

Final Draft Cultural Impact Assessment – Development of Balmoral by Ngāi Tahu Property

STAGE 1: INTEGRATED WATER SOLUTION FOR THE HURUNUI CATCHMENT



Prepared for Ngāi Tahu Property Ltd.

By Dyanna Jolly (Wītaskēwin), on behalf of the Manawhenua Working Party

Prepared February 2014

Approved by Ngāi Tūāhuriri Rūnanga on March 2, 2014.

Approved by Te Rūnanga o Kaikōura on May 1, 2014.

Cover image:

“Waiiau-uha Te Wairua Wahine”, by Cliff Whiting. This image is from Section 3.5 (Okarahia ki te Hurunui) of Te Poha o Tohu Raumati, the Te Rūnanga o Kaikōura Iwi Management Plan (2005).

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Report endorsed by Ngāi Tūāhuriri Rūnanga on March 2, 2014.

Report endorsed by Te Rūnanga o Kaikōura on May 1, 2014.

Executive summary

Ngāi Tahu Property (NTP) is investigating options for an integrated water quantity solution for the Hurunui catchment, as part of the development of dairy farms at Balmoral and its involvement in the Hurunui Water Project and Amuri Irrigation. This includes consideration of alternatives to the existing (consented) options under the Hurunui Water Project. Alternative infrastructure option concepts utilise storage in the Silverbrook and/or Glenrae catchments, a scaled-down storage option on the Waitohi, and a water take from the Waiau River with some on-plains storage.

As part of this investigation, NTP is seeking advice from Manawhenua, via the Manawhenua Working Party (MWP). NTP wants to ensure that any proposed storage and irrigation infrastructure is consistent with the protection of Ngāi Tahu values and priorities for freshwater in the catchment.

A Cultural Impact Assessment process facilitated the evaluation of risks and benefits to cultural values, and the identification of key cultural issues. This report documents the outcomes of this process.

The findings of the Cultural Impact Assessment process are:

- The relationship of Ngāi Tahu with the Hurunui River catchment is centuries old and of outstanding significance to the iwi.¹ The river possesses a range of characteristics that are considered to be outstanding for spiritual, cultural and environmental reasons. These values are a fundamental aspect of the relationship of Ngāi Tahu to the Hurunui River, and their protection is the focus of the cultural impact assessment.
- Manawhenua support the need to provide a sustainable and reliable water supply for the Amuri Basin (including Balmoral), and that this is best achieved through a regional integrated water quantity solution for the Hurunui catchment, with water storage infrastructure a key component of this solution.
- Manawhenua support the investigation of alternatives to the Hurunui Water Project. In looking to alternatives, Ngāi Tahu is signalling to the wider community that the current option can be improved upon to deliver more favourable water quantity and quality outcomes for the Hurunui River.
- Conditional on a satisfactory assessment of effects, Manawhenua support the investigation of an alternative infrastructure option that utilises storage in the Glenrae catchment, scaled-down storage options in the Waitohi, and a water take from the Waiau River. This option is identified as better able to deliver desired water quantity and quality outcomes in the Hurunui catchment.

¹ Crengle, H. with Te Rūnanga o Kaikōura, Te Rūnanga o Tūāhuriri and Te Rūnanga o Ngāi Tahu, 2002. *Hurunui River Tangata Whenua Values Report*, p. 31, in Mahaanui IMP 2013, p. xx

- The driver of storage investigations must be to improve the overall health of the Hurunui River and its catchment. It is the relationship of Ngāi Tahu to this land and river that sets the iwi apart from other developers: the river is more than a resource. It is about asking ourselves '*what we can do for the river*', not *what can the river do for us*'.²
- The ability of Ngāi Tahu to have greater control and/or influence over the water resource, and therefore greater influence over how water is used, is highly desirable. Manawhenua want to see Ngāi Tahu have influential control over the water infrastructure to ensure that regional water resources in the Hurunui and Waiau catchments are managed sustainably.
- There a number of key cultural issues and information requirements that will need to be addressed as the investigations progress, including the transfer and mixing of waters between catchments.
- In addition, the storage of water cannot be considered in isolation from how that water is used on land. Manawhenua continue to have significant concerns about the effects of intensive dairying on water quality and biodiversity, and look forward to addressing these concerns in a Stage 2 Cultural Impact Assessment.

² Solomon, R., 2009. Statement of Evidence on behalf of Te Rūnanga o Ngāi Tahu, Ngāi Tūāhuriri and Te Rūnanga o Kaikōura, for an application for a WCO on the Hurunui River and Lake Sumner (Hoka Kura).

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1 Background

Ngāi Tahu Property (NTP) is investigating options for an integrated water quantity solution for the Hurunui catchment, as part of the development of dairy farms at Balmoral, and its involvement in the Hurunui Water Project and Amuri Irrigation. This includes consideration of alternatives to the existing (consented) infrastructure options under the Hurunui Water Project. Alternative infrastructure option concepts utilise storage in the Silverbrook and/or Glenrae catchments, a scaled-down storage option in the Waitohi, and a water take from the Waiau River with some on-plains storage.

As part of this investigation, NTP is seeking advice from Manawhenua, a Cultural Impact Assessment. NTP wants to ensure that any storage and irrigation infrastructure considered for the catchment is consistent with the protection of Ngāi Tahu values and priorities for freshwater.

This report documents the outcomes of this Cultural Impact Assessment process. The report is prepared on behalf of the Manawhenua Working Party (MWP), a working party established to “facilitate more effective participation by Manawhenua in the development of their cultural landscapes by Ngāi Tahu Property, particularly in regards to the Balmoral Forest.”³ The MWP consists of representatives from Te Rūnanga o Kaikōura, Ngāi Tūāhuriri Rūnanga, Ngāi Tahu Property, and Te Rūnanga o Ngāi Tahu (Toitū Te Whenua).

2 Purpose of this report

The purpose of this report is to document the outcomes of the CIA process, specifically:

- (1) To evaluate the cultural risks and benefits associated with various infrastructure options associated with taking, transfer, storage and distribution of water in the Hurunui catchment.
- (2) To identify key cultural issues associated with infrastructure options for providing water to the Balmoral farms.
- (3) To provide guidance and direction on culturally appropriate options to address the cultural issues, based on the policy framework set out in relevant Iwi Management Plans.

In meeting these objectives, the report will:

- (a) Provide both Manawhenua and NTP with a level of confidence and understanding related to the cultural impact assessment process.

³ *Manawhenua Aspirations for NTP Rural Land Developments at Eyrewell and Balmoral. N.D.*

- (b) Enable NTP to understand, and have appropriate regard for, for the level of risk to Ngāi Tahu cultural values associated with existing and alternative infrastructure options.
- (c) Ensure that due consideration has been given to Iwi Management Plans (IMP).
- (d) Provide NTP with information to inform resource consent applications.

3 Methods

The emphasis of the CIA process was to evaluate options and identify issues in a collaborative space with NTP and Manawhenua.

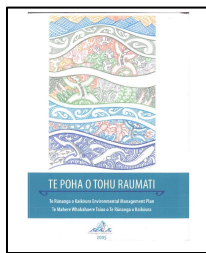
The following methods were used to facilitate this process:

- **Manawhenua Working Party meetings** – presentation of technical information, and discussion of options and key issues (October 10, 2013 and October 24, 2013).
- **Hikoi** to the Glenrae and Silverbrook catchments on November 7th, 2013.
- **Cultural Risk/Impact Assessment workshop** at Tuahiwi Marae, on December 10th, 2013. This workshop was designed to enable Manawhenua to work through a cultural evaluation of existing and alternative infrastructure option concepts, and identify issues, risks and benefits associated with key values and desired freshwater outcomes. Values and desired freshwater outcomes reflect Manawhenua positions set out in the two operative Iwi Management plans in the Hurunui catchment (see Section 4). The worksheet and framework used for this workshop are included in Appendix 1.
- **Additional discussions with Manawhenua**, including interviews for those who could not attend the CIA workshop, and also kōrero of Te Rūnanga o Kaikōura members during a Ngāi Tahu Property presentation to the Rūnanga on November 10, 2013.
- **Review of information**, including a CIA report prepared for the Hurunui Water Project (i.e. Waitohi CIA), and the Ngāi Tahu evidence prepared for the Hurunui Water Conservation Order hearing.

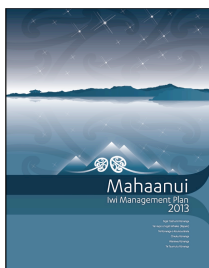
4 Iwi policy framework

Giving due consideration to Iwi Management Plans is a key deliverable of the cultural impact assessment process. Iwi Management Plans (IMPs) identify natural resource management issues of significance, and provide policies to address those issues in a manner consistent with Ngāi Tahu values.

Two Iwi Management Plans (IMPs) provide the policy framework for this cultural impact assessment process:



Te Poha o Tohu Raumati (2005), the Te Rūnanga o Kaikōura Environmental Management Plan, covering the takiwā from Te Parinui o Whiti (White Bluffs) to the Hurunui River, and inland to the main divide.



Mahaanui Iwi Management Plan (2013), a collaborative Manawhenua planning document prepared by Ngāi Tūāhuriri Rūnanga, along with 5 other Rūnanga, covering the region from the Hurunui to the Hakatere.

A key policy message in both IMPs is to encourage development that provides cultural and environmental benefit. Policies in the plans are designed to enable development to occur in a manner that avoids or minimises adverse effects on Ngāi Tahu cultural values. Unlike regional and district plans, IMPs do not contain statutory rules. Rather, these plans provide guidance on the outcomes Rūnanga seek, and a starting point for discussions on how to get there.

The protection of freshwater resources is a central kaupapa of both IMPs. The plans identify increasing pressure on freshwater resources as a significant resource management issue.

Both IMPs contain general policies on freshwater, and also specific sections on the Hurunui catchment. The Plans are consistent in their messages regarding the value of the river to Ngāi Tahu, issues of significance, and policy directions. *Te Poha o Tohu Raumati* highlights the cultural, spiritual and traditional and customary importance of the Hurunui to Ngāi Tahu, and the increasing pressure on the river from existing and future water demand and land use. The *Mahaanui IMP* reiterates these themes, and sets out policies that reflect the 2009 work of Te Rūnanga o Kaikōura and Ngāi Tūāhuriri Rūnanga in preparing Ngāi Tahu submissions and evidence to the Hurunui Water Conservation Order hearings.

Key issue and policy messages from the IMPs relevant to this cultural impact assessment are:

- The Hurunui River possesses a range of characteristics and values that are considered to be outstanding for spiritual, cultural and environmental reasons (see Box). These values are a fundamental aspect of the relationship of Ngāi Tahu to the river, and must be reflected in all management decisions, and protected as a first order of priority.
- There is increasing pressure on the land and water resources in the catchment, including from regional infrastructure proposals for irrigation, and this pressure must be managed within the natural limits of water and soil resources, and the assimilative capacity of the catchment.
- Immediate measures are required to improve water quality in the lower catchment, including ensuring sufficient water quantity, and addressing non point source pollution such as farm run off.
- The storage of water is supported in principle, as a means to facilitate efficient use of water, and alleviate pressure on rivers from run of river takes. However, the driver of storage cannot be unconstrained irrigation.
- The cultural risks and benefits of proposals to take, store, transfer and distribute water in the catchment must be evaluated against the potential effects (positive and adverse) on the values associated with the river.
- Dams, diversions and storage should be avoided on the mainstem of the river, and on the South Branch, and the flow of water Ki Uta Ki Tai must be protected.
- The use of the water is not separate from the consideration of water storage infrastructure concept options. There are significant concerns with the effects of intensive rural land use on water quality.

The Hurunui River as an outstanding cultural landscape

The Hurunui River possesses a range of characteristics that are considered to be outstanding for spiritual, cultural and environmental reasons. These characteristics were identified and discussed at length in Ngāi Tahu submissions and evidence in response to an application for a Water Conservation Order on the Hurunui River and Lake Sumner (Hoka Kura) by the NZ and North Canterbury Fish and Game Councils and the NZ Recreational Canoeing Association (2009). They include:

Natural character: The Hurunui River is one of the few braided rivers in the Ngāi Tahu takiwā that is not significantly modified and/or degraded. The upper catchment has a high degree of natural character. The diversity of character of the river is also a significant natural characteristic. The hāpua at the mouth of the river is an outstanding landscape due to its unusual character and high biodiversity and habitat values.

Ara Tawhito ki Pounamu: The Hurunui –Taramakau trail is one of the most important traditional pounamu trails for Ngāi Tahu, providing the easiest and safest route between Kaiapoi and Te Tai Poutini. Nohoanga were located at points along the length of the river to facilitate the gathering and working of mahinga kai resources.

Mahinga kai: The mahinga kai values of the catchment were particularly important to Ngāi Tahu parties travelling to the Te Tai Poutini. Traditionally the river was known for tuna and inanga. Raupō from the margins of the upper catchment lakes was used for making mokihi. The dried leaves of tī kouka, known as pahau, were used along with harakeke and mountain grasses to weave paraerae (sandals) for travellers, and the kauru, or pith of the tree was a food source. Harakeke was used to make clothing, baskets, nets, mokihi, and rope ladders. The NTCSA 1998 also recognises two Nohoanga in the catchment (Hoka Kura and the Hurunui River mouth), acknowledging the importance of the river as mahinga kai.

Cultural heritage values: Wāhi tapu and wāhi taonga values exist along the length of the river. The Hurunui River mouth is particularly rich in terms of archaeological evidence, as a moa hunter site occupied 700 years ago. Hoka Kura/Lake Sumner, the Waitohi River, and the gorges above the Mandamus confluence (including Māori gully) are also areas of particular significance for their wāhi tapu status.

Source: Mahaanui IMP 2013, p. 182.

- The hāpua at the river mouth has significant cultural associations. The cultural and ecological health of the hāpua (river mouth) is a measure of overall catchment health and should be monitored as such.
- There are expectations that Ngāi Tahu companies will lead the way in whatever they do: upholding the mana of Ngāi Tahu, protecting the environment for future generations and demonstrating innovation and creativity.
- River health (mauri) is the first priority for water use. Development is not feasible or desirable if river health is compromised. Ngāi Tahu economic development must be premised on a healthy environment.

5 Outcomes

The cultural impact assessment process enabled Manawhenua to evaluate cultural (including environmental) risks and benefits, and identify key issues associated with the storage and transfer of water in the Hurunui catchment. The process ensured that Manawhenua had sufficient and appropriate information to:

1. Determine the preferred development option for the Hurunui catchment, with regard to delivering freshwater outcomes desired by Ngāi Tahu.
2. Identify key cultural issues, and provide guidance on how these could be addressed.
3. Identify further information requirements.

Appendix 2 provides a summary of key points made at the impact/risk assessment workshop, where existing and alternative infrastructure options were assessed against a series of cultural values, issues of significance and desired outcomes, reflecting key issues, outcomes and policy messages in IMPs.⁴

The Outcomes of this assessment are documented in Sections 5.2.1 (Is the HWP the best option?), 5.2.2 (Key cultural issues) and 5.2.3 (Further information requirements) below.

⁴ Note that the kōrero at the workshop was recorded, and detailed notes taken. Table 1 provides a snapshot of key points only.

5.1 Is the Hurunui Water Project the best development option for the Hurunui catchment?

(1) Manawhenua support the development of an integrated water quantity solution for the Hurunui catchment as a whole, in looking for the best way to provide water to Balmoral and the Amuri Basin. River health (at a catchment scale, Ki Uta Ki Tai) must be the driver for any investigations into water storage infrastructure. This is fundamental to ensuring commercial activities reflect Ngāi Tahu values and priorities for freshwater, as set out in IMP. It is the relationship of Ngāi Tahu to this land and river that sets the iwi apart from other developers: the river is more than a resource. It is about asking ourselves '*what we can do for the river*', not *what can the river do for us*'.⁵

(2) Manawhenua support the investigation of an alternative infrastructure concept utilising storage in the Glenrae catchment, a scaled-down storage option in the Waitohi, and a water take from the Waiau River with some on-plains storage.⁶ This option will have less impact on the Hurunui River than the existing Hurunui Water Project scheme. It presents less risk, and has the potential to deliver more benefit, to cultural values long-term, specifically:

- Improved water quantity outcomes for the Hurunui, less reliance and therefore pressure on river flows, improved ability to protect flows, and opportunities to minimise water takes and provide water to the river in late summer when surplus water is available.
- Improved water quality outcomes for the Hurunui, as less impact on river flows, and water quality relies on sufficient quantity. Also potential to improve water quality in tributaries, via addition of Waiau River to reduce concentrations of contaminants (see discussion on mixing in Section 5.2 below).
- Improved water quality outcomes for the Hurunui, as stored Glenrae water is expected to be of higher quality than stored Waitohi water, and storage in the Glenrae will avoid high discharges of stored Waitohi water into the Hurunui River.
- Improved water quality and quantity outcomes for the Hurunui will benefit the hāpua at the Hurunui River mouth. Existing low flows in summer have noticeable impact on the hāpua.
- A focus on water harvesting rather than run of river/base flows is consistent with the efficient storage and transport of water. Further, the Glenrae is self-supporting (i.e. has refill capacity), and doesn't rely on electricity to transfer water.
- There has always been hesitancy about storage on the Waitohi, given the name of the river (i.e. the water may have been used as baptismal waters). Developing storage infrastructure on Glenrae means that the scale of storage on the Waitohi can be substantially reduced.
- An upgrade of the existing Amuri Scheme, as proposed by NTP, will increase efficiency and address cultural issues such as the direct transfer of Waiau water into the Hurunui.

⁵ Solomon, R., 2009. Statement of Evidence on behalf of Te Rūnanga o Ngāi Tahu, Ngāi Tūāhuriri and Te Rūnanga o Kaikoura, for an application for a WCO on the Hurunui River and Lake Sumner (Hoka Kura).

⁶ Hurunui water, via storage in the Glenrae and a scale down HWP, will provide irrigation water to the west side of Balmoral farms. Irrigation water for the east side of the farms will come from the Waiau.

- While there is a loss of braided river values in the Glenrae catchment, there is an opportunity to realise environmental gains over the long term, through the retirement and revegetation of farm land.

- (3) Manawhenua support for the alternative infrastructure concept utilising storage in the Glenare is conditional on a satisfactory assessment of effects.
- (4) Manawhenua identify greater control and/or influence over the water resource as highly desirable, and therefore support Ngāi Tahu ownership of water infrastructure. Owning the infrastructure provides greater control over how the resource is used.
- (5) Manawhenua identify the Waiau River as under pressure from water abstractions and intensive land use.⁷ The cumulative effects of abstractions on flows, and water quality effects of irrigation bywash and farm run off are assessed as impacting the health of this river, and the relationship of Ngāi Tahu to it. However, the small volume of the proposed take (i.e. will reduce flow by 0.5%), plans to upgrade the existing Amuri scheme, and the significant benefit to the Hurunui (which is identified as under more pressure than the Waiau) is assessed as an acceptable trade off.
- (6) There are a number of key issues to address to further development of the NTPL alternative infrastructure concept, including the transfer and mixing of waters between catchments. These issues are set out in section 5.2 below.
- (7) There is some further information required to recognise and provide for Ngāi Tahu values in the Glenrae catchment and associated scheme area. These are set out in section 5.3 below.

5.2 Key issues, and how these can be addressed

While the alternative option is preferred from a cultural risk assessment perspective, there are a number of key issues that need to be addressed:

1. How water is used
2. Mixing of waters
3. Appropriate mitigation for loss of values at storage site.
4. Future proofing

5.2.1 How water is used:

The issue: Manawhenua do not consider the assessment of storage options in isolation from the use of stored water. There are significant concerns with regard to effects of intensive rural land use on freshwater resources. Unconstrained irrigation cannot be the driver for storage, or water quality will continue to decline. The right to a reliable and economically feasible source of water must come with responsibility to manage land in a manner that protects freshwater resources.

⁷ Te Poha o Tohu Raumati 2005, Section 3.5.13 (Waiau River), p.174.

How to address this issue: Giving effect to Ngāi Tahu values is about “*doing the right thing*” by the environment and future generations, and ensuring that making money does not take priority over protecting our water resources.⁸ Ngāi Tahu Farming is committed to best practice and upholding the mana of Ngāi Tahu on the landscape. Manawhenua, via the MWP, will continue to discuss how farm development will align with Ngāi Tahu values. Key cultural issues and desired outcomes for the farms will be addressed in a Stage 2 Cultural Impact Assessment Report.

5.2.2 Mixing of waters between the Hurunui and Waiau catchments:

A primary purpose of this CIA is to facilitate a discussion on if and how water could be transferred from the Waiau catchment to the Hurunui, to irrigate the east side of Balmoral.

The issue: In principle, the unnatural mixing of water from different sources between or within catchments is culturally inappropriate, because:

- Each waterway has distinctive characteristics (e.g. source, topography, temperature, pH and flow) that contribute to specific ecosystems and values (e.g. mahinga kai), and this could be compromised as a result of mixing with other waters.⁹
- Waterways may be associated with mutually exclusive uses (e.g. cleansing the dead and collecting food).
- Mixing can increase the risk of spreading invasive species, such as didymo.
- Mixing can have adverse effects on water quality, particularly if the source of the water mixed is degraded.

Ultimately, the unnatural mixing of water between catchments can affect the relationship of tāngata whenua with a waterway, including a reduction in the abundance and health of mahinga kai, the diversity and distribution of species, and the overall ecological balance of the waterway.

Te Rūnanga o Kaikōura and Ngāi Tūāhuriri Rūnanga support a policy framework based on a case-by-case approach that considers:

- The type, source and use of waters that may be mixed;
- The current state of water quality, quantity and cultural health of each waterbody (i.e. healthy waterways are more resilient and can absorb change); and
- The specific mixing scenarios, including provisions to avoid or mitigate cultural concerns.

⁸ Aunty Darcia Solomon, Interview on November 28, 2013.

⁹ The potential effects of mixing of water on mahinga kai were discussed at length by Te Runanga o Kaikoura at a Runanga meeting on November 10, 2013.

Mixing of waters will occur in both the Hurunui Water Project and the alternative infrastructure option proposed by NTP. The Hurunui Water Project will result in the mixing of Waitohi and Hurunui water. While these two rivers mix naturally there is concern about the quality of water from Waitohi storage reservoirs that will enter the Hurunui, and about whether there are specific use values that need protection on the Waitohi, given the river's name (i.e. baptismal waters).

The alternative infrastructure proposal with storage in the Glenrae includes an option to transfer water from the Waiau catchment to the Hurunui, via irrigation to land, and also to supplement a number of tributaries of the Hurunui to improve water quality via nutrient dilution. Direct mixing of Waiau and Hurunui waters currently occurs via the existing Amuri scheme, where excess water is discharged to Dry Creek.

In discussing these matters using the policy framework above, Manawhenua determined that:

- The direct mixing of Waiau and Hurunui waters is not culturally appropriate or acceptable.
- There is potential for water quality improvements in some tributaries as the result of the transfer of water, if cultural issues around mixing can be avoided or remedied.
- There is a need to address the existing direct mixing of Hurunui and Waiau water that occurs as part of the Amuri Irrigation Scheme.

How to address this issue: Manawhenua identified the following points with regard to specific design criteria that could address the issues around mixing in a culturally appropriate way:

- a) The use of wetlands as intermediate points to facilitate the mixing of Waiau and Hurunui water is a culturally appropriate option. Wetlands can facilitate mixing at tributaries where excess water will be discharged, or where flow augmentation may occur to improve water quality.
- b) There is support to improve water quality in Hurunui tributaries by way of nutrient dilution, but only as a means to improve the existing situation. Dilution cannot be a means to mitigate unsustainable on-farm nutrient losses, and cannot occur as an alternative to addressing the source of the problem.
- c) The need for emergency spill provisions is recognised, but there is a high level of discomfort with regard to the trigger, definition and restrictions of an emergency spill. These must be set at a very high threshold.
- d) Remediation of the direct Hurunui-Waiau mixing within the existing Amuri Scheme is a matter of priority. There is a high level of support for an upgrade of the Amuri Scheme, including gates and control systems on the Waiau transfer canal to avoid mixing, and also requiring metering on all takes, as a means to getting to the point where irrigation demand and intake are equal, to avoid surplus and therefore the discharge (and mixing) of excess water.

5.2.3 Appropriate mitigation for loss of values at storage site

The issue: The Glenrae catchment is assessed by the MWP as characterised by low natural character, but with valued river habitat. The waterway is valued in its own right (i.e. all waterways are wāhi taonga), and for its tributary contribution to the Hurunui. The construction of a dam and the inundation of part of the Glenrae catchment will result in the loss of some values. However, there is also potential for a gain in values as a result of retiring marginal farm land and allowing regeneration of native vegetation.

How can the issue be addressed? Issues associated with the loss of values in the Glenrae catchment can be addressed by:

- a) Retirement of land from farming and allowing areas adjacent to storage reservoir to regenerate.
- b) Offsetting the loss of braiding river values through a restoration and enhancement programme/biodiversity package in another catchment. The Mandamus River margins are identified as an appropriate site for biodiversity enhancement.

5.2.4 Future proofing

The issue: How will climate change affect river flows over time? Climate change is an important kaupapa for Manawhenua in assessing water storage options, and the development of the Balmoral dairy farms. Planning for the long term, mō tātou, ā, mō kā uri ā muri ake nei, is fundamental to Ngāi Tahu. Compared to many other businesses, Ngāi Tahu have the ability to set goals based on the cultural well-being of future generations, rather than only financial performance.

How can the issue be addressed? Climate change must be a feature of strategic planning processes for Balmoral. Consideration of the effects of climate change on river flows over the long term is part of these discussions.

Key issues around climate change and the further conversion and development of the Balmoral farms will be explored further in the Stage 2 CIA report.

5.3 Further information and assessments

There is some further information required to recognise and provide for Ngāi Tahu values in the Glenrae catchment and associated scheme area.

5.3.1 Mahinga kai

The Hurunui catchment is recognised as possessing a number of outstanding cultural characteristics, and mahinga kai is one of these.¹⁰ Mahinga kai is an important feature of the

¹⁰ See: Ngai Tahu evidence for the Hurunui WCO hearings, particularly Lenihan, TM. 2009; Mahaanui IMP, Policy H2.1

relationship of Ngāi Tahu with the Hurunui River, and sustaining mahinga kai traditions associated with the river is a key policy message in IMPs.¹¹

The following information is required to effectively recognise and provide for mahinga kai values in the Glenrae catchment:

- What mahinga kai values (i.e. fish species) are present in the catchment?
- What is the potential impact on these values?
- What specific provisions need to be incorporated into the infrastructure design to provide for these values?
- What opportunities exist to enhance mahinga kai values within this proposal?

5.3.2 Cultural heritage assessment

Cultural heritage values also lend to the outstanding cultural value of the Hurunui catchment.¹² Ngāi Tahu tūpuna occupied and used the resources of the catchment extensively.

The Ngāi Tahu cultural mapping database shows three New Zealand Archaeological Association (NZAA) sites in the vicinity of the Glenrae catchment, and also ara tawhito (trails) and place names. The NZAA sites are find spots. At least five camp sites were identified during the hīkoi; sites that Ngāi Tahu tūpuna would have used in their movements through this area.¹³

A heritage assessment for the Glenrae catchment, and wider footprint of the Balmoral farms, is best practice, and would provide an improved understanding of the heritage context of the scheme area. It would also enable Ngāi Tahu to reflect historical associations with places in on-going management and development of the farms and supporting infrastructure.¹⁴ The scope of this assessment should be defined by the MWP.

¹¹ See Section 3.5.14 of Te Poha o Tohu Raumati, and Policies H2.1 and H2.2 of the Mahaanui IMP.

¹² See: Ngai Tahu evidence for the Hurunui WCO hearings, particularly Norton, T. 2009; Mahaanui IMP, Policy H2.1

¹³ Kōrero from Trevor Howse, Cultural Impact Assessment Workshop, Tuahiwi Marae, December 10, 2013.

¹⁴ Personal communication, Helen Brown (Toitū Te Whenua).

6 Summary

Manawhenua seek to protect and restore water quality, and water quantity across the Canterbury region. The efficient and appropriate storage of water is part of this discussion, as this alleviates pressure on rivers from run of river takes. Storage is key to the wise use of water, efficiency, reliability, and the protection of rivers.

The results of the Cultural Impact Assessment process undertaken by the MWP indicate that there are clear benefits to progressing the proposed alternative to the existing Hurunui Water Project scheme. The alternative infrastructure proposal presented to the MWP is able to deliver improved water quality and quantity outcomes for the catchment, and a reliable and environmentally acceptable source of irrigation water for the Balmoral property and Amuri Plains.

The relationship of Ngāi Tahu with the Hurunui River catchment is centuries old and of outstanding significance to the iwi.¹⁵ The river possesses a range of characteristics that are considered to be outstanding for spiritual, cultural and environmental reasons. These values are a fundamental aspect of the relationship of Ngāi Tahu to the Hurunui River, and their protection is the focus of this cultural impact assessment.

The message from Manawhenua is that these investigations signal to the wider community that Ngāi Tahu are looking to alternatives, as the current consented infrastructure proposals will not deliver the water quality and quantity outcomes that Ngāi Tahu seeks for the Hurunui river. As emphasised by Manawhenua in the cultural evaluation workshop: it is about *using the right water in the right way*.

¹⁵ Crengle, H. with Te Rūnanga o Kaikoura, Te Rūnanga o Tuahuriri and Te Rūnanga o Ngāi Tahu, 2002. *Hurunui River Tangata Whenua Values Report*, p. 31, in Mahaanui IMP 2013, p. xx

Appendix 1:

Cultural evaluation worksheet

| | |
|---|---|
| Water quality and quantity in the Hurunui River | <ul style="list-style-type: none"> • How will the scheme affect water quality in the river? • How will the scheme affect water quantity/flow in the river? • Risks? Potential to improve existing state? • Sufficient quantity to ensure quality • Floods and freshes / protection of high flows / natural variability • Continuity of flow ki uta ki tai • Quality of water in storage reservoir? |
| Water quality and quantity in the Waiau River | <ul style="list-style-type: none"> • How will the scheme affect water quality in the river? • How will the scheme affect water quantity/flow in the river? • Risks? Potential to improve existing state? • Sufficient quantity to ensure quality • Floods and freshes / protection of high flows / natural variability • Continuity of flow ki uta ki tai • Quality of water in storage reservoir? |
| Rangatiratanga and Kaitiakitanga | <ul style="list-style-type: none"> • How much influence will Ngai Tahu have over how the resource is managed? • Ability to manage water in a manner consistent with Ngai Tahu values. |
| Mixing of waters | <ul style="list-style-type: none"> • Will there be unnatural mixing of waters from different waterways? • Where? In what ways? • Is there a culturally acceptable way to transfer water from one catchment to another? |
| Cultural sites of significance | <ul style="list-style-type: none"> • Will the scheme have effects on cultural landscape values and sites of significance? • Risk to existing sites? Risk to unknown sites? i.e. inundation, earthworks • Are there ways to address risk? Heritage assessment? |
| Damming of rivers | <ul style="list-style-type: none"> • How many dams are involved with each scheme and where are they located? |
| Biodiversity, natural character and landscape | <ul style="list-style-type: none"> • Water storage sites - indigenous biodiversity, natural character, landscape values? • What values exist on each site? • Is there potential to realise positive effects? Potential to mitigate adverse effects? |
| Mahinga kai resources and opportunities | <ul style="list-style-type: none"> • How consistent is the scheme with Ngāi Tahu aspirations to restore waterways and their mahinga kai values? • Loss of mahinga kai values? Potential to benefit mahinga kai values? • Are there specific design criteria that provide for mahinga kai? |
| Efficient transport and storage of water | <ul style="list-style-type: none"> • Storage reservoir - Base flows or water harvesting? Refill capability/capacity? • Transport of water - storage – canals – farm • How efficient is the scheme? |
| Hāpua | <ul style="list-style-type: none"> • Will the scheme have impacts or benefits on hāpua? • IMP policy messages: Value of hāpua, require sufficient flow to protect values, health of hāpua reflects health of catchment |
| Leaving our waterways in a better state | <ul style="list-style-type: none"> • Will the scheme better enable us to leave our waterways in a better state? • Future proofing |

Appendix 2:

Summary of outcomes of the cultural evaluation workshop. Note that the table below provides key points only.

| | HWP | Alternative option: HWP, Glenrae, Waiau |
|---|--|--|
| Water quality and quantity in the Hurunui River | Most of the water to fill the Waitohi storage sites comes from the Hurunui More impact on Hurunui The Waitohi Scheme will reduce the quantity of water in the Hurunui River, and the natural variability of flow. Water quality poor in storage | Less pressure on Hurunui flows (on A, B & C block waters) More water in the river Potential to lift flows in summer when excess water in storage Potential to reduce N concentrations, via dilution |
| Water quality and quantity in the Waiau River | No change | Will reduce flow by .5% Will result in upgrade and automation of Amuri Scheme. |
| Rangatiratanga and Kaitiakitanga | NTP 30% shareholder in HWP | Potential to own infrastructure & have more influence over management of water resource and flow regime impacts. |
| Mixing of waters | Waitohi and Hurunui already mix naturally Issues around quality of water in storage (brackish) | Direct Waiau to Hurunui transfer not acceptable Opportunity to improve existing situation – Amuri scheme has direct mixing of Waiau and Hurunui water |
| Wāhi tapu, wāhi taonga / Cultural heritage | Assessed in Waitohi CIA | Existing NZAA sites (i.e. find spots) are indicators of past use of this area Sites do not inhibit potential for storage Heritage assessment best practice (all of Balmoral) |
| Damming of rivers | Four water storage dams on the Waitohi River Cultural issues associated with damming on tributaries; some see as no different than mainstem | Two water storage dams (Glenrae & scaled down version of Waitohi) Potential cultural issues associated with damming on tributaries; some see as no different than mainstem |
| Biodiversity, natural character and landscape | Assessed in Waitohi CIA | Low natural character Loss of braided river values, including habitat Opportunity to retire land from farming Can offset loss in this catchment through gains in another catchment e.g. Mandamus |
| Mahinga kai resources and opportunities | Assessed in Waitohi CIA | Need to know what is in the Glenrae catchment Likely less impacts than with the Waitohi option, but still need survey Need to ensure infrastructure can support mahinga kai e.g. fish passage Are there opportunities for mahinga kai e.g. kōhanga? |

| | | |
|--|--|--|
| | HWP | Alternative option: HWP, Glenrae, Waiau |
| Efficient transport and storage of water | Require electricity to pump water up hill Base flow take rather than water harvesting, and little/no refill capacity. | Gravity, rather than electricity Water harvesting Glenrae has refill capacity (self-supporting) |
| Hāpua | Will reduce flows in the Hurunui river, and therefore increase risk to hāpua. | Currently low Hurunui flows in summer have noticeably impact on hāpua If alternative can deliver improved water quality and quantity outcomes for the Hurunui, then the hāpua will benefit. |
| Leaving our waterways in a better state | Less ability to deliver the freshwater outcomes desired by Manawhenua. | Ability to deliver the freshwater outcomes desired by manawhenua – for the Hurunui. |

Reference material

- Jolly, D, on behalf of Te Rūnanga o Kaikōura, 2004. *Waiau River Catchment Tangata Whenua Values Report*. Environment Canterbury Report No. U04/72.
- Te Rūnanga o Kaikōura, 2005. *Te Poha o Tohu Raumati – Te Rūnanga o Kaikōura Environmental Management Plan*. Te Rūnanga o Kaikōura.
- Ngāi Tūāhuriri Rūnanga, Te Hapū o Ngāti Wheke (Rāpaki), Te Rūnanga o Koukourārata, Ōnuku Rūnanga, Wairewa Rūnanga, and Te Taumutu Rūnanga, 2013. *Mahaanui Iwi Management Plan*.
- New Zealand Archaeological Association. Site record forms for sites M33/2, M33/1, and M33/10. Accessed November 2013.
- Crengle, H. with Te Rūnanga o Kaikōura, Te Rūnanga o Tūāhuriri and Te Rūnanga o Ngāi Tahu. 2002. *Hurunui River Tangata Whenua Values Report*. Environment Canterbury Report R02/23.
- Jolly, D. 2010. *Waiau River Tributaries Assessment Report*. Prepared on behalf of Te Rūnanga o Kaikōura for Environment Canterbury.
- Jolly, D. 2004. *Tangata Whenua Values Report for the Waiau, Hurunui, Waipara and Kowai River catchments, as part of the Hurunui Community Water Development Project*. Prepared on behalf of Te Rūnanga o Kaikōura and Ngāi Tūāhuriri Rūnanga, for the Hurunui Community Water Development Project Working Party.
- KTKO Ltd. 2011. *Preliminary Cultural Impact Assessment for the Hurunui Water Project Waitohi Irrigation and Hydro Scheme*.
- Lenihan, TM. 2009. Statement of Evidence – Te Rūnanga o Ngāi Tahu, Te Rūnanga o Kaikōura and Ngāi Tūāhuriri submission on an application for a Water Conservation Order on the Hurunui River and Lake Sumner (Hoka Kura) by the NZ and North Canterbury Fish and Game Councils and the NZ Recreational Canoeing Association.
- Lucas Associates (Jessica Liddle & Di Lucas). The Mandamus Landscape Study: Exploring the Natural, Historic, Cultural and Social Values of the Mandamus Catchment in the Hurunui, North Canterbury. Report for North Canterbury Branch Forest & Bird.
- Norton, T. 2009. Statement of Evidence – Te Rūnanga o Ngāi Tahu, Te Rūnanga o Kaikōura and Ngāi Tūāhuriri Submission on an application for a Water Conservation Order on the Hurunui River and Lake Sumner (Hoka Kura) by the NZ and North Canterbury Fish and Game Councils and the NZ Recreational Canoeing Association.
- Russell, J.M. 2009. Statement of Evidence – Te Rūnanga o Ngāi Tahu, Te Rūnanga o Kaikōura and Ngāi Tūāhuriri Submission on an application for a Water Conservation Order on the Hurunui River and Lake Sumner (Hoka Kura) by the NZ and North Canterbury Fish and Game Councils and the NZ Recreational Canoeing Association.

Solomon, R. 2009. Evidence Hurunui WCO. Statement of Evidence for an application for a Water Conservation Order on the Hurunui River and Lake Sumner (Hoka Kura) by the NZ and North Canterbury Fish and Game Councils and the NZ Recreational Canoeing Association.

Tipa and Associates. 2011. *Kaitiaki synthesis report*. Prepared for Environment Canterbury.

