

ENVIRONMENT SOUTHLAND

<p>Report and Decision of Independent Hearings Commissioner Hearing held in the Council Chambers, Environment Southland, Invercargill on 3 December 2018</p>

Independent Hearings Commissioner Dr Rob Lieffering was appointed by Environment Southland to hear and determine an application by the Alliance Group Limited for resource consents associated with a hydro-electricity generation scheme at Maitava. The application, made in accordance with the Resource Management Act 1991, is referenced as Application No. APP-20171566.

Representations and Appearances

Applicant:

Mr S. Christensen, Counsel

Mr D. Richardson, Group Environmental Manager, Alliance Group Limited

Mr J. Kyle, Planner, Mitchell Daysh

Dr M. James, Ecologist, Aquatic Environmental Sciences

Submitters:

Department of Conservation

- **Ms P. Williams**, Counsel
- **Ms E. Funnell**, Ecologist

Fish and Game Southland

- **Mr J. Smyth**, Counsel
- **Mr Z. Moss**, Ecologist
- **Mr T. Hawker**, Ecologist

Te Ao Marama Incorporated

- **Ms L. MacKenzie**, Planner
- **Ms S. Blair**, Cultural

Section 42A RMA reporting officer:

Mr S. West, Principal Consents Officer

BACKGROUND AND PROCEDURAL MATTERS

1. This is the report and decision of Independent Hearings Commissioner Dr Rob Lieffering. I was appointed by Environment Southland (**ES** or **the Council** or **the Consent Authority**) to hear and decide the application lodged by the Alliance Group Limited (**Alliance** or **the Applicant**), pursuant to the Resource Management Act 1991 (**RMA**), for resource consents associated with the operation of a hydro-electricity generation scheme (**the hydro scheme**) at Maitua.
2. The hearing of these applications commenced at 9:00 am on Monday 3 December 2018 in the Council Chambers, Invercargill. Evidence was presented over the course of the day and the hearing was adjourned at 4:30 pm.
3. Prior to the hearing, a report was produced pursuant to section 42A of the RMA (**the Staff Report** or **section 42A report**) by the Council's Reporting Officer, Mr Stephen West, a Principal Consents Officer.
4. The Staff Report provided an analysis of the relevant matters requiring consideration under the RMA and recommended the application should be granted. A suite of recommended consent conditions was appended to the Staff Report for my consideration.
5. Prior to the hearing, I issued a Minute addressing procedural matters and making directions to ensure a smooth hearing process. Minute #1 directed that conferencing between the ecologist/fish experts take place and conferencing between the expert planners. The purpose of this conferencing was to clearly outline the matters the experts agreed on and those they did not, including reasons for any disagreement. I received two joint statements of the experts prior to the hearing.
6. The Staff Report, Applicant's evidence and submitters' expert evidence was pre-circulated prior to the hearing in accordance with section 103B of the RMA. Additional time for such evidence to be circulated was provided due to the expert conferencing that was to take place. I pre-read the application documentation, submissions, Staff Report, and pre-circulated evidence. These documents were 'taken as read' at the start of the hearing¹.
7. I undertook a site visit on Tuesday 4 December 2018. I was accompanied by Ms Renee Murrell (Alliance Maitua Environmental Manager), Mr Dave Glover (Alliance Maitua Health and Safety Manager), and Ms Lacey Bragg (Environment Southland Consent Administrator). Neither Ms Murrell nor Mr Glover were involved with the hearing and I confirm that neither of them proffered any opinion on any matter related to the application

¹ As provided for by section 41C(1)(b) of the RMA.

² Alliance Group Limited, Maitua Plant – Hydro Electric Generation Plant, Resource Consent Applications and Assessment of Environmental Effects prepared by Mitchell Daysh dated 22 December 2016.

³ Email from C Hunter (Mitchell Daysh) to S West (Environment Southland).

⁴ The submission states that the submitter is collectively referred to as Ngāi Tahu in its submission and I have accordingly used the same reference for the purposes of this decision.

during my visit. I was shown the various components of the hydro scheme including the weir, diversion channel, trash screen, turbine, and outlet channel. The Mataura River was in high flow during my visit and the turbine was not operational.

8. I issued Minute #2 on 4 December 2018 which outlined the timeframes in respect of circulation of the Applicant's revised set of proffered conditions, suggested changes to those conditions from submitters and the reporting officer, and provision of the Applicant's Right of Reply. These timeframes were discussed and agreed to by the parties towards the end of the formal part of the hearing.
9. The Applicant circulated a set of revised conditions to the submitters and Mr West for their comment and I received those comments on 17 December 2018.
10. Counsel for the Applicant provided a final written Right of Reply and a final revised set of proposed conditions on behalf of the Applicant on 21 December 2018.
11. I issued Minute #3 on 21 December 2018 requesting further information from the Applicant and received its response on 1 February 2019 – this related to cumulative effects on downstream migrating eels and costs of monitoring. Having read the response, I considered further information was necessary and requested this by way of Minute #4 (issued on 3 February 2019) – this related to the thresholds/triggers proposed by the Applicant in its conditions and whether they adequately dealt with cumulative effects.
12. I received a response to Minute #4 from the Applicant on 8 February 2019. There were some matters in the Applicant's response that were not clear to me so I asked for clarification on those matters (via email through Ms Bragg) on 8 February 2019 and received the Applicant's response to that email on 11 February 2019.
13. I formally closed the hearing on 13 February 2019. In reviewing the Applicant's final set of proffered conditions there appeared to be an inconsistency in respect of the proposed process of developing the Mitigation Plan and I sought clarification (again via email through Ms Bragg) on 15 February 2019 and received a response from the Applicant on 19 February 2019.
14. I record that the two requests for further information following the formal part of the hearing by way of Minutes and the emails seeking clarifications were all necessary as they dealt with critical matters not fully traversed and tested at the hearing. These matters arose as a result of information provided by the Applicant in its Right of Reply (including supporting information from its experts). Whilst I had the option to reconvene the hearing, I considered requesting the information by way of Minute(s) and email clarification was more efficient and appropriate in this case. The responses I received from the Applicant clearly showed appreciation for the opportunity to either clarify matters or make corrections to the information provided.

15. I acknowledge all the parties' willingness to participate in the expert conferencing and in providing the information I requested during these proceedings. I thank all the parties for their contributions in this regard. I also thank Ms Lacey Bragg, the Council's Hearings Administrator, for the excellent assistance she provided throughout the hearing process. I wish to thank those parties who attended the hearing and presented evidence.

THE APPLICATION

16. The background to the application is outlined in the application documentation² and the Staff Report – there is no need for me to repeat that material here. The Staff Report stated that the purpose of the application is to enable electricity to be generated by the Applicant via an existing hydro scheme located on the true right bank of the Mataura River. The activities and the application are summarised as follows:
- (i) Alliance operates a meat processing plant at Mataura;
 - (ii) An existing concrete U-shaped weir is in the Mataura River upstream of the Mataura Falls. This weir is believed to have been constructed in the 1920s or 1930s;
 - (iii) Water is diverted by the weir along the true right bank of the river into a diversion channel where it is directed through a turbine system which generates around 72,000 kW per week, supplying around 25% of the meat processing plant's electricity needs – a water permit is being sought for this activity;
 - (iv) Water from the turbines is returned to the Mataura River downstream of the Mataura Falls – a discharge permit is being sought for this activity;
 - (v) The weir also diverts water along the true left bank where it is also used to generate electricity via a hydro scheme operated by Mataura Industrial Estate (**MIE**) under a separate set of resource consents – this was formerly the site of the Carter Holt Harvey mill; and
 - (vi) The existing consents (the Applicant's and MIE's) require the hydro schemes be operated in such a way as to ensure they do not result in the depth of water over the weir falling to below 0.05 m.
17. The application, as lodged, included a proposal to shut off the hydro scheme during the months of March and April each year between the hours of 7 pm and 6 am under certain flow conditions. This was proposed to minimise potential effects on downstream eel

² Alliance Group Limited, Mataura Plant – Hydro Electric Generation Plant, Resource Consent Applications and Assessment of Environmental Effects prepared by Mitchell Daysh dated 22 December 2016.

migration. However, the Applicant advised the Council on 14 November 2017³ that it no longer proposed this shut down regime but instead proposed a monitoring programme to better inform what, if any, mitigation is needed in terms of downstream eel migration.

18. The proposed activities and resource consents sought were summarised in the Staff Report as follows:

APP-20171566-01 Water Permit: To dam, divert, and use water for hydro-electric power generation.

APP-20171566-02 Discharge Permit: To discharge water from a hydro-electric system to the Mataura River.

19. A consent duration of 25 years is being sought by the Applicant for both resource consents.

REGIONAL PLAN RULES AFFECTED

20. The relevant operative plan for these activities is the Regional Water Plan for Southland (**RWP**). In June 2016 the Council notified the Proposed Water and Land Plan (**PWLP**) and, while there are appeals relating to various provisions of this plan, the rules had immediate legal effect and are therefore also applicable in this case.

21. There were differences between the Applicant and the Reporting Officer on how the activities complied, or otherwise, with the relevant rules. In addition, upon reading the Staff Report I noted it appeared that a section 13 RMA land use consent may have been needed for the weir, but this consent type had not been applied for. This was a matter I directed the expert Planners canvass during the expert conferencing. The joint statement confirms that the following rules are applicable and the corresponding activity statuses apply under the RWP and PWLP:

Consent Type	For	RWP	PWLP
Water Permit	▪ Damming of water	▪ Discretionary activity under Rule 19(b)	▪ Discretionary activity under Rule 4
Water Permit	▪ Diversion and use of water	▪ Restricted discretionary activity under Rule 18(d)(iii)	▪ Discretionary activity under Rule 49(c)
Discharge Permit	▪ Discharge of water to water	▪ Controlled activity under Rule 3A	▪ Controlled activity under Rule 8

³ Email from C Hunter (Mitchell Daysh) to S West (Environment Southland).

Consent Type	For	RWP	PWLP
Land Use Consent	<ul style="list-style-type: none"> ▪ Use of a weir structure on the bed of the Mataura River 	<ul style="list-style-type: none"> ▪ See discussion in paragraphs below ▪ Mr West and Ms MacKenzie consider it is a controlled activity under Rule 29(e) ▪ Mr Kyle considers it is permitted under Rule 29(d) 	<ul style="list-style-type: none"> ▪ Permitted activity under Rule 60(ab)

22. Mr Kyle also presented an analysis of the status of the activities following recent decisions on the proposed PWLP. I asked Mr Kyle whether any new activity status as a result of these decisions was relevant as section 88A of the RMA essentially 'locks in' the status of an activity to that which applied at the time of lodgement and the application is to be assessed under that status irrespective of any activity status changes that may occur following lodgement. Mr Kyle was unsure whether that applied to regional activities, so I asked Mr Christensen to address this in his Right of Reply. The Right of Reply confirmed that the activity status remains as that applicable at the time of lodgement.
23. All the Planners agreed with the above statuses and that all the activities are sufficiently inter-linked to warrant the consents to be 'bundled' with the most restrictive activity status applying to the bundle. In this case the most restrictive activity status is **discretionary** and all the activities must be considered as such under sections 104 and 104B of the RMA.
24. As noted in the above table, there was a difference of opinion between Mr Kyle and the two other Planners (Mr West and Ms MacKenzie) as to whether the weir required a section 13 RMA land use consent. Mr Kyle was of the opinion it was permitted under Rule 29 of the RWP, however Mr West and Ms MacKenzie considered it did not meet all the requirements of this permitted activity rule. During the hearing I asked Mr Kyle and Mr West questions regarding this matter. Both witnesses agreed that the matter may need to be resolved at a later date and, in the event it is found that a land use consent is needed for the weir, it could (and would) be applied for separately. The Applicant has not applied for a land use consent for the weir and therefore I cannot grant such a consent. Despite this, one of the key issues identified in the evidence of various witnesses related to upstream fish passage over the weir structure.

SITE DESCRIPTION AND EXISTING ENVIRONMENT

25. The site is described in detail in the application documents and summarised in the Staff Report. The following are the key elements of the existing environment:
- (i) The U-shaped weir is located approximately in the middle of the Mataura River upstream of the Mataura Falls, the falls being a natural rock ledge. The weir is thought to have been constructed in the 1920s or 1930s;
 - (ii) The Mataura River is a Statutory Acknowledgement Area under the Ngāi Tahu Claims Settlement Act 1998 and section 42 of that Act notes "*The Mataura was an important mahinga kai, noted for its indigenous fishery. The Mataura Falls were particularly associated with the taking of kanakana (lamprey)*";
 - (iii) The Mataura River Mātaitai Reserve exists along approximately 10 km of the Mataura River, including the application site, and came into force in 2005 as the area is noted for its native fish populations, in particular lamprey, shortfin and longfin eels;
 - (iv) The Mataura River is subject to the Mataura Water Conservation Order (**WCO**) which came into force in 1997. The outstanding features of the river that the WCO seeks to protect are the outstanding fisheries and angling amenity;
 - (v) Land uses adjacent to the application site are dominated by industrial uses and the wider surrounding area is made up of a mix of residential, commercial, and community support uses;
 - (vi) MIE holds consents to divert water for its hydro scheme using the same weir the Applicant uses, however on the opposite side of the river;
 - (vii) Eleven species of diadromous native fish have been recorded within the Mataura River and the Mataura Falls form a natural barrier for six of these species that are poor to moderate climbers but unable to migrate past the falls; and
 - (viii) The Mataura River generally has degraded water quality, being in the worst 25% and 50% of all lowland sites in New Zealand for total ammoniacal nitrogen and dissolved reactive phosphorus, respectively.

NOTIFICATION AND SUBMISSIONS

26. The application was processed on a limited notified basis with notice being served on 27 October 2017.
27. Three submissions were received, all in opposition, and all wishing to be heard. Two of the submissions, namely from the Southland Fish & Game Council (**Fish & Game**) and Hokonui Rūnaka and Te Rūnanga o Ngāi Tahu (collectively referred to as **Ngāi Tahu**⁴) oppose the application and seek that the consents be declined – both submissions stated that, should the consents be granted, they should be issued for a period of no more than five years. The third submission, from the Department of Conservation (**DoC**), opposes the application in part and seeks that the consents be granted for a term of no longer than five years subject to appropriate conditions to address adverse effects on fish passage for long fin eel or lamprey.
28. The Staff Report presents a summary of the submissions. The key concerns raised in the submissions are:
 - (a) Effects on cultural values;
 - (b) Lack of information on sportfish and the effects on them;
 - (c) Effect on fish passage, both upstream and downstream, including effects of turbine strike and adequacy of fish screen;
 - (d) Adequacy of the 'trap and transfer' system for elvers;
 - (e) Monitoring, including of migrating fish species;
 - (f) Consistency with objectives and policies of the relevant plans; and
 - (g) Duration of consent.
29. I was provided with, and have read copies of, the three submissions received and consider these were accurately summarised in the Staff Report. I therefore adopt that summary for the purposes of my decision as provided for by section 113(3)(b) of the RMA.
30. The Staff Report records that two pre-hearing meetings were held (30 January and 16 August 2018) and that further reports were prepared both by the Applicant and submitters on the effects associated with fish passage. These meetings failed to resolve the issues and hence the requirement for a formal hearing to be held. I have read the report that Mr West prepared under section 99(5) of the RMA on the pre-hearing meetings.

⁴ The submission states that the submitter is collectively referred to as Ngāi Tahu in its submission and I have accordingly used the same reference for the purposes of this decision.

ASSESSMENT

31. In assessing the application and making my decision I have considered the application, the assessment of environmental effects (**AEE**), the Staff Report, the three submissions, the joint witness statements, and the evidence provided during, and following, the formal hearing process.
32. In addition to the material listed in the preceding paragraph, during the hearing I requested copies of the MIE consents and supporting decision, and the report required by Condition 12 of that consent which required MIE to carry out an investigation into appropriate passage for eels migrating downstream. Mr West tabled these documents at the hearing.
33. I record that the findings I have made and the decision I have arrived at are based on all the evidence before me and my consideration of that material within the context of the statutory framework.

Statutory Considerations

34. Section 104(1) of the RMA states that, when considering an application for resource consent and any submissions received, I must, subject to Part 2 of the RMA (which contains the RMA's purpose and principles), have regard to-
 - (a) *Any actual and potential effects on the environment of allowing the activity;*
 - (ab) *Any measure proposed or agreed to by the Applicant for the purpose of ensuring positive effects on the environment offset or compensate for any adverse effects on the environment that will or may result from allowing the activity;*
 - (b) *Any relevant provisions of a national environmental standard, other regulations, a national policy statement, a New Zealand coastal policy statement, a regional policy statement or a proposed regional policy statement, a plan or proposed plan; and*
 - (c) *Any other matters the consent authority considers relevant and reasonably necessary to determine the application.*
35. Section 104(2) of the RMA states that, when forming an opinion for the purposes of section 104(1)(a), I *may* disregard an adverse effect of the activity on the environment if a national environmental standard or the plan permits an activity with that effect. This is referred to as the application of the 'permitted baseline'. I heard no evidence as to whether there was any permitted baseline applicable in this case and as such I assume not.
36. Section 104(2A) requires me to take into account the Applicant's value of investment as this is an application for replacement consent. I discuss this matter later in this decision.
37. Section 104(3)(a)(ii) states that I must not have regard to the effect on any person who has given written approval to the application. No written approvals were provided by the Applicant so this section is not relevant to my consideration.

38. Section 104B of the RMA states that I may grant or refuse the application sought and, if granted, I may impose conditions under section 108 of the RMA.
39. Sections 105 and 107 of the RMA are also relevant for me to consider for the discharge permit being sought.
40. My assessment considers each of these sections of the RMA below.

RMA SECTION 104(1)(a) – ACTUAL AND POTENTIAL EFFECTS ON THE ENVIRONMENT

41. The activities will result in various actual and potential effects on the environment – these effects include both positive and adverse effects. The more significant of the adverse effects formed the basis of most of the submissions that were received by the Council and the evidence presented during these proceedings. There were, however, some effects in respect of which I received evidence which was not contested. I briefly cover those in the following paragraphs before addressing the matters that were the focus of the hearing (i.e. the matters in contention) under separate effects headings.
42. I accept that any adverse effects on natural character and water quality will not be significant. Accordingly, I adopt the assessment in the Staff Report for the purposes of my decision as provided for by section 113(3)(b) of the RMA.
43. In terms of positive effects, I received evidence to show the hydro scheme provides \$35,000 per month worth of savings for the Applicant which is a significant sum of money. The ability to generate electricity on-site is efficient and avoids the need for this energy to be generated elsewhere. A further positive effect is that the generation is from a renewable resource.
44. On the basis of the evidence before me, I have focussed my assessment on the following potential and actual environmental effects which formed the basis of much of the evidence presented during the hearing:
 - Fish passage:
 - Upstream migration and proposed mitigation measures
 - Downstream migration, including fish screen, turbine strike, and cumulative effects of the Applicant's hydro scheme and that operated by MIE on the other side of the Mataura River
 - Cultural effects
45. I consider each of these separately below.

Fish Passage

Introduction

46. All parties agreed that providing for upstream and downstream migration (sometimes referred to as passage) for certain fish species were key issues associated with this application. The experts agreed that the relevant fish species to be considered in respect of fish passage were longfin and shortfin eel, lamprey, koaro, and brown trout.
47. Longfin eel, shortfin eel, and koaro are all diadromous species, meaning that part of their life-cycle involves migrating from freshwater to the sea. Eels migrate downstream as adults and spawn in coastal waters (thought to be north of New Zealand near Tonga). Young eels (elvers) return to freshwater where they migrate up rivers. Koaro spawn in estuarine waters and their young form part of the 'whitebait' species which migrate upstream. Lamprey spend some of their life cycle in freshwater and some in the sea.
48. Brown trout are not diadromous, however some trout do spend time in estuarine environments and are referred to as 'sea-run trout'. Brown trout can, and do, migrate up and down rivers in search of food but they do not have an obligate marine phase to their life cycle.

Upstream Fish Migration

49. The Mataura Falls form a natural barrier for upstream fish migration and the weir, located a short distance upstream of the falls, forms an additional man-made barrier for fish migration. Dr James stated the falls and the weir do not pose a significant barrier for eels, koaro, lamprey, and possibly brown trout. He stated that the 'trap and transfer' system that is proposed is 'best practice' and commonly used in other parts of New Zealand. While he considered that the trap and transfer scheme was not 'essential' in this case, its use would definitely enhance upstream fish migration.
50. Dr James stated that brown trout are found throughout the Mataura River catchment but generally form resident populations as long as they have access to spawning streams. He stated a fish ladder was in place over the weir to aid upstream migrations for those brown trout that get past the falls and are migrating upstream to suitable spawning areas. Dr James stated that there are suitable spawning areas downstream and upstream of the subject site and he considered they do not rely on migration to sustain their population.
51. Ms Funnell stated that while the trap and transfer system is an accepted method to provide for upstream fish passage, the Applicant's proposal would not provide for upstream

migration of lamprey as they migrate at a different time of the year to eels – eels being the target species for the Applicant's trap and transfer scheme.

52. Ms Funnell also raised concerns regarding the risk of lamprey predation by birds such as shags at the base of the weir. She acknowledged that lamprey congregate at the base of the falls and are therefore subject to potential predation by birds in that area, but the presence of the weir creates an additional congregation point for lamprey, thereby increasing the risk of predation effects. She was not aware of any evidence to suggest that the lamprey population was in decline.
53. Mr Moss stated that brown trout are known to congregate 'in their hundreds' at the base of the falls but that trout must be able to traverse the falls and the weir as the population is being sustained. Mr Moss identified that the weir has a fish ladder to specifically provide for upstream brown trout fish passage.

Findings – Upstream Migration

54. I find that the falls form a natural barrier for upstream fish migration and the weir creates an additional (artificial) barrier. I agree that the fish species which need to be considered in respect of upstream migration are those that would naturally be able to climb over the falls, these being eels, lamprey, koaro, and brown trout.
55. Provided the fish ladder is adequately maintained and provided the Applicant's proposed trap and transfer scheme is successfully implemented, I find the effects on upstream fish migration are adequately mitigated. I agree with Dr James that the trap and transfer scheme 'enhances' the upstream migration of fish.

Downstream Fish Migration

56. Downstream migration (or passage) of fish was considered to be a key issue because of the potential for fish to pass through the turbine, potentially resulting in death of the fish – the larger the fish the greater the likelihood of death. However, there were differences of opinion as to which fish species should be the focus for consideration.
57. Dr James stated that focus should only be on longfin eels rather than other fish because:
- They dominate the eel population above the Mataura Falls and are classified as 'At risk – declining';
 - They are obligate migrants and their survival as a species is dependent on migrant adults being able to access the open sea – he stated that migrants from the Mataura River play an important part in the overall sustainability of the species;

- While lamprey is also a threatened species (classified as 'nationally vulnerable'), those that may pass through the turbines are likely to be juveniles and tend to be small (~100 mm) and most will pass through with little or no mortality;
 - Other populations of native fish are self-sustaining and either resident in the upper or lower Mataura River or not reliant on migration past the Falls;
 - While the Mataura River is a nationally important and internationally recognised trout fishery, brown trout are not reliant on migration through the Falls area – he stated that it seemed unlikely there are significant downstream migrations of brown trout or loss through the turbine; and
 - The weir and hydro scheme have been in existence for some 100 years and through that time the trout fishery has developed into a strong, high quality brown trout fishery – he considered this to mean that the fishery has not been significantly impacted by the operation of the hydro scheme.
58. Mr Moss agreed with Dr James that brown trout do not have an obligate marine phase to their life cycle, however he disagreed with Dr James's opinion that it seemed unlikely there is significant downstream migration of brown trout or loss through the turbine. Mr Moss stated that the Applicant has undertaken no monitoring to determine the effects of the hydro scheme on fish populations and, in particular, what proportion of fish (including brown trout) are being diverted from the mainstem into the hydro race and then through the turbine.
59. Mr Moss stated that, due to the patterns of spawning and migration of brown trout in the Mataura River, both adults and small fish can be encountered and downstream migration of juvenile and adult brown trout do occur during different times of the year (October to April and March to September, respectively).
60. Mr Hawker stated that the Applicant's hydro scheme does not incorporate an effective fish screen for the protection of native fish and brown trout, including juveniles, nor is one proposed. He stated that hydro schemes can cause significant loss and/or mortality of fish, particularly large fish moving downstream. In his opinion an effective fish screen is required and a condition should be imposed requiring such a screen to be installed because without such a screen there will be significant mortality of both indigenous and sports fish when they pass through the turbine. In the absence of a requirement for a screen Mr Hawker stated that a comprehensive monitoring programme should be required which monitors the effects of the hydro scheme on all potential fish species that may pass through the trash screen and through the turbine.
61. Mr Hawker stated that reducing the bar spacings of the trash screen as proposed by the Applicant did not constitute an effective fish screen. He described the principles of an

effective fish screen and he presented a set of recommended criteria for such a screen for sports fish. In answers to questions he confirmed that his recommended criteria would be equally effective for native fish and that such a screen could cost in the order of \$1.5-2.0 million to design and install.

62. Mr Smyth stated that fish screening guidelines had been incorporated into the Canterbury Land and Water Plan and these had been applied by Environment Canterbury in relation to consenting hydro schemes in Canterbury. He stated that fish screen guidelines had been incorporated into the PSWLP by way of Appendix R, however he stated these were subject to an appeal by one party, being the Applicant. The fish screen guidelines in Appendix R were the same as those recommended by Mr Hawker.
63. Ms Funnell stated there were 15 indigenous and two introduced fish species recorded within the Maitai River catchment. She stated that adult eels (both longfin and shortfin) and juvenile lamprey migrate downstream as part of their life cycle and are reliant on safe passage past the weir and Maitai Falls and there is potential for these species to be entrained into the hydro race and from there into the turbine.
64. Ms Funnell stated that some juvenile lamprey ('macrophthalmia' being 80-100 mm in length) mortality could be expected and could be in the order of 4-14%. She also noted that there was a risk that upstream migrating adult lamprey may enter the hydro race after they have scaled the weir and these fish would then potentially enter the turbine.
65. Ms Funnell stated that larger eels, lamprey, and trout will suffer mortality from impingement on the intake screen. Mr Hawker and Mr Moss also considered the modifications to the intake screen will result in high mortality rates for impinged and captured brown trout.
66. Ms Funnell stated that the native fish species of greatest concern and most at risk are the larger downstream migrating longfin and shortfin eels. She stated that the numbers of migrant eels that move downstream within the Maitai River are unknown but could be in the order of several hundred eels. Ms Funnell stated that high mortality rates of migrant eels are expected as evidenced by various studies around New Zealand.
67. Ms Funnell considered that the most effective mitigation would be the installation of a fish screen that prevents entry into the hydro race and a fish bypass that returns fish to the mainstem of the river.
68. Mr Christensen stated there was relatively poor knowledge on the extent to which downstream migrating eels are being impacted by the hydro scheme. As such, the Applicant is proposing a monitoring programme focussed on eels to better understand how the hydro scheme is impacting them, noting that the monitoring would also collect information on impacts on other fish, including brown trout.

69. Dr James provided details of the proposed monitoring which would involve a five-year survey of the number of adult eels entrapped within the hydro race or impinged on the trash screen – the screen would be modified to have narrower spacings between the bars. The results of this monitoring would be used to decide what, if any, mitigation or offsetting are required.
70. Mr Christensen stated that to undertake this monitoring so as to reach a defensible conclusion as to the effect of the hydro scheme and then to design and implement effective mitigation, or undertake suitable compensatory actions, is dependent on a 25-year consent term being granted. I asked Mr Christensen whether the proposed monitoring should have been undertaken prior to applying for these consents to fulfil the requirements of Schedule 4 of the RMA (which requires an application to be supported with an AEE). He answered by stating in an ideal world the information would have been collected and presented in the AEE but it is proposed to be collected through the proposed conditions.
71. Mr Christensen stated that if some type of screening and by-pass were found to be needed, these could be difficult and expensive to construct and may require ongoing maintenance.
72. The exact nature of the mitigation measures that would be implemented was not specified but could include one or more of the following (from the Applicant's proposed Condition 22):
- Permanent alterations to the fish screening system or hydro race (including the area around intake) to avoid, as far as can practicably be achieved, the entrapment of eels in the hydro race;
 - The closure of the hydro plant during flood flows between 1st February and 15th May (or similar timeframe determined as a result of monitoring); and/or
 - Eel habitat enhancement in other parts of the Mataura River to offset the effects of eels being entrapped in the hydro race and entering the turbine
73. The proposed conditions would require the mitigation measures to be outlined in a Downstream Eel Mitigation Plan (the Mitigation Plan) which would need to be certified by the consent authority before being implemented.
74. In answers to questions, Dr James stated that, in his professional opinion and based on available information, some form of mitigation measures are likely to be required following the monitoring programme.
75. When I asked Dr James if the monitoring programme was '*just delaying the inevitable?*' he stated that, because the scale of effect is unknown, the scale of required mitigation is, likewise, currently unknown.

76. Mr Smyth and the tabled Lane Neave legal memorandum (from Ngāi Tahu) noted that the Applicant's experts had referred to the proposed monitoring and, if required, mitigation, as '*adaptive management*'. Both presented extensive legal submissions on the concept. Mr Smyth concluded that the Applicant's proposed environmental performance objectives do not provide enough certainty, clarity, or robustness on which to form the foundation of an appropriate adaptive management approach. Mr Christensen, in his Right of Reply, stated that, while the Applicant's experts have used the term '*adaptive management*', what is proposed is not an adaptive management proposal in the sense described in the leading cases on the subject.
77. Mr Smyth stated the proposed conditions in terms the Mitigation Plan retained a large level of discretion to the Applicant and that:
- Reference to permanent alterations to the fish screening system or hydro race (including the area around intake) would not necessarily require an effective fish screen to be installed (and maintained) in accordance with all the seven criteria set out in the NIWA 2007 fish screening guidelines – these being those outlined in Mr Hawker's evidence and those contained in Appendix R of the PLWP (albeit these are under appeal);
 - The potential for offsetting of the effects on downstream migrating adult eels by eel habitat enhancement would only be appropriate if there was strong evidence that adult eel population is habitat limited as opposed to recruitment limited – that is, offsetting may not adequately mitigate the adverse effect on downstream migrant adult eel passage.
78. Ngāi Tahu expressed similar concerns regarding the level of discretion provided to the Applicant in the proposed conditions. It noted that offsetting should only be used if there is no net loss. Ngāi Tahu was also concerned that the monitoring focusses only on one fish species.
79. I asked Mr Kyle and Mr West whether the MIE hydro scheme formed part the 'existing environment' as its consents are current and do not expire until 2026. Both witnesses confirmed that the effects of the MIE hydro scheme do form part of the existing environment and therefore form the baseline against which the Applicant's effects are to be assessed.
80. Mr Kyle confirmed that the proposed conditions (attached to his Evidence in Chief) did not specifically incorporate a requirement to consider the cumulative effects of the MIE consents but it was his expectation that the Downstream Eel Migration Monitoring Programme would take all relevant factors into account – he agreed that the wording of the conditions should be amended to specify that cumulative effects would need to be

considered – the revised proposed conditions included with the Applicant's Right of Reply included changes to ensure cumulative effects were to be assessed '*if needed*'.

81. Mr West confirmed that he had not properly considered cumulative effects in his section 42A report. He considered the monitoring of downstream eel passage effects should take into account the effects of the MIE hydro scheme and the conditions should be amended to make this clear.
82. Dr James stated that the proposed downstream monitoring programme did not include a cumulative effects assessment of the MIE hydro scheme. I asked Dr James how a decision would be made on whether a Mitigation Plan was needed if the cumulative effects of the Applicant's hydro scheme were unknown. He stated that an assessment could be undertaken by the scaling of flows – that is, the number of eels likely to be entering the MIE hydro scheme could be calculated by taking the results obtained by the Applicant's monitoring and multiplying them by a factor to account for MIE's increased flow diversion.
83. Dr James stated that an assessment could then be made as to the significance of the Applicant's cumulative effect. In answers to questions Dr James stated that the decision on whether the effects are significant enough to warrant mitigation measures was subjective but would be based on expert opinion as the proposed condition wording (those being current at the time of the hearing) did not include any hard-coded numeric thresholds.
84. Thresholds which would trigger either additional monitoring or preparation of the Mitigation Plan were not initially proposed in the Applicant's proposed conditions. In the set of conditions attached to Mr Kyle's evidence the trigger for mitigation was if there were '*...significant adverse effects on downstream eel passage*'. This wording was then changed (in Mr Kyle's Statement of Rebuttal Evidence) to if '*...~~significant~~ adverse effects on downstream adult eel migration passage...*'.
85. In its Right of Reply the Applicant provided a revised set of proposed conditions and a supplementary statement of evidence from Dr James on cumulative effects and proposed numeric thresholds/triggers for various actions to be taken. This was the first time numeric thresholds were proposed. I requested further information from the Applicant (via Minutes #3 and #4) regarding the proposed thresholds/triggers and whether the cumulative effects have been properly considered in setting the thresholds/triggers.
86. I received comments on the Applicant's revised conditions from the submitters and Mr West, including a supplementary statement of evidence from Ms Funnell regarding the proposed thresholds/triggers.
87. The Applicant's final set of proposed conditions included three thresholds which either trigger further monitoring or mitigation as follows:

- (a) If 10 or more adult migrant female eels are impinged/caught in any one monitoring season then the Applicant would be required to either undertake PIT monitoring or, if it chooses, implement mitigation measures (i.e. develop and implement a Mitigation Plan).
 - (b) If 100 or more adult migrant female eels are impinged/caught in any one season then the Applicant would be required to implement mitigation measures (i.e. develop and implement a Mitigation Plan).
 - (c) In the event that PIT monitoring is undertaken (using non-threatened shortfin eels, not longfin eels), then if the relative proportion of migrant eels (both male and female) either entrapped in the race or impinged on the screen is 5% or more during the preceding downstream migration season then mitigation measures would be implemented.
88. Dr James noted that estimating eel stocks is very difficult but the best available information was the work of Graynoth *et al* (2008) which estimated the eel biomass in the Mataura River as being 243 tonnes. Using this data Dr James estimated that around 29,000 large female longfin eels may be present with 4 to 8% of these migrating each year (i.e. 1,160 to 2,300 female eels). He considered the proposed 10 adult female eel threshold (to undertake additional instream monitoring) was sufficiently conservative and took adequate account of cumulative effects of the MIE hydro scheme. He stated that the 100 adult female eel trigger does not need to take into account a cumulative effect as the Mitigation Plan would need to be developed and implemented above this trigger and the instream monitoring between 10 and 100 adult female eels took into account cumulative effects. However, he stated that the 5% threshold (in the event that PIT monitoring is undertaken) does not take into account the cumulative effects of both hydro schemes and that this threshold is *'...more of a practical consideration as being able to detect differences less than this for the Alliance side (which is the only part of the system that this consent can have compliance conditions) is unlikely because of issues around variability, the low numbers involved and errors in detection'*.
89. I sought clarification on Dr James's proposed thresholds on three occasions following the close of the formal hearing (following receipt of his two memorandums). His first memorandum (dated 1 February 2019) addressed cumulative effects of the Applicant's hydro scheme and the MIE scheme and used flow scaling to estimate the likely number of eels affected by the MIE hydro scheme. It was not clear how the various eel thresholds proposed related to the cumulative effects of the MIE hydro scheme and Dr James's calculations had been not been based on the MIE consented rate of taking (which is more than double its current rate, the latter being the rate used by Dr James in his first memorandum). Dr James's second memorandum (dated 8 February 2019) presented

revised figures on cumulative effects and further clarification on the various thresholds. A further email from Mr Christensen provided further clarifications and corrections to Dr James's second memorandum.

90. Ms Funnell (for the Department of Conservation) agreed with Dr James's assessment regarding the number of large female migrant eels that potentially migrate down the Mataura River. She noted that Dr James has suggested a 5% threshold for migrating eels entering the Applicant's intake and this has been used to calculate the 100-eel threshold. She considered the thresholds suggested by Dr James do not consider the ecological significance of the magnitude of effect nor the duration of the effect (i.e. the effect could be enduring over the term of the consent).
91. Ms Funnell stated that defining the significance of effect and relative thresholds relied on expert judgement and has been a source of debate among practitioners. She noted the proposed monitoring was biased towards larger fish and would miss important information on smaller eels that were able to pass through the modified trash screen.
92. Ms Funnell stated that the relevance of a 100 migrant adult female eel threshold from an ecological perspective is difficult to assess and she considered a lower threshold of 50 eels to be more appropriate.
93. Fish & Game considered that the proposed monitoring should be undertaken, and the results used during the re-consenting process. That way the actual effects of the Applicant's hydro scheme will be known and a decision can then be made as to whether an effective fish screen is needed.
94. All three submitters and Mr West consider that a common expiry date with the MIE consents would better enable cumulative effects of the Applicant's and MIE's hydro schemes to be considered.

Findings – Downstream Fish Migration

95. I find that potential effects on downstream fish migration is the key issue associated with this application. The Applicant has not assessed the actual effects of its hydro scheme on fish that rely on downstream migration as part of their life-cycles and non-obligate species that move up and down the river looking for food (e.g. brown trout).
96. By its own admission, the Applicant has a relatively poor knowledge on the extent to which downstream migrating eels are being impacted by the hydro scheme and it is proposing a monitoring programme to better understand how the hydro scheme is impacting them, noting that the monitoring would also collect information on impacts on other fish, including brown trout. The results of this monitoring would be used to reach a defensible conclusion

as to the effect of the hydro scheme and then to design and implement, if required, effective mitigation or compensatory actions.

97. I find that the Applicant could (and should) have undertaken its proposed monitoring well in advance of the expiry of the current consents and the results of that monitoring would then have been available as part of the current proceedings to provide an evidential basis on what the scale of adverse effect was and what mitigation measures, if any, should be implemented to avoid or mitigate adverse effects on downstream migration of fish. The lack of actual monitoring results means there is currently insufficient information on the effects of the hydro scheme on downstream fish migration/passage.
98. The Applicant is proposing to collect the missing information by undertaking a comprehensive monitoring programme over a five-year period. I find that the proposed monitoring programme and the way it will be developed (in consultation with the three submitters) is generally appropriate, however I consider that its focus should not only be on longfin eel but also other fish that may be affected by the hydro scheme. Whilst longfin eel is a very important species to consider given their threatened status, I agree with the three submitters that the monitoring programme should equally focus on other native fish as well as salmonids – this position is supported by various provisions of the statutory documents.
99. I find that the proposed thresholds which would trigger either further monitoring or development and implementation of the Mitigation Plan, whilst having been established based on the best available information, are somewhat arbitrary and it is unclear whether they adequately take into account cumulative effects or the ecological significance of the magnitude of effects.
100. As discussed earlier, proposed numeric thresholds were introduced relatively late in the proceedings as part of the Applicant's Right of Reply, however no evidence was included in the Reply on whether the thresholds adequately took into account cumulative effects of the MIE hydro scheme. It was only in response to my first further information request that evidence was provided to suggest the threshold took into account cumulative effects, however that information assumed the MIE hydro scheme had only half the rate of take that its consents allowed. I asked further questions on this and was provided with more calculations which suggested the thresholds accounted for the consented MIE rate of taking. Finally, there was confusion on whether the 5% threshold was based on female eels or total number of eels – this was a matter clarified/corrected very late in the proceedings by Mr Christensen.
101. The 5% threshold, which originates in the Vaiphuhi (2018) report, does not appear to have any ecological basis and, as Dr James confirmed in his second memorandum dated 7 February 2019, this threshold does not take into account the cumulative effects of the

Applicant's hydro scheme over and above those effects that may be occurring at the MIE hydro scheme.

102. The way in which the proposed thresholds were developed and justified during these proceedings, including following the close of the formal part of the hearing, leads me to have insufficient confidence in them being environmentally defensible thresholds to be imposed as conditions of consent. Further work needs to be done to determine not only the magnitude and significance of the effects of the Applicant's hydro scheme but, more importantly, the cumulative effects of the Applicant's and MIE's hydro schemes. Collecting the right monitoring data to assess these effects is, in my view, best done between now and 2026, being when the MIE consents expire. I note the Applicant's proposed monitoring would take place over a five-year period, which would mean results were available in 2024 or 2025 (depending on what year it commences), this being very close to the expiry date of the MIE consents. The period between the completion of the monitoring and the need to apply for new consents would then be able to be used to determine what the appropriate mitigation measures are (should such measures be required). I agree with the submitters and Mr West that a common expiry with the MIE consents is appropriate in this case to enable the effects of both hydro schemes to be considered together given they both use the weir to divert water into their respective hydro schemes.
103. I also note it is likely that the appeals to the PSLWP will also have been determined, including the applicability of the fish screen design requirements specified in Appendix R.
104. I find that the proposed conditions as they relate to the potential mitigation measures that might be implemented retain too much discretion to the Applicant and they would leave the Consent Authority in a position of being an approver (arbiter) rather than a certifier when the Mitigation Plan is submitted for 'certification'. Conditions that leave a decision to a subjective discretion are ultra-vires and cannot be imposed. Conditions must provide clear performance or environmental standards that are to be certified – no such standards are included in the Applicant's proposed conditions. Further, critical actual or potential adverse effects need to be identified, appropriately avoided, remedied or mitigated with conditions before a decision to grant is made and not left to be addressed via a future plan. Plans should be limited to non-critical operational processes that lie behind a performance or operational standard – in this case a Mitigation Plan would contain critical information which should be properly evaluated and 'approved' and therefore I do not consider the Applicant's approach in this regard to be appropriate. This is very different to the certification of the Elver Trap and Transfer Plan and Downstream Fish Migration Monitoring Programme because: 1) these documents outline operational details; and 2) draft versions of these were included with the application so details of what they will contain are already available.

105. To understand the cumulative effects of the Applicant's hydro scheme and the MIE hydro scheme will require not only the Applicant to undertake monitoring but also MIE. I therefore encourage the Applicant to begin discussions with MIE to develop a suitable monitoring programme which will be able to assess the cumulative effects. The Consent Authority should also encourage MIE to participate in the monitoring programme because cumulative effects will be the critical consideration when the MIE consents (and the Applicant's) come up for renewal in 2026.
106. Ms Funnell, Mr Hawker, and Mr West all expressed the view that installation of an effective fish screen would be the most effective mitigation measure and such a screen would adequately avoid and/or minimise effects on downstream fish migration. Ms Blair (for Ngāi Tahu) stated that it could only support a 25-year duration where the environmental effects are fully mitigated and/or minor and that fish passage is unimpeded. It is clear to me that, had the Applicant proposed (volunteered) such a screen in its application, then it would probably have satisfied the concerns of all three submitters. However, the Applicant is not proposing such a screen (although it may have been recommended in its Mitigation Plan) and I have insufficient information on the magnitude of effects on downstream fish migration to 'require' the installation of such a screen, especially given its likely significant costs.
107. I heard evidence that the level of investment required to design, install, and maintain such a screen would be significant (in the order of \$1.5-\$2 million). I understand and accept the Applicant's position that it does not wish to make such a significant investment until the monitoring has been undertaken to determine the magnitude of any adverse effect.

Cultural Effects

108. Ms Blair and Ms MacKenzie appeared on behalf of Ngāi Tahu and tabled a memorandum from its legal counsel Mr Joshua Leckie and Ms Kate Tarawhiti who did not appear in person due to other commitments.
109. Ms Blair outlined the cultural significance of the Mataura River to Hokonui Rūnanga⁵. I adopt her assessment for the purposes of this decision, however the key features are summarised as follows:
- the subject site is an important place for the collection of mahinga kai including taonga species;
 - the catchment is tribally renowned for its abundance of tuna and kanakana (eels and lamprey);

⁵ Ms Blair used the term 'Hokonui Rūnanga' throughout her evidence, being an alternative spelling of 'Hokonui Rūnaka'.

- the river was a key travel route for Ngāi Tahu ki Murihiku;
 - the river has provided ongoing cultural use and Ngāi Tahu ki Murihiku continue to have a relationship with the river that reflects early matauranga that has been passed down through the generations;
 - the subject site is located within a gazetted freshwater mātaihai under the Fisheries Act 1996. This provides recognition of the responsibility that Hokonui Rūnanga has to uphold the kaitiakitanga and rangatiratanga over the river; and
 - Ngāi Tahu values of wai, ki uta ki tai, mauri, mahinga kai, kaitiakitanga, whanaungatanga, and manakitanga all intertwine and express the significance and connection that Hokonui Rūnanga have with the river.
110. Section 5.1.5 of the AEE outlines the Applicant's assessment of the effects on cultural values. This section confirms the importance of the river to Ngāi Tahu and in terms of the effects on cultural values and states "*Alliance has engaged with Te Ao Marama and the key issue identified relates to the potential effects on fish passage of native species*". The various mitigation measures are then outlined (trap and transfer, closing the plant during optimal downstream adult eel migration periods) and concludes that "*Alliance has discussed these proposals with Te Ao Marama and they indicate that it appears to be an acceptable method of managing potential effects*". I note that no cultural impact assessment (CIA) was commissioned or included with the AEE.
111. Mr Kyle stated that various elements of Part 2 of the RMA are identified in Section 10 of the AEE, however I note that cultural matters are not referred to at all in that section despite RMA sections 6(e)⁶ and 7(a)⁷ specifically relate to cultural matters.
112. Mr Kyle stated that customary rights of iwi and the cultural significance of the Maitai River had been recognised by the Applicant. He stated that consultation with Te Ao Marama and Hokonui Rūnanga occurred early and was ongoing, with the conditions proffered recognising the important kaitiaki role of the Rūnanga in the development and implementation of the monitoring and mitigation programmes.
113. Ms Blair stated that the Applicant's hydro scheme should be considered together with the MIE hydro scheme to ensure the remaining mauri of the river is upheld with consistency and fairness. While Ngāi Tahu's submission sought that a five-year duration be imposed, Ms Blair confirmed that the submitter now considers the consent should have a common expiry with the MIE consent.

⁶ the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga

⁷ kaitiakitanga

114. Ms Blair stated that for Hokonui Rūnanga to be effective kaitiaki of their mātaimai and of their taonga species they need to be “*heavily involved with any monitoring completed within the Mataitai*”.
115. The Ngāi Tahu legal memorandum noted significant and protected cultural values of the Maitara River had been specifically recognised through various planning, policy, and legislative documents, namely:
- Statutory acknowledgement for Maitara River (Schedule 42 of the Ngāi Tahu Claims Settlement Act 1998);
 - Te Tangi a Taura (Ngāi Tahu ki Murihiku Iwi Management Plan 2008);
 - Fisheries (Declaration of Mātaimai Reserve at Maitara River and Appointment of Tangata Tiaki/Kaitiaki) Notice 2005;
 - Ngāi Tahu Freshwater Policy Statement 2002; and
 - Water Conservation (Maitara River) Order 1997
116. The Ngāi Tahu legal memorandum asserted the Council and the Applicant had failed to consider the effects of the application, in particular the impacts on fish passage and impacts on the cultural values of the Maitara River. The memorandum stated the application was inconsistent with the relevant planning framework and:
- “...merely mentioning cultural values or Ngāi Tahu specific planning documents without providing an actual assessment of the impact on those values is insufficient. While the latest version of the conditions by the Applicant have gone some way to addressing Ngāi Tahu’s concerns, it is insufficient to refer to pre-application meetings between the applicant and Ngāi Tahu as somehow inferring that the effects on cultural values have been considered when all the recommendations from Ngāi Tahu have not been accepted by the Applicant in the conditions of the consent sought.”*
117. Mr West did not consider cultural effects in Section 3.3 (Actual and potential effects) of his section 42A report but his report noted the subject site is within a statutory acknowledgement area and mātaimai reserve. Further, his analysis of the relevant statutory planning documents included discussion on provisions that relate to cultural values. He also presented what he considered to be the relevant provisions of Te Tangi a Taura, but he did not provide any commentary on those. In answers to questions Mr West stated that he normally did not provide commentary on iwi management plan provisions and left that to iwi to do.
118. Ms MacKenzie presented planning evidence on behalf of Ngāi Tahu. She agreed that Mr West had identified the key objectives and policies from the RWP. However, in terms of

the PWLP she considered that, in addition to those provisions identified by Mr West, Objectives 3 and 14 were also relevant. In terms of the RPS she considered Objectives TW.2, TW.4, BIO.2 and BIO.3 and Policies BIO.2, BIO.4, and BIO.8 were also relevant.

119. Ms MacKenzie agreed with Mr West that Te Tangi a Tauria⁸ was relevant but she considered four additional policies within that plan to be relevant. In answers to questions Ms MacKenzie stated the provisions of Te Tangi a Tauria should be given equal weight to those in the RWP and PLWP because both those plans have policies which require any assessment to take into account any relevant iwi management plan.
120. Ms Blair acknowledged that the hydro scheme was important infrastructure for the Applicant but Hokonui Rūnanga had concerns about fish passage and the consent duration.
121. In its comments on the Applicant's final set of proposed conditions Ngāi Tahu requested a new condition be included requiring payment of experts to undertake the trap and transfer and monitoring programmes. Ngāi Tahu stated the Ruanaka has experience in such programmes and are cultural experts. It considered it fair and reasonable that a consent holder should pay for this expertise just as they would pay for any other expert or qualified person.
122. Mr Christensen, in his Right of Reply, stated Alliance did not agree with the condition suggested by Ngāi Tahu because matters of payment should be dealt with outside of the consent process, noting there is no equivalent condition of consent in relation to payments to other experts who are referred to in the conditions.

Findings – Cultural Effects

123. I find that the cultural effects associated with the hydro scheme are intricately linked to its effects on fish passage, in particular of tuna and kanakana (eels and lamprey), both of which are a taonga species for Māori.
124. My findings on fish passage (both upstream and downstream) in the previous sections of this decision are therefore directly relevant to my findings on cultural effects. To this end, I find that the Applicant is adequately providing for upstream fish passage through the fish ladder over the weir and its trap and transfer programme. However, I consider there to be insufficient information on effects of the hydro scheme on the downstream fish passage. I consider that the Applicant should undertake its proposed downstream fish monitoring and then, as part of a re consenting process (at the same time as the MIE consent is going

⁸ Referred to in her evidence as Te Tangai [sic] a Tauria.

through its consenting process), a decision made on what mitigation measures, if any, need to be implemented to avoid or mitigate the measured adverse effects.

125. The proposed monitoring needs to focus not only on longfin eels but also other fish that migrate up and down the Mataura River at the subject site. Other native fish species are equally important to local iwi.
126. I find that the Applicant's proposed conditions adequately recognise the important kaitiaki role of Hokonui Rūnaka through its involvement in the development and implementation of the monitoring programme. I agree with Mr Christensen that the request for a condition requiring payment is a matter that should be dealt with outside of the consent process.

Overall Summary of Environmental Effects

127. I am required to assess the potential and actual environmental effects of the activities on an evidential basis. I have considered the expert evidence and the experience and observations of submitters, within the context of the relationship and values of tangata whenua and the statutory framework.
128. I am satisfied that the adverse effects on upstream fish migration are adequately mitigated, however, on the basis of the evidence presented, I consider there to be insufficient information on the potential and actual adverse effects of the hydro scheme on downstream fish passage. Significant questions remain as to the extent of adverse effects of the Applicant's hydro scheme, on its own and cumulatively with the MIE hydro scheme, on downstream fish migration.
129. The information gaps are proposed to be filled through implementation of the Applicant's proposed five-year monitoring programme, the results of which will inform the decision on what mitigation is required (if any) to avoid and or mitigate any adverse effects that are found. I find that this monitoring programme is generally appropriate but that it should not only focus on longfin eels but also other native fish, which are a taonga for local iwi, and salmonids.
130. The way in which the proposed thresholds were developed and justified during these proceedings, including following the close of the formal part of the hearing, leads me to have insufficient confidence in them being environmentally defensible thresholds to be imposed as conditions of consent. Further work needs to be done to determine not only the magnitude and significance of the effects of the Applicant's hydro scheme on downstream fish migration but, more importantly, the cumulative effects of both the Applicant's and MIE's hydro schemes.

131. I find that the proposed conditions as they relate to the potential mitigation measures which may need to be implemented retain too much discretion to the Applicant and they would leave the Consent Authority in a position of being an approver (arbiter) rather than a certifier when the Mitigation Plan is submitted for 'certification'. The Mitigation Plan would contain critical matters which should be properly evaluated and approved before being implemented. That approval cannot be undertaken by the Consent Authority as part of the certification process.
132. I conclude that the effect of the Applicant's hydro scheme on cultural values are intricately linked to its effects on fish passage, in particular for tuna and kanakana (eels and lamprey), both of which are a taonga species. I consider the Applicant's proposed conditions adequately recognise and provide for the important kaitiaki role Hokonui Rūnaka has for the area – this being provided for through its involvement in the development and implementation of the monitoring programme.

RMA SECTION 104(1)(ab) - ENVIRONMENTAL OFFSETS AND COMPENSATION

133. Section 104(1)(ab) of the RMA requires me to have regard to any measure proposed or agreed to by the Applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity.
134. No offsetting or compensation is being proposed, however the Applicant included offsetting as a potential mitigation measure in its proposed Mitigation Plan. No details of the proposed offsetting have been provided and both Fish & Game and Ngāi Tahu expressed concerns regarding the appropriateness of such offsetting in respect of this application. I discussed those concerns earlier in this decision.

RMA SECTION 104(1)(b) OF THE RMA - RELEVANT PLANNING PROVISIONS

135. I am required to have regard to the relevant objectives and policies of relevant specified statutory planning documents, which in this case are the:
- Southland Regional Policy Statement (RPS);
 - RWP;
 - PLWP;

- National Environmental Standard for Sources of Human Drinking Water Regulations 2007 (NES Drinking Water)
 - Resource Management (Measurement and Reporting of Water Takes) Regulations 2010;
 - Freshwater Fisheries Regulations 1983;
 - National Policy Statement for Freshwater Management 2014 (Freshwater NPS); and
 - National Policy Statement for Renewable Electricity Generation 2011 (NPSREG).
136. An analysis of the relevant planning provisions was provided in Section 6 of the AEE, and by Messrs West and Kyle and Ms MacKenzie. I note that Ms MacKenzie identified several provisions, in addition to those identified by Mr West, of the PWLP and the RPS which she considered relevant. I have had regard to all of the provisions outlined in evidence and do not propose to repeat them here.
137. There are various provisions in the planning documents which provide support to the hydro scheme, including because it involves an existing lawfully established structure and the use of a renewable energy resource.
138. The provisions include directions for me to consider various specified matters and values in deciding whether to grant the consents or not, including provisions which seek to maintain and/or enhance such values. These include cultural and ecological values.
139. As discussed earlier in this decision, I consider there to be insufficient information to conclude what the magnitude of the adverse effects of the hydro scheme are on downstream fish migration. This means I am unable to conclude whether the activity is entirely consistent with those policies relating to ecological values or whether the activity would fully achieve the objectives relating to such values.
140. There are provisions in the RWP and PLWP that require consideration of iwi management plans, in this case the relevant iwi management plan is Te Tangi a Tauira and I discuss that elsewhere in this decision.

RMA SECTION 104(1)(c) - OTHER RELEVANT MATTERS

141. Section 104(1)(c) requires me to have regard to any other matters that are relevant and reasonably necessary to determine the application. For this application these include:
- Water Conservation (Mataura River) Order 1997;
 - Te Tangi a Tauira;

- Fisheries (Declaration of Mātaitai Reserve at Matura River and Appointment of Tangata Tiaki/Kaitiaki) Notice 2005
 - Ngāi Tahu Freshwater Policy Statement; and
 - Southland Murihiku Conservation Management Strategy
142. The Water Conservation (Matura River) Order 1997 prohibits the damming of water but provides a specific exception for the weir provided its water permits are granted or renewed subject to similar terms and conditions to which the former permits were subject. That is the case here.
143. The Te Tangi a Tauria, being an iwi management plan, is of relevance to my consideration. Mr West provided a summary of (but no discussion on) the relevant provisions of this plan and Ms MacKenzie listed six additional policies from that plan which she considers relevant. I do not repeat the provisions here but record that I have had regard to them in making my decision.
144. I discuss the Matura River Mātaitai Reserve earlier in this decision and do not repeat it here.
145. Ms MacKenzie considered the Ngāi Tahu Freshwater Policy Statement to be relevant and Ms Blair stated this Policy Statement sets out the Ngāi Tahu policies in respect of freshwater. The Policy Statement includes objectives and policies related to mauri, mahinga kai, and kaitiakitanga. I have had regard to these provisions in making my decision.
146. Ms Williams stated the Southland Murihiku Conservation Management Strategy was relevant to consider and contained policies which require DoC to work Ngāi Tahu and others to protect indigenous tuna and their habitats. Ms Williams concluded that the provisions in the Southland Murihiku Conservation Management Strategy mostly provide guidance for DoC rather than being another matter for me to consider under section 104(1)(c). I agree and have therefore placed very little weight on the contents of the Strategy in making my decision.

RMA SECTION 104(2A) – VALUE OF INVESTMENT OF EXISTING CONSENT HOLDER

147. Section 104(2A) requires me to have regard to the value of investment of consent holder as this application relates to existing consents and section 124 of the RMA is applicable.

148. The Applicant has stated that the weir and hydro scheme have a capital value of approximately \$4 million. This is a significant investment and I have had regard to this in deciding to grant the consents.

RMA SECTION 104(6) – INADEQUATE INFORMATION TO DETERMINE APPLICATION

149. Section 104(6) allows me to decline an application for a resource consent on the grounds that I have inadequate information to determine the application.

150. While I have found that there is ‘insufficient’ information on the effects of the hydro scheme on downstream fish migration, the correct threshold of effect to trigger mitigation measures to be implemented, and certainty on what the mitigation measures (if required) will be, this does not, in my view, mean the information is ‘inadequate’ for me to determine the application.

151. ‘Insufficient’ and ‘inadequate’ have different meanings (but are often incorrectly used interchangeably). ‘Insufficiency’ relates to quantity whereas ‘inadequacy’ relates to quality. I have no evidence to suggest the information in front of me is not of a sufficient quality – it has been prepared and presented by experts – however there is not enough information/evidence on the actual effects.

152. In any case, section 104(6) of the RMA uses the words “*may decline*”, thereby making the use of this provision discretionary. Even if my interpretation of the meanings of insufficient and inadequate in the paragraph above are incorrect, I do not consider that the application should be declined on the grounds provided for by section 104(6) of the RMA.

RMA SECTIONS 105 AND 107

153. Section 105 of the RMA states that, when considering section 15 RMA matters (discharges), I must, in addition to section 104(1), have regard to-

- (a) *The nature of the discharge and the sensitivity of the receiving environment to adverse effects; and*
- (b) *The Applicant’s reason for the proposed choice; and*
- (c) *Any possible alternative methods of discharge, including discharge to any other receiving environment.*

154. Section 107(1) of the RMA states that I am prevented from granting consent allowing any discharge into a receiving environment which would, after reasonable mixing, give rise to all or any of the following effects, unless the exceptions specified in section 107(2) apply⁹:
- (c) *The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended material:*
 - (d) *Any conspicuous change in the colour or visual clarity:*
 - (e) *Any emission of objectionable odour:*
 - (f) *The rendering of fresh water unsuitable for consumption by farm animals:*
 - (g) *Any significant adverse effects on aquatic life.*
155. Mr West covers both sections 105 and 107 of the RMA in his section 42A report and I adopt that assessment for the purposes of this decision.
156. I have had regard to the considerations outlined in section 105 of the RMA and am satisfied that none of the effects listed in section 107 of the RMA will occur after reasonable mixing as a result of the discharge of water to water from the hydro scheme.

RMA PART 2

157. The matters specified in section 104(1) that must be considered are ‘*subject to Part 2*’ of the RMA. These words, and how they apply to the consideration of resource consent applications, has been the subject of a number of cases heard in the Environment Court, High Court, and more recently the Court of Appeal.
158. The recently released Court of Appeal decision¹⁰ on RJ Davidson Family Trust v Marlborough District Council (**the Davidson decision**) provides the latest, and most authoritative, position on this matter. In summary, the Davidson decision directs that where the New Zealand Coastal Policy Statement (NZCPS) is relevant to an application and it is clear from the relevant NZCPS policies whether consent should be granted or refused, then there is no need for a decision maker to refer back to Part 2 RMA matters as it would not add anything to the required evaluative exercise – that is, separate recourse to Part 2 RMA matters is not required as those matters are already reflected in the NZCPS objectives and policies. As the Court of Appeal stated¹¹:

⁹ The exceptions being:

(a) that exceptional circumstances justify the granting of the permit; or
(b) that the discharge is of a temporary nature; or
(c) that the discharge is associated with necessary maintenance work—and that it is consistent with the purpose of this Act to do so

¹⁰ CA97/2017 [2018] NZCA 316

¹¹ At para [71]

“Putting it another way, even if the consent authority considered pt 2, it would be unlikely to get any guidance for its decision not already provided by the NZCPS. But more than that, resort to pt 2 for the purpose of subverting a clearly relevant restriction in the NZCPS adverse to the applicant would be contrary to King Salmon and expose the consent authority to being overturned on appeal”.

159. The Davidson decision also provides guidance on whether Part 2 RMA matters need to be considered where the NZCPS provisions do not provide clear guidance on whether consent should be granted or refused, and situations for applications where the NZCPS is not relevant – the latter being the case for the current application as the NZCPS is not relevant. In both situations the decision maker needs to determine whether the relevant plan has been ‘competently prepared’ under the RMA – that is, whether it contains a coherent set of policies designed to achieve clear environmental outcomes. If the relevant plan meets these criteria then there is no need to consider Part 2 RMA matters, and if the relevant plan does not meet these criteria then the decision maker should consider Part 2 RMA matters and determine whether they provide assistance in making a decision on the application.
160. I heard no evidence to suggest the relevant plan(s) has not been competently prepared under the RMA. As such, according to directions provided by the Court in the Davidson decision, there is no need for me to consider Part 2 RMA matters for this application.

CONCLUSION AND OVERALL DETERMINATION

161. On the basis of the evidence that was put in front of me by the Applicant, submitters, and Mr West, I consider it is not presently possible to conclusively state one way or the other whether the activities are resulting in acceptable environmental effects in respect of downstream fish migration. The Applicant has not undertaken any monitoring to assess these effects even though the hydro scheme has been operating for many years. The Applicant acknowledges that further investigation is required to quantify the effect and it is proposing to fill the information gaps through a five-year monitoring programme, the results of which will inform a decision on what mitigation is required (if any) to avoid and or mitigate any adverse effects that are found. This monitoring programme is considered to be generally appropriate but it should not only focus on longfin eels (as proposed by the Applicant) but should include other native fish, which are a taonga for local iwi, and salmonids.
162. I have insufficient confidence on the proposed numeric thresholds and do not consider them to be environmentally defensible and inappropriate to be imposed as conditions of consent. Further work needs to be done to determine not only the magnitude and

significance of the effects of the Applicant's hydro scheme on downstream fish migration but, more importantly, the cumulative effects of both the Applicant's and MIE's hydro schemes.

163. I find that the proposed conditions as they relate to the potential mitigation measures that might be implemented retain too much discretion to the Applicant and they would leave the Consent Authority in a position of being an approver (arbiter) rather than a certifier when the Mitigation Plan is submitted for 'certification'. The Mitigation Plan would contain critical matters which should be properly evaluated and approved before being implemented. That approval cannot be undertaken by the Consent Authority as part of the certification process.
164. Whilst the adverse effects on upstream migration are also unquantified, the Applicant's trap and transfer programme and fish ladder over the weir are appropriate mitigation measures and I therefore conclude the effects on upstream migration of fish to be acceptable.
165. I conclude that the effects on cultural values is intricately linked to the effects on fish, in particular tuna and kanakana (eels and lamprey) which are taonga species. Provided the effects on these species are found to be avoided and/or appropriately mitigated then I consider effects on cultural values would also be appropriate. However, as the effects on downstream fish migration are currently unknown, I cannot determine whether cultural effects are acceptable. Despite this, I find that the Applicant's proposed conditions adequately recognise and provide for the important kaitiaki role of Hokonui Rūnaka through its involvement in the development and implementation of the monitoring programme.
166. The cumulative effects of the Applicant's hydro scheme and that operated by MIE on downstream fish migration are also currently unknown and unquantified. Cumulative effects need to be determined and both schemes should be considered together so that these effects can be appropriately considered and a decision can then be made on what appropriate mitigation measures, if any, should be implemented. This should be done following the five-year monitoring programme proposed by the Applicant, which is very close to the time the MIE consents are due to expire. For these reasons I conclude the consents for the Applicant should have a common expiry with that of the MIE consents. Common expiry dates are not just used for the purposes of equitable allocation of resources (e.g. water) or for 'administrative convenience' as Mr Christensen suggested, but are also used so that cumulative effects can be considered – that is particularly relevant in this case.
167. The evidence I heard clearly suggests that installation of an effective fish screen would have satisfied the concerns of the three submitters and Mr West. An effective fish screen would appropriately avoid and/or mitigate potential effects on downstream fish migration. However, the design, installation, and maintenance of an effective fish screen would be a

significant investment and I have insufficient evidence in front of me to 'require' the installation of such a screen. I understand and accept the Applicant's position that it wants to gather information on the magnitude of adverse effect before having to spend significant money on mitigation measures.

Conditions

168. There have been several iterations of conditions over the course of the hearing process. Mr West presented a recommended set in his section 42A report and the Applicant has put forward several versions. I have given the submitters and Mr West the opportunity to comment on the Applicant's final set of conditions and I have considered all the comments provided.
169. I have used the Applicant's final set of proposed conditions as a starting point for the conditions I have imposed. However, as discussed in this decision, I have determined that the consents should be granted for a shorter period and that the downstream fish monitoring should be undertaken to fill the information gap. As such, no thresholds or triggers for the Mitigation Plan to be implemented have been included. The decision on mitigation (if necessary) would occur when the new consents are applied for, this being at the same time as the MIE consents are applied for.
170. One condition that I have made more significant changes to is Condition 3 relating to the inspection of the fish ladder. I consider that the independent fisheries biologist should inspect the ladder and prepare a report (the Fish Ladder Review Report) on the findings of this inspection, including recommendations, if any, of any amendments needed to the fish ladder to ensure it is able to function properly. If the Fish Ladder Review Report contains any recommendations for amendments to the fish ladder, then these will need to be implemented within three months of the report being submitted to the Consent Authority. Once the amendments are made the Consent Holder would need to arrange for the independent fisheries biologist to reinspect the fish ladder to confirm that the recommended amendments have been appropriately made.
171. The other substantive change I have made relates to the Downstream Eel Migration Monitoring Programme. This monitoring needs to include other native fish and salmonids for the reasons I discuss earlier in this decision. I have renamed this the 'Downstream Fish Migration Monitoring Programme' and have included an advice note to encourage the Consent Holder to develop and implement the Monitoring Programme in collaboration with the holder of consents 203311 (currently being MIE) so that the cumulative effects of both hydro schemes are properly assessed by the monitoring.

172. I do not consider that a Mitigation Plan has to be developed and submitted to the Consent Authority as a consent condition on these consents. The Applicant will need to identify what mitigation measures it considers are necessary at the conclusion of the monitoring programme – those mitigation measures would then be described/outlined in the application for replacement consents and a decision on the appropriateness of those measures would then be assessed (and the supporting evidence tested) as part of that consent process.
173. I have changed the conditions which outline the ‘certification’ process for the Elver Trap and Transfer Plan and the Downstream Fish Monitoring Programme.
174. The section 128 RMA condition has been changed and now provides the Consent Authority with the opportunity to review the conditions of consent should the annual Monitoring Report identify that significant adverse effects on downstream fish migration are occurring. The Monitoring Report needs to identify the magnitude of the potential or actual adverse effects of the hydro scheme on downstream fish migration and this information would be able to be used by the Consent Authority to instigate such a review.
175. I have made a number of typographical corrections and changes to improve the clarity and readability of conditions without changing their intent.
176. The conditions I have imposed relate to the actual and potential effects of the proposed activities, and are enforceable, reasonable and appropriate. I record that the conclusions reached on adverse effects, and my subsequent decision to grant the application, rely heavily on the Applicant fully complying with these conditions.

Duration

177. The Applicant has sought a 25-year duration for the resource consents.
178. Mr West recommended an eight-year duration¹² so that the expiry coincides with the expiry of the MIE consents.
179. All three written submissions considered a five-year duration to be appropriate so that the appropriate monitoring is undertaken, and solutions found for the upstream and downstream migration of fish. However, at the hearing all three submitters stated their preference was that the consents have a common expiry with the MIE consents.

¹² I understand Mr West's recommended eight-year term to apply to the expiry date of the Applicant's existing consents (being 30 June 2017), not eight years from the granting of any new consents. I have assumed this same logic applies to the three submitters who changed their position from a five-year term to an eight year term. In any case, Mr West and the submitters made it clear that they supported a common expiry date with the MIE consents.

180. During the hearing I asked various witnesses whether a longer-term consent as applied for by the Applicant together with a condition enabling the Consent Authority to review the conditions of consent under section 128 of the RMA at the time of the MIE consents being replaced was an option worth considering.
181. The Applicant's final set of proposed conditions included a new condition which would allow the Consent Authority to instigate a review under section 128 of the RMA "*Within three months of any consents being issued which replace existing consent 203311*" (consent 203311 being the MIE consents).
182. Mr Smyth stated that section 128 RMA reviews are difficult and cannot be triggered by third parties such as Fish & Game.
183. Ms Williams stated that the proposed wording would mean the Applicant's consent would only be able to be reviewed following the completion of the MIE consent renewal process. She said this does not meet the intention of Policy 14A(i) in the operative RWP which requires consideration to be given to applying a common expiry date for water permits when determining the term of a water permit. Ms Williams stated DoC continues to oppose the use of section 128 of the RMA.
184. Ngāi Tahu states that linking the Applicant's consent with the MIE consents by way of a section 128 RMA does not address a range of matters such as:
- The uncertainty of the effects on fish passage and cultural values;
 - The conditions are limited to the effects on downstream migrating female tuna and not other fish species;
 - The review is at the Consent Authority's discretion; and
 - The review process is limited to the Consent Authority and the Consent Holder, none of the submitters would be able to participate.
185. Having considered all the comments provided, the Applicant's proposed section 128 review condition, and the reasons why a common expiry date with the MIE consents is appropriate, I do not consider a longer-term duration with a such a section 128 RMA condition to be appropriate.
186. Policy 14A of the RWP and Policy 40 of the PLWP deal with matters to be considered when setting consent durations. Those considerations include:
- The degree of certainty of adverse effects – shorter durations where there is uncertainty on such effects
 - Relevant tangata whenua values

- Duration sought by the applicant (including reasons)
 - Permanence and economic life of the activity
 - Capital investment in the activity
 - Monitoring and review requirements in conditions
 - Desirability of applying a common expiry date for permits that allocate water from the same resource
187. In addition, Mr West, in his 'Key matters' statement tabled during the hearing, noted that he had not specifically discussed item 6 of Policy 40 of the PWLP which requires me to consider '*...the applicant's adoption, particularly voluntarily, of good management practices*'. He stated that there had been very little monitoring or mitigation over the time the activity has occurred.
188. I have had regard to the matters set out in Policy 14A of the RWP and Policy 40 of the PLWP in setting the duration of the consents.
189. In summary, a common expiry date with the MIE consents (i.e. 7 November 2026) is appropriate in this case to enable the Applicant to undertake its monitoring programme to assess the effects of its hydro scheme on downstream fish migration, including cumulative effects.

DECISION

For the above reasons, it is my decision on behalf of Environment Southland, pursuant to sections 104, 104B, and 108, and subject to Part 2 of the Resource Management Act 1991, to **GRANT** the following resource consents to Alliance Group Limited, subject to terms and conditions set out in Appendix 1, attached to this decision:

- AUT.20171566-01 To dam, divert, and use water for hydro-electric power generation; and
AUT.20171566-02 To discharge water from a hydro-electric scheme into the Mataura River.

Dated this 28th day of February 2019



Dr Rob Lieffering
Independent Hearing Commissioner

APPENDIX 1 – Conditions

- 1 This consent shall expire on 7 November 2026.
- 2 The water diversion authorised by this consent shall not cause the flow at the centre of the existing weir on the Mataura River to fall below a depth of 0.05 metres.
- 3 The Consent Holder shall maintain a monitoring system to provide immediate warning to its staff that the flow at the centre of the existing weir on the Mataura River is approaching a depth of 0.05 metres so that the rate of diversion of water is reduced or ceased to ensure the requirement of condition 2 is always met.
- 4 No alteration to the existing weir or diversion channel shall be carried out by the Consent Holder without the written approval of the Consent Authority.
- 5 When a reduction or cessation in the rate of diversion of water is necessary to comply with condition 2, the Consent Holder shall notify the Consent Authority (email: escompliance@es.govt.nz) of the reduced rate or cessation immediately.

Advice Note: The required reduction in rate of diversion to achieve compliance with condition 2 may be achieved by a combination of reduced rate by the Consent Holder and a similar level of reduction in the rate of diversion undertaken by the holder of consent 203311. This arrangement cannot be imposed as a consent condition on either of the two consents and it is recommended that this be formalised between the two consent holders by way of a side agreement.

Fish Ladder

- 6 (a) The Consent Holder shall maintain a fish ladder across the weir structure at all times.
(b) Within twelve months of the date of commencement of this consent the fish ladder shall be inspected by a suitably qualified, independent and experienced freshwater fisheries biologist (the Biologist) to assess whether it adequately provides for the upstream passage of salmonids that would normally migrate past this point in the river. A report (the Fish Ladder Review Report) prepared by the Biologist on the findings of this inspection, including recommendations, if any, of any amendments needed to the fish ladder to ensure its ability to function adequately, shall be prepared and provided to the Consent Authority, Attention: RMA Compliance and Enforcement Manager (or their equivalent) within one month of the inspection.
(c) If the Fish Ladder Review Report contains any recommendations for amendments to the fish ladder, then these shall be implemented within three months of the report being submitted to the Consent Authority. Once the amendments are made the Consent Holder shall arrange for the Biologist to reinspect the fish ladder to confirm that the

recommended amendments have been appropriately made. A letter/report from the Biologist shall be provided to the Consent Authority within one month of the reinspection confirming that the recommended amendments have been appropriately made to the fish ladder.

(d) A Fish Ladder Operation and Maintenance Plan shall be provided to the Consent Authority, Attention: RMA Compliance and Enforcement Manager (or their equivalent) within three months of either the Fish Ladder Review Report or the reinspection letter/report (if one was needed) having been provided to the Consent Authority. The Consent Holder shall implement the Fish Ladder Operation and Maintenance Plan once it has been provided to the Consent Authority .

Elver Trap and Transfer Plan

- 7 Within six months of the date of commencement of this consent the Consent Holder shall submit an Elver Trap and Transfer Plan ('the Plan') to the Consent Authority, Attention: RMA Compliance and Enforcement Manager (or their equivalent) for certification.

The Plan shall be prepared by a suitably qualified, independent and experienced freshwater fisheries biologist and shall be in general accordance with the draft Elver Trap and Transfer Plan for Mataura Falls attached as part of the section 42A report, dated 3 November 2018 (prepared by Vaipuhi Consulting: V3.0 March 2018). Hokonui Rūnaka shall be invited to enter into a partnership with the Consent Holder to contribute to the preparation of the Plan. This invitation shall be extended to Hokonui Rūnaka at the commencement of this consent in order to allow sufficient time to be available to meet the requirements of this condition.

The objective of the Plan shall be to facilitate a trap and transfer system to maintain and enhance the upstream passage of elvers over the Mataura Falls and the weir structure and their transfer back into the mainstem of the river during those times of the year that elvers are most likely to migrate upstream.

The Plan shall include details relating to:

- (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 Hydroelectric Dams. Part 1: Upstream Migrants (Paterson and Boubee 2010) or any revisions of these guidelines;
- (b) When inspections of the base of the Mataura Falls (both sides) will commence and the frequency of such inspections necessary to identify elver accumulation;

- (c) The triggers that determine when the trap will be installed. This shall be determined based on the quantum of elvers identified at the base of the Mataura Falls;
 - (d) The frequency of necessary inspections of the trap system during its operation and transfer requirements;
 - (e) The triggers that will allow for the trap to be removed at the end of the migration season;
 - (f) Annual reporting requirements;
 - (g) Details of maintenance requirements;
 - (h) Review requirements; and
 - (i) Predator management.
- 8 The Consent Holder shall submit a draft of the Elver Trap and Transfer Plan ('Draft Plan') to the Department of Conservation Attn: Operation Manager Murihiku (or equivalent), Hokonui Rūnaka Attn: The Chair, Te Ao Marama Inc Attn: Kaupapa Kaiao Manager (or equivalent), and the Southland Fish and Game Council Attn: Manager Southland Fish and Game (or equivalent) for comment prior to submitting the Final Trap and Transfer Plan to the Council for certification. The Draft Plan shall be provided to these organisations at least 40 working days prior to its submission for certification to the Consent Authority.
- 9 Upon receipt of the Draft Plan required by condition 8, the organisations listed in that condition shall be provided with the opportunity to participate in a collaborative workshop with the Consent Holder to discuss and review the Draft Plan. The Consent Holder shall circulate a record of the discussion to those organisations within 5 working days of the completion of the workshop. Those organisations shall be given the opportunity to provide oral feedback at the workshop and written feedback to the Consent Holder on the Draft Plan within 15 working days of the completion of the workshop. If no feedback is received by that deadline the Consent Holder can consider that the organisation which has not responded has no further comments on the Draft Plan.
- 10 The Consent Holder shall provide any feedback received from the organisations listed in condition 8 on the Draft Plan to the Consent Authority at the time it is submitted for certification, along with a clear explanation of where any comment has or has not been incorporated into the Plan and the reasons why.
- 11 The Consent Holder shall be required to implement the requirements of the certified Elver Trap and Transfer Plan prepared in accordance with condition 7 on an annual basis. Trap and transfer work shall be undertaken by a suitably qualified and licensed person

with a special permit from the Ministry of Primary Industries (MPI) to take, transfer and release fish under the Fisheries Act 1996, and a transfer and release permit from MPI under the Conservation Act 1987.

If river flow conditions require the trap to be removed, the trap shall be reinstated as soon as it is practical to do so, but no longer than 24 hours after river conditions improve and it is considered safe to reinstall the trap.

The Elver Trap and Transfer Plan shall be reviewed annually and, if amendments are required, a revised Plan shall be submitted to the organisations listed in condition 8 and the Consent Authority at least 40 working days prior to the intended start of the next trap and transfer programme. If a revised Plan is prepared the collaborative process specified under condition 9 shall be offered to the organisations listed in condition 8 afresh.

- 12 The Consent Holder shall invite Hokonui Rūnaka to work in partnership with it to observe the trap and transfer programme and, if requested, to assist with the implementation the Plan.
- 13 Following implementation of the Elver Trap and Transfer Plan the Consent Holder shall ensure that a report is prepared and provided to the organisations listed in condition 8 and to the Consent Authority by the 30th April each year. This report shall contain the following details:
 - (a) The date inspections started;
 - (b) Date the trap was installed and removed, including during the migration season;
 - (c) Relevant environmental variables including daily river flow, water temperature, and rainfall during trapping;
 - (d) Weight of elvers transferred;
 - (e) Details of any by-catch caught, including species, size, condition, injuries/death and release locations of live by-catch;
 - (f) Transfer location(s) of elvers and other fish species;
 - (g) Any amendments identified as being necessary to the Trap and Transfer Plan for the following season; and
 - (h) Any matters raised by Hokonui Rūnaka that would assist with the implementation of the Trap and Transfer Plan in subsequent seasons.

Downstream Fish Migration Monitoring Programme

- 14 Within six months of the date of commencement of this consent the Consent Holder shall submit a Downstream Fish Migration Monitoring Programme ('Monitoring Programme') to

the Consent Authority, Attention: RMA Compliance and Enforcement Manager (or their equivalent) for certification.

The Monitoring Programme shall be prepared by a suitably qualified, independent and experienced freshwater fisheries biologist and shall be in general accordance with the draft 'Downstream Eel Monitoring Programme for Mataura Falls' attached as part of the section 42A report, dated 3 November 2018 (prepared by Vaipuhi Consulting: V3.0 March 2018). Hokonui Rūnaka shall be invited to enter into a partnership with the Consent Holder to contribute to the preparation of this plan. This invitation shall be extended to Hokonui Rūnaka at the commencement of this consent in order to allow sufficient time to be available to meet the requirements of this condition.

The primary objective of the Monitoring Programme shall be to set out how monitoring of the effects of the hydro scheme on the downstream migration of fish should be undertaken.

The primary purpose of the Monitoring Programme shall be to identify if fish are entering the turbine and, if so, how many, their size, and species are entering the turbine during the eel migration period. This monitoring information shall be used to determine what, if any, adverse effects the hydro scheme is having on downstream fish migration and the magnitude of any such effects, including on a cumulative basis, taking into account the likely corresponding effects created by the diversion authorised by consent 203311. The timing of eel movement to the turbine within the migration period shall also be investigated. To assist with the implementation of this Monitoring Programme the trash screen bar size shall be modified and maintained at all times so that the spacing between the bars does not exceed 20 millimetres.

The Monitoring Programme shall include details relating to:

- (a) Modifications required to the race, trash screen, screen cleaner and trash sluice to assist the inspection process;
- (b) Monitoring dates which are targeted at ensuring that the eel migration season is properly covered by the investigations;
- (c) Screen inspection frequencies, including the need to increase frequencies during elevated flow events;
- (d) Methods for determining:
 - (i) The numbers of fish diverted from the mainstem of the Mataura River into the diversion channel;

- (ii) The number and condition of fish entrapped in the race and protocols for the handling, captive holding, transportation and release of these fish back to flowing water in the mainstem of the river downstream of the Mataura Falls; and
 - (iii) The numbers of fish, including injury and mortality rates, passing through the trash screen and into the turbine.
- (e) Protocols for inspecting the screen and the sluice for impinged fish and methods to be employed to maximise their survival as far as is practicable, including minimising the risk of injury to fish from impingement on the screen and/or mechanical cleaning of the screen;
 - (f) The recording and reporting obligations associated with monitoring undertaken;
 - (g) Review of the programme and procedure for modifications particularly if mortality and injuries rates to fish increase;
 - (h) Any predator management required;
 - (i) Provision for Hokonui Rūnaka to work in partnership with the Consent Holder and to participate in the Monitoring Programme, including observation of the monitoring of the trash screen and holding chute and the fish collection and monitoring process;
 - (j) Protocols for the storage of eel carcasses and their subsequent provision to Hokonui Rūnaka; and
 - (k) Protocols for removing eel otoliths and their issuance to NIWA or a suitable alternative entity for analysis. The results of this analysis shall be provided to Hokonui Rūnaka 30 days after it is received by the Consent Holder.

Advice Note: *The Consent Holder is encouraged to develop and implement the Monitoring Programme in collaboration with the holder of consents 203311 which associated with the operation of the hydro scheme on the opposite side of the Mataura River so that the cumulative effects of both hydro schemes are properly assessed by the monitoring.*

- 15 The Consent Holder shall provide copies of a Draft Downstream Fish Migration Monitoring Programme ('Draft Monitoring Programme') to the Department of Conservation Attn: Operation Manager Murihiku (or equivalent), Hokonui Rūnaka Attn: The Chair, Te Ao Marama Inc Attn: Kaupapa Kaiaro Manager (or equivalent), and the Southland Fish and Game Council Attn: Manager Southland Fish and Game (or equivalent) for comment prior to submitting the Final Monitoring Programme to the Consent Authority for certification. The Draft Monitoring Programme shall be provided to

- these organisations at least 40 working days prior to its submission for certification to the Consent Authority.
- 16 Upon receipt of the Draft Monitoring Programme required by condition 15, the organisations listed in that condition shall be provided with the opportunity to participate in a collaborative workshop with the Consent Holder to discuss and review the Draft Monitoring Programme. The Consent Holder shall circulate a record of the discussion to those organisations within 5 working days of the completion of the workshop. Those organisations shall be given the opportunity to provide oral feedback at the workshop and written feedback to the Consent Holder on the Draft Plan within 15 working days of the completion of the workshop. If no feedback is received by that deadline the Consent Holder can consider that the organisation which has not responded has no further comments on the Draft Monitoring Programme.
- 17 The Consent Holder shall provide any feedback received on the Draft Monitoring Programme to the Consent Authority at the time it is submitted for certification, along with a clear explanation of where any comment has or has not been incorporated into the draft Monitoring Programme and the reasons why.
- 18 The Consent Holder shall implement the certified Downstream Fish Migration Monitoring Programme on an annual basis for the first five years following date of commencement of this consent. The person undertaking the monitoring shall be either a suitability qualified and experienced person or a person who has been trained in the handling and measuring of fish for scientific studies by a suitably qualified and experienced person.
- The Downstream Fish Migration Monitoring Programme may be reviewed annually by the Consent Holder and if amendments are required a revised Monitoring Programme shall be submitted to the organisations listed in condition 15 and the Consent Authority at least 40 working days prior to the intended start of the next monitoring period. If a revised Monitoring Programme is prepared the collaborative process available under condition 16 shall be offered to the organisations listed in condition 15 afresh.
- 19 Following each annual monitoring campaign carried out to meet the requirements of the Downstream Fish Monitoring Programme, the Consent Holder shall engage a suitably qualified, independent and experienced freshwater fisheries biologist to prepare a report ('the Monitoring Report') that: 1) summarises the results of the monitoring; 2) assesses the actual propensity for entrapment of fish within the intake channel and for entrapped fish to enter the turbine; and 3) provides a recommendation as to whether it is necessary to design and implement different option(s) for monitoring.

As a minimum the Monitoring Report shall:

- (a) Include a summary of all data collected as required under the conditions of this consent and the Downstream Fish Migration Monitoring Programme with regard to impacts on downstream fish migration including the number and species of fish that were impinged on the screen and would otherwise have entered the turbine operated by the Consent Holder and their fate;
 - (b) Critically analyse the information collected in accordance with the conditions of this consent, in terms of identifying the magnitude of the potential or actual adverse effects of the hydro scheme on downstream fish migration;
 - (c) Critically evaluate the data in order to recommend whether alterations/additions to the monitoring programme are required;
 - (d) Include a summary of the fate of fish that have been collected as part of the Downstream Fish Monitoring Programme, including the numbers of fish released back into the mainstem of the Mataura River below the Mataura Falls; and
 - (e) Any matters raised by Hokonui Rūnaka that would assist with the implementation of the Downstream Fish Migration Monitoring Programme in subsequent seasons.
- 20 The Monitoring Report required by condition 19 shall be submitted to the Consent Authority within 30 working days of the annual monitoring required by condition 18 being completed and a copy of the Monitoring Report shall also be provided to the Department of Conservation Attn: Operation Manager Murihiku (or equivalent), Hokonui Rūnaka Attn: The Chair, Te Ao Marama Inc Attn: Kaupapa Kaiāo Manager (or equivalent), and the Southland Fish and Game Council Attn: Manager Southland Fish and Game (or equivalent).
- 21 Where the Consent Holder is required to submit the Elver Trap and Transfer Plan and Downstream Fish Migration Monitoring Programme (each hereafter constituting a 'document') to the Consent Authority for "certification" it shall mean the process set out in the following paragraphs (a) to (d) and the terms "certify" and "certified" shall have the equivalent meanings:
- (a) The Consent Holder supplies the document to the Consent Authority, Attention: RMA Compliance and Enforcement Manager (or their equivalent), and the council assesses the document submitted to ensure it achieves the requirements of the relevant condition(s) of consent (this will include that the document proposed for certification meets the objective(s) and content requirements set out in the condition(s));
 - (b) Should the document supplied in accordance with (a) above, in the opinion of the Consent Authority, achieve the requirements of the relevant condition(s), the Compliance and Enforcement Manager (or their equivalent) will issue a written

confirmation to the Consent Holder that the requirements of the relevant condition(s) have been satisfied;

- (c) If the Consent Authority is not satisfied that the document supplied is in accordance with (a) above achieves the requirements of the relevant condition(s), the Compliance and Enforcement Manager (or their equivalent) will advise (in writing) the Consent Holder of the Consent Authority's concerns and ask that the document be modified so as to address the concerns, and then be resubmitted;
 - (d) This process shall be repeated until the Compliance and Enforcement Manager (or their equivalent) is able to certify that the requirements of the applicable condition(s) have been satisfied.
- 22 Where no written confirmation, pursuant to either Conditions 21(b) or 21(c), is provided within 20 working days of document being provided to the Consent Authority, the document shall be deemed to be certified for the purpose of the respective condition to which the document pertains.
- 23 The Consent Authority may serve notice of its intention to review the conditions of this consent in terms of section 128 of the Act as follows:
- (a) Within three months of receiving the annual Monitoring Report required by condition 19 of this consent, should the monitoring identify that significant adverse effects on downstream fish migration are arising.