



Submission on a Publicly Notified Application for Resource Consent

To: Environment Southland
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(By email)

Attention: Alexandra Smith, Senior Consents Officer

Name of submitter: Fish & Game New Zealand – Southland Region (Fish & Game)
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Application: APP-20242456 - Te Rūnanga o Awarua, Department of Conservation and Environment Southland

Description of activity: To periodically open Waituna Lagoon to the sea by excavating a channel through the barrier beach and berm between the lagoon and the sea.

Purpose: To establish a regime for the management of water levels in the lagoon. The proposed regime utilises a combination of water level, ecological, water quality and fish passage triggers and thresholds over a 20 year term to guide lagoon openings.

Our submission relates to: The whole application.

Our submission is: We support the application in its entirety.

Our reasons for comments are:

The Applicant has applied for resource consents for 20 years duration to periodically excavate and open a channel in the seaward bank of Waituna Lagoon to divert and discharge its waters into Toetoes Bay, primarily to maintain and restore the ecological health and cultural values of the lagoon.

The Waituna catchment has significant Fish & Game values. Specifically:

1. It is a sensitive catchment draining into the Waituna wetland, which includes Waituna Lagoon.

2. Waituna wetland, including Waituna Lagoon, supports a significant population of native and introduced waterfowl, including game species that have been hunted since the late 19th century during the annual game bird hunting season.
3. Waituna Lagoon and its tributaries support a regionally significant brown trout fishery which offers coastal lagoon angling opportunities, especially when river systems in the Southland region are in flood.

The National Angling Survey provides that:

- a. 2,200 ± 590 angler days were spent fishing Waituna Lagoon during the 2014 / 2015 angling season;
- b. Angling usage of Waituna Lagoon is increasing over time: 2,200 ± 590 angler days – 2014 / 2015, 1,840 ± 410 angler days – 2007 / 2008, 1,220 ± 550 angler days – 2001 / 2002, and 1,120 ± 320 angler days – 1994 / 1995; and
- c. Waituna Lagoon is the fifth most heavily fished lake fishery in Southland behind Lakes Te Anau (15,400 ± 1,770 angler-days), Manapouri (4,410 ± 770 angler-days) North and South Mavora (3,380 ± 1,300 and 1,410 ± 560 angler-days, respectively) and Lake Monowai (2,510 ± 660 angler-days).

Tributaries of Waituna Lagoon (Waituna, Moffat and Carrans Creeks and their tributaries) provide critical spawning habitat for the brown trout fishery.

4. Great diversity of wildlife is associated with Waituna wetland and the lagoon, including Northern Hemisphere migrant species and other bird species such as paradise shelduck, New Zealand shoveller, pukeko, white heron, gulls, spoonbill, kotuku, oystercatcher, dotterels, terns, marsh crakes, bitterns, and fernbirds. Some of these indigenous bird species are recognised as:
 - a. Having nationally critical and at risk (declining) conservation status under the New Zealand Threat Classification System;¹ and
 - b. Taonga species in Appendix M of the pSWLP.

¹ Robertson, H.A.; Baird, K.A.; Elliott, G.P.; Hitchmough, R.A.; McArthur, N.J.; Makan, T.D.; Miskelly, C.M.; O'Donnell, C.F.J.; Sagar, P.M.; Scofield, R.P.; Taylor, G.A.; Michel, P. 2021: Conservation status of birds in Aotearoa New Zealand, 2021. *New Zealand Threat Classification Series* 36. Department of Conservation, Wellington. 43 p.

5. Waituna wetland, including Waituna Lagoon and its tributaries, provide important spawning grounds and habitat for indigenous fish species, including giant and banded kōkopu, varieties of flat fish, tuna, kanakana, kokopu, waikakahi, and koura. Many of these indigenous freshwater fish species are recognised as:
 - a. Having threatened (at risk) and threatened conservation status under the New Zealand Threat Classification System;² and
 - b. Taonga species in Appendix M of the pSWLP.

In addition, Waituna Lagoon is popular for other recreational pursuits such as walking, boating, kayaking and scientific appeal / scope for scientific research.

The significance of the Waituna catchment is recognised as far as:

1. The Waituna Wetland was designated in 1976 as a Ramsar Wetland of International Importance with respect to its waterfowl and wading bird habitat. The wider wetland complex was subsequently included in 2008. Great diversity of wildlife is associated with the Waituna wetland complex.
2. In 1983 Waituna Lagoon and the immediately surrounding wetland (an area of 3,500ha) was designated as the Waituna Wetland Scientific Reserve under the Reserves Act 1977 and is administered on behalf of the Crown by the Department of Conservation.
3. Waituna Wetland has a statutory acknowledgement under the Ngāi Tahu Claims Settlement Act 1998 which recognises Ngāi Tahu's cultural, spiritual, historic, and traditional association to Waituna.³
4. Waituna Scientific Reserve is identified as a regionally significant wetland in Southland in Appendix B of the Regional Water Plan for Southland 2010 (the RWP) and Appendix A of the proposed Southland Water and Land Plan (the proposed SWLP).

Actual and potential adverse effects on the environment

Monitoring of Waituna Lagoon over the last 15+ years has shown a rapid decline in lagoon condition to the point that it has deteriorated to a degraded condition. The two main risks to the ecological health of the lagoon are:

² Dunn, N.R.; Allibone, R.M.; Closs, G.P.; Crow, S.K.; David, B.O.; Goodman, J.M.; Griffiths, M.; Jack, D.C.; Ling, N.; Waters, J.M.; Rolfe, J.R. 2018: Conservation status of New Zealand freshwater fishes, 2017. *New Zealand Threat Classification Series 24*. Department of Conservation, Wellington. 11 p.

³ Refer to sections 205 and 206 of the Ngāi Tahu Claims Settlement Act 1998.

1. Poor water quality due to high nutrient and sediment inputs from its catchment; and
2. A hydrological regime that has been altered due to a history of opening the lagoon primarily for land drainage.

The adverse ecological effects associated with opening the lagoon may be significant, particularly depending upon seasonality of timing. If the lagoon is opened in spring (a time when it is unlikely to close again before summer), there is a risk of adverse effects to *Ruppia* communities. *Ruppia* is a key macrophyte that grows on the bed of the lagoon, which is considered an indicator of its ecological health. *Ruppia* provides habitat for invertebrates and fish and is a food source for invertebrates and waterfowl. It also plays a role in regulating water quality by stabilizing sediments, reducing turbidity and up taking nutrients.⁴

A range of recommendations were made to Environment Southland in 2013 by the Lagoon Technical Group to guide management of the Waituna Lagoon, including that:

1. An ecological health objective should be set for the lagoon based on a stable and self-sustaining native macrophyte (aquatic plant) population.

A minimum target cover of >30-60% cover of *Ruppia* and other native macrophytes (based on average annual % cover at permanently wetted sites in March / April) was recommended as an indicator target that represents an ecological condition of 'moderate'.⁵ To achieve this objective, it has been recommended that:

- a. Specific nitrogen and phosphorus loading rates to the lagoon be set; and
 - b. A lagoon opening regime consistent with the objective be established.
2. Waituna Lagoon is in an unstable ecological state and requires active management to improve its condition and reduce the risk of further degradation.
 3. Recommended catchment nutrient loading to achieve the proposed macrophyte targets by approximately 50% of the current estimated nitrogen and phosphorus inputs to the lagoon.⁶
 4. A change in the management of the lagoon opening regime is required to protect lagoon ecology. Specifically:

⁴ Waituna Lagoon Technical Group, *Ecological Guidelines for Waituna Lagoon*, December 2013, p. 9.

⁵ Ibid, p. 14.

⁶ Ibid, pp. 16 – 17.

- a. Periodic openings to flush out accumulated sediment and nutrients was recommended, but extended openings during summer that threaten the viability of keystone aquatic vegetation community (i.e., *Ruppia*) should be avoided.
- b. Opening management should aim for winter openings (May – July) because they have a high chance of closing before summer and should be associated with the most efficient flushing effect.
- c. By comparison, spring openings have a high likelihood of staying open through the summer period, with consequently large disturbance to the aquatic vegetation cover.⁷

To achieve the ‘moderate’ ecological target recommended for Waituna Lagoon, it was desirable to have a freshwater lagoon with a short marine phase (e.g., two months) to limit the levels of salinity over spring and summer, which are having an adverse effect on *Ruppia* germination and growth.⁸

In 2017, the Waituna Science Advisory Group established that higher water levels, than previously allowed for, would be beneficial to the ecology of the lagoon, and that 2.5m ASL is the water level that the lagoon should be allowed to reach if being managed for ecological values.

In 2021 the Whakamana Te Waituna Trust commissioned a body of work to develop an ecologically based opening regime for Waituna Lagoon. This work was further refined in 2023/24 to inform the current consenting process, producing a robust expert summation of the rationale for specific lagoon opening thresholds aimed at maintaining and restoring the ecological and cultural health of the lagoon ecosystem⁹.

Position on the Application

Fish & Game **supports** the application.

Fish & Game accepts that the expert review commissioned by the Trust is robust and therefore that the proposed consent conditions are appropriately aimed at maintaining and restoring Waituna Lagoon’s ecological and cultural health.

Decision we wish made

That the application be granted.

⁷ Ibid, pp. 18 – 19.

⁸ Ibid, p. 40.

⁹ Robertson, H., Atkinson, N., de Winton, M., Schallenberg, M., Holmes, R., Rabel, A., Jenkins, C, Whaanga, D. (June 2024), *Technical review of conditions for opening Waituna Lagoon. Prepared for the Department of Conservation, Te Runanga o Awarua and Environment Southland.*



Fish & Game wishes to be heard in support of its submission at a hearing if needed.

If others make a similar submission, Fish & Game will consider presenting a joint case with them at a hearing.

Fish & Game has served a copy of its submission on the Applicants.

Jacob Smyth

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Jacob Smyth
Resource Management Officer
Fish & Game New Zealand – Southland Region
Date: Thursday, 5 August 2024