

## Submission on a Publicly Notified Application for Resource Consent

**To:** Environment Southland  
Private Bag 90116  
**Invercargill 9840**

**Attention:** Ryan Hodgson – Senior Consents Officer

**Name of submitter:** Fish & Game New Zealand – Southland Region (Fish & Game)  
PO Box 159  
**Invercargill 9825**

**Name of applicant:** Southland District Council (the applicant)

**Application:** APP-20232970

**Description of activity:** Consent of 5 years duration to discharge wastewater from the Edendale – Wyndham treatment plant to the Mataura River:

- Average daily flow 450m<sup>3</sup> (increasing from 264m<sup>3</sup>); and
- Maximum daily flow 700m<sup>3</sup> (increasing from 528m<sup>3</sup>).

Wastewater is treated via a vermiculture treatment system.

**Discharge location:** Mataura River immediately downstream of the Edendale – Wyndham Bridge approximately 1km south-east of the wastewater treatment plant.

**Activity status:** The proposed discharge falls as a non-complying activity under Rule 33A(b) of the proposed Southland Water and Land Plan (pSWLP) because the Mataura River does not meet Appendix E – Receiving Water Quality Standards (on account of faecal coliform exceedances upstream and downstream). Restrictions on non-complying activities require the proposal to pass through one of the two gateway tests set out in s 104D of the Resource Management Act 1991 (the RMA).

**Our submission relates to:** The whole application.

**Our submission is:** Fish & Game oppose the application.

**Our reasons for comments are:**

Fish and Game is responsible for the management of sports fish and game birds within the Southland region. Fish and Game have an interest in wastewater discharge to surface water, particularly where they may affect water quality and aquatic ecosystems.

The receiving environment for the discharge proposed by the applicant is the Lower Mataura River immediately downstream of the Wyndham Bridge. The Lower Mataura River has significant sports fish and game values, including recreational hunting and fishing opportunities, for the following reasons:

1. It is a significant habitat of indigenous and introduced birds, including game bird species which have been hunted since the late 19<sup>th</sup> century during the annual game bird hunting season.
2. It supports a nationally significant brown trout fishery and angling amenity features which are recognized pursuant to the Water Conservation (Mataura River) Order 1997 ('Mataura WCO') as including:
  - a. The Mataura River from its source (approximate map reference NZMS 260 E42: 502333) to its confluence with the sea (approximate map reference NZMS 260 F47: 877946); and
  - b. The Waikaia River and its tributaries, the Otamita Stream, and all other tributaries of the Mataura River upstream of its confluence with the Otamita Stream (approximate map reference NZMS 260 F45: 881582).

The Mataura River is one of the most heavily fished brown trout rivers in New Zealand and provides habitat for a self-sustaining population of wild brown trout. The 2014 / 2015 National Angling Survey<sup>1</sup> provides that 36,100 ± 3,470 angler days were spent in the Mataura catchment during the 2014 / 2015 angling season, of which 30,690 ± 3,330 angler days were spent on the main stem of the Mataura River including:

- a. 10,500 ± 3,020 angler days above Gore; and
- b. 20,180 ± 3,330 angler days below Gore.

The Lower Mataura River can be fished using a range of angling techniques and provides angling opportunities for inexperienced and experienced trout anglers alike.

3. The Lower Mataura River provides passage for brown trout and Chinook salmon moving between freshwater, estuarine and marine environments. Approximately 45km of freshwater habitat exists in the main stem of the Mataura River, including its estuarine waters, downstream of the discharge point.
4. In addition to the brown trout fishery, a small number of Chinook salmon annually make their way into the Mataura catchment from the sea via the main stem of the Mataura River. Chinook salmon are not prevalent in Southland. The Lower Mataura River provides wild salmon angling opportunities, which are very limited in Southland, and are fished for by a small number of passionate salmon anglers.
5. Great diversity of wildlife is associated with the Lower Mataura River, including waterfowl, and other bird species such as heron, gulls, oyster-catcher, and dotterels.
6. The Lower Mataura River, including its estuarine waters and tributaries, provide important spawning grounds and habitat for indigenous fish species, including varieties of flat fish, eels, lamprey, and whitebait.

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<sup>1</sup> Unwin M. (July 2016), *Angler usage of New Zealand lake and river fisheries - Results from the 20014 / 15 National Angling Survey*, NIWA, Appendix 1.

7. The Toetoes (Fortrose) Estuary is popular for fishing, shellfish collection, duck hunting, boating / kayaking, bathing, and bird study.

The Lower Maitai River and Toetoes Estuary are the receiving environment for industrial / municipal discharges, including treated wastewater discharges from townships managed by Southland District Council (e.g., Balfour and Riversdale), the Alliance meat processing plant at Maitai, the Gore District Council wastewater treatment sites at Gore (including wastewater inflows from meat processing by Silver Fern Farms and milk processing by Maitai Valley Milk) and Maitai and the Dongwha wood / MDF processing plant at Maitai.

The significance of the Maitai catchment is recognised insofar as:

1. The Maitai River has a statutory acknowledgement under the Ngāi Tahu Claims Settlement Act 1998 which recognises Ngāi Tahu's cultural, spiritual, historic, and traditional association to the Maitai River.<sup>2</sup> Specifically, Schedule 42 of the Ngāi Tahu Claims Settlement Act recognises that:
  - a. The Maitai River was an important source of mahinga kai, noted for its indigenous fishery;
  - b. The Maitai Falls were particularly associated with the taking of kanakana (lamprey); and
  - c. The mauri of the Maitai represents the essence that binds the physical and spiritual elements of all things together, generating and upholding all life. All elements of the natural environment possess a life force, and all forms of life are related. Mauri is a critical element of the spiritual relationship of Ngāi Tahu Whanau with the river.
2. The Maitai River approximately 15km upstream of the discharge site is a Mātaitai Reserve established under the Fisheries Act 1996. Mātaitai Reserve Areas are designed to give effect to the obligations stated in the Treaty of Waitangi Fisheries Claims Settlement Act 1992 to develop policies to help recognise use and management practices of Māori in the exercise of non-commercial fishing rights.

### **Position on the Application:**

Fish & Game oppose the application for the following reasons:

1. Fish fauna

The application does not present any assessment of the individual and cumulative effects of the discharge on fish fauna associated with the Lower Maitai River or Toetoes Estuary.

The Freshwater Fisheries database<sup>3</sup> provides that the following indigenous fish species are found in the mainstem of the Maitai River.

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<sup>2</sup> Refer to sections 205 and 206 and Schedule 42 – Statutory Acknowledgement for Maitai River of the Ngāi Tahu Claims Settlement Act 1998.

<sup>3</sup> <https://nzffdms.niwa.co.nz/search>

**Table 1 – Indigenous fish species in the Mataura River**

Common name	Scientific name	Threat classification (2013) <sup>4</sup>
<b>Diadromous species</b>		
Longfin eel	<i>Anguilla dieffenbachii</i>	At risk
Shortfin eel	<i>Anguilla australis</i>	Not threatened
Torrentfish	<i>Aldrichetta forsteri</i>	At risk
Giant kokopu	<i>Galaxias argentus</i>	At risk
Inanga	<i>Galaxias maculatus</i>	At risk
Lamprey	<i>Geotria australis</i>	Nationally vulnerable
Common bully	<i>Gobiomorphus cotidianus</i>	Not threatened
Redfin bully	<i>Cobiomorphus cotidianus</i>	At risk
Common smelt	<i>Retropinna</i>	
<b>Non-diadromous species</b>		
Gollum galaxias	<i>Galaxias gollumoides</i>	Nationally vulnerable
Alpine galaxias	<i>Galaxias</i> aff. <i>paucispondylus</i> "Southland"	Nationally vulnerable
Southern flathead	<i>Galaxias</i> "southern"	Declining
Upland bully	<i>Gobiomorphus breviceps</i>	Not threatened

All the above indigenous fish species found in the mainstem of the Mataura River are described as Taonga Species in Appendix M of the pSWLP.

In addition, the Freshwater Fisheries database shows that the mainstem of the Mataura River provides habitat for two species of introduced sports fish - brown trout and Chinook salmon.

**Table 2 – Introduced and naturalised species in the Mataura River**

Common name	Scientific name	Threat classification (2013) <sup>5</sup>
<b>Diadromous species</b>		
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	Introduced and naturalised
<b>Non-diadromous species</b>		
Brown trout <sup>6</sup>	<i>Salmo trutta</i>	Introduced and naturalised

<sup>4</sup> Allibone, R.M.; David, B.O.; Dunn, N.; Goodman, J.; Hitchmough, R.; Jacques, A.; Ling, N.; D.J.; Ravenscroft, P.; Rolfe, J: *New Zealand Threat Classification Series 7 - Conservation status of New Zealand freshwater fish*, 2013 New Zealand Department of Conservation, 2013.

<sup>5</sup> Ibid.

<sup>6</sup> Brown trout move extensively within fresh water and some have a marine phase to their life cycle.

The diadromous species found in the mainstem of the Mataura River migrate between freshwater and the ocean as part of their life cycle. Brown trout also move within freshwater, and some have an estuarine or marine phase to their life cycle. This behavior makes these species susceptible to harm from habitat, including water quality, degradation, especially when they migrate up or down the Mataura River to and from the ocean or move a lot within freshwater.

## 2. State of receiving environment(s)

The application does not provide an assessment of:

- a. Existing water quality of the Mataura River in relation to the National Objectives Framework; or
- b. The load of total nitrogen and total phosphorus (tons/year) the discharge is contributing to Toetoes Estuary.

The immediate receiving environment of the Mataura River is degraded, with some contaminant parameters beyond its assimilative capacity. The Mataura River flows to a sensitive downstream receiving environment (Toetoes Estuary), which is a highly valued and significant habitat. Toetoes Estuary is also degraded, with some attributes beyond its assimilative capacity. Specifically:

- a. Analysis suggests that median DIN concentrations of ~0.6 mg/L and median DRP concentrations of ~0.02 mg/L are required to meet bottom-line macroinvertebrate index (MCI) attribute states in the NPS-FM.<sup>7</sup> In lieu of more specific catchment-based modelling / evidence, these levels represent an appropriate starting point in setting nutrient outcomes for DIN and DRP to contribute to improving eco-system health outcomes. Monitoring of the Mataura River shows:
  - i. 200m downstream of Mataura Bridge<sup>8</sup>, i.e., upstream of the discharge:
    - DIN - 5-year median: 0.95 mg/L; and
    - DRP - 5-year median: 0.009 mg/L.
  - ii. Mataura Island Bridge<sup>9</sup>, i.e., downstream of the discharge:
    - DIN - 5-year median: 0.99 mg/L; and
    - DRP - 5-year median: 0.009 mg/L
- b. The Mataura Freshwater Management Unit (FMU) has sites that are currently in the D band (poor) for nutrients, sediment, and E. coli, particularly in the lowland river.

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<sup>7</sup> Canning AD, Joy MK, Death RG. 2021. *Nutrient criteria to achieve New Zealand's riverine macroinvertebrate targets*. PeerJ 9:e11556 <https://doi.org/10.7717/peerj.11556>

<sup>8</sup> <https://www.lawa.org.nz/explore-data/southland-region/river-quality/mataura-river/mataura-river-200m-ds-mataura-bridge/>

<sup>9</sup> <https://www.lawa.org.nz/explore-data/southland-region/river-quality/mataura-river/mataura-river-at-mataura-island-bridge/>

Research commissioned by Environment Southland shows that significant reductions in total loads of nutrients (nitrogen and phosphorus)<sup>10</sup> and E.coli<sup>11</sup> are required in the Maitai FMU to achieve the the National Objectives Framework (NOF) national bottom lines in the NPS-FM 2020 .

- c. The Toetoes (Fortrose) Estuary is showing signs of eutrophication (nutrient enrichment) and excess macroalgae growth due to large amounts of nutrients and sediment reaching the estuary.<sup>12</sup> Excessive nutrient inputs are the primary drive of eutrophic systems, including fuelling excess macroalgae growth in the estuary.

The Toetoes Estuary has areas that are currently in the D band (poor) for macroalgae, Gross Eutrophic Zone (GEZ), mud content and sediment oxygen levels. A reduction in nutrient and sediment inputs is required to improve all these attributes above D band (poor) at all sites in the Toetoes Estuary.

- d. Recent findings of the Environment Court on the pSWLP, including mapping of water quality degradation, show that large parts of the Maitai Catchment, including Toetoes Estuary, are degraded with respect to suspended sediment, DIN, DRP, E-coli, and MCI.

As presented, the application does not sufficiently address individual or cumulative effects of the discharge on surface water quality or existing receiving environment degradation, including estuarine functioning. No consideration is given to whether a reduction(s) in contaminants, including the loads of total nitrogen or total phosphorus, from the discharge is warranted due to degraded state of either the Maitai River or Toetoes Estuary. The proposal will contribute to adverse cumulative effects on the Maitai River and Toetoes Estuary that are more than minor.

#### 4. Increase in wastewater volume

The application proposes a 70% increase in the consented average daily volume and a 33% increase in the consented maximum daily volume. In real terms the actual daily volume and maximum daily volume increases are much smaller<sup>13</sup>, however, this is the result of the applicant's previous non-compliance with wastewater volume (average daily and maximum daily) discharge conditions set out in its current discharge consent.

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<sup>10</sup> Snelder, T. November 2021. *Assessment of Nutrient Load Reductions to Achieve Freshwater Objectives in the Rivers, Lakes and Estuaries of Southland Including Uncertainties - To inform the Southland Regional Forum process*. Report prepared by Land Water People for Environment Southland.

<sup>11</sup> Snelder, T. and Fraser, C. August 2021. *Assessment of Escherichia coli Load Reductions to Achieve Draft Freshwater Objectives in the Rivers of Southland Murihiku - To inform the Southland Regional Forum process*. Report prepared by Land Water People for Environment Southland.

<sup>12</sup> Stevens, L.M. 2018. *Fortrose (Toetoes) Estuary 2018: Broad Scale Habitat Mapping*. Report prepared by Wriggle Coastal Management for Environment Southland. 50p.

<sup>13</sup> Based on 2019 – 2022 daily volumes provided, the actual increase is approximately 7% for both average daily and maximum daily discharges.

5. Delay and uncertainty

The applicant's current discharge consent was granted on 10th September 2008 and expires on 10th September 2023, i.e., a consent of 15 years duration. During this time, the vision for freshwater management has changed, including the clear policy direction to prioritize the health and well-being of the Mataura River and its freshwater ecosystems.

The application proposes:

- a. To maintain the wastewater treatment system and discharge of treated wastewater to the Mataura River during the proposed 5-year consent duration while investigations, consenting, and construction is undertaken to upgrade the existing wastewater treatment plant. Investigations will assess alternative effluent disposal methods.
- b. That the requirement for ongoing discharges to the Mataura River and decommissioning of the existing treatment plant, beyond the proposed consent duration, will be addressed as part of a future long term consent application.

It is unclear why the applicant has not explored options for improvement or alternatives, including a discharge to land option, during the 15-year duration of the current consent. The actual period until an alternative long term discharge solution is arrived at could foreseeably be much longer than 5 years. The proposed 5-year consent duration cannot:

- a. Provide any certainty that applicant will not apply in the future to continue to discharge treated waste water to the Mataura River;
- b. Avoid the potential for further delay under s 124 of the RMA - there exists the possibility for the proposed discharge to the Mataura River to extend significantly beyond the 5-year consent duration sought; or
- c. Determine the future work programme and time for implementation of a long-term consent, including the potential staging of management actions or processes for transition to a land-based discharge.

The application suggests that the long-term solution is a discharge to land, but it is not the subject of the current consent applied for. The long-term solution will be determined by a separate resource consent process as required under s 15 of the RMA. To the extent that actions in progressing the long-term solution are relied upon as part of this application, they should be built into the consent issued, rather than assumed.

6. Alternatives

Fish & Game considers the application, which does not involve an assessment of alternatives, including upgrades (particularly when the receiving environment for its discharge is degraded), is inconsistent with:

- a. Schedule 4, s 6(1) of the RMA, which requires:

*"An assessment of the activity's effects on the environment must include the following information: . . .*

- “(d) if the activity includes the discharge of any contaminant, a description of—
- (i) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and
  - (ii) any possible alternative methods of discharge, including discharge into any other receiving environment.” (Emphasis added)

b. Section 105(1) of the RMA, which requires in assessing an application for a discharge permit, the consent authority has regard to:

- “(a) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and
- (b) the applicant’s reasons for the proposed choice; and
- (c) any possible alternative methods of discharge, including discharge into any other receiving environment.” (Emphasis added)

Options for alternative receiving environments in the Edendale / Wyndham areas include:

- a. Partial discharge to the Maitara River and land;
- b. Irrigation to land with all wastewater volume irrigated;

Based on continued use of the existing receiving environment, options include treatment upgrades to provide betterment to the existing surface water environment, including the Fortrose (Toetoes) Estuary. For example, improved treatment to reduce nitrogen and E. coli levels in the wastewater. Options such as these are not considered in the application.

## 7. Review

The proposed consent conditions do not provide for any utilization of reviews. Fish & Game considers a consent of this nature should be subject to a rigorous review process, i.e., bi-annual, or yearly reviews, including reporting on progress of the land-based discharge option, given the importance of the process to a long-term solution (which will require future consents).

## 8. Consent duration

The applicant seeks a 5-year consent duration. Fish & Game considers that this is too long for the following reasons:

- a. There are significant cultural and recreational values associated with the Maitara River. The Maitara River is in a degraded state – there is a substantial gap between current state and the desired environmental outcomes. Improvement in water quality is required to meet the requirements of the NPS-FM 2020 and the pSWLP, let alone achieve hauora. Continuation of the existing wastewater discharge will not result in any improvement in water quality.



- b. The date at which the wastewater discharge to the Mataura River will cease is unknown and is dependent on the outcome of a future long-term consent – see bullet point 5 regarding delay and uncertainty.
- c. No explanation is provided as to why a 5-year duration is required to progress the land-based discharge option or what financial and / or strategic plans are in place to facilitate the process.

**Planning assessment:**

As presented, the adverse effects of the proposed discharge are more than minor. Proposed consent conditions do not provide for an improvement in water quality in the Mataura River or functioning of the Toetoes Estuary. The application is contrary to:

1. The purpose of sustainable management defined in Part 2 of the RMA. Consent conditions proposed by the applicant do not:
  - a. Safeguard the life-supporting capacity of water and ecosystems; or
  - b. Avoid, remedy, or mitigate adverse effects.
2. Matters of national importance outlined in s 6 of the RMA, including: 6(a) and (c).
3. Other matters outlined in s 7 of the RMA, including: 7 (aa), (b), (d), (f) and (h) of the RMA.
4. The objectives and policies of the National Policy Statement for Freshwater (2020), including:
  - a. The fundamental objective of Te Mana o te Wai and hierarchy of obligations that firstly prioritises the health and well-being of waterbodies and freshwater ecosystems;
  - b. Policies 1, 2, 3, 5, 8, 9, 10, 12, and 13; or
  - c. The effects management hierarchy.
5. The objectives and policies of the pSWLP, including: Objectives 1, 2, 4, and 6(a), and Policies 14, 15B(2), 17A(1), and 32.
6. Policies 3 and 4 of the Regional Water Plan for Southland.

**Decision that Fish & Game wish the Council to make:**

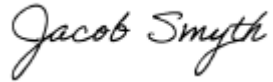
That the application be declined.

Fish & Game does not wish to be heard in support of its submission at a hearing if needed.

Fish & Game does not wish to be involved in any pre-hearing meeting that may be held for this application.

If others make a similar submission, Fish & Game will not consider presenting a joint case with them at a hearing.

Fish & Game has served a copy of its submission via e-mail on the applicant.



Jacob Smyth  
Resource Management Officer  
Fish & Game New Zealand – Southland Region

Date: Tuesday, 29 August 2023

Cc: Southland District Council

C/- GHD Limited  
138 Victoria Street  
Christchurch Central,  
**Canterbury 8013**

**Attention: Jan Steenkamp**

Sent via e-mail: [Jan.Steenkamp@ghd.com](mailto:Jan.Steenkamp@ghd.com)