

**UNDER**

the Resource Management Act 1991

**IN THE MATTER OF**

Application APP-20171566 to dam, divert, use and discharge water and to use a weir in the Mataura River for Hydro-electric Power Generation.

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**STATEMENT OF EVIDENCE OF LISA MACKENZIE ON BEHALF OF HOKONUI  
RŪNAKA, AND TE RŪNANGA O NGĀI TAHU**

28 NOVEMBER 2018

## INTRODUCTION

1. My name is Lisa Joy MacKenzie. I am employed by Te Rūnanga o Ngāi Tahu as a Senior Environmental Advisor, a position I have held since June 2017. I hold the qualifications of Bachelor of Science (Zoology) and Diploma in Science<sup>1</sup> (Ecology) from Massey University of Palmerston North.
2. I have eleven years' experience in resource management. Before working at Te Rūnanga o Ngāi Tahu, I was employed by Environment Canterbury as a Senior Consent Planner. I also worked for Te Taumutu Rūnanga as a Natural Resources Programme Advisor.
3. This evidence is within my area of expertise; namely analysing environmental policies, plans and developmental proposals to determine the actual and potential effects of a proposal.
4. I have read the Code of Conduct for Expert Witness in the Environment Court Practice Note and I agree to comply with the code. I have not knowingly omitted to consider material facts known to me that might alter or detract from the opinions expressed.

## SCOPE OF EVIDENCE

5. I have been asked by Hokonui Rūnaka and Te Rūnanga o Ngāi Tahu (collectively referred to as **Ngāi Tahu**) to prepare planning evidence in relation to the resource consent applications lodged by Alliance Group Limited (Alliance). My evidence includes:
  - a. Planning Matters
  - b. Mitigation
  - c. Duration
  - d. Overall conclusion
6. In addition, I participated in conferencing with the other planning experts. A copy of our joint statement was provided to the commissioner on 16 November 2018.
7. I also attended the pre-hearing meetings on 30 January 2018, and 16 August 2018. I inspected Alliance's Maitai Plant Hydro Electric Scheme as part of pre-hearing hui on the 16<sup>th</sup> August 2018. I also observed the scheme from the opposite side of the Maitai River on other occasions.

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<sup>1</sup> This is a postgraduate qualification.

## PLANNING MATTERS

8. Ngāi Tahu identified a number of concerns with Alliance's proposal in their submission. A summary of their submission is outlined in Ms Blair's evidence.
9. A key issue raised during the pre-hearing meetings, included in the reporting officers report and included in the fish and ecology experts conferencing document was the effects of the proposal on fish passage (upstream and downstream) of the hydroelectric scheme. While I agree that fish passage is a key issue, I also consider the effects of the proposal on Ngāi Tahu cultural values is another key issue. The hydroelectric scheme operates within the Maitāura Te Awa Mātaitai and the Maitāura River Statutory Acknowledgement Area. The hydroelectric scheme operates within an important historic and contemporary mahinga kai site. The effects of the proposal on Ngāi Tahu values including species identified by Ngāi Tahu as being Taonga are discussed in Ms Blair's evidence.
10. Both Mr West and Mr Kylie have provided a planning assessment as part of their evidence. Rather than repeat information already provided I will highlight the areas where I have a differing view and/or consider there is a matter relevant to the application and has not been discussed by either party.
11. I agree that Mr West has identified the key objectives and policies from the Regional Water Plan for Southland (RWP), although I note that Policy 38 is incorrectly referred to as Policy 28 (page 12).
12. In terms of the Proposed Southland Water and Land Plan (pSWLP) in addition to the Objectives and Policies identified by Mr West I also consider the following two objectives as relevant to this application:

*Objective 3 The mauri of waterbodies provide for te hauora o te tangata (health and mauri of the people), te hauora o te taiao (health and mauri of the environment) and te hauora o te wai (health and mauri of the waterbody)*

*Objective 14 The range and diversity of indigenous ecosystem types and habitats within rivers, estuaries, wetlands and lakes, including their margins, and their life-supporting capacity are maintained or enhanced*

13. In terms of the Regional Policy Statement I consider the following objectives and policies relevant in addition to those identified by Mr West:

*Objective TW.2 – Provision for iwi management plans*

*All local authority resource management processes and decisions take into account iwi management plans.*

*Objective TW.4 – Sites of cultural significance*

*Wāhi tapu, wāhi taonga and sites of significance are appropriately managed and protected.*

*Objective BIO.2 – Maintain and protect*

*Maintain indigenous biodiversity in Southland and protect areas of significant indigenous vegetation and significant habitats of indigenous fauna for present and future generations.*

*Objective BIO.3 – Enhance*

*Enhance the range, extent and condition of indigenous biodiversity in Southland, with a particular emphasis on those areas most at risk to further loss or degradation.*

*Policy BIO.2 – Protect significant areas*

*Areas of significant indigenous vegetation and significant habitats of indigenous fauna in the Southland region will be protected and, where appropriate, enhanced.*

*In giving effect to this policy, particular regard will be had to the following potential adverse effects:*

*(i) ....*

*(ii) fragmentation or disruption of connections and linkages between significant ecosystems or significant habitats of indigenous fauna;*

*(iii) ....*

*(iv) loss or reduction of rare or threatened indigenous species populations or habitats.*

*Policy BIO.4 – Maintain indigenous biodiversity*

*Manage a full range of indigenous habitats and ecosystems to achieve a healthy functioning state, and to ensure viable and diverse populations of native species are maintained, while making appropriate provisions for lawful maintenance and operation of existing activities.*

*In giving effect to this policy, regard will be had to the following potential adverse effects:*

*(i) ....;*

*(ii) fragmentation or disruption of connections and linkages between ecosystems or habitats of indigenous fauna;*

*(iii) loss of, or damage to, buffering of ecosystems or habitats of indigenous fauna;*

*(iv) loss or reduction of rare or threatened indigenous species' populations or habitats.*

*Policy BIO.8 – Tangata whenua*

*Recognise the role of tangata whenua as kaitiaki, by providing for:*

*(a) tangata whenua values and interests to be incorporated into the management of indigenous biodiversity;*

*(b) consultation with tangata whenua regarding the means of maintaining and restoring or enhancing habitats identified in accordance with Policy BIO.1 that have particular significance to tangata whenua;*

*(c) active involvement of tangata whenua in the protection of cultural values associated with indigenous biodiversity;*

*(d) customary use of indigenous biodiversity according to tikanga.*

14. I consider that Mr West has identified the relevant objectives and policies in the National Policy Statement for Freshwater Management and National Policy Statement for Renewal Electricity Generation.

15. Section 104(1)(c) enables other matters considered relevant and reasonably necessary to determine the application to be considered. Mr West considers Te Tangai a Tauira the Iwi Management Plan (IMP) as relevant to the application particularly given both policies 1A (RWP) and 2 (pLWRP) require any assessment to take into account any relevant IMP. He has outlined the policies he considers relevant. I consider the following policies are also relevant:

*3.5.4.8. Require industry to develop and maintain, where required, working relationships with iwi, through mechanisms such as yearly site visits, progress reports, or monitoring results.*

*3.5.10.4. Manage our freshwater resources wisely, mō tātou, ā, mō ngā uri ā muri ake nei, for all of us and the generations that follow*

*3.5.10.5. Promote the management of freshwater according to the principle of ki uta ki tai, and thus the flow of water from source to sea.*

*3.5.10.8. Protect and enhance the customary relationship of Ngāi Tahu ki Murihiku with freshwater resources*

*3.5.11.5. Adopt a precautionary approach for any activity involving a waterway where there is an absence of detailed knowledge of that waterway (ecology, flow regimes, species, etc).*

*3.5.11.17. Ensure that activities in upper catchments have no adverse effect on mahinga kai, water quality and water quantity in lower catchments.*

16. The Ngāi Tahu Freshwater Policy Statement has not been identified as a relevant to the application. However, as Ms Blair has identified in her evidence this sets out the in broad terms Ngāi Tahu policies with respect to freshwater. Given this I consider it is relevant to the application. The Policy Statement includes a summary of all objectives and policies related to Mauri, Mahinga kai and Kaitiakitanga. See appendix I for a copy of this summary.

17. I consider that Mr West and Mr Kylie have identified the other relevant statutory provisions within their evidence. From Mr West's evidence I note that a number of the relevant policies under the pLWRP are currently under appeal, except policy 2.

18. I note that there is policy guidance within the operative planning framework relating to existing infrastructure and renewal energy, there is also a number of policies regarding maintaining, enhancing and protecting indigenous biodiversity; and cultural values. In

terms of the cultural policies, including those in the IMP, these relate to ensuring unimpeded fish passage to the sea, protection of and access to healthy and abundant mahinga kai and enabling manawhenua to undertake their cultural responsibilities.

19. Having considered the fish and ecology experts conferencing document on the application, I consider there is currently uncertainty in the long term as to whether the policies relating to biodiversity, native fish and cultural values will be achieved. Consequently, if the decision maker is of a mind to grant the application, I recommend that a short term consent duration is appropriate. My reasoning for this recommendation is discussed further later in my evidence.

## **MITIGATION**

20. As indicated in the pre-hearing report, the submitters and Alliance have been working on the drafting of consent conditions over the last nine months. While most concerns regarding the condition wording have been resolved, the main remaining differences of opinion relate to consent duration, the content of the conditions, and the level of detail required for adaptive management and/or management plan conditions.
21. Management Plans allow flexibility for a consent holder when managing environmental effects or undertaking monitoring programmes. The benefit of a management plan is that changes can be made to how one mitigates an effect, for example, effects of sediment discharge, without requiring a change of conditions. However, it is important that the outcome, for example, no sediment is to enter water, and the requirements e.g. monthly monitoring or triggers are included in the consent conditions.
22. I have considered both the proposed conditions of both Mr West and Mr Kylie. The conditions provided by Mr Kylie are similar to those being discussed by the submitters and Alliance before the end of the s95A suspension period therefore I have used these conditions as the bases for my comments below.
23. There was disagreement regarding the detail that was required within conditions of consent between the parties. To aid with resolution of concerns, the submitters proposed that some information regarding the Trap and Transfer, the Downstream Monitoring programme and some reporting be included in attachments to the consent conditions. I have included these attachments which were provided to the applicant in Appendix II.

Some of these differences included the level of detail regarding the triggers, timing of the trap and transfer, and the monitoring programmes.

24. In my opinion, the matters listed in appendix II are 'must haves' and should be a condition of consent. This ensures that the conditions are defensible, certain and enforceable. For example, while the proposed conditions require that the trap and transfer plan is implemented on an annual basis there is no requirement that this should occur during the elver migration season. While this may seem implicit to the parties currently involved in the processes, there is no certainty that what is intended will occur at a later date or as staff turn over and/or if consents are transferred to another party. In terms of what these triggers, bar size, etc I refer the decision maker to the report by Joe Hay, and the Fish and Ecology experts' evidence.
25. Proposed conditions 14,19 and 21 refer to the "potential or actual significant effects on...". In my opinion, the conditions should refer to the "potential or actual effects". The significance of an effect should be determined through the hearing process. I note that Mr West does not refer to significant effects but rather adverse effects in these recommended conditions also.
26. Ms Blair highlights in her evidence the importance for Ngāi Tahu to be able to exercise their kaitiakitanga responsibilities. Ms Blair identifies tuna (eel) and kanakana (lamprey) as Taonga and mahinga kai, as does the pSLWP in appendix m. Ms Blair also illustrates how a number of Ngāi Tahu values are interlinked and cannot be considered in isolation. An example of this from her evidence is Mahinga kai, which she states is a "vehicle for the intergenerational transfer of Mātuaauranga". This point is supported by both the Ngāi Tahu Freshwater policy statement and the IMP. A number of the policies in these documents relate to these interlinked values which are required to ensure that mana whenua can exercise their cultural rights and responsibilities now and in the future.
27. Given the above, it is important for Hokonui Rūnaka that they are able to exercise their kaitiakitanga responsibilities and practice mahinga kai. Within the cultural context this is seen to include active involvement in the trap and transfer and the monitoring programmes associated with this consent. It is the preference of Hokonui Rūnaka that they are involved in all aspects of the Trap and Transfer, and monitoring programme in partnership with Alliance. A condition regarding this position was drafted and proposed to Alliance. The table in Appendix III takes this condition and compares it with the proposed conditions proposed by Mr Kylie. Alliance have attempted to enable Hokonui Rūnaka participation in their proposed conditions. While the latest alliteration of the proposed

conditions does not enable Hokonui Rūnak to fully exercise their kaitiakitanga responsibilities and practice mahinga kai, I consider the drafting is heading in the right direction.

28. Alliance has proposed conditions regarding mitigation if the monitoring programme should identify an effect. It is Alliance's intent that these conditions only apply if they are granted a 25 year consent duration. I have not commented on these conditions as Ngāi Tahu does not support a consent duration of 25 years for this proposal. .

29. Mr West has recommended a condition regarding mitigation based on a shorter consent duration that aligns with the MIE consent. In terms of this condition I agree with Mr West that given his recommended consent duration, if the monitoring does indicate that there is an adverse effect of the scheme on downstream fish passage (as identified by the submitters), then there should be consideration of applying some mitigation measures, particularly in the early years of the monitoring. I also consider it is onerous to require a consent holder to undertake extensive mitigation if there is only a couple of years left before the consent expires. A possible solution could be to put a timeframe around when a mitigation condition should apply and/or to make it clear that the report can detail measures that shall apply during the life of the consent, and those that may apply after this consent, if granted, expires. I also note that this report may also be used by the Alliance as part of an application to renew consent in the future.

30. In relation to the proposed conditions in addition to the above comments, I have the following changes and/or recommendations:

- a. There should be sufficient notice via a specified timeframe for the invitation from Alliance to Hokonui Rūnaka to enable the Rūnaka to be available to contribute to the preparation of the plans referred to in the conditions. Manawhenua have limited capacity and many members volunteer their time to service their rūnanga. An adequate timeframe would enable Hokonui Rūnaka to be able to ensure the appropriate people are available.
- b. There should be consistency with naming of organisations and who in each organisation information shall be provided to, as this provides certainty to all parties and ensures the conditions are enforceable. For example, in some conditions, the council is referred to as the consent authority and in other conditions it is the Southland Regional Council or another variation of this.



- c. If the decision maker is of the mind to grant a longer duration with the conditions proposed by Mr Kylie, there should be consistency with the collaborative workshop timeframes.

31. In terms of the effects of the discharge, given the nature of the discharge and the mitigation measures recommended by Mr West, I have no additional conditions to recommend.

## DURATION

32. A consent duration of 25 years is sought by Alliance. In their evidence both Mr Kylie and Mr Richardson indicated a preference for a longer term during than 25 years, however Alliance has sought a duration of 25 years “*given the preference of Te Ao Marama*” that consent durations are not granted for longer than 25 years.

33. In their submission Ngāi Tahu opposed a duration of 25 years but state that they would consider a shorter duration to be acceptable (e.g. 5 years).

34. Section 123 of the RMA outlines the durations that can be applied to a resource consent depending on certain criteria. Under Clause (d) of the section this period should be indicated in the resource consent and cannot exceed 35 years. This does not mean that a consent should be granted for 35 years automatically. Consideration should be given to an appropriate duration based on the information presented at the time of granting.

35. Policy 13 section 3.5.4 of the IMP states:

*“Advocate for consent durations of 25 years **or less** for industrial operations. Consent conditions should require operators to periodically review available technology, and provide a report indicating if better technology is available. Reports should highlight the use or otherwise of new or better technologies. [emphasis added]*

36. In the same vein as Section 123 the duration advocated in the above policy does not default to 25 years. Consideration should be given to the information provided at the time of granting including the effects on cultural values and how the application aligns with the IMP. This may mean that a duration less than 25 years is appropriate for cultural reasons as Ms Blair has discussed in her evidence.

37. As indicated in Mr West's report, Policy 14A of the RWP and Policy 40 of the pSWLP provide guidance when considering the duration of a resource consent.
38. I have read both Mr West's and Mr Kylie's assessments and considered the policies above. On balance I agree with Mr West that a duration that aligns with the expiry date of the Matura Industrial Estates' (MIE) current resource consent is appropriate. As indicated in the evidence of a number of parties, the effects of the hydro-electric power operation on fish passage, particularly downstream, is a key issue. There is uncertainty amongst the experts regarding what the level of adverse effect will be and the appropriateness of potential mitigation measures to address the adverse effect. There is also uncertainty regarding the effect that the scheme is having on other fish species particularly migrating species.
39. As highlighted in Ms Blair's evidence, tuna and kanakana are Toanga species, and the cultural associations within the area are extensive. In their submission Ngāi Tahu expressed concerns about how this application will affect Ngāi Tahu cultural values.
40. Reading both the officers reports for the current consents held by Alliance and MIE, it is clear that the adverse effects on fish passage has been a concern for a number of years and there is a level of uncertainty of what that actual effect is. There is also disagreement between the experts regarding the conditions and potential mitigation measures.
41. In terms of the common expiry date, I agree with Mr Kylie that common expiries are typically considered for consumptive takes and when a resource is close or overallocated. However, I am aware of cases where this has not been the reason. For example, The Hurunui and Waiau River Regional Plan (Canterbury Region) has a policy requiring a common expiry and a duration of no longer than 10 years for all surface water and hydraulically connected ground water takes. There is no distinction between consumptive or non-consumptive takes and the resource was not fully allocated at the time the plan was notified. The Hurunui and Waiau River Regional Plan does provide some flexibility on duration for those water permits with infrastructure valued more than 10 million dollars, however this application would not meet that criteria if this plan was applicable.
42. I agree with Mr West that a common expiry date would be beneficial. I also note that the officers report for the current Alliance consent (A024-004) granted in 1999, in terms of duration states:

*It is suggested that the Alliance Group Limited's Maitara consent should expire at the same time as the Carter Holt Harvey consent. In future, this will allow potential effects to be assessed for both diversions.*

43. It is clear the reporting officer at the time, held a similar position to Mr West, regarding a common expiry date being appropriate. Mr West states it would enable the area to be managed coherently and holistically. It would also result in decisions and mitigation that are not hampered by another consent. For example, Ngāi Tahu did raise concerns regarding the minimum flow over the weir in its submission, and while this has not been raised as an issue among the experts it does highlight the difficulty of not having a common expiry date for these consents. If the minimum flow was found to be hindering upstream fish passage, the ability of a decision maker to include a condition to increase the minimum flow that is monitorable is hindered by the other consent as each party needs to work with the other to maintain the proposed minimum flow over the weir.
44. In addition, I note Mr Kylie has suggested that if a common expiry date was to be applied that it be applied to the MIE consent on renewal. While acknowledging that both systems, in some form, have been in place for at least 100 years, considering the recommendation in the 1999 Officers report, if this approach was taken it would be 45 years from when it was first recommended a common expiry be applied before the schemes would be considered holistically.
45. My Kylie has suggested in his evidence that S104(2A) is applicable to the duration. While I agree it is applicable to the application, I consider that this section must be considered in the decision to grant or decline the application, not the duration of the resource consent.
46. While the Act does have provision for reviewing a consent, in my experience reviews are difficult, restrictive, time consuming and costly for all parties, particularly if the review is not a "plan" review.
47. It is for the above reasons that I agree with Mr West that a common expiry date with the current MIE consent is appropriate.

## **CONCLUSION**

48. I consider the key effects for consideration are the effects on fish passage and cultural values.

49. If the decision maker is inclined to grant the application, I consider a duration that aligns with the MIE consent is appropriate.

## Appendix I: Summary of all relevant Objectives and Policies from the Ngāi Tahu Freshwater Policy Statement.

### 5.0 SUMMARY OF ALL OBJECTIVES AND POLICIES

WĀHI TAPU To afford total protection to waters that are of particular spiritual significance to Ngāi Tahu.	MAURI Restore, maintain and protect the mauri of freshwater resources.	MAHINGA KAI To maintain vital, healthy mahinga kai populations and habitats capable of sustaining harvesting activity.	KAITIAKITANGA To promote collaborative management initiatives that enable the participation of Ngāi Tahu in freshwater management.
<p>Identify sites for immediate protection because of their significance as wāhi tapu.</p> <p>Agree with resource management agencies objectives, policies and methods that protect the sites identified by Papatipu Rūnanga.</p>	<p>Identify freshwater resources where:</p> <ul style="list-style-type: none"> <li>mauri is unaffected by modification and human activity so that these waterbodies can be afforded total protection.</li> <li>mauri is adversely affected, and the activities that cause such effects.</li> </ul>	Protect critical mahinga kai habitats and identified representative areas.	Ensure Ngāi Tahu has access to information about the status of resources and the activities of resource users so that it is able to anticipate the effects of activities on customary values and uses.
	Accord priority to ensuring the availability of sufficient quantities of water of appropriate water quality to maintain and protect the mauri of a waterbody, in particular priority is to be accorded when developing water allocation regimes.	Restore and enhance the mahinga kai values of rivers, streams, wetlands and riparian margins.	Assist with the development of Ngāi Tahu's capacity to conduct formal cultural impact assessments and require such assessments as part of an assessment of environmental effects.
	Adopt catchment management planning as the means of achieving integrated management .	Ensure that activities in the upper catchments have no adverse effect on mahinga kai resources in the lower catchments.	Facilitate effective Ngāi Tahu participation in: <ul style="list-style-type: none"> <li>Policy formulation;</li> <li>Decision making;</li> <li>Operational management activities; and</li> <li>Monitoring activities.</li> </ul>
	Protect the opportunities for Ngāi Tahu's uses of freshwater resources in the future.	Restore access to freshwater resources for cultural activities, including the harvest of mahinga kai.	Improve the integration of western science and traditional local knowledge in order to develop a better understanding of all water use planning related matters.
			Increase the ability of Papatipu Rūnanga to understand and participate in all aspects of research and to have influence in setting research priorities.

**Appendix II: Copy of the appendices submitters attached to the circulated conditions provided to all parties by the applicant for comment on 4<sup>th</sup> and 5<sup>th</sup> Oct 2018.**

**Appendix 1: Elver Trap and Transfer Plan**

This appendix outlines the detailed requirements of an Elver Trap and transfer plan as outlined in condition 7 of this consent as follows:

<p>The Plan shall include details relating to:</p> <ul style="list-style-type: none"> <li>(a) The design specifications of the trap and transfer system. This shall be prepared in accordance with the ‘Best Practice Guidelines for the passage of Fish at Hydro-electric Dams in New Zealand: Part 1 – Upstream Migrants (Paterson and Boubee 2010, NIWA Client Report: HAM2010-087) or any revisions of these guidelines and with input from Hokonui Rūnaka;</li> <li>(b) Inspections of the base of the Mataura Falls (both sides) will commence at the start of the upstream elver migration season but no later than 1 December and the frequency of such inspections necessary to identify elver accumulation;</li> <li>(c) The trap will be installed once a threshold of 50 eels has been reached ;</li> <li>(d) The frequency of necessary inspections of the trap system during its operation and transfer requirements;</li> <li>(e) The trap shall be removed no earlier than 1 May;</li> <li>(f) Annual reporting requirements;</li> <li>(g) Details of maintenance requirements;</li> <li>(h) Review requirements; and</li> <li>(i) Predator management.</li> </ul>	<p><b>COMMENT</b></p> <p><b>Have amended to provide a more “outcome” focus in the conditions and to provide better guidance as to what the management plan is required to address.</b></p> <p><b>Start date no later for certainty.</b></p> <p><b>Number specified for certainty</b></p> <p><b>Remove date no earlier for certainty</b></p>
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## Appendix 2: Downstream Eel and Fish Passage Monitoring Programme

This appendix outlines the detailed requirements of a Downstream Eel and Fish Passage Monitoring Programme plan as outlined in condition 13 of this consent as follows:

<p>The Monitoring Programme plan shall include details relating to:</p> <ul style="list-style-type: none"> <li>(a) Modifications required to the trash screen bar size so as to not be greater than 30mm;</li> <li>(b) Modifications required to the trash screen, screen cleaner and trash sluice;</li> <li>(c) Yearly monitoring shall commence at the start of the downstream eel migration season but no later than 1 February and shall cease no earlier than 31 May;</li> <li>(d) Screen inspection frequencies, including the need to increase frequencies during elevated flow events;</li> <li>(e) Methods for determining the condition of eels, other native fish species and salmonids entrapped in the intake channel and protocols for handling and transportation to maximise the survival of fish released back to the main stem of the Maitava River<sup>2</sup>;</li> <li>(f) Monitoring using a Passive Integrated Transporter to ensure any modifications are fit for purpose (subject to obtaining appropriate permits);</li> <li>(g) Protocols for inspecting the intake channel, screen and the sluice for entrapped fish and methods to be employed to maximise the prospect of fish survival;</li> <li>(h) The recording and reporting obligations associated with monitoring undertaken, for eels, other native fish species and salmonids;</li> <li>(i) Review of the programme, protocols and procedure for modifications particularly if mortality and injuries rates to fish increase;</li> <li>(j) Any predator management if required.</li> <li>(k) <del>Provision for Hokonui Rūnaka participation in the monitoring, including observation of the monitoring of the trash screen and holding chute and the eel</del></li> </ul>	<p><b>COMMENT</b></p> <p><b>Refinements made to the condition to emphasise that downstream eel migration is the key matter warranting management, but also providing for data gathering on other species. Inserted in (c) Version 2 7 Aug proposed NT/F&amp;G/DOC conditions for clarity: which was essentially to install no later than 1 February and end no later than 30 May. [note we could consider some flow trigger around these dates also]</b></p>
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<sup>2</sup> Advice note:

- (a) Entrapped fish removed from the intake channel should be placed in a holding tank that:
  - i. Is of sufficient size and water depth to hold the numbers of fish expected to accumulate between inspections and transfer; and
  - ii. Preferably covered in and dark in colour to provide as low stress environment. Water in the holding tank should be continuously refreshed with a constant supply of cool well oxygenated water.
- (b) Fish should be transported to release sites in cool well oxygenated water.
- (c) Fish should be released directly in to flowing water in the main stem of the Maitava River and within 2km of the Maitava Falls as soon as practical following entrapment. Fish should not be dropped from height and / or directly onto exposed rocks.





### **Appendix 3: Minimum Information Requirements for Monitoring Programme**

This appendix outlines the minimum information requirements of a Monitoring Programme as outlined in condition 19 of this consent as follows:

- (a) The date monitoring started and ended;
- (b) Date the trash screen modification was installed and removed;
- (c) Summarise the following information:
  - i) Dates and time of inspections during monitoring;
  - ii) Fish handling methods implemented to maximise survival of fish collected prior to release;
  - iii) Details of Eels collected, including: date of capture, number of each eel species, date of capture, eye diameter, migrant status, length, body width, weight, behavioural state and injury level (type and location of any injuries);
  - iv) Details of any other native fish and salmonid fish species collected, including: date of capture, number of each fish species, length, weight, and condition, behavioural state and injury level (type and location of any injuries);
  - v) Fate of fish species collected;
  - vi) Environmental variables including daily river flows, water temperature, and once metering is installed the daily flows and approach velocity in the intake canal during monitoring;
  - vii) The number of fish species, time, date and location of releases of collected fish species to the main stem of the Mataura River;
- (d) Critically analyse the information / data collected to:
  - i) Identify any adverse effects on downstream fish passage arising as a result of the operation of the hydro scheme; and
  - ii) Determine whether further monitoring is required, or amendments / additions to the monitoring programme required for the following season.

### Appendix III: Comparison of Condition as proposed and Planning evidence

Condition as drafted and provide to Alliance	Applicants proposed conditions	Comparison
<p>Before:</p> <p>(a) designing the trap and transfer programme, the downstream eel and fish passage monitoring programme, and any measures to ensure upstream fish passage, the consent holder shall invite Hokonui Rūnaka in writing to work in partnership with them to:</p>		
<p>1. Design the trap and trap and transfer plan and participate any reviews of the plan;</p>	<p>Elver trap and transfer Plan condition 7:</p> <p>Within 6 months of consent commencement .....</p> <p>The Plan shall be prepared by a suitably qualified, independent and experienced freshwater fisheries biologist in general accordance with the draft plan attached as part of the section 42A report, dated 3 November 2018 (prepared by Vaipuhi Consulting). <b><u>Hokonui Rūnaka shall be invited to contribute to the preparation of this plan.</u></b></p> <p>The objective of this plan .....</p>	<p>Does not include the reviews as proposed but has the collaborative workshop with all submitters for both plan and reviews. There is a link but not as strong as proposed.</p> <p>Contribute is not as strong as partnership, and still allows Alliance to make the final decision on matters.</p>
<p>2. Design the downstream eel and fish passage monitoring programme and participate any reviews of the plan;</p>	<p>Condition 14:</p> <p>Within six months of this consent commencing the consent holder shall engage a suitably qualified, independent and experienced freshwater fisheries biologist to prepare a</p>	<p>Does not include the reviews as proposed but has the collaborative workshop with all submitters for both</p>

	Downstream Eel Monitoring Programme ('Monitoring Programme'). <b><u>Hokonui Rūnaka shall be invited to contribute to the preparation of this plan.</u></b> This shall be submitted to the Consent Authority for certification.	plan and reviews. There is a link but not as strong as proposed.  Contribute is not as strong as partnership, and still allows Alliance to make the final decision on matters.
3. Develop the protocols and methodology for the storage of eel carcasses; and	Monitoring programme shall include details relating to:  (l) Protocols for the storage and provision of eel carcasses to Hokonui Rūnaka.	ES had included in their conditions.
4. Develop protocols for the removal of eel otoliths for analysis	Monitoring programme shall include details relating to:  (m) Protocols for removing eel otoliths and their issuance to NIWA or a suitable alternative entity for analysis.	No mention of Hokonui Rūnaka but will be invited to contribute to the plan so could have input that way.
As required by the conditions of this consent. This invitation shall occur within one months of the commencement of this consent and no later than one month before the start of the designing of the Trap and Transfer Plan and the downstream eel and fish passage monitoring programme;		No timeframes for when the invite should occur risk of short notice or last minute invite that does not work for mana whenua due to other commitments.
(b) The start of the elver migration season the consent holder shall invite Hokonui		

<p>Rūnaka in writing to work in partnership with them to:</p>		
<p>1. install and undertake the trap and trap and transfer plan;</p>	<p>Condition 12: The consent holder shall invite Hokonui Rūnaka to observe and participate in the trap and transfer programme.</p>	
<p>1. install and undertake the downstream eel and fish passage monitoring programme;</p>	<p>Monitoring programme shall include details relating to:</p> <p>(k) Provision for Hokonui Rūnaka participation in the monitoring, including observation of the monitoring of the trash screen and holding chute and the eel collection and monitoring process;</p>	<p>ES has provision for Hokonui Rūnaka participation in the monitoring in the recommended conditions.</p>
<p>As required by the conditions of this consent. This invitation shall occur no later than two months before the start of elver migration season on an annual basis.</p>		<p>This type of condition not proposed, same concerns as above.</p>