**Memorandum**

**To** Fred McLay, Director – Resource Management

**From** Anna Johnston, Consents Officer

Colin McLellan, Senior Consents Advisor

Paddy Deegan, Environmental Scientist - Freshwater Biology

Jocelyne Allen, Consents Manager

**Job Manager** Paddy Deegan

**Document** 2453105

**Date** 15 March 2022

**Consent 1795-5.0: To take water from the Waiaua River and discharge it into Opunake Lake for the purpose of generating electricity at the Opunake hydroelectric power scheme**

(NZTM 1674587E-5632135N)

Consent 1796-4.0: To take water from Opunake Lake for the purpose of generating electricity at the Opunake hydroelectric power scheme

(NZTM 1674025E-5632004N)

Consent 1797-4.0: To discharge sand and silt deposits from a diversion canal sand trap via a spillway to the Waiaua River associated with operating the Opunake hydroelectric power scheme

(NZTM 1674474E-5632071N)

Consent 4563-3.0: To occupy the coastal marine area on the Opunake Beach foreshore with an outfall structure associated with the Opunake hydroelectric power scheme

(NZTM 1673814E-5631960N)

Consents 4744-3.0: To discharge water from Opunake Lake through two marine outfall pipes into the Tasman Sea after being used for hydroelectric power generation

(NZTM 1673817E-5631904N end of outfall)

Consent 5581-2.0: To dam the Waiaua River with a 4.5 metre high concrete weir and to use the weir and the associated intake to provide water to Opunake hydroelectric power scheme

(NZTM 1674584E-5632125N)

Consent 5692-2.0: To disturb the bed of the Waiaua River by removing sediment build-up upstream of a weir for the purpose of maintaining the Opunake hydroelectric scheme intake

(NZTM 1674618E-5632129N)

**Consent 10826-1.0: To discharge water containing sediment from the Waiaua River to Opunake Lake**

(NZTM 1674400E-5632073N)

**Applicant** Opunake Power Limited

**Site location** South Road, SH45, Opunake

**Catchment** Tasman Sea

Waiaua

**River** Opunake

**Review date(s)** June 2024 and 3-yearly intervals thereafter

**Expiry date** 1 June 2047

**Table of Contents**

[1. Introduction 5](#_Toc98245825)

[2. Description of the scheme 5](#_Toc98245826)

[2.1 Operation during normal river levels 8](#_Toc98245827)

[2.2 Operational procedure during flooding 9](#_Toc98245828)

[2.3 Lake levels 10](#_Toc98245829)

[3. Resource consents 10](#_Toc98245830)

[3.1 Consent 1795-5.0: Take water from the Waiaua River 11](#_Toc98245831)

[3.2 Consent 1796-4.0: Take water from Opunake Lake 11](#_Toc98245832)

[3.3 Consent 1797-4.0: Discharge sediment to Waiaua River 12](#_Toc98245833)

[3.4 Consent 4563-3 and 4744-3: Water discharge to sea and associated structure 12](#_Toc98245834)

[3.5 Consent 5581-2: Dam the Waiaua River 12](#_Toc98245835)

[3.6 Consent 5692-2: Excavate material from river bed 12](#_Toc98245836)

[3.7 Consent 10826-1: Discharge sediment into Opunake Lake 12](#_Toc98245837)

[4. Existing Environment 14](#_Toc98245838)

[4.1 Waiaua River 14](#_Toc98245839)

[4.2 Opunake Lake 14](#_Toc98245840)

[5. Statutory acknowledgements 15](#_Toc98245841)

[5.1 Rivers 15](#_Toc98245842)

[5.2 Coastal Marine Area 17](#_Toc98245843)

[6. Submissions 19](#_Toc98245844)

[7. Pre hearing meetings 23](#_Toc98245845)

[7.1 First Pre hearing meeting 23](#_Toc98245846)

[7.1.1 General meeting discussion 23](#_Toc98245847)

[7.1.2 Outcomes of the meeting 24](#_Toc98245848)

[7.2 Second Pre hearing meeting 24](#_Toc98245849)

[7.2.1 General meeting discussion 24](#_Toc98245850)

[7.2.2 Outcomes of the meeting 24](#_Toc98245851)

[7.3 Third Pre-hearing meeting 25](#_Toc98245852)

[7.3.1 Draft consent conditions 25](#_Toc98245853)

[7.3.2 Withdrawal of submissions 25](#_Toc98245854)

[8. Assessment of environmental effects 25](#_Toc98245855)

[8.1 Hydrological effects 26](#_Toc98245856)

[8.2 Minimum flow 26](#_Toc98245857)

[8.2.1 Ecological values supported at 180 L/s 27](#_Toc98245858)

[8.2.2 Discussion of minimum flow options 29](#_Toc98245859)

[8.3 Fish passage 30](#_Toc98245860)

[8.4 Sediment in the lake 33](#_Toc98245861)

[8.5 Effects on amenity, economic and social values 33](#_Toc98245862)

[8.6 Effects on cultural values 34](#_Toc98245863)

[9. Statutory assessment 34](#_Toc98245864)

[9.1 Sustainable Management (Part 2 of the RMA) 34](#_Toc98245865)

[9.2 Consideration of applications (section 104(1)) 35](#_Toc98245866)

[9.3 National Policy Statement for Fresh Water Management 2020 (NPS-FW) 35](#_Toc98245867)

[9.3.1 Functional Need 36](#_Toc98245868)

[9.3.2 Application of Effects Management Hierarchy 37](#_Toc98245869)

[9.4 National Policy Statement for Renewable Energy Generation 38](#_Toc98245870)

[9.5 Regional Freshwater Plan 38](#_Toc98245871)

[10. Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 41](#_Toc98245872)

[11. Monitoring 42](#_Toc98245873)

[12. Summary and conclusions 42](#_Toc98245874)

[13. Consent duration and review dates 42](#_Toc98245875)

[14. Recommendations 43](#_Toc98245876)

[14.1 Consent 1795-5.0 43](#_Toc98245877)

[14.2 Consent 1796-4.0 52](#_Toc98245878)

[14.3 Consent 1797-4.0 54](#_Toc98245879)

[14.4 Consent 4563-3.0 55](#_Toc98245880)

[14.5 Consent 4744-3.0 57](#_Toc98245881)

[14.6 Consent 5581-2.0 58](#_Toc98245882)

[14.7 Consent 5692-2.0 63](#_Toc98245883)

[14.8 Consent 10826-1.0 64](#_Toc98245884)

[65](#_Toc98245885)

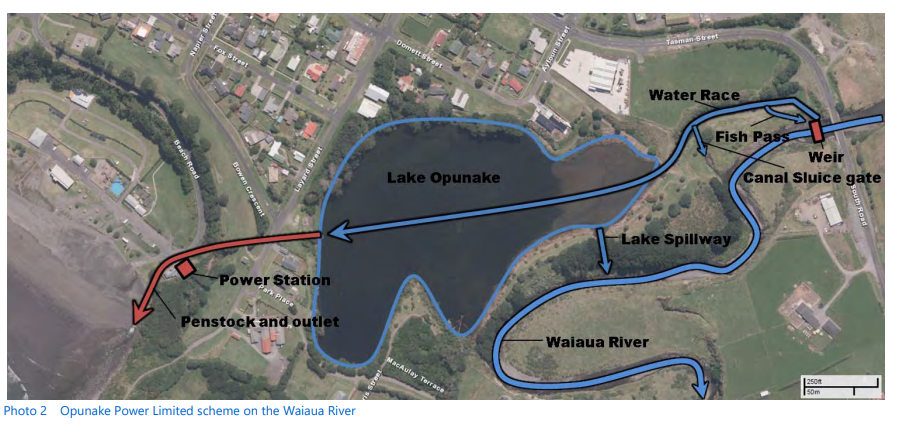
[Appendix 1: Policies of NPS-REG 66](#_Toc98245886)

# Introduction

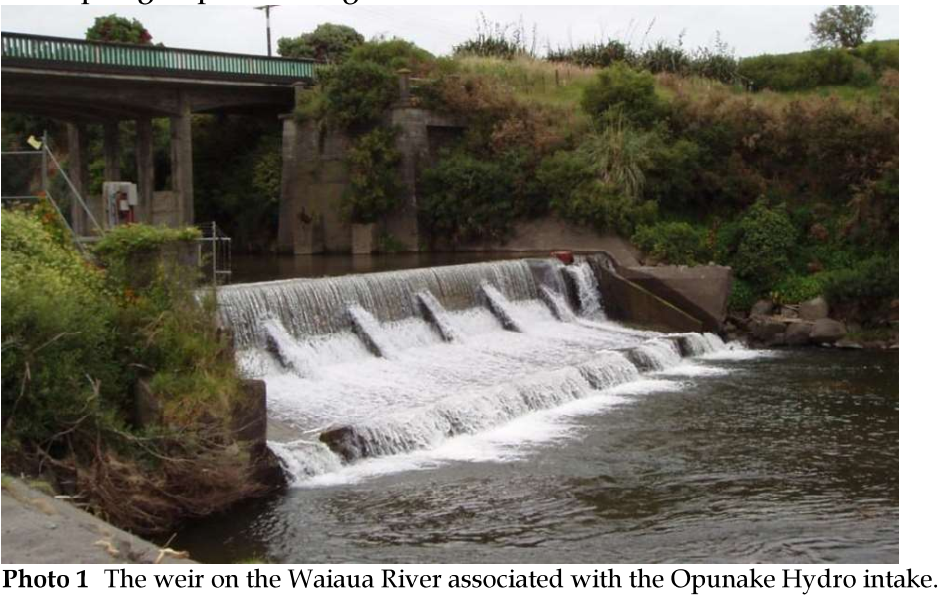
1. The Opunake Hydroelectric Power Scheme (the Scheme) is a 400kVA (320kW) hydroelectric power station operated by Opunake Power Ltd (‘OPL’ or ‘the applicant’). The Scheme was established in 1922 and first consented in 1990.
2. OPL held eight resource consents for the Scheme, seven of which expired in 2018. They lodged applications to renew those seven consents and for one additional consent after the previous consents had expired.
3. Since the consents expired on 1 June 2018 the Scheme has not been operating.
4. This report assesses the applications under the Resource Management Act (‘RMA’), including submissions and recommends that the consents be issued for a duration ending in 2047 (i.e. approximately 25 years).
5. The relevant regional plans are the *Regional Freshwater Plan for Taranaki* (’RFWP’), the *Regional Coastal Plan for Taranaki* (‘RCP’) and the *Proposed Coastal Plan for Taranaki* (‘PCP’).

# Description of the scheme

1. The layout of the scheme is illustrated in Figure 1.
2. In summary, the Scheme involves diverting up to 3900 litres per second (L/s) from the Waiaua River to canal and then into a 12 ha storage lake (Opunake Lake). Water passes from Opunake Lake through a penstock to the generator before it discharges to the Tasman Sea at Opunake Beach (Figure 1).
3. A 4.5 m high concrete weir is situated on the Waiaua River below the SH45 Bridge. The weir diverts water through two intake gates and along a twin 30 m tunnel to a water intake canal. This tunnel contains a fish ladder on the base which provides lower velocity water to assist fish passage.



**Figure 1**: General Scheme layout



**Figure 2**: The intake weir



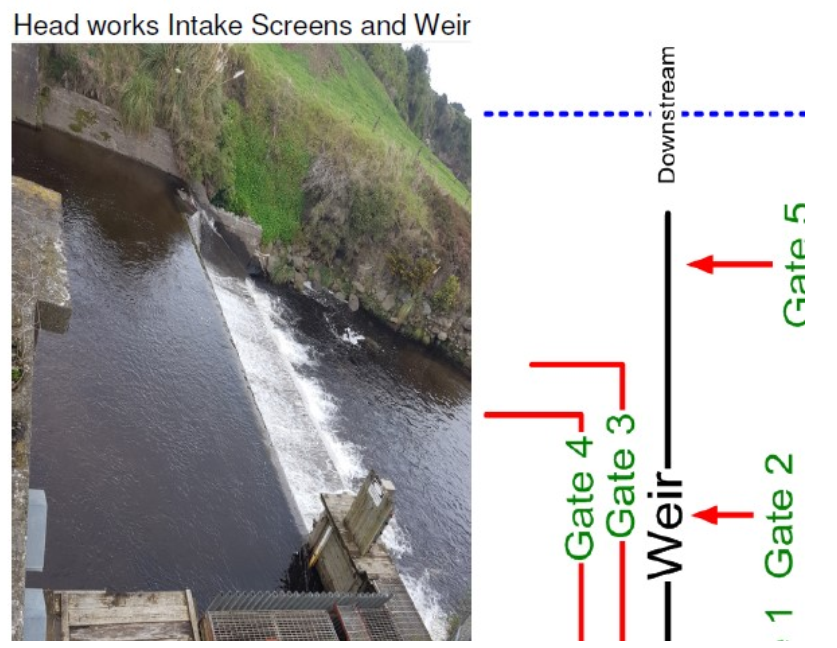
**Figure 3**: Water entering the intake

1. Other elements of the Scheme are:

* A fish pass between the water intake canal and the pool below the diversion weir. The fish pass provides for both trout and native fish sections.
* A 200 m long water intake canal directing water into Opunake Lake.
* The Opunake Lake storage reservoir.
* An intake structure, tunnel and penstock which directs water from the lake to the powerhouse.
* The control bunker and generator. The generator is below ground level and is supplied by water from the penstock via a surge chamber.
* A tunnel and tailrace structure that directs water from the powerhouse onto the southeast end of Opunake Beach and into the Tasman Sea.

## Operation during normal river levels

1. When the scheme is in operation the weir is designed to divert most of the flow of the Waiaua River, for 75% of the time and to overtop only at higher flows.
2. The head works are shown in **Figure 4**.
3. During normal operation the river intake gates G3 and G4 are fully open and the weir bypass G5 and bywash gates G1 and G2 are shut. During normal River flows there would be no overflow of the weir however it is likely that there would be seepage from the gates and weir itself.
4. Between the intake screens and the intake gates is a settling basin, this collects smaller debris that pass through the screens. From time to time this requires flushing by opening Gate 1.
5. Operations that occur at the weir include sluicing at three different gates (Gate 1, 2 and 5). Sluicing removes sand and stones that otherwise will be washed into the intake canal. Debris is also cleaned from the intake screens.
6. The expired consents require a residual flow of 180 litres per second is maintained in the river below the weir. This is achieved with the flow through the fish pass (approximately 80 L/s) and sand trap canal sluice gate (approximately 100 L/s) along with any other leakage from the weir face itself. The operation of the scheme ensures that a constant flow of 80 L/s or level of 435 mm is maintained in the fish pass at all times except for when flushing the fish pass is required.
7. During normal operation the canal sluice gate is closed (or partly closed to allow 100 l/s residual flow) and the canal stop gate at the sand trap open as the flow of water into the lake opens it.
8. An automated regime of flushing the weir intake and canal sand trap occurs on a periodic basis during normal operating procedures.
9. When inflows to the lake are less than the outflow through the generator, the generator will operate in a start stop manner whereby it draws from the lake until the lake reduces to a pre-set level (about 505 mm). The generator will then stop and the lake will refill.
10. Once the lake reaches a pre-set level the screen cleaner operates and generator starts. This operation is programmed to run in an automated manner. This can be overridden by manual controls but generally it will follow this predetermined operation.
11. The level of the storage lake varies according to generation requirements. The water take from the lake depends on level and time of day, there will be periods of continuous operation, but generally the water is take about 65% of the time.
12. Debris on the penstock intake screens caused by weed in the lake and other debris is removed periodically.



**Figure 4**: Headworks diagram (from application)

## Operational procedure during flooding

1. The water intake is closed during flood events to avoid heavy sediment loading in the canal and lake. Intake Gate 3 and G4 close when the river level is greater than 300 mm (as shown on the staff gauge) for more than 1 minute and will open again automatically on the lowering of the river level.
2. During high flows the bypass Gate 5, located on the true left side of the weir, is opened to allow flood water to pass and encourages substrate movement past the weir.
3. It has been found that opening Gate 5 creates a deep channel, indicating that it is moving at least some substrate. If substrate is accumulating upstream of the weir to the point of causing an adverse impact on channel shape (including erosion of river banks) then gravel could be extracted under expired consent 5692.
4. The proposal is that diverting water from the river ceases when the flow is at or above 3x median flow. This can be achieved by closing the gates following automatic notification from the Taranaki Regional Council’s (the Council) upstream flow recorder that a flood is on its way. A comparison of the water level recorded at the upstream flow recorder and that recorded at the weir shows that there is a time of travel approximately 1.5 hours between the 2 sites.

## Lake levels

1. Generally the lake will operate between 550 mm and 900 mm, and will only be lower than 500 mm during abnormal periods. Abnormal periods include:

* low inflows increasing the time to store water outside of a network peak period;
* no inflows due to a flood;
* high inflows causing an increase in the lake level which eventually spills at the lake spillway;
* prolonged network peaks or abnormal times for peaks;
* extraordinary demand on the network (maintenance);
* scheduled and most unscheduled maintenance;
* high silt content in the canal.

# Resource consents

1. There are 8 resource consents relating to the scheme. Seven of which expired in 2018 and are being renewed. The applicant has also applied for a new consent, 10826-1.0, to authorise the discharge of sediment to Opunake Lake as a consequence of the take from Waiaua River.
2. The consents required for the Scheme along with the applicable regional plan rule are listed in Table 1 below and some detail of each activity follows. All are discretionary activities.

|  |  |  |
| --- | --- | --- |
| **Consent No** | **Purpose** | **Relevant Rule** |
| 1795-5.0 | To take water from the Waiaua River and discharge it into Opunake Lake for the purpose of generating electricity at the Opunake hydroelectric power scheme | RWFP Rule 16 |
| 1796-4.0 | To take water from Opunake Lake for the purpose of generating electricity at the Opunake hydroelectric power scheme | RWFP Rule 16 |
| 1797-4.0 | To discharge sand and silt deposits from a diversion canal sand trap via a spillway to the Waiaua River associated with operating the Opunake hydroelectric power scheme | RFWP Rule 43 |
| 4563-3.0 | To occupy the coastal marine area on the Opunake Beach foreshore with an outfall structure associated with the Opunake hydroelectric power scheme | PCP Rule 50 |
| 4744-3.0 | To discharge water from Opunake Lake through two marine outfall pipes into the Tasman Sea after being used for hydroelectric power generation | PCP Rule 13 |
| 5581-2.0 | To dam the Waiaua River with a 4.5 metre high concrete weir and to use the weir and the associated intake to provide water to Opunake hydroelectric power scheme | RFWP Rules 20 & 64 |
| 5692-2.0 | To disturb the bed of the Waiaua River by removing sediment build-up upstream of a weir for the purpose of maintaining the Opunake hydroelectric scheme intake | RFWP Rule 72 |
| 10826-1.0 | To discharge water containing sediment from the Waiaua River to Opunake Lake | RFWP Rule 43 |

**Table 1**: Resource Consents applied for and relevant regional plan rule

## Consent 1795-5.0: Take water from the Waiaua River

1. This is straightforward intake of water from behind the weir and is described in section 2 above. The expired consent specified a maximum take of 3900 L/s but there is no metering of the take rate so compliance with this condition has never been monitored. We assume that his limit is based on the design of the Scheme, quite probably the generators.
2. The expired consent specifies a minimum flow that must be maintained immediately downstream (180 L/s). This flow has only been monitored infrequently by gauging the river flow but it is accepted that due to leakage the flow over the fish pass and leakage past various gates the minimum flow is exceeded.

## Consent 1796-4.0: Take water from Opunake Lake

1. Taking is through an intake at the western end of the lake. The taking is managed to maintain the lake above a minimum level. Though the level may go below the minimum to ensure sufficient flow though the fish pass.

## Consent 1797-4.0: Discharge sediment to Waiaua River

1. This consent is to sluice the sediment that accumulates in the intake canal. For this to occur the weir at the lake end of the intake canal is closed and the sluice gate is opened, this diverts the water that is held behind the weir back into the river along with sediment that has accumulated in the canal.

## Consent 4563-3 and 4744-3: Water discharge to sea and associated structure

1. The outfall structure consists of two pipes and extends about 40 m from mean high water springs, the discharge point is within the tidal zone.
2. The only conditions on the expired consents relate to maintenance of the structure and the discharge rate is limited to 3900 L/s, i.e. the same rate as the maximum take from the river and from the lake.

## Consent 5581-2: Dam the Waiaua River

1. This consent is to authorise both the dam structure and the damming of water with the intake weir. The weir is 4.5 m high and is shown in Figure 2.
2. Along with conditions relating to maintenance work, the expired consent includes a condition requiring a fish pass that provides for native fish and for trout.

## Consent 5692-2: Excavate material from river bed

1. This consent is to authorise removal of river bed material that accumulates above the weir. It has rarely been exercised in the past.
2. The only significant restriction on the expired consent is that areas covered in water may only be excavated during summer.
3. The expired consent also provides for material to be excavated for the specific purpose of clearing the intake, but only with the specific permission of the Council’s Chief Executive.

## Consent 10826-1: Discharge sediment into Opunake Lake

1. It is inevitable that diverting water into Opunake Lake will result in a discharge of river sediment in to the lake. This sediment is defined as a contaminant under the RMA and as such its discharge must be authorised by a resource consent. It has however not previously been specifically consented.



**1797-4:Sediment discharge**

**10826-1: Discharge Sediment to Lake**

**5692-2: Excavate bed material**

**1795-5:River Intake**

**5581-2: Intake weir**

**4563-3: Outfall structure &**

**4744-3: Discharge to sea**

**1796-4:Lake Intake**

**Figure 5**: Scheme overview

# Existing Environment

## Waiaua River

1. The Scheme is situated in the lower reaches of the Waiaua River ring plain catchment close to the coastline and Opunake town. The land surrounding the lower reaches is surrounded by pasture land and the steep banks on the north side of the river below the diversion weir trend to be covered in scrub and pine trees. Riparian vegetation is generally sparse along the lower river.
2. The activity under application for consent mainly affects the 3 km stretch of river between the abstraction point and the sea. At the time of the commissioning of the scheme the river diversion would have brought about an immediate and dramatic change in the instream conditions in the 3 km stretch of river below the diversion weir.
3. Because it is close to the sea the reach below the weir contains a wide range of migratory native fish species and their life stages. Species present below the weir include smelt, īnanga, torrentfish, redfinned and common bullies.
4. The Waiaua River has sand deposition issues that were a result from heavy rain and massive natural erosion event on Taranaki Maunga during October 1998. The erosion event diverted slip material from the Oaonui River into the Waiaua River, this bed load of sand continues to flow down the river.
5. Near the scheme, the river features a sequence of riffles, runs and pools flowing across boulder, stony substrates. The river downstream of the diversion weir is entrenched with a wide flood channel containing residual flows.
6. The river supports a trout fishery.
7. Mean minimum monthly flows for the period 1970 to 1995 vary from 205 L/s in February to 702 L/s in June while the mean monthly flows vary from 1338 L/s in January to 3559 L/s in October. The mean annual low flow MALF is estimated to be 1319 L/s.

## Opunake Lake

1. The lake was probably originally a swampy area or wetland and was excavated to provide water storage for the Scheme. It is in two land parcels of similar size, one is owned by OPL, the other by South Taranaki District Council (STDC).
2. The lake has wide appeal to the Opunake community, utilised for walking, bird watching, swimming and fishing. The lake is fished regularly as the lake is used as a seeding population of both the lower and upper reaches of the Waiaua River, the lower reaches have been said to hold very well-conditioned trout-both brown and rainbow.
3. In October 1998 heavy rain caused a major slip in the Oaonui catchment within Egmont National Park. The slip diverted the flow of the Oaonui River through a side channel into the Waiaua River. Large volumes of sand from the slip washed down the Waiaua River throughout the end of 1998 and 1999, following this event. The sand smothered the bed of the river, and significantly affected the operation of the Opunake HEPS, reducing the volume of the pool behind the weir, the canal and Opunake Lake.
4. Following the event in 1998 sediment load in the lake has been an ongoing issue. In April 2002 the Scheme and the Lions Club of Opunake removed 50,000 m3 of sediment from the bed of Lake, significantly increasing the capacity of the lake. Sedimentation is an ongoing issue and why it has been specifically addressed in proposed consent conditions.
5. In the past low lake water levels have exposed areas of the lake bed and margins of the lake. The shallowness of the lake in some areas, particularly near the canal entrance to the lake has been affected by the ingress of a large amount of material transported to the lake during floods. The increased bed load in the Waiaua River from the erosion in the headwaters has caused this increased sedimentation in Opunake Lake which has limited recreational opportunities in the Lake.
6. The addition of sediment to the head of the lake has however provided habitat for wading birds.
7. In the past annually fish and game in conjunction with the Opunake angling and surfcasting club hold a ‘take a kid fishing’ day where they release several hundred fingerling trout. This is expected to return with the recommissioning of the scheme.
8. The popular Opunake walkway goes around the lake.

# Statutory acknowledgements

## Rivers

1. The Waiaua River along with all waterways in their rohe are statutory acknowledgments of Taranaki Iwi.
2. Taranaki’s statement of association with these waterways is reproduced below.

*Taranaki Iwi exercise mana whenua and mana moana from Paritūtū in the north around the western coast of Taranaki Maunga, to Rawa o Turi stream in the south and from these boundary points out to the outer extent of the exclusive economic zone.*

*The traditions of Taranaki Iwi confirm the ancestral, cultural, historical and spiritual importance of the waterways to Taranaki Iwi within the Taranaki Iwi rohe. The rivers and tributaries that bound and flow through the Taranaki Iwi rohe (area of interest) are of high importance to Taranaki Iwi, as many of them flow directly from Taranaki Maunga. These waterways contain adjacent kāinga (villages), pā (fortified villages), important sites for the gathering of kai (food), tauranga ika (fishing areas) and mouri kōhatu (stones imbued with spiritual significance). The importance of these waterways reinforces the Taranaki Iwi tribal identity and provides a continuous connection between those ancestors that occupied and utilised these areas and their many deeds.*

*Waterways, rivers and streams within the Taranaki Iwi rohe were and continue to be vital to the well-being, livelihood and lifestyle of Taranaki Iwi communities. As kaitiaki (guardians), Taranaki Iwi closely monitored their health and water quality to ensure there was an abundant source of food, materials and other resources to sustain their livelihoods. A diverse range of food sources, such as piharau (lamprey eel), tuna (eel), kōkopu (native trout), īnanga (whitebait), kōaro (small spotted freshwater fish) and kōura (freshwater crayfish) were a staple harvest with large numbers of kahawai and pātiki (flounder) also caught on the river mouths along the Taranaki Iwi coastline. Although access to many of the age old fishing spots for piharau has become a challenge, many are still caught in the months of June, July and August by Taranaki Iwi families.*

*Relatively high rainfall up on the mountain quickly drains through these river systems, contributing to high water flows and the swift clearance of excessive sedimentation. This has resulted in, clean, clear water accessible to generations of Taranaki Iwi. The river courses, waterfalls and pools were also ceremonial sites used for baptism and other forms of consecration including tohi (child dedication ceremony), pure (tapu removal ceremony) and hahunga (exhumation ceremony). The practice of hahunga involved the scraping and cleansing of bones after being laid on a whata (stage), or suspended from trees to allow for the decomposition of the flesh from the body. The bones were then painted with kōkōwai (red ochre) wrapped and interred in caves, some of these were on the banks of rivers on the plains while others were high up on the mountain. The natural resources along the edges of the rivers and large swamp systems commonly provided materials for everyday community life, waka (boats), housing, construction, medicine, food and clothing. Large deposits of kōkōwai were also abundant in the river beds higher up on the mountain. Te Ahitītī was a famous Kōkōwai deposit located along the banks of the Hangatāhua River with other known sites on the Kaitake range and Waiwhakaiho River valley above Karakatonga Pā. These sites were fiercely guarded by Taranaki Iwi.*

*The waterways within the Taranaki Iwi rohe also traditionally provided the best access routes to inland cultivations and village sites further up on the mountain and the ranges. Some of these routes became celebrated and were conferred names that confirmed the importance of the places they led to. Te Arakaipaka was a route that followed the Pitoone, Timaru and Waiorehu streams up onto various sites on the Kaitake and Pouākai ranges. Tararua was another route that followed the Whenuariki Stream to Te Iringa, Pirongia, Pukeiti and Te Kōhatu on the Kaitake range. The Hangatāhua River was also a key route up onto the Ahukawakawa swamp basin. The Kapoaiaia River also provided a pathway for Taranaki Iwi hapū, Ngāti Haupoto. This began at Pukehāmoamoa (close to the Cape Lighthouse on the sea coast) and went to Te Umupua, Orokotehe, Te Ahitahutahu, Ongaonga and onto the Ahukawakawa Swamp where a whare was situated. The Ōkahu River was another well-known route to Te Apiti and onto Te Maru, a fortified pā high up on Taranaki Maunga. Te Maru Pā had extensive cultivations and satellite kāinga before it was attacked by Ngāpuhi and Waikato war parties in the early 1800's with great slaughter.*

*Taniwha also protected many of the rivers and waterways along the Taranaki Iwi coast. Te Rongorangiataiki was resident along the Ōākura River[[1]](#footnote-1) along with the famed taniwha Tuiau of Matanehunehu, who was said to have caused a fishing tragedy at Mokotunu in the late 1800s. There was also Te Haiata, the taniwha who resided at Ngauhe, and Kaiaho on the Pungaereere and Ōāoiti streams. He would move from these two places from time to time to protect the people and the rivers. Taniwha are still revered by many Taranaki Iwi families and form the basis of tikanga (practices) for which the sustainable harvesting and gathering of food for Taranaki Iwi continues today.*

## Coastal Marine Area

1. The coastal marine area adjacent to their rohe is a statutory acknowledgment of Taranaki Iwi.
2. Taranaki’s statement of association with this coastal area is reproduced below.

*Taranaki Iwi exercise mana whenua and mana moana from Paritūtū in the north around the western coast of Taranaki Maunga to Rāwa o Turi Stream in the south, and from these boundary points out to the outer extent of the exclusive economic zone.*

*The traditions of Taranaki Iwi illustrate the ancestral, cultural, historical and spiritual association of Taranaki Iwi to the coastal marine area within the Taranaki Iwi rohe (“coastal marine area”). The seas that bound the coastal marine area are known by Taranaki Iwi as Ngā Tai a Kupe (the shores and tides of Kupe). The coastal lands that incline into the sea are of high importance to Taranaki Iwi and contain kāinga (villages), pā (fortified villages), pūkawa (reefs) for the gathering of mātaitai (seafood), tauranga waka or awa waka (boat channels), tauranga ika (fishing grounds) and mouri kōhatu (stone imbued with spiritual significance). The importance of these areas reinforces the Taranaki Iwi tribal identity and provides a continuous connection between those Taranaki Iwi ancestors that occupied and utilised these areas.*

*Prior to the proclamation and enforcement of the confiscation of lands within the Taranaki Iwi rohe (area of interest), Taranaki Iwi hapū occupied, cultivated, fished, harvested and gathered mātaitai in the coastal marine area. The entire shoreline from Paritūtū to the Rāwa o Turi was critical to daily life for fishing, food gathering, cultivations and ceremonies. The sea and coastal reefs provided a staple food source with fertile volcanic soils providing excellent growing conditions for large community cultivations. Food preparation and harvesting was ultimately dependant on the lunar calendar that controlled tides and other environmental conditions, but the best times for gathering and harvesting are known by Taranaki Iwi as Ngā Tai o Mākiri (the tides of Mākiri). These generally occur in March and September.*

*The small boulder reefs are possibly one of the most unique features of the Taranaki Iwi coastline providing special habitat for all manner of marine life. Resources found along the extent of the coastline of Ngā Tai a Kupe provide Taranaki Iwi with a constant supply of food. The reefs provide pāua (abalone), kina (sea urchin), kōura (crayfish), kūkū (mussels), pūpū (mollusc), ngākihi (limpets), pāpaka (crab), toretore (sea anemone), and many other reef species, while tāmure (snapper), kahawai, pātiki (flounder), mako (shark) and other fish are also caught along the coastline in nets and on fishing lines.*

*Also evident in the reefs are the monolithic tauranga waka or awa waka where large boulders were moved aside by hand to create channels in the reef. These provided access to offshore fishing grounds and prevented boats from being smashed onto rocks by the heavy surf. Large kāinga were also built around the tauranga waka providing Taranaki Iwi hapū with the infrastructure for efficient fishing operations. Whenever possible, fishing nets were also set in the tauranga waka. Fishing also took the form of separate, smaller pool like structures, or tauranga ika. They were baited and had a small opening on the seaward end of the structure to attract fish. On an incoming tide fish would enter the pools to feed and would then be chased out to be caught by a net placed over the small entranceway.*

*Taranaki Iwi oral traditions recount that in former times, the extent of large boulder reefs in the central part of Taranaki Iwi was much larger than those seen today. The large sandyareas in the central part of the Taranaki Iwi rohe is an occurrence attributed to Mangohuruhuru. Mangohuruhuru was from the South Island and was bought here by Taranaki Iwi rangatira Pōtikiroa and his wife Puna-te-rito, who was Mangohuruhuru’s daughter. Mangohuruhuru settled on the coastal strip between Tipoka and Wairua and built a house there called Te Tapere o Tūtahi. However, the large rocky Taranaki coastline was foreign to him and he longed for the widespread sandy beaches of his homeland. He warned Taranaki Iwi and told them he was calling the sands of Tangaroa. This phenomenon came as a large tsunami and totally buried Mangohuruhuru and his kāinga. His final words to Taranaki Iwi were:*

*“ka oti taku koha ki a koutou e ngā iwi nei, ko ahau anō hei papa mō taku mahi, hei papa anō hoki mō koutou - This will be my parting gift for you all, that it will come at the cost of my life, but will provide a future foundation.”*

*The sands bought by Mangohuruhuru continue to provide excellent growing conditions for many of the low lying seaside kāinga within the central part of the Taranaki Iwi rohe.*

*The coastal marine area was also the main highway for many Taranaki Iwi uri (descendants) when travelling between communities, as most of the coastal lands were free of the thick bush found a little higher towards the mountain. Coastal boundary stones and mouri kōhatu are another unique cultural feature within the Taranaki Iwi rohe and they form a highly distinctive group, not commonly found elsewhere in the country. Many of these were invariably carved with petroglyphs in spiral form and were often located in accessible areas, within pā earthworks and open country. However, most of them were nestled in the reef on the seashore alongside tauranga waka, tauranga ika, pūkāwa, pūaha (river mouths) and below or adjacent to well-known pā sites.*

*Tahu and Turi the twin kaitiaki (guardians) mark the mouth of the Tapuae River, Te Pou o Tamaahua in Ōākura, Te Toka a Rauhoto (originally located a little inland on the south side Hangatāhua River mouth) Opu (also a tauranga waka and tauranga ika) in the bay off Te Whanganui Reserve, Kaimaora, Tuha, Tokaroa and Omanu in the reefs at Rahotū and Matirawhati the stone boundary marker between Ngāti Haua (a hapū of Ngāruahine) and Taranaki Iwi on the reef of the Rāwa o Turi river mouth. These mouri kōhatu continue to be revered by Taranaki Iwi hapū.*

*Although access to many areas along the coastal marine area was discontinued as a consequence of confiscation, Taranaki Iwi have continue to exercise custodianship over those areas accessible to Taranaki Iwi. Many Taranaki Iwi hapū have imposed rāhui (temporary restrictions) over sites, restricting the taking of kūkū, kina, pāua and other mātaitai. Proper and sustainable management of the coastal marine area has always been at the heart of the relationship between Taranaki Iwi and the Taranaki Iwi coastline.*

# Submissions

1. There are 23 submissions, 10 of the submitters requested to be heard in their submission. All of the submissions are summarised in Table 2 below.
2. In general the submitters do not oppose the Scheme, and in many cases recognise its benefits. They are however concerns that adverse effects are appropriately avoided remedied or mitigated. The main concerns are minimum flows, fish passage and lake management.

**Table 2:** Summary of Submissions

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Details** | **Decision requested** | **If consent(s) granted.** |
| **Submitters wishing to be heard** | |  |  |
| Fish and Game | * OPL affects habitat availability and flow variation in the Waiaua River * The minimum flow is too low * Fish passage needs to be improved * Silt in the lake is an issue |  | * Requiring a minimum flow downstream of the canal sluice gate of at least 400 L/s * Requiring fish passage issues to be resolved * Requiring improved lake level management * Requiring effective monitoring, including monitoring of summer water temperature increases in the residual flow reach * If extraction of gravel or sand from the river immediately upstream from the weir is necessary, then conditions should require that any such extraction be done ‘in the dry’ during periods of stream low flow between 1 November and 20 April |
| Director General of Conservation | * Fish passage barrier – more info on trap and release * Gravel extraction- best practise e.g in the dry * Residual flow- low residual flow, not enough flow variation causing high temperatures and algal growth * Consider stepped regime, higher residual flow or weekly/fortnightly increases in residual flow to simulate freshes * Wading bird habitat- not provided sufficient info to assess extent and quality of wading bird habitat and the effects of the scheme on this * Contrary to Part 2 – 6(a) and & 7(d, f and g) * Contrary to NSP-FM objectives and policies * Contrary to NZCPS * Contrary to RPS and RFWP | Decline |  |
| Te Kahui o Taranaki Trust | Taranaki Iwi oppose the scheme in principle but support the re-issuing of consents if the scheme is kept up to a more than a ‘good’ standard.  Supports submission of DoC and Fish & Game. |  | * Requiring minimum flow of 400 L/s below canal sluice gate * Fish passage issue to be resolved * A through and up to date native fish monitoring programme * Require effective monitoring, including monitoring of summer water increases in residual reach, and any extraction of gravel done in the dry * Enhance native riparian planting * Include iwi and hapu in monitoring and planting programmes * Require desilting of Opunake lake |
| Gerard Francis Karalus | * Keen Angler * Opunake Lake provides excellent trout habitat * Minimum flow should be maintained at 400 L/s below the weir. | Approve |  |
| Taranaki Coastal Community Board and Taranaki Coastal Councillors | * Minimum and maximum lake levels should be a condition * Outfall at Opunake beach should be diverted directly out to sea * Cultural values have not been assessed | Approve |  |
| Zhijian Chen | * OPL is a local, reliable, renewable energy source. * Renewable energy is critical. | Approve |  |
| James Berryman | * OPL is an excellent resource for electricity generation. * Is a matter of national significance under the National Policy Statement for Renewable Electricity Generation * The residual flow should be reduced over time. | Approve |  |
| Richard William Hall | * Control on sediment into lake and management plan to extract the sediment. * Should be a detailed management plan which clarifies the responsibilities clearly for: silt levels, water level and quality and controlling leaks, operation and maintenance of all areas, environmental important for surrounding fauna, birdlife etc | Approve |  |
| NZ Energy Limited | * Scheme is significantly history to Opunake and provides a wonderful recreational facility and source of renewable energy. * The scheme has undergone significant upgrading over the last 20 years to improve environmental performance * Must have regard to NPS renewable Generation and other government initiatives | Approve |  |
| Simon Young | * The Opunake Hydro scheme is not typical, it is an integral part of the community by creating a lake for water activities and lakeside plan and gives easy access for white-baiters to the outlet | Approve |  |
| **Submitters not wishing to be heard** | | | |
| Murray Dobbin | * Opposes consent to take only * 180 l/s is inadequate to sustain lower reaches of river * Inadequate fish passage past the dam * A study should be undertaken on the effects on the river below the dam |  | * That as much water as possible is retained for the flow below the weir * That a major study be undertaken of the river system while still at full flow in order to give a baseline of the effects of water flow reduction * That the effects of reduction of water flow at the river mouth be taken into consideration * That developing the ecosystem below SH45 with managed vegetation be considered * That developing a management document with interested parties be developed to provide guidance and understanding of the needs of this significant area |
| Lisa Ison | * Would like to see Opunake Lake cleaned of weed and have a healthy water quality for public use * Agree with the discharge of water to Opunake Beach | Approve |  |
| Kenneth Clark | * The health of Opunake Lake has degraded significantly following the expiry of the previous consent | Approve |  |
| Kevin Johnson | * Previous owner of the scheme * Scheme integral part of the community * Renewable energy important | Approve |  |
| Robert England | * Excellent example of sustainable renewable energy | Approve |  |
| Opunake and Districts business association Inc | * The health of Opunake Lake has degraded significantly following the expiry of the previous consent | Approve |  |
| Brian Vincent | * The lake is a major playground for Opunake’s future for generation the lake is known around the world, don’t let it die | Approve |  |
| Deborah Campbell | * The lake is a great asset to Opunake and is a popular place for the community and visitors to Opunake * Silt should be removed from the lake, river and dam | Approve |  |
| Murray James | * The lake and scheme are an important part of Opunake history and community | Approve |  |
| Powerco | * Provides a renewable source of energy. | Approve | * Subject to the adverse effects of the scheme being adequately avoided, remedied or mitigated |
| Maurice Gasson | * The lake is important to the Opunake community * Sediment in lake has reduced its use for the community | Approve | * Regular removal of sediment from the lake |
| Opunake surf lifesaving club | * Tailrace causes dangerous rips * Lake should be returned to swimmable status * OHL should remediate the silt in the lake bed. | Approve |  |
| Rex and Lorraine Langton | * Support the lake and the birdlife that it supports (wading birds) | Approve |  |

# Pre hearing meetings

## First Pre hearing meeting

1. The first of two pre-hearing meetings was held on 16 June 2020, it was attended by:

* Colin McLellan (Consents Manager, TRC) Meeting Chair
* Anna Johnston (Consents Officer, TRC)
* Paddy Deegan (Freshwater Ecologist, TRC)
* Steve O Sullivan (Opunake Power - Applicant)
* Bart Jansma (Riverwise Consulting – Consultant to applicant)
* Puna Wano-Bryant (Taranaki Iwi - Submitter)
* Allen Stancliff (Fish & Game NZ - Submitter)
* Tom Christie (for Director General of Conservation -Submitter)
* Jacob Williams (for Director General of Conservation -Submitter)
* Ilse Corkery (for Director General of Conservation -Submitter).

### General meeting discussion

1. The applicant gave an overview of the scheme and general discussion occurred as summarised in the following paragraphs.
2. The major discussion was about the appropriate residual flow to be retained downstream of the weir. The submitters present want the residual flow to be higher than the 180 L/s that was on the previous consent. The applicant presented an assessment of how various higher residual flows would affect the amount of water that could be taken and therefore the amount of power generated. The applicant subsequently provided this presentation to the parties present.
3. The option of varying the residual flow depending on the time of year (for example) was discussed, but there was little support.
4. Following some discussion the parties indicated that they would accept a residual flow of 300 L/s.
5. Fish passage was discussed. There was general agreement that the fish pass is working effectively but that passage for native species is restricted by high velocities through the intake tunnels. The applicant indicated that they could minimize the velocity through the tunnels by managing water levels. There was general support for that approach provided there was monitoring to confirm its effectiveness and an ‘adaptive management’ approach.

### Outcomes of the meeting

1. For the parties present the following was agreed on a without prejudice basis:

* submitters are to consider whether a 300 L/s residual flow is acceptable;
* the applicant agreed to manage water levels in the intake canal to provide better fish passage through the intake tunnels, and to undertake fish surveys to monitor whether this results in adequate fish passage being achieved;
* another pre-hearing meeting will be held with all submitters.

## Second Pre hearing meeting

1. The pre-hearing meeting was held on 16 July 2020, it was attended by:

* Colin McLellan (Consents Manager, TRC) Meeting Chair
* Anna Johnston (Consents Officer, TRC)
* Paddy Deegan (Freshwater Ecologist, TRC)
* Steve O Sullivan (Opunake Power - Applicant)
* Bart Jansma (Riverwise Consulting – Consultant to applicant)
* Allen Stancliff (Fish & Game NZ - Submitter)
* Tom Christie (for Director General of Conservation -Submitter)
* Jacob Williams (for Director General of Conservation -Submitter)
* Simon Young (Submitter)
* Richard Hall (Submitter)
* Gerard Karalus (Submitter).

### General meeting discussion

1. The meeting Chair gave an overview of the meeting held 16 June and a summary of outstanding submission points to be discussed, a general discussion occurred as described in the following paragraphs.
2. The major discussion was about the appropriate residual flow to be retained downstream of the weir. Fish and Game and Taranaki Iwi supplied a letter to the applicant prior to the meeting which outlined a varying residual flow dependent on time of year that they would support. The other submitters present supported the varying residual flow suggested. The applicant agreed to consider the varying flow proposed.
3. Flushing flows and sediment/sand build up in the lake were discussed.

### Outcomes of the meeting

1. For the parties present the following was agreed on a without prejudice basis:

* the applicant is to consider whether he would give consideration to the varying residual flow that submitters proposed;
* the applicant reconfirmed that he agreed to manage water levels in the intake canal to provide better fish passage through the intake tunnels, and to undertake fish surveys to monitor if this results in adequate fish passage being achieved;
* Council staff were requested to prepare a draft officer report and recommendation and circulate it all parties.

## Third Pre-hearing meeting

A third pre-hearing meeting was held by circulating a draft set of consent conditions and an officer’s report on the applications with submitters who wished to be heard.

During discussions with Opunake community members, including submitters, during the pre-hearing process and in other forums, the importance of integrating the land use planning around the lake with the resource consents for the scheme was made. There are walkways and other recreational amenities in place. There was support in the community for this proposal and STDC agreed to follow this up with the local community board. Once the consents are granted it will be a matter for the parties to follow up. The desilting the lake, involving a local community group and other parties, is a matter that could be considered in this new framework.

### Draft consent conditions

Since the second pre-hearing meeting the Council had circulated draft recommendations, including conditions, for all the applications. The initial draft of the conditions were refined following discussion with the parties through email and a ‘final’ draft prepared. This took some time and a final draft was discussed, further refined, and agreed via email.

Good feedback on the draft conditions was received by all parties.

### Withdrawal of submissions

Subsequently all submitters withdrew their wish to be heard on the basis that the consents would be issued under the terms and conditions recommended in this report. The applicant has also accepted the terms and conditions recommended.

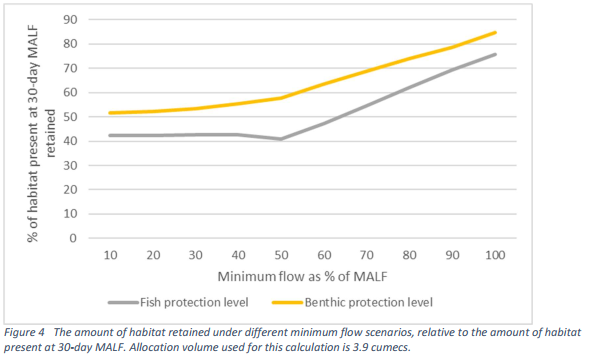
# Assessment of environmental effects

1. The environmental effects of the Scheme are primarily those relating to restriction of fish passage by the dam and the altered flow regime downstream of the diversion. There are also effects associated with the discharge of sediment, the discharge of water on the beach and of gravel extraction.
2. In addition to these are the adverse effects of structures in the river and in the coastal marine area.
3. There is also a general loss of amenity and adverse effects on Māori cultural values from the scheme as whole.
4. These effects must be assessed against the environment that would exist in the absence of the Scheme. That is, an environment with no weir, no beach outfall, no lake and natural flows in the river.
5. The environmental effects are assessed below.

## Hydrological effects

## Minimum flow

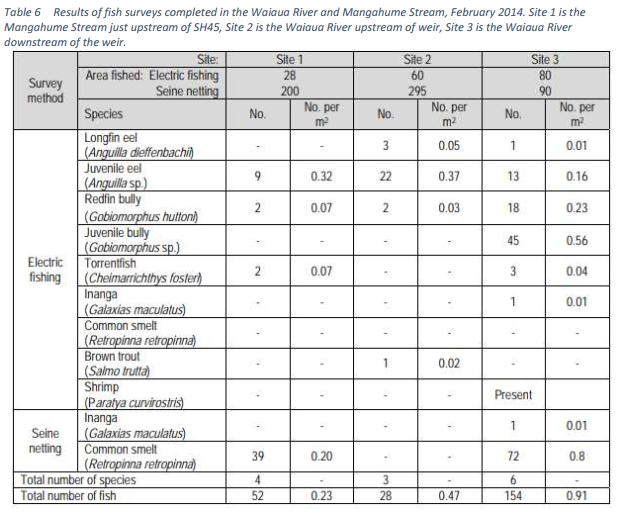
1. The proposal is to take a large proportion of the river flow, which inevitably will have significant adverse effects on the river downstream. Establishing a minimum flow (or residual flow) that must be maintained at all times goes some way towards avoiding and mitigating these effects.
2. The appropriate minimum flow is usually quantified as a percentage of MALF, and is set to provide a level of protection for the river ecology that is considered acceptable in the circumstances. The Council’s policy guideline is to protect 66% of the habitat that exists at MALF.
3. The minimum flow on the previous consent was 180 L/s, which is 14% of MALF.
4. However the level of protection provided to the river’s ecology is depended on the minimum flow and the rate of taking in combination. Work undertaken by Jowett is presented in Figure 6 below.
5. Figure 6 shows that with taking at 3900 L/s the protection given to fish and to benthic invertebrates is similar for minimum flows between 10% and 50% of MALF, approximately 42% protection for fish and 55% for invertebrates. In other words a significantly increased minimum flow will not, on the face of it, provide significantly increased habitat protection.
6. It should be noted that the fish habitat data used for Figure 6 is that of torrent fish and adult brown trout, while the benthic productivity used high MCI scoring taxa. Torrentfish, adult brown trout and high MCI scoring invertebrate taxa generally require the highest flow, so in providing for these the other, less sensitive species, are also provided for.



**Figure 6:** Habitat retained after taking 3900 L/s assuming different minimum flows.

### Ecological values supported at 180 L/s

1. Native fish have been monitored in the lower Waiaua River. A quantitative survey completed in Feb 2014 and a comparative survey was undertaken in the nearby Mangahume Stream on the same day. The results of these surveys are shown in Table 3.
2. This fish monitoring shows that the lower Waiaua River supports a fish community that has a similar species richness as the Mangahume Stream. There is some variation in the relative abundance of these species consistent with the impact on habitat caused by water abstraction. Bullies are known to prefer slow and shallow flows, hence their higher abundance in the Waiaua River downstream, of the weir. However, the presence of torrentfish at a density similar to that recorded in the Mangahume Stream indicates that a residual flow of 180 L/s is sufficient to support this swift water species.

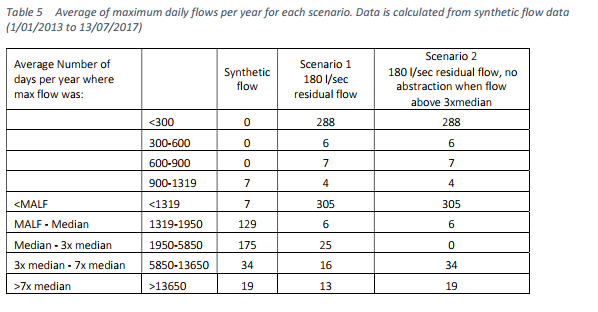


**Table 3:** Fish survey on Waiaua River and Mangahume Stream, February 2014 (Site 1: Mangahume Stream upstream SH45, Site 2: Waiaua River upstream of weir, Site 3: Waiaua River downstream of weir)

1. Macroinvertebrate monitoring, undertaken by the Council from 1994 to 2000 recorded a community not significantly different to that recorded in similar streams nearby. The median MCI scores for the two sites monitored downstream of the weir are not significantly different to the median score recorded in the Punehu Stream at SH45. Although the abundance of high scoring mayfly and stonefly taxa was lower than may be expected, this could be a reflection of the habitat instability caused by the sand inundation.
2. Although no quantitative periphyton monitoring has been undertaken in the lower river, some conclusions can be drawn from the macroinvertebrate results. The results indicate that there is typically sufficient algal biomass to support taxa commonly associated with algae. However, this is not unusual for a lower river site in a ring plain stream. Moderately sensitive taxa are usually negatively correlated with algal proliferation. Moderate or highly sensitive taxa were present in the majority of samples at times, suggesting that algal proliferation is not typical for the lower river. This is consistent with what has been observed, being a noticeable algal community, but not to the degree where the algae becomes a nuisance. It is likely algae biomass is severely depleted during floods, due to the abrasiveness of the sand which is carried in suspension during flood. Overall the lower river macroinvertebrate and periphyton community is primarily influenced by the sand loading in the river, with the influence of the abstraction being secondary. Provided the abstraction does not reduce the incidence of scouring flows, its impact would be mainly limited to stabilising the flow following flooding, allowing algae to gain a foothold quicker than would naturally occur.
3. This information shows that the residual flow of 180 L/s is sufficient to maintain the life supporting capacity of the river. It is acknowledged that the amount of life is reduced due to the reduced amount and quality of habitat available. There are options available that may help mitigate for the loss of habitat, including a variable residual flow (seasonally and/or daily) and regular flushing.

### Discussion of minimum flow options

1. The applicant indicated, on a without prejudice basis, that a minimum flow of 300 L/s would be acceptable.
2. Submitters proposed that the minimum flow be set at 400 L/s for the December to March period, and 300 L/s for the rest of the year. But there could be no taking for four hours each day if the flow had not exceeded 3x median flow at any time over the previous 30 days.
3. ‘Flushing flows’ are ecologically significant variations in flow that effect the flushing of the stream. There are biological processes that are influenced by flow variation (e.g īnanga spawning, migration triggers), but those flows in excess of three times the median flow are generally considered sufficient to flush fine sediments, and displace invertebrate communities, with some algae scouring also occurring, especially in those streams with high sand load such as the Waiaua River. Flows in excess of seven times the median flow are considered sufficient to mobilise the river bed, moving larger substrates such as cobbles and gravels.
4. The operational regime provides for a flushing flow down the river system on a regular basis. The whole flow of the river plus the water that is pooled behind the weir and within the canal is discharged down the river for a period. This equates to approximately 2.9 m3/s of flow down the river at regular intervals, in addition to the minimum flow.
5. Table 4 indicates the flow regime that would occur in the lower river under two ‘minimum flow scenarios’ compared to the regime with no taking (i.e. synthetic flow) over a specific 4½ year period.
6. The table shows that at the proposed abstraction rate of 3.9 m3/sec, the Scheme has the potential to ‘flatline’ the lower river (i.e. no flushing flows in lower river doing what they need to do). If no abstraction was to occur during flows in excess of 3x median flow (5.85 m3/sec) it would not impact on the frequency of flushing flows. The positive impact of the higher flow will not be as evident in the lower river, due to how quickly the river returns to the minimum flow as a result of the abstraction.
7. The parties to the application ultimately agreed to a residual flow of 300 L/s throughout the year, and the release of a flushing flow if the flow has not naturally exceeded 5.85 m3/sec in the previous 30 days.



**Table 4**: Average maximum daily flows per year for each scenario. Data is calculated from synthetic flow data (1/1/13 to 13/7/17)

## Fish passage

1. Due to its proximity to the coast (2 km) and its low altitude (15 m.a.s.l.), the Waiaua River around the weir is expected to support a diverse range of fish (Table 5). The river would also naturally provide for a significant amount of habitat above the weir for a variety of fish, with the expected habitat range of many of these species expected to extend to near the National Park boundary dependent on natural instream habitat features or barriers.
2. The weir and ancillary structures have the ability to cause partial or full barriers to the upstream passage of fish. Two of the expired consents included conditions that required the consent holder to install and maintain a fish pass.
3. Over time the consent holders (including previous owners) have made modifications to the layout of the scheme, in an effort to provide fish passage. A fish pass has been operating since 1997 with two channels, catering for swimming fish (i.e., trout, smelt and torrentfish) and climbing fish (many native fish such as the redfin bully and most of the whitebait species).
4. The main elements of the weir and any attached ancillary structures (including the fish pass itself) that are likely to affect fish passage are water flow velocities, sharp edges, water depths, structure surface gradients, the availability of resting areas, attractant flows, and predation by fish and other animals that may result from delayed or failed fish passage attempts.
5. At present, the adequacy of the fish passage provided at the weir is not well understood. The Council’s biology staff believe that the main avenue for upstream fish passage at the weir is up through the main fish pass, through the canal, and then through the inlet pipes to the river upstream. However, it is still expected that a number of fish species (particularly strong climbers) will attempt to pass the weir at the weir face, the old fish pass, and the true right sluice gate, because of the attractant flows at those places.

|  |  |
| --- | --- |
| *Fish species* | *Conservation Status (Dunn et al, 2017)* |
| *Shortfin eel (Anguilla australis)* | *Not Threatened* |
| *Longfin eel (Anguilla dieffenbachii)* | *At Risk – Declining / Regionally Significant* |
| *Banded kokopu (Galaxias fasciatus)* | *Not Threatened / Regionally Significant* |
| *Giant kokopu (Galaxias argenteus)* | *At Risk – Declining / Regionally Significant* |
| *Koaro (Galaxias brevipinnis)* | *At Risk – Declining / Regionally Significant* |
| *Shortjaw kokopu (Galaxias postvectis)* | *Nationally Vulnerable / Regionally Significant* |
| *Inanga (Galaxias maculatus)* | *At Risk – Declining / Regionally Significant* |
| *Torrentfish (Cheimarrichthys fosteri)* | *At Risk - Declining* |
| *Black flounder (Rhombosolea retiaria)* | *Not Threatened* |
| *Common bully (Gobiomorphus cotidianus)* | *Not Threatened* |
| *Cran’s bully (Gobiomorphus basalis)* | *Not Threatened* |
| *Upland bully (Gobiomorphus breviceps)* | *Not Threatened* |
| *Bluegill bully (Gobiomorphus hubbsi)* | *At Risk - Declining* |
| *Redfin bully (Gobiomorphus huttoni)* | *Not Threatened* |
| *Giant bully (Gobiomorphus gobioides)* | *Not Threatened* |
| *Lamprey (Geotria australis)* | *Nationally Vulnerable / Regionally Significant* |
| *Common smelt (Retropinna retropinna)* | *Not Threatened* |
| *Yelloweye mullet (Aldrichetta forsteri)* | *Not Threatened* |
| *Grey mullet (Mugil cephalus)* | *Not Threatened* |
| *Brown trout (Salmo trutta)* | *Introduced and naturalised* |
| *Rainbow trout (Oncorhynchus mykiss)* | *Introduced and naturalised* |

**Table 5**: Freshwater fish species likely present with the Waiaua River based on predictions by Council’s freshwater biologist and evidence from historical surveys.

1. Structures that have a flow from the canal or the lake to the Waiaua River (e.g. spillways and sluice gates) are likely to delay upstream fish migrations due to attractant flows and possibly increased exposure to predation due to delayed fish movements or unsuccessful migrations resulting in exhaustion. For instance, whitebait have been observed at the outlet of the penstocks on Opunake Beach. However, these effects are unavoidable due to the nature of those aspects of the scheme where providing for fish passage and avoiding attractant flows is not possible.
2. The application outlines, and there is general agreement, that there is likely some passage for all species, although the exact conditions which provide for certain fish, and the extent of passage (proportion of successful upstream migrations by species) is not well understood.
3. The applicant has stated that perhaps inanga, or another whitebait species, have been observed above the weir on occasion and that trout are regularly seen travelling upstream from the canal to the river. The applicant has also stated that large numbers of smelt have been observed in the canal suggesting that the fish passage at least in to the canal should be effective for an unknown proportion of all fish species.
4. While the fish pass is considered to be effective in getting fish into the canal, they must then get through intake tunnels to get upstream of the weir. These tunnels are about 30 m long and connect the intake structure with the canal. Details of the velocities at the inlet, outlet, and within the tunnels are unknown as they are dependent on lake level and river conditions. They are known to vary significantly.
5. There is also a chance that fish will be forced over the weir face or down the sluice gate on exit from the pipe inlets due to fast flowing river conditions or the concentrated flows at the sluice gate.
6. The applicant has suggested that managing water levels within the lake could be utilised to improve fish passage, with the understanding that when the lake (and consequently the canal) is at higher levels, the flow in the inlet pipe is slowed as a result of backwatering.
7. Managing of lake levels has been accepted in principle by all parties to this application as a worthwhile initial approach to improving fish passage. Along with regular fish surveys to determine the efficacy of this approach. The applicant has suggested that fish surveys that target different lake level conditions could be used to assess the extent of fish passage being achieved, to allow for the establishment of a fish specific water level management scheme.
8. Monitoring the flow velocities in the pipes could also be utilised as supporting evidence to assess what conditions were present with the pipes at different lake levels, which could be used to assess the likelihood of fish passage against known swimming abilities.
9. As part of any investigation into fish passage it could also be appropriate to assess other potential avenues for fish passage, such as the true left fish pass and true right sluice gates, to check if they are resulting in an overall negative or positive impact on successful upstream passage by detracting fish from utilising the main fish pass.
10. If lake level management proves to be unsuccessful in providing adequate fish passage options are to build a new fish pass from the canal to upstream of the weir, or improve the intake pipes.
11. It is not expected that downstream migrations of fish is greatly impacted by the weir with the majority of fish species expected to travel over the weir face under higher flow conditions, or down the main fish pass as they move through the canal if taken in by the pipes. However, there is potential for fish to enter the lake if they bypass the main fish pass in the canal where they may then be required to exit the lake via the spillway or possibly be exposed to entrainment at the station intake. Should issues of entrainment into the station intake become apparent then options for preventing downstream migrators from entering the lake should be considered at the weir.

## Sediment in the lake

1. There has been ongoing issues with sedimentation in the lake from sand deposits caused by erosion events on the Mountain. The most effective solution is to manage the taking so that high flows pass down the river rather than into the intake canal.
2. The canal has a sand trap bowl and canal stop gate to block the reverse flow of water from the lake. The sand trap has a gate valve that can be operated if the sand trap has sediment or sand in it.
3. It is therefore intended to manage the abstraction so that only clean water is taken, with the principal contaminant being tannins and some sand. The impacts of tannins will be minimal, with a short term reduction in light penetration into the lake, until the river clears and the tannins are flushed through.
4. The impact of any sand in the discharge will be restricted to the head of the lake, where the sand will settle out. Although this may have a smothering effect, it is likely that the lake bed biology in this area has adapted to the influence of sedimentation. It is noted that the head of the lake supports numerous wading birds, including pied stilt, mallard and shovelled duck, paradise duck and Canadian geese. At times there have even been royal spoonbill and godwit observed on the delta at the head of the lake.
5. Other than the complaints regarding discolouration of the lake, caused by the abstraction of water when the Waiaua River was in flood, and decreased ability to boat in the lake due to the excessive head water sediment deposition, there have been no complaints about the discharge of this water into the lake. It is worth noting that the discharge of river water to the lake can have a positive effect including by regulating water temperature, flushing of the lake, and improving water quality. When the scheme was not been operating, freshwater recreational bathing water quality monitoring found that the concentration of E. coli in the lake occasionally exceeded the ‘action level’. Removal of existing excess sediment from the head of the lake could be accomplished as in the past with a joint effort by the community, applicant and the Council.

## Effects on amenity, economic and social values

1. The Waiaua River has been identified in Appendix 1A of the *Regional Freshwater Plan for Taranaki* (RFWP) as a catchment of high natural, ecological and amenity values, particularly recreational and fishery values. Specifically, the Waiaua River is a popular and valued angling river and is the largest angling river between the Stony and Kaupokonui River catchments.
2. Economically, the Opunake HEPS contributes to the national economy through power generation, providing an average annual output of approximately 1.4 gigawatt hours. Opunake Lake, which was created as part of the overall scheme, provides an important recreational resource for the people of Opunake and surrounding areas.
3. The importance of the lake as compensation for the adverse effects of the Scheme is discussed in section 9.2.2.

## Effects on cultural values

1. The environmental effects of the Scheme discussed in this report are compounded by associated adverse effects on the cultural values of mana whenua. As articulated in the submission for Te Kahui o Taranaki and during the pre-hearing process, these affects are significant.
2. In spite of these significant effects and opposition to the Scheme in principle, the submission from Te Kahui o Taranaki explains that they do not oppose granting the consents provided they include conditions generally mitigating the direct environmental effects.

## Sustainable Management (Part 2 of the RMA)

1. When determining the applications the Council must promote the sustainable management of natural and physical resources. Sustainable management means managing the use, development and protection of these resources in a manner which enables people and communities to provide for their social, cultural and economic wellbeing while:
2. sustaining the potential of natural resources to meet the reasonably foreseeable need of future generations;
3. safeguarding the life supporting capacity of water and ecosystems; and
4. avoiding, remedying and mitigating adverse effects of the applications on the environment.
5. In promoting sustainable management the Council must:

* recognise and provide for ‘matters of national importance’ (listed in section 6 of the RMA);
* have particular regard for ‘other matters’ (listed in section 7 of the RMA); and
* take account of the principles of the Treaty of Waitangi (section 8 of the RMA).

1. The Court of Appeal[[2]](#footnote-2) has determined that while decision makers should usually consider Part 2 when making decisions on resource consent applications, where the relevant plan provisions have clearly given effect to Part 2 there may be no need to do so as it would not add anything to the evaluative exercise. In other words*,* genuine consideration and application of relevant plan considerations may leave little room for Part 2 to influence the outcome*.*
2. In this case we are satisfied that, with respect to the activities being considered, the policy documents appropriately evaluate the activities being considered and accordingly give effect to Part 2. We have therefore made no specific Part 2 assessment.

# Statutory assessment

## Consideration of applications (section 104(1))

1. Subject to Part 2 of the RMA, when considering a resource consent application, the Council must have regard to:
2. the actual and potential effects the activity has on the environment; and
3. the relevant provisions of the:
   * 1. *Regional Policy Statement for Taranaki* (RPS);
     2. *New Zealand Coastal Policy Statement (NZCPS):*
     3. *National Policy Statement for Fresh Water Management* 2020 (NPS-FW);
     4. *National Policy Statement for Renewable Energy Generation* (NPS-REG);
     5. *Regional Freshwater Plan for Taranaki* (RFWP);
     6. *Regional Coastal Plan for Taranaki* (RCP); and
     7. *Proposed Coastal Plan for Taranaki* (PCP).
4. In section 8 of this report we have assessed the actual and potential effects of each activity and our recommendation reflects appropriate regard for the environmental effects.
5. The Regional Plans give effect to the RPS and the NZCPS. However the RPS includes the following specific policy supporting development of renewable energy.

*The use and development of renewable energy resources will be promoted whilst avoiding, remedying or mitigating adverse effects on the environment as far as practicable.*

## National Policy Statement for Fresh Water Management 2020 (NPS-FW)

1. The NPS-FW came into effect on 3 September 2020. The Council must therefore have regard to it when determining these applications. Clause 3.24 is of particular relevance and it requires that:

The loss of river extent and values is avoided, unless the council is satisfied:

* + - * 1. that there is a functional need for the activity in that location; and
        2. the effects of the activity are managed by applying the effects management hierarchy.

Subclause 3 applies to an application for a consent for an activity:

* + - * 1. that falls within the exception to the policy described in subclause 1; and
        2. would result (directly or indirectly) in the loss of extent or values of a river.

3 An application referred to in subclause 2 is not granted unless:

* + - * 1. the council is satisfied that the applicant has demonstrated how each step in the effects management hierarchy will be applied to any loss of extent or values of the river (including cumulative effects and loss of potential value), particularly (without limitation) in relation to the values of: ecosystem health, indigenous biodiversity, hydrological functioning, Māori freshwater values, and amenity; and
        2. any consent granted is subject to conditions that apply the effects management hierarchy

Some important definitions are shown below.

1. ‘Effects management hierarchy’**,** in relation to natural inland wetlands and rivers, means an approach to managing the adverse effects of an activity on the extent or values of a wetland or river (including cumulative effects and loss of potential value) that requires that:
2. adverse effects are avoided where practicable; and
3. where adverse effects cannot be avoided, they are minimised where practicable; and
4. where adverse effects cannot be minimised, they are remedied where practicable; and
5. where more than minor residual adverse effects cannot be avoided, minimised, or remedied, aquatic offsetting is provided where possible; and
6. if aquatic offsetting of more than minor residual adverse effects is not possible aquatic compensation is provided; and
7. if aquatic compensation is not appropriate, the activity itself is avoided.
8. **‘**Functional need’ means the need for a proposal or activity to traverse, locate or operate in a particular environment because the activity can only occur in that environment.
9. ‘Aquatic offset’ means a measurable conservation outcome resulting from actions that are intended to:
   1. redress any more than minor residual adverse effects on a wetland or river after all appropriate avoidance, minimisation, and remediation, measures have been sequentially applied; and
   2. achieve no net loss, and preferably a net gain, in the extent and values of the wetland or river, where:
      1. **no net loss** means that the measurable positive effects of actions match any loss of extent or values over space and time, taking into account the type and location of the wetland or river; and
      2. **net gain** means that the measurable positive effects of actions exceed the point of no net loss.
10. ‘Aquatic compensation’ means a conservation outcome resulting from actions that are intended to compensate for any more than minor residual adverse effects on a wetland or river after all appropriate avoidance, minimisation, remediation, and aquatic offset measures have been sequentially applied.

### Functional Need

1. A hydroelectric power generation necessarily includes infrastructure within a waterway and/or diversion of water. We are satisfied, therefore, that there is a functional need for the activities that are the subject of these applications. The consents may therefore be granted provided that, after application of the effects management hierarchy, there are more than minor residual adverse effects for which environmental compensation is not appropriate.

### Application of Effects Management Hierarchy

1. OPL provided its assessment of the applications against the requirements of the   
   NPS-FW Clause 3.24. That assessment identified the following effects: lower river effects, reduced fish passage, effects associated with a variable lake level; and, impacts associated with gravel extraction. These effects, both separately and in combination with each other result in the loss of river values.
2. Now, to apply the effects management hierarchy.
3. Provision of fish passage past the weir, a minimum flow regime and temperature monitoring and review in the lower river, avoids and minimises adverse effects on ecosystem health, indigenous biodiversity, hydrological functioning, and amenity. As such it also avoids and minimises some effects on Māori freshwater values.
4. The applicant has offered to undertake riparian planting on their property and to make a payment of $4500 over 10 years for riparian planting in the lower river. This planting will contribute, in a very small way, to minimising effects on amenity and other values.
5. Although these provisions avoid and minimise adverse effects there are still more than minor residual adverse effects. Essentially these are the effects resulting from the very low and unnatural flow regime downstream of the take. These effects cannot practicably be remedied so there must be aquatic offsetting where possible.
6. Aquatic offsetting is not possible. That would involve establishing or reinstating a similar river environment at another location, i.e. replacing like with like. Aquatic compensation must therefore be provided.
7. Aquatic compensation is provided by Opunake Lake. Although the applicant categorises it as ‘offsetting’ rather than ‘compensation’ they summarise the benefits that Opunake Lake provides as follows. It is a significant resource to the Opunake community, supporting a range of recreational activities, while providing habitat for a range of native species, including longfin and shortfin eel, inanga and smelt plus brown and rainbow trout. There is also anecdotal evidence that the lake supports the upstream trout fishery, by providing a safe rearing habitat for hatchery reared fish. The lake also supports or is visited by a wide range of bird species, including royal spoonbill, pied stilt, godwit, Australasian shoveler, Canadian geese, mallard, paradise shelduck and black swan.
8. The aquatic compensation that the lake provides includes a significant area of diverse habitat and amenity in an easily accessible location adjacent to the river. We are therefore satisfied that ensuring the lake continues to provide the benefits noted in the above paragraph will result in the residual adverse effects of the Scheme being no more than minor.

## National Policy Statement for Renewable Energy Generation

1. The NPS-REG has as its objective:

*To recognise the national significance of renewable electricity generation activities by providing for the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities, such that the proportion of New Zealand’s electricity generated from renewable energy sources increases to a level that meets or exceeds the New Zealand Government’s national target for renewable electricity generation.*

## The NPS-REG Policies that are relevant to these applications are in

Recommending Officers

Anna Johnston Colin McLellan

**Consents Officer Senior Consents Advisor**

Paddy Deegan Jocelyne Allen

**Scientific Officer - Freshwater Biology Consents Manager**

1. Appendix .

## Regional Freshwater Plan

1. The RFWP addresses a number of issues, objectives and policies relating to Issues 3.1 (*protection and enhancement of the natural, ecological and amenity values of freshwater*), 3.2 (*maintenance and enhancement of public access to and along rivers and lakes*) and 4.1 (*recognising and providing for the relationship of Tangata Whenua and Iwi and hapu of Taranaki and their culture and traditions with their water, sites, wāhi tapu and other taonga*) are encompassed within discussions relating to Issue 5.1 below.
2. Objectives of the RFWP under Issue 5.1 (*enabling appropriate use and development of fresh water*) are:

*Obj 5.1.1 To enable people and communities to use and develop fresh water resources and the beds of rivers and lakes to provide for their social, economic and cultural wellbeing and for their health and safety, in accordance with the sustainable management of those resources.*

*Obj 5.1.2 To provide efficient and streamlined administrative procedures for those activities which have no or only minor adverse effects on the environment.*

1. Objective 5.1.1 provides for the use and development of fresh water resources and the beds of rivers in accordance with the sustainable management of those resources. The effects of the activities have been considered in section 8 of this report.
2. The objectives of Issue 5.1 are given effect through the following policy:

*Pol 5.1.1 When managing the use and development of fresh water and the beds of rivers and lakes, the Taranaki Regional Council will recognise:*

1. *the need for all activities to avoid, remedy, or mitigate adverse environmental effects in accordance with the objectives and policies of this Plan;*

*(b) the positive benefits to people and communities arising from the use or development;*

*(c) existing uses of physical resources including any human-made resources that have a specific-use purpose;*

*(d) the effects on existing lawfully established activities;*

*(e) the need to allow existing users to progressively upgrade their environmental performance, where improvements are necessary to meet the provisions of this Plan.*

1. Recognition has been given to the need to avoid, remedy or mitigate adverse effects, and the positive benefits to the community of the proposed development. The activities associated with power generation enable people and communities to provide for their social and economic well-being, particularly given that demand for electricity continues to increase throughout New Zealand. The existing Opunake Lake provides an important local recreational resource.
2. Issue 6.1 of the RFWP (*the adverse effects of the taking, use, damming and diversion of surface water*) sets the following objective:

*Obj 6.1.1 To promote the sustainable management of the surface waters of Taranaki while avoiding, remedying or mitigating any actual or potential adverse effects from the taking, use, damming or diversion of surface water.*

1. The objective is given effect through the following policies:

*Pol 6.1.3 Notwithstanding Policy 6.1.4, when assessing the quantity of water that may be taken, used, dammed or diverted from any surface water body, the Taranaki Regional Council will have particular regard to:*

*(a) the natural, ecological and amenity values of the water body;*

*(b) the relationship with Tangata Whenua with the water body;*

*(c) the importance of the water body to meet existing or reasonably foreseeable needs for community water supplies, agricultural, industrial or other use;*

*(d) the effects of water levels and flows on water quality;*

*(e) the hydrological characteristics of the catchment including flow variability, flow recession characteristics and the relationship to groundwater recharge;*

*(f) the significance of flows and groundwater recharge for the maintenance or enhancement of downstream flows;*

*(g) the extent to which the adverse effects of the taking, use, damming or diversion of water can be avoided, remedied or mitigated.*

*Pol 6.1.4 Subject to Policy 6.1.3, when assessing the resource consents and imposing conditions for the taking, use, damming or diversion of surface water, the Taranaki Regional Council will require quantities, levels and flows of water in rivers and streams (excluding those in Policies 6.1.1 and 6.1.2), that retain at least 2/3 habitat at mean annual low flow.*

1. Policies 6.1.3 and 6.1.4 provide a guideline on the amount of water that may be used in a given situation. Policy 6.1.3 lists those matters that will be considered when assessing the amount of water available to be taken, used, dammed or diverted from a river or stream. Subject to that policy, Policy 6.1.4 requires the application of the two-thirds habitat at MALF guideline to determine flow allocation in a river or stream. Policy 6.1.4 allows some degree of habitat loss to provide for consumptive water use, while still retaining the life-supporting capacity of a river or stream.
2. The values identified in 6.1.3(a) have been considered and have the potential to be significant. The natural, ecological and amenity values of the Waiaua River catchment are high, with the Waiaua River being identified in Appendix 1A as a river of regional significance (Policy 3.1.4), particularly in relation to the recreational and fishery values of the river and Opunake Lake. It is also a statutory acknowledgment.
3. However, mitigation measures which include residual flows, flushing flows, fish passage provision, additional habitat, recreational and amenity values provided by Opunake Lake, are reflected in the recommendation and in conjunction with the economic and social benefits provided by the scheme, ensure that these effects are minor, remaining consistent with Policy 6.1.3(a).
4. Policy 6.1.3(b) requires that regard be had for the values of the Tangata Whenua. These have been discussed in sections 5 and 8.6.
5. Policy 6.1.3(c) provides for the consideration of the importance of the water body for community or other water supplies. The Waiaua River catchment also provides water to Opunake from a point upstream of the Scheme take. Both abstractions provide additional benefit to the local community and the Scheme applications also provides a regional benefit through the power generated by the scheme.
6. The maintenance of water quality in the Waiaua River has been considered in section 8 of this report. The water quality in the Waiaua River is maintained by the proposed residual flow for the 2 km reach between the take and the sea, and is therefore consistent with Policy 6.1.3(d). Flushing flows are also important for maintaining and enhancing water quality. These are provided on a routine basis via the operational procedure for the scheme, as well as during floods.
7. When considering water allocation and residual flows within the Waiaua River catchment the habitat loss at MALF provides a basis for assessment (Policy 6.1.4 of RFWP). It is noted that two-thirds habitat at MALF [estimated to be 1319 L/s] would require a residual flow of 880 L/s. Such a requirement would make the scheme uneconomic and a liability on the community, who would have to manage water ingress to the lake and management of the lake. Policy 6.1.4 is subject to the provisions of Policy 6.1.3. Under some circumstances, higher or lower volumes of abstraction may be justified or minimum flows may be required. Recognition of the economic viability of the scheme must be acknowledged in the consideration of this policy.
8. Policy 6.1.3(g) requires the Council to have particular regard to the extent to which the adverse effects can be avoided, remedied or mitigated. This assessment has essentially been superseded by the Clause 3.24 of the NPS-FW (section 9.2).
9. Policy 6.1.5 is given below:

*When assessing resource consent applications for the taking, use, damming or diversion of water, the Taranaki Regional Council will consider:*

*(a) the need to ensure that surface water is available for reasonable domestic needs, stock drinking water requirements, and fire fighting purposes;*

*(b) where there are competing uses for water, or in catchments identified in Policy 6.1.2, the degree of community or regional benefit from the taking, use, damming or diversion as distinct from private or individual benefit;*

*(c) the need for the volumes of water sought;*

*(d) the need to use water efficiently and with a minimum of waste;*

*(e) what alternative sources of water or water collection or storage methods have been considered;*

*(f) possible mitigation measures including the maintenance of adequate minimum flows or flow regimes, the reduction or suspension of takes, the location, timing, duration and rate of the abstraction, the maintenance of fish passage, the application of riparian planting, use of gradient control for diversions, or other measures;*

*(g) the need to install systems to accurately measure the volumes of water abstracted and to reduce or suspend abstractions.*

1. We are satisfied that there is a need for the water sought, that it is used efficiently and appropriate mitigation measures are in place.

# Resource Management (Measurement and Reporting of Water Takes) Regulations 2010

1. The *Resource Management (Measurement and Reporting of Water Takes) Regulations 2010* (the Regulations) requires the holder of a water permit (taking more than 5 L/s) to keep records that provide a continuous measurement of the water taken, including water taken in excess of what the permit allows.
2. These regulations apply regardless of the conditions of consent, and among other things also require:
3. records are kept using a device or system that measures the volume of water taken to within:
4. ±5% of the actual volume taken, for water taken by a full pipe; or
5. ±10% of the actual volume taken, for water taken by another method (including by an open channel or a partially full pipe); and
6. The measurements are made the location of the take.
7. Due to the nature of the site measuring and recording the rate of taking to the required accuracy will not be straightforward. It may be technically feasible to account for backwater effects and directly measure the flow in the intake channel (or the pipes at its upstream end). However, if that is not feasible measurements would need to be made upstream and downstream of the taking. However that method would result in accumulating measurement errors and the associated loss of accuracy.

# Monitoring

1. There is an existing monitoring programmes for the Scheme which will continue with the modifications required the conditions of the new consents. The applicant has noted that its local consultants could appropriately undertake some of the compliance monitoring, which will be considered.

# Summary and conclusions

1. The proposal is to replace expired consents necessary to authorise the operation of the Opunake Hydroelectric Power Scheme.
2. The applications were publicly notified and 23 submissions were received; from Iwi, Fish & Game, DoC, fishers and members of the general public.
3. After a series of pre-hearing meetings and discussion of draft conditions the conditions recommended in this report have been agreed by all parties.
4. In summary the conditions address: fish passage, a minimum flow regime, the effects management hierarchy, information provision and the general operation of the Scheme.
5. Our opinion is that issuing the consents under the terms and conditions recommended is consistent with sustainable management and with the relevant policy documents.

# Consent duration and review dates

1. The Council has a well-established and accepted practice of ensuring common expiry, and consent review dates within a catchment. The benefits of this practice include more efficient and integrated resource management.
2. An expiry date of 1 June 2047 is recommended in line with this practice.
3. Similarly the recommended special conditions provide for regular reviews of the consent conditions.
4. Section 123 of the RMA details the possible durations of resource consent. The applicant has sought a consent duration of as long as possible to allow the cost of the scheme upgrade to be recovered from generation revenue.
5. In considering an adequate consent duration, we have had regard to the following factors developed through case law that are relevant to the determination of the duration of a resource consent[[3]](#footnote-3):
6. the duration of a resource consent should be decided in a manner which meets the RMA's purpose of sustainable management;
7. whether adverse effects would be likely to increase or vary during the term of the consent;
8. whether there is an expectation that new information regarding mitigation would become available during the term of the consent;
9. whether the impact of the duration could hinder implementation of an integrated management plan (including a new plan);
10. that conditions may be imposed requiring adoption of the best practicable option, requiring supply of information relating to the exercise of the consent, and requiring observance of minimum standards of quality in the receiving environment;
11. whether review conditions are able to control adverse effects (the extent of the review conditions proposed is also relevant bearing in mind that the power to impose them is not unlimited);
12. whether the relevant plan addresses the question of the duration of a consent;
13. the life expectancy of the asset for which consents are sought;
14. whether there was/is significant capital investment in the activity/asset; and
15. whether a particular period of duration would better achieve administrative efficiency.
16. Taking the above reasoning and policy guidance into consideration, we consider a duration of 25 years is appropriate for these applications.

# Recommendations

## Consent 1795-5.0

Our recommendation is that consent 1795-5.0 to take water from the Waiaua River and discharge it into Opunake Lake for the purpose of generating electricity at the Opunake hydroelectric power scheme, be approved for a period ending on 1 June 2047, subject to the following conditions:

**General condition**

1. The consent holder shall pay to the Taranaki Regional Council (the Council) all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act, 1991.

**Special conditions**

1. In addition to the primary purpose of electricity generation this consent authorises water to be taken for other reasons stated or implied by the consent conditions, including leakage that is not practical to prevent and to maintain ecological and amenity values of Opunake Lake.
2. The rate of taking shall not exceed 3,900 litres per second.
3. The consent holder shall notify the Council within three working days of water first being taken for the purpose of electricity generation. For clarity, where the conditions of this consent refer to the date that consent is first exercised that date shall be the date that water is first taken for the purpose of electricity generation.
4. The consent holder shall measure and record the taking in accordance with the *Resource Management (Measurement and Reporting of Water Takes) Regulations 2010* (including its 3 September 2020 amendment) and exemption provisions under Regulation 10 may apply.
5. No taking shall occur when the flow in the Waiaua River, immediately downstream of the Sluice Channel discharge (i.e. at or about NZTM 1674480E-5632062N), is less than 300 litres per second.
6. Notwithstanding condition 5, the taking described below may occur at any time:
   1. Taking necessary to provide adequate flow through the fish pass;
   2. Taking required to implement the Sediment Management Protocol required by condition 16; and
   3. Leakage past closed gates that it is not reasonably practicable to prevent.
7. There shall be a continuous period of no less than 4 hours when there is no taking on any day that the flow in the Waiaua River, as measured immediately downstream of the Sluice Channel discharge (i.e. at or about NZTM 1674480E-5632062N), has not exceeded 5.85 m3 per second during any of the previous 30 days.
8. Within 6 months of the commencement of this consent the consent holder shall erect and thereafter maintain signage at the main access points to the river. The signage shall warn river users of the danger from sudden increases in flow that regularly occur from the Scheme operation.
9. From a date, no later than 6 months after this consent is first exercised, the consent holder shall determine the flow in the Waiaua River immediately downstream of the Sluice Channel discharge (i.e. at or about NZTM 1674480E-5632062N) and record it at intervals not exceeding 15 minutes.

*Advice Note: – With the exception of condition 5 (Consent 1795-5.0), those conditions that rely on the recording of flow, in accordance with condition 9, will only take effect once flow is being recorded in accordance with condition 9.*

1. All flow and water level measurement and recording required by conditions of this consent, including equipment, systems and procedures shall be installed, operated and maintained at all times in accordance with the following National Environmental Monitoring Standards or any updated versions (as found at <http://www.nems.org.nz/documents/> ):
   1. water Level Version 2;
   2. open Channel Flow Measurement Version 1.1; and
   3. rating Curves Version 1.
2. From a date no later than 6 months after this consent is first exercised, the consent holder shall measure and record the temperature in the Waiaua River to an accuracy of +0.5 °C, at intervals not exceeding 15 minutes, at the following locations:
   1. immediately upstream of the weir (i.e. at or about NZTM 1674594E-5632126N); and
   2. in the lower Waiaua River (i.e. at or about NZTM 1674163E-5631524N).
3. From a date, no later than 6 months after this consent is first exercised, flow records required by the conditions of this consent shall be made available to the Taranaki Regional Council within 2 hours of being recorded.
4. The consent holder shall maintain and download the temperature data on a monthly basis and this data shall be made available to the Taranaki Regional Council within 72 hours of download.
5. Before a date, no later than 48 months after first exercising this consent, and every 3 years thereafter, the consent holder shall provide a report to the Chief Executive, Taranaki Regional Council that details the water temperature in the Waiaua River, the effects of taking on the temperature, and whether the effects of temperature on macroinvertebrates and fish could be appropriately mitigated by changing the minimum flow regime specified in condition 5. Copies of each report shall be provided to the submitters to this consent at the same time it is provided to the Taranaki Regional Council.
6. Before a date, no later than 60 working days after first exercising this consent, the consent holder shall prepare a water temperature monitoring plan (the ‘water temperature monitoring plan’) using a suitably qualified and experienced professional and provide it to the Chief Executive, Taranaki Regional Council for review and certification. When preparing the water temperature monitoring plan, the consent holder shall consult with the submitters, and when submitting it to the Chief Executive, Taranaki Regional Council for certification, shall provide details of the consultation and any outstanding issues that were not resolved. The purpose of the temperature monitoring plan shall be to outline the steps required to ensure effects on the aquatic community within the residual flow reach as a result of taking, be determined. It shall include (but not be limited to):
   1. the effects of temperature on macroinvertebrates and fish;
   2. the suitability of the residual flow mitigation;
   3. the effects of the take on temperature; and
   4. confirmation whether further temperature assessments are required.

Within 48 months of the exercising of this consent, and every 3 years thereafter, the consent holder shall provide a report outlining the results and assessment in accordance with the water temperature and monitoring plan to the Chief Executive, Taranaki Regional Council.

The consent holder shall provide a final copy of the water temperature monitoring plan and any subsequent report under this condition to Te Kahui o Taranaki Trust, Fish and Game NZ and Department of Conservation.

1. Notwithstanding any other condition of this consent, from a date no later 12 months after this consent commences, this consent shall be operated in accordance with a Sediment Management Protocol (the SMP) that has been approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The SMP shall be prepared by a suitably qualified and experienced person and detail how the activity authorised by this consent (and the Scheme’s other consents) is to be operated to ensure that the amount of sediment entering Opunake Lake and any resulting adverse effects on the lake and the river are minimised as far as practicable. The SMP shall detail as a minimum:
   1. the principles involved;
   2. how those principles will be implemented; and
   3. how it will be shown that the principles have been properly implemented.
2. When preparing the Sediment Management Protocol, required by condition 16, the consent holder shall consult with the submitters, and when submitting it to the Chief Executive, Taranaki Regional Council for certification, shall provide details of the consultation and any outstanding issues that were not resolved.
3. In order to minimise the effects of reduced flow in the lower river the consent holder shall:
   1. undertake and maintain riparian planting in accordance with a Riparian Management Plan developed in conjunction with the Taranaki Regional Council’s Land Management team, on any land that they own along the Waiaua River; and
   2. make ten annual payments of $450 (excluding GST and adjusted for inflation) to the Taranaki Regional Council for the purpose of riparian planting in the lower Waiaua River. The first payment shall be made within 30 days of this consent first being exercised and subsequent payments before 1 September each year.
4. Within 120 working days of the commencement of this consent the consent holder shall prepare a monitoring and reporting plan (‘monitoring and reporting plan’) and provide it to the Chief Executive, Taranaki Regional Council for review and certification. The purpose of the monitoring and reporting plan shall be to safely assess the environmental effects on aquatic communities within the residual flow reach. It shall include (but not be limited to):
   1. macroinvertebrates;
   2. fish; and
   3. periphyton.
5. By 30 June each year the consent holder shall provide a review, which has been prepared by a suitably experienced and qualified person, of the monitoring and reporting plan to the Chief Executive, Taranaki Regional Council, to ensure that the plan is fit for purpose.

*Advice Note: Within 30 working days the Taranaki Regional Council shall assess and certify or not certify the review.*

1. The consent holder shall implement and comply with those aspects of the monitoring and reporting plan as specified in condition 19.
2. The consent holder shall provide aquatic compensation to ensure the adverse effects of the Scheme are not more than minor. This shall be achieved by ensuring that the ecological and recreational value of Opunake Lake, which exists on the date of commencement of this consent, is not significantly diminished, and that the conditions in the lake do not significantly diminish any other receiving waterbodies.
3. In accordance with Condition 22, the consent holder shall take all reasonable steps to ensure that conditions within Opunake Lake do not prevent the continuance or establishment of communities of native freshwater fish (including their life stages) and any authorised sportfish (as administered by Fish and Game) within the lake, and that conditions do not adversely affect the migration of such fish through the lake. Steps taken shall include, but not be limited to:
   1. monitoring for pest fish, unauthorised sports fish, and aquatic weeds within the lake, to the satisfaction of the Chief Executive, Taranaki Regional Council, on an annual basis and notifying the Council within 24 hours of any significant expansion or new discovery;
   2. cooperating with Council, the Department of Conservation, and/or Fish and Game with regards to the management of the scheme to facilitate the maintenance and/or removal of pest fish, unauthorised sports fish, or weeds; and
   3. create awareness around pest fish and aquatic pest plants by establishing and maintaining signs at all major access points to the lake to the satisfaction of the Chief Executive, Taranaki Regional Council within 6 months of the commencement of this consent.

*Advice Note: By agreement, the consent holder and Council, may decide that financial contributions to Council are acceptable to meet condition 23(c), if there are other signage requirements needed in the area. Should vandalism prove to be an issue, on agreement this condition can be reviewed.*

1. For the purpose of achieving compliance with condition 23, the consent holder shall:
   1. set aside $2,000 annually. This amount does not accrue, although subsequent year payments may be brought forward at the discretion of the consent holder.
   2. cease generation as necessary to facilitate compliance with condition 23. Cessation of generation will be limited so that the cost to the consent holder does not exceed $2,000 annually.

*Advice Note 1:* *The level of reasonability of complying with this condition shall take into account the overall expense that any step may have on the consent holder and shall be reasonably determined by the Taranaki Regional Council, Chief Executive. It is not expected that the consent holder will be directly responsible for an incursion of any pest into the lake, however, they may have created an environment for such a pest to expand significantly or become established in the catchment, and has therefore created the avenue for potential adverse effects. For this reason, the consent holder cannot be held solely responsible for pest management, and in assessing reasonability the Council will take this into consideration. The same would apply with regard to the quality of water entering the lake, including for eco-toxicants and/or nutrients etc.*

*Advice Note 2: The monitoring for pest fish and aquatic pest plants shall be fit for purpose and should be responsive to potential pests at the time. Monitoring may include the use of eDNA and/or physical surveys.*

1. At least once each year the consent holder shall invite Taranaki Regional Council monitoring staff and interested submitters to meet for the purpose of discussing any matter relating to the exercise of this resource consent, particularly the monitoring programme design, implementation and interpretation.
2. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review:
   1. during the month of June 2024 and 3-yearly intervals thereafter, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time; and/or
   2. within 6 months of receiving a report required by condition 15 for the purpose of responding to the report’s conclusions and/or implementing any of its recommendations.

| **No.** | **Description** | **Reasons for condition** | **Determination of compliance** | **Reason for limit** |
| --- | --- | --- | --- | --- |
|  | Purpose | Additional reasons for water to be taken | To include leakage | N/A |
|  | Maximum take | Limits scale and effect of activity to that considered in the application | Water measuring and recording required by consent conditions | As applied for and reasonably required for purpose having considered environmental effects |
|  | Notice of first use | Allows Council to undertake an initial inspection to ensure that systems, including water meters, are properly installed | Notice given | 3 working days is sufficient to undertake an inspection before taking starts |
|  | Measure and record the taking in accordance with Regulations. | Only reliable method of monitoring maximum authorised take. | Records in format advised by Council and as specified | N/A |
|  | Cease take during times of low flow | To ensure the safeguarding of the life-supporting capacity of fresh water and any associated ecosystem | Recorder installed in accordance with condition 10. | Consequences of non-compliance and taking during times of low flows are likely to be more than minor. Based on policies 6.1.3 and 6.1.4 of RFWP. Further detail in officer report. |
|  | Taking in certain circumstances during times of low flow | To allow for taking during times when it is necessary to provide adequate flow through the fish pass, to implement the Sediment Management Protocol and for leakage past closed gates that is not reasonably practicable to prevent. | Taking during times of low flow shall only occur for the reasons outlined | N/A |
|  | Limit on continuous take outside of times of low flow | Necessary to ensure effects on instream values are adequately mitigated outside of times of low flow. | Check of water take records | Consequences of non-compliance and taking are likely more than minor. |
|  | Place and maintain signage at the main access points | A duty of care to prioritise the Health and Safety needs of the community by informing of the possibility of sudden increases in flow. | Visible and maintained sign present. | N/A |
|  | Determining and recording the flow in the Waiaua River immediately downstream of the Sluice Channel | To determine and gather recorded data of the minimum flow. | Records are taken at 15 minute intervals and data is kept. | N/A |
|  | Install flow recorder | Only appropriate method for checking compliance with minimum flow condition. | Flow recorder installed | N/A |
|  | Measuring and recording temperature in the Waiaua River | Necessary to ensure effects on instream values and other water users are adequately mitigated. | Records in format advised by Council and as specified | N/A |
|  | Details of take recording | Necessary to ensure efficient auditing. Required by Regulations | Records in format advised by Council and as specified | N/A |
|  | Details of temperature data collection | Necessary to ensure efficient auditing. | Records in format advised by Council and as specified | N/A |
|  | Request water temperature report. | Necessary to measure and assess the effects of the taking on the temperature and whether the effects of temperature on macroinvertebrates and fish could be appropriately mitigated by changing the minimum flow regime. | Consent holder submits the report to Council and submitters within 48 months after first exercising the consent. | N/A |
|  | Consent holder to prepare WTMP and provide report outlining results and assessment in accordance with WTMP to Council. | To outline steps required to ensure effects on aquatic communities be determined and for the data to be collected and submitted. | Preparation of monitoring plan and submission of report. | N/A |
|  | Consent be operated in accordance with the certified SMP | To minimise the amount of sediment entering the lake from the river and the adverse effects of this. | Inspections.  Consent holder operates in accordance with the certified SMP. | N/A |
|  | Consent holder to consult with submitters on SMP | To ensure submitters are aware of the proposal. | Confirmation of consultation and any outstanding unresolved issues. | N/A |
|  | Riparian planting, financial contribution towards planting | Riparian planting enhances stream habitat and therefore mitigates the effects of reduced stream flow. Considering the reduction of flow resulting from this take such mitigation is reasonably necessary. | Riparian planting undertaken and maintained in accordance with RMP. Payment received by Council by due dates.  Inspection. | N/A |
|  | Prepare and submit MRP | To assess environmental effects on aquatic communities. | MRP submitted to Council by due date | N/A |
|  | Review of MRP | To determine effects on aquatic communities over the period of a year. | Review of MRP submitted to Council by due date | N/A |
|  | Implement and comply with aspects of MRP in condition 19 | Ensuring compliance with MRP. | MRP provided, certified and followed | N/A |
|  | Aquatic compensation | Ensuring ecological and recreational values of Opunake Lake are not significantly diminished. | Effects on ecological and recreational values as a result of the exercising of the consent are not more than minor. | N/A |
|  | Monitoring and creating awareness around pest fish and aquatic pest plants | Determine steps to be taken to ensure compliance with condition 22. | Monitoring of pest fish and aquatic pest plants has been undertaken and establishing and maintaining signasge. | N/A |
|  | Financial contribution | To achieve compliance with condition 23. | Reasonably determined by Council Chief Executive. | N/A |
|  | Meeting once each year between consent holder, Council and submitters | To discuss matters pertaining to the exercise of the resource consent. | Meeting held | N/A |
|  | To assess and implement the | In general conditions of consent can only be reviewed if provision to do so is included in the consent. The Council’s preference is to make provision to review the conditions of all consents to ensure that the conditions are effective.  To assess and implement the findings of the water temperature monitoring plan (condition 15). | N/A | The frequency and timing of the reviews is appropriate having considered the duration of the consent, its likely environmental effects, and the adequacy of the knowledge of those effects |

## Consent 1796-4.0

Our recommendation is that consent 1796-4.0 to take water from Opunake Lake for the purpose of generating electricity at the Opunake hydroelectric power scheme, be approved for a period ending on 1 June 2047, subject to the following conditions:

**General condition**

1. The consent holder shall pay to the Taranaki Regional Council (the Council) all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act, 1991.

**Special conditions**

1. In addition to the primary purpose of electricity generation this consent authorises water to be taken and used for other reasons stated or implied by the consent conditions, including leakage that is not practical to prevent.
2. Subject to conditions 3 and 4 of this consent, the consent holder shall maintain the water level in Opunake Lake at a height that is no more than 480 mm lower than the lake spillway crest.

*Advice Note: When last surveyed the minimum lake level (480mm below spillway crest) was equivalent to 500 mm on the staff gauge.*

1. The water level in Opunake Lake may be lower than that specified in condition 2 provided that the:
   1. lower level is required to enable specific work to be undertaken for essential maintenance of the Scheme, or to maintain the values of the lake (e.g. weed control, sediment removal); and
   2. consent holder has consulted with mana whenua and the submitters to this consent about the proposal; and
   3. consent holder provides full details of the proposal, along with the details and outcomes of the required consultation to the Chief Executive, Taranaki Regional Council and they, at their discretion, allow the lake level to be lowered accordingly.
2. The water level in Opunake Lake may be lower than that specified in condition 2 provided that no generation is occurring and that:
   1. the lower level is required to ensure that:
      1. there is adequate flow through the fish pass; and/or
      2. condition 5 of consent 1795-5.0 (which restricts taking during certain flows) is complied with; and/or
      3. condition 16 of consent 1795-5, condition 2 of consent 1797-4 and condition 1 of consent 10826-1 (all of which requires the scheme to be operated in accordance with a Sediment Management Protocol) are complied with; and
   2. the consent holder advises the Chief Executive, Taranaki Regional Council as soon as practicable that the lake level is required to be lower than the minimum.
3. The consent holder shall notify the Council within three working days of water first being taken from Opunake Lake for the purpose of electricity generation.
4. The consent holder shall measure and record the water level in Opunake Lake at intervals not exceeding 15 minutes to an accuracy of +25 mm.
5. From a date no later than 6 months after this consent is first exercised, the consent holder shall ensure that the water levels recorded in accordance with condition 6 shall be made available to the Taranaki Regional Council within 2 hours of being recorded.
6. The consent holder shall install and maintain a staff gauge at Opunake Lake so that the level of the lake can easily be observed.
7. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2024 and 3-yearly intervals thereafter, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

| **No.** | **Description** | **Reasons for condition** | **Determination of compliance** | **Reason for limit** |
| --- | --- | --- | --- | --- |
|  | Purpose | Record the primary purpose of the take and to recognise there is some leakage from the lake to the river | Inspection | Include all possible take components. |
|  | Minimum lake level | Establish a minimum, subject to conditions 3 and 4. | Inspection and receipt of lake level data. | Generally protect the lake environment. |
|  | Lake level reduction | To allow lower lake levels for particular maintenance purposes (i.e. including weed or sediment removal) and approval by Council. | Inspection and receipt of an proposal to lower the lake | To allow for reasonable maintenance. |
|  | Lake level reduction | Restricts the take when insufficient water for fish passage and for sediment management purposes under the Sediment Management Plan. | Inspection | To provide for fish passage. |
|  | Take notification | To provide warning of operation to allow other activities to occur. | Inspection and notification received | 3 working days sufficient to undertake an inspection before taking starts. |
|  | Lake level frequency and accuracy | Frequency and accuracy of lake level monitoring | Recept of data | Accuracy is important for resource management. |
|  | Record and supply data | Record lake level and supply data to Council | Recept of data | Compliance assessment |
|  | Staff gauge | Easily observe lake level | Inspection | Local stakeholders can observe level. |
|  | Review | In general conditions of consent can only be reviewed if provision to do so is included in the consent. The Council’s preference is to make provision to review the conditions of all consents to ensure that the conditions are effective. | N/A | The frequency and timing of the reviews is appropriate having considered the duration of the consent, its likely environmental effects, and the adequacy of the knowledge of those effects |

## Consent 1797-4.0

Our recommendation is that consent 1797-4.0 to discharge sand and silt deposits from a diversion canal sand trap via a spillway to the Waiaua River associated with operating the Opunake hydroelectric power scheme, be approved for a period ending on 1 June 2047, subject to the following conditions:

**General condition**

1. The consent holder shall pay to the Taranaki Regional Council (the Council) all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act, 1991.

**Special conditions**

1. This consent authorises the discharge of water containing entrained river bed material from the Scheme to the Waiaua River.
2. From a date, no later 12 months after this consent commences, this consent shall be operated in accordance with a Sediment Management Protocol (the SMP) that has been approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The SMP shall detail how the activity authorised by this consent (and the Scheme’s other consents) is to be safely operated to ensure that while minimising, as far as practicable, the amount of sediment that enters Opunake Lake, adverse effects on the Waiaua River are avoided. The SMP shall detail as a minimum:
   1. The principles involved;
   2. How those principles will be implemented; and
   3. How it will be shown that the principles have been properly implemented.
3. When preparing the Sediment Management Protocol, required by condition 2, the consent holder shall consult with the submitters and when submitting it to the Chief Executive, Taranaki Regional Council for certification shall provide details of the consultation and any outstanding issues that were not resolved.
4. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2024 and 3-yearly intervals thereafter, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

## 

| **No.** | **Description** | **Reasons for condition** | **Determination of compliance** | **Reason for limit** |
| --- | --- | --- | --- | --- |
|  | Discharge | Define nature of the discharge | Inspection | N/A |
|  | Sediment management plan and certification | Manage silt/sediment discharges from the lake to the river to avoid adverse effects. Plan is integrated with sediment management plan required by another consent condition. | Protocol prepared and certified by Council. | As applied for and reasonably required for purpose having considered environmental effects. |
|  | Involve submitters in protocol development | Submitter interest and expertise applicable to this operational matter | Proof of submitters having been consulted about the protocol and notification there are outstanding issues. | Ongoing submitter interest in the activity. |
|  | Review | In general conditions of consent can only be reviewed if provision to do so is included in the consent. The Council’s preference is to make provision to review the conditions of all consents to ensure that the conditions are effective. | N/A | The frequency and timing of the reviews is appropriate having considered the duration of the consent, its likely environmental effects, and the adequacy of the knowledge of those effects |

## Consent 4563-3.0

Our recommendation is that consent 4563-3.0 to occupy the coastal marine area on the Opunake Beach foreshore with an outfall structure associated with the Opunake hydroelectric power scheme, be approved for a period ending on 1 June 2047, subject to the following conditions:

**General condition**

1. The consent holder shall pay to the Taranaki Regional Council (the Council) all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act, 1991.

**Special conditions**

1. This consent authorises the occupation of the Coastal Marine Area with the outfall structure that existed at the date of the application for this consent and generally as described in that application. In the case of any contradiction between the application and the conditions of this consent, the conditions of this consent shall prevail.
2. The consent holder shall maintain the structure in a safe and sound state such that:
   1. It does not fall into a state of disrepair and continues to function effectively for the purpose it was designed;
   2. Its structural integrity is maintained; and
   3. There is no settlement or loss of foundation material.
3. The structure shall not cause significant erosion of the foreshore or seabed.
4. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2024 and 3-yearly intervals thereafter, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

| **No.** | **Description** | **Reasons for condition** | **Determination of compliance** | **Reason for limit** |
| --- | --- | --- | --- | --- |
|  | Scope of the occupation | Outline those structures allowed to occupy the coastal marine area | Inspection | Specify what is allowed to be in place. |
|  | Structure integrity | Requirement to maintain structures so structural integrity is maintained | Inspection | Maintenance is important for managing environmental effects and for safety. |
|  | Erosion | Structures cannot cause significant erosion of foreshore or seabed | Inspection | Potential for erosion from the structures being in place. |
|  | Review | In general conditions of consent can only be reviewed if provision to do so is included in the consent. The Council’s preference is to make provision to review the conditions of all consents to ensure that the conditions are effective. | N/A | The frequency and timing of the reviews is appropriate having considered the duration of the consent, its likely environmental effects, and the adequacy of the knowledge of those effects |

## Consent 4744-3.0

Our recommendation is that consent 4744-3.0, to discharge water from Opunake Lake through two marine outfall pipes into the Tasman Sea after being used for hydroelectric power generation, be approved for a period ending on 1 June 2047, subject to the following conditions:

**General condition**

1. The consent holder shall pay to the Taranaki Regional Council (the Council) all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act, 1991.

**Special conditions**

1. The rate of discharge shall not exceed 3,900 litres per second.
2. The consent holder shall install and maintain signage, or other suitable facilities at the site of discharge, for public safety purposes, warning the public that there may be a discharge of water from the outfall structures at any time and turbulent water conditions require increased caution.
3. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2024 and 3-yearly intervals thereafter, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

| **No.** | **Description** | **Reasons for condition** | **Determination of compliance** | **Reason for limit** |
| --- | --- | --- | --- | --- |
|  | Discharge rate | Rate of discharge set at maximum possible discharge. | Monitor discharge records | As applied for and reasonably required for purpose having considered environmental effects |
|  | Public warnings | Warn public of potentially turbulent conditions and need for increased caution. | Inspections determine warning system is in place and is operational | Health and safety of beach users. |
|  | Review | In general conditions of consent can only be reviewed if provision to do so is included in the consent. The Council’s preference is to make provision to review the conditions of all consents to ensure that the conditions are effective. | N/A | The frequency and timing of the reviews is appropriate having considered the duration of the consent, its likely environmental effects, and the adequacy of the knowledge of those effects |

## Consent 5581-2.0

Our recommendation is that consent 5581-2.0 to dam the Waiaua River with a 4.5 metre high concrete weir and to use the weir and the associated intake to provide water to Opunake hydroelectric power scheme, be approved for a period ending on 1 June 2042, subject to the following conditions:

**General condition**

1. The consent holder shall pay to the Taranaki Regional Council (the Council) all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act, 1991.

**Special conditions**

1. This consent authorises the damming of a Waiaua River with the concrete weir structure that existed at the date of the application for this consent and generally as described in that application. In the case of any contradiction between the application and the conditions of this consent, the conditions of this consent shall prevail.
2. The consent holder shall maintain the structure in a safe and sound state such that:
   1. It does not fall into a state of disrepair and continues to function effectively for the purpose it was designed; and
   2. Its structural integrity is maintained.
3. The consent holder shall ensure that upstream and downstream passage is provided past the weir and intake structure for trout and native fish in all their life stages.

*Advice Note: compliance with condition 3 will be subject to the outcome of conditions 4 and 5.*

1. Within 6 months of the commencement of this consent the consent holder shall prepare a ‘fish passage report and monitoring programme’ (the ‘monitoring programme’) and provide it to the Chief Executive, Taranaki Regional Council for review and certification. The purpose of the monitoring programme shall be to determine whether the weir, intake structure and the Scheme generally is a barrier (both upstream and downstream) to fish passage. It shall include (but not be limited to):
   1. identifying fish species (and their life stages) likely to be present and for which passage must be provided;
   2. details of how fish passage is provided;
   3. details of how fish passage is hindered;
   4. details of how flows (including attractant flows) and water levels will be managed to facilitate fish passage;
   5. undertaking an initial fish survey, at a time to be specified, that assesses the adequacy (i.e. the likely proportion of successful passage) of fish passage;
   6. preparing an initial fish passage report, at a time to be specified, that presents the results of the initial fish survey and makes conclusions and recommendations that address the following matters as a minimum:
      1. the efficacy of facilitating fish passage by managing flows and water levels;
      2. options for improving fish passage;
      3. proposed timing, and reasons for that timing, for implementing fish passage improvements; and
      4. further fish surveys and reporting that monitor fish passage; and
   7. a summary of comments made by mana whenua and key stakeholders (including Taranaki iwi, Fish and Game NZ and Department of Conservation) after receiving a draft of the monitoring programme, and how the draft programme was modified following receipt of those comments.

The consent holder shall provide a copy of this final monitoring programme and any subsequent report under this condition to Te Kahui o Taranaki Trust, Fish and Game NZ and Department of Conservation.

1. The consent holder shall implement any certified monitoring programme established in accordance with condition 4 above.
2. Within 24 months of the commencement date of this consent, the consent holder shall engage a suitably qualified and experienced person, approved by the Chief Executive, Taranaki Regional Council, to prepare a Site Exit Plan (SEP) which details how the site is going to be safely reinstated at the end of its life. A bond is required under condition 7, in relation to performance of the SEP.

The SEP shall address, but is not necessarily limited to, the following matters:

* 1. removal of the weir while recognising any effect that may have on the stability of the SH45 bridge;
  2. removal of any other structures in a river or lake bed;
  3. timeframes for undertaking the activities identified in (a) and (b) above;
  4. estimates of costs of reinstating the site; and
  5. a recommended initial bond quantum. Note this recommendation is not final, and is subject to the process set out at condition 7(d)(i)– (iii) below.

The first time the SEP is drafted it shall be submitted for approval to the Chief Executive, Taranaki Regional Council, acting in a certification capacity.

The SEP shall be reviewed by a suitably qualified and experienced person approved by the Chief Executive, Taranaki Regional Council, and submitted to the Chief Executive, Taranaki Regional Council for re-approval at 10-yearly intervals. The consent holder shall implement the approved SEP upon expiry of this consent or any subsequent necessary consents that may be obtained for the activity.

1. Within 24 months of the commencement date of these consents, the consent holder shall enter into an enforceable written agreement (bond agreement) to provide and maintain in favour of the Taranaki Regional Council, a cash bond or bank bond pursuant to sections 108(2)(b) and 108A of the Resource Management Act, on terms and conditions satisfactory to the Taranaki Regional Council in all respects.

The following terms apply in respect of the bond:

* 1. the bond quantum shall be sufficient to ensure compliance with condition 6 above in the event of any default by the consent holder;
  2. any bank bond shall be in a form used by a bank registered to conduct business in New Zealand and approved by the Taranaki Regional Council;
  3. the bond agreement shall include the terms and conditions on which the bond will be established, maintained, changed, transferred or surrendered. In the event of the Taranaki Regional Council not agreeing with the consent holder on the terms of the bond agreement, then the dispute shall be resolved through an agreed disputes resolution process or referred to arbitration;
  4. the initial bond quantum shall be determined as follows:
     1. Upon preparing the SEP, and in accordance with condition 6(d) and (e) above, a suitably qualified and experienced person (approved by the Chief Executive of the Taranaki Regional Council) who has been engaged by the consent holder shall make a recommendation as to the initial bond quantum;
     2. The Taranaki Regional Council will then engage a suitably qualified and experienced person to peer review the bond quantum recommended under condition 6(e); and
     3. In the event of the consent holder and the Taranaki Regional Council not reaching an agreement on the initial bond quantum, it shall be assessed by an independent bond assessor appointed by the Taranaki Regional Council, and the decision of that person will be final and binding.
  5. the bond quantum may be reviewed and reassessed every two years from the date the initial bond quantum is lodged until a date two years after the date on which these consents have been given effect to. The purpose of the adjustment is to reflect changes in the risk profile of the activity at the site. After that, the bond quantum may be reviewed and reassessed by the consent holder and the Taranaki Regional Council at five yearly intervals for the duration of these consents. The method of review must follow the same procedure set out in condition 7(d) above.

* 1. the bond terms and quantum may also be varied or cancelled or renewed at any other time by agreement between the consent holder and the Taranaki Regional Council using the methodology described in condition 7(d);
  2. if at any time the amount of the bond is varied under conditions 7(e) or 0, then the consent holder shall, within five (5) working days of the replacement bond agreement being executed, put in place a new bond for the varied amount or the additional amount required in excess of the existing bond;
  3. if the consent is transferred to another party or person, the bond lodged by the transferor shall be retained by the Taranaki Regional Council until a replacement bond is entered into by the transferee to ensure compliance with conditions of the consents unless condition 6 has already been complied with;
  4. at all times the consent holder shall comply with the terms of the bond or varied bond;
  5. the consent holder shall reimburse the Taranaki Regional Council for all reasonable costs incurred in developing the bond agreement and any subsequent reviews or reassessments;
  6. for the avoidance of doubt, the bond agreement may provide for the bond to be held after the expiry of these consents if the SEP is not given effect to and condition 6 not complied with.

1. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review within 90 days of receiving a report on fish passage prepared in accordance with condition 4 above. The purpose of any review is to ensure that the conditions are adequate to ensure fish passage past the weir and intake.
2. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2024 and 3-yearly intervals thereafter, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

## 

| **No.** | **Description** | **Reasons for condition** | **Determination of compliance** | **Reason for limit** |
| --- | --- | --- | --- | --- |
|  | Existing weir | Authorises the existing weir | Inspections | N/A |
|  | Maintain weir in safe and sound condition | Maintain structural integrity and require regular maintenance. | Inspection and if concerns, inspection by a suitably qualified person | Maintenance is important for managing environmental effects and for safety.  Weir structure important for the abstraction and to protect the SH bridge above it. |
|  | Fish passage | Provision for upstream and downstream passage for trout and native fish species. | Inspections and fish assessment techniques to show fish presence/absence | Biodiversity protection. |
|  | Fish passage report and monitoring programme development | Develop a fish passage report and monitoring programme to achieve condition 3 that addresses a number of matters set out in the condition.  Plan is certified by Council. | Supply of the fish passage report and monitoring programme. Provide the final copy to TFGC, DOC and Iwi. | Identify the fish passage issues and develop a management plan to address them. Monitor effectiveness by designing a monitoring programme. |
|  | Implement the monitoring plan | Implement the certified plan. | Inspections and biological monitoring as set out in the plan. | Determine compliance. |
|  | Prepare a site exit plan and establish a bond | Prepare and implement a plan for the operation that includes provision of a bond. | Receipt of the documents required by the condition | Ensuring there is an accountable entity should the operator fail or wish to leave the scheme. |
|  | Bond agreement | Establish a bond arising from the site exit plan. | Receipt of the documents required by the condition | Ensuring there is an accountable entity should the operator fail or wish to leave the scheme. |
|  | Review fish passage report | Review for the purpose of assessing the fish passage report prepared under condition 4. | N/A | Agreed with submitters. |
|  | Review | In general conditions of consent can only be reviewed if provision to do so is included in the consent. The Council’s preference is to make provision to review the conditions of all consents to ensure that the conditions are effective. | N/A | The frequency and timing of the reviews is appropriate having considered the duration of the consent, its likely environmental effects, and the adequacy of the knowledge of those effects |

## Consent 5692-2.0

Our recommendation is that consent 5692-2 to disturb the bed of the Waiaua River by removing sediment build-up upstream of a weir for the purpose of maintaining the Opunake hydroelectric scheme intake, be approved for a period ending on 1 June 2047, subject to the following conditions:

**General condition**

1. The consent holder shall pay to the Taranaki Regional Council (the Council) all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act, 1991.

**Special conditions**

1. The disturbance authorised by this consent shall be undertaken in general accordance with the documentation submitted in support of the application.
2. The consent holder shall notify the Taranaki Regional Council of:
   1. The intention to commence sediment removal at least 2 working days before commencing; and
   2. The volume of sediment removed and the dates that it was removed, within 5 working days of the completion of a sediment removal.

Unless the Chief Executive advises that an alternative method is required this notice shall be served by completing and submitting the ‘Notification of work’ form on the Council’s website (<http://bit.ly/TRCWorkNotificationForm>).

1. Any disturbance of parts of the riverbed covered by water and/or any works which may result in downstream discolouration shall be undertaken only between 1 December and 30 April. As far as reasonably practicable, disturbance must not be undertaken in the wet bed.
2. The consent holder shall ensure that the area and volume of riverbed and bank disturbance shall, so far as is practicable, be minimised and any areas which are disturbed shall, so far as is practicable, be reinstated.
3. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2024 and 3-yearly intervals thereafter, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

| **No.** | **Description** |  | **Reasons for condition** | **Determination of compliance** | **Reason for limit** |
| --- | --- | --- | --- | --- | --- |
|  | Scope of the activity |  | Authorise what has been generally applied for. | Inspections | N/A |
|  | Notification of activity and volume removed |  | Notification so inspections can occur and reporting on volume removed | Whether notification received, assessment of volumes taken and inspections. | Allow the scheme to operate given at times high suspended sediment load in river and deposition at the intake. |
|  | Period of disturbance |  | Avoid adverse effects on fisheries, particularly during spawning periods. | Inspections | As applied for and reasonably required for purpose having considered environmental effects |
|  | Area and volume of disturbance minimised |  | Minimise downstream freshwater effects from sediment. As far as reasonably practicable disturbance must not be undertaken in the wet bed. | Inspections | As applied for and reasonably required for purpose having considered environmental effects |
|  | Review |  | In general conditions of consent can only be reviewed if provision to do so is included in the consent. The Council’s preference is to make provision to review the conditions of all consents to ensure that the conditions are effective. | N/A | The frequency and timing of the reviews is appropriate having considered the duration of the consent, its likely environmental effects, and the adequacy of the knowledge of those effects |

## Consent 10826-1.0

Our recommendation is that consent 10826-1.0, to discharge water containing sediment from the Waiaua River to Opunake Lake, be approved for a period ending on 1 June 2047, subject to the following conditions:

**General condition**

1. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act, 1991.

**Special conditions**

1. From a date no later 12 months after this consent commences this consent shall be operated in accordance with a Sediment Management Protocol (the SMP) that has been approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The SMP shall detail how the activity authorised by this consent (and the Scheme’s other consents) is to be operated to ensure that the amount of sediment that enters Opunake Lake is minimised as far as practicable, and how that sediment discharge minimisation is to be demonstrated. The SMP shall detail as a minimum:
   1. The principals involved to ensure the minimum amount of sediment enters the lake;
   2. How those principals will be implemented; and
   3. How it will be shown that the principles have been properly implemented.
2. When preparing the Sediment Management Protocol required by condition 1 the consent holder shall consult with the submitters and when submitting it to the Chief Executive, Taranaki Regional Council for certification shall provide details of the consultation any outstanding issues that were not resolved.
3. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2024 and 3-yearly intervals thereafter, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

| **No.** | **Description** | **Reasons for condition** | **Determination of compliance** | **Reason for limit** |
| --- | --- | --- | --- | --- |
|  | Sediment management plan | Reduce or eliminate sediment entering the lake from the river. | Plan prepared | As applied for and reasonably required for purpose having considered environmental effects |
|  | Involve submitters in protocol development and certification process | Submitter interest and expertise applicable to this operational matter to limit sediment ingress to lake, given recreational use of the lake and discharge of sediment from the lake to the river. | Proof of submitters having been given the opportunity to input to the plan. | Ongoing interest in the activity. |
|  | Review | In general conditions of consent can only be reviewed if provision to do so is included in the consent. The Council’s preference is to make provision to review the conditions of all consents to ensure that the conditions are effective. | N/A | The frequency and timing of the reviews is appropriate having considered the duration of the consent, its likely environmental effects, and the adequacy of the knowledge of those effects |

## 

Recommending Officers



Anna Johnston Colin McLellan

**Consents Officer Senior Consents Advisor**





Paddy Deegan Jocelyne Allen

**Scientific Officer - Freshwater Biology Consents Manager**

## Appendix 1: Policies of NPS-REG

POLICY A

Decision-makers shall recognise and provide for the national significance of renewable electricity generation activities, including the national, regional and local benefits relevant to renewable electricity generation activities. These benefits include, but are not limited to:

a) maintaining or increasing electricity generation capacity while avoiding, reducing or displacing greenhouse gas emissions;

b) maintaining or increasing security of electricity supply at local, regional and national levels by diversifying the type and/or location of electricity generation;

c) using renewable natural resources rather than finite resources;

d) the reversibility of the adverse effects on the environment of some renewable electricity generation technologies;

e) avoiding reliance on imported fuels for the purposes of generating electricity.

POLICY B

Decision-makers shall have particular regard to the following matters:

a) maintenance of the generation output of existing renewable electricity generation activities can require protection of the assets, operational capacity and continued availability of the renewable energy resource; and

b) even minor reductions in the generation output of existing renewable electricity generation activities can cumulatively have significant adverse effects on national, regional and local renewable electricity generation output; and

c) meeting or exceeding the New Zealand Government’s national target for the generation of electricity from renewable resources will require the significant development of renewable electricity generation activities.

POLICY C1

Decision-makers shall have particular regard to the following matters:

a) the need to locate the renewable electricity generation activity where the renewable energy resource is available;

b) logistical or technical practicalities associated with developing, upgrading, operating or maintaining the renewable electricity generation activity;

c) the location of existing structures and infrastructure including, but not limited to, roads, navigation and telecommunication structures and facilities, the distribution network and the national grid in relation to the renewable electricity generation activity, and the need to connect renewable electricity generation activity to the national grid;

d) designing measures which allow operational requirements to complement and provide for mitigation opportunities; and

e) adaptive management measures.

POLICY C2

When considering any residual environmental effects of renewable electricity generation activities that cannot be avoided, remedied or mitigated, decision-makers shall have regard to offsetting measures or environmental compensation including measures or compensation which benefit the local environment and community affected.

POLICY D

Decision-makers shall, to the extent reasonably possible, manage activities to avoid reverse sensitivity effects on consented and on existing renewable electricity generation activities.

1. *George, Simon. 2012, Sites of Rohe of Historical Significance to Taranaki Iwi. Unpublished paper*  [↑](#footnote-ref-1)
2. RJ Davidson Family Trust v Marlborough District Council [2018] NZCA 316 [↑](#footnote-ref-2)
3. *Ngati Rangi Trust v Genesis Power Ltd* [2009] NZRMA 312 (CA); *Genesis Power Ltd v Manawatu-Wanganui Regional Council* (2006) 12 ELRNZ 241, [2006] NZRMA 536 (HC); Royal Forest and Bird Protection Society of New Zealand Inc v Waikato Regional Council [2007] NZRMA 439 (EnvC); *Curador Trust v Northland Regional Council* EnvC A069/06. [↑](#footnote-ref-3)