18 July 2025

Ellie Watson
Environmental Manager – South Island Renewables| Genesis Energy Ltd
[redacted]

Kia ora Ellie

This memo addresses four major items of direct relevance to Genesis Energy Ltd's (GEL) 'Fast Track' consenting process for the Tekapo Power Scheme (TekPS):

- The history and successes of the ongoing Project River Recovery programme of nature conservation work of direct relevance to GEL but also within the broader Mackenzie Basin/Upper Waitaki contexts.
- The background to, processes that took place, and the outcomes from the Indigenous Biodiversity Enhancement Programme (IBEP) negotiation process.
- How the IBEP appropriately addresses residual and unmitigated effects of the Tekapo Power scheme.
- Development of Kahu Ora, as a requirement of the IBEP, including what Kahu Ora covers and the expertise of the people who developed it, and how Kahu Ora will continue, and enhance, the success of Project River Recovery (PRR) and deliver positive conservation outcomes for the Takapō and for the Waitaki catchment as a whole.

Before addressing these four areas I briefly summarise my expertise and knowledge regarding braided river ecology generally and more specifically with regard to my ongoing interest in the Waitaki catchment. My PhD (1984) concerned habitat requirements of birds breeding on braided rivers in Canterbury – it was an interdisciplinary study which incorporated a broad range of ecological and hydrological considerations and from which I have published several peer reviewed journal articles. I have presented related evidence to Water Conservation Order (including for the Ahuriri River) and a variety of planning hearings and have had involvement over many years with the Waitaki and many other rivers in Canterbury and elsewhere around New Zealand. I have done other research traversing values of New Zealand rivers including from environmental and economic perspectives and was the principal author behind development of the River Values Assessment System (RiVAS) which has been used by a range of councils for strategic planning purposes. My working career involved the NZ Wildlife Service (1984-1987), the Department of Conservation (1987-1995), Lincoln University (1995-2022) and also for three days per week on secondment (from Lincoln University) to the Department of Conservation (2014-2022) as Chief Science Advisor (and for a time Deputy Director-General Biodiversity and Engagement). During my time at Lincoln University, I was promoted to Professor of Environmental Management. I am now semi-retired and acting as an environmental consultant working for a variety of private and public sector organisations.

Project River Recovery

Genesis and Meridian have an agreement with the Department of Conservation (DOC) which provides for the two energy companies to fund DOC to undertake an ecological management and research programme focussed on maintaining and enhancing habitat and ecological communities in the riverbeds and wetland ecosystems in the Upper Waitaki Basin. The programme is designed to protect key biodiversity values in the face of the threats discussed above. This programme is called Project River Recovery (PRR) and has been operating since 1991 (although agreement was reached in

1990), with Genesis joining as a party to the agreement in 2010 as part of their purchase of the Tekapo Power Scheme. PRR was set up in negotiations with the then Electricity Corporation of New Zealand (ECNZ) to provide compensation for the loss of braided river habitat, at the time mostly with the aim of conserving native bird species in the Upper Waitaki.

I was involved with the initial design and establishment of PRR and undertook research into a range of environmental flow options for the Pūkaki River that would help with native birdlife conservation. A preferred flow of 4 cubic metres per second was identified and suggested to ECNZ. ECNZ was reluctant to release this water because of the opportunity cost in terms of foregone generation potential. Instead, ECNZ asked DOC to consider whether there were alternative measures to deliver the potential wildlife conservation benefits. DOC had already started thinking this way and concluded that conservation gains would be greater with an overarching programme of enhancement work on the Upper Waitaki's braided rivers. It was this package that became PRR.

For the Upper Waitaki, at least, there has been around 35 years of investment in compensatory activities for indigenous biodiversity. This has occurred via Project River Recovery, the compensation programme which is jointly funded by Meridian and Genesis and delivered by the Department of Conservation. This programme now takes a holistic view of ecological conservation needs and via an adaptive learning approach has delivered a range of conservation outcomes in the Upper Waitaki Catchment. Project River Recovery's work has not had a significant focus on the Lower Waitaki River, and this is a limitation.

Much has been written about PRR, perhaps most notably the overview book by Peat et al. (2016) entitled 'Rivers Rare: The first 25 years of Project River Recovery 1991-2016', for which I wrote the foreword (given my history with helping develop the programme). From this book, and from reviewing PRR's 7-year strategic plans and annual reports, and from my own experience, it is clear there has been an ongoing evolution in the work of PRR after its inception. In its early years work focused heavily on exotic plant control on the Lower Takapō and Ahuriri rivers primarily seeking to benefit the multiple 'Threatened and At Risk' bird species using these habitats. Alongside this work investment was increasingly, over time, broadened into better understanding the habitat and related needs of these species, and understanding the other animals (lizards, terrestrial invertebrates and native fish) and plants that used these habitats and the pressures they were facing. This work led to many discoveries, perhaps most notably in the native fish space, and to widening the ambit of PRR into a more holistic approach to the ecology of braided river communities and habitats in the Basin. A 21-year independent review of PRR was undertaken by Manaaki Whenua Landcare Research (Innes and Saunders, 2012). It concluded that PRR was worthwhile and successful, and was very efficient at achieving its outcomes.

The increasingly more holistic approach by PRR was captured as a whole ecosystem approach which became the focus of the 3rd strategic plan for the period 2012-2019. It took learnings from the 21-year review and widened the PRR scope to include riverbanks and associated wetlands, including a focus on native fish, e.g., the nationally threatened and at risk bignose (*Galaxias macronasus*) and lowland longjaw galaxias (*G. cobitinis* 'Waitaki'). Weir construction to prevent trout predation on these species has been a 'concrete' conservation measure, where employed in the Upper Waitaki catchment. Other work occurred for lizards and invertebrates, e.g., exotic mammalian predator control to help protect the robust grasshopper (*Brachaspis robustus)*. At the same time the initiatives invested in earlier were largely maintained, especially in the weed control context.

There is now a 'PRR interim strategic plan 2020 - 2023' (Nelson, Maloney and Gale 2020) in place for the post 2019 period, designed to overlap with new consenting arrangements and a new agreement

between DOC and the generators (Meridian and Genesis). This plan builds on the preceding plans but does have increasing emphasis (Nelson et al. 2020: 3-4) on:

(a) Moving to a "whole river, whole ecosystem approach" including riverbanks, lower terraces, terrace risers and terrace edges, and all associated wetlands;
(b) An increasing emphasis on indigenous non-migratory fish species, especially bignose and lowland longjaw galaxias;
(c) Strengthening partnerships with universities for students to carry out applied research on relevant topics; and
(d) fauna monitoring, especially with regards to annual bird surveys of braided rivers including a repeat of the comprehensive 1991-1994 (baseline) surveys.

The above brief summary of PRR and its approach and achievements provides some context to the present day and current consenting requirements. In the next section I briefly describe the ongoing ecological effects of the Tekapo Power Scheme.

Ongoing effects of the Tekapo Power Scheme

GEL impacts significantly on one large river, the Takapō, but these impacts have not changed over the course of the existing consenting period. The River maintains a significant flow along most of its length from upstream contributions and down to its delta with Lake Benmore. It is however heavily impacted by didymo, which is not caused by the TekPS, and by invasive exotic plants and mammalian predators. Ecological values are important but limited by these impacts.

Considering now, briefly, the ongoing effects on native biodiversity – birds, native fish, lizards, invertebrates and plants – thinking holistically across the catchment and having considered the specialist expert advice (i.e., Allibone 2025 for native fish, Bramley 2023 for vegetation, Bull 2025 for avifauna; Ong and Toft 2025 for terrestrial invertebrates, and Ussher 2023 for herpetofauna), I do not consider current operation of the power scheme is having any more than minor effects on ecological values of the Takapō River, with the notable exception of longfin tuna which is being actively managed by Rūnaka in association with Meridian (and supported by GEL).

In summary while Allibone (2025) recorded populations of several 'threatened and at risk' native fish species including bignose and lowland longjaw galaxiids all were found in tributaries, mainly the Grays River, a long way from the Takapō confluence – the TekPS is not affecting these species.

Ong and Toft (2025) have examined the terrestrial invertebrate values of the area. It is generally acknowledged that there is limited information on these communities and their constituent species, despite a major study coordinated by PRR on the Tasman River. Nevertheless, there are many 'threatened or at risk' species present in the Takapō catchment but mostly these are outside the impacted riverbed, or at worst only overlapping with it. Where there are exceptions then Ong and Toft (2025) consider lowered flows (with less floods) could be having a positive effect. Current operation of the TekPS is considered unlikely to be negatively impacting these species and communities.

Ussher (2023) reports on herpetofauna of the catchment, with a focus on the River system – from my comparative evaluation it appears that both species diversity and nature conservation concerns are less than for the mid catchment rivers (e.g., the Upper Ohāu) which is more related to Meridian activities, and further that existing operation of the scheme is likely having no further impact on these species or their habitats.

Turning now to native birdlife which has been reported on by Bull (2025). Species diversity and the presence of 'threatened and at risk' species is similar to that recorded for other mid-catchment and upper catchment rivers, including kakī / black stilt (*Himantopus novaezelandiae*) and ngutu pare / wrybill (*Anarhynchus frontalis*). Interestingly, despite the ongoing presence of PRR operations wrybill and some other species' numbers have decreased on the Takapō River, while for other key species numbers have increased on the Cass and Godley (but again, not for wrybill). This observation reflects the complexity of management requirements and the need for adaptive learning approaches. Of all the values examined it seems likely that birdlife continues to be affected the most (acknowledging though the paucity of data for invertebrates in particular), both by the scheme and by the range of other impacts (notably weeds and predators) in the catchment.

Bramley (2023) has studied the terrestrial plants of the catchment paying particular attention to the main Takapō River and to the lake shoreline where the 'threatened and at risk' fish guts plant (*Chenopodium detestans*) is reported. 'Threatened and at risk' species alongside the river are not thought to be impacted by current TekPS operations.

In my opinion, given the summary value information presented above, current operation of the TekPS is having a less than minor effect on native biodiversity values.

It was within this context that GEL, together with Meridian, entered into negotiations with DOC to develop what has become the Indigenous Biodiversity Enhancement Programme (IBEP) – the next section outlines generally the nature of these negotiations, the direction taken and the result achieved.

IBEP negotiations

The lack of attention to the Lower Waitaki and other residual effects which are not adequately covered by Project River Recovery were the subject of negotiations in the context of the approach that should be taken for the reconsenting of both the Waitaki Power Scheme and the Takapō Power Scheme. In my role as DOC's Chief Science Advisor I was requested by the Deputy Director-General Operations (Mike Slater) to lead these negotiations on behalf of the Department. I was supported by a Technical Advisory Group which included birdlife, invertebrate and native fish science expertise, and was further supported by planning and legal advice. I worked closely with the Eastern South Island Regional Director Jo Macpherson in all of this work. Mana whenua, who were undertaking their own separate negotiations, were kept informed of progress. Over a period of months a series of negotiating meetings were held, all with the view of taking an integrated biodiversity and whole of catchment focused approach to delivering achievable and cost-effective native biodiversity conservation gains.

These negotiations resulted in development of the IBEP agreement to operate for the life of the applied for consents for both schemes, and a financial contribution some three times that which is currently occurring for PRR. The following section outlines how the IBEP seeks to address residual and unmitigated effects of the TekPS.

The IBEP's principal objective is (proposed Condition 26) "to improve the:

(a) condition,
(b) resilience,
(c) indigenous biodiversity,
(d) ecological processes; and
(e) other values of:
    (i) the braided rivers, including their braid plains and margins,

(ii) lake margins and deltas, and
(iii) wetland and springs associated with lakes and braided rivers
within the Waitaki Catchment".

Proposed condition 28 then requires, in order to achieve the objective identified in proposed condition 26, that "the IBEP will:

(a) focus work primarily, but not exclusively, on those waterbodies directly affected by the Waitaki or Tekapo power schemes,
(b) incorporate the values, interests and aspirations as expressed by the Waitaki Rūnanga, and
(c) foster increased understanding of such areas and their biodiversity through research and development."

These three requirements are important. The first addresses the fact that not all compensatory work will be undertaken in the Mid Waitaki Catchment rivers. There is a variety of reasons why work will occur in these water bodies but also significantly, for the upper catchment, in largely non-impacted rivers. The reasons for this portfolio approach relate to the cost effectiveness of potential investments but also more broadly to properly addressing Condition 26, namely "to improve the condition, resilience, indigenous biodiversity, ecological processes and other values of … within the Waitaki Catchment". The second requirement gives effect to the two energy companies' relationship with Waitaki Rūnaka but also the Department of Conservation's own responsibilities in this context. Finally, the third requirement demonstrates a commitment to adaptive learning in order to improve the potential to achieve the desired outcomes from the IBEP.

Conditions 29 to 34 deal with the requirements to produce Strategic Plans over a 10-year planning horizon and Annual Plans. The first Strategic Plan "must include (without limitation) a focus on the following:

(a) Takapō Catchment:
  (i) restoration of key representative sites on the river, other waterbodies and connected environs within the braid plain;
  (ii) wetland enhancement;
  (iii) island creation;
  (iv) management of the pressures on connected environs within the braid plain (e.g. animal pests and weeds); and
  (v) restoration of two bay areas on Lake Takapō.

Other parts of that condition deal with aspects that are more related to Meridian Energy Ltd's activities.

Perhaps most importantly, Condition 33 requires that the Strategic Plan must:

(a) be prepared by one or more suitably qualified experts; and
(b) be prepared in consultation with Te Rūnanga o Arowhenua, Te Rūnanga o Moeraki, Te Rūnanga o Waihao and the Department of Conservation; and
(c) identify the priorities for achieving the objective of the IBEP over the Strategic Plan Period; and
(d) identify the key implementation milestones to be achieved over the Strategic Plan Period in accordance with the priorities; and
(e) identify the monitoring that will be used to demonstrate the achievement of the milestones that are set out in the Strategic Plan over the Strategic Plan Period; and

(f) identify the governance, management, and delivery arrangements for the IBEP over the Strategic Plan Period.

In the following section I address how the IBEP proposes to address residual and unmitigated effects of the TekPS.

How the IBEP appropriately addresses residual and unmitigated effects of the Tekapo Power scheme

Appendix D of the Tekapo Power Scheme – Fast Track Application for Resource Consents and Assessment of Environmental Effects (Genesis Energy Limited April 2025) describes the Proffered Condition Suite. This has subsequently been updated and a copy provided to the Fast Track convenor. The updated proposed condition suite is attached to this letter (Appendix 1). Most relevant to my evidence are Conditions 26-38 regarding Indigenous Biodiversity – primarily these Conditions are proffered by Genesis to achieve the objective set out in condition 26. This requirement is consistent with the rationale for addressing ongoing WPS and TekPS impacts. The IBEP is compensation, based on consents to be granted for the ongoing operation of the WPS and TekPS with the flow and level regimes as proposed in the application, including the continuation of no environmental flows in the Takapō, Pūkaki and Lower Ōhau rivers, and with flows in the Upper Ōhau and Lower Waitaki rivers remaining unchanged and in accordance with the regimes set in the Waitaki Catchment Water Allocation Regional Plan. The IBEP will be delivered by the Department of Conservation, via an updated Project River Recovery approach.

Proffered conditions 26-38 are agreed between Genesis, Meridian, the Department of Conservation, and Waitaki Rūnaka. The IBEP will be funded by Meridian (87.5%) and Genesis (12.5%), which reflects their relevant generation share from the catchment) and will establish and pay each year for the duration of the consents: $2.3 million dollars (CPI adjusted) into an indigenous biodiversity management fund to be administered by the Director-General of Conservation.

I considered the IBEP against the principles applying to use of aquatic compensation in Appendix 7 of the NPS-FM. The IBEP is compensation. I considered 11 of these principles due to their direct ecological relevance and approached them from the perspective that they are to be applied to the residual adverse ecological effects of the TekPS. Importantly, this means considering the ongoing and future effects of the TekPS, not turning the clock back to examine those significant changes to the environment that have already occurred (for example, the increase in size of Lake Takapō and the dry upper bed of the Takapō River). Consistent with this I note that with respect to the Takapō River the approach I have been asked to focus my evaluation on is its current values and the effects of the TekPS on these. Overall, I consider the Application meets these principles and that as planned the IBEP is likely to achieve far greater ecological outcomes than would be possible with a more reductionist approach based on attempting to remedy and mitigate impacts.

I am conscious also of the following factors which in my opinion support the approach of the IBEP:

(a) Genesis has very limited access rights to implement mitigation in the river and lake affected by the operation of the TekPS.
(b) By contrast, the Department of Conservation has both access ability and conservation ecology expertise to be able to successfully implement and monitor a major compensation programme, as evidenced by the success of PRR.
(c) Biodiversity offsetting, while 'higher' in the effects management hierarchy in theory, is impractical and unrealistic at a whole of Waitaki catchment scale where effects of the WPS and TekPS cannot in any meaningful way be isolated from other influences on biodiversity

values, cannot be quantified, and cannot be realistically addressed on a like-for-like basis in many cases.

Based on the analysis presented above I consider that:

a) The IBEP objective appropriately addresses the residual and unmitigated effects of the TekPS;
b) There is nothing that I am aware of that needs to be added to the objective for the IBEP programme;
c) The approach being taken is consistent with the compensation principles; and
d) As planned and provided for in the proposed consent conditions, the IBEP is likely to achieve far greater ecological outcomes than would otherwise be possible.

I next consider Kahu Ora, the strategic plan being developed to implement the IBEP.

Kahu Ora

I was provided with the Draft Kahu Ora Strategic Action Plan included in the Genesis application as part of Appendix E, Consent Condition Plans – this is the first 10-year strategic plan required to implement the IBEP (I peer reviewed for Meridian the First Draft). The Draft Action Plan has been prepared by a DOC science team (led by Dr Richard Maloney who has considerable expertise and experience of researching and working on the Waitaki Catchment rivers, lakes and their margins) working in close association with an external consultant, Di Robertson, and with mana whenua. The team, overall, has the knowledge about, and relevant experience with, the catchment's ecology and conservation management challenges to prepare a realistic and appropriate Strategic Action Plan. Using a collaborative approach they have developed a strategy to prioritise and address the indigenous biodiversity risks in the catchment and to improve the condition, resilience, indigenous biodiversity, ecological processes and other related values of the Waitaki braided rivers and associated environments in a way that will more than compensate for the adverse effects of the TekPS on existing indigenous biodiversity.

In the following paragraphs I summarise Kahu Ora's content and then the extent to which it aligns with the IBEP, and the extent to which I consider it will compensate for the ongoing effects of the TekPS.

Kahu Ora clearly sets out its purpose which is to achieve the specific objective of the IBEP (Clause 3), namely, "to improve the condition, resilience, indigenous biodiversity, ecological processes and other values of the braided rivers and associated environments, including wetlands, within the Waitaki Catchment". It breaks the catchment into four zones for planning, investment and management (including monitoring) purposes (p23 contains maps of the 4 zones):

(a) The upper catchment rivers, lakes, and associated wetlands, e.g., Cass and Godley rivers and Lake Takapō;
(b) The mid catchment rivers, and associated wetlands, i.e., the Takapō River and tributaries including the Grays River;
(c) Lakes Ruataniwha, Benmore, Aviemore and Waitaki, and associated wetlands – this zone is more related to Meridian activities rather than the TekPS; and
(d) The lower Waitaki River, and associated wetlands – this zone is more related to Meridian activities rather than the TekPS.

I consider this zonation to be a practical and appropriate approach to the different areas of interest.

The Draft is clear in terms of describing the methodology used to determine actions, priorities and focal sites, and ultimately in terms of how the investment is allocated. A 5-step process is used:

(a) value description – the full range of native birds, fish, lizards, invertebrates and plants being considered, including in terms of threat status;
(b) locations and habitat types including any particular key sites for particular values – these were ranked against a range of criteria;
(c) action (step 3) and pressure (step 4) selection, again considered against a set of clear criteria; and
(d) costing actions to match the budget constraints, based on using existing cost data for the same or similar work from within the catchment., or using exemplar work from elsewhere with costs adjusted accordingly.

In order to deliver the work identified by employing the above methodology the Draft proposes investing into each zone as shown below:

(a) Zone 1 – 33.2%
(b) Zone 2 – 34.1%
(c) Zone 3 – 2.1%
(d) Zone 4 – 30.6%

This investment approach yields an appropriate mix of priority work and complementarity, i.e., "...the approximately 1/3 split among zones 1, 2 and 4 was because these zones have high values across the full range of indigenous biodiversity … considered and subsequently require substantial investment to manage pressures… Zone 3, in contrast, is highly modified and has relatively few ecological values. Therefore, we applied a small percentage of the budget to Zone 3" (p26). I consider this to be a realistic and appropriate approach.

Now, moving to the more Genesis-relevant zones (parts of 1 and 2), noting that each zone has a proposed plan of action which includes a 35-year vision, monitoring (including from a cultural perspective) and a commitment to adaptive learning and management:

The high investment in Zone 1 (The upper catchment rivers, lakes, and associated wetlands), which is largely outside of any direct TekPS effects, is justifiable because this Zone contains very high-quality habitat for many terrestrial ecological values, and habitat that is relatively less impacted by other pressures, e.g., exotic weed encroachment. Many of the values in this zone directly overlap the highly affected values in Zone 2, e.g., all of the 'Threatened and At Risk' bird species. It is much more cost-effective from a biodiversity conservation perspective to invest here than in other zones to safeguard these species and other values, including terrestrial plant and invertebrate communities. The biggest priority for this investment (49.8%) is the Tasman River which builds on existing work that is delivering very large biodiversity outcomes. The Godley and Cass rivers will receive around 25% of funding. Work is also planned for key lake shores (combined 13.1% of investment) primarily to protect 'Threatened and At Risk' plant species – 2 key bays on Lake Takapō will receive over half of this investment.

Zone 2 (The mid catchment rivers, tributaries and associated wetlands) receives the largest planned investment. Most of the investment will go into the Upper Takapō River (53.2%) because it retains moderate levels of residual populations of threatened species, and the River's upper most tributary, Fork Stream, which is a major source of weeds for the River. The Zone's two largest wetlands, Grays River and Ruataniwha, will receive 16.8% of this Zone's investment.

The work planned by Kahu Ora in the TekPS area is designed to achieve significant outcomes for 'threatened and at risk' bird species, terrestrial invertebrates, native fish and native plants. It is entirely consistent with the intent of the IBEP.

Overall conclusions

Overall, I am of the view that the IBEP proffered by Genesis (and Meridian) will deliver a level of compensation that will maintain the valuable and proven existing Project River Recovery interventions. The additional funding (three times PRR) will enable many of the previously unaddressed residual effects attributable to the TekPS, including now for areas not previously focussed on by PRR, to be addressed. I also consider delivery of the IBEP over the 35-year consenting period will more than compensate for the TekPS effects on existing biodiversity (excluding longfin tuna which are dealt with separately through an agreement with Rūnaka, and for which Genesis is a co-contributor).

In conclusion, and consistent with the above comments, I consider that the IBEP objective and proposed conditions appropriately address the residual and unmitigated effects of the TekPS and that the IBEP Strategic Action Plan (Kahu Ora) has been prepared by appropriately qualified and experienced experts. It is likely, in my opinion, to achieve far greater ecological outcomes than would otherwise be possible with other more reductionist approaches.

References

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Nelson, D., Maloney, R., and Gale, S. 2020. PRR Interim Strategic Plan 2020-2023. PRR Report 2020/03. Department of Conservation, Twizel.Ong, C.P., Toft, R.J. 2025. A Review of Terrestrial Invertebrate Information for the Tekapo Power Scheme Resource Consents.

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Ngā mihi

Ken Hughey, Dr

[redacted]

Appendix 1 – Genesis proposed condition suite as of 12 June 2025

APPENDIX D: PROPOSED CONSENT CONDITIONS

These conditions are proffered by Genesis prior to the Panel Convener Conference and replace those lodged with the FTA application in April 2025. Genesis notes that the conditions proffered by Genesis may change in response to comments received.

CONSENT HOLDER: Genesis Energy Limited

CONSENT TYPE: Water Permit

CONSENT SCOPE:

Activity Authorised

1. The damming of the Takapō / Tekapo River via the Lake Takapō / Tekapo Control Structure (Gate 16) to control and operate the levels of Lake Takapō / Tekapo.
2. The taking, diverting and using of water from Lake Takapō / Tekapo via the Tekapo Intake for the generation of electricity, and ancillary purposes, at the Tekapo A and B Power Stations.
3. The damming of the Takapō / Tekapo River at the Lake George Scott Control Weir to control and maintain the water levels in Lake George Scott.
4. The taking and diversion of water from the Takapō / Tekapo River via the Tekapo Canal Control Structure (Gate 17).

Site Location

Tekapo Power Scheme – Lot 1 DP 421602, Lot 1 DP 562455, Lot 1 DP 439605, Section 2 SO 567261, Lot 2 DP 364538, Lot 1 DP 407182, Lot 2 DP 407182, Section 1 SO 331257, Section 1 SO 20293, Section 1 SO 394353, Section 2 SO 394353.

Map References

Structure	NZTM Coordinate	
	Easting	Northing
Tekapo Intake	1397200	5124969
Tekapo Dam and Gate 16	1398034	5124317
Tekapo A (Tailrace)	1396434	5123398
Gate 17 (Lake George Scott)	1396525	5123314

Structure	NZTM Coordinate	
	Easting	Northing
Lake George Scott Weir	1396531	5123259
Tekapo Canal (Upstream)	1396434	5123398
Tekapo Canal (Downstream)	1378199	5111027

Consent Duration 35 years from the date of commencement of this consent

GENERAL

1. The damming, taking, diversion and use of water authorised by this resource consent must be undertaken in general accordance with the information provided in the document "Genesis Energy Limited Tekapo Power Scheme: Fast-track Application for Resource Consents and Assessment of Environmental Effects" dated April 2025. In the event of any conflict or discrepancy between this document and the conditions of this resource consent, the conditions prevail.

2. The Consent Holder must ensure that the damming, taking, diversion and use of water authorised by this resource consent are carried out in accordance with the following conditions and to the conditions set out in Schedule One – General Conditions. Where there is a difference or apparent conflict between the conditions below and the general conditions in Schedule One, the specific conditions in this consent prevail.

3. The consent holder must ensure that compliance with the consent conditions is maintained at all times, except where an alternative operating regime is necessary in order to maintain the structural integrity and safety of any of the Tekapo Power Scheme or Waitaki Power Scheme infrastructure or public safety.

   In the above circumstances, the consent holder must take all reasonably practicable steps to comply with the consent conditions below and in Schedule One and to safely return the Tekapo Power Scheme to normal operation.

   Where control of the Tekapo Power Scheme cannot be returned to normal operation within two hours, the consent holder must notify the Canterbury Regional Council attention: RMA Compliance and Enforcement Manager, Te Rūnanga o Arowhenua, Te Rūnanga o Waihao and Te Rūnanga o Moeraki within two working days of the circumstances identified in this condition occurring at the Tekapo Power Scheme and must provide a timetable for returning to normal operation as soon as practicable if that has not occurred by the time a report is required.

DIVERSION AND WATER TAKE REQUIREMENTS

4. The maximum volume of water that can be taken for the Tekapo Power Scheme shall not exceed that necessary to provide for the annual allocation to activities specified in the table attached as Appendix 1.

5. Provided that the combined divert, take and use does not exceed a maximum of up to 130 cubic metres of water per second, the consent holder may:

   (a) Divert, take and use up to 130 cubic metres of water per second from Lake Takapō / Tekapo via the Tekapo Intake Structure for hydro-electricity generation purposes.

   (b) Divert, take and use up to 130 cubic metres of water per second from the Takapō / Tekapo River via the Tekapo Canal Control Structure (Gate 17) for hydro-electricity generation purposes.

6. Except as provided for in condition 7 below, the consent holder may at any time take or divert water from Lake Takapō / Tekapo, for the purpose of hydro electricity generation, when the lake level exceeds the following minimum operating levels:

Period	**Lake Level (metres above mean sea level, Lyttelton 1837 datum)**
April to September (inclusive)	702.1
October to March (inclusive)	704.1

7. The consent holder may take or divert water from Lake Takapō / Tekapo for hydro-electricity generation uses until the lake level reaches 701.8 metres above mean sea level (Lyttelton 1937 datum) for hydro-electricity generation uses when the aggregate storage for New Zealand or the South Island is below the relevant trigger level specified in System Operator Contingent Storage Release Boundary identified under Security of Supply Forecasting and Information Policy (as approved under Part 7 of the Electricity Industry Participation Code 2010), or any subsequent equivalent regulatory arrangement and notice of the reduction in lake level and its expected duration is given to Canterbury Regional Council, Te Rūnanga o Arowhenua, Te Rūnanga o Waihao and Te Rūnanga o Moeraki as soon as practicable.

8. If the lake level has been reduced in accordance with condition 7, the consent holder must restore Takapō / Lake Tekapo to the minimum consented lake level under condition 6 for that time of year as soon as practicable, after consideration of electricity

generation levels required to maintain security of electricity supply in New Zealand as well as present and likely lake inflows; and

(a) The consent holder must advise the Canterbury Regional Council, Te Rūnanga o Arowhenua, Te Rūnanga o Waihao and Te Rūnanga o Moeraki weekly of:

i. The progress towards, and the expected timetable for restoring Takapō / Lake Tekapo to the consented minimum lake level under condition 6; and

ii. The strategies adopted to restore Takapō / Lake Tekapo to the consented minimum lake level; and

iii. The lake level at the end of each reporting week.

(b) No later than eight weeks following the completion of each activation of condition 7, the consent holder must, provide the Canterbury Regional Council, Te Rūnanga o Arowhenua, Te Rūnanga o Waihao and Te Rūnanga o Moeraki with the following information:

i. The date and time at which Takapō / Lake Tekapo was lowered below the consented minimum lake level under condition 6;

ii. The levels at which Takapō / Lake Tekapo was managed over the duration of the activation;

iii. The duration of the activation;

iv. The length of time following completion of the activation for Takapō / Lake Tekapo to be restored to the consented minimum lake level under condition 6; and

v. A written description of the circumstances leading to activation.

9. If the consent holder has managed the lake level in accordance with condition 7 in the previous 12 months, the Canterbury Regional Council may review condition 8 of this consent by giving notice of its intention to do so in accordance with section 128 of the Resource Management Act 1991, at any time within six months following the receipt of the information required in condition 8(b), for the purpose of amending or adding conditions to ensure that adverse effects of the management of the lake levels under condition 7 are appropriately managed.

MONITORING REQUIREMENTS

10. The consent holder must install and operate a monitoring device or system capable of measuring, at a minimum of 15 minute intervals and with +/- 5% measurement accuracy, the rate of diverting and taking of water from Lake Takapō / Tekapo. The monitoring device must be telemetered and report the data electronically to the Canterbury Regional Council at least once per day.

11. The consent holder must install and operate a monitoring device or system at Gate 17 capable of measuring, at a minimum of 15 minute intervals and with +/- 10% measurement accuracy, the rate of diverting and taking of water from the Takapō / Tekapo River via Gate 17. The monitoring device must be telemetered and report the data electronically to the Canterbury Regional Council at least once per day.

12. The consent holder must keep records of the levels of Lake Takapō / Tekapo determined as an hourly average of levels taken over a 60 minute period and make them available to the Canterbury Regional Council upon request. These levels must be measured at the Lake Takapō / Tekapo Stilling Well lake level recording site, or at some alternative location approved in advance by Canterbury Regional Council.

CONSENT HOLDER: Genesis Energy Limited

CONSENT TYPE: Discharge Permit

CONSENT SCOPE

Activity Authorised

1. The discharge of water and associated contaminants into Lake Pūkaki from the Tekapo B Power Station.

2. The discharge of water and associated contaminants into the Takapō / Tekapo River from the Lake Takapō / Tekapo Control Structure (Gate 16) for the purposes of high flow management, to bypass Tekapo A Power Station, for Lake George Scott Water level maintenance, maintenance activities, and/or for recreational release purposes.

3. The discharge of water and associated contaminants into the Takapō / Tekapo River from the Lake George Scott Control Weir for maintenance activities and high flow management.

Site Location

Tekapo Power Scheme – Lot 1 DP 421602, Lot 1 DP 562455, Lot 1 DP 439605, Section 2 SO 567261, Lot 2 DP 364538, Lot 1 DP 407182, Lot 2 DP 407182, Section 1 SO 331257, Section 1 SO 20293, Section 1 SO 394353, Section 2 SO 394353.

Map References

Structure	NZTM Coordinate	
	Easting	Northing
Tekapo Dam and Gate 16	1398034	5124317
Lake George Scott Weir	1396531	5123259
Tekapo B (Power Station)	1376944	5110723

Consent Duration: 35 years from the date of commencement of this consent

GENERAL

1. The discharge of water and associated contaminants must be undertaken in general accordance with the information provided in the document "Genesis Energy Limited Tekapo Power Scheme: Fast-track Application for Resource Consents and Assessment of Environmental Effects" dated April 2025. In the event of any conflict

or discrepancy between this document and the conditions of this resource consent, the conditions prevail.

2. The Consent Holder must ensure that the discharge of water and associated contaminants authorised by this resource consent is carried out in accordance with the following conditions and to the conditions set out in Schedule One – General Conditions. Where there is a difference or apparent conflict between the conditions below and the general conditions in Schedule One, the specific conditions in this consent prevail.

3. The consent holder must ensure that compliance with the consent conditions is maintained at all times, except where an alternative operating regime is necessary in order to maintain the structural integrity and safety of any of the Tekapo Power Scheme or Waitaki Power Scheme infrastructure or public safety.

   In the above circumstances, the consent holder must take all reasonably practicable steps to comply with the consent conditions below and in Schedule One and to safely return the Tekapo Power Scheme to normal operation.

   Where control of the Tekapo Power Scheme cannot be returned to normal operation within two hours, the consent holder must notify the Canterbury Regional Council attention: RMA Compliance and Enforcement Manager, Te Rūnanga o Arowhenua, Te Rūnanga o Waihao and Te Rūnanga o Moeraki within two working days of the circumstances identified in this condition occurring at the Tekapo Power Scheme and must provide a timetable for returning to normal operation as soon as practicable if that has not occurred by the time a report is required.

DISCHARGE RATES

4. The consent holder may discharge up to 130 cubic metres of water per second from the Tekapo B Tailrace to Lake Pūkaki.

5. The consent holder may discharge water to the Takapō / Tekapo River via the Lake Tekapo Control Structure (Gate 16).

6. The consent holder may discharge water into the Takapō / Tekapo River via the Lake George Scott Control Weir.

SCHEDULE ONE – GENERAL CONDITIONS

CONSENT HOLDER: Genesis Energy Limited

Resource consents [*insert consent numbers*] for the Tekapo Power Scheme are granted subject to the following general conditions:

MANAGEMENT OF LAKE TAKAPŌ / TEKAPO LEVELS

1. Except as provided for by the specific conditions of resource consent [*insert water permit consent number*], the consent holder may at any time operate the Tekapo Power Scheme to manage the level of Lake Takapō / Tekapo, for the purpose of water storage for hydro electricity generation, between the following control levels:

   (a) Maximum control lake level:

Period	Lake Level (metres above mean sea level, Lyttelton 1937 datum)
March	710.00
April	710.30
May	710.60
June	710.90
July	710.90
August	710.30
September to February (inclusive)	709.70

   (b) Minimum lake level:

Period	Lake Level (metres above mean sea level, Lyttelton 1937 datum)
April to September (inclusive)	702.1
October to March (inclusive)	704.1

LAKE TAKAPŌ / TEKAPO HIGH FLOW MANAGEMENT

2. If at any time Lake Takapō / Tekapo rises above a maximum control lake level specified in condition 1(a) during the relevant period, then the Tekapo Power Scheme must be operated in such a way so as to safely return to that maximum control lake

level as soon as is practicable and in accordance with a Lake Takapō / Tekapo High Flow Management Plan ("**HFMP**") prepared by a suitably qualified and experienced person(s).

3. The purpose of the HFMP is to document how the flows via structures controlled by the consent holder (the Tekapo Intake structure, Gate 16 (the Lake Tekapo Control Structure) on the outlet of Lake Takapō / Tekapo, the Lake George Scott weir and Gate 17 to the Tekapo Canal) will be managed to:

   (a) Reduce lake levels as required by condition 2; and

   (b) Protect the integrity of the Tekapo Power Scheme structures during periods when inflows to the lake raise the lake level above the maximum lake level specified in condition 1(a).

4. As a minimum, the HFMP must include or address the following specific matters:

   (a) The combined total discharge flow from Lake Takapō / Tekapo (Tekapo A Power Station via the Tekapo Intake Structure plus Gate 16) that will be maintained at a minimum, to reduce lake levels to the maximum control lake level specified in condition 1(a);

   (b) The rate at which the combined rates of flow to the Tekapo A Power Station (via the Tekapo Intake Structure) and to the Takapō / Tekapo River via Gate 16 will be adjusted to meet the rates identified in (a) above;

   (c) The design flow rate for Gate 16, Gate 17 and the Lake George Scott weir;

   (d) How Gate 17 will be operated during events where the water level in Lake Takapō / Tekapo exceeds the maximum lake level specified in condition 1(a);

   (e) Any controls required for the Lake George Scott weir; and

   (f) Notification procedures (including parties to be notified) when the HFMP is being implemented.

5. Within six months of the commencement of this consent and following consultation with the Canterbury Regional Council, Mackenzie District Council and the operators of the Waitaki Power Scheme, the consent holder must provide an updated Lake Takapō / Tekapo HFMP to the Canterbury Regional Council, attention: RMA Compliance and Enforcement Manager, for certification that the matters in condition 4(a) to (f) have been addressed.

6. The HFMP certified under condition 5 must be reviewed at intervals of not more than ten years by a suitably qualified and experienced person(s) and any amendments, following consultation with the Canterbury Regional Council, Mackenzie District Council and the operators of the Waitaki Power Scheme, must be provided to the Canterbury Regional Council, attention: RMA Compliance and Enforcement Manager, for certification that the matters in condition 4(a) to (f) have been addressed.

7. If the consent holder has not received a response (other than acknowledgement of receipt) from the Canterbury Regional Council confirming certification of the HFMP prepared under conditions 3 and 4 or any amendments to the HFMP prepared under condition 6 within 20 working days of the date their submission to the Canterbury Regional Council, the HFMP or revised HFMP shall be deemed to be certified.

8. When the level of Lake Takapō / Tekapo exceeds a maximum lake level specified in condition 1(a) during the relevant period, the consent holder must operate the Tekapo Power Scheme in accordance with the HFMP certified under condition 5 or the updated HFMP certified under condition 6 so as to safely return the level of the lake to the maximum lake level specified in condition 1(a) (or less) for the relevant period as soon as is practicable.

9. The consent holder must use reasonable endeavours to operate Gate 16 and Gate 17 to minimise the rate of change of flow down the Takapō / Tekapo River to manage flow fluctuations. If the Gate 17 discharge is altered while there is a discharge over the Lake George Scott weir to the Takapō / Tekapo River, the Gate 16 and Gate 17 operations must be managed to minimise abrupt changes in discharge down the Takapō / Tekapo River. For the purpose of implementing the HFMP, the following conditions 10 to 14 apply.

10. The initial discharge into the Takapō / Tekapo River from Lake George Scott (over the Lake George Scott weir) must not exceed a maximum rate of 20 m^3/s for a period of not less than six hours.

11. The next discharge step must not exceed a maximum rate of 45 m^3/s and must not be increased for at least three hours.

12. Unless lake levels are 0.4 m or more above the maximum control lake level specified in condition 1(a), further increases in discharges below the Lake George Scott weir must ensure that:

(a) The maximum increase in flow at each gate change must not exceed 20 m^3/s; and

(b) There must be at least one hour between gate changes.

13. If Gate 16 is in use when Lake Takapō / Tekapo is below the maximum control level specified in condition 1, the discharge below the Lake George Scott weir must be reduced at a maximum rate of 20 m^3/s per hour.

14. When Gate 16 is being progressively closed, and discharge is occurring over the Lake George Scott weir at a rate at or below 20 m^3/s, the following minimum flows over the Lake George Scott weir must be maintained to simulate natural recession of the Takapō / Tekapo River:

Step One: 20 m^3/s for 24 hours;

Step Two: 12 m^3/s for 24 hours;

Step Three: 5 m^3/s for 24 hours;

Step Four: 2 m^3/s for 48 hours; and

Step Five: cease flow over Lake George Scott weir.

15. Notwithstanding condition 14, any flow under 10 m^3/s for under 90 minutes in duration will not be deemed to trigger the recession rules in conditions 10 to 14. For the avoidance of doubt this does not preclude notification and potential sports fish salvage in accordance with the Sports Fish Salvage Management Plan under condition 17.

16. Should it be required to use Gate 16 or the Lake George Scott weir when Lake Takapō / Tekapo is below the maximum control lake level specified in condition 1(a), the Lake George Scott weir must be operated within the general provisions set out in conditions 9 to 15.

SPORTS FISH SALVAGE MEASURES

17. The Consent Holder must provide for sports fish salvage, undertaken in accordance with a Sports Fish Salvage Management Plan ("**FSMP**") for the Tekapo Power Scheme developed following consultation with the Central South Island Fish and Game Council, upon any of the following occurring:

(a) An Extended Flow Event (as defined in the FSMP); and

(b) A Significant Stranding Event (as defined in the FSMP) at:

(i) Gate 16 Stilling Basin;

(ii) Upper Takapō / Tekapo River Area 1 to Canoe Course (and as shown in Schedule 2 of the FSMP);

(iii) George Scott Weir Stilling Basin; and

(iv) Lower Takapō / Tekapo River, Area 6 (and as shown in Schedule 2 of the FSMP); or

(c) When the Tekapo A draft tube and/or Tekapo Canal are dewatered.

18. The purpose of the FSMP is to describe the action(s) to be taken by the Consent Holder to reduce sports fish mortality through undertaking sports fish salvage when one or more of the events in condition 17 (a), (b) or (c) apply.

19. The FSMP must include:

(a) Provision for specific appendices to be included for sports fish salvage in the event that the Tekapo A draft tube and/or Tekapo Canal are dewatered;

(b) Protocol(s) for undertaking the sports fish salvage process, including ensuring that sports fish are not relocated to areas where sports fish are currently excluded;

(c) Communications protocol between the consent holder and Central South Island Fish and Game Council to inform of significant stranding events of sports fish, monitoring and reporting;

(d) Timeframes for sports fish salvage to take place after Significant Stranding Events;

(e) Reporting provisions for sports fish salvage success including alive, dead and remaining fish; and

(f) Health and safety requirements and communications for any person undertaking sports fish salvage.

20. In the event of the Consent Holder intending to dewater either (or both of) the Tekapo A draft tube and/or Tekapo Canal, the Consent Holder must, following consultation with Central South Island Fish and Game Council, prepare a sports fish salvage plan. That plan, and any comments from Central South Island Fish and Game Council not

adopted, with reasons why, must become an appendix to the FSMP and be provided to Canterbury Regional Council for information.

21. The Consent Holder must, following consultation with Central South Island Fish and Game Council, every 5 years review of the effectiveness of the FSMP in achieving its purpose.

22. The Consent Holder must provide a copy of the FSMP, and any revised FSMP, and any sports fish salvage plan under condition 20 to Canterbury Regional Council attention: RMA Compliance and Enforcement Manager for information.

23. The Consent Holder must at all times comply with the FSMP, and any revised FSMP (including any appended sports fish salvage plan under condition 20), as provided to Canterbury Regional Council.

RECREATIONAL RELEASES

24. Subject to condition 25, Genesis must, at the request of Whitewater New Zealand Incorporated and the Tekapo Whitewater Trust, provide up to 4820 cumec hours to the Upper Tekapo River (between Gate 16 and Lake George Scott) annually between 1 July and 30 June for in-river recreation including, without limitation, white water canoeing, kayaking, rafting, sledging, and boarding.

25. The Consent Holders obligation to provide any particular requested recreational release shall not apply when any of the following applies:

    (i) Mechanical or system failures;

    (ii) Maintenance, repairs or upgrades, of the Tekapo Power Scheme;

    (iii) Extreme weather or other natural hazard events;

    (iv) Compliance with statutory requirements (including health and safety) and with the conditions of the Tekapo Consents (such as maintaining lake levels);

    (vi) Operational demands within the electricity system such as requirements or restrictions on generation (including, but not limited to, Islanding as required by the National Grid operator); and

    (vii) Requirements to meet security of supply if the aggregate storage for New Zealand or the South Island is below the relevant trigger level specified in System Operator policy.

However, the Consent Holder shall use reasonable endeavours to supply water at a mutually agreed date within the relevant year.

ENVIRONMENTAL COMPENSATION

26. The consent holder must ensure an integrated Indigenous Biodiversity Enhancement Programme ("IBEP") is undertaken. The objective is to improve the:

    - Condition;
    - Resilience;
    - Indigenous biodiversity;
    - Ecological processes; and
    - Other values

    of

    - The braided rivers including their braid plains and margins;
    - Lake margins and deltas; and
    - Wetland and springs associated with lakes and braided rivers

    within the Waitaki Catchment.

    Advice note: the IBEP may be undertaken in conjunction with any other generator within the Combined Waitaki Power Scheme.

    Advice note: nothing in the IBEP may require the consent holder to alter the existing operation of the Waitaki Power Scheme.

27. The consent holder's contribution to the IBEP must have a minimum annual value of $287,500, CPI (all groups) adjusted from 1 July 2025.

28. In accordance with the objective of the IBEP as set out in condition 26 the IBEP will:

    a) Focus work primarily, but not exclusively, on those waterbodies directly affected by the Waitaki or Tekapo power schemes;

    b) Incorporate the values, interests and aspirations as expressed by the Waitaki Rūnanga; and

c) Foster increased understanding of such areas and their biodiversity through research and development.

IMPLEMENTATION OF THE INDIGENOUS BIODIVERSITY ENHANCEMENT PROGRAMME

29. At all times there must be a strategic plan that sets out how conditions 26 and 28 are to be achieved ("**Strategic Plan**") over a 10-year planning horizon ("**Strategic Plan Period**"). The initial Strategic Plan will cover intended actions to implement the IBEP over the first 10 year period of this consent and must be prepared and a copy supplied to the Canterbury Regional Council within 6 months of the commencement date of this consent.

30. The Strategic Plan must be reviewed and confirmed or replaced, and a copy provided to the Canterbury Regional Council not more than ten years following preparation of the initial Strategic Plan and not more than every ten years thereafter. All reviews of the Strategic Plan must be provided to the Canterbury Regional Council prior to the commencement of the period to which the Strategic Plan relates.

31. The Strategic Plan must:

    a) Be prepared by one or more suitably qualified experts; and

    b) Be prepared in consultation with Te Rūnanga o Arowhenua, Te Rūnanga o Moeraki, Te Rūnanga o Waihao and the Department of Conservation; and

    c) Identify the priorities for achieving the objective of the IBEP over the Strategic Plan Period; and

    d) Identify the key implementation milestones to be achieved over the Strategic Plan Period in accordance with the priorities; and

    e) Identify the monitoring that will be used to demonstrate the achievement of the milestones that are set out in the Strategic Plan over the Strategic Plan Period; and

    f) Identify the governance, management, and delivery arrangements for the IBEP over the Strategic Plan Period.

32. For each Strategic Plan prepared, prior to its finalisation, the consent holder must:

    a. Provide a copy of a draft Strategic Plan to the Canterbury Regional Council, attention: RMA Compliance and Enforcement Manager; and

b. Provide an opportunity, not less than 10 working days from receiving the Draft Strategic Plan, for the RMA Compliance and Enforcement Manager to provide comments to the consent holder on the content of the Draft Strategic Plan.

33. A report must be provided to the Canterbury Regional Council, attention: RMA Compliance and Enforcement Manager within six months of the completion of each Strategic Plan implementation period. The report must:

a) Be prepared by one or more suitably qualified experts; and

b) Identify whether the key milestones set out in the Strategic Plan were achieved; and

c) Identify whether the monitoring undertaken was appropriate for demonstrating whether the milestones in the Strategic Plan were achieved; and

d) Identify if any milestones were not achieved, and if so, the causes of non-achievement and any matters that should be revised in the next Strategic Plan.

34. The initial Strategic Plan must include (without limitation) a focus on the following:

a) Takapō Catchment:

i) Restoration of key representative sites on the river, other waterbodies and connected environs within the braid plain;

ii) Wetland enhancement;

iii) Island creation;

iv) Management of the pressures on connected environs within the braid plain (e.g. animal pests and weeds); and

v) Restoration of two bay areas on Lake Takapō;

b) Pūkaki, Upper and Lower Ōhau River catchments: Representative sites with animal pests and weed management in lower river reaches focused on threatened species hotspots and areas of terrestrial braid plain; and

c) Lower Waitaki River Catchment: Restoration of braid plains and side streams, wetland enhancement, island creation, management of the pressures on connected environs within the braid plain (i.e. animal pests and weeds); and

d) Identification and prioritisation of research to address identified knowledge gaps.

35. To implement the Strategic Plan an Annual Plan must be developed and implemented. The Annual Plan is to:

a) Be prepared by one or more suitably qualified experts; and

b) Identify the specific actions and outputs that are to be the focus for the forthcoming year covered by the Plan, consistent with the strategic plan.

36. A copy of each Annual Plan must be provided to the Canterbury Regional Council prior to the implementation period for that Annual Plan.

37. A report must be provided to the Canterbury Regional Council, attention: RMA Compliance and Enforcement within three months of the end of each Annual Plan implementation period. The report must:

a. Be prepared by one or more suitably qualified experts; and

b. Identify the actions and outcomes that were undertaken over the previous Annual Plan period, and

i. If any actions and outcomes were not achieved, identify the causes of non-achievement, and

ii. If similar actions and outcomes are to be undertaken in future, identify what matters should be revised, and

c. Identify progress towards achievement of the Strategic Plan.

38. A copy of each Strategic Plan (condition 29), report on each Strategic Plan (condition 33), Annual Plan (condition 35) and report on the Annual Plan (condition 37) must be provided to Te Rūnanga o Arowhenua, Te Rūnanga o Moeraki, Te Rūnanga o Waihao, the Canterbury Regional Council and the Department of Conservation.

LAKESHORE EROSION MANAGEMENT PLAN

39. The consent holder must prepare and implement a Lakeshore Erosion Management Plan for Lake Takapō / Tekapo following consultation with Te Rūnanga o Arowhenua, Te Rūnanga o Moeraki, Te Rūnanga o Waihao. The purpose of the erosion management plan is to provide a methodology to identify, avoid and/or mitigate lakeshore hazards resulting from the operation of the Tekapo Power Scheme through monitoring and assessment of shore change.

In order to achieve the purpose set out above, the Lakeshore Erosion Management Plan must, as a minimum, address the following matters:

(a) The erosion monitoring locations along Lake Takapō / Tekapo including those areas identified in Figures 1 and 2 of the document "*Tekapo Power Scheme re-consenting: Lakeshore geomorphology and processes Existing environment and future effects*", 2022, prepared by Shore Processes and Management Ltd which show the projected effects on the physical lakeshore environment of the continued operation of the scheme under the existing operating regimen and which may require consideration of management options within the next 35 years;

(b) The frequency of monitoring, including following significant storm events;

(c) The lake level record and an assessment of the potential effects on the lakeshore geomorphology since the last inspection;

(d) A method for assessment of the wave environment since the last inspection;

(e) A method for assessment of shore change; and

(f) A method for identification and quantification of the extent and magnitude of change.

(g) How effects attributable to the Tekapo Power Scheme will be determined; and

(h) A method for identification of and timeframe for implementation of remedial options that may be required, noting that the nature of any remedial options required will depend on the location and specific erosion effect identified.

Within six months of the commencement of this resource consent, the consent holder must submit the Lakeshore Erosion Management Plan to the Canterbury Regional Council attention: RMA Compliance and Enforcement Manager for certification that the matters in (a) to (h) have been addressed.

ANNUAL REPORTING

40. The consent holder must compile an Annual Report which covers the period of 1 July to 30 June for the activities authorised by this consent and forward that report to the Canterbury Regional Council attention: RMA Compliance and Enforcement Manager by 30 September of each year. As a minimum the report must:

(a) Summarise the data (including flow) collected (including flow) as required under the conditions of resource consents [*insert consent numbers*].

(b) Critically analyse the information collected in accordance with the conditions of resource consents [*insert consent numbers*], in terms of compliance and potential or actual adverse environmental effects.

(c) Compare data with previously collected and reported results and identify and comment on any emerging trends.

(d) Critically evaluate the performance of the procedures and physical mechanisms in place to minimise any adverse effects associated with the exercise of resource consents [*insert consent numbers*], identify any improvements undertaken and make recommendations on any additional improvements needed, with respect to procedures or mechanisms relating to the exercise of resource consents [*insert consent numbers*].

(e) Include the work actions undertaken and the outcomes achieved during the previous year under the Annual Plan prepared in accordance with condition 35, including:

i) If any actions and outcomes were not achieved, identifying the causes of non-achievement and

ii) If similar actions and outcomes are to be undertaken in future, identify what matters should be revised; and

iii) Identifying progress towards achievement of the Strategic Plan identified in condition 29.

(g) Comment on management of any high flow events during the year that involved implementation of the HFMP required under condition 5, including any matters where management of such events could be improved.

(i) Summarise any events where water is released for recreational purposes during the reporting year.

(j) Comment on the results of any monitoring undertaken in accordance with condition 39 and any actions required in response to that monitoring.

(k) Provide a summary of the maintenance undertaken during the reporting period.

MANAGEMENT PLANS

41. The consent holder must at all times operate and maintain the Tekapo Power Scheme in accordance with all management plans submitted to, and if required, certified by,

the Canterbury Regional Council as part of the conditions of resource consents [*insert consent numbers*].

REVIEW

42. At any time, Canterbury Regional Council may, following service of notice on the consent holder, commence a review of the conditions of resource consents [*insert consent numbers*] pursuant to section 128(1) of the Resource Management Act 1991 to review the effectiveness of the conditions in resource consents [*insert consent numbers*] in avoiding or mitigating any unanticipated more than minor adverse effects on water resources from the exercise of this consent and, if necessary, to avoid, remedy or mitigate such effects by way of further or amended conditions.

43. At any time during the years 2032, 2039, 2046 and 2053, Canterbury Regional Council may, following service of notice on the consent holder, commence a review of the conditions of resource consents [*insert consent numbers*] pursuant to section 128(1) of the Resource Management Act 1991 for the following purposes:

    (a) To review the adequacy of monitoring undertaken by the consent holder and, if necessary, to address any inadequacy by way of further or amended conditions; or

    (b) To review the appropriateness of any diversion, take rate and/or take volume specified within this consent to deal with any adverse effect on the environment which may arise from the exercise of resource consents [*insert consent numbers*]; or

    (c) To review the appropriateness of any discharge rate and/or volume specified within this consent to deal with any adverse effect on the environment which may arise from the exercise of resource consents [*insert consent numbers*]; or

    (d) To review the appropriateness of any conditions in Schedule One to give effect to the management plans required by Schedule One.

44. The Canterbury Regional Council may, following service of notice on the consent holder, commence a review of conditions 26 to 38 of this consent at any time within six months of the delivery to the Canterbury Regional Council, attention: RMA Compliance and Enforcement of each strategic plan review report as required by condition 33. The review shall enable the consent authority to amend or add conditions to ensure that the IBEP remains effective and appropriate to achieve its objective over the duration of the consent.

Appendix 1: Water Quantities – Annual Volumes for Activities

Note: units = millions of m^3 per year.

		Town and Community water supplies	Industrial and commercial activities (outside municipal or town supply areas)	Tourism and recreational facilities	Agricultural and horticultural activities	Mahinga Kai	Any other activities	Hydroelectricity generation
i.	Upstream of Takapō / Lake Tekapo outlet	1.6	NIL	0.6	275[A], except that: a. no more than 8 can be taken upstream of Takapō / Lake Tekapo outlet. b. no more than 8 can be taken upstream of Lake Pūkaki outlet. c. no more than 12 can be taken upstream of Lake Ōhau outlet.		NIL	All other inflows
ii.	Upstream of Lake Pūkaki outlet	2.2	0.1	0.6			NIL	All other inflows
iii.	Upstream of Lake Ōhau outlet	1.6	NIL	0.6			NIL	All other inflows except the flows that must be provided into the Ōhau River pursuant to the environmental flow regime
iv.	Upstream of Waitaki Dam but not upstream of the outlets of the glacial lakes[B]	16	6.3	9.5			6.3	All other inflows
v.	Downstream of Waitaki Dam but upstream of Black Point	3	1	2	200	315	16	All other flows except the flows that must remain in the rivers, pursuant to the environmental flow regimes
vi.	Downstream of Waitaki dam but downstream of Black Point	19	8.5	4.3	1100		112 plus an allocation of 32 reserved for the augmentation of Wainono Lagoon.	

A. While the consents to operate the Waitaki power scheme remain in force, the Upper Catchment is already fully allocated to a holder of those consents and other existing consent holders.

B. For the purposes of Rule 6 of the Waitaki Catchment Water Allocation Regional Plan (2016), the annual volumes for taking, using or diverting water from the canals leading from the glacial lakes, and those from the Ahuriri catchment, are considered downstream of the lake outlets and are covered in row iv of this table.