment plant: assessment of environmental effects*, December 2003, page 18, section 4.4.4, attached to Good Earth Matters Consulting Ltd to Manawatu-Wanganui Regional Council, 22 December 2003. Manawatu-Wanganui Regional Council file 5/1/RDC Application 101726. Supporting Papers #5033-5077 at 5051.

- Customary practices of environmental and resource management have relevance in this contemporary world.

The report also has determined that the discharge of any human effluent to waterways is:

- Culturally offensive,
- Degrading the Rangitikei River's cultural, spiritual and physical importance beyond customary use,
- Reflected in a loss of mauri and mana,
- Alienating Ngati Hauiti from the Rangitikei River.

In light of the cultural imbalance caused by the activity, Ngati Hauiti are opposed to the current discharge to the Rangitikei River and advocate for total removal.

However, Ngati Hauiti recognise that the cost and practicality of implementing 'state of the art' methods of 'to ground' waste disposal is prohibitively expensive for a small community such as Mangaweka, or 'permaculture' too daunting or impractical to many. Although the proposed treatment system upgrade will be a vast improvement on the current system, the discharge will still remain a constant offence.

However, Ngati Hauiti have accepted remedial and mitigation measures, but will continue to advocate total removal of the wastewater discharge to the Rangitikei River in the future. Therefore in light of this Ngati Hauiti would prefer a term of 15 years rather than 35 years be granted.¹⁶⁷⁰

The principal mitigation measure agreed upon was that "the District Council will continue to liaise with iwi during implementation of the upgrade and at least the first year's operation of the completed upgrade"¹⁶⁷¹.

When the application for discharge of treated sewage to the Mangaweka Stream¹⁶⁷², a tributary of the Rangitikei River, was publicly notified in early 2004, it attracted four submissions. Two were from Mangaweka residents in support. MidCentral Health, the public health body, objected, citing potential for contamination of surface waters, potential for the production of nuisances (odours, flies etc), and the absence of any detailed information about a monitoring programme in the Assessment of Environmental Effects

¹⁶⁷⁰ Resource Management Officer Rauhuia Environmental Services to Assets Manager Rangitikei District Council, 22 December 2003, being Appendix C to Rangitikei District Council, *Mangaweka sewage treatment plant: assessment of environmental effects*, December 2003, attached to Good Earth Matters Consulting Ltd to Manawatu-Wanganui Regional Council, 22 December 2003. Manawatu-Wanganui Regional Council file 5/1/RDC Application 101726. Supporting Papers #5033-5077 at 5075-5077.

¹⁶⁷¹ Rangitikei District Council, *Mangaweka sewage treatment plant: assessment of environmental effects*, December 2003, page 37, section 7.1, attached to Good Earth Matters Consulting Ltd to Manawatu-Wanganui Regional Council, 22 December 2003. Manawatu-Wanganui Regional Council file 5/1/RDC Application 101726. Supporting Papers #5033-5077 at 5070.

¹⁶⁷² The application referred to Mangatera Stream, though this seems to be the same waterway as that known previously as Mangataweka Stream or Mangaweka Stream.

report. The objection sought conditions about monthly monitoring of the wastewater and of the river upstream and downstream of the discharge site, no conspicuous visual change to the receiving waters, and no odours¹⁶⁷³. The fourth submission was from Te Runanga o Ngati Hauiti, which repeated the comments appended to the Assessment of Environmental Effects report, with some slightly amended wording about the term of consent:

Ngati Hauiti understand that a term of 20 years is being sought, and although they would prefer a shorter term be granted, do agree to the application being granted.¹⁶⁷⁴

Manawatu-Wanganui Regional Council granted the resource consent in March 2004, primarily on the grounds that the adverse effects on receiving water quality would be very minor even during extreme low flow conditions in the Rangitikei River. The consent was to discharge up to 90 cubic metres per day for a term of 20 years, with the ability to review the conditions of consent 12 months after the treatment plant had been brought into operation, and again after the resource consent had been in effect for 10 years. The upgraded treatment plant was to be installed and operational within the first 15 months of the consent. Other conditions included preparation of an operational management plan, meeting of defined standards for BOD₅, suspended solids, total phosphorus, ammoniacal nitrogen and E. coli, no visible effect on the receiving waters, and monthly monitoring of the effluent flowing out of the treatment plant and of the water in the Rangitikei River¹⁶⁷⁵.

In the event the treatment plant was not installed as quickly as anticipated, because testing showed considerable stormwater inflow into the sewer network, which if it could be stopped would bring the rate of discharge within the 90 cubic metres per day maximum set out in the consent. Rangitikei District Council applied for and received an extension of 12 months to the condition that required installation by June 2005¹⁶⁷⁶. The application was accompanied by a letter of support for the extension of time from Te Runanga o Ngati Hauiti. However,

¹⁶⁷³ Senior Health Protection Officer MidCentral Health to Manawatu-Wanganui Regional Council, 11 February 2004. Manawatu-Wanganui Regional Council file 5/1/RDC Application 101726. Supporting Papers #5078-5080.

¹⁶⁷⁴ Resource Management Officer Rauhuia Environmental Services to Manawatu-Wanganui Regional Council, 25 February 2004. Manawatu-Wanganui Regional Council file 5/1/RDC Application 101726. Supporting Papers #5081-5082.

¹⁶⁷⁵ Decision on Application 101726, 19 March 2004. Manawatu-Wanganui Regional Council file 5/1/RDC Application 101726. Supporting Papers #5083-5093.

¹⁶⁷⁶ Good Earth Matters Consulting Ltd to Manawatu-Wanganui Regional Council, 29 March 2005, and Decision on Application 101726/1, 27 April 2005. Manawatu-Wanganui Regional Council file 5/1/RDC Application 101726. Supporting Papers #5094-5101 and 5102-5111.

the Runanga added a comment about the District Council's overall management practices, reflecting their frustration with the Council's poor performance:

While the Runanga is pleased to see that the Rangitikei District Council is taking responsibility to minimise stormwater infiltration, they have however asked Rauhuia to express their disappointment for the record at the Council's lack of proactive management of activities for which they are responsible.

Had Council conducted a proper assessment of the discharge, and a management plan put into action in the first instance, the required remedial measures may well have been conducted prior to implementation of the upgrade. Instead there is now a requirement to continue discharging what is little better than raw sewage when the system becomes overloaded with stormwater.

This is indicative of the Council's reactive style of management, [they] will only carry out what is necessary when they are forced into it. This does not engender trust from organisations such as Te Runanga o Ngati Hauiti that are forced to take a stance where they are generally viewed as habitual litigants.¹⁶⁷⁷

10.5 Hunterville sewage disposal

At Hunterville a sewerage system was built about 1908, feeding into a communal septic tank about 600 metres south of the township¹⁶⁷⁸, the effluent then outflowing through filter beds into the Pourewa Stream. A Department of Health report in 1957 stated that "for a great many years" the stone-filled filter beds had been "out of action", presumably because they had become clogged with sediment and had not been cleaned out. Their structure had probably also deteriorated, as it was said that they "could not satisfactorily be restored"¹⁶⁷⁹. A further inspection report in 1960 found that the sewers became overloaded with stormwater when it rained, so that the septic tank was not able to operate effectively at those times. In addition, some sewage discharged to groundwater rather than to the sewers, resulting in the Pourewa Stream becoming polluted by human waste as it passed through Hunterville township¹⁶⁸⁰.

¹⁶⁷⁷ Resource Management Officer Rauhuia Environmental Services to Good Earth Matters Consulting Ltd, 23 March 2005, attached to Good Earth Matters Consulting Ltd to Manawatu-Wanganui Regional Council, 29 March 2005. Manawatu-Wanganui Regional Council file 5/1/RDC Application 101726. Supporting Papers #5094-5101 at 5101.

¹⁶⁷⁸ The site of the septic tank was surveyed in 1909 on Wellington plan A/2722. Not included in Supporting Papers.

¹⁶⁷⁹ Report on visit by Designing Engineer, 20-21 February 1957. Health Head Office file 32/307. Supporting Papers #275.

¹⁶⁸⁰ Inspectors of Health Quinn and Cairns to Medical Officer of Health Palmerston North, 15 September 1960. Rangitikei-Wanganui Catchment Board file W327/280/1. Supporting Papers #3676-3677.

The failure of the filter beds put additional pressure on the Pourewa Stream. The 1957 report stated that at times there was no natural flow (and therefore no dilution effect) in the stream, while at other times the natural flow provided a dilution rate of 22:1. The report concluded:

To deal with the problem properly, it is useless to think of renovating the existing plant.

For discharge to this small stream a full treatment plant is required to give a high standard effluent to prevent nuisance.¹⁶⁸¹

In the Department's opinion a suitable treatment plant would be an oxidation pond.

In 1969 Hunterville Town Council applied to Rangitikei Catchment Board and Regional Water Board to continue to discharge its septic tank effluent into the Pourewa Stream. Its application was to discharge 20,000 gallons per day¹⁶⁸². When the application was publicly advertised, the Medical Officer of Health advised that the Department of Health "cannot support the proposition", and identified the provision of oxidation ponds as a possible solution¹⁶⁸³. Wellington Acclimatisation Society objected that the discharge "will be harmful to fish and fisheries habitat"¹⁶⁸⁴, though almost immediately afterwards offered to withdraw its objection if the quality of the effluent discharged was such that the Pourewa Stream maintained a Class C water quality standard. In making this offer, it added:

The Porewa [sic] Stream is regarded as a nursery stream for trout, and over past years has been stocked with fish by the Society. It is a tributary stream of the Rangitikei River. The major river fisheries are dependent upon the smaller tributary streams to maintain the standards of the fishery, as these are the spawning and nursery areas which provide the stocks of fish for the larger rivers.¹⁶⁸⁵

Rangitikei Regional Water Board conducted some water quality tests on the Pourewa Stream that, not unsurprisingly, demonstrated a spike in suspended solids, faecal coliforms and biochemical oxygen demand (BOD₅) at and immediately below the septic tank outfall¹⁶⁸⁶. It then arranged an informal meeting with Hunterville Town Council, Department of Health and

¹⁶⁸¹ Report on visit by Designing Engineer, 20-21 February 1957. Health Head Office file 32/307. Supporting Papers #275-276.

¹⁶⁸² Application for water right, 28 October 1969. Rangitikei-Wanganui Catchment Board file W327/280/1. Supporting Papers #3667-3668.

¹⁶⁸³ Medical Officer of Health Wanganui to Chief Engineer, 30 October 1970. Rangitikei-Wanganui Catchment Board file W327/280/1. Supporting Papers #3669.

¹⁶⁸⁴ Secretary Wellington Acclimatisation Society to Chief Engineer, 18 November 1970. Rangitikei-Wanganui Catchment Board file W327/280/1. Supporting Papers #3670.

¹⁶⁸⁵ Secretary Wellington Acclimatisation Society to Chief Engineer, 20 November 1970. Rangitikei-Wanganui Catchment Board file W327/280/1. Supporting Papers #3671-3672.

¹⁶⁸⁶ Chief Engineer to Medical Officer of Health, 16 March 1971. Rangitikei-Wanganui Catchment Board file W327/280/1. Supporting Papers #3673.

Wellington Acclimatisation Society to explain that these results were unacceptable, and that the Regional Water Board could not ignore the objections raised to the septic tank discharge. The Town Council agreed that their disposal system needed to be improved¹⁶⁸⁷.

At one point in this meeting there was an interesting philosophical discussion about changing expectations:

Mr Price [Town Council chairman] asked if the present system, acceptable in 1908, was now unacceptable by present day standards, would not any new system installed today again be unacceptable by the year 2000, to which Mr Bleasdale [Wanganui Medical Officer of Health] replied that this was a difficult question to answer. Standards inevitably change with the development of new treatment methods, and this cannot be predicted. Oxidation ponds, now accepted as a cheap and effective method of sewage treatment, were hardly thought of in 1958 when Mr Lough recommended this sort of treatment for Hunterville well ahead of their time. The present septic tank and filters, due to overloading and lack of maintenance, are not meeting the standards intended when first installed in 1908, let alone meeting present day standards.¹⁶⁸⁸

Following the meeting, Rangitikei Regional Water Board issued a short-term conditional water right for the existing septic tank discharge. The right was for a period of 12 months, “and thereafter at the Board’s pleasure”, subject to the Council proceeding with the upgrade of the sewage treatment plant and reporting on the progress of investigations to the Board not less than every six months¹⁶⁸⁹.

Agreeing to improve Hunterville’s sewage treatment and implementing that decision were two different things, however, for a small local authority with a resident population of between 600 and 700, limited financial resources and the prospect of making what to Hunterville Town Council was a major capital investment. Among other things land had to be acquired, town and country planning consent for the land use obtained, and loan finance arranged, before a start could be made on construction of new plant. In the midst of this process, on 1 April 1975, Hunterville Town Council merged with and became part of Rangitikei County Council¹⁶⁹⁰.

¹⁶⁸⁷ Notes of meeting, 30 March 1971. Rangitikei-Wanganui Catchment Board file W327/280/1. Supporting Papers #3674-3675.

¹⁶⁸⁸ Notes of meeting, 30 March 1971. Rangitikei-Wanganui Catchment Board file W327/280/1. Supporting Papers #3674-3675.

¹⁶⁸⁹ Excerpt from Regional Water Board meeting, 1 July 1971, and Chief Engineer to Secretary Wellington Acclimatisation Society, 12 July 1971. Rangitikei-Wanganui Catchment Board file W327/280/1. Supporting Papers #3689 and 3690.

¹⁶⁹⁰ *New Zealand Gazette* 1975 page 643. Not included in Supporting Papers.

In January 1972 Hunterville Town Council applied for a water right to discharge up to 36,000 gallons per day of treated effluent from oxidation ponds into the Pourewa Stream¹⁶⁹¹. The ponds would be adjacent to the septic tank, thereby allowing the existing sewer reticulation system to continue in use. The application was notified to the Department of Health, Ministry of Works, Wellington Acclimatisation Society, and ten landowners on the riverbank downstream of the treatment plant as far as Silverhope.¹⁶⁹² Tangata whenua with kaitiaki responsibility for the Pourewa Stream were not notified, and had no influence on Rangitikei Regional Water Board's subsequent consideration of the application. The Department of Health offered no objection, being "delighted this local authority is taking positive steps to obviate the present outmoded and unsatisfactory system"¹⁶⁹³. Wellington Acclimatisation Society again objected, on the grounds of the impact of treated effluent on fish and wildlife, fisheries and wildlife habitat, and the ecosystem generally¹⁶⁹⁴. Two weeks later, however, after a meeting with Regional Water Board staff, the Society agreed to withdraw its objection, subject to the effluent meeting standards that had been discussed at the meeting¹⁶⁹⁵, and which presumably the Board staff were recommending to the Board should be imposed as conditions of the water right. Rangitikei Regional Water Board then granted the water right for a period of 20 years subject to pH values not falling below 6.0 or rising above 9.0, oxygen content in the stream not falling below 5 milligrams per litre, the receiving waters not being tainted or becoming unsafe for consumption by farm animals, no objectionable odours, and no change to the clarity of the water in the stream. In addition the design of the oxidation ponds had to be approved in advance, and the water right could be cancelled if not made use of (i.e. the ponds not brought into operation) within three years¹⁶⁹⁶.

Besides being located adjacent to the existing septic tank, the ponds would also be very visible, right beside State Highway 1. The Medical Officer of Health noted:

¹⁶⁹¹ Application for water right, 17 January 1972. Rangitikei-Wanganui Catchment Board file W327/280/1. Supporting Papers #3691-3693.

¹⁶⁹² Chief Engineer to Adjoining Landowners, 27 January 1972. Rangitikei-Wanganui Catchment Board file W327/280/1. Supporting Papers #3694.

¹⁶⁹³ Medical Officer of Health Wanganui to Chief Engineer, 31 January 1972. Rangitikei-Wanganui Catchment Board file W327/280/1. Supporting Papers #3695.

¹⁶⁹⁴ Secretary Wellington Acclimatisation Society to Chief Engineer, 4 February 1972. Rangitikei-Wanganui Catchment Board file W327/280/1. Supporting Papers #3696-3698.

¹⁶⁹⁵ Secretary Wellington Acclimatisation Society to Chief Engineer, 18 February 1972. Rangitikei-Wanganui Catchment Board file W327/280/1. Supporting Papers #3699.

¹⁶⁹⁶ Excerpt from Regional Water Board minutes, 2 March 1972. Rangitikei-Wanganui Catchment Board file W327/280/1. Supporting Papers #3700.

While the siting of the oxidation ponds on basic public health grounds appears satisfactory, their relationship to State Highway 1 could raise some eyebrows.¹⁶⁹⁷

Health Department Head Office suggested “the desirability of screening ... in order to minimise visual nuisance”, and the placing of notices alongside the highway which “may assist in reducing the temptation for the public to trespass”¹⁶⁹⁸. When Rangitikei County Council granted town and country planning consent, one of the conditions was the planting of quick-growing trees and shrubs along the highway boundary.

In May 1973 Hunterville Town Council advised that it had approved taking the steps of making an application to the Local Authorities Loans Board for approval to raise a loan, making an application to the Department of Health for a central Government subsidy, and purchasing the land for the oxidation ponds¹⁶⁹⁹. An environmental impact statement was prepared in August 1974, which was referred to the Department of Health¹⁷⁰⁰; the Department saw no impediment to the loan and subsidy applications being submitted “as early as practicable”¹⁷⁰¹. However, progress seemed to slow down during 1973-76, while the Town Council decided whether the loan application should include finance for an extension of the sewer network to include some additional houses. During this period, the Medical Officer of Health, perhaps reflecting his frustration, saw the lack of progress by the Town Council as “years of procrastination”¹⁷⁰². Indeed the loan application, when finally made in late 1975, was lodged by the Rangitikei County Council as successor to Hunterville Town Council. Construction of the oxidation ponds had still not started by March 1976, four years after the water right had been granted in 1972. In the circumstances Rangitikei-Wanganui Regional Water Board decided to cancel the 1972 right and require the lodging of a fresh application¹⁷⁰³. The temporary septic tank discharge water right issued in July 1971 continued to run on at the pleasure of the Board. There were some temporary repairs and a

¹⁶⁹⁷ Medical Officer of Health Wanganui to Director General of Health, 22 August 1972. Health Head Office file 32/307. Supporting Papers #277-278.

¹⁶⁹⁸ Director of Public Health to Medical Officer of Health Wanganui, 18 September 1972. Health Head Office file 32/307. Supporting Papers #279.

¹⁶⁹⁹ Town Clerk Hunterville Town Council to Chief Engineer, 23 May 1973. Rangitikei-Wanganui Catchment Board file W327/280/1. Supporting Papers #3701.

¹⁷⁰⁰ Environmental Impact Assessment, 12 August 1974, attached to Medical Officer of Health Wanganui to Director General of Health, 14 August 1974. Health Head Office file 32/307. Supporting Papers #280-283.

¹⁷⁰¹ Director of Public Health to Medical Officer of Health Wanganui, 26 August 1974. Health Head Office file 32/307. Supporting Papers #284.

¹⁷⁰² Medical Officer of Health Wanganui to Director General of Health, 1 December 1976. Health Head Office file 32/307. Supporting Papers #285-286.

¹⁷⁰³ Excerpt from Board minutes, 4 March 1976, and Chief Engineer to County Clerk Rangitikei County Council, 17 March 1976. Rangitikei-Wanganui Catchment Board file W327/280/1. Supporting Papers #3702 and 3703.

cleaning out of the septic tank in October 1976, which improved the quality of the discharge by allowing solids in the effluent to settle out in the septic tank¹⁷⁰⁴.

In January 1977 a fresh application for a water right for the oxidation ponds discharge was lodged¹⁷⁰⁵. This was granted in April 1977 for a period of 10 years “and thereafter at the pleasure of the Board”¹⁷⁰⁶. Although the application had not specified any volume of effluent, the water right that was granted was for the discharge of up to 175 cubic metres per day. By this time design plans for the ponds were available and Rangitikei-Wanganui Regional Water Board was able to calculate from the expected volumes of sewage, the dimensions of the ponds, and the expected detention period of the effluent in the ponds, that they could achieve Class D water quality standards in the Pourewa Stream below the discharge point. Thus the only parameter insisted on as a condition of the water right was that the maximum waste loading on the primary pond should not exceed 84kg of BOD₅ per hectare per day. If regular measurements of BOD₅, suspended solids and faecal coliforms (another condition of consent) did not show Class D standards were being achieved, the Board reserved the right to insist that a further treatment step, discharge from the ponds on to grass plots before being allowed to enter the Pourewa Stream, be installed¹⁷⁰⁷.

Application for a Crown subsidy was eventually made in February 1977¹⁷⁰⁸. This brought to a head a design disagreement that had been simmering away between the Rangitikei County Council engineer and Ministry of Works’ engineers. To save costs, the County Council engineer wanted to dispense with concrete lining of the pond walls where waves in the pond put the walls at risk of erosion (known as concrete wave banding). Ministry engineers, however, insisted that this was necessary¹⁷⁰⁹. The Department of Health accepted the Ministry’s advice, and in December 1977 declined the County Council’s request for a subsidy “because the design of the scheme does not meet the engineering standards of the Ministry of

¹⁷⁰⁴ County Engineer Rangitikei County Council to Chief Engineer, 29 October 1976. Rangitikei-Wanganui Catchment Board file W327/280/1. Supporting Papers #3704.

¹⁷⁰⁵ Application for water right, 18 January 1977. Rangitikei-Wanganui Catchment Board file W327/280/1. Supporting Papers #3705-3708.

¹⁷⁰⁶ Chief Engineer to County Engineer Rangitikei County Council, 26 April 1977. Rangitikei-Wanganui Regional Council file W327/280/1. Supporting Papers #3709-3710.

¹⁷⁰⁷ Chief Engineer to County Engineer Rangitikei County Council, 26 April 1977. Rangitikei-Wanganui Regional Council file W327/280/1. Supporting Papers #3709-3710.

¹⁷⁰⁸ Application for subsidy, 2 February 1977. Health Head Office file 32/307. Supporting Papers #287-290.

¹⁷⁰⁹ Commissioner of Works to Director General of Health, 26 April 1977. Health Head Office file 32/307. Supporting Papers #291.

Works and Development”. The County Council was invited to lodge a fresh application for a design conforming to the Ministry’s standards¹⁷¹⁰.

Meanwhile construction of the oxidation ponds was already underway. The ponds were completed and filled, and the septic tank was demolished, in March 1978¹⁷¹¹.

In 1987, at the end of the 10-year period of the water right, a desk review of the treatment plant’s operation, relying on the regular measurements that had been taken, noted:

Despite the earthen construction and lack of wind action across the ponds at their site adjacent/below to SH1, the system has functioned extremely efficiently....

The ponds have been characterised by extensive algal populations, hence the high dissolved oxygen, suspended solids, pH values at times. Discharges to the Porewa [sic] Stream have, however, probably contributed to the often excessive algal growth common downstream, although it has often been noted that extensive algal growth (generally filamentous) has also been a characteristic feature of the Porewa Stream upstream of the discharge point, no doubt as a result of the developed nature of the catchment.

One problem area which has surfaced in the past is that of washdown of toxic materials into the pond system (e.g. weedkiller etc). Biological systems should not be subjected to toxic waste discharges (even in the event of spillages), and it would be of benefit to Rangitikei County Council to be aware of any industrial connections and/or contractors (eg septic tank disposal) utilising the system. Although this matter is not one of direct relevance to the water right, it could overcome potential problems leading to possible breaches of water right conditions.

Finally, it might be expected that increased flows could enter the system as a consequence of the improved town water supply, particularly in summer months.¹⁷¹²

The review recommended that the right continue at the pleasure of the Regional Water Board, “and that it be reviewed again in April 1997”¹⁷¹³. The recommendation was approved, and Rangitikei County Council was informed¹⁷¹⁴.

¹⁷¹⁰ Medical Officer of Health Wanganui to County Engineer Rangitikei County Council, 30 November 1977, and Director of Public Health to County Clerk Rangitikei County Council, 14 December 1977. Health Head Office file 32/307. Supporting Papers #292 and 293.

¹⁷¹¹ File note, 17 March 1978. Rangitikei-Wanganui Catchment Board file W327/280/1. Supporting Papers #3711.

¹⁷¹² File note, undated (August 1987), on review of water right RTK 770472, 11 August 1987. Rangitikei-Wanganui Catchment Board file W327/280/6. Supporting Papers #3712-3713.

¹⁷¹³ Review of water right RTK 770472, 11 August 1987. Rangitikei-Wanganui Catchment Board file W327/280/6. Supporting Papers #3712-3713.

¹⁷¹⁴ Director of Resources to Chief Executive Officer Rangitikei County Council, 30 August 1988. Rangitikei-Wanganui Catchment Board file W327/280/6. Supporting Papers #3714.

In March 1997 Rangitikei District Council (successor to Rangitikei County Council) applied for a renewal of consent to discharge up to 175 cubic metres per day for a term of 15 years¹⁷¹⁵. Initially Manawatu-Wanganui Regional Council rejected the application as it was “so deficient”; there was no assessment of environmental effects, and no indication that any consultation with tangata whenua had occurred¹⁷¹⁶. The application, with an Assessment of Environmental Effects report attached, was re-submitted in July 1997¹⁷¹⁷. The assessment report had surveyed invertebrates in the Pourewa Stream at three points, upstream of the discharge site, and 30 metres and 1 kilometre downstream of the discharge site. These disclosed a paucity of macroinvertebrates upstream (perhaps attributable to variable flows in the stream and high pollution levels), and increasing numbers of macroinvertebrates downstream (perhaps attributable to more stable flows providing a more stable habitat). The assessment report argued that the oxidation ponds discharge was not having an adverse effect on the stream, because the poor water quality of the Pourewa Stream as a whole was masking the effect of the ponds discharge¹⁷¹⁸.

The District Council also undertook a round of consultation prior to re-submitting the application. The community, including neighbouring landowners, were invited to “have your say”, and there were two responses. Comments were received from Wellington Fish and Game Council (“no particular concerns”)¹⁷¹⁹, MidCentral Health (“cannot foresee any problems”)¹⁷²⁰, Department of Conservation (supportive of proposed riparian planting)¹⁷²¹, and Te Runanga o Ngati Hauiti. Te Runanga wrote:

¹⁷¹⁵ Application for Resource Consent, 4 March 1997. Manawatu-Wanganui Regional Council file 5/1/RDC Application 7079. Supporting Papers #4198-4199.

¹⁷¹⁶ Senior Planner Resources to General Manager Rangitikei District Council, 14 March 1997. Manawatu-Wanganui Regional Council file 5/1/RDC Application 7079. Supporting Papers #4200.

¹⁷¹⁷ Utilities Engineering Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 22 July 1997, and G Franklyn, *Instream effects on macroinvertebrates by discharge from the Hunterville oxidation lagoon to the Porewa Stream*, April 1997. Manawatu-Wanganui Regional Council file 5/1/RDC Application 7079. Supporting Papers #4201-4214 and 4215-4225.

¹⁷¹⁸ G Franklyn, *Instream effects on macroinvertebrates by discharge from the Hunterville oxidation lagoon to the Porewa Stream*, April 1997. Manawatu-Wanganui Regional Council file 5/1/RDC Application 7079. Supporting Papers #4215-4225.

¹⁷¹⁹ Field Officer Wellington Fish and Game Council to Rangitikei District Council, 11 July 1997, attached to Utilities Engineering Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 22 July 1997. Manawatu-Wanganui Regional Council file 5/1/RDC Application 7079. Supporting Papers #4201-4214 at 4210.

¹⁷²⁰ Senior Health Protection Officer MidCentral Health to Utilities Engineering Manager Rangitikei District Council, 15 July 1997, attached to Utilities Engineering Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 22 July 1997. Manawatu-Wanganui Regional Council file 5/1/RDC Application 7079. Supporting Papers #4201-4214 at 4211.

¹⁷²¹ Regional Conservator Wanganui to Rangitikei District Council, 2 May 1997, attached to Utilities Engineering Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 22 July 1997.

We are of the opinion that the proposed continued use of the Hunterville Oxidation pond does not affect the cultural values of Ngati Hauiti.

Therefore it is recommended to the Regional Council that the resource consent application be approved subject to the following conditions being met:

1. That the continued use of the ponds be to the complete satisfaction of the Manawatu Wanganui Regional Council.
2. That written confirmation be sought from a suitably qualified expert on eel fisheries management stating that the ponds will have no negative impact on the eel population.¹⁷²²

In response to this request the author of the Assessment of Environmental Effects report advised, after consulting colleagues at Massey University and undertaking a literature search, that the oxidation ponds discharge was unlikely to affect eels as they “were more likely to survive actual effects of pollution than other fishes”. He added that treated sewage had been discharged into the Pourewa Stream “for a number of years and despite this the eel population continues to exist”¹⁷²³.

Without any explanation, a full year went by before the Regional Council publicly notified the renewal application¹⁷²⁴. Only one submission was received, from MidCentral Health, asking that there be no visible or odorous pollution:

The operation of the Hunterville oxidation ponds has not, to my knowledge, been the cause of any nuisance complaints. The relative isolation of the facility and its good operation has reduced the potential for nuisance impact.

It appears that the discharge from the Hunterville oxidation ponds has minimal adverse effect on the quality of the receiving water.¹⁷²⁵

There was then a further fifteen months, again without explanation on the relevant Regional Council file, before a decision was made on the application. While speculative, it is possible

Manawatu-Wanganui Regional Council file 5/1/RDC Application 7079. Supporting Papers #4201-4214 at 4214.

¹⁷²² Executive Officer Te Runanga o Ngati Hauiti to Rangitikei District Council, 14 July 1997, attached to Utilities Engineering Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 22 July 1997. Manawatu-Wanganui Regional Council file 5/1/RDC Application 7079. Supporting Papers #4201-4214 at 4212.

¹⁷²³ G Franklyn, Massey University, to Rangitikei District Council, 17 July 1997, attached to Utilities Engineering Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 22 July 1997. Manawatu-Wanganui Regional Council file 5/1/RDC Application 7079. Supporting Papers #4201-4214 at 4213.

¹⁷²⁴ Consents Administrator to Potentially Interested Parties, 14 July 1998. Manawatu-Wanganui Regional Council file 5/1/RDC Application 7079. Supporting Papers #4226-4228.

¹⁷²⁵ Submission on Application for resource consent #7079, 23 July 1998, attached to Senior Health Protection Officer MidCentral Health to General Manager Manawatu-Wanganui Regional Council, 23 July 1998. Manawatu-Wanganui Regional Council file 5/1/RDC Application 7079. Supporting Papers #4229-4231.

that the various delays in processing the application were related to progress with Regional Policy Statement and Regional Plan preparation, as these documents when completed would provide the framework against which the application could be assessed and conditions in mitigation of any adverse environmental effects could be drawn up. In November 1999 consent was granted to discharge up to 175 cubic metres per day under dry weather conditions (and with no maximum volume fixed for wet weather conditions) for a term expiring in April 2007¹⁷²⁶. In its decision the Regional Council was not impressed by the Assessment of Environmental Effects' concentration on macroinvertebrate numbers and species diversity as the sole measure of water quality, noting that there were changes in colour and clarity in the Pourewa Stream as a result of the discharge, and that downstream of the discharge site there were significant increases in suspended solids, BOD₅ and dissolved reactive phosphorus, all of which indicated pollution as a result of the ponds discharge. However, the Regional Council was aware that:

The District Council proposes to upgrade the sewage treatment system to improve the quality of effluent discharged to the stream. Sections of the sewer reticulation are to be replaced to minimise the infiltration of stormwater and groundwater, and reduce the volume of wastewater to be treated. Installing tertiary treatment is programmed for 2007-2008 financial year [eight years away].

Conditions of consent set limits on levels of ammonia, CBOD₅ (five day carbonaceous biological oxygen demand), suspended solids and dissolved oxygen in the effluent discharged, and prescribed a monitoring programme of water quality indicators in both the effluent discharged and the receiving waters of the Pourewa Stream (which “would assist in the design of the tertiary treatment”). The District Council also had to report on efforts to reduce stormwater and groundwater infiltration into the sewerage system, and report on the method of tertiary treatment selected¹⁷²⁷.

Until further treatment was installed, the resource consent frequently failed to meet one or more of the limits set for the four water quality parameters. There was also slippage in Rangitikei District Council's progress with planning for the upgrade of the treatment plant, so that by 2009 the method of tertiary treatment had still not been finally selected¹⁷²⁸. The District Council had, however, protected its position by applying in January 2007 (prior to the

¹⁷²⁶ Decision on Application 7079, 25 November 1999. Manawatu-Wanganui Regional Council file 5/1/RDC Application 7079. Supporting Papers #4232-4237.

¹⁷²⁷ Decision on Application 7079, 25 November 1999. Manawatu-Wanganui Regional Council file 5/1/RDC Application 7079. Supporting Papers #4232-4237.

¹⁷²⁸ An issues and options paper was prepared in 2008. MWH, *Rangitikei District Council – Hunterville wastewater treatment plant upgrade, issues and options*, June 2008. Not included in Supporting Papers.

expiry date of September 2007) for a fresh resource consent. This meant that the discharge could lawfully continue until the new application had been decided upon. This was a holding action only, with no attempt made by either the applicant or the regulatory authority to advance the application, while the District Council took steps, albeit belatedly, to design an upgrade of the treatment plant. In May 2009 a preferred design was discussed at a meeting between staff of the two councils, after which Manawatu-Wanganui Regional Council wrote to Rangitikei District Council:

The proposal that you identified would be an improvement on the current operation. In order to provide more guidance on the matter, we agreed that you would provide some information on the proposal, this included:

- A description of the proposed system.
- Some ‘case study’ (literature review) relevant to the proposed system.
- Estimates of expected effluent quality.

Once we receive this information, we will be able to assess the proposal and identify any concerns.

Thank you for meeting with us and discussing the two systems, we look forward to continued dialogue and the subsequent improvement at the plants. The proactive way you are approaching the issues is refreshing.¹⁷²⁹

In May 2011 Rangitikei District Council lodged three new resource consent applications that superseded the application made in January 2007¹⁷³⁰. The three applications were for discharge of treated effluent to the Pourewa Stream, discharge to land of oxidation pond seepage, and a land use consent to construct a rock filter in the bed of the Pourewa Stream. The District Council acknowledged that the existing treatment system did not comply with standards for the future set out in the Regional Policy Statement and the Land and Water Regional Plan, so that some redesign and upgrading of the treatment plant was necessary. The application included an Assessment of Environmental Effects report¹⁷³¹, a report on the design of the treatment plant upgrade¹⁷³², a report on the operation of proposed floating

¹⁷²⁹ Policy and Consents Manager to Rangitikei District Council, 28 May 2009. Manawatu-Wanganui Regional Council file 5/1/RDC Application 7079. Supporting Papers #4238-4239.

¹⁷³⁰ Wastes Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 24 May 2011. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5635-5764.

¹⁷³¹ Site Environmental Consultants Ltd, Rangitikei District Council, and Kauri Park Ltd, *Hunterville wastewater treatment plant: assessment of environmental effects for proposed effluent treatment upgrade*, May 2011, attached to Wastes Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 24 May 2011. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5635-5764 at 5638-5686.

¹⁷³² Rangitikei District Council, *Proposed wastewater treatment for Hunterville*, 12 May 2011, being Appendix 1 to Site Environmental Consultants Ltd, Rangitikei District Council, and Kauri Park Ltd, *Hunterville wastewater treatment plant: assessment of environmental effects for proposed effluent treatment upgrade*, May

wetlands within the oxidation ponds¹⁷³³, and a report on the water quality of the Pourewa Stream¹⁷³⁴.

The aim of the upgrade was to add tertiary treatment to the basic treatment provided by the oxidation ponds, so that the effluent discharging into the Pourewa Stream was of a higher standard:

The methodology proposed includes the retrofitting of Floating Treatment Wetlands (FTW's) to the existing WWTP's [waste water treatment ponds], and the incorporation of the final polishing of biological treated effluent by a moving bed upflow sand filter (continuous backwash filter) and ultra violet exposure of the water prior to discharge (tertiary treatment).¹⁷³⁵

Most of the upgrade had already been installed as an on-site trial, and the resource consent application was made to obtain statutory approval for what had been done. The floating wetland method of treatment had also been installed in oxidation ponds at Sanson and Marton, so was a proven method to that extent, though the total package being proposed was regarded as “a new approach to wastewater treatment in Manawatu” and “a test case for the possible application of this technology by other territorial authorities”¹⁷³⁶. While aerator units in both ponds were included in the proposal for which consent was sought, they had not been brought into operation as part of the trial. The floating wetland was designed to strip out nitrogen, the sand filter and recirculation tank (with the addition into the effluent of a

2011, attached to Wastes Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 24 May 2011. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5635-5764 at 5687-5725.

¹⁷³³ Kauri Park Ltd, *Huntermville waste water treatment plant*, May 2011, being Appendix 2 to Site Environmental Consultants Ltd, Rangitikei District Council, and Kauri Park Ltd, *Huntermville wastewater treatment plant: assessment of environmental effects for proposed effluent treatment upgrade*, May 2011, attached to Wastes Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 24 May 2011. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5635-5764 at 5726-5743.

¹⁷³⁴ Pohangina Environmental Consulting Ltd, *Water quality of the Porewa Stream at the sewage treatment ponds in Huntermville*, July 2008, being Appendix 3 to Site Environmental Consultants Ltd, Rangitikei District Council, and Kauri Park Ltd, *Huntermville wastewater treatment plant: assessment of environmental effects for proposed effluent treatment upgrade*, May 2011, attached to Wastes Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 24 May 2011. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5635-5764 at 5744-5764.

¹⁷³⁵ Site Environmental Consultants Ltd, Rangitikei District Council, and Kauri Park Ltd, *Huntermville wastewater treatment plant: assessment of environmental effects for proposed effluent treatment upgrade*, May 2011, section 1.2, attached to Wastes Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 24 May 2011. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5635-5764 at 5642.

¹⁷³⁶ Site Environmental Consultants Ltd, Rangitikei District Council, and Kauri Park Ltd, *Huntermville wastewater treatment plant: assessment of environmental effects for proposed effluent treatment upgrade*, May 2011, section 3.14, attached to Wastes Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 24 May 2011. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5635-5764 at 5658.

chemical coagulant) was designed to strip out phosphorus and further nitrogen, and the ultraviolet light radiation would kill off coliform bacteria and viruses. From the ultraviolet light radiation unit, the effluent would discharge over and through a rock filter into the Pourewa Stream, to provide additional aeration and a passage over and disposal onto land prior to discharge (rather than direct disposal to water). Consent to discharge up to 250 cubic metres per day of treated sewage effluent was sought.

The report on the water quality of the Pourewa Stream found that the stream was compromised by non point source agricultural runoff contamination both upstream and downstream of the treatment ponds discharge, and that apart from an increase in filamentous algal coverage there was no significant change in water quality downstream attributable to the treatment ponds discharge¹⁷³⁷. This finding is similar to the finding made by Regional Water Board staff in 1987, some twenty years earlier, which indicates little apparent improvement over that time. Despite this dispiriting assessment of overall stream quality, Rangitikei District Council anticipated that the treatment plant upgrade would produce a measurable improvement in quality downstream of the plant.

Consultation with Ngati Hauiti and Ngati Apa was still underway at the time the application was lodged in May 2011, and was therefore not reported upon in the assessment of environmental effects report, apart from a record of some questions of clarification that had been asked¹⁷³⁸.

Manawatu-Wanganui Regional Council determined that the applications were for a discretionary activity and needed to be publicly notified. When they were notified in July 2011, five submissions were received, from Ngati Hauiti, Ngati Apa, Department of Conservation, MidCentral Health, Fish and Game New Zealand, and two private individuals from Palmerston North.

¹⁷³⁷ Pohangina Environmental Consulting Ltd, *Water quality of the Porewa Stream at the sewage treatment ponds in Hunterville*, July 2008, page 2 (executive summary), being Appendix 3 to Site Environmental Consultants Ltd, Rangitikei District Council, and Kauri Park Ltd, *Hunterville wastewater treatment plant: assessment of environmental effects for proposed effluent treatment upgrade*, May 2011, attached to Wastes Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 24 May 2011. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5635-5764 at 5746.

¹⁷³⁸ Site Environmental Consultants Ltd, Rangitikei District Council, and Kauri Park Ltd, *Hunterville wastewater treatment plant: assessment of environmental effects for proposed effluent treatment upgrade*, May 2011, sections 2.6 and 2.8, attached to Wastes Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 24 May 2011. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5635-5764 at 5649 and 5650-5651.

The two separate submissions from Ngati Hauiti and Ngati Apa were identical. Both opposed the applications, because due process had not been followed when implementing the upgrade prior to applying for resource consent, because cultural impacts had not been given due consideration, because insufficient information about the impact on Pourewa Stream was provided, and because the application had failed to consider potential Treaty settlements and the National Freshwater Policy Statement¹⁷³⁹.

The other submissions were concerned that the application contained inadequate information about the effect on receiving waters:

- The Department of Conservation sought conditions preventing discharge into the Pourewa Stream at times of low flow, or alternatively that consent not be granted¹⁷⁴⁰.
- MidCentral Health sought conditions requiring monthly monitoring of the effluent and of the Pourewa Stream upstream and downstream of the discharge¹⁷⁴¹.
- Fish and Game New Zealand opposed the application because discharge to the Pourewa Stream would not assist management of the stream for trout and other aquatic life, and asked that it be declined¹⁷⁴².
- The two private individuals from Palmerston North opposed discharge into the already overloaded Pourewa Stream, and asked for discharge to land to be investigated more seriously. They also challenged the independence of the Regional Council to consider the application fairly, given that Council technical staff had already been involved in the trial of the technologies that had been installed before consent was applied for¹⁷⁴³.

¹⁷³⁹ Resource Management Officer Rauhuia Environmental Services (on behalf of Te Runanga o Ngati Hauiti) to Manawatu-Wanganui Regional Council, 4 August 2011, and Resource Management Officer Rauhuia Environmental Services (on behalf of Te Runanga o Ngati Apa) to Manawatu-Wanganui Regional Council, 4 August 2011. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5777-5779 and 5780-5782.

¹⁷⁴⁰ Conservancy Support Manager Wellington Hawke's Bay Conservancy to Manawatu-Wanganui Regional Council, 2 August 2011. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5765-5768.

¹⁷⁴¹ Health Protection Officer MidCentral Health to Manawatu-Wanganui Regional Council, 4 August 2011. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5769-5772.

¹⁷⁴² Fish and Game Environmental Officer Wellington Fish and Game Council to Manawatu-Wanganui Regional Council, 4 August 2011. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5773-5776.

¹⁷⁴³ W Demchick and C Teo-Sherrell, Palmerston North, to Manawatu-Wanganui Regional Council, 4 August 2011. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5783-5790.

The degree of opposition to the granting of consent persuaded the Regional Council that the application should go to a hearing before commissioners. As a preliminary a pre-hearing meeting was held in September 2012. The purpose of the meeting was to discuss the different viewpoints of the applicant and the objectors on a ‘without prejudice’ basis, see whether differences of viewpoint could be narrowed, and consider a draft set of conditions prepared by Regional Council staff that could be imposed if consent was granted¹⁷⁴⁴. Both iwi were represented at the pre-hearing meeting by Rangi Hawira, Resource Management Officer for Rauhuia Environmental Services.

After some deferments, the hearing opened before two commissioners in March 2013. Department of Conservation, MidCentral Health, and Fish and Game chose not to be heard. Those attending were the applicant, the two private individuals, and (to a lesser extent) the iwi. The reason for the lesser involvement of the iwi was because they had been in negotiations with the District Council to identify some mitigation measures that would allow them to withdraw their blanket objection to the granting of the application.

Prior to the hearing, Rangi Hawira, acting as liaison between Rangitikei District Council and Te Runanga o Ngati Hauiti, wrote to the District Council:

[I] have got the green light from Te Runanga o Ngati Hauiti to seek mitigation for the cultural impact caused by the continued discharge of the treated wastewater to the Pourewa Stream from the Rangitikei District Council by way of an annual contribution to Te Runanga o Ngati Hauiti’s Pourewa Restoration Project.

The Pourewa Restoration Project is focussed on restoring native flora and fauna along the Pourewa Stream banks immediately downstream from the Te Hou Hou Road bridge. The Runanga has secured a 20-year lease on the Taraketi X and the adjacent Taraketi G sections through its asset-holding trust **Rakautanga** Whenua Topu Trust, and has gained support from the Horizons Regional Council by way of fencing materials and native plants.

The Runanga paid for the fencing labour, which was completed in October 2011 to the downstream extent of the lease lands, it also carried out a lot of digger work on willow clearance over the 150 metres of the stream banks (Management Zone 1) where some 4,500 plants were planted prior to Christmas using volunteer and community corrections services workforce.

¹⁷⁴⁴ Agenda and discussion papers for pre-hearing meeting, 19 September 2012. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5791-5821.

The Runanga wants the RDC to provide the machinery and gravel to establish and maintain an all-weather track as a means of mitigating the ongoing cultural impacts of the discharge to the Pourewa Stream. Could we meet as soon as to discuss this further, for which I will provide the documentation.¹⁷⁴⁵

One month later, and still prior to the hearing, Rangi Hawira wrote again to the District Council to record the outcome of a meeting that had been held between the two parties:

It was discussed that the commitment would not be open-ended, in that the Project has a limited distance of 1.5 km and is a 10-15 year plan, and for the current area under management, Management Zone 1 is a 150m section for which the track has been formed but not metalled; it is hoped to develop another 150m section for this (2013) planting season, most of which is over old stream therefore relatively easy to form and consolidate.

The track development of these two sections would be sufficient for the 2013-15 years as the MZ2 would require 2 years to fully plant and maintain before considering starting on the next section, for which the preparation by the poisoning of the willows can be done without need for a track. It is also understood that the RDC is willing to provide the assistance, provided there is work being done in the area to reduce the costs to the Council.¹⁷⁴⁶

The negotiations must have continued to near-fruition before the hearing was held in March 2013 (and adjourned to May 2013), as Te Runanga o Ngati Hauiti did not prepare any evidence for presentation to the hearing. The following month a Memorandum of Understanding was signed between Ngati Hauiti and Rangitikei District Council, which committed the Council to budget \$2000 annually for five years for work on the Runanga's Pourewa Restoration Project. This work was to include, but would not be limited to, "machinery and gravel to form and maintain an all-weather service track for the Management Zone 1 of the Pourewa Restoration Project, willow removal, weed eradication, native plant supply, and planting on the Pourewa Stream"¹⁷⁴⁷. The Memorandum mentioned Ngati Hauiti's blanket objection to the effluent discharge, though it did not commit Ngati Hauiti to any course of action in connection with its objection. In effect, the iwi's view that discharge of human waste into the Pourewa Stream was against tikanga Maori, and that it should instead be discharged to land, was allowed to remain on the record and stand unaltered. It

¹⁷⁴⁵ Email Resource Management Officer Rauhuia Environmental Services to Infrastructure Group Manager Rangitikei District Council, 24 January 2013. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5822-5823.

¹⁷⁴⁶ Email Resource Management Officer Rauhuia Environmental Services to Infrastructure Group Manager Rangitikei District Council, 21 February 2013. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5824-5825.

¹⁷⁴⁷ Memorandum of Understanding between Te Runanga o Ngati Hauiti and Rangitikei District Council, 19 April 2013. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5826-5827.

was therefore a viewpoint expressed in a submission that still had to be taken into consideration by the hearing commissioners.

Ngati Apa followed a similar track. In the communication sent to the District Council before the hearing, Rangi Hawira explained:

I have spoken with Chris Shenton of Ngati Apa, who would prefer to keep the Ngati Hauiti and Ngati Apa mitigation measures separate if possible, and he has suggested that the RDC should choose a riparian project, preferably on the Pourewa Stream within the Ngati Apa takiwa, but not confined to, if there are no other projects to which it could contribute resources to in a similar manner....¹⁷⁴⁸

The result was that Rangitikei District Council and Ngati Apa signed a Memorandum of Agreement in April 2013. The Memorandum set out that:

Te Runanga o Ngati Apa consider that undertaking some riparian restoration planting on the Pourewa Stream would be one way of mitigating cultural effects. Te Runanga o Ngati Apa do not own any riparian land on the Porewa Stream, but consider that Ruakiwi (Simpson Scenic Reserve) is a suitable and appropriate area for riparian restoration.

The Council agreed to budget \$2000 annually for five years for riparian planting, and Te Runanga o Ngati Apa agreed to obtain approval from the Department of Conservation for the planting to be at Ruakiwi¹⁷⁴⁹. In like manner to the agreement with Ngati Hauiti, Ngati Apa's submission in opposition to the effluent discharge remained a 'live' matter requiring consideration by the hearing commissioners.

At the hearing in March 2013, a spokesperson for Te Runanga o Ngati Apa told the hearing commissioners that a cultural impact statement was close to being finalised, and the outcome from that statement (the Memorandum of Agreement) would follow during the next month¹⁷⁵⁰. Te Runanga o Ngati Hauiti was not represented at the March hearing, though the commissioners were made aware that progress on responding to their submission in opposition was at a similar stage. After the hearing (and when the Memorandum of Understanding was close to being signed) the commissioners were told that a representative of Te Runanga o Ngati Hauiti wished to make a statement to the re-convened hearing in May

¹⁷⁴⁸ Email Resource Management Officer Rauhuia Environmental Services to Infrastructure Group Manager Rangitikei District Council, 21 February 2013. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5824-5825.

¹⁷⁴⁹ Memorandum of Agreement between Rangitikei District Council and Te Runanga o Ngati Apa, 15 April 2013. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5828-5829.

¹⁷⁵⁰ Minute of Commissioners #5 following hearing on 21 March 2013, 25 March 2013. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5830-5831.

2013¹⁷⁵¹. In the event that did not occur, and Te Runanga o Ngati Hauiti instead provided the commissioners with a written statement:

The central issues for Ngati Hauiti are as follows:

1. We are opposed in principle to the discharge of waste water, treated or not, into the Pourewa Stream. Such actions are culturally offensive, particularly when it involves human waste.
2. Alternative options should be seriously considered in any future consent, especially discharge to land which we believe is more appropriate for the situation.
3. While Ngati Hauiti is actively involved and resident in the area, it is acknowledged that Ngati Apa hold interests and rights in the immediate vicinity, and therefore their views must be taken into account.

While we find ourselves having to deal with matters that are not of our making, we must also consider the needs of our local community, and therefore will not oppose the consent provided the following mitigation is undertaken:

1. That the Rangitikei District Council contribute to the general improvement of the Pourewa Stream by supporting environmental restoration projects.
2. That Ngati Hauiti along with Ngati Apa impose a cultural rahui (ban) on the harvesting of tuna (eels) for 1 km either side of the treatment plant. This Rahui is to remain in force until such time as both iwi are satisfied that the impact on the local environment is negligible.¹⁷⁵²

As a result of the interaction that Ngati Hauiti and Ngati Apa had with the hearing commissioners, the commissioners in their decision addressed cultural matters surrounding the effluent discharge in the following manner:

We heard [at the March 2013 hearing] from Mr Chris Shenton, representing Ngati Apa, who drew our attention to the importance of the Pourewa Stream in the history and korero of Ngati Apa, and further noted that Ngati Apa also had interests in this area. Mr Shenton noted that underpinning Ngati Apa's position were concerns about nutrient enrichment and poor water quality rating, nonetheless:

After considering all these matters, we have decided that the best solution for this matter is to move toward an agreement with the applicant regarding the mitigation of the impacts upon the water quality of the stream that will enable Ngati Apa to establish a project on the stream which will uphold the practice of kaitiakitanga on the Pourewa Stream. (C Shenton evidence, paragraph 9)

Mr Shenton also advised that an agreement as to mitigation was being discussed with the applicant, and on the 22 April 2013 we received a signed copy of said agreement from the applicant.

¹⁷⁵¹ Consents Administrator to Hearing Commissioners, 23 April 2013. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5832-5847.

¹⁷⁵² General Manager Te Runanga o Ngati Hauiti to Manawatu-Wanganui Regional Council, 27 May 2013. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5848.

In response to our directions, we received written material from Mr Utiku K Potaka, General Manager of Te Runanga o Ngati Hauiti in the form of a letter which set out the concerns of Ngati Hauiti, which we summarise as follows....

We were provided with copies of written agreements between RDC and Ngati Apa and Ngati Hauiti respectively, which set out cultural impact mitigation. This being the case, and having heard from both Ngati Apa and Ngati Hauiti that they are no longer opposed to the application, we find that the potential cultural effects have been mitigated. We note, however, that we are not able to [include as resource consent conditions] those agreements and nor are we able to condition the applicant to have Ngati Hauiti and Ngati Apa to impose a cultural rahui on the harvesting of tuna (eels) for 1 kilometre either side of the treatment plant, as this would require actions by a third party. Nonetheless, we would encourage the parties to work together to achieve this.¹⁷⁵³

The hearing commissioners' discussion of cultural effects was just a small part of their decision. The hearing itself was dominated by the submissions in opposition by the two Palmerston North based private individuals, and the evidence from the District Council and the Regional Council who, by this stage, were largely in agreement with one another about conditions that should be attached to a consent. Because the iwi had opted not to engage in the scientific arguments discussed before the two hearing commissioners, this report does not set them out, beyond noting that the commissioners in their decision were largely persuaded by the evidence presented by the two Councils, and generally accepted the set of conditions advanced by the Councils rather than the amendments proposed by the two individuals¹⁷⁵⁴.

The decision, issued in June 2013, granted consent for the discharge of 250 cubic metres of treated effluent per day on to the rock filter (i.e. on to land), knowing that it would then flow into the Pourewa Stream. The term of the consent was 24 years, notwithstanding that Regional Council staff had recommended a 14-year term. Conditions took the Pourewa Stream as the receiving waters, and set biochemical standards (temperature, macroinvertebrate diversity, pH, dissolved oxygen, ammonia, particulate organic matter, chlorophyll, BOD₅, and periphyton cover) that the stream waters had to comply with. The consent also allowed emergency discharges of the same volume of effluent (though not treated to the same degree) direct from the oxidation ponds for up to 24 hours at a time.

¹⁷⁵³ Decision of Hearing Commissioners, 21 June 2013, section 6.3, page 8. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5849-5879 at 5858.

¹⁷⁵⁴ Decision of Hearing Commissioners, 21 June 2013. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5849-5879.

Flows into the treatment plant, and out of the plant at the rock filter and at the emergency outfalls, were to be measured and recorded¹⁷⁵⁵.

The two Palmerston North based private individuals appealed the decision to the Environment Court¹⁷⁵⁶. The appeal went through a long and involved process of consideration before the appellants withdrew their appeal in March 2014¹⁷⁵⁷. Because the two iwi did not register as parties to the appeal and were not involved in the scientific and procedural arguments being addressed during the appeal proceedings, the appeal is not discussed in this report. The only point to be noted is that, immediately after the appeal was lodged, Rangitikei District Council provided Ngati Hauiti and Ngati Apa with an assurance that:

The decision ... to appeal the Commissioners' ruling to the Environment Court in no way undermines or nullifies the agreements that we have respectively made on this matter.

RDC is committed to working constructively with iwi, and look forward to a long term and productive partnership.¹⁷⁵⁸

Since the consent was granted, Manawatu-Wanganui Regional Council has been obliged to issue Rangitikei District Council with a 'please explain' letter. During September-October 2014, the emergency discharge was activated for 16 consecutive days during dry weather conditions, well above the 24-hour limit set as a condition of consent. This was at odds with the expectation, when setting the consent condition, that emergency discharges were "only to be used to accommodate large storm events of long durations". The long-term reliance on the emergency discharge consent was described as "significant non-compliance"¹⁷⁵⁹. The non-compliance had been identified during the first annual compliance audit for the new

¹⁷⁵⁵ Decision of Hearing Commissioners, 21 June 2013. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5849-5879.

¹⁷⁵⁶ Notice of appeal to Environment Court, 10 July 2013. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5882-5885.

¹⁷⁵⁷ Notice of Withdrawal of Appeal, 14 March 2014, and Minute of the Environment Court, 18 March 2014. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5886-5887.

¹⁷⁵⁸ Email Infrastructure Group Manager Rangitikei District Council to Utiku Potaka and Chris Shenton, 12 July 2013. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5880-5881.

¹⁷⁵⁹ Acting Regulatory Manager to General Manager Infrastructure Manawatu District Council, 13 February 2015. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5930-5931.

consent¹⁷⁶⁰. The audit had also shown non-compliance with flow metering requirements and higher than consented dissolved reactive phosphorus levels in the effluent discharged. The District Council replied that that the culprit was stormwater infiltration into sewers in the town:

Last year the average daily flow to the plant was 228 m³/day compared with the consent limit of 250 m³/day. Peak flow to the plant was 1608 m³/day. Peak flow through the plant is recorded as 290 m³/day; at a flow of 250 m³/day the plant overflows to the emergency outflow.

It is estimated that the wastewater component (essentially the dry weather flow) of the average daily flow is only about 125 m³/day, but that infiltration and inflow account for 45% to 55% of average daily flows (i.e. half the flow to the plant). The design of the WWTP allows the plant to treat a peak of twice the dry weather flow without overflowing and therefore, at the time of the consent application, it was believed that the plant would be able to cope with wastewater flows and minor infiltration and inflow.

There is a delay of about a day for high flows to go through the plant, similarly there is a delay for flows to get to the plant. This indicates that the majority of the increased flow is from infiltration rather than direct cross connection (inflow) (e.g. downpipes connected to the wastewater sewers). Hence the high flows at the plant are the result of elevated groundwater levels as opposed to rainfall directly.

The majority of the sewer pipes in Hunterville are vitrified clay pipes of short length with mortared joints (with both the pipes and the joints prone to cracking), rather than more modern PVC piping of longer length and with resin-bonded joints. There would be no improvement until old sewers were replaced and any stormwater connections were removed in a \$400,000 programme over the next three years.

Unfortunately, until these [problems] can be rectified we will need to operate the emergency overflow frequently throughout the winter months. During the storm events the discharge via the emergency overflow is likely to be well diluted as all flows mix with treated water in the pond. Stream levels will also be elevated at the time of discharge.¹⁷⁶¹

Other compliance problems were responded to in a separate letter¹⁷⁶².

¹⁷⁶⁰ Annual compliance audit report for Hunterville wastewater treatment plant, January 2015, attached to Environmental Protection Officer to Rangitikei District Council, 10 February 2015. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5888-5929.

¹⁷⁶¹ Utility Asset Manager Rangitikei District Council to Acting Regulatory Manager, 9 March 2015. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5932-5936.

¹⁷⁶² Utility Asset Manager Rangitikei District Council to Environmental Protection Officer, 10 March 2015. Manawatu-Wanganui Regional Council file 5/1/RDC Applications 105833-835. Supporting Papers #5937-5939.

As at May 2015 there was no response from Manawatu-Wanganui Regional Council recorded on the Regional Council file. Nor, up to that time, was there any indication on the Regional Council file that either the problem or the explanation had been communicated to tangata whenua.

10.6 Ohakea sewage disposal

The discharge of sewage and other wastes from Ohakea air force base to a site close to the Rangitikei River commenced in the 1960s. The Crown exercised an existing use right after the passing of the Water and Soil Conservation Act 1967 to allow the discharge to continue.

Since commissioning in September 1962, all sewage passes through a wastewater treatment plant located between Tangimoana Road and the Rangitikei River¹⁷⁶³. The treatment plant is a concrete lined oxidation ditch, with mechanical brushes to aerate the water. Since 1997 effluent from the ditch has been pumped into a sedimentation tank to allow suspended solids to settle out. Treated effluent drawn off the top of the sedimentation tank is then discharged into a farm drain two kilometres long, at the end of which it drains into a swampy area 50-100 metres from the Rangitikei River. Stormwater from the air force base also discharges into the drain¹⁷⁶⁴. The drain allows the water to evaporate or seep into the ground on all but wet days. There is no channel from the end of the drain to the river, as there is a raised metal access track along the riverbank. Subsurface seepage from the drain may allow effluent to reach the Rangitikei River.

By virtue of a sunset clause in the Resource Management Act 1991, the existing use right expired in 2001. A fresh discharge consent was applied for in November 1999¹⁷⁶⁵. The

¹⁷⁶³ Up until 2001 there were also three septic tanks on the air force base receiving small quantities of sewage. Resource consent was granted in March 2000 for the tanks to continue in operation for a further two years subject to the effluent they received then being diverted to the main sewage treatment plant. The sewer connections were made, and the septic tanks decommissioned, in 2001.

The treatment plant site was taken under the Public Works Act in 1961 (Wellington plan SO 25095 and *New Zealand Gazette* 1961 page 1906). Not included in Supporting Papers.

¹⁷⁶⁴ Land for the drain was taken under the Public Works Act in 1939 (Wellington plan SO 20321 and *New Zealand Gazette* 1939 page 2429). Not included in Supporting Papers.

¹⁷⁶⁵ Application for resource consent, 24 November 1999. Manawatu-Wanganui Regional Council file 2/5/NZD Applications 100965-969/1. Supporting Papers #4401-4404.

application was accompanied by an Assessment of Environmental Effects report¹⁷⁶⁶, which described the nature of the farm drain:

Normally the water in the drain seeps into the river gravels some 100-150 metres from the terminal point of the drain bed (and the river bank beyond the access road). The height of the embankment formed by the access track is such that there is no potential for surface flow from the drain to the River even after heavy rainfall. At the point at which the water in the drain normally seeps into the gravels, therefore, it has travelled some 1700 metres from the point of discharge.

Given that it is an artificial watercourse, is narrow, and serves an intensively farmed area, the drain is a degraded environment; is not a significant host of sensitive aquatic ecosystems; and has low amenity and recreational values. The drain is not bordered by public reserves and there is no active riparian management along its course. Water from the drain is not abstracted for any purpose (including stock watering or domestic supply), although stock are potentially able to gain access to the drain in the neighbouring farm paddocks.

The volume of spring weed growth in the drain ... requires a degree of active management. Once per year (in November) a digger is used to clear the drain of weed growth. This eliminates any obstacles to water flow and breaks what might otherwise result in an unbalanced eutrophication cycle.¹⁷⁶⁷

With respect to proximity to the Rangitikei River, the report acknowledged that:

A significant proportion of the water in the drain must seep into the river through the porous gravels at the point at which the drain discharges to ground....

The potential impacts of the discharge on the river via the gravels have been considered from two perspectives. The first considers the observed effects of the existing discharge. The second looks at the worst case effects on water quality in the Rangitikei River from a theoretical perspective.

The discharge consent sought is for the current level of discharge, which has been discharging to the river since 1962 when the plant was commissioned. If anything the quality of the discharge is probably better now than it was over most of this period, due to the addition of the sedimentation tank in 1997. The future effects on the river should therefore be no worse than those effects observed since 1962.

Based on discussions with Horizons.mw, it is understood that significant algae growth has not been observed in the lower Rangitikei River. Those localised growths that have been observed by Council staff on occasion at various points on the upper, middle and lower reaches on the river are considered to be associated with the impacts of localised groundwater seepage from non-point sources.... It is therefore felt that

¹⁷⁶⁶ Woodward Clyde (NZ) Ltd, *Base Ohakea wastewater treatment facility discharges: assessment of environmental effects*, 24 November 1999. Manawatu-Wanganui Regional Council file 2/5/NZD Applications 100965-969/1. Supporting Papers #4405-4454.

¹⁷⁶⁷ Woodward Clyde (NZ) Ltd, *Base Ohakea wastewater treatment facility discharges: assessment of environmental effects*, 24 November 1999, pages 2-7 to 2-8. Manawatu-Wanganui Regional Council file 2/5/NZD Applications 100965-969/1. Supporting Papers #4405-4454 at 4416-4417.

the existing discharge does not have any observable effect on the river water quality.¹⁷⁶⁸

The theoretical calculations assessed the likely amount of phosphorus and nitrate in the discharged effluent against the amount of dilution possible during low flow periods in the river and the concentrations of phosphorus and nitrate already in the river:

Even with all the very conservative assumptions, the resulting increases in concentration resulting from the ‘contribution’ of treated wastewater effluent are very small (even at times when river flows are at their lowest). In reality the effects are likely to be much smaller than this and would be almost impossible to detect even with an extensive monitoring programme. Any residual contaminant loading after gravel infiltration and migration through ground will be quickly dispersed by the mixing action of the Rangitikei River. This is borne out by the absence of any observed effects.

The discharge of treated effluent has a sufficient area for reasonable mixing (along with all other catchment contributions) in the drain to discount any likelihood that the effects described in Section 107(1) RMA will occur in the Rangitikei River.¹⁷⁶⁹

The Assessment of Environmental Effects report argued that the effect of the discharge into the drain was no more than minor, and should be allowed to continue without any need for upgrading¹⁷⁷⁰. A consent term of at least 10 years was sought.

The Assessment of Environmental Effects report also recorded the consultation that had taken place with interested parties. Neither the Department of Conservation nor the Wellington Fish and Game Council had concerns about the discharge into the drain, though Fish and Game sought and received further reassurance that the discharge would not impact on the quality of water in the Rangitikei River¹⁷⁷¹. Consultation with Ngati Raukawa and Ngati Apa

¹⁷⁶⁸ Woodward Clyde (NZ) Ltd, *Base Ohakea wastewater treatment facility discharges: assessment of environmental effects*, 24 November 1999, page 6-3. Manawatu-Wanganui Regional Council file 2/5/NZD Applications 100965-969/1. Supporting Papers #4405-4454 at 4432.

¹⁷⁶⁹ Woodward Clyde (NZ) Ltd, *Base Ohakea wastewater treatment facility discharges: assessment of environmental effects*, 24 November 1999, page 6-4. Manawatu-Wanganui Regional Council file 2/5/NZD Applications 100965-969/1. Supporting Papers #4405-4454 at 4433.

¹⁷⁷⁰ Woodward Clyde (NZ) Ltd, *Base Ohakea wastewater treatment facility discharges: assessment of environmental effects*, 24 November 1999, page 7-1. Manawatu-Wanganui Regional Council file 2/5/NZD Applications 100965-969/1. Supporting Papers #4405-4454 at 4442.

¹⁷⁷¹ Woodward Clyde (NZ) Ltd, *Base Ohakea wastewater treatment facility discharges: assessment of environmental effects*, 24 November 1999, pages 5-1 and 5-2, and Appendices C and D. Manawatu-Wanganui Regional Council file 2/5/NZD Applications 100965-969/1. Supporting Papers #4405-4454 at 4424-4425, 4447-4448 and 4449-4454.

was still underway at the time the report was written. Both iwi had been written to in October 1999¹⁷⁷², and a site meeting was held early the following month:

Iwi representatives indicated that they were pleased that there was no direct discharge to the Rangitikei River. They also made clear that they took a holistic approach to water quality, and therefore had general concerns about land management practices and point and non point sources of contaminant discharges into the Rangitikei River catchment.

At the meeting they indicated that they would pass the sampling results for the discharge ... on to Fraser Richardson (a former operator of the wastewater treatment plant) for his comments. They also indicated their interest in viewing the plant and discharge point during wet winter periods. They made clear that such a desire would not delay them in getting back to the applicant on the draft assessment.¹⁷⁷³

Subsequent to the report being prepared, both iwi advised:

After consultation with Fraser Richardson, both Peter Richardson on behalf of Ngati Raukawa, and Chris Shenton on behalf of Ngati Apa, are prepared to endorse your client's application regarding the above.

This endorsement would need to be reviewed should there be any other significant increase in the population that this scheme is designed to service, or if there should arise any other factor that might drastically affect the level of intake that the current facility is designed to process.¹⁷⁷⁴

Manawatu-Wanganui Regional Council assessed the application as not requiring public notification, and as having no noticeable effect on the Rangitikei River (though there was a noticeable effect on the waters in the drain). It granted consent in March 2000 to the discharge of up to 700 cubic metres per day of treated effluent into the drain for a term of 10 years, subject to water quality testing both upstream and 400 metres downstream of the discharge point¹⁷⁷⁵.

¹⁷⁷² Senior Planner Woodward Clyde (NZ) Ltd to Peter Richardson, Tangimoana, 13 October 1999, and Senior Planner Woodward Clyde (NZ) Ltd to Te Runanga o Ngati Apa, 13 October 1999. Manawatu-Wanganui Regional Council file 2/5/NZD Applications 100965-969/1. Supporting Papers #4397-4398 and 4399-4400.

¹⁷⁷³ Woodward Clyde (NZ) Ltd, *Base Ohakea wastewater treatment facility discharges: assessment of environmental effects*, 24 November 1999, page 5-1. Manawatu-Wanganui Regional Council file 2/5/NZD Applications 100965-969/1. Supporting Papers #4405-4454 at 4424.

¹⁷⁷⁴ Operations Manager Te Runanga o Ngati Apa and Peter Richardson for Ngati Raukawa to Senior Planner Woodward Clyde (NZ) Ltd, 21 December 1999, attached to Senior Planner Woodward Clyde (NZ) Ltd to Manawatu-Wanganui Regional Council, 19 January 2000. Manawatu-Wanganui Regional Council file 2/5/NZD Applications 100965-969/1. Supporting Papers #4455-4461 at 4461.

¹⁷⁷⁵ Decision on Application 100969, 20 March 2000. Manawatu-Wanganui Regional Council file 2/5/NZD Applications 100965-969/1. Supporting Papers #4462-4471.

The consent granted in March 2000 was for a maximum effluent volume of 566 cubic metres per day. This was increased to 700 cubic metres per day by a variation of consent conditions in July 2000, when it was pointed out that the volume of 566 cubic metres was an average daily flow, and a higher volume needed to be specified to accommodate all dry weather daily flows. A dry weather daily flow was defined as a flow after at least 3 days with no rain, and was set to exclude the effects of any stormwater intrusion into the sewerage system. Decision

The treated sewage discharge consent came up for renewal in 2010. New Zealand Defence Force applied to discharge a reduced volume of 450 cubic metres per day, being a figure that more closely reflected what was actually being discharged. The applicant's Assessment of Environmental Effects report considered the treatment plant to be well maintained and well operated, even though there were elevated readings of nitrate, dissolved reactive phosphorus, and faecal coliforms in the drain waters. A summary of the report added:

However, the drain is a man-made farm drain, constructed for the purposes of draining stormwater and wastewater. It has low aesthetic, recreational and ecological values, and is not used for stock watering. There is no discharge to the Rangitikei River, the water in the drain discharges to the ground and to shallow groundwater over the length of the drain.¹⁷⁷⁶

In January 2011, the Regional Council was advised:

NZDF ... would like to change the term of the consent sought for the wastewater discharge permit from 17 years to 5 years. The reason for this is that NZDF has been evaluating options for upgrading the wastewater treatment plant and/or implementing alternative disposal methods (including the potential for a designed land disposal system). A decision as to the nature of the upgrade has not yet been made, and this assessment must now also consider the recent announcement, in the November 2010 Defence White Paper 2010, that proposes a consolidated base at Ohakea, by creating a joint Army and Air Force facility.¹⁷⁷⁷

This amendment to the application was confirmed by NZDF in March 2011. NZDF also contacted Te Runanga o Ngati Raukawa, Te Runanga o Ngati Apa, neighbouring landowners, the Department of Conservation and Wellington Fish and Game Council, believing these to be the interested parties more affected than the public generally¹⁷⁷⁸.

The application was publicly notified in March 2011 because the water quality standards did not meet the performance standards set out in the Proposed One Plan. In addition, letters were sent to all the persons or bodies who had been contacted by NZDF, plus a larger number of neighbours and Raukawa District Maori Council. There were three submissions. Two, from neighbouring landowners, asked that the farm drain be fenced to prevent stock having

on Application 100969 Change No. 1, 12 July 2000. Manawatu-Wanganui Regional Council file 2/5/NZD Applications 100965-969/1. Supporting Papers #4472-4478.

¹⁷⁷⁶ Summary of Assessment of Environmental Effects Report, undated. Manawatu-Wanganui Regional Council file Application 2010-013844. Supporting Papers #5940-5943.

¹⁷⁷⁷ URS New Zealand Ltd to Senior Consents Planner, 11 January 2011. Manawatu-Wanganui Regional Council file Application 2010-013844. Supporting Papers #5944-5955.

¹⁷⁷⁸ Senior Environmental Officer Property Group NZDF to Interested Parties, 21 March 2011. Manawatu-Wanganui Regional Council file Application 2010-013844. Supporting Papers #5956-5958.

access to the polluted water. The third, from Wellington Fish and Game Council, asked that the application in its advertised form be declined because continued discharge of polluted water, albeit to a drain, was effectively an indirect discharge to the Rangitikei River. Allowing poor quality treated sewage to reach the river would continue to degrade the river resource and its instream values. The Fish and Game Council asked that any consent be for three years “with specified timeframes requiring monitoring and upgrade investigations to occur and be presented to the Regional Council”¹⁷⁷⁹. There were no submissions from Ngati Raukawa or Ngati Apa, so the Regional Council was not made aware of iwi views.

The Regional Council staff report on the application shared the concern that any treated sewage discharged to the drain would in the worst case scenario (which it considered had to be provided against) reach the Rangitikei River via groundwater. The current style of discharge was unacceptable, and improved management was required to reduce the potential for adverse effects on the river, particularly at low flows. A shorter-term consent was appropriate, while NZDF investigated alternatives for better-managed land treatment of the effluent. On the basis of the staff report the Regional Council granted consent for a three-year term (expiring on 1 July 2015), subject to conditions requiring that the water in the drain contain no scums, suspended materials, colour change, odour or adverse effect on aquatic ecosystems, monthly collection of water quality data, fencing of the drain, and the preparation of a report on the investigation of alternatives (to be provided by June 2013). The consent was granted in March 2012¹⁷⁸⁰.

One feature of the Regional Council decision was that a copy of the report on the investigation of alternatives was to be provided to the Wellington Fish and Game Council and the two neighbours who had requested the fencing of the drain. The Regional Council had narrowed the potentially affected parties to the three submitters, and in the process had excluded the tangata whenua organisations.

The report on alternatives that was due in June 2013 was provided in August 2013. NZDF had engaged consultants, who had looked at land disposal, combinations of land disposal and river disposal, and disposal to Bulls wastewater treatment plant. As a result of the

¹⁷⁷⁹ Environmental Officer Wellington Fish and Game Council to Horizons Regional Council, 21 April 2011. Manawatu-Wanganui Regional Council file Application 2010-013844. Supporting Papers #5959-5962.

¹⁷⁸⁰ Decision on application, 20 March 2012. Manawatu-Wanganui Regional Council file Application 2010-013844. Supporting Papers #5963-5977.

consultants' assessment, NZDF's preferred option was to send the Ohakea sewage to the Bulls wastewater treatment plant, thereby making Ohakea a trade waste customer of Rangitikei District Council, and removing the need for NZDF to obtain and hold a discharge permit. While the preferred option, no decision was taken at that time¹⁷⁸¹. Since then, however, NZDF has apparently baulked at the cost of the trade waste charges proposed by Rangitikei District Council, and opted to continue to be responsible for its own treatment and discharge of treated effluent.

10.7 Bulls sewage disposal

A water right was granted to Rangitikei County Council in February 1976 for the discharge of 1050 cubic metres of treated sewage effluent per day. This right was for 10 years "and thereafter at the pleasure of the Board"¹⁷⁸². The records relating to the issue and subsequent monitoring of this water right were not located during research for this report.

The water right issued in 1976 under the Water and Soil Conservation Act 1967 was deemed to be due to expire in February 1996. Prior to then, in November 1995, Rangitikei District Council applied for a new discharge permit allowing the discharge of up to 515 cubic metres of treated waste water per day.¹⁷⁸³ The application was a pro-forma one without any details about the environmental effects of the discharge, though it did summarise the treatment system:

The Bulls oxidation ponds operate as a two-pond system. Sewage from Bulls township is discharged into the primary pond. After aerobic treatment in the primary pond, effluent then flows into the secondary pond and, after that, via an outfall pipe to grass plots / artificial drain, where the effluent receives further natural treatment. The treated effluent flows through dense vegetative growth in the drain before discharging through ground to the Rangitikei River at sub-surface level. No discharge point to the river is evident.

¹⁷⁸¹ Senior Environmental Officer Property Group NZDF to Manager Consents and Compliance, 30 August 2013. Manawatu-Wanganui Regional Council file Application 2010-013844. Supporting Papers #5978-5981.

¹⁷⁸² Water right RTK 760329, issued 5 February 1976. Copy appended as Appendix 1 to Bulls Oxidation Ponds: Assessment of Environmental Effects, April 1996, attached to Worley Consultants Ltd to Resource Consents Manager, 30 April 1996. Manawatu-Wanganui Regional Council file Application 1995004468.02. Supporting Papers #4269-4341 at 4298.

¹⁷⁸³ Worley Consultants Ltd to Manawatu-Wanganui Regional Council, 2 November 1995. Manawatu-Wanganui Regional Council file Application 1995004468.02. Supporting Papers #4253-4255.

Because the application was made prior to the expiry date of the water right, it meant that the sewage treatment plant could continue to discharge treated sewage until the renewal application was decided on¹⁷⁸⁴.

Following the lodging of the application, Rangitikei District Council undertook the work necessary to prepare an Assessment of Environmental Effects report. This included convening a working party to which representatives of Te Runanga o Ngati Apa were invited. The Working Party met three times in February and March 1996¹⁷⁸⁵. At the first meeting one of the Runanga representatives is recorded in the notes of meeting as saying:

The cultural and community interest issue would be something that the Iwi will be watching for. He said that Ngati Apa will be guided by the feelings of the community of Bulls, and that if the community agrees then Ngati Apa do not see there being a problem.¹⁷⁸⁶

At the second meeting a draft version of the Assessment of Environmental Effects report was discussed. Ngati Apa representatives (Joe Huwyler and Dennis Emery) were more cautious in their assessment at this meeting, with the notes recording those concerns, and a Manawatu-Wanganui Regional Council representative responding in a manner that minimised the concerns. To fully understand what was being discussed, comprehensive quoting from the notes of meeting follows:

Joe Huwyler said that he had some concern with the quality of the discharge.

John Garrett [Regional Council] said that the impact of the discharge in to the Rangitikei River was very minor....

Dennis Emery asked what effect the discharge from Riverlands [meat plant] had on the River.

John Garrett said that the discharge from Riverlands had very little impact on the River. The dissolved oxygen and ammonia nitrogen levels from both discharges are significantly low. He said that he was unable to give a sensible answer for the level of dissolved phosphate as he said that he would not have thought that there would be a lot on the catchment to give the results which have been recorded.

It was noted that there is approximately 200 metres between the two discharges, i.e. the Oxidation Ponds and Riverlands, and that monitoring is undertaken 200 metres upstream and downstream from both discharges....

¹⁷⁸⁴ Resource Consents Manager to Rangitikei District Council, 7 November 1995. Manawatu-Wanganui Regional Council file Application 1995004468.02. Supporting Papers #4256.

¹⁷⁸⁵ Notes of meetings on 1 February 1996, 21 February 1996 and 20 March 1996. Manawatu-Wanganui Regional Council file Application 1995004468.02. Supporting Papers #4257-4260, 4261-4264 and 4265-4268.

¹⁷⁸⁶ Notes of meeting on 1 February 1996. Manawatu-Wanganui Regional Council file Application 1995004468.02. Supporting Papers #4257-4260.

Joe Huwyler explained to members that water is sacred to Maori, with the Rangitikei River being sacred to Ngati Apa. He said that Ngati Apa would want to see no contamination of water....

Joe Huwyler asked whether the effluent was above the legal requirement.

David Bridges [environmental consultant to Rangitikei District Council] replied that it was not, and explained that the Regional Council does not establish any limits at the actual discharge point, rather the Resource Management Act was effects based. He said that all standards took into account the total cumulative effects.

John Garrett explained that previous Water Rights did set limits on effluent discharges, but that there was a change in emphasis as a result of the Resource Management Act, with the change being to ensure that effects are avoided, remedied or mitigated.

Joe Huwyler said that he was more concerned with where the immediate discharge is when it leaves the ponds and enters the River. He said that more importance had been placed on this for the Crofton Ponds.

David Bridges explained that the ponds at Crofton do not have a receiving water, and that the flow in the Tutaenui Stream was equal to that which was being discharged. This results in no dilution, and issues as to the length of the mixing zone. He said that the Bulls Oxidation Ponds have a large receiving water and a maximum discharge with the Rangitikei River being reasonably turbulent. He said that the discharge in relation to the water is insignificant in technical terms and resulted in very rapid mixing.

Joe Huwyler asked that if the discharge at Bulls was into the Tutaenui Stream would the levels of contamination be acceptable.

David Bridges said that Section 107 of the Resource Management Act would need to be followed and that, unlike the Crofton ponds, the pond's performance at Bulls was good with colour and clarity not being an issue. He said that the colour is good from the ponds itself, and that there was no visual sewage blooms at point of discharge.

Joe Huwyler said that he was concerned with the quality of the discharge directly into the Rangitikei River.

David Bridges asked the Ngati Apa representatives to reiterate their position. He said that at the previous meeting it had been noted that Ngati Apa would be guided by the feelings of the Bulls community. He said that he has taken on board Joe's statement with regard to the River being sacred with no discharge of effluent. He said that the Council wished to proceed with the consultation process. This consultation was to recognise views, and did not necessarily mean that the Council would move to an alternative system which did not discharge.

Joe Huwyler said that he thought that there was a legal requirement that no human effluent was to be discharged directly into a public waterway. He said that he realised

that it had to go somewhere, but as long as it was treated and was acceptable to the experts. He said that his concern was that the purity of the discharge for Bulls was perhaps not the same as for Marton.

Dennis Emery said that the position which Ngati Apa would be taking was for an acknowledgement of the sacredness of the River to Ngati Apa. He said that Ngati Apa will be guided by the community of Bulls with a solution that is amicable to all parties concerned.

David Bridges said that the Draft Assessment of Environmental Effects needs clear statements to acknowledge Ngati Apa's position.... David asked if there was anyone who had been left off the list of interested or affected parties.

Joe Huwyler said that Ngati Raukawa were on the other side of the river with their Marae, Parewahawaha Marae, being located in Bulls. The contact person would be Peter Richardson.¹⁷⁸⁷

Peter Richardson of Ngati Raukawa was invited to the third meeting of the Working Party in March 1996, but sent his apologies. Dennis Emery and Joe Huwyler were again the Ngati Apa representatives. They expressed concern that no one from the Bulls community was included on the Working Party, and there was therefore no feedback from the community:

David [Bridges] asked the Ngati Apa representatives if they were happy with Clause 3.4 within the AEE.

Joseph accepted the comments as stated.¹⁷⁸⁸

The Assessment of Environmental Effects report was submitted in April 1996¹⁷⁸⁹. Clause 3.4 contained two paragraphs on "local Iwi perspective":

Ngati Apa representatives have advised that the Rangitikei River is sacred to local hapu and iwi and that, as a matter of principle, it is contrary to their cultural and spiritual beliefs that human effluent should be discharged into natural watercourses. For this reason, Ngati Apa is taking on an important participative role in resource management issues in the region. In respect of the Bulls oxidation pond discharge, Ngati Apa is represented on the consultation working party, and it has reviewed draft versions of this assessment of environmental effects (AEE). Ngati Apa representatives have advised that they wish to take a practical approach to this matter, and that they will be guided by the wishes of the Bulls community in this regard. This approach is largely based on the AEE's conclusion that there are no significant adverse effects as a result of the Bulls oxidation pond discharge into the Rangitikei

¹⁷⁸⁷ Notes of meeting on 21 February 1996. Manawatu-Wanganui Regional Council file Application 1995004468.02. Supporting Papers #4261-4264.

¹⁷⁸⁸ Notes of meeting on 20 March 1996. Manawatu-Wanganui Regional Council file Application 1995004468.02. Supporting Papers #4265-4268.

¹⁷⁸⁹ Bulls Oxidation Ponds: Assessment of Environmental Effects, April 1996, attached to Worley Consultants Ltd to Resource Consents Manager, 30 April 1996. Manawatu-Wanganui Regional Council file Application 1995004468.02. Supporting Papers #4269-4341.

River, and it also recognises the Council's attempts to introduce the best practicable options to improve the quality of the discharge.

Ngati Raukawa have advised (telecon Peter Richardson / Andrew Collins) that they have the same views as Ngati Apa in this respect, and they were satisfied that the consultation undertaken with Ngati Apa would meet their own concerns.¹⁷⁹⁰

The studies undertaken for the Assessment of Environmental Effects report led Rangitikei District Council to conclude that the oxidation ponds were producing a high standard of treated effluent and were not causing significant environmental problems. Because of the sound operating performance of the treatment plant, and the high costs of any alternative treatment methods, the Council proposed continuing with oxidation pond treatment of Bulls sewage. However, the District Council noted how little water quality monitoring had been undertaken by the Regional Council at Bulls. There had been some monitoring at Bulls Bridge during 1989-90, and downstream of the oxidation ponds discharge in 1992-93 in connection with the Riverlands meat plant discharge. This posed limitations on any assessment of the effects on the receiving waters of the Rangitikei River. To partially rectify the gap in knowledge, the District Council had collected water samples in January 1996, and had commissioned a survey of biological indicators. Overall, the individual chemical and clarity measures of water quality did not disclose any significant effects of the oxidation pond discharge, though the waters in the river contained higher concentrations of two contaminants than the waters in the oxidation ponds. Dissolved reactive phosphorus had a mean level of 20 mg/m³ in the river and 6 mg/m³ in the ponds, while enterococci bacteria had a reading of 16000 MPN per 100 ml in the river (one sample only) and an average of 380 MPN per 100 ml in the ponds. The biological indications of the treatment plant discharge were an algal (periphyton) growth on the gravels that the discharge flowed over at low river levels, and in downstream riffle areas, which "suggested that a significant incremental load of plant nutrients (such as available phosphorus) may have been associated with the Bulls oxidation pond discharge for a period prior to this survey"¹⁷⁹¹.

¹⁷⁹⁰ Bulls Oxidation Ponds: Assessment of Environmental Effects, April 1996, page 8, attached to Worley Consultants Ltd to Resource Consents Manager, 30 April 1996. Manawatu-Wanganui Regional Council file Application 1995004468.02. Supporting Papers #4269-4341 at 4281.

¹⁷⁹¹ Brian T Coffey and Associates Ltd, *Instream biological effects of a discharge to the Rangitikei River from oxidation ponds servicing the township of Bulls*, January 1996, page 1, being Appendix 7 to Bulls Oxidation Ponds: Assessment of Environmental Effects, April 1996, page 8, attached to Worley Consultants Ltd to Resource Consents Manager, 30 April 1996. Manawatu-Wanganui Regional Council file Application 1995004468.02. Supporting Papers #4269-4341 at 4320.

The District Council sought a term of 10 years for the resource consent, which it explained in the following terms:

The Ngati Apa representatives [on the Working Party] considered the term of the consent that was initially being sought was too long. Originally a consent term of 35 years was to be applied for, however Ngati Apa representative Joe Huwyler questioned this and proposed that the application for the consent should request a term of 10 years only. The reason for this was to show that those represented in the working party are serious about protecting the environment, and to enable reassessment of the effects after a shorter time frame. Hence a 10 year term has been applied for. It is sometimes the case that applicants apply for a longer term consent than they need, to allow for any reduction in the term that may be made by the consent authority. It should be emphasised that this is not the case here. The applicant has willingly reduced the term of consent sought from 35 years to 10 years – which is the minimum time frame – as a show of good faith. This term of consent is now regarded as the absolute minimum sought.¹⁷⁹²
[Underlining in original]

Upon receipt of the Assessment of Environmental Effects report, Manawatu-Wanganui Regional Council publicly notified the application and called for submissions. It also individually notified immediate neighbours, the two iwi, Wellington Fish and Game Council, and Department of Conservation¹⁷⁹³. Submissions were received from Bullock's Concrete and Gravel Ltd, Good Health Wanganui, and Department of Conservation. None of the submitters opposed the application, instead suggesting conditions that could be attached to a consent¹⁷⁹⁴.

As part of its processing of the application, the Regional Council's environmental scientist (water quality) provided a report¹⁷⁹⁵. He described the discharge point:

The treated effluent discharges from the secondary lagoon into a short section of open drain. The drain discharges into a heavily-shaded ponding area that has formed in a remnant oxbow lake on the bank of the Rangitikei River. The effluent then overflows from the ponding area into the Rangitikei River.

Of the river's water characteristics, he said:

¹⁷⁹² Bulls Oxidation Ponds: Assessment of Environmental Effects, April 1996, page 20, attached to Worley Consultants Ltd to Resource Consents Manager, 30 April 1996. Manawatu-Wanganui Regional Council file Application 1995004468.02. Supporting Papers #4269-4341 at 4293.

¹⁷⁹³ Consents Administrator to Affected Parties, 14 May 1996. Manawatu-Wanganui Regional Council file Application 1995004468.02. Supporting Papers #4342-4344.

¹⁷⁹⁴ Bullock's Concrete and Gravel Ltd to Manawatu-Wanganui Regional Council, 23 May 1996; Senior Health Protection Officer Good Health Wanganui to Manawatu-Wanganui Regional Council, 29 May 1996; and Regional Conservator Department of Conservation to General Manager, 7 June 1996. Manawatu-Wanganui Regional Council file Application 1995004468.02. Supporting Papers #4345-4346; 4347-4349; and 4350-4352.

¹⁷⁹⁵ Report of Environmental Scientist (Water Quality) on Application 6406, undated. Manawatu-Wanganui Regional Council file Application 1995004468.02. Supporting Papers #4353-4367.

Background water quality in the Rangitikei River is reasonably good at low flows but, like many river systems with catchments largely cleared for pastoral activities, is subject to high sediment and bacteria loads during high flows after rainfall. The river is also affected to some extent at lower flows by fine colloidal material which originates from mudstone areas in the catchment. This effect is greater than in catchments such as the Manawatu, but not as significant as in other catchments such as the Whanganui.¹⁷⁹⁶

However, he conceded that the paucity of water quality records made it difficult to judge the effect of the discharge on the river. He also identified that the Assessment of Environmental Effects report had looked at the impact of discharge at a low flow in the river that was “the 4-percentile flow” of 16.5 m³/sec, and an effluent discharge rate that was the “average summer flow”. The worst-case scenario would have to consider the impact when the flow in the river was the “minimum low flow” of 11.7 m³/sec, and when the effluent discharge rate was the “peak summer flow”. Despite this, he concluded that “the discharge from the Bulls oxidation lagoons has only minor effects after reasonable mixing in the receiving waters, the Rangitikei River”. Some risks did however exist, including poor mixing (when the discharge affected only one of multiple channels in the river and there was insufficient dilution), release of “conspicuous floatable materials”, and insufficient aeration in the ponds resulting in low dissolved oxygen levels. In addition:

There is also the potential, albeit of low probability, for significant effects if a breach occurs in a lagoon wall. The applicant also did not acknowledge this problem in the AEE; repair work will be required to eliminate this risk.¹⁷⁹⁷

In this respect he had in mind cracks in the concrete wave-banding around the ponds.

In October 1996 Manawatu-Wanganui Regional Council issued a resource consent for the oxidation ponds discharge for a 10 year term. Conditions set maximum levels in the discharge for ammoniacal nitrogen, biological oxygen demands, suspended solids, enterococci and dissolved reactive phosphorus, and required that after reasonable mixing there would be no foams, scums or floating materials, no odour, and no significant discolouration. A monitoring regime of chemical components of the effluent, and of the receiving waters both upstream and downstream of the discharge point, was specified. In addition Rangitikei District Council was required to undertake some upgrade works by July 1999. These included a change to the discharge point, so that instead of discharging to the

¹⁷⁹⁶ Report of Environmental Scientist (Water Quality) on Application 6406, undated. Manawatu-Wanganui Regional Council file Application 1995004468.02. Supporting Papers #4353-4367.

¹⁷⁹⁷ Report of Environmental Scientist (Water Quality) on Application 6406, undated. Manawatu-Wanganui Regional Council file Application 1995004468.02. Supporting Papers #4353-4367.

remnant oxbow bend the effluent discharged directly to the Rangitikei River. This would eliminate surface ponding. Other works were repairs to the concrete wave banding, and installation of an intake screen and an outlet flow-measuring device¹⁷⁹⁸.

The risks facing the Bulls oxidation ponds discharge that were identified in the environmental scientist's report concerned not enough water to provide dilution, and the poor state of the lagoon walls. However, it was too much water that caused a problem during flooding in early 2004:

The February 2004 flood completely inundated the Bulls oxidation ponds. Fortunately all the bunds around the ponds survived the event, as did the motor for the screens. The aerators have been refurbished and the STP [sewage treatment plant] is now working well again.¹⁷⁹⁹

Monitoring since 1996 has generally shown compliance with all but two of the water quality standards for the Rangitikei River set out in the resource consent. The first exception is dissolved reactive phosphorus measured downstream of the discharge site. Levels have frequently been higher than the measurements taken upstream of the discharge site, indicating that the oxidation pond discharge adds phosphorus to the river. The result is periphyton (algal) growth on the surface of stones and boulders in the river. The other standard that is not met on occasions is the amount of enterococci bacteria downstream of the discharge, which means that the receiving waters do not meet contact bathing standards¹⁸⁰⁰. During the occasions that these standards are not met, the oxidation ponds are not treating the sewage to the extent expected or required.

In July 2006, just prior to the 1996 consent expiring, an application to renew consent was lodged. This allows effluent discharge to lawfully continue under the terms of the 1996 consent until a decision is made on the new application. The application was for up to 1800

¹⁷⁹⁸ Decision on Application 6406, 7 October 1996. Manawatu-Wanganui Regional Council file Application 1995004468.02. Supporting Papers #4368-4375.

¹⁷⁹⁹ Rangitikei District Council, *The state of the Rangitikei environment*, June 2004, page 53. Supporting Papers #

¹⁸⁰⁰ An example of non-compliance is Compliance Monitoring Report for the period 20 November 2009 to 6 July 2011. Manawatu-Wanganui Regional Council file Application 1995004468.02. Supporting Papers #4376-4384.

cubic metres per day¹⁸⁰¹. It was not accompanied by any Assessment of Environmental Effects, so was immediately placed on hold until receipt of the assessment report¹⁸⁰².

Progress since then has been slow. The principal reasons have been determining what wastewater is to be treated by the Bulls plant, and considering the implications of expanding the size of the oxidation ponds on to floodplain land closer to the river and/or using land between the ponds and the river for further treatment after passage of the effluent through the ponds. Much of the land between the ponds and the river is a soil conservation reserve administered by the Regional Council.

What wastewater is to be treated, besides the sewage effluent from Bulls town, has revolved around whether other dischargers wish to connect up to the Bulls treatment plant. Specifically, Riverlands meat processing works is located adjacent to the treatment plant, and the Regional Council saw merit in the two discharges to the river being combined into a single discharge after treatment in the Bulls treatment plant. Ohakea air force base and Sanson, both on the other side of the river, have been mooted as other possible users of the treatment plant.

It took until 2014 to resolve this matter. Apparently all the other potential sources of wastewater have chosen to continue to be responsible for their own wastes, so that Rangitikei District Council is left to treat only the wastewater from Bulls town.

The expansion of the oxidation ponds on to land closer to the Rangitikei River has required consideration of the degree of protection they should have in the event of a large flooding event. In such an event, there could be a catastrophic failure of the pond walls, and a rapid discharge of partially treated effluent into the flooding river. While the Regional Council's One Plan sets a flood protection standard for farmland of a 100-year flood (1% annual exceedance probability) plus half a metre freeboard, for critical infrastructure (i.e. a sewage treatment plant) the protection standard is a 200-year flood (0.5% annual exceedance probability). In a 200-year flood the oxidation pond walls would be overtopped by around

¹⁸⁰¹ Application for Resource Consent, 3 July 2006, attached to Engineering Services Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 3 July 2006. Manawatu-Wanganui Regional Council file Application 1995004468.02. Supporting Papers #4385-4393.

¹⁸⁰² Manawatu-Wanganui Regional Council to Rangitikei District Council, 10 July 2006. Manawatu-Wanganui Regional Council file Application 1995004468.02. Supporting Papers #4394.

one metre of water, and would almost certainly collapse. To protect against such a flood event would require a stopbank between the river and the treatment plant that was 3.5 metres high.

A revised application with an Assessment of Environmental Effects report was submitted in May 2015¹⁸⁰³, nearly nine years after the previous consent expired. This application and assessment report have not been analysed for this report. Meanwhile the 1996 consent has continued to run on.

10.8 Concluding Remarks

Maori opposition to the discharge of human wastes into waterways is not new; it has been a constant feature of tikanga. What is new has been an opportunity to express that opposition in regulatory forums that have been provided by the Resource Management Act 1991.

Prior to 1991 regulatory agencies did not seek out or take heed of Maori views about human waste disposal, principally because there was no statutory obligation for them to do so. The state of the country's waterways today is arguably the poorer for that. Instead the agencies saw nothing wrong with disposal of human wastes to waterways, arguing that rivers had an assimilative capacity to deal with the wastes. In fact there was nothing assimilative about the rivers. While there was dilution, the toxic elements remained. Those elements disappeared around the first bend in the river and out of sight of their originators, eventually contaminating the entire river downstream before being flushed out to sea.

By 1991 there was nearly a century of Crown-sanctioned mismanagement of Rangitikei waterways to be remedied. Today, 25 years later, some progress has been made. Efforts are made to seek out tangata whenua views, though this can sometimes be misinterpreted as the views of individuals rather than the views of hapu acting as kaitiaki, and the concept of shared responsibilities among more than one hapu is not always understood. The law provides for Maori cultural values to be considered whenever a resource consent is applied for, though it also makes it relatively easy to come up with a solution that mitigates/reduces rather than remedies/removes the cultural offence. Maori are able to contribute to solutions, though their role as submitter in opposition can also risk seeing them cast in a negative light

¹⁸⁰³ Lowe Environmental Impact to Manawatu-Wanganui Regional Council, 12 May 2015. Manawatu-Wanganui Regional Council file Application 1995004468.02. Supporting Papers #4395-4396.

by regulators and applicants, and their absence from a regulatory decision-making role limits their effectiveness.

Rangitikei District Council has been the principal body responsible for human waste disposal in the Rangitikei River catchment. It has inherited the poor treatment solutions of its predecessor councils, and had the unenviable task of bringing wastewater treatment into the twenty-first century. Unfortunately, the scale of the problems it has faced has resulted in a ‘two steps forward, one step back’ series of results. Although treatment plants at Taihape and Hunterville have been upgraded, they are still overwhelmed by excessive inflows caused by inadequacies of the sewer system. Tertiary treatment through nutrient stripping and ultraviolet radiation is well established at Taihape and Hunterville, but not in evidence at Bulls.

Even if the treatment plants operated as designed and intended, there is still room for improvement. Nowhere is this more the case than with respect to the response to the Maori request for land disposal. Rock filters and small-scale wetlands are little more than a cosmetic nod towards Maori cultural values, and have little meaning, yet are seized upon by treatment plant designers and regulators alike as a worthwhile solution. More radical moves, such as buying or leasing farmland, planting it in trees, and filtering the treated wastewater (not untreated sewage) through the plantation, will be necessary in the future.

Another significant improvement that could be made is for all parties to recognise that Maori have an interest in how human wastes are disposed of, and need to be taken into the confidence of the operators and regulators on an ongoing basis. This might then see the preparation of a series of overview reports, written in layperson’s language, setting out the progress, and the stumbles, with the discharges that exist in the Rangitikei catchment. While there is much for the operators and the regulators to take satisfaction from, there is also room for Maori to be there to encourage them to persevere and make further improvements.

A feature of the tangata whenua response has been an element of pragmatism. Rangitikei District Council represents the local community, and tangata whenua are part of that community too. They have recognised that treatment decisions have to be made in the context of what the community can both afford and be comfortable with. In that context, they have accepted less than optimal solutions while not backing away from their fundamental

opposition to discharge of human wastes to water. Pushing to get secondary and tertiary treatment has resulted in significant gains in the quality of the water that flows (or is supposed to flow) out of the treatment plants. The next stage will be to get those outflows diverted away from waterways and disposed of in a responsible manner that Maori and the whole community can find acceptable.

Despite the various steps forward, there remain some systemic problems. The Resource Management Act enables a quadruple assessment of proposals, looking at environmental, social, financial/economic and cultural considerations. Under such a scenario, Maori cultural considerations are placed at an inherent disadvantage by being perceived as being a minority matter, notwithstanding the benefits to water quality that would result. That Maori are objecting in principle to discharge of human wastes into water does not elevate or weight in favour of Maori the concerns they express. Indeed, if anything, it is the 'hard data' considerations that assume the greatest weight. Financial cost and biochemical measures gain the greatest traction with regulators. The Crown has reinforced this preference with the various measurable indicators in its national environmental standards.

11. WATER CONSERVATION ORDERS

11.1 Introduction

During the 1970s, concerns were expressed that rivers would be subject to creeping development. There was no countervailing pressure against a series of applications for water rights which might individually appear limited in their impact, but which collectively would be likely to change the character of a river significantly. While the wild and scenic character of a river might be highly valued, that character could become lost as a result of an incremental series of development actions¹⁸⁰⁴.

The statutory solution was an amendment to the Water and Soil Conservation Act in 1981. This introduced the ability for public interest organisations to have either National Water Conservation Orders or Local Water Conservation Notices placed over certain stretches of river, which would declare the characteristics of a river to be intrinsically valuable, and which would regulate what the catchment authorities could do in terms of granting water rights, in order to protect those intrinsic values.

Two applications have been made and granted for stretches of river in the Rangitikei catchment. The Rangitikei River National Water Conservation Order, applied for in 1984 and issued in 1993, covers the Rangitikei River from its source to just south of Mangaweka, and is still in force. The Hautapu River Local Water Conservation Notice, applied for in 1987 and approved in 1991, covered the Hautapu River. This notice lapsed when the Regional Plan for the waters of the river became operative in 2003, though its impact continues on in the provisions of the Regional Plan today.

This chapter investigates the involvement of Rangitikei River Maori in the consideration of the two applications. In general terms involvement was minimal. While there was an initiative by the Rangitikei-Wanganui Catchment Board and Regional Water Board to include marae committees along the Rangitikei River in its deliberations about the Rangitikei River application, the Board's efforts in this regard ultimately failed to be reflected in its response to the application, and there was therefore effectively no input by Maori into the decisions

¹⁸⁰⁴ RM McDowell, *Gamekeepers for the nation: the story of New Zealand's acclimatisation societies, 1861-1990*, Canterbury University Press, 1994, pages 184-185.

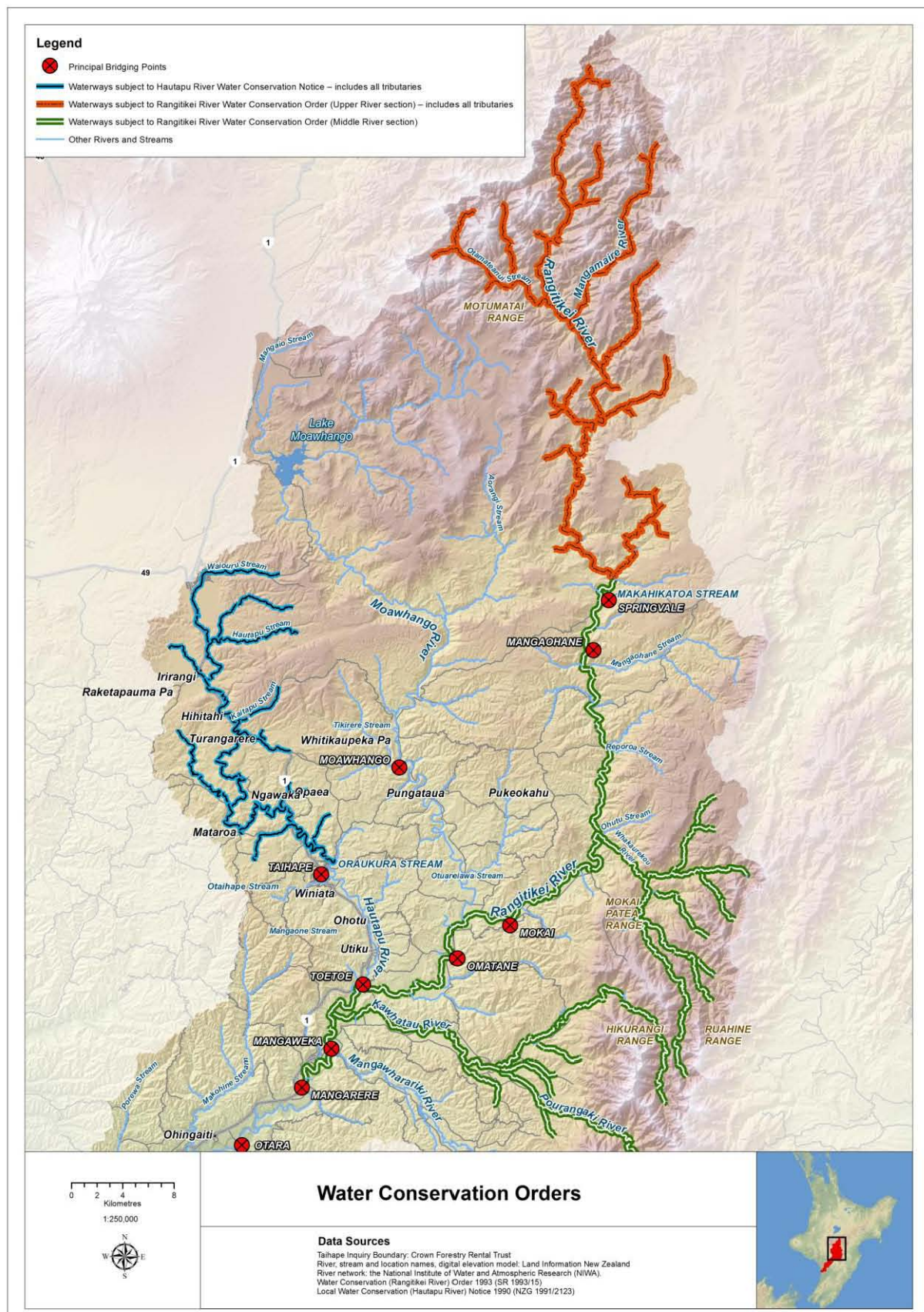
made by the National Water and Soil Conservation Authority and the Planning Tribunal to approve the Rangitikei River National Water Conservation Order.

11.2 Rangitikei River National Water Conservation Order

The legislation allowed the Crown and any statutorily constituted organisation (including a local authority) to lodge an application. While this prevented applications by non-governmental conservation advocacy groups, there were sufficient organisations with environmental protection goals established under statute to make applications. The Rangitikei River National Water Conservation Order application was made by the Wellington and Hawke's Bay Acclimatisation Societies, the Council of North Island Acclimatisation Societies and the National Executive of New Zealand Acclimatisation Societies. These applicants can collectively be described as the "Acclimatisation Society movement". They were statutorily constituted under various sections of the Wildlife Act 1953.

The legislation¹⁸⁰⁵ set out that any application was to be made in the first instance to the Minister of Works and Development. The Minister then sought a recommendation from the National Water and Soil Conservation Authority (NWASCA) as to whether the application should be processed as an application for a national water conservation order or for a local water conservation notice. NWASCA consulted with the relevant Regional Water Board, local authorities and other public organisations before making its recommendation. If the Minister decided it would be treated as an application for a national order, he would refer it to NWASCA for processing. If the Minister decided it would be treated as an application for a local notice, he would refer it to the relevant Regional Water Board for processing.

¹⁸⁰⁵ Section 20A Water and Soil Conservation Act 1967, as inserted by Section 7 Water and Soil Conservation Amendment Act 1981.



Map 13: Water conservation orders

11.2.1 Determining the application's status

The importance of the Rangitikei River to anglers is covered in the chapter of this report about fish and fishing. Anglers rate the upper Rangitikei River highly for its scenic beauty, solitude and large trout, while the middle and lower reaches are valued for accessibility and scenic beauty.

The acclimatisation movement submitted the Rangitikei River National Water Conservation Order application to the Minister in August 1984¹⁸⁰⁶, and he passed it on to NWASCA later that month¹⁸⁰⁷. The application was for waterways in the entire Rangitikei River catchment from source to sea, including tributaries such as the Hautapu River, Moawhango River and Kawhatau River. This catchment area straddled the Wellington Acclimatisation District, the Hawke's Bay Acclimatisation District, and the Central North Island district where acclimatisation functions were administered by the Wildlife Service of Department of Internal Affairs. It sought:

- Preservation of the waterways "as far as possible in [their] natural state";
- Protection of "the outstanding recreational, fisheries (fish stocks and fish habitat) and wildlife features" of the waterways;
- Retention of "the quantity and rate of flow of natural water", because of the value of the water for recreational, fisheries and wildlife habitat purposes, excepting for water rights associated with fisheries research, enhancement or management;
- Prohibition on the granting of rights to dam or divert, or of authorising the carrying out of channelisation works¹⁸⁰⁸;
- Restriction on the power of the Regional Water Board to grant water rights or make general authorisations that would contravene the terms of the application;
- Prohibition on the setting of conditions with respect to any discharge into natural waters that would breach the standards for Class C waters.

¹⁸⁰⁶ An application for a National Water Conservation Order in respect of the Rangitikei River and its tributaries, 3 August 1984, attached to B Johnson, National Executive of NZ Acclimatisation Societies, Wellington, to Minister of Works and Development, 3 August 1984. Works and Development Head Office file 148/180/6. Supporting Papers #2584-2597.

¹⁸⁰⁷ Minister of Works and Development to Secretary National Water and Soil Conservation Authority, undated (received 22 August 1984). Works and Development Head Office file 76/327000. Supporting Papers #948-963.

¹⁸⁰⁸ The Minister in acknowledging receipt of the application told the applicants that a prohibition on channelisation works might be ultra vires. File note, 8 August 1984, and Assistant Office Solicitor to K Edmonds, 9 August 1984. Works and Development Head Office file 148/180/6. Supporting Papers #2598 and 2599.

The application provided reasons why in the opinion of the applicants it should be treated as an application for a national water conservation order¹⁸⁰⁹.

NWASCA referred the application for comment to the Rangitikei-Wanganui Regional Water Board, and the Wanganui, Manawatu and Tongariro United Councils¹⁸¹⁰. Separately another stream of advice was being sought. This was coordinated by the Town and Country Planning Directorate of the Ministry of Works and Development, and was intended to obtain advice from within the Public Service at large, to assist the Minister in the decision he had to make on whether to refer the application for processing as a national order or a local notice, once the recommendation from NWASCA was received.

In connection with NWASCA's role, the Rangitikei-Wanganui Catchment Board and Regional Water Board sought an extension of time in which to respond, as it wanted to hear direct from the applicants about their application¹⁸¹¹. It also organised a meeting of local authorities in Marton at the end of September 1984. In background notes, the Board's Chief Executive Officer told those attending:

In the interests of the other water users, I consider the application should be opposed, and in my opinion in order to ensure that the interests of other users are adequately protected the Board could only make submissions itself effectively through a hearing for a national order.

If the Board heard the application as a local notice, it would in the interests of natural justice have to be constrained in making representations on behalf of other users of the river, even if it set up a Special Tribunal to hear the application. Therefore it would seem that the best approach would be to recommend to the National Authority that the application be heard as a national order.¹⁸¹²

¹⁸⁰⁹ An application for a National Water Conservation Order in respect of the Rangitikei River and its tributaries, 3 August 1984, attached to Minister of Works and Development to Secretary National Water and Soil Conservation Authority, undated (received 22 August 1984). Works and Development Head Office file 76/327000. Supporting Papers #948-963.

¹⁸¹⁰ Secretary National Water and Soil Conservation Authority to Principal Officer Wanganui United Council, Principal Officer Tongariro United Council, Principal Officer Manawatu United Council, and Secretary Rangitikei-Wanganui Catchment Board, 4 September 1984 and 17 September 1984. Works and Development Head Office file 76/327000. Supporting Papers #964-966 and 967-969.

Secretary National Water and Soil Conservation Authority to Secretary, 4 September 1984. Rangitikei-Wanganui Catchment Board file W327/500. Supporting Papers #3393-4005.

¹⁸¹¹ Chief Executive Officer Rangitikei-Wanganui Catchment Board to Secretary National Water and Soil Conservation Authority, 7 September 1984. Works and Development Head Office file 76/327000. Supporting Papers #970.

Wanganui Chronicle, 8 September 1984. Copy on Works and Development Wanganui file 5/84/40. Supporting Papers #3011.

¹⁸¹² Chief Executive Officer's background notes for meeting of local authorities on 28 September 1984. Rangitikei-Wanganui Catchment Board file W327/500. Supporting Papers #4006-4009.

The local authorities rejected this advice, preferring that the application be dealt with as a local notice¹⁸¹³. This view was supported by the Rangitikei-Wanganui Catchment Board and Regional Water Board at its own meeting following the meeting of local authority representatives. NWASCA was advised that:

The consensus views of the representatives of the local bodies were that although they could not speak for their individual councils, they considered that local people could best handle local matters, and that there was confidence in the ability of the Board to adequately represent the best use of the water resource. Accordingly, despite some concern about the possible lack of force of a local notice in the upper river, the Board should recommend to the National Authority that the matter be dealt with as a local conservation notice.

At its meeting on 4th October, the Board resolved that it should recommend to the National Water and Soil Conservation Authority that the hearing should be a local conservation notice.

In the event of a decision being made in favour of a local hearing, then the Board's present thinking is that it would set up a Special Tribunal to consider the matter.¹⁸¹⁴

The advice of the three United Councils varied:

- Wanganui United Council supported a national order, though it was pointed out that this decision was made before it had heard the result of the discussion at the meeting of local authorities convened by the Regional Water Board, and the Council might support a local notice if it was given a chance to review its decision¹⁸¹⁵.
- Manawatu United Council considered that the application should be considered for a national order upstream of Otara bridge, and for a local notice downstream of Otara bridge, this division being "the point where the Rangitikei Valley at river level started to broaden and take on an agricultural characteristic"¹⁸¹⁶.

¹⁸¹³ Supplementary Report by Chief Executive Officer on Rangitikei River - Application for a Conservation Order, October 1984. Rangitikei-Wanganui Catchment Board file W327000. Supporting Papers #4010-4011. County Clerk Rangitikei County Council to Director of Water and Soil Conservation, 23 October 1984, and Town Clerk Marton Borough Council to National Water and Soil Conservation Authority, 25 October 1984. Works and Development Head Office file 76/327000. Supporting Papers #975 and 976.

¹⁸¹⁴ Chief Executive Officer Rangitikei-Wanganui Catchment Board to Secretary National Water and Soil Conservation Authority, 10 October 1984. Works and Development Head Office file 76/327000. Supporting Papers #971. *Wanganui Chronicle*, 5 October 1984. Copy on Works and Development Wanganui file 5/84/40. Supporting Papers #3012.

¹⁸¹⁵ Principal Officer Wanganui United Council to Secretary National Water and Soil Conservation Authority, 3 October 1984. Works and Development Head Office file 76/327000. Supporting Papers #972.

¹⁸¹⁶ Principal Administrative Officer Manawatu United Council to Secretary National Water and Soil Conservation Authority, 11 October 1984. Works and Development Head Office file 76/327000. Supporting Papers #973.

- Tongariro United Council asked that the “Upper Rangitikei”, which it defined as the area within Kaimanawa Forest Park and the Taupo County, should be considered for a national order, while the remainder of the river should be considered for a local notice, because it “serves a multitude of local water uses”, and was “little different from many other Rivers having their source in this region”¹⁸¹⁷.

At its meeting in November 1984 NWASCA considered the advice from the local bodies, and a recommendation set out in a staff report. The staff report pointed out the variability in scenic, amenity and fisheries quality in the catchment, ranging from a nationally-important wilderness fishery upstream of the Napier-Taihape Road to no noteworthy fisheries features in many tributary streams such as the Tutaenui Stream:

The conclusion of staff is that some of the rivers and streams covered by the application may be regionally important while others do not appear to have significant fisheries and wildlife values at all. However, the crucial factor is that on the face of it the majority of the Rangitikei River itself has outstanding features and provides an amenity highly valued in some quarters. Therefore, notwithstanding any shortcomings the application may have, it still warrants consideration as for a national water conservation order.¹⁸¹⁸

NWASCA resolved to recommend to the Minister that the application be treated as a national water conservation order. This recommendation was not unanimous, the vote being 7 in favour and 5 against¹⁸¹⁹. The reasons against were expressed in the advice forwarded to the Minister:

- They did not support the whole application as many parts of the Rangitikei Catchment did not have outstanding features or characteristics, but the present legislation did not provide for different treatment of different parts of a river at this stage of the process;
- It was felt that applications treated as for a national order should and could be dealt with in the first instance by the Regional Water Board for the National Authority;
- The present provisions of the law are inflexible.¹⁸²⁰

One of the five members voting against was Brian Jones, sole member of the Authority appointed “to represent the interests of the Maori people in relation to natural water”¹⁸²¹. It is

¹⁸¹⁷ Regional Planner Tongariro United Council to Secretary National Water and Soil Conservation Authority, 11 October 1984. Works and Development Head Office file 76/327000. Supporting Papers #974.

¹⁸¹⁸ Director of Water and Soil Conservation to National Water and Soil Conservation Authority, 6 November 1984. Works and Development Head Office file 76/327000. Supporting Papers #977-983.

¹⁸¹⁹ Minutes of meeting of 6 November 1984. Works and Development Head Office file 76/327000. Supporting Papers #984.

¹⁸²⁰ Commissioner of Works to Minister of Works and Development, 14 November 1984. Works and Development Head Office file 76/327000. Supporting Papers #985-986.

not known if he voted as he did because of a particular Maori concern relating to the Rangitikei River, or because he shared the general concern about the inadequacies of the legislation¹⁸²². His involvement was the only opportunity that was available to Maori in the statutory process of deciding whether an application would be treated as a national order or a local notice.

Turning to the canvassing of the opinions of Government departments about how to treat the application, a number of departments responded, though the Department of Maori Affairs was not one of them. Of those departments that replied, a number did so on the substance of the application, rather than on the procedural matter of whether it should be investigated as a national order or a local notice – their substantive contributions are discussed alongside the other submissions received on the application itself later in this chapter.

The views of Government departments received as to how the application should be processed are set out in date order of receipt (with a short commentary following):

- National Roads Board had no objection to either a national order or a local notice though favoured treatment as a national order, provided road and bridge works would not be hindered in the catchment¹⁸²³.
- New Zealand Railways was concerned for the impact of any possible conservation order or notice restrictions on maintenance or reconstruction of railway bridges between Kakariki and Waiouru, and on the supply of railway ballast from the Rangitikei River. It had no objection to a national order provided essential railway requirements were taken into account in the formulation of regulations in the order¹⁸²⁴.

¹⁸²¹ Brian Hauauru Jones had been appointed following a legislative change (Section 5(1)(c)(iv) Water and Soil Conservation Act 1967, as amended by Section 3 Water and Soil Conservation Amendment Act 1983) whereby one member of the 15-member Authority was appointed by the Minister of Works after consultation with the Minister of Maori Affairs “to represent the interests of the Maori people in relation to natural water”.

¹⁸²² Another Authority member voting against was Mr M Black who, in his capacity as Chairman of Taupo County Council, had attended the meeting of local authority representatives in Marton in September 1984 that had been convened by the Rangitikei-Wanganui Catchment Board. In a record of the Marton meeting, he is recorded as urging that the application be treated as a local notice as “local government should be seen to be making its own decisions and not relying on central government to run its affairs for it”. Supplementary Report by Chief Executive Officer on Rangitikei River - Application for a Conservation Order, October 1984. Rangitikei-Wanganui Catchment Board file W327/500. Supporting Papers #4010-4011.

¹⁸²³ RF Coddington for National Roads Board to Town and Country Planning Directorate, 14 September 1984. Works and Development Head Office file 148/180/6. Supporting Papers #2600.

¹⁸²⁴ General Manager New Zealand Railways to Commissioner of Works, 21 September 1984. Works and Development Head Office file 148/180/6. Supporting Papers #2601-2602.

- Ministry of Defence had no opinion on how the application should be processed, being concerned to ensure that existing water rights at Waiouru and Ohakea were not affected and could be expanded if required to cater for increased demand; it proposed that tributaries within the Army Training Area at Waiouru be excluded from the operation of any conservation order or notice¹⁸²⁵.
- Commission for the Environment recommended that the application be treated as a national order¹⁸²⁶.
- Electricity Division of Ministry of Energy viewed the whole proposal as “of considerable concern”¹⁸²⁷, because of the Rangitikei River’s significant hydroelectric potential. However, power development investigations were in their infancy and it therefore wanted deferral of the application “for at least five years” so those investigations could be completed. If deferral was not possible, it wanted the application to be processed as a national order, which would allow it to present evidence on hydroelectric potential of the Rangitikei River, and also to urge that the Tongariro Power Development on the Moawhango River be allowed to continue uninterrupted¹⁸²⁸.
- Wanganui District Office of Ministry of Works and Development would have preferred to recommend treatment as a national order for the river upstream of Mangaweka, and treatment as a local notice of the area downstream of Mangaweka. However it understood that this was not legally possible, and therefore recommended processing of the application as a national order because of “the variety of outstanding features of this river, particularly in the upper and middle reaches”¹⁸²⁹.
- Ministry of Agriculture and Fisheries advised that “agricultural interests within MAF” would find a national order or local notice equally acceptable, while “our fisheries interests” recommended processing as a national order¹⁸³⁰.

¹⁸²⁵ Secretary of Defence to Commissioner of Works, 21 September 1984. Works and Development Head Office file 148/180/6. Supporting Papers #2603-2607.

¹⁸²⁶ Commissioner for the Environment to Commissioner of Works, 24 September 1984. Works and Development Head Office file 148/180/6. Supporting Papers #2608.

¹⁸²⁷ General Manager Electricity Division Ministry of Energy to Commissioner of Works, 25 September 1984. Works and Development Head Office file 148/180/6. Supporting Papers #2609.

¹⁸²⁸ General Manager Electricity Division Ministry of Energy to Commissioner of Works, 11 October 1984. Works and Development Head Office file 148/180/6. Supporting Papers #2610-2611.

¹⁸²⁹ District Commissioner of Works Wanganui to Commissioner of Works, 25 September 1984. Works and Development Head Office file 148/180/6. Supporting Papers #2612-2615.

¹⁸³⁰ Assistant Director General of Agriculture and Fisheries to Commissioner of Works, 26 September 1984. Works and Development Head Office file 148/180/6. Supporting Papers #2616.

- New Zealand Forest Service considered the Rangitikei River upstream of Mangaweka to be of national significance for its fishery, rafting, kayaking and gorge scenery, and restricting development of the river would support management of Kaimanawa Forest Park for its remote experience characteristics. The river below Mangaweka was “less impressive”, “not considered to be of national significance”, and near the river mouth restrictions on river development might lower the value of Tangimoana and Santoft State Forests as nationally important forest resources¹⁸³¹.
- Power Directorate of Ministry of Works and Development (the Government’s hydroelectric power design and construction engineers) recommended treatment as a national order, as it considered that this would allow the “significant hydroelectric generating potential” of the Rangitikei River to be weighed up in a more appropriate forum than would be possible if treated as a local notice¹⁸³².
- Department of Scientific and Industrial Research received a range of views from its various research divisions, which were then assessed to develop a departmental view. It considered the outstanding qualities of the river from its source downstream as far as Vinegar Hill made that stretch of the river suitable for consideration as a national order, while downstream of Vinegar Hill should be considered as a local notice¹⁸³³.
- Valuation Department had no opinion on the treatment of the application, though noted that valuers considered a conservation order or notice would have no effect on property values, as the order would not apply to stock or domestic water and existing users were protected¹⁸³⁴.
- Ministry of Recreation and Sport recommended the application be processed as a national order¹⁸³⁵.
- Tourist and Publicity Department supported processing of the application as a national order because it considered the river to be “nationally important for its

¹⁸³¹ Director Environmental Forestry NZ Forest Service to Commissioner of Works, 26 September 1984. Works and Development Head Office file 148/180/6. Supporting Papers #2617-2618.

¹⁸³² Chief Power Engineer to Town and Country Planning Directorate, 26 September 1984. Works and Development Head Office file 148/180/6. Supporting Papers #2619.

¹⁸³³ Director General of Scientific and Industrial Research to Commissioner of Works, 1 October 1984. Works and Development Head Office file 148/180/6. Supporting Papers #2620-2633.

¹⁸³⁴ Valuer General to Commissioner of Works, 1 October 1984. Works and Development Head Office file 148/180/6. Supporting Papers #2634.

¹⁸³⁵ Secretary of Recreation and Sport to Commissioner of Works, 3 October 1984. Works and Development Head Office file 148/180/6. Supporting Papers #2635.

recreational and scenic values”; the recreational value was particularly applicable for rafters, canoeists and jet-boaters¹⁸³⁶.

- Ministry of Health did not answer the question directly, instead commenting that there was “a valid case for the upper reaches to be maintained in their wild state”, though elsewhere the river needed to be available to all users “as a water source and also as a receiving water for effectively treated sewage”¹⁸³⁷.
- The Department of Lands and Survey considered that the application should be treated as for a national order, “recognising that the upper reaches of the river have considerable importance from the point of view of fishing, canoeing and rafting, as well as being of special scenic value”¹⁸³⁸.

The comments of the various departments demonstrate how the “battle lines” would be drawn in the debate on the conservation order application. Departments with an interest in in-stream resources and intrinsic values of waterways viewed these matters as outstanding and wanted the application processed as national order. Departments with a development and water use interest were concerned that giving attention to scenic and recreational matters would threaten their ability to use the waterways in the manner to which they had become accustomed. Interestingly, some of those development-oriented departments favoured consideration as a national order, as they felt it would allow their own nationally important development objectives to be assessed more favourably.

In the period following receipt of the Government department views and their use in the provision of advice to the Minister, there appears to have been some collaboration between the Town and Country Planning Directorate and the Water and Soil Directorate, as the staff paper considered by NWASCA at its November 1984 meeting contained the following paragraph:

An informal request was made to Town and Country Planning Directorate to canvass the views of various government departments in respect of the application. This has resulted in a large number of written comments and supporting material being made available to [Water and Soil Directorate] staff. The consensus is that parts of the

¹⁸³⁶ General Manager New Zealand Tourist and Publicity to Commissioner of Works, 4 October 1984. Works and Development Head Office file 148/180/6. Supporting Papers #2636-2638.

¹⁸³⁷ Medical Officer of Health Wanganui to Director General of Health, 10 October 1984, attached to Director of Public Health to Commissioner of Works, 15 October 1984. Works and Development Head Office file 148/180/6. Supporting Papers #2639-2641.

¹⁸³⁸ Director General of Lands to Commissioner of Works, 6 November 1984. Works and Development Head Office file 148/180/6. Supporting Papers #2642.

Rangitikei Catchment have outstanding features and characteristics that may warrant a national water conservation order.¹⁸³⁹

In terms of advice to the Minister of Works and Development following his receipt of the recommendation from NWASCA, the extensive effort made by officials across a wide range of Government departments (though not the Department of Maori Affairs) was encapsulated in a single comment in the paper prepared for him by the Town and Country Planning Directorate:

There have been no objections by government departments to the consideration of the application for a national order, and most have supported the national order procedure.

The appropriate letter referring the application back to the National Water and Soil Conservation Authority for consideration as a national order is attached for your signature if you agree.¹⁸⁴⁰

The Minister did not see the Government Department responses.

At the end of November 1984 the Minister accepted NWASCA's recommendation and the departmental advice, on the basis that "the river's fisheries, wildlife and recreational value merits the application being dealt with under the procedures for a national water conservation order"¹⁸⁴¹.

11.2.2 NWASCA consideration of the Rangitikei River application

With the decision made that the National Water and Soil Conservation Authority (NWASCA) would process the application as a national order, the application was publicly notified, and submissions on it invited, in early December 1984¹⁸⁴². This section of the report examines first the actions taken by the Rangitikei-Wanganui Catchment Board in response to the request for submissions, before considering the other submissions made and the Authority's assessment of the application.

¹⁸³⁹ Director of Water and Soil Conservation to National Water and Soil Conservation Authority, 6 November 1984. Works and Development Head Office file 76/327000. Supporting Papers #977-983.

¹⁸⁴⁰ Commissioner of Works to Minister of Works and Development, 22 November 1984. Works and Development Head Office file 148/180/6. Supporting Papers #2643.

¹⁸⁴¹ Minister of Works and Development to Secretary National Water and Soil Conservation Authority, 28 November 1984. Works and Development Head Office file 76/327000. Supporting Papers #987.

¹⁸⁴² Public notice, undated, attached to Director of Water and Soil Conservation to Chief Executive Rangitikei-Wanganui Catchment Board, 10 December 1984. Rangitikei-Wanganui Catchment Board file W327/500. Supporting Papers #4013-4016.

Even before the Minister had referred the application to NWASCA, the Catchment Board knew that it needed additional information before it could develop its own thoughts on the application. In a letter that reveals both its ignorance at that time about the Maori connection with the Rangitikei River, and its willingness to learn about that connection, it wrote to John Takarangi of Wanganui:

In presenting a case in relation to a proposed National Conservation Order or a Local Conservation Order [sic], we are anxious to find someone who may be able to tell us of any cultural values of the Rangitikei River as it may affect the Maori people. It may be that there are none of any consequence, but in giving consideration to this matter, it would be helpful to speak to a person or persons who can supply authentic information.

The proposed Conservation Order incorporates all the Rangitikei River from its source to the sea, and also includes the tributaries.

It is therefore obvious that it is a large area, but any useful information will be of benefit. As I pointed out to you on the telephone, these discussions are urgent, and we would need to contact any people you may think of during the week commencing 12 November.¹⁸⁴³

While there is no written record of John Takarangi's response, the Catchment Board subsequently approached the Maori community through the various marae committees. Those written to in mid December 1984 were T Hammond (Secretary Parewahawaha Maori Committee), Peter Richardson, T Rogers (of Parewanui), Mrs Renata (of Te Reureu), and Tony Batley¹⁸⁴⁴.

The mid December 1984 letter from the Rangitikei-Wanganui Catchment Board was also sent to local authorities, two Power Boards, Federated Farmers representatives, the Professional Rafting Association and the Jet Boat Association. It asked for local input into the submissions the Catchment Board would make to NWASCA. Attached to the letter was some material already prepared by the Board, including what it described as a "Management Policy Statement" for Rangitikei River water resources¹⁸⁴⁵. This two-page statement was geared towards the Acclimatisation Societies' application, in that it was primarily oriented

¹⁸⁴³ Resources Manager to JM Takarangi, Wanganui, 8 November 1984. Rangitikei-Wanganui Catchment Board file W327/500. Supporting Papers #4012.

¹⁸⁴⁴ Distribution List attached to letter from Chief Executive Officer, 14 December 1984. Rangitikei-Wanganui Catchment Board file W327/500. Supporting Papers #4017-4019.

¹⁸⁴⁵ Chief Executive Officer to selected local authorities, organisations and individuals, 14 December 1984. Rangitikei-Wanganui Catchment Board file W327/500. Supporting Papers #4017-4019.

This file contains the covering letter but not the attachments to it. The attachments were also sent to staff of the National Water and Soil Conservation Authority. Chief Executive Officer Rangitikei-Wanganui Catchment Board to Director of Water and Soil Conservation, 19 December 1984. Works and Development Head Office file 76/327000. Supporting Papers #988-994.

towards the extent to which fisheries values should be prioritised. It had as a preamble that the Board was aware of:

- The important scenic and recreational values associated with the river;
- The importance of maintaining and further developing the agricultural productivity of the land in the river's catchment;
- The hydroelectric power development potential of the river;
- "The special place that natural water can have in the traditions and customs of ethnic groups. The Board will consult with such groups and take into account any such special values as may be identified".

The Catchment Board favoured "balanced development", with water allocated "according to economic and social needs with no one use favoured to the exclusion of others, other than by separation of incompatible uses for parts of the river". This approach meant, with respect to maintaining fisheries values, no barriers to fish movement, nor any reduction in flow "beyond that required to support agriculture within the catchment itself". With respect to scenic, canoeing and rafting values, the Catchment Board's approach was that there should be no structures and no flow reductions between Mangaohane Bridge and Toe Toe Bridge – the agricultural qualifier was not mentioned in connection with these values. Downstream of Mangaweka, fisheries, scenic and recreation values of the Rangitikei River warranted "some protection, but not to the exclusion of other potential uses", and a reduction of minimum flows to 9 cumecs (cubic metres per second) would still maintain amenity values, the intention being to encourage multi-use development "where no single use should preclude other opportunities".

Of the tributaries, the Moawhango, Hautapu and Mangawharariki had barriers to fish movement and were only locally important fisheries; on these tributaries fishery values would be taken into account. Other tributaries downstream of Mangaweka were "not seen as having any special in-stream values", and fisheries values (other than ensuring water quality consistent with uses of those streams) would not be taken into account. The water quality standards to be maintained would have regard to the values or uses being made or likely to be made of the river's water resources.

Summarising the statement:

In simple terms the Board's policy statement recognises the upper Rangitikei River above the Kawhatau River confluence as having outstanding scenic and recreational

values which warrant protection. Elsewhere the Board does not believe that recreational values are sufficiently high as to preclude other possible future uses of the available water. Existing uses must be recognised, together with retaining some future opportunities for expansion of agricultural land uses and hydro power development, should the need arise. Recreational values would still be recognised, but not to the extent of precluding all other possible uses of water.¹⁸⁴⁶

The “Management Policy Statement” was a paean in praise of multiple use of water, with in-stream values such as fisheries, scenic character and recreation to be accommodated where they did not preclude uninterrupted and increasing use for development. The development envisaged was primarily agricultural, though implicit in the statement was that some hydroelectric generation, and the existing use of the river for discharges of sewage, would also be allowed. Although this was an approach consistent with that of the Water and Soil Conservation Act 1967 as it had operated between 1967 and 1981, it ignored the ability to prioritise in-stream values provided for by the 1981 amendment. The statement added a veneer of concern for fisheries to the status quo. The biggest change provided in the statement was the Catchment Board’s awareness of the customs and traditions of “ethnic groups” relating to water, which it had not previously acknowledged, although at the time of writing the statement the Catchment Board had no idea what those customs and traditions were, nor what the management response should be to them.

In distributing its “Management Policy Statement”, the Catchment Board explained that anyone could make their own submissions to NWASCA. It encouraged people to also make their views known to the Catchment Board, so that it could make “a submission in so far as it has statutory responsibilities for the management and allocation of uses of the natural water resources of its Region”. The Catchment Board saw itself as “representing local and regional interests in this particular matter”, though cautioned that it might not be able to support some local opinions where they may be in conflict with other opinions.

In response to its request for comments prior to preparing its submission to NWASCA, the Catchment Board received 19 written submissions:

- 6 submissions from local authorities;
- 2 submissions from Government Departments (Wildlife Service and Department of Health);

¹⁸⁴⁶ Chief Executive Officer Rangitikei-Wanganui Catchment Board to Director of Water and Soil Conservation, 19 December 1984. Works and Development Head Office file 76/327000. Supporting Papers #988-994.

- 4 submissions from private companies or individuals;
- 4 submissions from other organisations (3 from Federated Farmers, and 1 from solicitors for the two local Electric Power Boards);
- 3 submissions from Maori, being Moawhango Marae Committee, Rata Marae Committee, and Parewahawaha Marae Committee¹⁸⁴⁷.

The three submissions from Marae Committees are discussed below.

The written statement from Moawhango Marae Committee was prepared at a meeting on 3 February 1985, at which about 20 persons were present. Tony Batley acted as an intermediary to encourage the committee to meet and prepare the statement:

We the undersigned, being members of the Moawhango Marae Committee, wish to declare our cultural association with the Rangitikei River and its tributaries. The river, named Rangitikei by Hau, has from time immemorial been associated with the traditions of our ancestors. Its tributary, the Moawhango, became a repository of the taniwha (legendary creatures) of Tamatea-Pokai-Whenua; its banks were a barrier against our foes; its waters from Nukutanoa on the Moawhango and Te Awarua on the Rangitikei provided canoe access between the interior and the coast. The blood of our ancestors has flowed in the waters at Otaparoto Ford and elsewhere. In former times it has cleansed and purified our bodies. It has provided us with freshwater food, the tuna (eel), patiki (black flounder), upokororo (grayling), inanga (whitebait), koura (crayfish) and kakahi (freshwater mussel), as well as the waterfowl which swam upon or roosted beside the waters. Its existence has been the principal reason for our tribal presence within the region.

Recognising as we do these traditional links which identify the connection between the Rangitikei River and the Maori inhabitants of the region, we ask that special respect be accorded to those places of a traditional or sacred nature which are associated with the ancestors of the Ngati Whiti and Ngati Tama tribes. To this end we confirm our support for the protection of those places cited in the information supplied to the Planning Officer of the Rangitikei-Wanganui Catchment Board by Mr RAL Batley of Moawhango as part of the traditional heritage of our respective tribes. In general we support the Management Planning [sic] Statement on Rangitikei River Water Resources issued by the Rangitikei-Wanganui Catchment Board, noting the latter's willingness to consult with the Maori people and to take into account any special values as may be identified.¹⁸⁴⁸

The written statement by Rata Marae Committee stated:

¹⁸⁴⁷ A set of all the submissions was distributed to Catchment Board members along with agenda papers for the Board's February 1985 meeting. The Commissioner of Crown Lands received a set of the submissions in his capacity as a member of Rangitikei-Wanganui Catchment Board and Regional Water Board. Papers attached to Agenda for Catchment Board meeting, 25 February 1985. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2840-2903.

¹⁸⁴⁸ Submission by Moawhango Marae Committee, undated, attached to RAL Batley, Moawhango, to Chief Executive Officer, 12 February 1985. Rangitikei-Wanganui Catchment Board file W327/500. Supporting Papers #4020-4021.

Recently we were visited by Mr Mike Thurston [sic, should be Johnston] on behalf of the Catchment Board, and we discussed the importance of the Rangitikei River to the Maori people of the Rata area. Subsequently I received an invitation to write to the Board confirming what we had discussed.

The Rangitikei River has always been of great importance to the people of Rata. In the early days there were pas situated on the riverside as well as burial ground nearby. As is common throughout New Zealand, these sites are still sacred to the local people. During these times the river was how many people travelled. I recall how my ancestors used to cross the river to visit the people of Tokorangi, and vice versa. Besides this, the river has provided a place to catch food, as well as a recreation area.

Land and water conservation has always been one of the top priorities of the Maori, and we are pleased to note your interest in our beliefs.

Attached is a summary of the discussion held with Mr Thurston. I trust that note will be taken of the points mentioned, and that the Rata Marae Committee will be notified of future schemes affecting the Rangitikei River.

The attachment was a series of comments on the Catchment Board's policy statement:

Water usage

- a) We support the right of existing water users of continued use.
- b) The use of water for irrigation for future expansion of agricultural land uses.
- c) The use of water for rural and community supply schemes.

Scenic and recreational use

That those areas within the river catchment and its tributaries of scenic and recreational value receive the protection warranted.

Hydro power development

This committee, its members and affiliated tribal community do not support the future development of hydro power schemes in any area of the river catchment including its tributaries.¹⁸⁴⁹

The written statement by Parewahawaha Marae Committee stated:

Ngati Parewahawaha are a sub-tribe of Ngati Raukawa, one of the confederation known as Ngati Raukawa, Ngati Toa Rangatira and Te Ati Awa.

The Rangitikei River is the northern boundary of the confederation, extending south to Wellington, bounded by the Ruahine and Tararua Ranges to the east, the Tasman Sea to the west.

We therefore commend the Board in this instance for consulting with Ngati Parewahawaha in the preservation and recording of these sites against future destruction....

¹⁸⁴⁹ Secretary Rata Marae Committee to Chief Executive Officer, 13 February 1985. Rangitikei-Wanganui Catchment Board file W327/500. Supporting Papers #4024-4027.

There may be further sites submitted to be recorded which are known to other elders.¹⁸⁵⁰

In addition to the written statements, the Rangitikei-Wanganui Catchment Board also encouraged Rangitikei River Maori to identify sites of special interest to them along the rivers and their banks.

After receiving the submissions made to it, the Catchment Board considered what stance it would adopt at its meeting at the end of February 1985. The Chief Executive Officer prepared a staff report for the meeting¹⁸⁵¹. He noted that 16 submissions had been received (the remaining three were received after the staff report was written), and remarked that “it is pleasing to note the interest taken in the proposed Order by the Maori community”:

Essentially the submissions almost without exception give support to the Board’s proposed management plan, and while supporting the proposed conservation order in respect of protection of fisheries in the upper catchment are concerned that development of the multi use concept be retained in other parts of the river.

Looking at the impact on the Catchment Board’s activities of the application as proposed by the Acclimatisation Societies, he noted how many current activities would be prevented:

Essentially the order if granted at present would totally hamstring the Board in its efforts to manage the waters of the Rangitikei River on a multi use basis....

I consider that the conservation order in its present form would be administratively unworkable from the Board’s standpoint.

If the Board is to retain its water management function in terms of the Water and Soil Conservation Act, then I consider that it would be necessary to recommend to NWASCA that it adopts an approach that would result in water allocation planning for different activities in various sections of the river. In this way the importance or otherwise of fisheries in the various parts of the river could be allocated a proportion of the water resource that would be compatible with its importance relative to other activities.

It is considered that this could be undertaken most effectively by using a percentage of flow basis rather than quantifying the amount of water allocated.

If the Catchment Board accepted the staff recommendations, the simplest way to get this message across to NWASCA, in the opinion of the Chief Executive Officer, would be for the

¹⁸⁵⁰ Secretary Parewahawaha Marae Committee to Planning Officer, 12 February 1985. Rangitikei-Wanganui Catchment Board file W327/500. Supporting Papers #4022-4023.

¹⁸⁵¹ Paper to Rangitikei-Wanganui Catchment Board by Chief Executive Officer, 19 February 1985, attached to Agenda for Catchment Board meeting, 25 February 1985. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2840-2903 at 2845-2846.

Catchment Board to prepare its own version of a conservation order that could apply to the Rangitikei River. His recommendations to the Board were:

- (1) That the Board oppose the Water Conservation Order application in its present form.
- (2) That the Board recommend to the National Authority that the basis of the conservation order be the allocation of flow on a percentage basis in accordance with the Board's management planning statement.
- (3) That the Board prepare a draft conservation order in accordance with (2) above, which with the Rangitikei River Water Resources management planning statement be submitted to the National Authority.
- (4) That the Board recommend in its submissions to the National Authority that the Board's draft conservation order be circulated to interested parties for comment prior to any formal hearing that the Authority may initiate.
- (5) That the Board make formal application for a national water conservation order on the Rangitikei River in terms of the draft approved at today's meeting.¹⁸⁵²

The Rangitikei-Wanganui Catchment Board also received a report from its Chief Technical Officer, which demonstrates that there was a certain amount of pragmatism involved in the recommendation that the Board's submission on the Acclimatisation Societies' application be in the form of an alternative draft conservation order:

It will not be possible before [the Authority's closing date for submissions] to prepare any lengthy or detailed submission for the National Water and Soil Conservation Authority. By that I mean detailed information on the availability and distribution of water within the catchment, the present uses made of it, and the likely future need for water. All that information would be necessary to support a specific allocation plan if that were the approach to be taken.

To that extent, all that could be included in a submission at this stage would be broad statements as to availability, distribution, and existing and projected uses of water, to be supported with detailed information later on if required.

The Board's management policy statement will provide a focus and the substance of submission. However, in itself it is no more than a statement of general intent, and needs to be sharpened up to indicate how in practice it would be applied.

That could be done in this case by way of a suggested conservation order, that would indicate how the values for which protection is sought by the application would be recognised and catered for, in giving effect to the management policy.

Comment on both the application and the Board's management policy could then be addressed to the proposed conservation order.

¹⁸⁵² Paper to Rangitikei-Wanganui Catchment Board by Chief Executive Officer, 19 February 1985, attached to Agenda for Catchment Board meeting, 25 February 1985. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2840-2903 at 2845-2846.

An appropriate form of conservation order will be drafted for meeting day.¹⁸⁵³

The Catchment Board accepted the recommendations. The draft conservation order that was drawn up protected the upper reaches of the Rangitikei River where the scenic, fisheries, canoeing and rafting values (the in-stream and intrinsic values) were at their highest, and made no mention of the lower reaches where a conservation order would impact on existing and future primary and secondary industry's use of water, thereby avoiding the conflict that was so strongly expressed in the submissions. The dividing line between the upper and the lower reaches was Mangaweka. Only certain tributaries were included in the proposed order. These were all tributaries of the Rangitikei River upstream of the Ohinewaione Stream, the Whakaurekou River and its tributaries, and the Kawhatau River (plus its tributaries Pourangaki River and Mangakokeke Stream). Upstream of Springvale on the Napier-Taihape Road no provision was made in the draft order for the allocation of water to alternative uses, while between Springvale and Mangaweka the natural flow could not be reduced to less than 90% of its natural flow. No damming of the river was permitted¹⁸⁵⁴.

In making its application for an alternative water conservation order to the Minister the following month, the Catchment Board commented:

The Board opposes the application on the Rangitikei River lodged by the combined Acclimatisation Societies because the application does not take into account the multi-purpose use of the river resource as required by the Water and Soil Conservation Act 1967.

In its submissions to the National Water and Soil Conservation Authority on the Acclimatisation Societies' application, the Board recommended that a draft conservation order in terms of that set out in this letter be circulated to interested parties for comment prior to any formal hearing that the Authority may initiate.

In the event of the National Authority deciding on a conservation order for the Rangitikei River that embraces the principles set out in the Board's draft order, then it is likely that the Board would withdraw this application.

Accordingly, it is suggested that the enclosed application for a conservation order be held in abeyance until a decision is made on the application at present under consideration by the National Authority.¹⁸⁵⁵

¹⁸⁵³ Paper to Rangitikei-Wanganui Catchment Board by Chief Technical Officer, 20 February 1985, attached to Agenda for Catchment Board meeting, 25 February 1985. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2840-2903 at 2847-2848.

¹⁸⁵⁴ Draft water conservation order, included in Chief Executive Officer to Minister of Works and Development, 27 March 1985. Rangitikei-Wanganui Catchment Board file W327/500. Supporting Papers #4028-4030.

¹⁸⁵⁵ Chief Executive Officer to Minister of Works and Development, 27 March 1985. Rangitikei-Wanganui Catchment Board file W327/500. Supporting Papers #4028-4030.

In acknowledging receipt of the Catchment Board's application, the Minister agreed to hold its application in abeyance:

Although your Board resolved to apply for a conservation order, it seems clear that this application is conditional and that what the Board is trying to do is to influence the decision of the National Water and Soil Conservation Authority on the application which it already has....

I consider that you have done the correct thing in bringing your concerns to the attention of the Authority in your submissions, and I have no doubt that they will be given full and careful consideration.¹⁸⁵⁶

The consequence of applying for its own version of a water conservation order, and not providing any supporting information about it to NWASCA, was that the Catchment Board made no use of the information it had received from the Maori community. While Maori might have thought that in providing information to the Catchment Board, that information would be passed on by the Board and would influence the decision made by NWASCA, this was not the case. As far as NWASCA was concerned, the Rangitikei River Maori community was silent on the Water Conservation Order application.

The Catchment Board did, however, complete its consultation and information gathering exercise by publishing an internal report setting out what had been provided to it by the Rangitikei River Maori community¹⁸⁵⁷. In its report, the author expressed the hope that it would be "seen to have a positive contribution in further planning". While the Catchment Board's efforts were commendable, in the context of the period prior to the reaching of Treaty settlements, the report turned out to be of limited wider significance. It was prepared for one particular purpose (the National Water Conservation Order application), and does not seem to have been relied upon or incorporated into other activities of the Board, such as management of gravel extraction or the lower Rangitikei River Control Scheme.

As well as the draft conservation order prepared by the Rangitikei-Wanganui Catchment Board, NWASCA received a variety of other submissions by its closing date for submissions of mid-March 1985. A total of 30 submissions were received (including one on behalf of the

¹⁸⁵⁶ Minister of Works and Development to Chief Executive Officer, 11 April 1985. Rangitikei-Wanganui Catchment Board file W327/500. Supporting Papers #4031.

¹⁸⁵⁷ Rangitikei-Wanganui Catchment Board, *Significance of the Rangitikei River to the Maori people of the district: December 1984 - February 1985 survey*, August 1985. Rangitikei-Wanganui Catchment Board Report No. 85/3. Supporting Papers #6680-6699.

applicants)¹⁸⁵⁸. The submissions did not include any from individual Government Departments. Instead, Departmental submissions were sent to the Town and Country Planning Directorate of Ministry of Works and Development, and then a single all-of-government submission was provided to NWASCA by the Minister of Works and Development.

Three quasi-government organisations did provide submissions directly to the National Water and Soil Conservation Authority, however, specifically the NZ Council for Recreation and Sport, the Nature Conservation Council and the Maori Land Court (Aotea District). Other submissions came from local authorities (6), recreation organisations (6), local organisations or individuals (7), industrial users of the river and Federated Farmers (3), the local Power Boards (1), and conservation organisations (1). Each submission received was given a number by NWASCA staff:

Table 15: Public submissions on Rangitikei River water conservation order application

NWASCA Submission Number	Submitter	Supporting Papers Page #
1	Wanganui United Council	1138
2	Taupo County Council	1139-1169
3	NZ Jet Boat Association Inc	1170-1173
4	Not used ¹⁸⁵⁹	
5	BL and NJ Megaw, Pukeokahu	1174-1175
6	Rangitikei River Adventures	1176-1181
7	River City Canoe Club, Wanganui	1182-1187
8	JB Corfe, Mokai	1188
9	Byford's Contracting and Construction Co Ltd	1189
10	Rangitikei catchment territorial local authorities ¹⁸⁶⁰	1190-1203
11	NZ Jet Boat Association, Central District Branch	1204-1205
12	J Wattie Canneries, Feltex NZ Ltd, and Feltex Furnishings of NZ Ltd	1206-1230

¹⁸⁵⁸ List of submissions. Planning Tribunal file TCP 180/86. Supporting Papers #3174-3175.

32 submissions are listed, but No. 4 from a government department was incorrectly recorded, and No. 15 and No. 31 are from the same local authority, making a total of 30 submitters.

¹⁸⁵⁹ This number was allocated to Electricity Division Ministry of Energy. However, the submission was passed to Ministry of Works and Development Town and Country Planning Division, and was appended to the submission of the Minister of Works and Development (No. 19).

¹⁸⁶⁰ Submitted by Rangitikei County Council on behalf of Rangitikei County Council, Manawatu County Council, Oroua County Council, KIWITEA County Council, Marton Borough Council and Taihape Borough Council.

NWASCA Submission Number	Submitter	Supporting Papers Page #
13	NZ Council for Recreation and Sport	1231
14	Federated Farmers of NZ Inc	1232-1235
15	Palmerston North City Corporation	1236
16	Royal Forest and Bird Protection Society of NZ Inc, Manawatu Branch	1237-1238
17	Wanganui-Rangitikei Electric Power Board and Manawatu-Oroua Electric Power Board	1239-1369
18	Applicants, Acclimatisation Society movement	1648-2026
19	Minister of Works and Development	1370-1537
20	G Baird, Mangaweka	1538-1540
21	Nature Conservation Council	1541-1543
22	Manawatu United Council	1544-1555
23	Massey University Alpine Club	1556-1625
24	NZ Deerstalkers Association Inc	1626
25	PPG Pharazyn, Taihape	1627-1631
26	AM Sisson, Utiku	1632
27	Federated Mountain Clubs of NZ Ltd	1633-1634
28	Rangitikei-Wanganui Catchment Board	1635-1637
29	Rotary Club of Taihape	1638
30	Wanganui United Council	1639
31	Palmerston North City Council ¹⁸⁶¹	1643
32	Maori Land Court, Aotea District	1644-1647

Only the submissions of the Minister of Works and Development and the Maori Land Court are discussed in this report. The Minister of Works and Development's submission was an all-of-Government contribution coordinated by the Town and Country Planning Directorate of the Ministry of Works and Development. It had instructed Government Departments on the style of contribution they could make shortly after the public notification of the application:

It will be necessary for departments to prepare as brief as possible a summary of available and relevant information, with any reports and publications together with names and telephone numbers of people who may be contacted to provide any necessary further detail....

¹⁸⁶¹ Confirmation of Council approval of submission No. 15 forwarded earlier.

Previous applications have seen the Crown in the role of an advisor, having as it does access to considerable amounts of scientific and resource information. It is envisaged this role will again be important....¹⁸⁶²

After the Departmental replies were assembled, the Minister was told:

As is done with all water conservation order applications, government departments were asked to comment on the implications of the application for their interests, and to provide any information which might aid the Authority in assessing the application....

The information held by departments would clearly be of assistance to the Authority in reaching its decision on the application for a water conservation order, and should be presented by way of a Crown submission. It is also apparent that the Crown's interests in this matter involve a number of potential conflicts. It is therefore suggested that you take a neutral line in your submission.¹⁸⁶³

The Minister's submission was therefore very brief. It stated that central government held information about a broad range of matters relevant to the application (and listed in the legislation), and advised that the Commissioner of Works would provide the National Authority with the comments of the Government departments that had been received on the application¹⁸⁶⁴. The Government departments that commented on the application did not include the Department of Maori Affairs.

The Maori Land Court submission was received about one month later than all other submissions. It is probable that it was for this reason that it was not treated as a Government department submission, and instead ended up being recorded as a submission received directly by NWASCA. The Court Registrar advised:

We have no objection to the above proposal. Regard however must be given to any adjoining property owners, and to this extent we attach a schedule to whom further notices may be sent.¹⁸⁶⁵

The schedule set out a list of Maori-owned blocks adjoining the river, each with the name and address of an owner who could be contacted. However, this schedule was not complete; for instance blocks at Taraketi and the Awarua 1BD2 and Aorangi blocks were not included.

¹⁸⁶² Commissioner of Works to Government Departments, 13 December 1984. Works and Development Head Office file 148/180/6. Supporting Papers #2644-2645 and 2648-2652.

¹⁸⁶³ Commissioner of Works to Minister of Works and Development, 13 March 1985. Works and Development Head Office file 148/180/6. Supporting Papers #2646-2647.

¹⁸⁶⁴ Minister of Works and Development to National Water and Soil Conservation Authority, 14 March 1985, attached to Commissioner of Works to Secretary National Water and Soil Conservation Authority, 15 March 1985. Works and Development Head Office file 76/327000. Supporting Papers #1370-1537 at 1371-1372.

¹⁸⁶⁵ Registrar Maori Land Court Wanganui to Commissioner of Works, 23 April 1985. Works and Development Head Office file 76/327000. Supporting Papers #1644-1647.

All the submissions received by NWASCA were provided to the applicants, who prepared a submission in response¹⁸⁶⁶. This submission commented particularly on the alternative proposed by the Catchment Board:

A few submissions, including of course that from the Rangitikei-Wanganui Catchment Board, have asserted that the Catchment Board has been carrying out its statutory functions in an exemplary manner. This assertion is then used as the foundation of a submission that the Catchment Board should either be left to administer the river in its entirety, or at least in the lower reaches. Alternatively the Catchment Board itself has suggested a “Management Plan” approach to the lower river.

This approach fails to appreciate the radical change effected by the 1981 amendment to the Water and Soil Conservation Act. Previous decisions of the National Authority have commented upon this change, ... and it is sufficient to record simply the transition from the multiple use approach in every river system to a conservation or protection philosophy in selected rivers. The adoption of a National Water Conservation Order in respect of the Rangitikei should not be seen as a criticism of the Catchment Board, but rather as the adoption of a different statutory procedure, designed with a national rather than local perspective.

The problem in relation to the Rangitikei River is not whether the Catchment Board will be impeded “in its work in promoting and controlling multiple uses of natural water, and in taking into account the needs of primary and secondary industry and community water supplies” (as stated by the Catchment Board), but rather how to design an Order that is justified on a national scale to meet the particular requirements of the local community, and to minimise any areas of conflict between national and local desires.¹⁸⁶⁷

At its April 1985 meeting NWASCA was told about the tenor of the submissions received:

Significantly, ... the local and regional authorities generally do not object to the concept of protection for part of the Rangitikei River and its tributaries. Their concern is the extent of the application and the implications of some of the provisions sought by the Acclimatisation Societies. In many cases they have presented alternative formulations for a draft order. A noteworthy development is that some recreational interests are not unqualified in their support for an order: Federated Mountain Clubs for example do not make a case for an order over the river downstream of the Napier – Taihape Road. The overall impression is one of widespread support for a national water conservation order over the upper catchment waters. There are differences over how far downstream any order should extend.¹⁸⁶⁸

¹⁸⁶⁶ Morpeth Gould & Co, Barristers, Solicitors and Notaries Public, Auckland, to Secretary National Water and Soil Conservation Authority, 24 May 1985. Works and Development Head Office file 76/327000. Supporting Papers #1016-1027.

¹⁸⁶⁷ Morpeth Gould & Co, Barristers, Solicitors and Notaries Public, Auckland, to Secretary National Water and Soil Conservation Authority, 24 May 1985. Works and Development Head Office file 76/327000. Supporting Papers #1016-1027.

¹⁸⁶⁸ Paper to National Water and Soil Conservation Authority meeting on 2 April 1985. Works and Development Head Office file 76/327000. Supporting Papers #995-1001.

The Authority established a committee consisting of five of its members to consider the application and submissions. Brian Jones was not one of the members on the committee. For the committee, staff of the Authority prepared some discussion papers:

- Discussion Paper No. 1 – Background paper for the Rangitikei and Maitakea Applications, basically the legal framework for the processing of the application¹⁸⁶⁹;
- Discussion Paper No. 2 – Areas of Agreement and Contention, being an analysis of the submissions received from local and regional authorities and the Catchment Board, plus a discussion on the merits of public hearings¹⁸⁷⁰;
- Discussion Paper No. 3 – Lower River; Mangaweka to the Sea¹⁸⁷¹;
- Discussion Paper No. 4 – The Hautapu, Moawhango and Mangawharariki Rivers¹⁸⁷²;

The committee held two meetings, in July and August 1985. At its first meeting it was agreed that preliminary views would be set down in a draft order and short explanatory report, prior to a public meeting being held at which those who had made submissions could provide their comments on the draft order and on the views expressed by other submitters¹⁸⁷³. At the committee's second meeting its preliminary assessment was debated and decided upon. Its preliminary view was:

- The Committee believes a case has been made for a national water conservation order over the headwaters to Springvale, the Kawhatau and Whakaurekou Rivers, and the Rangitikei down to at least Mangaweka.
- The Committee does not believe a national order is justified over the lowest reaches of the Rangitikei down to the sea.
- The Committee is not convinced that Mangaweka is the most appropriate cut off point; would like the views of interested parties on alternatives such as Vinegar Hill.
- The Committee's preliminary assessment is that there may be a case for including the Moawhango River in an order, but would like further views on this.
- The Hautapu and Mangawharariki Rivers strike the Committee as being more suited to a local notice than a national order. Feedback is sought on this.¹⁸⁷⁴

¹⁸⁶⁹ Discussion Paper No. 1, 15 May 1985, attached to Director of Water and Soil Conservation to Authority committee members, 15 May 1985. Works and Development Head Office file 76/327000. Supporting Papers #1002-1015.

¹⁸⁷⁰ Discussion Paper No. 2, undated, attached to Director of Water and Soil Conservation to Authority committee members, 19 June 1985. Works and Development Head Office file 76/327000. Supporting Papers #1028-1041.

¹⁸⁷¹ Discussion Paper No. 3, undated (considered by the committee on 14 August 1985). Works and Development Head Office file 76/327000. Supporting Papers #1052-1059.

¹⁸⁷² Discussion Paper No. 4, undated (considered by the committee on 14 August 1985). Works and Development Head Office file 76/327000. Supporting Papers #1060-1064.

¹⁸⁷³ Notes of meeting, 4 July 1985. Works and Development Head Office file 76/327000. Supporting Papers #1042-1043.

¹⁸⁷⁴ Notes of meeting, 14 August 1985. Works and Development Head Office file 76/327000. Supporting Papers #1044-1051.

The NWASCA committee therefore broadly agreed with the approach adopted by the Catchment Board of the river downstream of Mangaweka (or Vinegar Hill) not being covered by the National Water Conservation Order, and with the river upstream of Mangaweka (or Vinegar Hill) being governed by two different management regimes set out in the Order.

In September 1985 the NWASCA committee distributed its preliminary views and an invitation to attend an informal public meeting in Taihape the following month¹⁸⁷⁵. A number of submitters took up the offer to present written evidence to the Taihape meeting:

Table 16: Submitters presenting submissions at Taihape public meeting, September 1985

Submitter	Supporting Papers page #
Applicants, Acclimatisation Society movement	1065-1072
NZ Council for Recreation and Sport	1073-1074
Federated Mountain Clubs of NZ Inc	1075-1076
Water and Soil Directorate, Ministry of Works and Development	1077-1089
Town and Country Planning Directorate, Ministry of Works and Development	1090-1093
Wanganui-Rangitikei Electric Power Board and Manawatu-Oroua Electric Power Board	1094-1102 and 1133-1137
Rangitikei-Wanganui Catchment Board	1103-1111
Manawatu United Council	1112-1113
J Wattie Canneries Ltd	1114-1116
P Pharazyn	1117-1124
Federated Farmers of NZ Inc	1125-1130
Byford's Contracting and Construction Co Ltd	1131
Rangitikei River Adventures	1132

Among them was the Rangitikei-Wanganui Catchment Board¹⁸⁷⁶. This was the opportunity for the Catchment Board to bring to the notice of the NWASCA committee the Maori viewpoints that it had collected. However, that opportunity was not taken; the Board's evidence made no mention of the Maori support its proposals had received.

¹⁸⁷⁵ Secretary National Water and Soil Conservation Authority to All Submitters, 19 October [sic, should be September] 1985. Lands and Survey Wellington District Office file 3/9. Supporting Papers #2904-2912.

¹⁸⁷⁶ Submission of Chief Technical Officer Rangitikei-Wanganui Catchment Board, 19 October 1985. Works and Development Head Office file 76/327000. Supporting Papers #1103-1111.

Following the meeting, the committee finalised the draft Water Conservation Order, which was adopted by NWASCA in February 1986, and notified the following month¹⁸⁷⁷. NWASCA distinguished two parts of the Rangitikei River and its tributaries that would be affected by the Water Conservation Order. The first, named the “Upper River”, was the Rangitikei River and all its tributaries upstream of the confluence with the Makahikatoa Stream. The second, named the “Middle River”, was the Rangitikei River downstream of the Makahikatoa Stream confluence to the Mangarere Bridge, together with the Whakaurekou River and all its tributaries, and the Kawhatau River and two of its tributaries, the Pourangaki River and the Mangakokeke Stream.

The “Upper River” was declared to have “outstanding wild and scenic characteristics” and “outstanding recreational, fisheries and wildlife habitat features”. It was to be preserved as far as possible in its natural state. The “Middle River” was declared to have “outstanding scenic characteristics” and “outstanding recreational and fisheries features”. The rate of flow in the “Middle River” was to be not less than 95% of the natural flow. Neither reach of the river could be dammed. The Regional Water Board was restrained from issuing water rights or general authorisations that would conflict with the Water Conservation Order’s standards¹⁸⁷⁸.

11.2.3 Planning Tribunal inquiry into the Rangitikei River application

The legislation provided that any party that had made a submission to the National Water and Soil Conservation Authority (NWASCA) could lodge a submission or an objection with the Planning Tribunal about the draft Order¹⁸⁷⁹. Two parties exercised the right of objection. One objector was the two local Power Boards acting together. The Wanganui-Rangitikei Electric Power Board and the Manawatu-Oroua Electric Power Board submitted that the definition of “river” in the order as meaning “the Rangitikei River and its tributaries” would allow the Order to be interpreted as including the Hautapu River, which was neither the intention of NWASCA nor what they could support. They asked for it to be clarified that the Hautapu River was excluded from the Order. They also sought to have provision made in the

¹⁸⁷⁷ Secretary/Chief Executive Officer National Water and Soil Conservation Authority to Registrar Planning Tribunal, 17 March 1986. Planning Tribunal file TCP 180/86. Supporting Papers #3169-3173.

¹⁸⁷⁸ Recommended draft water conservation order, attached to Secretary/Chief Executive Officer National Water and Soil Conservation Authority to Registrar Planning Tribunal, 17 March 1986. Planning Tribunal file TCP 180/86. Supporting Papers #3169-3173.

¹⁸⁷⁹ Section 20C Water and Soil Conservation Act 1967 (as inserted by Section 7 Water and Soil Conservation Amendment Act 1981).

Order whereby any dam located downstream of Mangarere Bridge could impound water above the Bridge¹⁸⁸⁰.

The second objector was the applicant, the Acclimatisation Society movement. They wanted the Order to have some effect downstream of Mangarere Bridge. Specifically, they wanted the stretch between Mangarere Bridge and Vinegar Hill to have controls prohibiting damming and diversion, and abstraction beyond 5% of the mean daily flow restricted. Throughout the whole stretch of the river affected by the Order, they wanted controls to maintain a specific water quality standard. They also wanted a definition in the Order of “mean daily flow”¹⁸⁸¹.

Besides the two objectors, Manawatu United Council made a pro-forma submission in order to preserve its rights to be involved in any Planning Tribunal inquiry¹⁸⁸².

There was an impediment to the processing of the objections and submissions by the Planning Tribunal. A decision of the Planning Tribunal on the draft Rakaia River National Water Conservation Order had been appealed to the High Court on points of law, and those points of law needed to be settled before the Planning Tribunal could consider any other water conservation orders. The Rakaia River Order was not resolved by the High Court until late 1989. While at that stage there was a concern that the proposed Resource Management Bill could affect proceedings, it was the prospect that the parties could resolve their differences by negotiation that then delayed the Tribunal’s consideration of the Rangitikei River National Water Conservation Order objections and submissions.

The Ministry for the Environment (which had taken over the NWASCA role in April 1988) convened a meeting in Marton in March 1990. Those attending were the two objectors, the three submitters, the Manawatu-Wanganui Regional Council (which had taken over the Regional Water Board role in 1989), and various Government Departments that had previously expressed interest in the terms of the National Water Conservation Order¹⁸⁸³. The

¹⁸⁸⁰ Horsley Brown & Co, Barristers Solicitors and Notaries Public, Wanganui, to Registrar Planning Tribunal, 2 April 1986. Planning Tribunal file TCP 180/86. Supporting Papers #3176-3179.

¹⁸⁸¹ Objection against draft national water conservation order, 3 April 1986, attached to Morpeth Gould, Barristers Solicitors and Notaries Public, Auckland, to Registrar Planning Tribunal, 3 April 1986. Planning Tribunal file TCP 180/86. Supporting Papers #3180-3183.

¹⁸⁸² Regional Planner Manawatu United Council to Registrar Planning Tribunal, 4 April 1986. Planning Tribunal file TCP 180/86. Supporting Papers #3184-3185.

¹⁸⁸³ Secretary for the Environment to Chief Executive Officer, 22 February 1990. Manawatu-Wanganui Regional Council file EM 06 01. Supporting Papers #5982-5985.

objectors, the submitters, the Regional Council and the Ministry for the Environment agreed that the points of difference could be narrowed by further negotiations. In June 1990 the applicants' solicitor advised the Planning Tribunal that:

All parties who have lodged requests for an inquiry in this matter, together with all other parties who have made submissions in relation to the proposed Conservation Order, recently met under the auspices of the Ministry for the Environment. At that meeting, agreement was reached as to an appropriate way of resolving the differences between the parties, and to thereby obviate the need for a full hearing. Each of the main representatives of that meeting have subsequently obtained instructions from their clients to confirm that agreement.¹⁸⁸⁴

A memorandum signed by the two objectors and a solicitor acting on behalf of the Minister for the Environment, and signifying their joint agreement to a number of amendments to the draft Order, was provided in September 1990¹⁸⁸⁵. The changes agreed to would remove reference to the "river", and rely solely on the terms "Upper River" and "Middle River" (thereby excluding the Hautapu River from the Order), include similar water quality parameters as were contained in the Manganui-a-te-Ao River National Water Conservation Order, allow for the renewal of existing water rights for general authorisations, and exempt from the Order the impounding of water downstream of the confluence of the Hautapu River as a result of any dam downstream of Mangarere Bridge (noting that any such dam would require relevant water rights).

A judicial conference to consider the agreement was held in Palmerston North in November 1990. In addition to the parties that had signed the joint agreement and the Manawatu-Wanganui Regional Council, the conference was attended by four other parties that had made submissions to NWASCA in 1985. There was some concern about the revised draft Order expressed at the judicial conference by three of those other parties, Rangitikei District Council, Federated Farmers, and a Taihape resident who had formerly been an elected member of the Rangitikei-Wanganui Catchment Board and Regional Water Board. Matters of concern to these three parties included the 95% flow maintenance requirement rather than a lower 90% requirement, taking of water from tributaries of the "Middle River", and a lack of protection into the future for the existing discharge right for Mangaweka's sewage. The Planning Tribunal decided that as agreement could not be reached, it would need to conduct

¹⁸⁸⁴ Chapman Tripp Sheffield Young, Barristers Solicitors and Notaries Public, Auckland, to Registrar Planning Tribunal, 5 June 1990. Planning Tribunal file TCP 180/86. Supporting Papers #3186-3187.

¹⁸⁸⁵ Memorandum for Planning Tribunal and amended draft water conservation order, attached to Chapman Tripp Sheffield Young, Barristers Solicitors and Notaries Public, Auckland, to Registrar Planning Tribunal, 26 September 1990. Planning Tribunal file TCP 180/86. Supporting Papers #3188-3194.

an inquiry, including hearing evidence from the applicant, the Manawatu-Wanganui Regional Council, and those not in agreement with the amended draft Order. Written evidence needed to be lodged with the Tribunal prior to the hearing¹⁸⁸⁶.

Shortly after the judicial conference, two of the three other parties withdrew their objections¹⁸⁸⁷. Thinking that all objections to the draft Order as amended had been disposed of, the Planning Tribunal judge concluded that a contested inquiry did not need to be held. He asked the parties still interested in seeing the Planning Tribunal issue a National Water Conservation Order (i.e. Ministry for the Environment, Manawatu-Wanganui Regional Council, and the Acclimatisation Societies as applicants) to agree on “proposals for the efficient disposal of the proceedings”. However the judge was of the view that the legislation required the Planning Tribunal to still hold some form of public inquiry and therefore receive some formal evidence¹⁸⁸⁸.

In fact one of the other parties, Rangitikei District Council, had not withdrawn from the proposed inquiry. Negotiations had to take place with the District Council to resolve its concerns in relation to the Mangaweka sewage discharge. This occurred in mid 1992¹⁸⁸⁹.

The Water Conservation Order finally came before the Planning Tribunal at a public hearing in Wanganui in November 1992. This was ultimately a pro forma hearing. In a joint memorandum, counsel for the parties explained that the final objection about Mangaweka’s sewage discharge had been resolved by a wording change allowing renewal of existing water rights¹⁸⁹⁰. The applicant (the Acclimatisation Society movement) then presented a single brief of evidence from a field officer for the Wellington Fish and Game Council in support of

¹⁸⁸⁶ Minutes of judicial conference, 19 November 1990. Planning Tribunal file TCP 180/86. Supporting Papers #3195-3197.

¹⁸⁸⁷ Legal Adviser Federated Farmers of NZ Inc to Registrar Planning Tribunal, 7 December 1990, and PPG Pharazyn, Taihape, to Registrar Planning Tribunal, 11 January 1991. Planning Tribunal file TCP 180/86. Supporting Papers #3198 and 3199.

¹⁸⁸⁸ File note by Planning Judge Sheppard, 4 March 1991. Planning Tribunal file TCP 180/86. Supporting Papers #3200.

¹⁸⁸⁹ Armstrong Barton, Barristers and Solicitors, Wanganui, to Ministry for the Environment, 11 May 1992, attached to Assistant Office Solicitor Ministry for the Environment to Manawatu-Wanganui Regional Council, 26 May 1992; Director of Environment and Planning to Ministry for the Environment, 18 June 1992; and Assistant Officer Solicitor Ministry for the Environment to Manawatu-Wanganui Regional Council, 4 August 1992. Manawatu-Wanganui Regional Council file EM 06 01. Supporting Papers #5986-5988; 5989; and 5990-5993.

¹⁸⁹⁰ Joint memorandum, undated (presented 16 November 1992). Planning Tribunal file TCP 180/86. Supporting Papers #3201-3202.

the Water Conservation Order being granted¹⁸⁹¹; the field officer was not cross-examined and was questioned by the Planning Judge only cursorily. Counsel for the Minister for the Environment then assured the Tribunal that all statutory steps had been complied with and that it was in order for a recommendation to be made that the Water Conservation Order be issued¹⁸⁹². This satisfied the Planning Tribunal's requirement that it had to hold an inquiry, and it then recommended issue of the Water Conservation Order, noting in passing:

We also sound a note of caution should it be thought that this order is protective of the scenic features which surround the protected waters. It will be noted that Clause 3 of the order uses the expression "includes and provides for". Thus whilst the declaration made in that clause "includes" the scenic land features which surround the waters, those features are not the subject of protection under the provisions of ss 20A or 20B of the Act, although they are a consideration to be taken into account. Section 20 restricts the application of the order to any specified river, stream or lake or any specified part thereof. In order to protect the scenic values of the surrounding land, other measures will be required.¹⁸⁹³

Staff reported to the Manawatu-Wanganui Regional Council after the Planning Tribunal hearing. They commented:

The final order differs little from the draft made by the National Water and Soil Conservation Authority in 1986. The agreed changes clarify the terms of the order and provide for its implementation under the Resource Management Act rather than the Water and Soil Conservation Act....

Although this application has taken almost nine years to determine, the order is a good compromise between protection and development. The Council is charged with the implementation of the Order, and cannot grant any resource consent which would be contrary to any provision of it. Current resource consents can be renewed, and consents may be granted where they concern fisheries and wildlife habitat, necessary public utilities, and soil conservation and river control activities.¹⁸⁹⁴

The Water Conservation (Rangitikei River) Order 1993 was promulgated in February 1993¹⁸⁹⁵, and came into force the following month, being four weeks after its notification in

¹⁸⁹¹ Evidence of Ian Michael Buchanan, undated (presented 16 November 1992). Planning Tribunal file TCP 180/86. Supporting Papers #3203-3216.

¹⁸⁹² Submission of counsel for the Minister for the Environment, 13 November 1992. Planning Tribunal file TCP 180/86. Supporting Papers #3217-3230.

¹⁸⁹³ Decision of Planning Tribunal and recommended Rangitikei River Water Conservation Order, 24 December 1992. Planning Tribunal file TCP 180/86. Supporting Papers #3231-3237.

¹⁸⁹⁴ Paper to Regional Council meeting, undated (approximately December 1992 - January 1993). Manawatu-Wanganui Regional Council file EM 06 01. Supporting Papers #5994.

¹⁸⁹⁵ Water Conservation (Rangitikei River) Order 1993, attached to Assistant Office Solicitor Ministry for the Environment to Simpson Grierson Butler White, Barristers and Solicitors, Wellington, 18 February 1993. Manawatu-Wanganui Regional Council file EM 06 01. Supporting Papers #5995-5998. Statutory Regulations 1993/15. Copy on Manawatu-Wanganui Regional Council file EM 06 01. Supporting Papers #5999-6002.

the *New Zealand Gazette*¹⁸⁹⁶. It was issued pursuant to the Resource Management Act 1991, and used the terminology of ‘resource consent’ rather than ‘water right’, even though its processing right up to and including the Planning Tribunal stage had been in terms of the Water and Soil Conservation Act 1967. A saving provision (Section 423(4) Resource Management Act 1991) had allowed the Planning Tribunal to complete its consideration of the objections as if the 1967 Act was still in force.

11.3 Hautapu River Local Water Conservation Notice

In November 1987 Wellington Acclimatisation Society publicly announced that it would be applying for a water conservation order for the Hautapu River. In an information letter to local landowners and other interested parties, it explained that the Hautapu River was a high quality brown trout fishing river with trophy size fish:

Wellington Acclimatisation Society wants to ensure that future management of the river, its rate of flow and water quality, is directed primarily toward achieving acceptable standards for the maintenance and enhancement of high quality water recreation, particularly trout fishing.

A water conservation order would do this by protecting the existing or natural state of the river, and by preventing damming and other instream works that might adversely affect fisheries values. The Acclimatisation Society anticipated that the application would be considered as a local water conservation notice¹⁸⁹⁷.

The application was made that month jointly by Wellington Acclimatisation Society and the Council of North Island Acclimatisation Societies¹⁸⁹⁸. Without being specific, it stated that the applicants were primarily interested in the river from the headwaters downstream to just above the confluence with the Oraukura Stream, near Taihape township. Of water conservation orders generally, the application remarked:

In recent years the concept of water management and allocation plans has gained support in Catchment Authority circles. However, such plans approach the task of water management and allocation from an underlying philosophy of resolving any conflicts between present and potential users in an equitable manner, and with the burden equally shared. The 1981 Amendment [Act], on the other hand, provides for

¹⁸⁹⁶ *New Zealand Gazette* 1993 page 473. Not included in Supporting Papers.

¹⁸⁹⁷ Circular letter by Secretary Wellington Acclimatisation Society, 10 November 1987, attached to Secretary Wellington Acclimatisation Society to Secretary, 24 November 1987. Rangitikei-Wanganui Catchment Board file W327/500/1. Supporting Papers #4032-4035.

¹⁸⁹⁸ Application for a Water Conservation Order: Hautapu River, 13 November 1987, attached to Secretary National Water and Soil Conservation Authority to Chief Executive Officer, 21 December 1987. Rangitikei-Wanganui Catchment Board file W327/500/1. Supporting Papers #4036-4044.

the statutory protection of ‘instream’ uses of natural water against development interests.

The water management and allocation plan process is therefore quite different from the water conservation order process. Where the former represents multi-objective planning with no particular goal of paramount importance, the latter specifically favours the protection of the amenity value of water in its natural state, over and above other competing uses. Clearly the philosophy underpinning water management and allocation plans has no part in the consideration of a water conservation order application.¹⁸⁹⁹

As preferred by the applicants, both the Rangitikei-Wanganui Catchment Board and Regional Water Board, and the National Water and Soil Conservation Authority considered that the application should be considered as one for a local water conservation notice¹⁹⁰⁰, and this was agreed to by the Minister of Works and Development in March 1988¹⁹⁰¹.

Consideration of the application as a local notice made its processing the responsibility of the local Regional Water Board. Concurrently with receipt of the Minister’s advice, the Manawatu and the Rangitikei-Wanganui Catchment Boards and Regional Water Boards had amalgamated their staff, operations and administration (though not their respective Board memberships and decision-making powers) to form the Central Districts Catchment Boards (on 1 April 1988). The two Boards and their combined administration were asked at the same time to process two other local water conservation notice applications (for the Makuri River and the Mangatainoka River in the Manawatu Board’s district).

There was some delay while the Catchment Boards and the applicants negotiated over a payment of a deposit for costs. Once this procedural matter was resolved, the applicants provided some suggested terms and conditions for the Hautapu River Local Water Conservation Notice¹⁹⁰². These conditions covered:

¹⁸⁹⁹ Application for a Water Conservation Order: Hautapu River, 13 November 1987, attached to Secretary National Water and Soil Conservation Authority to Chief Executive Officer, 21 December 1987. Rangitikei-Wanganui Catchment Board file W327/500/1. Supporting Papers #4036-4044.

¹⁹⁰⁰ Director of Resources to Secretary National Water and Soil Conservation Authority, 10 February 1988, and Associate Minister of Works and Development to Chief Executive Officer, 24 March 1988. Rangitikei-Wanganui Catchment Board file W327/500/1. Supporting Papers #4045 and 4046.

¹⁹⁰¹ Associate Minister of Works and Development to Chief Executive Officer, 24 March 1988. Rangitikei-Wanganui Catchment Board file W327/500/1. Supporting Papers #4046.

¹⁹⁰² Suggested conditions for local conservation notice on Hautapu River, undated, attached to Secretary Council of North Island Acclimatisation Societies to General Manager, 3 November 1988. Central Districts Catchment Boards file 55/5. Supporting Papers #4048-4051.

- Retention in its natural state of the rate of flow in the river and tributaries from its source to the Oraukura Stream confluence;
- Restrictions on the granting of any water right that would alter the natural water quality of the river and tributaries;
- Prohibition of damming of the Hautapu River, Waiouru Stream and Irirangi Stream;
- Restrictions on the authorising of bank erosion or flood protection works that would impact on existing fisheries values in the river and tributaries;
- Restrictions on the authorising of gravel removal from the river and tributaries.

At this point, in November 1988, the application for the Local Water Conservation Notice was publicly advertised, and submissions were invited¹⁹⁰³. The public notice, which was advertised in the *Wanganui Chronicle* and the *Central Districts Times*, included the five matters described above that the applicants wanted covered by the water conservation notice. It is not known if the Catchment Boards' combined administration directly notified any potentially interested organisations. There is no indication on the records examined for this report that any Maori organisations were notified. This can be compared with the records available that demonstrate the notification and involvement of Maori organisations at the time of the Rangitikei River National Water Conservation Order application. It seems probable that the outreach towards "ethnic groups" displayed by the Rangitikei-Wanganui Catchment Board in 1984 was not repeated four years later.

Once the application had been advertised, the applicants supplied submissions in support¹⁹⁰⁴. These emphasised the high value of the Hautapu River brown trout fishery to the region's anglers. The applicants felt that the fishery was threatened by a hydroelectric power scheme that had been suggested in a 1985 report for the local Electric Power Board (see chapter on hydroelectric power generation), and by the absence of any water quality classification or minimum flow standards. Trout spawning occurred in the headwaters, particularly in the lower reaches of the Irirangi Stream, and the Waiouru Stream was a juvenile rearing area; spawning in the Hautapu River itself was "very patchy". The conditions making the river good for angling were the stability of the river channel and the absence of gravel movement.

¹⁹⁰³ Public notice, and Director of Resources to Secretary National Executive of Acclimatisation Societies, 16 November 1988. Central Districts Catchment Boards file 55/5/3. Supporting Papers #4052-4053 and 4054.

¹⁹⁰⁴ Chapman Tripp Sheffield Young, Barristers Solicitors and Notaries Public, Wellington, to General Manager, 12 December 1988. Central Districts Catchment Boards file 55/5/3. Supporting Papers #4055-4072.

The easy accessibility of the river contributed to it being the seventh highest used river in the Wellington Acclimatisation Society region. In a survey of angler opinion it had been rated five (highly valued) on a scale of one to five.

In addition to the submissions in support from the applicants, eleven other submissions were received. Two were from Government Departments (Minister of Conservation and New Zealand Army), three were from local authorities (Taihape Borough Council, Rangitikei County Council and Central Districts Catchment Boards), four were from angling organisations, and two were from individuals who fished. There were no submissions received from Maori organisations or from Government agencies assisting Maori.

Needless to say the angling organisations and individuals fully supported the application¹⁹⁰⁵. The Minister of Conservation was also fully supportive, considering that while the fishery values alone justified protection, the combination with riparian, landscape and other recreational values made the case for protection an outstanding one. In addition the Minister asked that the Local Water Conservation Notice encompass the whole river down to its confluence with the Rangitikei River¹⁹⁰⁶. The New Zealand Army and the Taihape Borough Council, on the other hand, while not opposed, were concerned to ensure that their existing use of the Waiouru Stream and Hautapu River respectively as the source of their water supplies was not prejudiced¹⁹⁰⁷. Rangitikei County Council also wanted to see existing water uses protected, referring to stock water, domestic water, Mataroa village water supply and Taihape Borough water supply. It opposed any restrictions on bank erosion or flood protection works, and on gravel extraction, as these would adversely affect both farming

¹⁹⁰⁵ Secretary Wanganui Acclimatisation Society to Secretary, 13 December 1988; Club Secretary Hutt Valley Angling Club to Secretary, 13 December 1988; Secretary Wanganui Fresh Water Anglers Club to Secretary, undated (received 19 December 1988); Secretary Manawatu Freshwater Anglers Club to Secretary, 13 December 1988; KG Bradshaw, Wanganui, to Secretary, 12 December 1988; and AW Gordon, Taihape, to Secretary, 13 December 1988. Central Districts Catchment Boards file 55/5/3. Supporting Papers #4085; 4086; 4100; 4089-4092; 4084; and 4087-4088.

¹⁹⁰⁶ Minister of Conservation to Secretary, undated (received 19 December 1988). Central Districts Catchment Boards file 55/5/3. Supporting Papers #4094-4099.

¹⁹⁰⁷ Commander Army Training Group Waiouru to Secretary, 9 December 1988, and Town Clerk Taihape Borough Council to General Manager, 2 December 1988. Central Districts Catchment Boards file 55/5/3. Supporting Papers #4083 and 4073.

A further submission on behalf of the Ministry of Defence was provided in May 1989 at the time the staff report on the application was being prepared. Manager Planning, Works Consultancy Services Wanganui to Regional Technical Manager, 9 May 1989. Central Districts Catchment Boards file 55/5/3. Supporting Papers #4101-4104.

operations and development, and roading construction and maintenance¹⁹⁰⁸. Potential restrictions on watercourse engineering works for erosion control or flood protection and on gravel extraction were also the concern of the Central Districts Catchment Boards' operational staff. This was even though little work of this nature had been carried out on the Hautapu River above Taihape. The submission explained that the most common operational work was willow removal, which was welcomed by anglers as improving access and the aesthetics of the river¹⁹⁰⁹.

Once the submissions were received, further processing of the application was delayed until May 1989, while awaiting the preparation of a technical report on the hydrology and water quality of the Hautapu River. This report showed that the river had a natural flow that was little affected by human activity, and that water quality upstream of Taihape was high (though less high below Taihape because of the impact of treated sewage discharge)¹⁹¹⁰.

A staff report was then prepared assessing the merits of the application. It noted that there were 21 existing water rights (and one notice of pre-1967 existing use) issued for the Hautapu catchment upstream of the Oraukura Stream confluence, which involved water takes, water discharges and rights to dam. None of the submissions had opposed the Local Water Conservation Notice outright. Existing uses could be protected by a provision in the Local Water Conservation Notice allowing for the renewal of water rights or general authorisations that were current at the commencement of the notice. The application was to retain the present flow rates, which included the effect of takes for water supply at Waiouru and Taihape, so these takes would not be prejudiced. The concerns of the County Council and the Catchment Boards' operational staff about road reconstruction and erosion prevention were valid and needed to be recognised. However, a water conservation notice could only restrict the granting of water rights, not particular activities, so the applicants' request for restrictions on bank erosion and flood protection works, or gravel removal, could be met only where water rights were required. The staff report recommended that a Local Water Conservation Notice be issued which contained the following elements relating to the Hautapu River and tributaries upstream of the confluence with the Oraukura Stream:

¹⁹⁰⁸ Chief Executive Officer Rangitikei County Council to General Manager, 14 December 1988. Central Districts Catchment Boards file 55/5/3. Supporting Papers #4093.

¹⁹⁰⁹ Director of Operations to Secretary, 5 December 1988. Central Districts Catchment Boards file 55/5/3. Supporting Papers #4076-4082.

¹⁹¹⁰ Central Districts Catchment Boards, *Aspects of the hydrology and water quality of the Hautapu catchment*, May 1989, Central Districts Catchment Boards Report No 89/5. Supporting Papers #6754-6861.

- A declaration that the river (as defined above) “is a brown trout fishery of regional significance”;
- No right to dam the river allowed to be issued;
- No water right or general authorisation allowed to be issued “if the effect would be to diminish significantly the fisheries habitat of any part of the river”, though with exemptions to this provision allowed for fisheries research, roading and public utilities protection, and soil conservation works;
- No prevention of the renewal of any current water right or general authorisation¹⁹¹¹.

The staff report was circulated to submitters for their comment. In the covering letter, submitters were also asked, first, whether they considered a meeting of the parties was necessary before the matter was referred to the Regional Water Board for a decision, and second, whether the Local Water Conservation Notice should be for a defined period of time¹⁹¹². Four submitters and the applicants responded. None suggested a meeting or a fixed term for the notice. One of the two individuals supported the Notice as drafted¹⁹¹³. Catchment Boards’ operational staff requested that the exemption be for soil conservation and river control works, rather than just for soil conservation works¹⁹¹⁴. The Army wanted an exemption to the Notice in the event of civil disaster or national mobilisation¹⁹¹⁵, and consultants for the Ministry of Defence recommended that the declaration should also refer to the high quality of the river being of regional significance for the supply of domestic water¹⁹¹⁶. The Department of Conservation noted that the extension of coverage of the Notice downstream as far as the confluence with the Rangitikei River had not been commented on in the staff report, and protection should be given to riparian forest and wetland values. The Department also considered that the term in the draft Notice about

¹⁹¹¹ Report by Director of Resources, May 1989. Central Districts Catchment Boards file 55/5/3. Supporting Papers #4105-4121.

¹⁹¹² Director of Resources to All Submitters, 22 May 1989. Central Districts Catchment Boards file 55/5/3. Supporting Papers #4122-4124.

¹⁹¹³ K Bradshaw, Wanganui, to Director of Resources, 24 May 1989. Central Districts Catchment Boards file 55/5/3. Supporting Papers #4126.

¹⁹¹⁴ Director of Operations to Director of Resources, 24 May 1989. Central Districts Catchment Boards file 55/5/3. Supporting Papers #4125.

¹⁹¹⁵ Commander Army Training Group Waiouru to Director of Resources, 30 May 1989. Central Districts Catchment Boards file 55/5/3. Supporting Papers #4127-4128.

¹⁹¹⁶ Manager Planning, Works Consultancy Services Wanganui to Director of Resources, 1 June 1989. Central Districts Catchment Boards file 55/5/3. Supporting Papers #4129-4131.

ensuring that fisheries habitat did not “diminish significantly” was too restrictive, as any level of detrimental effect on fishery values should be regarded as unacceptable¹⁹¹⁷.

Wellington Acclimatisation Society sought a right to be consulted when any water right in the conservation notice area was applied for, as this would allow the Regional Water Board to be told if fisheries habitat was diminished “significantly”¹⁹¹⁸. The National Executive of Acclimatisation Societies endorsed this request¹⁹¹⁹.

The comments of the submitters on the draft Local Water Conservation Notice were reported to the Rangitikei-Wanganui Catchment Board and Regional Water Board at its July 1989 monthly meeting. Board staff made the following recommendations:

- The stretch of river the subject of the notice should be declared to be “of regional significance for the supply of domestic water and as a brown trout fishery”;
- The exemption should cover both soil conservation and river control works;
- “Significantly” should be deleted so that water rights or general authorisations would not be granted or made “if the effect would be to diminish the fisheries habitat of any part of the waterway”; and
- The Notice could be suspended during national mobilisation or civil emergency affecting the military establishments at Waiouru and Irirangi¹⁹²⁰.

The Board approved the Local Water Conservation Notice as amended in terms of the staff recommendation, though with two further amendments of its own, the first declaring the river covered by the notice to be “of local significance for the supply of domestic water and as a regional brown trout fishery”, and the second restoring “significantly”¹⁹²¹. In making its

¹⁹¹⁷ District Conservator Palmerston North to Director of Resources, 2 June 1989. Central Districts Catchment Boards file 55/5/3. Supporting Papers #4131-4132.

¹⁹¹⁸ Secretary Wellington Acclimatisation Society to Director of Resources, 8 June 1989. Central Districts Catchment Boards file 55/5/3. Supporting Papers #4133-4134.

¹⁹¹⁹ Director National Executive of Acclimatisation Societies to Director of Resources, 9 June 1989. Central Districts Catchment Boards file 55/5/3. Supporting Papers #4135.

¹⁹²⁰ Report by Director of Resources, undated (presented to Board meeting on 18 July 1989). Central Districts Catchment Boards file 55/5/3. Supporting Papers #4136-4142.

¹⁹²¹ Excerpt from Minutes of Board meeting, 15 August 1989 [sic, should be 18 July 1989], and Director of Resources to All Submitters, 25 July 1989. Central Districts Catchment Boards file 55/5/3. Supporting Papers #4149.

Wanganui Chronicle, 29 July 1989. Copy on Central Districts Catchment Boards file 55/5/3. Supporting Papers #4148.

decision, the Board considered that extending the Notice below the Oraukura Stream confluence would be “inappropriate”¹⁹²².

Submitters had a statutory right to appeal the Regional Water Board’s decision to the Planning Tribunal. The applicants, the Wellington Acclimatisation Society and the Council of North Island Acclimatisation Societies, took up that right. Their appeal stated that:

- Supply of domestic water was not capable of protection under the water conservation order provisions of the 1981 Amendment, or alternatively that the local significance of the supply of domestic water was not a feature warranting protection, so that reference to domestic water supply in the declaration statement in the notice should be deleted;
- Permitting the renewal of water rights or general authorisations prior to the commencement of the notice could allow additional water rights to be granted during the intervening period between the decision to make the notice and the date of commencement of the notice; this could be remedied by the notice referring to current water rights and general authorisations as at the date of decision rather than the date of commencement¹⁹²³.

In October 1989, two months after the appeal was lodged, solicitors for the Rangitikei-Wanganui Catchment Board and Regional Water Board advised the appellants’ solicitors that the Board would not contest the two changes sought by the appellants/applicants¹⁹²⁴. Nevertheless, it took until July 1990 for the appellants and the Manawatu-Wanganui Regional Council (successor to Rangitikei-Wanganui Catchment Board and Regional Water Board) to produce a joint memorandum for the Planning Tribunal setting out the changed wording of the Local Water Conservation Notice, and then a further month before the memorandum was sent to the Tribunal¹⁹²⁵. It was then a further nine months before the

¹⁹²² Excerpt from Minutes of Board meeting, 15 August 1989 [sic, should be 18 July 1989]. Central Districts Catchment Boards file 55/5/3. Supporting Papers #4149.

¹⁹²³ Notice of Appeal to Planning Tribunal, 16 August 1989, attached to Chapman Tripp Sheffield Young, Barristers Solicitors and Notaries Public, Wellington, to Registrar Planning Tribunal, 16 August 1989. Planning Tribunal file TCP 597/89. Supporting Papers #3238-3241.

¹⁹²⁴ Treadwell Gordon & Co, Barristers Solicitors and Notaries Public, Wanganui, to Chapman Tripp Sheffield Young, Wellington, 5 October 1989. Central Districts Catchment Boards file 55/5/3. Supporting Papers #4150-4151.

¹⁹²⁵ Memorandum of Counsel for Appellants and Respondents, July 1990, attached to Brandon Brookfield, Barristers Solicitors and Notaries, Wellington, to Planning Tribunal, 15 August 1990. Planning Tribunal file TCP 597/89. Supporting Papers #3242-3248.

Planning Tribunal issued its decision consenting to the amended wording of the Notice, and directing the Regional Council to make the Notice accordingly¹⁹²⁶

The Manawatu-Wanganui Regional Council formally made the local water conservation notice at a meeting in June 1991¹⁹²⁷. The Local Water Conservation (Hautapu River) Notice was then publicly notified later that same month¹⁹²⁸, and came into force two weeks after the notification.

11.4 Water Conservation Orders and the Resource Management Act

The Water and Soil Conservation Amendment Act 1981 governing the issue and operation of water conservation orders was repealed when the Resource Management Act 1991 was passed. This occurred just a few months after the Hautapu River Local Water Conservation Notice came into force (in June 1991), and before the Rangitikei River National Water Conservation Order came into force (in February 1993). The effect of national water conservation orders and local water conservation notices was carried over into the new legislation, though in a different manner in each case.

Section 423 of the 1991 Act provided that national water conservation orders (renamed water conservation orders) would continue in effect outside the structure of new planning documents required by the Act, and would continue to be a restriction or prohibition on how a regional council could exercise its powers. In effect the Rangitikei River National Water Conservation Order is a pre-existing regional rule that Manawatu-Wanganui Regional Council is obliged to adhere to in any of its actions (including the preparation of regional plans and decisions on resource consent applications) while the Water Conservation Order continues to remain in force.

Section 368(2)(a) of the 1991 Act provided that local water conservation notices were deemed to be provisions in a transitional regional plan. This is what occurred with the Hautapu River Notice¹⁹²⁹. A transitional regional plan was an assemblage of pre-existing

¹⁹²⁶ Decision of Planning Tribunal W22/91, 10 May 1991. Planning Tribunal file TCP 597/89. Supporting Papers #3249-3252.

¹⁹²⁷ Staff report to Manawatu-Wanganui Regional Council, undated (June 1991). Manawatu-Wanganui Regional Council file EM 06 02. Supporting Papers #6003-6004.

¹⁹²⁸ *New Zealand Gazette* 1991 page 2123. Supporting Papers #3114.

¹⁹²⁹ Manawatu-Wanganui Regional Council, *Transitional Regional Plan*, operative 1 October 1991, Annex A. Supporting Papers #6865-6867.

regional regulatory instruments that were carried over into the post 1991 era. Transitional plans were automatically created with the passing of the Resource Management Act and remained in force until a regional plan prepared under the provisions of the new Act became operative. For the Manawatu-Wanganui region, an operative regional plan for the beds of rivers and lakes came into force in March 2001, and an operative regional plan for land and water came into force in September 2003. The legislation made no provision for a local water conservation notice once a relevant regional plan prepared under the new Act had become operative. Thus in effect a local water conservation notice was a pre-existing regional rule that continued in force until new rules became operative, and a regional council (subject to appeal) could exercise its own discretion whether to include the provisions of the notice in the new rules, amend the provisions, or abandon them.

As a prelude to the preparation of the regional plans, the Regional Policy Statement for Manawatu-Wanganui stated in Policies 8.3 and 15.3:

Policy 8.3

To protect from inappropriate subdivision, use and development the specified values associated with the following features which are both outstanding and regionally significant:

- ...
- h. Hautapu River and adjacent river valley, including the area to either the level covered by an annual flood or to the top of the first river terrace, specifically:
 - i. its recreational value as a brown trout fishery protected by a local water conservation notice; and
 - ii. its scenic qualities provided by the deeply entrenched river and steep gorge.
- ...
- k. Rangitikei River and river valley from its source ... to its confluence with the Makahikatoa Stream ... and all rivers and streams contributing water to the Rangitikei River upstream of that confluence; and from the said confluence with the Makahikatoa Stream to the Mangarere Bridge ...; and Whakaurekou River plus all of its tributaries and the Kawhatau River plus its following tributaries, namely the Pouranaki River and the Mangakokeke Stream, specifically:
 - i its outstanding recreational, scenic, wildlife habitat and fisheries values of those river reaches defined above that are protected by the Water Conservation (Rangitikei River) Order 1993;¹⁹³⁰

Policy 15.3

¹⁹³⁰ Manawatu-Wanganui Regional Council, *Regional Policy Statement for Manawatu-Wanganui*, operative 18 August 1998, Part Five, Chapter 22, Section 22.3.1, Policy 8.3, pages 99-101. Supporting Papers #6971-7073 at 7010-7012.

To continue protecting water bodies already covered by Local Water Conservation Notices. (These are now deemed regional plans and cover the Hautapu, Makuri and Mangatainoka Rivers.)

Note: The Council must comply with the National Water Conservation Orders for the Rangitikei and Managanuiateao Rivers.¹⁹³¹

This was a commitment that, notwithstanding that it could have abandoned the provisions of the Hautapu River Local Water Conservation Notice, Manawatu-Wanganui Regional Council would continue to uphold it. It was also an extension of the impact of both the Rangitikei River Order and the Hautapu River Notice beyond the waters of those rivers, to include also terrestrial aspects of the wider river valley that contributed to the scenic qualities of the rivers (the rivers' setting within the landscape).

In the Manawatu-Wanganui Regional Plan for Beds of Rivers and Lakes, which became operative in March 2001, BRL Rule 7 stated:

The use, erection and placement of any new structure for damming and any activity directly associated with the construction of a structure for damming in, on, under, or over the bed of a river is a Prohibited Activity for which no consent shall be granted in the following rivers:

...

- b. the main stem of the Rangitikei River from its source to Mangarere Bridge, including all contributing rivers and streams upstream of its confluence with Makahikatoa Stream; the Whakaurekou River and the main stem of its tributaries; the Kawhatau River and the main stem of its tributaries the Pouranaki River and the Mangakokeke Stream;
- c. the main stem of the Hautapu River above its confluence with the Oraukura Stream and the main stem of its tributaries, the Irirangi Stream and the Waiouru Stream; ...¹⁹³²

In the Manawatu-Wanganui Land and Water Regional Plan, which became operative in September 2003, the continuation of the Hautapu River provisions applied only to Clause 4.2 of the notice. This clause in the Local Water Conservation Notice had stated:

No water right under Section 21 of the Act shall be granted by the Regional Water Board, and no general authorisation under Section 22 of the Act shall be made by the Regional Water Board, in respect of the Hautapu River and its tributaries above the confluence with the Oraukura Stream if the effect would be to significantly diminish the fisheries habitat of any part of the water way, provided that water rights may be

¹⁹³¹ Manawatu-Wanganui Regional Council, *Regional Policy Statement for Manawatu-Wanganui*, operative 18 August 1998, Part Five, Chapter 24, Section 24.3.1, Policy 15.3, page 160. Supporting Papers #6971-7073 at 7061.

¹⁹³² Manawatu-Wanganui Regional Council, *Regional Plan for Beds of Rivers and Lakes and Associated Activities*, operative 14 March 2001, Section 11.1.3, page 85. Supporting Papers #7074-7117 at 7102.

granted and general authorisations may be made in respect of any part of those waters for any of the following purposes:

- (a) Research into, and the enhancement of, fisheries and wildlife habitats;
- (b) The maintenance or protection of roads, bridges and other necessary public utilities;
- (c) Soil conservation and river control works undertaken pursuant to the Soil Conservation and Rivers Control Act 1941.¹⁹³³

According to Appendix 2 of the Land and Water Regional Plan¹⁹³⁴, Clause 4.2 was replaced by SW Policy 3 and SW Rule 2, which stated:

SW Policy 3: Maintaining features and characteristics of the Hautapu, Mangatainoka and Makuri Rivers and their tributaries

To grant consents to take and use water from

- a. the Hautapu River upstream of its confluence with the Oraukura Stream, or
- b. any tributaries of the Hautapu River upstream of its confluence with the Oraukura Stream, ...

only where the Council is satisfied that there will be no adverse effect on

- g. the recreational fishery value of the river; or
- h. any scenic characteristics of regional significance; or
- i. any wildlife habitats of regional significance; or
- j. any recreational value of regional significance; or
- k. the habitat of trout.¹⁹³⁵

SW Rule 2: Takes from the Hautapu, Mangatainoka or Makuri Rivers and their tributaries

2.1 Except for consent applications from territorial authorities that seek to maintain the same volume or rate of take (or less) for the purpose of continuing existing community municipal water supply, any abstraction and use of more than 15 cubic metres per day of water from

- a. the Hautapu River upstream of its confluence with the Oraukura Stream; or
- b. any tributaries of the Hautapu River upstream of its confluence with the Oraukura Stream; ...

is a Non-Complying Activity.

2.2 The information required with consent applications for these activities is set out in Section 34.3.1 of this Plan.¹⁹³⁶

The Rangitikei River Water Conservation Order was a matter that was considered when considering resource consent applications for gravel extraction at Toetoe, and for discharge

¹⁹³³ *New Zealand Gazette* 1991 page 2123. Supporting Papers #3114.

¹⁹³⁴ Manawatu-Wanganui Regional Council, *Land and Water Regional Plan*, operative 30 September 1993, Appendix 2, page 152. Supporting Papers #7118-7139 at 7138.

¹⁹³⁵ Manawatu-Wanganui Regional Council, *Land and Water Regional Plan*, operative 30 September 1993, Chapter Four, Section 19, page 71. Supporting Papers #7118-7139 at 7131.

¹⁹³⁶ Manawatu-Wanganui Regional Council, *Land and Water Regional Plan*, operative 30 September 1993, Chapter Four, Section 20, pages 76-77. Supporting Papers #7118-7139 at 7134-7135.

of treated sewage effluent at Mangaweka. These are discussed in the chapters on gravel extraction and the discharge of human wastes respectively.

11.4.1 Taking water from the Hautapu River for Taihape's town water supply

The extension of the Hautapu River Local Water Conservation Notice into the Resource Management Act era was considered when Manawatu-Wanganui Regional Council considered an application for renewal of consent to take water from the Hautapu River for Taihape's town water supply.

The town supply water take from the Hautapu River has been a longstanding abstraction going back to the 1920s. Water is drawn off from the river at Ngaurukehu, and piped 10 kilometres to the town, in a scheme constructed in 1923. This scheme had a Maori dimension at that time, in that the abstraction site (Ngaurukehu A10 Subdivision 2B) was partly Maori-owned, and two of the properties the pipeline passes through were wholly Maori-owned (Motukawa 2B7C and 2B7D). Taihape Borough Council negotiated an easement with the Maori owners¹⁹³⁷. Notes prepared by the Mayor of Taihape in 1977 describe the establishment of the scheme, necessitated by shortcomings of an earlier scheme that had been established in 1912 and that had required the construction of the hydroelectric power scheme (discussed in a separate chapter) to provide electricity to pump water from the river to a reservoir above the town:

The system of supplying the Town's water needs by means of a low-lift pump and a high-lift pump was in force until 1923, but during the intervening years the system was far from satisfactory, one reason was that the operation of the pumps was dependent on the supply of direct current from the electrical undertaking and this again was dependent upon the amount of water in the dam and during dry periods there was difficulty in keeping the water partly filled, also the pumps were continually being blocked from grit from the water....

In 1919 Council decided to go ahead with the gravitation system of supply at an estimated cost of twenty six thousand pounds.... The contract ... was commenced early in 1923 and completed later that year....

In order to lay the pipeline from the Hautapu River at Ngaurukehu to the Reservoir in the Borough through privately-owned land, it was necessary to obtain easements from the landowners, and these were obtained in 1923 and 1924. The owners were

¹⁹³⁷ Grant of easement negotiated with the owners of Ngaurukehu A10 Subdivision 2B, signed 14 December 1923, and confirmed by Aotea District Maori Land Board, 6 February 1924. Wellington Land Registry Transfer 171056. Supporting Papers #3255-3258.

compensated for allowing the pipeline to pass through their land by the Council letting them have free water from various points.¹⁹³⁸

The easement (5 metres wide) was surveyed¹⁹³⁹.

Upon passage of the Water and Soil Conservation Act 1967 and the vesting of rights to take water in the Crown, Taihape Borough Council registered its use of water as an existing use with Rangitikei Catchment Board¹⁹⁴⁰. This meant there were no legal impediments to the continued abstraction of water until 2001, the expiry date of a sunset provision in the Resource Management Act 1991 allowing existing use rights to continue for a further ten years before resource consents were required. Rangitikei District Council (successor to Taihape Borough Council) met the sunset deadline when it lodged a pro-forma application for a water permit in March 2001¹⁹⁴¹. Once received, the application was put on hold while awaiting more information about the volume of water to be taken and an Assessment of Environmental Effects report¹⁹⁴². In a preliminary statement about the water take, the District Council described it in the following terms:

Taihape water supply originates from the Hautapu River at an intake gallery and settlement gallery. The site is remote and access is restricted. The intake was constructed in the 1920s (1923) and has serviced Taihape since that date with no change to either the collections systems or settling area.

The intake comprises a concrete weir, intake gallery and settlement gallery. Water is delivered to the Taihape water treatment plant through a 225-mm diameter gravity main which follows a route through farmland. The capacity of the gravity main limits the water take to a maximum value of 4564 m³ per day.

The system is designed for a population of 6,000, although the current population being served is around 2,200. As a result the average volume of water taken is approximately half the maximum capacity of the system, although there are occasions when the maximum flow rate would be required.¹⁹⁴³

¹⁹³⁸ Notes on Taihape Water Supply prepared by Taihape Borough Mayor, March 1977. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3790-3815.

¹⁹³⁹ Wellington plans DP 6504 (3 Sheets) and DP 6717. Not included in Supporting Papers.

¹⁹⁴⁰ Town Clerk Taihape Borough Council to Secretary, 18 August 1970 and 25 September 1970. Rangitikei-Wanganui Catchment Board file W327/280/7. Supporting Papers #3724-3725 and 3728.

¹⁹⁴¹ Assets Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 20 March 2001. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101722. Supporting Papers #4618-4619.

¹⁹⁴² Consents Planner to General Manager Rangitikei District Council, 30 March 2001. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101722. Supporting Papers #4620-4622.

¹⁹⁴³ Submission for Resource Consents for Taihape Water Take, June 2001, attached to Assets Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 7 June 2001. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101722. Supporting Papers #4623-4648 at 4625-4648.

Because the Taihape treated sewage discharge, and the Mangaweka water take and treated sewage discharge, were also subject to the same sunset provision under the Resource Management Act, all four consents were applied for together by Rangitikei District Council, and were initially processed together by Manawatu-Wanganui Regional Council. Among the Regional Council papers for the mid 2001 period is a note about the iwi authorities that should be notified about the applications. The named authorities were Te Runanga o Ngati Apa, Te Maru o Ruahine Trust, Te Runanga o Ngati Whitikaupeka, Te Runanga o Ngati Tamakopiri, and the Oruamatua-Kaimanawa 1V Trust. Ngati Rangi were not on the list. It is not clear whether this list was provided to Rangitikei District Council, or whether the District Council identified on its own account the iwi it would consult. However, in August 2001 the District Council provided the Regional Council with iwi responses. The responses were from Rauhuia Environmental Services “on behalf of Te Runanga o Ngati Hauiti and the Ngati Whitikaupeka Environmental Working Party”, who were described as “the representative bodies of the tangata whenua of the affected area”. The responses were only about the Taihape treated sewage discharge and the Mangaweka water take and treated sewage discharge; there was no iwi response received by the District Council and forwarded to the Regional Council about the Taihape water take¹⁹⁴⁴.

It was not until July 2004 that an Assessment of Environmental Effects report was prepared and submitted to the Regional Council¹⁹⁴⁵. The delay is not explained on the relevant Regional Council file, though may in part be due to a submission (and reference to the Environment Court) by the District Council on the Regional Council’s Land and Water Regional Plan, which potentially had a bearing on the amount and type of information required to be included in Assessment of Environmental Effects reports. A key feature of the Assessment report was a reduction in the volume of water to be taken from the river, with a drop from the 4564 m³/day applied for in 2001 to 2900 m³/day. As a result of consultation with Wellington Fish and Game Council and the Department of Conservation, Rangitikei District Council had agreed to install a manual valve at the intake point that limited the volume entering the pipeline. This in turn reduced the amount of excess water discharged back to the river at the water treatment plant end of the pipeline.

¹⁹⁴⁴ Asset Manager Rangitikei District Council to Manawatu-Wanganui Regional Council, 30 August 2001. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101722. Supporting Papers #4649-4655.

¹⁹⁴⁵ Taihape Water Supply: Assessment of Environmental Effects, June 2004, attached to Good Earth Matters Consulting Ltd to Manawatu-Wanganui Regional Council, 14 July 2004. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101722. Supporting Papers #4656-4706.

Although the Council's application was to take water from the Hautapu River within the stretch of river covered by the former Local Water Conservation Notice, it fell within the exception set out in SW Rule 2 of the operative Land and Water Regional Plan, in that it was "from territorial local authorities that seek to maintain the same volume or rate of take (or less) for the purpose of continuing existing community municipal water supply". This exception would mean the application was not a non-complying activity, and instead would be a discretionary activity. However, as the Regional Plan only became operative in 2003, and the application had been lodged in 2001, the pre-2003 planning documents (i.e. the Transitional Regional Plan and the Proposed Regional Plan) were also relevant. Because those earlier planning documents did not include the exception, they expected that the application would be considered as a non-complying activity. Nevertheless the net effect of the three relevant planning documents, when considered in the context of the date of consideration of the application (2005), was that the 2003 operative Regional Plan was to be thought of as the dominant planning document to which most weight should be attached, allowing the Regional Council to determine that the application should be treated as a discretionary activity. The delay between lodging the application in 2001 and deciding on the application in 2005, benefited the District Council in allowing its application to be considered under less restrictive rules.

The exception in the operative Regional Plan, which had not been in the Proposed Regional Plan, has the appearance of having been tailor-made to apply to the Taihape water supply circumstance. It may well have been sought by Rangitikei District Council in submissions on the Proposed Plan, though this is not confirmed in the application file examined for this report.

Whether it was a discretionary activity or a non-complying activity, all water standards set out in the Regional Plan for all waterways in the region (SW Policy 2), and for the Hautapu River upstream of its confluence with the Oraukura Stream in particular (SW Policy 3), still had to be met. The application would have been useful for a general understanding of the state of the stretch of the Hautapu River formerly subject to the Local Water Conservation Notice if water quality records had been available. However, the Regional Council's programme of water quality testing was inadequate to allow that to happen. It maintained only one water quality testing site on the Hautapu River, downstream at Taihape (though

upstream of the Taihape sewage discharge site – see chapter on human waste discharges). The overall assessment of results at this site showed that the Hautapu River had water quality problems:

The main water quality issues for the Hautapu River are microbiological contamination, poor visibility and elevated nutrient levels. These factors indicate that the water does not meet the relevant standards for contact recreation, aquatic ecosystems and livestock watering.¹⁹⁴⁶

Essentially contaminants in runoff from agricultural land in the Hautapu catchment upstream of Taihape were overloading the capacity of the river, particularly during low summer flows. However, the two measures of most significance to the ability of the river to support a trout population (i.e. the original purpose of the former Local Water Conservation Notice) are dissolved oxygen and water temperature, and the Hautapu River was suitable for fish and fish spawning purposes in terms of both these matters.

The Assessment of Environmental Effects (AEE) report noted that there had been consultation with three parties. Both Wellington Fish and Game Council and the Department of Conservation had been concerned about the amount of water abstracted and then discharged back into the river downstream because it was excess to Taihape's needs. Rangitikei District Council argued that the valve at the intake would reduce this and allow more water to remain in the river. It also argued that the draw-off of water had continued for 80 years, and the river would have adapted to that. Department of Conservation had also expressed concern that bullies may not be able to get past the low weir across the river at the intake, to which the District Council replied that the weir was an existing structure and not part of the water take application. The third party consulted was "iwi", and the report stated:

The [District] Council has been consulting with iwi, through Rauhuia Environmental Services, regarding the Taihape water take and the sewage treatment plant discharge which is also in the consenting phase at present. Rauhuia Environmental Services were provided with a draft copy of the AEE in April 2004. Mr Rangi Hawira of Rauhuia Environmental Services advised Good Earth Matters Consulting Ltd verbally on 25 May 2004 that there were no major concerns with the application and the AEE for the water take.¹⁹⁴⁷

Whether Rauhuia Environmental Services represented all hapu with interests in the Hautapu River at the water take site is not known; this matter was not drawn to the attention of or

¹⁹⁴⁶ Taihape Water Supply: Assessment of Environmental Effects, June 2004, page 22, attached to Good Earth Matters Consulting Ltd to Manawatu-Wanganui Regional Council, 14 July 2004. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101722. Supporting Papers #4656-4706 at 4678.

¹⁹⁴⁷ Taihape Water Supply: Assessment of Environmental Effects, June 2004, page 30, attached to Good Earth Matters Consulting Ltd to Manawatu-Wanganui Regional Council, 14 July 2004. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101722. Supporting Papers #4656-4706 at 4686.

considered by either the Rangitikei District Council (applicant) or Manawatu-Wanganui Regional Council (consent authority).

Following receipt of the Assessment of Environmental Effects report, the application was publicly notified. Two written submissions were received, from MidCentral Health (supportive)¹⁹⁴⁸, and from Wellington Fish and Game Council (asking for a precautionary approach and for restrictions on abstraction at low flows)¹⁹⁴⁹. “The relevant tangata whenua”, as defined by the Regional Council, were notified, but did not make a submission, leading the Regional Council to conclude that “this activity matter is not considered to be of significance to tangata whenua, and no further consultation is required”¹⁹⁵⁰.

A Regional Council environmental scientist commented on the applicant’s Assessment of Environmental Effects report, looking particularly at the trout carrying capacity of the Hautapu River. He referred approvingly to research that determined that the mean annual low flow of a waterway was an important measure of a key limiting factor on trout numbers, because it affected the amount of habitat space available both for adult trout and for the invertebrate foods that trout relied on. Anything that minimised abstraction of water at low flows, and maximised mean annual low flows, would benefit trout numbers. He recommended that abstraction could be 2900 m³/day when river flow was above mean annual low flow, but should be reduced to 1100 m³/day (0.013 m³/sec) when the flow of the Hautapu River at the gauging site near Taihape was below 0.690 m³/sec. The installation of the control valve at the intake would allow this. The applicant should also be required to repair leaks in the water reticulation system within the town that would allow less water to be drawn off from the river¹⁹⁵¹.

¹⁹⁴⁸ Senior Health Protection Officer MidCentral Health to Consents Administrator, 2 August 2004. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101722. Supporting Papers #4707-4708.

¹⁹⁴⁹ Resource Officer Wellington Fish and Game Council to Manawatu-Wanganui Regional Council, 23 August 2004. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101722. Supporting Papers #4709-4712.

¹⁹⁵⁰ File note by Senior Consents Planner, 31 May 2005. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101722. Supporting Papers #4720.

¹⁹⁵¹ Report on Application 101722 by Environmental Scientist - Water, 15 September 2004. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101722. Supporting Papers #4713-4717.

These recommendations became draft consent conditions that were accepted by Rangitikei District Council¹⁹⁵² and by Wellington Fish and Game Council¹⁹⁵³, to whom they were referred for comment. In May 2005 the Regional Council granted the water take application for a 15-year term. Conditions included a maximum rate of abstraction of 2900 m³/day when river flow was above 0.690 m³/sec, and a maximum rate of 2225 m³/day when the flow was below 0.690 m³/sec¹⁹⁵⁴.

11.5 Concluding remarks

The consideration given by Rangitikei-Wanganui Catchment Board and Regional Water Board to the National Water Conservation Order application is noteworthy for identifying Rangitikei River Maori as one of the groups in the community with a particular interest in the river. “The special place that natural water can have in the traditions and customs of ethnic groups” was included as one of the main principles in a short Management Policy document it prepared as part of its consideration of the application¹⁹⁵⁵. This was the earliest occasion identified during research for this report when it was acknowledged that Rangitikei River Maori needed to be consulted in a manner that transcended the more limited rights of Maori riparian landowners. That it was not until December 1984 that this first is recorded highlights the bureaucratic blindness that prevailed before then.

The constituency in the community advocating for water conservation orders was a relatively narrow one. This is apparent in the range of submissions received for the Rangitikei River Order and the Hautapu River Notice. Central government departments and Crown agencies were important submitters; they believed they were representing certain sectors of the community, and were resourced to make representations on their stakeholders’ behalf. Fisheries interests and water-use recreation organisations were well represented. However, only a few individuals made submissions. No submissions were received from Maori organisations or individuals.

¹⁹⁵² Good Earth Matters Consulting Ltd to Manawatu-Wanganui Regional Council, 12 May 2005. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101722. Supporting Papers #4718.

¹⁹⁵³ Resource Officer Wellington Fish and Game Council to Manawatu-Wanganui Regional Council, 24 May 2005. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101722. Supporting Papers #4719.

¹⁹⁵⁴ Decision on Application 101722, 31 May 2005, and Consents Administrator to Rangitikei District Council, 31 May 2005. Manawatu-Wanganui Regional Council file 5/3/RDC Application 101722. Supporting Papers #4721-4730 and 4731.

¹⁹⁵⁵ Chief Executive Officer Rangitikei-Wanganui Catchment Board to Director of Water and Soil Conservation, 19 December 1984. Works and Development Head Office file 76/327000. Supporting Papers #988-994 at 992-993.

The success of the campaigns for the two Water Conservation Orders in the Rangitikei catchment can be attributed to the enthusiasm of their advocates. It can also be put down to a general absence of antipathy for or opposition to the Orders. In effect the constituency actively opposed to the Orders was even smaller than the constituency that supported them. This is because the Orders acknowledged the status quo, did not impose any change on the way the rivers were being used at that time, and were applied to parts of the catchment where use was less likely to change in the future.

While there were no submissions from Maori organisations or individuals, Maori were not absent from the process. Rangitikei River Maori welcomed the opportunity to be involved that was provided by the Rangitikei-Wanganui Catchment Board and Regional Water Board. They clearly appreciated that the Catchment Board had reached out to them and sought their views. This was a ground-breaking gesture at the time, even though it was flawed by the Catchment Board seeking to attract Maori support for its defence of the status quo approach of managing water resources for multiple purposes without any pre-setting of priorities. It is unfortunate, first, that the Catchment Board did not pass on to the National Water and Soil Conservation Authority the Maori views it had collected and, second, that the Catchment Board did not follow up its new approach and foster further Maori involvement in waterways management.

Since being declared, the Rangitikei River National Water Conservation Order and the Hautapu River Local Water Conservation Notice have not had a particularly significant impact on the way in which the waterways protected by them are used and managed. Of greater significance, however, has been their symbolic influence. They are an expression that the waterways do not need to be used in a productive or commercial sense in order to be valued by the community.

12. RANGITIKEI RIVER AND THE RESOURCE MANAGEMENT ACT

12.1 Introduction

The passing of the Resource Management Act (RMA) in 1991 has ushered in a new era of kawanatanga. It does not add to the statutory powers the Crown already held over rivers, rather it re-orders them into a single comprehensive package. It also delegates most of the Crown's waterways-related kawanatanga authority to local government, retaining only limited powers at the central Government level concerned with ensuring national consistency and directing matters of national importance.

The RMA requirement that objectives and policies be defined in public documents has resulted in more being said about how activities on rivers should be regulated than was previously the case. Prior to 1991, many policy positions held by the Crown and local authorities about waterways were not explicitly stated, instead being ingrained by longstanding convention in organisational cultures, or confined to departmental administrative manuals. This meant that explanations of kawanatanga policy were patchy, uncoordinated, and occasionally inconsistent. The RMA requires that every civic and regulatory involvement be justified in terms of its contribution to the sustainable management purposes of the Act. The requirement to justify involvement has resulted in greater attention being given to how necessary it is for there to be regulatory intervention. There is, however, an exception with respect to the beds of rivers and lakes, where most of the powers associated with ownership are vested in regional councils under the RMA, even though the right of ownership itself is not vested. For the beds of rivers, a regional council acts as a landowner manager as well as being a resource manager.

With respect to waterways in the Rangitikei catchment, the regulatory agency under the RMA most heavily involved is the Manawatu-Wanganui Regional Council (sometimes also referred to as Horizons Regional Council). Rangitikei and Manawatu District Councils have responsibility for regulating land use on the land forming the riverbanks, though not the water in rivers or the beds of rivers.

Prior to the passing of the RMA, Rangitikei River Maori had felt sidelined and disenfranchised from decision-making about the river. A retrospective review from a Maori perspective written in 2010 stated:

Recent activities such as water extraction and water damming within the Rangitikei catchment have affected both the water quality and quantity. Generally, water quantity is being affected by extraction for irrigation and diversion for power generation. This affects water quality, which impacts on the flora and fauna of the river. Water quality is adversely affected not only by extraction and diversion, but also by pollutants and runoff from land-based activities. These affect the flora and fauna and water-drinking capability of the river for those who rely on it. Overall, these activities have impacted on the traditional uses of the rivers within the Rangitikei. For example practices such as tohi¹⁹⁵⁶ and mahinga kai have ceased as water quality and quantity has declined.

Previous consultation between Maori and those who had an interest in the environment was minimal and for the most part tokenistic. In the case of the 1965 damming of the Moawhango Rahi River, local accounts reveal that a few resident Maori were asked if they thought the dam might be a good idea at the time¹⁹⁵⁷. The construction of the dam followed soon after. Similar instances of natural resource use in the Rangitikei catchment have left hapu and iwi feeling disenfranchised by government processes.¹⁹⁵⁸

The Resource Management Act provides more opportunities for Maori to become involved than existed previously. These opportunities have been discussed in more detail in another report¹⁹⁵⁹. Although this other report is concerned with land matters under the RMA, much of its coverage about the ability for Maori become involved in RMA procedures is relevant to water and waterway matters as well. The application of the RMA to particular activities and policies has already been discussed in earlier chapters in this report. The chapters on gravel extraction, human waste discharges and water conservation orders discuss what is said about these matters in RMA planning documents. To that extent this chapter is not an all-encompassing examination of the RMA. It is more of an overview of the RMA plus a compendium of RMA-related matters not discussed in other chapters of this report.

One feature of tangata whenua involvement with Rangitikei waterways during the RMA era is the establishment of Nga Pae o Rangitikei as a forum for Rangitikei River Maori to bring together their kaupapa about the river, act collectively, and present a Maori viewpoint to

¹⁹⁵⁶ Baptism-type ceremony.

¹⁹⁵⁷ The process of approving the construction of the Tongariro Power Development is discussed in another chapter of this report. Research discovered no evidence in Crown records that Rangitikei River Maori were consulted. The discussions with “a few resident Maori” may be a reference to the meeting held in 1965 with riparian landowners along the Moawhango River downstream of the dam, after the decision to proceed had been made by the Government.

¹⁹⁵⁸ Te R Warren, ‘Nga Pae o Rangitikei: a model for collective hapu/iwi action?’, in R Selby, P Moore and M Mulholland (eds), *Maori and the environment: kaitiaki*, Huia Publishers, Wellington, 2010, pages 185-198 at page 188.

¹⁹⁵⁹ D Alexander, *Environmental issues and resource management (land) in Taihape Inquiry District, 1970s-2010*, July 2015.

Manawatu-Wanganui Regional Council for incorporation in the Council's planning and regulatory activities.

12.2 The structure of the Resource Management Act

The Resource Management Act 1991 (RMA) was the single most significant result of an era of Crown administration and environmental management restructuring that took place in the late 1980s. The establishment of the Department of Conservation in 1987 was another significant feature of the restructuring programme. By the time the restructuring was over, there had been a fundamental shift in Crown policy and practices. The restructuring programme has been discussed in the Waitangi Tribunal's *Ko Aotearoa Tenei* report, and it is not the purpose of this report to duplicate that discussion. Rather, this chapter examines the effects of the nationwide restructuring on a particular part of the country, the Rangitikei River and its waterways.

In addition to taking on the environmental functions of certain disestablished Departments (Lands and Survey, New Zealand Forest Service and Wildlife Service of Internal Affairs), the Department of Conservation took on the river-related functions previously administered by the Harbours and Foreshores Division of the Ministry of Transport. These were the functions developed statutorily under successive Harbours Act administered by the former Marine Department, which are discussed in the chapter on the use of the Rangitikei River for water transportation. They therefore had a tendency towards a strong Crown presence and involvement in the management and administration of the beds of rivers, discussed in the chapter on riverbed legalities. The Crown approached the environmental management restructuring programme with the view that it was an active and direct stakeholder where a river was deemed to be navigable. For the beds of rivers that were not navigable, the Crown considered that it was not appropriate to leave them to the uncoordinated control of multiple adjoining landowners holding riparian rights, for whom the riverbeds were often not a core part of their landholdings. It considered that the exercise of *kawanatanga* required the Crown to remain active (as had been the case under the Harbours Act) and manage activities affecting the riverbed.

The consequence was that the river-related and foreshore-related Harbours Act functions administered by the Department of Conservation were brought under the RMA and transferred from the Department to Regional Councils. The RMA also transferred the

regional planning functions of the Town and Country Planning Act 1977, and the water use and water management functions of Catchment Boards and Regional Water Boards (under the Soil Conservation and Rivers Control Act 1941 and the Water and Soil Conservation Act 1967) to the Regional Councils. The result was that, with the passing of the RMA, Manawatu-Wanganui Regional Council assumed most of the various regulatory powers related to the Rangitikei River and its tributary waterways that the Crown had accumulated over the years.

In bringing together onto a single platform the various statutory powers vested in the Crown, the RMA treats the beds of waterways and lakes in a manner different from its treatment of other land. That other land is owned by title holders or by the Crown, and the RMA exercises control over rights of use rather than rights to the land itself; it also exempts longstanding existing uses (Section 9 RMA). Similarly with water, the control is over the use of water rather than ownership of the water (Section 14 RMA). With the beds of rivers and lakes, however, the kawanatanga control of activities is more all-encompassing, covering not just use but rights of entry and passage (Section 13 RMA).

The delegation of Crown powers and functions to Regional Councils did not substantively alter the manner in which those powers and functions were exercised. Manawatu-Wanganui Regional Council was given the sole authority over the powers and functions entrusted to it by the RMA. There was a difference, however, in the relationship between regional and local government and the Crown. Under the previous legislation (Town and Country Planning Act 1977, Soil Conservation and Rivers Control Act 1941), there had been a substantial element of Crown supervision of the functions delegated to local authorities, with large Head Office and District Office staffs in the Ministry of Works and Development engaged in supervisory activity. Under the RMA there was a policy decision made that the Crown would not intervene in the activities of the Regional and District Councils. This was reflected in a small Ministry for the Environment focused on providing Government with national policy advice, and having only three small Regional Offices to cover the whole country.

Despite the rise during the 1980s of the concept of partnership between the Crown and hapu as a modern reflection of a principle enshrined in the Treaty of Waitangi, such sharing of responsibility was not provided for by the 1991 legislation. There are a few, strictly confined, opportunities provided in the RMA for hapu authorities to have control and

management functions (of Crown kawanatanga) delegated to them (by Regional and District Councils), though in a manner that would make the hapu authorities subordinate to Regional and District Councils if the opportunity was taken up¹⁹⁶⁰. However, there is no ability for hapu to partner with Regional and District Councils in the making of decisions under the RMA. Nor is there any acceptance or acknowledgement by the RMA that hapu might retain rangatiratanga authority to aspects of waterways within their hapu territories. The RMA is written without incorporating any place for the exercise of rangatiratanga authority with respect to waterways. In practice kaitiakitanga is not given its full tikanga meaning, because it has largely become narrowed down to an advisory role to be exercised when tangata whenua are consulted about a proposal requiring RMA approval.

In statutorily ignoring rangatiratanga authority and partnership with hapu, the RMA provides a clear message from the Crown to its delegated agent Manawatu-Wanganui Regional Council that it is unnecessary, and would be difficult in practice, for the Regional Council to use its own initiative to develop partnership arrangements that share decision-making. Manawatu-Wanganui Regional Council, and other regional councils, have tended to treat hapu authorities in a similar manner, encouraging them to become involved as groups that are consulted, and as submitters. These are confined roles that result in limited involvement with RMA procedures, where a Maori voice is heard at certain steps in the various procedures and not in others.

12.3 First generation resource management planning

Regional Councils have a more complex task than District Councils under the Resource Management Act (RMA). Where a District Council is required to produce a regulatory District Plan, a Regional Council has to produce a Regional Policy Statement, and also regulatory Regional Plans covering land, water, air, beds of rivers and lakes, and the coast.

Initially, in 1991, regulations carried over from predecessor organisations were brought together into a Manawatu-Wanganui Transitional Regional Plan¹⁹⁶¹. Of the regulations that the Act stated should be included in a transitional plan, many were water-related, though only some had been prepared and brought into force with respect to the Rangitikei River. The

¹⁹⁶⁰ The Waitangi Tribunal's *Ko Aotearoa Tenei* report shows how limited has been the take-up of the opportunity since 1991. It has effectively been stillborn.

¹⁹⁶¹ Manawatu-Wanganui Regional Council, *Transitional Regional Plan*, operative 1 October 1991. The content of Transitional Regional Plans was set out in Section 368 Resource Management Act 1991.

regulatory rules (“statutory instruments”) that were to be included in transitional regional plans were:

- Local water conservation notices – one such notice, the Local Water Conservation (Hautapu River) Notice 1990, was applicable to the Rangitikei River and was included in the Manawatu-Wanganui Transitional Regional Plan¹⁹⁶²;
- Final water classifications – none applicable to the Rangitikei River;
- Maximum and minimum levels and flows – none applicable to the Rangitikei River;
- General authorisations – six authorisations applicable to the Rangitikei River, among other regional waterways, had been instituted under the Water and Soil Conservation Act 1967, setting out generally small-scale activities that were allowed as of right if they fitted within certain conditions. The authorisations covered small farm dams, dams and diversions for flood control purposes, minor diversions, small takes of water, stormwater and land drainage discharges, and septic tank discharges¹⁹⁶³;
- Bylaws – just two weeks before the RMA came into operation, Manawatu-Wanganui Regional Council brought into force region-wide bylaws made under the Soil Conservation and Rivers Control Act 1941. The bylaws, a restating of earlier bylaws of individual catchment boards, and applicable to the Rangitikei River among other regional waterways, governed matters such as river crossings, private drains, clearing obstructions in waterways, and preventing damage to waterways¹⁹⁶⁴.

The first planning document prepared by Manawatu-Wanganui Regional Council was its Regional Policy Statement¹⁹⁶⁵. Perhaps as a reflection of the newness of resource management planning, this document stayed close to the language and coverage already set out in the Act itself. It did, however, include more provision for consideration of matters of significance to tangata whenua than had been the case under the predecessor legislation to the RMA. It included a whole chapter (Part Four) on “The Maori world – management of

¹⁹⁶² Manawatu-Wanganui Regional Council, *Transitional Regional Plan*, operative 1 October 1991, Annex A. Supporting Papers #6862-6874 at 6865-6867.

¹⁹⁶³ Manawatu-Wanganui Regional Council, *Transitional Regional Plan*, operative 1 October 1991, Annex D. Supporting Papers #6862-6874 at 6868-6874.

¹⁹⁶⁴ Manawatu-Wanganui Regional Council, *Transitional Regional Plan*, operative 1 October 1991, Annex E. Not included in Supporting Papers to this report.

The Manawatu-Wanganui Regional Council Bylaw 1991 is included as Supporting Papers #5805-5818 at 5808-5818 to D Alexander, *Environmental issues and resource management (land) in Taihape Inquiry District, 1970s-2010*, July 2015.

¹⁹⁶⁵ Manawatu-Wanganui Regional Council, *Regional Policy Statement*, operative 18 August 1998.

resources”¹⁹⁶⁶, developing policy statements about the Maori relationship with the natural world and then applying those policies to the specific provisions in the Regional Policy Statement about water matters. Thus the need to recognise Maori spiritual and cultural values was recognised as an issue:

[Issue W9 and] Issue LRW2

The need to recognise Maori spiritual and cultural values in the development and activities in lakes, rivers, wetlands and their margins

Maori have strong spiritual links to many river and lake beds. For example several iwi have strong spiritual links to the Whanganui River. Along the Rangitikei River there are spiritual links to sites which are known to be historic burial grounds. The Council needs to acknowledge these links, and decide, in consultation with iwi, how best to retain or restore these values.¹⁹⁶⁷

The Regional Policy Statement incorporated resolution of this issue in its general water protection objectives and policies, when it included cultural values along with ecological, intrinsic and amenity values to be protected:

Objective 15

To preserve the natural character of lakes, rivers and wetlands and their margins and protect their ecological cultural, intrinsic and amenity values from inappropriate subdivision, use and development....

Objective 16

To avoid, remedy or mitigate the adverse effects of structures or activities in the beds of lakes and rivers.

“Cultural values” or “cultural and spiritual values” were then matters to be considered in order to achieve the objectives, as set out in resulting Policies 15.1 to 15.4, and Policies 16.1 to 16.2¹⁹⁶⁸.

Regional Councils are also responsible for producing Regional Plans. The first generation Regional Plans produced by Manawatu-Wanganui Regional Council were a Regional Coastal Plan, a Regional Land and Water Plan, a Regional Plan for the Beds of Lakes and Rivers, and a Regional Air Plan. Approval of these plans got banked up behind a wait for approval of the Regional Policy Statement, as the two tiers of planning were linked, with the regional plan tier being the implementation of the policy set out in the regional policy statement tier. By the time the Regional Council had completed its Regional Plans to the finally approved and

¹⁹⁶⁶ Manawatu-Wanganui Regional Council, *Regional Policy Statement*, operative 18 August 1998, pages 47-70. Supporting Papers #6971-7073 at 6985-7008.

¹⁹⁶⁷ Manawatu-Wanganui Regional Council, *Regional Policy Statement*, pages 132 and 156, operative 18 August 1998. Supporting Papers #6971-7073 at 7033 and 7057.

¹⁹⁶⁸ Manawatu-Wanganui Regional Council, *Regional Policy Statement*, pages 159-166, operative 18 August 1998. Supporting Papers #6971-7073 at 7060-7067.

operative stage, it had already commenced work on the second generation resource management planning documents.

The Regional Plan for the Beds of Rivers and Lakes and Associated Activities became operative in 2001¹⁹⁶⁹. It had a chapter (Part Three) about “the relationship of Maori with beds of rivers and lakes”. This described the principles of kaitiakitanga (“management responsibility”), tikanga (“management practice”), and mauri (“life forces in rivers and lakes, in water flora and fisheries”). It also explained that issues for Maori with respect to the beds of rivers and lakes were:

- The relationship between tangata whenua rights guaranteed under Article II of the Treaty of Waitangi, and Regional Council responsibilities provided for under Article I, as amplified by Regional Council responsibilities set out in Section 8 RMA;
- Damming and diversion of rivers, including potential for mixing of waters between catchments;
- Structures, deposition, reclamation and drainage activities;
- Gravel extraction;
- Flood protection;
- **Wahi tapu** and wahi tupuna site protection¹⁹⁷⁰.

Flowing from the issues, one of the four objectives of the Regional Plan was:

Objective 2

To recognise and provide for the relationship of Maori, their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other **taonga** in the beds of rivers and lakes.¹⁹⁷¹

This is virtually a repetition of Section 6(e) of the RMA. The Objective then led on to a Policy:

Policy 6: Tangata whenua matters

To recognise and provide for the relationship of tangata whenua, their culture and traditions with their ancestral lands, water, sites of **wahi tapu** and other **taonga** in the beds of rivers and lakes by, amongst other measures,

- (a) Acknowledging the responsibilities of Maori owners for the management of land owned by individual Maori, hapu or iwi within the beds of rivers or lakes;

¹⁹⁶⁹ Manawatu-Wanganui Regional Council, *Regional Plan for the Beds of Rivers and Lakes and Associated Activities*, operative 14 March 2001.

¹⁹⁷⁰ Manawatu-Wanganui Regional Council, *Regional Plan for the Beds of Rivers and Lakes and Associated Activities*, operative 14 March 2001, pages 43-46. Supporting Papers #7074-7117 at 7080-7083.

¹⁹⁷¹ Manawatu-Wanganui Regional Council, *Regional Plan for the Beds of Rivers and Lakes and Associated Activities*, operative 14 March 2001, page 51. Supporting Papers #7074-7117 at 7088.

- (b) Provide for the participation of tangata whenua in the resource consent process for activities in the beds of rivers and lakes;
- (c) The Regional Council in implementing its objectives, policies and rules will have particular regard to the principle of kaitiakitanga; and
- (d) Providing, where appropriate, for tangata whenua monitoring programmes of the resources in the beds of rivers and lakes.¹⁹⁷²

Having defined Objectives and Policies, the Regional Plan implemented them with regional rules. These rules advised that, for any “controlled activity” (a category of activity defined in the RMA) in the bed of a river or lake, the Regional Council would exercise control in respect of that activity over “effects on cultural values”. By comparison with the extensive and detailed rules (extending over 60 or so pages) set out to protect other values, the regulatory protection of Maori cultural and spiritual values was weak. Instead, the Regional Council expected that cultural and spiritual values would be protected by non-regulatory methods:

Method 6 – Tangata whenua kaitiakitanga

To provide for the kaitiakitanga responsibility of tangata whenua in the management of the beds of rivers and lakes by:

Providing assistance, where appropriate, to tangata whenua for the preparation of hapu and iwi management plans;

- (a) Investigating options for shared management with the owners of Maori owned land in the beds of rivers and lakes; and
- (b) Investigating options for shared management with hapu and iwi of the beds of rivers and lakes including, where appropriate:
 - i. Transferring certain functions, powers and duties to hapu and iwi authorities in accordance with the criteria listed in Section 33 of the RMA 1991; and
 - ii. Delegating certain functions, power and duties to a committee jointly established of Regional Council representatives and hapu or iwi authorities in accordance with Section 34 of the RMA 1991.

Method 7 – Tangata whenua and resource consent applications

To provide for the participation of tangata whenua in the consideration of resource consents for activities in the beds of rivers and lakes by:

- (a) Facilitating the compilation of inventories of wahi tapu sites and issues for individual hapu and iwi for activities in the beds of rivers and lakes;
- (b) Promptly advising hapu and iwi of relevant resource consent applications that may affect their interests;
- (c) Where appropriate, providing for the preparation of special reports to consider significant issues identified by hapu or iwi; and
- (d) Where appropriate, appointing suitably qualified Maori Hearing Commissioners to consider submissions on notified resource consent applications.

¹⁹⁷² Manawatu-Wanganui Regional Council, *Regional Plan for the Beds of Rivers and Lakes and Associated Activities*, operative 14 March 2001, page 57. Supporting Papers #7074-7117 at 7094.

Method 8 –Tangata whenua and monitoring programmes

To provide, where appropriate, for tangata whenua monitoring programmes of the beds of rivers and lakes by:

- (a) Including relevant provisions in resource consent conditions;
- (b) Investigating options to establish tangata whenua monitoring strategies that include the beds of lakes and rivers; and
- (c) Investigating joint monitoring programmes where tangata whenua have identified a significant issue(s) in relation to the management of the beds of rivers and lakes.¹⁹⁷³

In comparison with the Regional Plan for the Beds of Rivers and Lakes and Associated Activities, the Regional Plan for Land and Water¹⁹⁷⁴ had far fewer references to incorporation of Maori concepts of environmental management. It identified an issue with discharges to water:

DSW Issue 4 – Adverse effects on the mauri of waterbodies

Mauri can be described as the essential essence of all being. All things, both animate and inanimate, have been imbued with the mauri generated within the realm of te kore. The mauri represents the interconnectedness of all things that have being. Inappropriate use of resources, such as the discharge of sewage to water, impacts directly on the mauri of that waterbody, and affects all factors associated with it. The natural balance that exists amongst all things is disturbed and in many cases irreversibly damaged.¹⁹⁷⁵

The Plan then developed Objectives, Policies and Rules for discharges to water, which were focussed on setting and ensuring compliance with measurable standards of water quality that were designed to protect recreational, fisheries, wildlife and intrinsic values. In these Objectives, Policies and Rules there was little mention of cultural and spiritual values, or the mauri of water, apart from a commitment to have a particular regard when considering resource consent applications to (among other things) “the nature of the discharge with regard to tangata whenua concerns and the effect of the discharge on mahinga kai, wahi tapu and other resources or places of significance to tangata whenua”¹⁹⁷⁶. And yet, without identifying

¹⁹⁷³ Manawatu-Wanganui Regional Council, *Regional Plan for the Beds of Rivers and Lakes and Associated Activities*, operative 14 March 2001, pages 135-136. Supporting Papers #7074-7117 at 7114-7115.

¹⁹⁷⁴ Manawatu-Wanganui Regional Council, *Regional Plan for Land and Water*, operative 30 September 2003.

¹⁹⁷⁵ Manawatu-Wanganui Regional Council, *Regional Plan for Land and Water*, operative 30 September 2003, pages 46-47. Supporting Papers #7118-7139 at 7124-7125.

¹⁹⁷⁶ Manawatu-Wanganui Regional Council, *Regional Plan for Land and Water*, operative 30 September 2003, page 48. Supporting Papers #7118-7139 at 7126.

This reference concerned discharges to waterways. Separate sections of the Regional Plan set out that:

- “The effect of the activity on places or features of significance to tangata whenua, including adverse effects on mahinga kai” is a matter to have particular regard for when considering applications for resource consents to take water out of waterways. Manawatu-Wanganui Regional Council, *Regional Plan for Land and Water*, operative 30 September 2003, pages 70-71. Supporting Papers #7118-7139 at 7130-7131.
- “Its cultural or spiritual significance to Maori” is a matter to have regard for when considering applications for resource consent to alter a wetland by taking water. Manawatu-Wanganui Regional

how, one of the environmental results anticipated from implementation of the Plan was that “the quality of surface water shall not be incompatible with values held by the tangata whenua”¹⁹⁷⁷. The expectation seems to have been that new or renewed resource consents would make a difference to water quality. However, the experience with the Pourewa Stream, discussed in the chapter on the discharge of human wastes into Rangitikei River waterways, is that the quality of the water in the stream is poor even before it reaches the Hunterville sewage treatment plant discharge point, and that poor quality is not related to activities requiring resource consent for point source discharges. The other feature of the Regional Plan is that standards of water quality that might address spiritual and cultural concerns are treated as a separate component with no crossover to the quantified standards set for recreational, fish-welfare or visual appearance purposes.

A separate report has addressed the establishment by Manawatu-Wanganui Regional Council of a Maori consultative committee named Te Roopu Awhina¹⁹⁷⁸. This Committee, with representation from iwi authorities across the Manawatu-Wanganui Region, was active between 1991 and 1996. Its influence is apparent in the chapters on Maori spiritual and cultural concerns for resource management in the Regional Policy Statement and the Regional Plan for the Beds of Rivers and Lakes and Associated Activities. Additionally, its absence is apparent in the limited addressing of Maori concerns in the Regional Plan for Land and Water. The Committee ultimately lost its cohesion while different iwi groupings pursued different Treaty of Waitangi claims, and in the context of those claims found fault with certain actions taken by the Regional Council. It could also be argued that a region-wide committee was an artificial construct brought together by the needs of the Manawatu-Wanganui Regional Council rather than arising from more natural groupings of hapu or iwi with a more localised focus for the sharing of common goals grounded in tikanga.

12.4 Nga Pae o Rangitikei

The principal response of Rangitikei River Maori to the new opportunities to influence management of the rivers that are provided by the Resource Management Act (RMA) was to establish Nga Pae o Rangitikei. This was separate from and additional to the region-wide

Council, *Regional Plan for Land and Water*, operative 30 September 2003, pages 72-73. Supporting Papers #7118-7139 at 7132-7133.

¹⁹⁷⁷ Manawatu-Wanganui Regional Council, *Regional Plan for Land and Water*, operative 30 September 2003, page 65. Supporting Papers #7118-7139 at 7129.

¹⁹⁷⁸ D Alexander, *Environmental issues and resource management (land) in Taihape Inquiry District, 1970s-2010*, July 2015, pages 100-114.

consultation structure (Te Roopu Awhina) that was established by Manawatu-Wanganui Regional Council to boost its consultation with Maori.

Nga Pae o Rangitikei is a hapu and iwi forum solely focussed on the Rangitikei River and catchment. The river is treated as a unifying force to bring together all hapu and iwi along the river for a common cause. Nga Pae envisages that collective and cooperative action can address collective concerns.

According to a Nga Pae strategic plan produced in 2007:

The genesis of Nga Pae o Rangitikei was at a hui at Te Tikanga Marae in June of 2002, where many of the hapu and iwi of the Rangitikei River catchment met to discuss common concerns regarding the state of the Rangitikei River, and the activities that adversely impact upon the mauri of the river. It was agreed that a Working Party be formed to progress the formation of a forum by which they may address issues collectively rather than as individual groups. The Working Party spent almost three years developing a terms of reference for the forum, accessing funding from the Manawatu-Wanganui Regional Council (horizons.mw) and drafting a Charter that could be adopted by participating hapu and iwi. After extensive consultation, the Working Party's work culminated in the signing of The Charter of Nga Pae o Rangitikei by representatives of the eleven participating iwi and hapu organisations at a hui held at the Rata marae in April 2005.¹⁹⁷⁹

The establishment phase of Nga Pae o Rangitikei is covered in more detail in a contribution to a book about kaitiakitanga models and structures published in 2010¹⁹⁸⁰.

The iwi and hapu groupings are:

- Ngati Tamakopiri
- Ngati Whitikaupeka
- Ngati Hinemanu, Ngati Paki, Ngai Te Upokoiri, Honomokai
- Ngati Hauiti
- Ngati Pikiahu, Ngati Waewae, Ngati Matakore, Ngati Rangatahi, Ngati Manomano
- Ngati Parewahawaha – Ngati Raukawa
- Nga Uri o Tuariki – Ngati Apa
- Ngati Kauae, Ngati Tauira – Ngati Apa

¹⁹⁷⁹ Nga Pae o Rangitikei, *Kokiri Taiao o Rangitikei: a strategic plan advancing environmental heritage in the Rangitikei, 2007-2012*, adopted 23 March 2007, page 6. Supporting Papers #7431-7455 at 7436.

¹⁹⁸⁰ Te R Warren, 'Nga Pae o Rangitikei: a model for collective hapu/iwi action?', in R Selby, P Moore and M Mulholland (eds), *Maori and the environment: kaitiaki*, Huia Publishers, Wellington, 2010, pages 185-198.

In addition, while Ngati Tuwharetoa and Ngati Rangi did not participate in the formation of Nga Pae o Rangitikei, they have an open invitation to join as they have a recognised interest in the catchment headwaters.

The Charter of Nga Pae o Rangitikei established a statement of intent, “to preserve and enhance the mauri of the Rangitikei River and its catchment”. The iwi and hapu held mana whenua over the Rangitikei River and its tributaries:

Through the Rangitikei River, they are bound by their mutual interest in protecting and improving the waterways for future generations. The River Catchment sustains the physical, cultural and spiritual wellbeing of the whanau, hapu and iwi, and in turn the people care for and protect the River Catchment. This is a reciprocal relationship that spans many centuries of Maori occupation, the area of which is described as “Mai i te matapuna ki tai” (from the sources to the sea).

The signatories to the Charter, on behalf of the iwi and hapu they represented, committed to follow certain principles. These were, with their English meanings as stated in the Charter, kotahitanga (unity), kaitiakitanga (custodianship), tino rangatiratanga (self-determination), manaakitanga (duty of care), mana atua (divine authority), mana tangata (human influence), and hau (reciprocity)¹⁹⁸¹.

Funding of Nga Pae by Manawatu-Wanganui Regional Council came after the signing of an agreement in December 2004¹⁹⁸². This was at a time when the Regional Council employed Maori liaison staff, and they were closely involved in negotiating the relationship agreement. It provided for the Council to fund up to half the cost of preparing a strategic plan.

The Kokiri Taiao o Rangitikei strategic plan was prepared during 2005-2006 and adopted by the forum in March 2007. It commences with a number of broad statements:

Vision

An environmentally healthy river and catchment sustaining a bountiful ecosystem and economy enjoyed by an informed and prosperous community.

Purpose

To preserve and enhance the mauri of the Rangitikei River and its catchment.

Strategic Goals

¹⁹⁸¹ The Charter of Nga Pae o Rangitikei, affirmed 9 April 2005. Manawatu-Wanganui Regional Council file RME 01 01. Supporting Papers #6186-6189.

¹⁹⁸² Agreement between Nga Pae o Rangitikei and the Manawatu-Wanganui Regional Council, 9 December 2004. Manawatu-Wanganui Regional Council Deed 1/175. Supporting Papers #6194-6202.

1. The River. To enhance the general health and wellbeing of the Rangitikei River and its tributaries.
2. The Land. To improve the wellbeing of the land by minimising human impacts.
3. Flora and Fauna. To protect and improve the state of indigenous flora and fauna.
4. Cultural heritage. To preserve and strengthen the cultural heritage of Tangata Whenua with the environment.
5. Organisation. To provide an organisational platform from which to launch environmental activities.¹⁹⁸³

A number of strategic objectives were developed to guide implementation of each strategic goal. With respect to Goal 1, The River, the strategic objectives were:

1. Protect and restore river ecosystems such as wetlands, which in turn support indigenous flora and fauna.
2. Improve water quality through initiatives such as riparian zones, pollution prevention measures, avoiding stock access to waterways, and the minimisation of waste discharges.
3. Improve water flows through water conservation measures, minimising water abstraction, and ensuring the natural flow of water courses are maintained.¹⁹⁸⁴

The strategic plan sought to position tangata whenua beyond the confines of being one of a number of stakeholders. It emphasised the key role of tangata whenua as kaitiaki, who could provide culturally-grounded leadership when dealing with all other parties with an interest in the environment. However, it acknowledged that tangata whenua needed to improve their ability to be kaitiaki leaders through training, employment, and education of the next generation of leaders. The difficulties that iwi and hapu had in meeting their kaitiaki responsibilities, due to capacity and knowledge constraints, could be assisted by resource sharing, working collectively, and delegating responsibility.

Of the Rangitikei River and its tributaries, the strategic plan stated:

The Rangitikei River is the core focus of Nga Pae, originating in the Kaimanawa Ranges, cutting narrow gorges and depositing gravel along its way to the coast. The main tributaries are the Mangamaire, Whakaurekou, Moawhango, Hautapu and Kawhatau Rivers, and a number of large streams feeding directly into the Rangitikei River, all in turn fed by a myriad of smaller streams.

All these rivers and streams once held an abundance of fauna and flora that met the needs of Tangata Whenua for generations. Another source of surface water that held an abundance of wildlife are lakes. There are a number of significant lakes within the

¹⁹⁸³ Nga Pae o Rangitikei, *Kokiri Taiao o Rangitikei: a strategic plan advancing environmental heritage in the Rangitikei, 2007-2012*, adopted 23 March 2007, pages 3-4. Supporting Papers #7431-7455 at 7433-7434.

¹⁹⁸⁴ Nga Pae o Rangitikei, *Kokiri Taiao o Rangitikei: a strategic plan advancing environmental heritage in the Rangitikei, 2007-2012*, adopted 23 March 2007, page 3. Supporting Papers #7431-7455 at 7433.

Rangitikei catchment. Of particular cultural and environmental importance are dune lakes spread throughout the coastal plains. They continue to provide places for catching eels.

Little is known of the capacity of the underground aquifers that run beneath the land, however potentially there is a large source of water that could be available for human use. Further research is necessary to quantify and assess sustainable rates of take.

Overall, the state of the Rangitikei River appears typical of other rivers in New Zealand. However a radical response is required to address the environmental problems facing it and its tributaries. Normal management regimes have failed on many fronts.

Local observations

- The meetings (of the waters) used to be our camping ground, but the gravel operation has ruined it. It was much clearer 30 years ago, now the rocks seem to be covered in algae or sediment all the time;
- The river used to run a lot higher in the summer, but there seems to be a lot less flow now;
- The rocks never used to be slippery, but there is always a slime on them now; ...
- This part of the river faces unique ‘tourism’ type pressures. Its remoteness saves it from development pressures to a degree, although fishing pressure is increasing from the ‘guided angler fraternity’;
- The water quality of the Rangitikei River has deteriorated noticeably over the past 40 years due largely to the activities up river on the Moawhango River, i.e. electric power development. Also intensive farming practices along the catchment areas of our waterways;
- In the past swimming in our river was a pleasure, without the slime, floating algae, eye and skin irritant caused by the ever present murk;
- The speed of the river, this is having a major impact, it was not as fast as it is now;
- We used to swim below the Kakariki Bridge but it’s too dangerous now, the flow has changed, there’s a lot more trees and rubbish, and the trucks speed up and down the access road, and everything gets covered with dust;
- We could bathe down there and drink [the water].¹⁹⁸⁵

While being compiled for the benefit of the iwi and hapu comprising the Nga Pae o Rangitikei forum, the strategic plan was also intended to influence and advocate a Maori viewpoint to the regional and district councils. The document was intentionally drawn up during a period when the Regional Council was developing policy and positions for inclusion in the second-generation One Plan. Just how much influence it had on the One Plan is not known.

¹⁹⁸⁵ Nga Pae o Rangitikei, *Kokiri Taiao o Rangitikei: a strategic plan advancing environmental heritage in the Rangitikei, 2007-2012*, adopted 23 March 2007, pages 19-20. Supporting Papers #7431-7455 at 7449-7450.

Following production of the strategic plan, Nga Pae o Rangitikei lost some of its focus. There was little to sustain interest in the forum while the Manawatu-Wanganui Regional Council avoided ongoing contact and liaison with Nga Pae. This was in part because the One Plan was going through the draft and objections process. Since Nga Pae o Rangitikei was an objector to some of the provisions in the draft, the forum became categorised in the Council's thinking as just another one of many submitters (despite the efforts in the strategic plan to move the debate beyond that type of thinking). It was also in part because the Regional Council saw Nga Pae o Rangitikei as an organisation established to benefit Maori, and considered that it was therefore Nga Pae's responsibility to approach the Council rather than the other way around¹⁹⁸⁶. The Regional Council seems to have generally taken a passive stance towards the group, responding to the group's initiatives but taking few initiatives itself

What Nga Pae o Rangitikei did, instead of continuing with high-profile advocacy on behalf of all iwi and hapu of the river for the incorporation of a Maori dimension into all management decision-making for the Rangitikei River, was to accept funding for riverside environmental improvement and restoration projects. Manawatu-Wanganui Regional Council funded three projects, all of them important locally, but relatively small in scale at the regional level, and by their nature not inclusive of all the participants in the forum. Nga Pae o Rangitikei was not being used in a manner that played to its collective strengths.

Another task that Nga Pae o Rangitikei completed, in 2010, was the production of a Comprehensive Policy Manual¹⁹⁸⁷. These were internal governance, financial and administrative policies rather than policies for environmental management. It was completed using some of the Regional Council funding agreed to in December 2004. A manual of this nature lacks any profile outside the originating organisation.

An indication of the difficulties Nga Pae o Rangitikei faced following the production of its strategic plan is apparent in the way the Regional Council reviewed its management of the

¹⁹⁸⁶ Manawatu-Wanganui Regional Council, Review and Renewal of Nga Pae o Rangitikei Relationship, 26 June 2012. Report to Council meeting No. 12-96. Manawatu-Wanganui Regional Council file RME 01 02. Supporting Papers #6190-6193.

¹⁹⁸⁷ Nga Pae o Rangitikei Comprehensive Policy Manual, 22 November 2010. Manawatu-Wanganui Regional Council file RME 01 01. Not included in Supporting Papers.

lower Rangitikei River channel. This review, Rangitikei River Scheme Review No. 4, was carried out in 2010, and is discussed in the chapter on flood protection and river control works. Nga Pae o Rangitikei was not invited to contribute to the review, or notified when the draft review document was circulated for public comment in March 2010. The only specifically Maori input to the review came in the form of two objections from Te Reureu residents of Ngati Waewae. While this might in part be viewed as a failure on the part of Nga Pae participants to identify the review as an opportunity to provide a collective input, it is a greater failure of the Regional Council to identify Nga Pae as an affected party. It points to the fragility of the relationship, which appears to have relied upon personal contacts between a few individuals, rather than becoming an ingrained part of the organisational culture of Manawatu-Wanganui Regional Council. Nga Pae o Rangitikei had its principal contact with the Regional Council's Group Manager Regional Planning and Regulatory, rather than its Group Manager Operations, who was responsible for the review. When the individual holding the position Group Manager Regional Planning and Regulatory left the Council in 2011, there was a loss of continuity that was not picked up by any other Council staff member.

Manawatu-Wanganui Regional Council staff prepared a paper on the relationship with Nga Pae o Rangitikei for a Regional Council meeting in June 2012. This paper saw Nga Pae as an entity "developed by tangata whenua for tangata whenua". After describing the achievements of Nga Pae over the previous nine years, it set out the benefits that the Regional Council had obtained from having an iwi organisation such as Nga Pae with which to deal:

The number one benefit of Nga Pae o Rangitikei from Horizons' point of view is that it provides a single contact point for the hapu and iwi of the entire Rangitikei River catchment. This results in:

- (a) Improved communication between Horizons and hapu and iwi of the Rangitikei River catchment;
- (b) A clearer and more consistent expression of the environmental expectations of hapu and iwi of the Rangitikei River catchment;

- (c) Constructive and timely input from hapu and iwi of the Rangitikei River catchment into resource management and planning processes;
- (d) More efficient processing of resource consents where collective input from hapu and iwi of the Rangitikei River catchment is needed;
- (e) Access to robust sound advice;
- (f) Increased confidence that hapu and iwi of the Rangitikei River catchment are being engaged with.¹⁹⁸⁸

The paper described Nga Pae as “an innovative approach to collective hapu/iwi action”, and regarded the relationship between the two organisations as “mutually beneficial”. Of the future, the paper stated:

In many respects the Nga Pae o Rangitikei model is ahead of its time. Many Councils around the country have developed committee structures to meet their legal obligations under the Resource Management and Local Government Acts. These institutional arrangements can be unwieldy and expensive, and have limited success providing the level of relationship or engagement sought....

Nga Pae o Rangitikei provides a single contact point for iwi and hapu of the Rangitikei River catchment. This model is also considered likely to be replicated in the Whanganui and Manawatu River catchments, which will provide Horizons with single contacts for the three largest river catchments in the region.¹⁹⁸⁹

The message coming through in the Regional Council paper was the potential of the Nga Pae o Rangitikei relationship model, rather than its actuality at that time.

12.5 Second generation resource management planning (the “One Plan”)

A statutory policy statement or plan produced under the Resource Management Act (RMA) is supposed to be reviewed after ten years. Experience under the RMA and its predecessor the Town and Country Planning Act (which also had planning documents with fixed lifetimes) has been that the statutorily-defined time deadlines for review of planning documents can frequently not be met, because of the complexity of the documents, the length of time taken to prepare them, and the length of time taken to progress them from proposed to approved stages. In many respects, the requirements of preparation and processing through to approval effectively mean that planning documents are under continual review. This was certainly the case at Manawatu-Wanganui Regional Council, where the Land and Water Regional Plan

¹⁹⁸⁸ Manawatu-Wanganui Regional Council, Review and Renewal of Nga Pae o Rangitikei Relationship, 26 June 2012. Report to Council meeting No. 12-96. Manawatu-Wanganui Regional Council file RME 01 02. Supporting Papers #6190-6193.

¹⁹⁸⁹ Manawatu-Wanganui Regional Council, Review and Renewal of Nga Pae o Rangitikei Relationship, 26 June 2012. Report to Council meeting No. 12-96. Manawatu-Wanganui Regional Council file RME 01 02. Supporting Papers #6190-6193.

became operative in 2003, even as preliminary studies were being commissioned for the review of all the first generation planning documents.

Manawatu-Wanganui Regional Council made an early decision in its second generation planning to package all its statutory plans into a single document, which it referred to as the One Plan. This meant that, in comparison with the first generation documents, where Regional Plans were prepared after the Regional Policy Statement had been completed, both the Regional Policy Statement and a single Regional Plan covering all issues requiring regional rules would be prepared at the same time¹⁹⁹⁰.

From when work first began on the One Plan to its final approval in December 2014 took over ten years. During that time, many thousands of pages of written material were produced by the Regional Council, by submitters and in the Environment Court. A history of the One Plan's preparation is a research topic in its own right, and would have to cover arguments between technical experts, interpretations of the RMA, political considerations, and local body elections for regional councillors. Research for this report has not examined the written records or looked at wider matters surrounding the One Plan. Instead, what follows below is a summary of the preparation and approval process, and the addressing of some selected issues relevant to the treatment in the One Plan of the Rangitikei River and its tributary waterways.

The process can be split into a series of periods defined by some specific dates:

- Up to 2007 – Production of technical reports intended to assist policy development and the development of rules or other implementation methods;
- 31 May 2007 – Public notification of a draft version of the One Plan (termed the Proposed One Plan or POP), and calling of public submissions; over 400 submissions received after this date;
- Up to 2010 – Hearing and consideration of public submissions;
- 24 August 2010 – Decisions on public submissions notified, with an opportunity to lodge appeals in the Environment Court; 22 appeals were filed after this date;
- Up to 2012 – Consideration of appeals, including mediation efforts, in the Environment Court;

¹⁹⁹⁰ The statutory authority allowing production of a combined Regional Policy Statement and Regional Plan is Section 80(2) Resource Management Act 1991.

- 31 August 2012 – Interim decision of the Environment Court given;
- 24 September 2013 – Decision of the High Court on points of law relating to the interim decision of the Environment Court;
- 19 December 2014 – One Plan declared operative by Manawatu-Wanganui Regional Council.

The technical reports produced in advance of the writing of the Proposed One Plan covered a wide range of issues¹⁹⁹¹. Two relating to fish are referred to in the chapter in this report on fish and fishing. A key determinant of the treatment of the Rangitikei River in the One Plan was a water allocation study carried out in 2004¹⁹⁹². This study split the river into a series of management zones. The Upper Rangitikei and Middle Rangitikei Zones were those identified in the Rangitikei River Water Conservation Order, with the Middle Rangitikei zone also including the Moawhango River and Hautapu River. There was also a Lower Rangitikei Zone (covering the Rangitikei River from Mangarere Road bridge to the confluence with the Pourewa Stream), and a Coastal Rangitikei Zone (covering the Pourewa Stream and the Rangitikei River from the Pourewa Stream to the sea).

The allocation study took recorded flows in each of the management zones, and added the volumes abstracted from the river under consents current at the time, to derive natural flow volumes. It determined minimum flows based on “legislative requirements, water quality standards, requirements for recreational users, requirements for natural character, and instream habitat requirements”. Instream habitat requirements were based on the needs of rainbow trout, on the basis that “large drift-feeding trout have greater depth and velocity requirements than native fish”. The difference between the natural flow and the minimum flow was described as the “core allocatable volume”:

The core allocation volumes (excluding TPD) for the Upper, Middle, Lower and Coastal Rangitikei management zones are 0, 0.67, 1.51 and 6.41 m³/s respectively. As the allocation options are based on flow distributions, the allocatable volumes for the downstream zones include the flows allocatable in the upstream zones. Therefore, total allocation in the entire catchment is not to exceed 6.41 m³/s...

¹⁹⁹¹ A list of the technical reports, and links to digital versions of them, is online at www.horizons.govt.nz/about-us/publications/about-us-publications/one-plan/technical-reports/

¹⁹⁹² Manawatu-Wanganui Regional Council, *Water Allocation Project, Rangitikei River: water resource assessment – allocation limits and minimum flows*, December 2004. Supporting Papers #7140-7243.

At present, consented water use in the catchment is at a level equivalent to less than half the amount of water available for water allocation.¹⁹⁹³

As explained in another report concerned solely with Taihape Inquiry District, the involvement of Rangitikei River Maori in the discussions on the Proposed One Plan was limited. The draft version of the Plan seems to have been developed with little if any involvement from tangata whenua. Once publicly notified, submissions were made by Nga Pae o Rangitikei, the Environmental Working Group of Ngati Whitikaupeka and Ngati Tamakopiri, and Tuwharetoa Maori Trust Board¹⁹⁹⁴. There was also a submission from Te Runanga o Raukawa concerned with that part of the Rangitikei River within the Porirua ki Manawatu Inquiry District. The submissions had the effect of confining these iwi organisations to a prescribed role over the next three years. While as submitters they could present their case once during that time to a hearings panel, in all other respects they were silenced and could have no say as kaitiaki on One Plan matters. This silencing continued for a further four years when none of them appealed or registered as a party wishing to be heard before the Environment Court. The confinement of its voice in this way probably explains to some extent why Nga Pae o Rangitikei has been less successful since 2007.

When the One Plan was published in draft form as the Proposed One Plan in May 2007, its most controversial feature concerned its regulation of the leaching of nutrients, particularly nitrogen, off the land and into waterways, in order to reduce deterioration of water quality. This matter tended to dominate the processing of the One Plan through to its final form, with the panel of elected councillors and independent commissioners that heard public submissions rejecting the measures set out in the Proposed One Plan in 2010, the Environment Court restoring the measures in 2012¹⁹⁹⁵, and the High Court upholding the Environment Court's decision in 2013¹⁹⁹⁶. In its introduction to its decision, the High Court stated:

¹⁹⁹³ Manawatu-Wanganui Regional Council, *Water Allocation Project, Rangitikei River: water resource assessment – allocation limits and minimum flows*, December 2004, pages i-ii. Supporting Papers #7140-7243 at 7142-7143.

¹⁹⁹⁴ D Alexander, *Environmental issues and resource management (land) in Taihape Inquiry District, 1970s-2010*, July 2015, page 90.

¹⁹⁹⁵ Interim Decision of the Environment Court on *Manawatu-Wanganui Regional Council Proposed One Plan Appeals*, [2012] NZEnvC 182, 31 August 2012.

The decision is available online at www.horizons.govt.nz/about-us/one-plan/appeals-to-the-proposed-one-plan/environment-court-decisions/

¹⁹⁹⁶ Decision of the High Court in *Horticulture New Zealand and Federated Farmers of New Zealand Inc v Manawatu-Wanganui Regional Council*, [2013] NZHC 2492, 24 September 2013.

[1] Nitrogen forms the greatest part of the atmosphere we live within. It is an essential element in the growth of plants and in the formation of proteins in plants and animals. That is the reason why nitrogen-based fertilizers are applied to aid the growth of crops, vegetables and grasses. Animal feed and excreta also contain nitrogen. But plants and animals do not capture all available fixed nitrogen. Large amounts can run into the water system. There it can cause eutrophication (the overloading of waterways with nutrients, causing growth of algae) and hypoxia (depletion of oxygen, affecting fish and animal life adversely). The problems associated with nitrogen leaching greatly exceed those of other macro-nutrients.

[2] These appeals concern the legitimacy of a combined regional policy statement and regional plan that sets out in part to tackle these problems.

[3] It is said by the appellants that the reforms go too far. One of the appellants describes the thrust of the new scheme as “too aspirational and distant from the reality of the Manawatu-Wanganui region – a region whose economy is based on its rural-based activities, most particularly farming”. The appellants prefer the more limited and “more practical” version of the scheme recommended by an independent hearings panel in 2010. But that more limited approach was set aside by the Environment Court in 2012. The appellants identify what they say are a number of errors of law in that Court’s decision.

[4] The respondent Council and the other parties disagree. They say that the Court did not err in law in reinstating the original scope of the scheme first notified by the Council in 2007. They say that in reinstating the scheme in that form, proper effect is given to s 5 of the Act: promotion of the sustainable management of natural and physical resources, while safeguarding the life supporting capacity of air, water, soil and ecosystems.¹⁹⁹⁷

Thus, while the Regional Council had preferred a watered down version of nutrient leaching controls when deciding on public submissions in 2010, three years later it was supportive of the more stringent controls decided upon by the Environment Court.

The nitrogen leaching problem is outlined in the Regional Policy Statement part of the One Plan (as approved and operative). There is recognition that reliance on cleaning up point source discharges will not on its own improve water quality. Non point source discharges (referred to as diffuse discharges of contaminants) also have to be addressed by active management:

- (i) Nitrogen leaching maximums must be established in the regional plan which:
 - (A) Take into account all the non-point sources of nitrogen in the catchment

The decision is available online at www.horizons.govt.nz/assets/Updated-One-Plan-web-pages-2014/Horticulture-NZ-Anor-v-Manawatu-Wanganui-Regional-Council-Ors-one-plan-appeals.pdf

¹⁹⁹⁷ Decision of the High Court in *Horticulture New Zealand and Federated Farmers of New Zealand Inc v Manawatu-Wanganui Regional Council*, [2013] NZHC 2492, 24 September 2013, page 2.

- (B) Will achieve the strategies for surface water quality set out in Policies 5-2, 5-3, 5-4 and 5-5, and the strategy for groundwater quality in Policy 5-6
- (C) Recognise the productive capability of land in the Water Management Sub-zone
- (D) Are achievable on most farms using good management practices
- (E) Provide for appropriate timeframes for achievement where large changes to management practices or high levels of investment are required to achieve the nitrogen leaching maximums.
- (ii) Existing intensive farming land use activities must be regulated in targeted Water Management Sub-zones to achieve the nitrogen leaching maximums specified in (i).
- (iii) New intensive farming land use activities must be regulated throughout the Region to achieve the nitrogen leaching maximums specified in (i).¹⁹⁹⁸

Implementation of the policy is set out in the Regional Plan part of the One Plan (as approved and operative). Policy 14-5¹⁹⁹⁹ states that the rules apply only to “intensive farming”, defined as dairy farming, commercial vegetable growing, cropping and intensive sheep and beef farming. In the Rangitikei catchment the rules apply to existing intensive farming only in the coastal Rangitikei water management zone, which includes the Pourewa catchment and the catchment of the Rangitikei River and its tributaries downstream of the confluence with the Pourewa Stream. The rules apply to new intensive farming wherever established in the Manawatu-Wanganui Region. Wetlands and waterways more than 1 metre wide have to be fenced to exclude cattle. The rules take effect from July 2015²⁰⁰⁰, and the nitrogen leaching maximum values set in the Plan get progressively more restrictive at year 5, year 10 and year 20²⁰⁰¹. Operators undertaking intensive farming land uses have to provide an annual nutrient management plan to the Regional Council²⁰⁰².

The nutrient leaching controls are one measure designed to maintain and improve water quality in the Rangitikei catchment. Overall, the One Plan aims to ensure that water quality is managed to support a series of values, including life-supporting capacity, fish spawning,

¹⁹⁹⁸ Manawatu-Wanganui Regional Council, *One Plan*, operative 19 December 2014, Policy 5-8, page 5-14. The operative One Plan is available online, www.horizons.govt.nz/about-us/one-plan/one-plan-operative-version/

¹⁹⁹⁹ Manawatu-Wanganui Regional Council, *One Plan*, operative 19 December 2014, Policy 14-5, page 14-3.

²⁰⁰⁰ Manawatu-Wanganui Regional Council, *One Plan*, operative 19 December 2014, Table 14.1, pages 14-6 to 14-7.

²⁰⁰¹ Manawatu-Wanganui Regional Council, *One Plan*, operative 19 December 2014, Table 14.1, page 14-7.

²⁰⁰² Manawatu-Wanganui Regional Council, *One Plan*, operative 19 December 2014, Rule 14-1, pages 14-8 to 14-9.

recreation, amenity and mauri²⁰⁰³. These values (expressed as statements of management objective), together with water quality targets (expressed as measured chemical standards)²⁰⁰⁴, represent the environmental bottom line with respect to water quality against which the effects of activities are assessed while the Plan remains in force.

Having produced the Proposed One Plan in 2007, Manawatu-Wanganui Regional Council also produced a subordinate code of practice document about general environmental standards to be met by its own Operations Group staff and contractors when undertaking river and drainage works. This is a non-statutory document, but was tied to the statutory Proposed One Plan by Rule 16-13, and today is tied by Rule 17-14 of the operative One Plan. This Rule allows “activities undertaken by the Regional Council in flood control and drainage schemes”, with some exceptions, to be treated as permitted activities not requiring resource consent, provided that:

The activity must be undertaken in accordance with the Environmental Code of Practice for River Works (Horizons Regional Council, June 2010).²⁰⁰⁵

The Rule means that resource consent is necessary only for works that do not comply with the Environmental Code of Practice for River Works. The production of the non-statutory document is therefore a mechanism to avoid the need for costly and time-consuming applications for resource consent, where one branch of the Regional Council is applying to another branch of the Regional Council for approval. In the process, the opportunity provided by resource consenting processes for Rangitikei River Maori to become involved and have a say is lost.

The Code of Practice sets out quite specific circumstances where tangata whenua will be consulted:

When operating on Maori land, or near a marae, or where iwi, marae or hapu take an active management interest, consultation will be undertaken with the appropriate tangata whenua. Consultation will be carried out through the existing forum of Liaison Committees, where that committee has an iwi representative. Alternatively, the iwi contacts database will be used to find the appropriate iwi contact.

²⁰⁰³ Manawatu-Wanganui Regional Council, *One Plan*, operative 19 December 2014, Policy 5-1 (including Table 5.2) and Schedule B, pages 5-10 to 5-11 and B-7 to B-8.

²⁰⁰⁴ Manawatu-Wanganui Regional Council, *One Plan*, operative 19 December 2014, Policy 5-2 and Schedule E (Table E.2), pages 5-11 and E-7 to E-9.

²⁰⁰⁵ Manawatu-Wanganui Regional Council, *One Plan*, operative 19 December 2014, Rule 17-14, page 17-21.

Consultation will normally clarify the process of notification prior to the commencement of works.²⁰⁰⁶

Because of the specificity of the Code, which fails to acknowledge the kaitiakitanga interest that Rangitikei River Maori have in all waterways in the Rangitikei catchment, it would be possible for works to be carried out without prior consultation with tangata whenua. Elsewhere in the Code of Practice is reference to the inclusion of environmental mitigation measures when works are carried out²⁰⁰⁷. An example given is “appropriate revegetation of the stream margins”. However, there is no mention of off-site mitigation measures, such as on side-streams to improve the habitat of species gathered for food.

The Code of Practice sets out standards of good practice in the carrying out of river and drainage works. Three categories are identified, generic standards, activity standards, and special standards. Among the generic standards specified in the document is one referring to the finding of human remains:

In the event that human remains or artefacts are uncovered during any river and drainage activity, works shall cease immediately and Horizons Regional Council Environmental Compliance Manager and the relevant iwi as noted in the Council database will be informed and will subsequently advise when the activity may recommence.²⁰⁰⁸

Among the activity standards are standards to be followed in the event of bank shaping, gravel extraction and channel clearance. Special standards cover matters such as trout spawning, whitebait spawning, whitebait fishing, and swimming spots.

12.6 Concluding remarks

The passing of the Resource Management Act (RMA) has both opened up opportunities for tangata whenua, and placed more pressures on them. Because the Act makes provision for tangata whenua to become involved in the management of the Rangitikei River, an expectation has developed among local authorities, public interest organisations, and resource consent applicants that tangata whenua will actively participate. However, that participation

²⁰⁰⁶ Manawatu-Wanganui Regional Council, *Environmental Code of Practice for River Works*, June 2010, section 6.1.1, page 17.

The Code of Practice is available online at www.horizons.govt.nz/assets/public-documents/Environmental-Code-of-Practice-for-River-Works-June-2010.pdf

²⁰⁰⁷ Manawatu-Wanganui Regional Council, *Environmental Code of Practice for River Works*, June 2010, section 6.2.2, page 18.

²⁰⁰⁸ Manawatu-Wanganui Regional Council, *Environmental Code of Practice for River Works*, June 2010, generic standards section 1.4.2 number 27, page 32.

is on terms defined by the Crown and the organisations to which the Crown has delegated kawanatanga authority.

Providing an opportunity for participation by hapu and iwi organisations includes an implicit assumption that those organisations will have the resources (personnel, training, time, and finance) to respond. The RMA was passed at a time when there was an expectation that there would be a revitalisation of well-resourced iwi organisations under the Runanga Iwi Act 1990. When that legislation was repealed in 1992, the planned renaissance did not occur, and the growth of iwi organisations has instead been more ad hoc in nature. The demands placed on hapu and iwi by the RMA have faced competition for their attention from other social and economic pressures. Faced with new RMA expectations, and having to start from nothing while Regional and District Councils have been well resourced by comparison, hapu and iwi organisations were on the back foot from the start, and have never caught up. They have had difficulty reacting to the day-to-day requests for involvement from Councils and from resource consent applicants, and this has meant they have had limited ability to be pro-active about expressing kaitiakitanga principles.

Despite these difficulties, the expressions of a Maori world view on resource management in the first Regional Policy Statement and the First Regional Plan on the Beds of Rivers and Lakes and Associated Activities, together with the strategic work on the Rangitikei River undertaken by Nga Pae o Rangitikei, show that hapu and iwi organisations have demonstrated a willingness to be proactive. Their experience of the reaction by the regulatory agencies to these proactive initiatives, however, has not been encouraging. There has been no recognition of rangatiratanga authority over Rangitikei catchment waterways, and no understanding of a wide meaning of kaitiakitanga. The Regional and District Councils, encouraged by the legislation, still act as if their resource management authority is exclusively held by them, and that iwi and hapu interests in resource management are subordinate to their statutorily-given position. Concepts of sharing, co-governance, and partnership are still not on the agenda for discussion with respect to the Rangitikei River and its tributary waterways.

Rangitikei River Maori are not alone in dealing with Manawatu-Wanganui Regional Council. Other iwi are also dealing with the Regional Council about their waterways. In particular, Whanganui River iwi are that much more advanced than Rangitikei River iwi in the

settlement of their Treaty of Waitangi claims, and are able to negotiate with the Regional Council from a position of greater strength. To that extent, Whanganui River iwi are likely to be a trailblazer for any new partnership and decision-sharing arrangements that are negotiated. While this will ease any negotiations that Rangitikei River iwi will have with the Regional Council, it will be important to impress on the Regional Council that the most successful and lasting arrangements will be those that suit the tikanga associated with each particular catchment or river. One size may not necessarily fit all.

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