



## Your Comment on the Kaimai Hydro-Electric Power Scheme Substantive Application

Please include all the contact details listed below with your comments and indicate whether you can receive further communications from us by email at [substantive@fastrack.govt.nz](mailto:substantive@fastrack.govt.nz)

1. Contact Details			
Please ensure that you have authority to comment on the application on behalf of those named on this form.			
Organisation name (if relevant)	Department of Conservation		
First name	Elizabeth		
Last name	Williams		
Postal address	[REDACTED]		
Mobile phone	[REDACTED]	Work phone	
Email	[REDACTED]		

2. We will email you draft conditions of consent for your comment			
X	I can receive emails and my email address is correct	<input type="checkbox"/>	I cannot receive emails and my postal address is correct

3. Please provide your comments on this application
Please find comments attached



Jenni Fitzgerald

**Fast-Track Applications Manager**

Acting pursuant to delegated authority on behalf of the Director-General of Conservation.

Date: 4/02/2026

Note: A copy of the Instrument of Delegation may be inspected at the Director-General's office at Conservation House Whare Kaupapa Atawhai, 18/32 Manners Street, Wellington 6011

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# Comments on a fast-track consenting application

## Fast-track Approvals Act 2024 section 53

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**To:** The Expert Panel

**From:** Department of Conservation

**Regarding fast-track project:** Kaimai Hydroelectric Power Scheme Substantive Application

**Fast track Reference:** FTAA-2502-1024

### 1 Overview

- 1.1 Manawa Energy ('the Applicant') is applying for resource consents to enable the continued operation, use and maintenance of the Kaimai Hydro-Electric Power Scheme. The Scheme is located within the Wairoa River Catchment – approximately 12 km southwest of Tauranga.
- 1.2 The Scheme has been generating renewable electricity since 1915 by taking and diverting water via a series of tributaries and conveying the water through four power stations. The Scheme is a cascade diversion scheme that draws on a combined catchment area of approximately 341 km<sup>2</sup>. The Kaimai Hydro-Electric Power Scheme (HEPS) relies on diversion weirs, drop pipes, canals, tunnels and water conveyance infrastructure, which largely follows the natural landform.
- 1.3 The Applicant seeks approvals under the Resource Management Act 1991 (RMA) only.
- 1.4 Although part of the Scheme (the Ngatuhua Canal & Weir) is located within public conservation land, Kaimai Mamaku Conservation Park, a statutory easement is provided for under the Electricity Act 1992 for access to the canal and tunnel infrastructure located within the public conservation land (refer to Section 22-23F of this Act).
- 1.5 Prior to the lodgement of the substantive application, the Applicant engaged with the Department of Conservation (DOC / the Department), providing the opportunity to review the draft ecological assessment and application. DOC staff attended a site visit (on 21 October 2025) to the Kaimai Hydro Scheme.
- 1.6 In accordance with section 53(2)(m)(i) of the Act, the Director-General of Conservation (D-G) has been invited to comment on the substantive application. Statutory delegations are in place for DOC to provide commentary on behalf of the D-G.

## 2 Department of Conservation advice

- 2.1 The Department's assessment has been confined to actual and potential ecological effects of the proposal and the proposed consent conditions that will manage aquatic ecology effects and fish passage.
- 2.2 It is recognised that the project will have significant national and regional benefits as outlined in the Application and economic assessment provided<sup>1</sup>. The need for the continued operation of the Scheme to provide reliable renewable electricity and meet demand is acknowledged. Overall, in principle, the Department supports the continued operation of the Scheme which contributes to the social and economic wellbeing of the Bay of Plenty region and wider New Zealand.
- 2.3 The Department's primary concerns relate to the management of effects on aquatic ecology and fish passage, specifically ensuring the consent conditions appropriately manage these effects, and set clear objectives and outcomes that can be effectively monitored and implemented. Subject to this, the Department considers the effects of the continued operation of the Scheme can be appropriately managed.
- 2.4 The Department is available to discuss draft conditions further with the Applicant and Council and provide commentary at the Section 70 stage.
- 2.5 The Department has relied on the advice and the technical expertise of Senior Science Advisor (Freshwater), Dr Marine Richarson. Dr Richarson's credentials are provided in **Appendix A**.

## 3 Assessment

### Freshwater Values- Native Fish

- 3.1 The Assessment of Environmental Effects (AEE) provides details of the macroinvertebrate, aquatic invertebrates and fish communities present within the catchment and assesses the Scheme's structures and potential effects on fish passage.
- 3.2 The Aquatic Ecology Assessment (Ryder, 2025) states that the New Zealand Freshwater Fish Database (NZFFD) records twenty species of fish in the Wairoa River catchment. Of the 20 species identified, four fish species are considered to be Threatened or At Risk (Dunn et al. 2017<sup>2</sup>). However, Ryder notes that "*Recent fish surveys, including eDNA sampling, all confirm that indigenous fish species diversity and abundance is low in the Wairoa River catchment upstream of McLaren Dam and other barriers in the catchment*"<sup>3</sup>. Longfin tuna (At Risk-Declining) were detected at a number of sites upstream of Poripori Falls and upstream of Kaimai HEPS structures in the upper Wairoa catchment. It was noted in the assessment that

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<sup>1</sup> Appendix D, Kaimai Economic Assessment, NZ Institute of Economic Research, 8 September 2025

<sup>2</sup> Refer to Aquatic Ecology and Water Quality Report, September 2025, Table 17

<sup>3</sup> Ryder Report (September 2025), Section 3.5.3, page 92

very few fish were caught or detected upstream of the upper catchment Scheme intake structures (only longfin tuna and rainbow trout) and no indigenous fish were detected in some river reaches (being the Upper Awakōtuku Stream, Upper Mangapapa River, Upper Omanawa River, Upper Ruakaka Stream and Upper Tauwharawhara Stream).

- 3.3 It was noted that some Longfin tuna caught in nets from sites in the mid to upper catchment are generally large adults that have potentially been present pre-scheme. The highest species diversity and abundances were recorded at the Omanawa River at Griffen Road, which is outside the Scheme's footprint, and downstream of the Kaimai HEPS. Seven native fish were recorded at this site, including longfin tuna, banded kokopu, common smelt, inanga, common bully, giant bully and redfin bully. Freshwater crayfish (kōura) are ubiquitous throughout the Wairoa River Catchment, and their distribution does not appear affected by scheme structures. Abundance appears greatest in the Omanawa River upstream of the Omanawa intake weir and in the Mangapapa River upstream of the Mangapapa intake weir.

### Residual Flows

- 3.4 The application notes<sup>4</sup> that the operating regime for the Kaimai HEPS will remain largely the same as currently authorised, with the following exceptions:
- *The implementation of a residual flow in the Mangapapa River (100L/s), Omanawa River (150L/s) and downstream of McLaren Falls Dam (150L/s in the Wairoa River) (where none currently exists);*
  - *The provision of upstream and downstream tuna passage within the key waterbodies associated with the Kaimai HEPS; and*
  - *The development and implementation of a Geomorphic Monitoring Plan to confirm there are no existing channel instability issues, or future channel changes, in the alluvial sections of the Wairoa and Omanawa Rivers as a result of the operation of the Kaimai HEPS.*
- 3.5 The Aquatic Ecology Assessment by Dr Ryder<sup>5</sup> considers that these additional residual flows will provide some improvement to the habitat values in the downstream rivers and generally improve water quality immediately downstream (as well as provide for upstream and downstream fish passage).
- 3.6 In principle, residual flows should be restored where there are currently none (i.e. Ruakaka Stream, Tauwharawhara Stream, Awakōtuku Stream) and increased to improve habitat values and fish passage. However, it is acknowledged that in some areas, an increase in flow would have minimal additional improvement to overall stream habitat (Ryder, 2025). The economic assessment provided with the AEE also notes the economic impact of increasing residual flows and a reduced electricity supply. The proposal to provide existing residuals

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<sup>4</sup> Part A – FT Approvals Act Application for Resource Consent, Manawa Energy Limited, September 2025, Section 4 page 108

<sup>5</sup> Part B Appendices, B.09 Appendix J Aquatic Ecology and Water Quality Assessment – Dr Greg Ryder dated September 2025

flows and new flows where there are currently none provides a balanced approach that takes into account both the environmental considerations under the National Policy Statement for Freshwater Management (NPS-FM) and renewable electricity delivery required under the National Policy Statement for Renewable Electricity Generation (NPS-REG).

- 3.7 Overall, the Applicant summarises the effects of residual flows on freshwater ecosystems as follows: “... based on the technical assessments, it is considered that the health and wellbeing of waterbodies and freshwater ecosystems in the Wairoa River Catchment can be prioritised through ensuring residual flows are set at levels that best provide for indigenous fish species. In addition, imposition of a residual flow regime in the Omanawa River, Mangapapa River and Wairoa River (below the McLaren Falls Dam), as well as the development of a Sediment Management Plan and a Fish Management Plan for the Wairoa River Catchment, will improve the ecological health and functioning of the river over time.”
- 3.8 The Department generally agrees with this summary, providing both proposed management plans feature effective and workable measures and are appropriately incorporated in the consent conditions. The provision of additional residual flow at the three sites that previously had none (Omanawa weir, Mangapapa weir and McLaren Falls dam) is anticipated to benefit freshwater values, by facilitating or providing partial downstream passage for migrant eels, and by providing attractant flows for upstream migrant species. It is noted here that trap and transfer programmes might be required over time to ensure upstream passage over these structures, and that safe downstream passage for large tuna is achieved. There is a concern that the absence of receiving pools downstream of these structures might cause injury to larger eels. This is discussed further in the comments below.

### **Draft Native Fish Passage Management Plan**

- 3.9 The Department supports the inclusion of a draft management plan in the application to review prior to approval. The draft plan sets out the objectives to provide for native fish passage and salvage in appropriate locations/circumstances. The proposed objectives are supported, particularly item (c) as this will be the means to assess the success of the eel salvage strategy and the fish passage provided. Further, the draft plan identifies current barriers within the Scheme and possible measures to improve fish passage upstream and downstream.
- 3.10 The Department supports the approach to address issues of downstream passage. It is noted that many of the proposed management responses are under investigation. While some measures could yield positive results, particularly for large migrant eels, their efficacy will need to be demonstrated with robust data (for example the use of electric deterrents, as proposed in the draft plan at the Ruahihi screen, has shown mixed results in the scientific literature).
- 3.11 The Department has some concerns around injury and mortality at structures where passage is provided only during high flows, as the Applicant acknowledges that there will be no fish passage provision at some structures of the Scheme and that fish may be able to migrate

downstream when they overflow. This is a particular concern for the large dams and the weirs featuring sharp crests (Opuiaki, Mangapapa, Omanawa and Ngatuhua weirs).

- 3.12 Relying on high flows and overflows at large weirs and dams for the downstream passage of large migrant eels is hazardous and can potentially have several negative consequences for migrant eels, including delays, disorientation, injury and death (Algera, Rytwinski et al. 2020). Safety of migrant adults needs to be demonstrated, as there is little benefit transferring large quantities of eels upstream if they are doomed to be injured or die during their spawning migration.
- 3.13 Spillways are often considered the safest way over dams less than 10 m high, providing enough depth at the base of the dam (Larinier, 2000). Most large weirs of the Scheme spill over concrete aprons or bedrock, with no receiving pool to dissipate the overflowing water. Migrant tuna, particularly large females due to their size and weight, could be prone to significant impact damage onto the concrete foot of the structures. Similar damage could occur at the dams (MacLaren Falls, Mangapapa). While no tuna injury or mortality has been reported, it is a possibility and some monitoring downstream of these structures is recommended. Opening of the sluice gates at Opuiaki weir during high flows could potentially provide safer passage for large tuna. This should be addressed within the fish passage management plan. An action plan should also be triggered if injury or mortality is found to occur as part of monitoring results during high flows. This should review the issues and recommendations to address this (such as options for structural changes, i.e. catch pools, or alternative methods such as pre-emptive trap and transfer etc).
- 3.14 The draft management plan indicates that two of the six management responses to address upstream elver (and other native species) passage at key Kaimai HEPS structures are currently considered complete. This includes the upgrade of the elver trap at Ruahihi Power Station, and the installation of a passive elver bypass at Opuiaki weir. At the time of the site visit, the elver trap at Ruahihi showed promising results, however the Opuiaki weir bypass project is not set and will need to be shown to work during operation. It is understood that trapped fish are proposed to be released directly upstream of the barriers. As noted, it is advised to investigate the carrying capacity of the receiving environment, as well as the safety of downstream passage for migrants.
- 3.15 Other than the comments above, the Department generally supports the proposed approach and methods to monitor the efficacy of the proposed measures but recommends there is a separate condition to require monitoring and reporting of the management plan implementation and outcomes to Council; and that adaptive management is considered based on the results of the findings of the fish passage trials and monitoring. This is discussed further in the comments below.

## Draft Sediment Monitoring Plan

- 3.16 The draft monitoring plan contains effects management and mitigation actions if monitoring results show that there are adverse geomorphic changes in OMW-4 and WAI-3 as a result of the on-going operation of the Kaimai HEPS. The Department supports the measures proposed but considers that these should be captured in the conditions of consent more clearly to ensure that the operation of the scheme, throughout the duration of the consent, manages any adverse effects relating to sediment loads as a result of the monitoring undertaken.

## 4 Comments on conditions

- 4.1 To assist the Panel, the Department has provided preliminary comments on the Applicant's proposed resource consent conditions (the most recent set dated **14 January 2026**).

### Residual Flows specified

- 4.2 The Department supports the proposed draft conditions that specify the existing and proposed new residual flows, take and diversion of water and intake screens to be maintained throughout the Scheme.

### Proposed Condition 10.4: Ruahihi Canal maintenance

- 4.3 Although it is acknowledged that complete and/or partial dewatering of the Ruahihi Canal for maintenance will be on rare occasions, it is recommended that a standard fish salvage and relocation plan condition is included to ensure that effects on freshwater fish are appropriately managed during maintenance that results in dewatering of the canal. The current proposed condition appears to place obligations on Fish and Game and hapū to 'take action' if required to salvage and transfer fish. It is considered that this still could occur, but the conditions should be clear that it is the Consent Holder's obligation to prepare and implement the process. An example of such a condition is provided below.

Freshwater Fish Salvage and Relocation Plan

At least 20 working days prior to the dewatering activity, the Consent Holder must submit a Freshwater Fish Salvage and Relocation Plan (FFSRP) to the Council for certification.

The NFFRP must be prepared by a suitably qualified and experienced freshwater ecologist.

The salvage and relocation plan shall be prepared in consultation with Department of Conservation, Fish and Game New Zealand, and hapū [insert hapū entities].

The NFFRP must set out the practices and procedures to be adopted to avoid loss of native freshwater fish and trout during any maintenance works within the canal.

The NFFRP must include, as a minimum:

- a) The timing and duration of fish capture:

b) The methodologies to capture fish;

c) Methodologies to ensure effects on fish from any dewatering, are minimised;

d) The transportation methodology;

e) Identification of appropriate habitat for fish relocation release sites - this should be within the same waterway from where fish were taken wherever practical, and should ensure sufficient capacity for and habitat appropriate to species that will be relocated;

f) A qualified ecologist to undertake the capture and relocation;

g) Details of the relocation site and the species and numbers of fish relocated prior to and during dewatering (this information should be recorded in the New Zealand Freshwater Fish Database);

h) Storage and transport measures including prevention of predation and death during capture;

i) Euthanasia methods for diseased or pest species; and

j) Copies of all relevant permits and permissions.

Once certified, the Consent Holder must comply with the certified FFSRP. If any amendment to the Certified FFSRP is required, the Consent Holder is required to re-certify the FFSRP with the Council.

### **Proposed Condition 12: Sediment Monitoring**

4.4 Although the condition requires the submission of a Sediment Monitoring Plan, there are no conditions requiring management actions if the monitoring demonstrates that there are sediment or erosion effects from the continued operation of the scheme. The monitoring plan requires that recommendations are made but there are no conditions that require this to be implemented if required. It is recommended that a condition of consent is included to ensure that the recommendations of the monitoring plan are carried out by the Consent Holder, if monitoring results demonstrate it is required.

### **Proposed Condition 13: Native Fish Passage Management Plan (NFPMP)**

4.5 As noted above, the Department is overall supportive of the draft native fish passage management plan. However, it is recommended that there is a condition that requires the development and implementation of a long-term monitoring programme to determine the effectiveness of the management plan and a review to consider options for improvements to better meet the objectives. This will also provide an understanding of the effectiveness of the mitigation measures proposed in the management plan for native fish passage and track where investigations into improving passage have been successful or where alternative options are being reviewed.

4.6 It is recommended that the Native Fish Passage Management Plan (and condition) should provide for adaptive management to address matters that arise throughout the duration of the

consent in relation to the proposed ongoing mitigation measures, operational and structural improvement options and monitoring for fish passage. It is also recommended that any actions for improvements or additional mitigation (as analysed as part of monitoring) are required through a condition of consent.

4.7 The monitoring condition should require the preparation of a report, at regular times throughout the duration of the consent, that presents the results of monitoring, and makes conclusions and recommendations that address (but are not limited to):

- adherence to the National Fish Passage Guidelines,
- the methods for determining and demonstrating the efficacy of the trap and transfer programmes,
- specific monitoring of large tuna migrating downstream at large weirs and dams
- the monitoring/recording of fish transferred as part of the trap and transfer programmes,
- results of any trials/investigation that may be utilised to facilitate upstream and downstream passage of native species or alternative options,
- a review of any options for improving the programme and timing for any improvements based on the recommendations of the report; and
- the reporting frequency to Council (at a regular time to be specified for the duration of the consent).

4.8 A copy of the required monitoring and review reports should be provided to the Department of Conservation and hapū / Mana Whenua Kaitiaki Rōpū.

4.9 It is recommended that the Department has the ability to provide comments on the draft Native Fish Passage Management Plan prior to submission to Council for certification. The intention of including this clause in the condition is not to hold up or frustrate the consenting process but to provide freshwater technical assistance and support to the Council and Consent Holder. The wording for such a condition is proposed as follows:

(x) The Consent Holder must provide a draft of the NFPMP to the Department of Conservation (DOC) for comment before it is submitted to the Council for certification in accordance with Condition [XX]. The NFPMP must include a summary of comments received from DOC (if any comments are received within 20 Working Days of the draft NFPMP being provided to DOC) and outline how feedback has been incorporated into the NFPMP and, if not, the reasons for that.

4.10 It is recommended that an additional condition is included to require that the Consent Holder complies with the certified Native Fish Passage Management Plan at all times and that if any variation is required, this requires a re-certification process with the Council.

Additional Condition:

X The consent holder must comply with the certified NFPMP at all times. If any amendment to the Certified NFPMP is required, the Consent Holder is required to re-certify the NFPMP with the Council.

**Proposed Condition 15: Mana Whenua Kaitiaki Rōpū**

- 4.11 The Department supports the involvement of hapū in the development and implementation of the Native Fish Passage Management Plan.

**5 Conclusion**

- 5.1 Overall, the Department has minimal concerns regarding the proposed re-consenting of the hydro scheme provided that the Applicant adequately implements the mitigations recommended in the Assessment of Environmental Effects and supporting ecology reports / management plans. It is considered that the conditions could be improved to provide more certainty that the actions proposed in the management plans will be monitored and are reviewed throughout the duration of the consent to identify any improvements to best meet the objectives of the Native Fish Passage Management Plan and Sediment Monitoring/Management Plan.
- 5.2 The Department is prepared to provide further commentary on draft conditions.
- 5.3 Thank you for the opportunity to comment.

## 6 Appendices

### Appendix A : Technical Advisor Credentials

The Department has relied on the advice of the technical expertise of Dr Marine Raphaële Amélie Richarson. Their credentials are set out below.

Dr Marine Richarson is employed as a Senior Science Advisor by the Department of Conservation Te Papa Atawhai (DOC). She has been in this position since April 2020.

Marine has worked as a freshwater ecologist since August 2007. Her principal area of expertise concerns diadromous fish species, i.e., species with a life cycle featuring both marine and freshwater phases, and their ecological requirements.

Marine's experience relevant to the assessment of this application includes:

- conducting applied and fundamental research in the ecology of aquatic organisms,
- providing technical and scientific advice in freshwater ecology, in matters such as environmental impact assessments, ecological surveys and monitoring in freshwater systems, and fish passage provisions,
- managing research and delivery of operational programmes.

In her current role, she leads the Department's scientific research strategy and implementation on threatened diadromous species and lead the longfin eel *Anguilla dieffenbachii* programme. She also provides technical support and advice for DOC's work on freshwater species and ecosystems.

Marine is a member of the Eel Fishery Working Group (led by the Ministry of Primary Industries). She is currently a member of the New Zealand Fish Passage Management Group, a group that promotes, supports and develops resources for fish passage and waterway connectivity. From 2020 to 2025, she was a trustee of Te Nohoaka o Tukiauau Sinclair Wetlands Trust, which administers a 315ha portion of the Lakes Waihola-Waipori wetlands complex, south of Dunedin. In this capacity Marine contributed to the Trust's operational programme development and administration.

#### Postgraduate education

Dr Richarson holds a Diplome d'Ingenieur (Engineering Diploma) in Water Sciences and Technologies from Institut des Sciences de l'Ingenieur de Montpellier (Institute of Engineering Sciences), Universite Montpellier II, which she received in 2006. Marine undertook an Honours programme in ecology at the Queensland University of Technology as an additional part to this curriculum. During that time, Marine completed a thesis on the reproduction patterns of green turtle (*Chelonia mydas*), and a thesis on the dietary ecology of sand whiting (*Sillago cilliata*).

Marine completed her Doctorate in Zoology at the University of Otago in 2020. Her PhD research focused on the effects of interspecific and intraspecific interactions on ecological niches. She studied the effects of antagonistic interactions, particularly competition, predation, and their combination, on the dietary and habitat preferences of common bully *Gobiomorphus cotidianus*.