MEMO

Date | 1 November 2017
To | OTOP Zone Committee
CC | Peter Constantine
From | Craig Davison, Lyn Carmichael

RECOGNISING AND PROTECTING CULTURAL VALUES IN THE ORARI, TEMUKA, OPIHI, AND PAREORA ZONE

PURPOSE:
The purpose of this paper is to:

a. Inform the Orari, Temuka, Opihi, and Pareora (OTOP) Zone Committee (ZC) on the cultural outcomes sought in the OTOP Zone;

b. Provide an overview of how cultural values in the OTOP Zone are currently recognised and protected through the Land and Water Regional Plan (LWRP);

c. Inform the OTOP ZC on where the recommendations made to date in the Draft ZIP Addendum align with the cultural outcomes sought;

d. Provide statutory options for further strengthening the protection of cultural values in the OTOP Zone.

BACKGROUND
This paper has been prepared by Craig Davison and Lyn Carmichael. However, prior to its release to the OTOP ZC, the content has been discussed with Te Rūnanga o Arowhenua Mātaitai Komiti at a hui held on 31 October 2017.

INTRODUCTION:
The Healthy Catchments Project is in the rohe of Te Rūnanga o Arowhenua and Te Rūnanga o Waihao. Cultural beliefs, values and practices that underpin the interactions of mana whenua with the catchments in their takiwā include mauri, kaitiakitanga, whakapapa, rangatiratanga, manaakitanga, mahinga kai and the philosophy of ki uta ki tai - a mountains to the sea approach to looking after water resources. Consistent with the philosophy of managing ki uta ki tai, there is an understanding that all parts of the catchments within the zone were traditionally valued and used, and that all values of importance to iwi and hapū need to be represented in the draft solutions package as part of the Healthy Catchments Project.
The community outcomes sought for the OTOP Zone include three key recommendations focussing on cultural values:

1. All surface waterbodies safe for recreation and gathering mahinga kai;
2. Rectify loss and improve opportunities for mahinga kai gathering in the zone;
3. Protect and enhance sites of cultural significance.

Supplementing these outcomes, the ZC have received two presentations on cultural values in the OTOP Zone to support understanding of how cultural values are affected by the current state of the zone and how they are likely to be affected by the current pathway assessments. These presentations were given by Mandy Home (Te Rūnanga o Arowhenua), and included a number of recommendations for restoring the cultural health of streams in the OTOP Zone.

In October 2016, the zone committee was taken on a field trip to visit Tuhituhi neherā rock art sites within the zone and this was followed by a presentation on Ara tawhito (trails) and Wāhi toanga and the project being undertaken by Ngai Tahu to map and preserve these important sites.

In June 2017, a presentation was given by Amanda Symons (Rock Art Trust Curator), which included recommendations for the protection of Tuhituhi neherā rock art sites in the OTOP Zone. This presentation was accompanied by a memorandum written by Mandy Home, and Sue Eddington (Te Rūnanga o Waiho) which detailed the importance of rock art in the OTOP Zone (Appendix One).

In summary, the cultural outcomes sought relate to restoring the cultural health of waterbodies in the OTOP Zone, increasing minimum flows and reducing allocation, and recognising and protecting sites of cultural significance. More specifically, Tuhituhi neherā rock art sites, and sites of Wāhi tapu, Wāhi toanga. Some of the sites still present and valued are shown in Table 1 (Henry et al 2016)

<table>
<thead>
<tr>
<th>Table 1: Sites Still Present and Valued in the OTOP Zone</th>
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<tbody>
<tr>
<td>Ara tawhito (trails)</td>
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<tr>
<td>Kaika Nohoanga (settlement sites)</td>
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<tr>
<td>Mahinga Kai (places where resources including food were/are procured)</td>
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<tr>
<td>Mauka (important Mountains)</td>
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<tr>
<td>Pa Tawhito (pā sites)</td>
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<tr>
<td>Tauranga Waka (canoe mooring sites)</td>
</tr>
<tr>
<td>Tuahu (sites of importance to identity)</td>
</tr>
<tr>
<td>Urupa (human burial sites)</td>
</tr>
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<td>---------------------------</td>
</tr>
<tr>
<td>Repo Raupo (wetlands), Puna (springs) Wai Maori (important freshwater areas)</td>
</tr>
<tr>
<td>Tuhituhi nehera (rock art)</td>
</tr>
<tr>
<td>Wahi tupuna (Significant cultural landscapes)</td>
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**Tuhituhi Neherā Rock Art Sites**

There is a large presence of tuhituhi neherā rock art sites in South Canterbury, and in the OTOP zone. These sites are a taonga to Ngāi Tahu, are fragile, and can be threatened by land and water use activities.

**Wāhi Taonga Sites**

Sites of wāhi taonga are places that are treasured due to their high intrinsic values and the role they play in maintaining a balanced and robust ecosystem. For example, spawning grounds for fish, nesting areas for birds, and fresh water springs.

**Wāhi Tapu Sites**

Sites of wāhi tapu are places of significance that possess a quality of sacredness or restriction (tapu) after a certain event or circumstance. These sites should be treated according to local traditional customs that seek to ensure the tapu nature of a wāhi tapu site is respected. Sites of wāhi tapu also include urupā (burial sites), which are considered to have the most cultural significance, and require the greatest protection.

**Nohoanga Sites**

These sites are known as traditional camp sites which a are valued by Ngāi Tahu, particularly for mahinga kai gathering.

**RECOGNITION AND PROTECTION OF CULTURAL VALUES IN THE LAND AND WATER REGIONAL PLAN**

One of the objectives of the Land and Water Regional Plan (LWRP) is to enable Ngāi Tahu culture, traditions, and customary uses of land and water resources. The LWRP achieves this by setting and managing to water quality and quantity limits, identifying Ngāi Tahu statutory acknowledgement.
areas\(^1\), and regulating activities that may have an adverse effect on cultural values. These activities include any discharges of contaminants to the environment, damming of waterbodies, mixing of waters, moving of water between catchments, gravel extraction, and activities in the beds of lakes and rivers and hāpua. The LWRP requires any adverse effects of the activities on cultural values to be protected.

The recognition and protection of cultural values is required under the Resource Management Act 1991 (RMA). The purpose of the RMA is to “promote the sustainable management of natural and physical resources”. In achieving this, natural and physical resources are required to be managed to provide for their cultural wellbeing. The RMA also recognises cultural values as a matter of national importance, and takes into account Te Tiriti o Waitangi (the Treaty of Waitangi). These are more specifically recorded as planning principles set out in sections 6(e), 7(a), 7(aa) and 8 of the RMA.

**CULTURAL REPORTS FOR THE OTOP ZONE**

Environment Canterbury commissioned a cultural health assessment of the Pareora Catchment, which was completed in 2009 to inform the Pareora Catchment Environmental Flow and Water Allocation Regional Plan. A cultural values and flow preference report was completed for the Orari Catchment in 2012, to inform the development of the environmental flow and allocation regime included in Section 14 of the LWRP. More recently, a report on the cultural health of the Opīhi and Temuka Catchments has been drafted and has informed the presentations on the cultural health of the OTOP catchments that have been given to the OTOP Zone Committee.

These reports have been reviewed and endorsed for inclusion in this current plan change process by Te Runanga o Arowhenua and Te Runanga o Waihao. The focus of all three reports is on the current state of the river catchments, and the management recommendations in response to the cultural health of the catchments.

**RECOMMENDATIONS MADE THAT ACHIEVE CULTURAL OUTCOMES SOUGHT**

A number of recommendations have been made that are considered to align with the cultural outcomes sought for the OTOP Zone. Table 2 summaries the outcomes sought, and provides an assessment of where the recommendations already made will achieve cultural outcomes.

It is considered that the majority of recommendations to be included in the ZIPA support the cultural outcomes sought. However, there are areas that have not yet been addressed by the ZC, and/or, areas where the existing recommendations made could be strengthened to protect cultural values in the OTOP Zone. More specifically:

a. Protection of mahinga kai, and sites of wāhi tapu, wāhi taonga and nohoanga;
b. Cultural flow preferences;
c. Priority areas for reviews of resource consents;
d. The introduction of new water into the zone, and the priority of use;
e. The protection of Orakipaoa Creek;

\(^1\)
f. Instream damming of the Te Ana Wai River.

Options for addressing these issues are provided later in this paper.

**Table 2: Cultural Outcomes Sought and Recommendations already in Draft ZIP Addendum**

<table>
<thead>
<tr>
<th>Cultural Outcome Sought</th>
<th>Recommendation in Draft ZIPA</th>
<th>Comment</th>
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<tbody>
<tr>
<td>All surface waterbodies safe for recreation and gathering mahinga kai, with surface</td>
<td>1. All farming activities are to operate at Good Management Practices, with no further diffuse discharges of nutrients above existing property limits;</td>
<td>Both of these recommendations will result in improvements in water quality in OTOP which will have positive benefits for mahinga kai. Mahinga kai values are also addressed on farm through Farm Environment Plans (FEP) to protect and enhance water quality and stream health. This recommendation could be strengthened by establishing a freshwater outcome specific to mahinga kai.</td>
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<tr>
<td>water meeting drinking water standards.</td>
<td>2. Freshwater in the OTOP zone to be maintained where it is currently meeting water quality limits, and improved where it is not, over time</td>
<td></td>
</tr>
<tr>
<td>Rectify loss and improve opportunities for mahinga kai gathering in the zone</td>
<td>Rock art in OTOP is protected by district and regional councils through statutory and non-statutory initiatives, in Limestone Areas (Appendix Two)</td>
<td>This recommendation protects rock art, but does not protect sites of wāhi tapu or wāhi taonga. Recommendation could be strengthened to include these sites.</td>
</tr>
<tr>
<td>Protect and enhance sites of cultural significance, including tuhituhi neherā rock art</td>
<td>Minimum flows in Opihi, Temuka, and Te Ana Wai rivers are to be raised towards ecological flows, with stepped increments over five and ten-year period. Minimum flows in the Orari are proposed to remain as set in the Land and Water</td>
<td></td>
</tr>
<tr>
<td>sites, and sites of wāhi tapu, wāhi toanga</td>
<td>This recommendation is a step towards ecological and COMAR flows. The recommendation to review consents to align with the minimum flows will ensure these new minimum flows apply.</td>
<td></td>
</tr>
<tr>
<td>Regional Plan with stepped increments until 2040. Consent reviews in the Orari are recommended once the sub region plan change becomes operative to raise the minimum flows on existing consents. It is also recommended that any consents that are renewed or consents that change conditions adopt the first step of the environmental flow and allocation regime in the Zone.</td>
<td>Generally aligns with outcome sought, but could be strengthened so that the COMAR flows are a long-term target in the OTOP Zone.</td>
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<tr>
<td>Variability needs to be incorporated into the regime, especially mid-range flows.</td>
<td>It is recommended that variability is incorporated into the flow regimes through pro rata / stepped / partial restrictions, yet to be determined. Each of these restriction regimes will ensure variability is incorporated into the flow regimes in the Opihi and Temuka Catchments.</td>
<td>Aligns with outcome sought</td>
</tr>
</tbody>
</table>
| Flow regimes and allocation limits are to be set for spring fed streams to stop them running dry (e.g. Dobies, Kotare, Taumatakahu, Raupo Creek, Ohapi) | It is recommended that environmental flow and allocation regimes are set for all major sub catchments / Surface Water Allocation Zones, in the Opihi and Temuka Catchments:  
  a. North Opuha River  
  b. South Opuha River  
  c. Opihi River (above Rockwood)  
  d. Opihi River (below Rockwood to State Highway One)  
  e. Te Ana Wai River  
  f. Kakahu River  
  g. Hae Hae Te Moana River  
  h. Waihi River  
  i. Temuka River | By setting regimes for all major sub catchments, it will capture smaller spring fed streams within these catchments. The new stream depletion calculation will also capture a large number of existing stream depleting abstractions and require them to be managed on a minimum flow restriction. Aligns with outcome sought |
The recommendation is to increase minimum flows at five and ten-year intervals, and to cap existing allocation at its current limit, and prevent further allocation from occurring. The ZC have also recommended that the estimation of stream depletion for shallow groundwater abstractors is calculated using the methodology in the Land and Water Regional Plan.

<table>
<thead>
<tr>
<th>There is to be no abstraction from the Awarua and Waipopo springs for the purpose of irrigation. Any existing takes for irrigation are to be phased out.</th>
<th>The ZC have recommended stream depletion estimates are calculated using the methodology in the LWRP. This will mean more abstractors are managed on a minimum flow restriction.</th>
<th>Aligns with outcome sought, but the benefit on these springs won’t be seen until the new stream depletion regime applies, and the consents are renewed or reviewed. This could be addressed by setting this as a priority area for the review of resource consents</th>
</tr>
</thead>
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<tr>
<td>Zone Committee has made a recommendation supporting the introduction of new water into the OTOP zone at a policy level.</td>
<td>A proposal of this nature would not occur without significant consultation, including with rūnanga. It can also not occur without a plan change to the flow and allocation regime for the catchment(s) affected. The existing recommendation could be strengthened by directing that Te Rūnanga o Arowhenua have active involvement in the decision making of any new water coming</td>
<td></td>
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<td><strong>Over-allocation is to be “clawed back”</strong></td>
<td><strong>Allocation of water for cultural purposes</strong></td>
<td><strong>Orakipaoa protected from its source to sea</strong></td>
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<td>A recommendation is made to cap all existing allocation and render the catchment fully allocated. The ZC have also recommended the allocation limits be set with a sinking lid. Therefore, any water that is surrendered, or any consent that lapses or is not renewed will not be able to be reallocated.</td>
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Waterbody (as detailed in an accompanying paper).

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<tbody>
<tr>
<td>Te Ana Wai protected from damming / storage</td>
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<tr>
<td>No recommendation made</td>
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<tr>
<td>The Land and Water Regional Plan already directs that the damming of a hill fed river (such as the Te Ana Wai) does not have more than a minimal adverse effect on cultural values. The LWRP also signals that any instream damming of the mainstem of a waterbody is inappropriate. While the LWRP is considered to generally meet this outcome, a recommendation could be made to prohibit the instream damming of the Te Ana Wai.</td>
</tr>
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<thead>
<tr>
<th>Water quality protected where currently high, and where degraded improved to drinkable quality, especially around Arowhenua Marae (surface and groundwater)</th>
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<tbody>
<tr>
<td>A recommendation is made to maintain water quality where it is of high quality and improve it over time where it is not to meet at least national bottom lines.</td>
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<tr>
<td>Generally aligns with outcome sought</td>
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<tr>
<th>No algal blooms in lower reaches of Opihi and Temuka Rivers</th>
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<tbody>
<tr>
<td>Recommendations have been made to reduce diffuse discharges of nutrients from farming activities through the adoption of Good Management Practice under Plan Change 5, and the implementation of Farm Environment Plans. This, coupled with the increased flow recommendations, is likely to reduce the frequency of algal blooms in lower reaches of Opihi and Temuka Rivers.</td>
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<tr>
<td>algal blooms</td>
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<tr>
<td>Water quality (contaminants, temperature, algae etc) in the lagoon is improved</td>
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<tr>
<td>All spring heads protected with statutory provisions</td>
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**STATUTORY OPTIONS FOR FURTHER STRENGTHENING THE PROTECTION OF CULTURAL VALUES IN THE OTOP ZONE**

As outlined earlier, there are a number of cultural outcomes sought that have not been addressed in the recommendations made in the Draft ZIP Addendum, and areas where the existing recommendations could be strengthened to meet the cultural outcomes. Options for achieving this are provided below.

**Mahinga Kai – Cultural Freshwater Outcome**
The National Policy Statement for Freshwater Management 2017 (NPSFM 2017) sets the direction for the management of freshwater quality in the OTOP Zone. It requires all freshwater waterbodies to be identified in Freshwater Management Units (FMUs), and the overall quality of freshwater within an FMU to be maintained or improved. In achieving this, freshwater objectives are required to be established for, as a minimum, two compulsory national values; ecosystem health, and human health for recreation. The NPSFM 2017 also includes water quality parameters that must be met to achieve the two compulsory national values. For the purposes of this paper, freshwater objectives are referred to as freshwater outcomes. Options for setting these freshwater outcomes, and associated water quality parameters, have been detailed in previous water quality papers to the ZC. The NPSFM 2017 also contains other national values that can have freshwater outcomes established in consideration of local circumstances. In the context of the Healthy Catchments Project, the community outcomes should be the driver for considering if any additional freshwater outcomes need to be established. With regard to cultural community outcomes, the NPSFM 2017 includes an optional national value for mahinga kai. More specifically, mahinga kai being safe to harvest and eat. Although it is considered that the recommendations already made will positively contribute to the mahinga kai outcome, there is an opportunity to strengthen this across the OTOP Zone by establishing a specific freshwater outcome for mahinga kai.

The cultural outcome sought for mahinga kai relates to surface water being safe for recreation and of drinking water standard. The recommendations made to date will contribute to these outcomes being achieved, but can be reinforced by establishing a freshwater outcome for mahinga kai.

**Key Decision Area:**

The Zone Committee recommends that across all FMUs in the OTOP Zone, a freshwater outcome is included that provides for the abundance of freshwater mahinga kai species for customary gathering, and water quality being suitable for their safe harvesting, and safety for consumption.

**Mahinga Kai – Farm Environment Plans**

Farm Environment Plans (FEPs) are currently required for all farming activities requiring a resource consent to farm. FEPs are the key tool for mitigating adverse effects of a farming activity on the ground. FEPs contain a suite of Management Areas for on farm practices with objectives and targets to be met. The Objectives are the outcomes sought for each of the Management Areas, and the Targets are measurable statements that contribute to the achievement of the Objectives. FEPs are also required to identify the risks associated with the farming activity, and detail how these risks will be managed.

As amended by Plan Change 5, FEPs now include a target under the Waterbody Management Area to protect mahinga kai values as a result of measures taken to protect and enhance water quality and stream health on farm. As a minimum, these measures include excluding stock from waterways and requiring riparian planting of a sufficient width for all waterways.

A statutory acknowledgement is an acknowledgement by the Crown of the special relationship of ngāi tahu with identifiable areas. Namely the particular cultural, spiritual, historical, and traditional association of ngāi tahu with those areas (known as statutory areas)
It is anticipated that any other measures required to protect mahinga kai will be determined on a case by case basis and addressed through the audit of the FEP. There are also a set of mahinga kai guidelines being developed for the auditing of FEPs. This level of protection for mahinga kai values will apply region wide once PC5 is made operative. This approach is now generally consistent with approaches that have been taken in other zones in Canterbury for protecting mahinga kai values on farm. Other zones have included a specific Management Area for Mahinga Kai with its own set of targets to be met.

Including a separate Management Area for mahinga kai can allow greater emphasis to be placed on protecting indigenous vegetation on farm, ensuring it is only cleared in accordance with the rules in the LWRP, and also encourages additional planting of indigenous vegetation to protect mahinga kai values on farm.

As Plan Change 5 is currently under appeal, we are yet to receive a FEP that has been prepared with this content and one that has been audited. However, it is recommended that either of these approaches is used as a starting point for protecting mahinga kai values on farm in the OTOP Zone.

Key Decision Areas:

a. The Zone Committee support the region wide approach for protecting mahinga kai values on farm through Farm Environment Plans; or

b. The Zone Committee recommend that Farm Environment Plans in OTOP have a specific Management Area with its own set of targets to be met for the protection of mahinga kai on farm.

Mahinga kai – Management Plans

Farming activities greater than 10 hectares and not requiring a resource consent to farm must prepare a Management Plan (MP). A MP is a condensed version of an FEP, and is not subject to the audit process. The MP requires a set of practices to be implemented on farm to manage any risks, and requires that the on-farm actions undertaken to implement the practices are described. Currently, the MP Schedule includes no explicit requirements for the protection of mahinga kai values, but does require stock to be excluded from waterways and riparian planting.

Key Decision Area:

The ZC recommend that Management Plans for permitted farming activities be strengthened so that mahinga kai values on farm are required to be protected.

Wāhi Tapu, Wāhi Taonga and Nohoanga

Sites of wāhi taonga, wāhi tapu and Nohoanga can be protected through the policy and rule framework so that the effects of discharges, land use and water use activities on these values are taken into consideration. This approach will require an assessment through the resource consent process, and enables the measures for protection to be determined on a case by case basis. It also recognises the values associated with these sites are site specific and diverse, and, therefore, the measures that may be required to protect these sites is not a ‘one size fits all’ approach. In most
instances, it will result in a consent applicant consulting with the local rūnanga to determine what measures are required.

Key Decision Area:

The ZC recommend that the policy and rule framework of the OTOP Plan Change protects sites of wāhi tapu, wāhi taonga, and Nohoanga.

Cultural Flow Preferences

Long Term Target:

The recommendations made on environmental flows in the Opihi and Temuka Catchments have been made inclusive of stepped changes over five and ten-year periods towards ecological flows. While an increase in minimum flows is ultimately a step towards cultural flow preferences, it is still unclear as to if and when these may be achieved. A recommendation can be made that the cultural flow preferences are the long-term target for the OTOP Zone.

Key Decision Area:

The ZC recommend that cultural flow preferences across OTOP is the long-term goal for waterbodies. Acknowledging that it won’t be in the lifetime of this plan change, but is a target that should be considered in any future plan changes in the OTOP Zone.

Short Term Target:

The ecological and cultural flow preferences for the Temuka River are 1,400 L/s and 1,500 L/s respectively. The recommendation made for the Temuka River is for the ecological flow preference to be achieved within ten years. As the flow preference figures are close, this recommendation could be strengthened so that the cultural flow preference for the Temuka River is achieved within 10 years.

Key Decision Area:

The ZC recommend that the cultural flow preference in the Temuka River is applies within ten years of the OTOP plan change becoming operative.

Prioritisation of Resource Consent Reviews

The ZC have recommended that consent reviews in the OTOP Zone occur to review consents in the Orari FMU as a first priority, and then consents in the Opihi and Temuka FMUs as a second priority. Catchments with springs have been highlighted by rūnanga as being of particular cultural significance: Concern has been raised about abstraction in these catchments. Particularly:

a. Awarua Catchment (Temuka FMU)
b. Waipopo and the area around the Opihi Lagoon (Opihi FMU)
c. Kotare Catchment (Opihi FMU)

Shallow groundwater takes in the vicinity of these springs are likely to be depleting them. While the recommendation to adopt the stream depletion methodology will address the effects on these springs once the consents are renewed or reviewed, the depletion that is already occurring could be alleviated if these consents in these catchments are reviewed.
Key Decision Area:
The ZC include the stream depleting consents that affect these catchments in the priority that is set for consent reviews in the OTOP Zone.

New Water, and Priority of Use
The ZC have recommended that the Plan Change for OTOP should be enabling of new water coming into the zone. It has previously been discussed in consideration of the community outcomes, cultural outcomes, and community feedback received to date, whether a priority of use for any new water should be set. This is also the preferred approach by rūnanga.

Key Decision Area:
The ZC recommend that the OTOP Plan Change includes direction for the use of new water for first and second order priorities.

Orakipaoa Creek
Refer to accompanying paper on High Naturalness Waterbodies in the OTOP one.

Instream Damming of the Te Ana Wai River
The Te Ana Wai River is culturally significant to rūnanga is significant. It is also an important area for the presence of rock art. The instream damming of this waterbody has the potential to adversely affect these values. The LWRP directs that any instream damming of the Te Ana Wai River would be inappropriate, however, there is still a pathway for a consent application to be lodged.

Key Decision Area:
The ZC recommend that:

a. Any instream damming of the Te Ana Wai River is inappropriate, and particular consideration should be placed on its cultural values, and any potential adverse effects the damming may cause on rock art; or

b. Any instream damming of the Te Ana Wai River is avoided, in recognition of its cultural values and presence of rock art.
Appendix One – Rock Art Memorandum Provided to the Zone Committee

PROTECTING TUHITUHI NEHERĀ ROCK ART SITES ACROSS SOUTH CANTERBURY

South Canterbury has one of the highest density of tuhituhi neherā (rock art) sites in New Zealand. Such sites are a taonga to Ngai Tahu who are actively involved in their conservation and ongoing management. Te Runanga o Waihao and Te Runanga o Arowhenua are the kaitiaki runanga for tuhituhi neherā sites within the OTOP zone. The Ngai Tahu Maori Rock Art Trust is charged with working with papatipu runanga to manage these taonga.

While many sites remain in good condition, tuhituhi neherā sites in New Zealand are intrinsically fragile and they are threatened, in many cases seriously, by adjacent land use activities. In particular, water use activities in the vicinity of tuhituhi neherā sites can adversely affect both surface condition of vulnerable rock art pigments as well as nearby freshwater ecosystems which are an integral component of the wahi tupuna (cultural landscape).

Currently there is little or no recognition of, or mechanism to address, the vulnerability of the tuhituhi neherā sites in regional planning processes in relation to land and water use activities. However, it is necessary for the Zone Committee to consider the sensitivities of tuhituhi neherā to water management decisions, which are a responsibility of regional planning.

Vulnerable tuhituhi neherā sites and related freshwater ecosystems are potentially sensitive to:

- Small changes in the local groundwater environment – changes in water table height (rises, declines or seasonal range in level)
- Changes in the local microclimate (increased air moisture, irrigation spray drift)
- Changes in local drainage systems (diversions, new channels, ponding)
- Increased saturated weight of overburden above an overhang/cave
- Changes in water chemistry of natural seepages onto the rock surface and into freshwater ecosystems

Activities which may induce local hydrological changes and impact on the vulnerability of tuhituhi neherā and associated freshwater ecosystems are fall into three categories:

- Irrigation;
- Groundwater abstraction; and
- Drainage diversions/water conveyance/other excavation activities.

Regional councils have functions under the RMA (s30) including to manage the take, use, damming and diverting of freshwater; the discharge of contaminants into water; and land uses which affect water quality.

Environment Canterbury is preparing catchment specific chapters to the Regional Land and Water Plan which will give effect to the NPSF 2014. In preparing the addition to the regional plan the regional council must take into account the provisions of any relevant planning document recognised by the iwi authority (s66(2A)(a)). Existing iwi management plans for the South Canterbury Region specifically mention the significance of the rock art and the need to protect it from inappropriate use and development.

There is scope under the RMA for regional councils to include policies and rules in regional plans to manage effects of changes in water quality or catchment hydrology on the surrounding environment, including effects on sites of special value or significance. Including such provisions in a regional plan may...
necessitate a change to or additional objective(s) depending on how the plan is written, and will most likely require amendments to or additional policies and amendments to rules.

Practical measures to protect tuhituhi neherā can be included in the Zone Implementation Plan that will accompany the regional plan.

The Ngai Tahu Maori Rock Art Trust is keen to work with the Zone Committee and Environment Canterbury to develop appropriate mechanisms.

**Recommendation**

During the development of the Zone Implementation Plan and the sub-chapter for inclusion in the Regional Land and Water Plan, provisions be added to the plans to identify and manage potential effects on tuhituhi neherā sites from the taking, use damming or diversion of water; the discharge of contaminants; or land uses which affect water quality.

Mandy Home
Te Runanga o Arowhenua
Member OTOPs Zone Committee

Sue Eddington
Te Runanga o Waihao
Member OTOPs Zone Committee
Appendix Two – Areas of Limestone mapped in the OTOP Zone

Limestone in the Orari Temuka Opihi Pareora Zone
REFERENCES
Canterbury Land and Water Regional Plan (2017)
Resource Management Act (1991)