

13 July 2022

Submission on a Publicly Notified Application for Resource Consent

To: Environment Southland

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Name of submitter: The Royal Forest and Bird Society of New Zealand

PO Box 6230, Dunedin North

Dunedin

Name of Applicant: Lake Waituna Control Association (the Applicant)

Application: Land use consent and coastal permit application APP-20211669

Purpose: To reduce inundation and improve drainage of farmland and to flush nutrients.

Location: Coastal Marine Area and Section 29 Block XIII Oteramika Hundred.

The openings may occur in the gravel barrier between Lake Waituna and Toetoes Bay at the following locations:

- Walker's Bay between NZTM 1262291E, 4831330N and 1261460E, 4831000N;
- Hansen's Bay between NZTM 1265305E, 4832570N and 1265405E, 4832605N;
- on the coast opposite Waghorns Bridge between NZTM 1267033E, 4833144N and 1267421E, 4833249N; and
- at the eastern end of the lagoon between NZTM 1267791E, 4833340N and 1268092E, 4833413N.

Description of Activity: The applicant is applying for 20-year consents to:

- Periodic opening of Lake Waituna to the sea by excavation of a channel through the gravel barrier separating Lake Waituna from Toetoes Bay. The works include disturbance of the foreshore and placement of excavated material adjacent to the excavation.
- Disturbance of the lake bed associated with the excavation of the channel.
- Diversion of water from Lake Waituna and associated wetlands.

- Discharge of water from Lake Waituna into the coastal environment.

The applicant states that the openings are primarily to reduce lake levels in order to facilitate drainage outfall on farmland within the Waituna catchment, and to protect the ecological health of Lake Waituna.

Forest and Birds position on the proposed activity:

I, Chelsea McGaw of the Royal Forest and Bird Protection Society **oppose** the granting of The Lake Waituna Control Association to hold 20-year consents/permits to open Waituna Lagoon to the ocean for the purpose of draining farmland. I seek that the application in its current form is **declined**.

I, do wish to be involved in any pre-hearing meeting that may be held for this application.

I, do wish to be heard in support of my submission.

If others make a similar submission, I will consider presenting a joint submission with them at a hearing.

Forest and Bird Reasons for opposition:

Forest and Birds position is that the proposed activities applied for under three consents have the potential to cause adverse impacts on one of only seven internationally significant wetlands (RAMSAR sites) in Aotearoa.

Forest and Bird seek the proposed activity to be considered **prohibited** under Regulation 53 of the National Environmental Standards for Freshwater Management (NES-FW) because it involves drainage of a natural wetland:

53 Prohibited activities

- (1) Earthworks within a natural wetland is a prohibited activity if it—
 - (a) results, or is likely to result, in the complete or partial drainage of all or part of a natural wetland; and
 - (b) does not have another status under any of regulations 38 to 51.
- (2) The taking, use, damming, diversion, or discharge of water within a natural wetland is a prohibited activity if it—
 - (a) results, or is likely to result, in the complete or partial drainage of all or part of a natural wetland; and
 - (b) does not have another status under any of regulations 38 to 51.

The application and notification report prepared by Environment Southland both assess the activity as non-complying under Reg 52. This assessment relies upon a very artificial and ecologically questionable distinction that the lagoon itself is not a 'natural wetland' – the 'wetland' being confined to the peat cushion bog around the margins.

The Resource Management Act 1991 (RMA) definition of a wetland is:

'Wetland includes permanently or intermittently wet areas, shallow water, and land water margins that support a natural ecosystem of plants and animals that are adapted to wet conditions'

The Waituna Lagoon and 'Waituna Scientific Reserve Area' fits the RMA description.

The counter argument is that the lagoon could be considered a lake under the RMA which is defined as

'a body of fresh water which is entirely or nearly surrounded by land'.

Due to the lagoon being characterised as 'brackish', meaning it has slightly salty water, means it does not meet the definition of a lake under the RMA, and should be considered a wetland and is subject to regulation 52 of the NES-FW.

Furthermore, on the RAMSAR website it is specified that the whole 20,000ha of Awarua is considered a wetland. Even Environment Southland themselves refer to the area as a wetland, 'Waituna Lagoon is one of the largest remaining wetland systems in New Zealand and is made up of a number of nationally significant ecosystems'.

Additionally, Forest and Bird do not support the use of an internationally significant wetland site, or any wetland, to be used essentially as a drainage and retention scheme for farmland. There are too many risks and unknowns for this kind of activity to be managed appropriately and responsibly.

The proposed remedies and mitigations will not adequately promote the sustainable management of natural resources. Nor will they avoid, remedy or mitigate the adverse effects of this activity, on the life supporting capacity of water, soils and ecosystems, and the environment. Nor will they provide for the matters of national importance. Nor will they maintain and enhance the amenity values of the site.

Accordingly, this application is inconsistent with the principles of Part II of the Resource Management Act and does not promote the sustainable management of natural and physical resources.

Background information and context

1. Values and Ecology of Waituna

- 1.1 Waituna Lagoon is a brackish coastal wetland, with very high habitat diversity.
- 1.2 Waituna is part of the Awarua Wetlands and was one of the first in New Zealand to be officially recognised as a wetland of international importance. The 3500-hectare wetland, known as the Waituna Wetland Scientific Reserve, was listed as part of New Zealand's obligations when signing the RAMSAR Wetland Convention. This international convention promotes wise or sustainable use of wetlands and recognises wetlands of international importanceⁱⁱ.
- 1.3 Waituna Lagoon is home to a number of threatened wildlife species including: Southern NZ dotterel, Australasian bittern, Eastern bar-tailed godwit, fern bird, as well as threatened fish species including long fin eel and giant kokopu, for which Waituna is a strong hold. More than 80 bird and moth species have been recorded as using the Awarua/Waituna wetland complex, including international and internal migratory wadersⁱⁱⁱ and eighteen species of fish have been recorded from within the Waituna catchment.^{iv}. The diversity, condition and large scale of the fish habitat make the Waituna/Awarua a wetland of national importance for fish diversity.
- 1.4 Waituna Lagoon contains outstanding landscapes and provides habitats for an outstanding variety of rare flora and fauna. It is home to some very unusual plants, such as the cushion plant *Donatia* which normally grows in sub-alpine areas.
- 1.5 Waituna Lagoon and the gravel bar and beach have high outstanding natural character and amenity values, which are highly valued by the community.
- 1.6 The Waituna Lagoon is one of the few mostly intact coastal lagoons remaining in Aotearoa and is periodically open to the sea through natural processes where its waters change from freshwater to estuarine in a dynamic system. This is the reason for its significant and diverse biodiversity and ecosystems. Precious ecosystems within the lagoon are threatened by land use intensification around the wetland, which has degraded habitats, modified water levels and reduced water quality.
- 1.7 Waituna Scientific Reserve is listed in Appendix A - Proposed Regional Plan Water as a Regionally Significant Wetlands and Sensitive Water Bodies, and in Appendix B - Regional Water Plan for Southland as a Regionally Significant Wetlands in Southland. Relevant objectives, policies and rules of the proposed Plan, as well as those in the existing Regional Water Plan, must be considered in all resource consent applications.
- 1.8 The Department of Conservation has defined all of Awarua Bay to be an area containing significant values, principally because it is an unmodified habitat of national importance, especially the large eel grass beds and maritime marsh, which adjoins Crown estate managed by the Department of Conservation including the Waituna Wetlands Scientific Reserve and Tiwai Peninsula Conservation

Land (Regional Coastal Plan for Southland 2013 - Section 3.9.2 Areas Containing Significant Values and ACSV 14-02 and 14-06 in Appendix 5).

- 1.9 Allowing the lagoon to remain open for a prolonged period over the summer months, which has been the case over the past two years, can adversely affect macrophytes, particularly *Ruppia sp.* (horses mane), that are important for lagoon health^v. Submerged plants have an important role in keeping shallow lakes and lagoons clean and healthy. If submerged plant communities become too stressed they can collapse. The lake or lagoon then enters a new, dirty water state, with high resuspended sediment and macroalgal mats or phytoplankton blooms instead of plants. The submerged native plant species of *Ruppia* safeguard water quality in Waituna Lagoon. Lowering the level in the lagoon risks the loss of *Ruppia*.
- 1.10 Alongside *Ruppia*, another macrophyte *Microphyllum triphyllum* (milfoil) is also present in the lagoon. The availability of fish habitat in the lagoon relies on the presence of healthy macrophyte beds.
- 1.11 The Wildlands (2019) Whakamana Te Waituna Biodiversity Plan states that historically, land clearance, wetland drainage and channel straightening has had an impact on the biodiversity values of the catchment.^{vi}
- 1.12 Waituna Lagoon is a culturally significant site for Ngai Tahu and is an important mahinga kai area. The Lagoon is of cultural significance to Ngāi Tahu recognised by a Statutory Acknowledgement under the Ngāi Tahu Claims Settlement Act 1998.
- 1.13 The Lagoon Technical Committee^{vii} (LTG 2013) describes the Waituna Lagoon as being in an unstable ecological state, exhibiting symptoms of eutrophication and has a high risk of shifting to an algal dominated site. The Committee considers that ‘*Waituna Lagoon is now in a state in which it is vulnerable to the collapse of aquatic plants and the subsequent loss of many of its key values.*’
- 1.14 Annual monitoring by NIWA of the lagoon 2009-21 indicates a decline in lagoon condition, and in *Ruppia* biomass and cover. 2021 is the third monitoring year that fails to achieve any targets, with 2013 and 2017 also not meeting any ecological targets. Surveys that achieved only one or no targets were also years where when the target for lagoon closure (closed >3 months before survey) was not met. Current evidence indicates that having a closed lagoon for at least two consecutive growing seasons is important.
- 1.15 According to the NIWA reports, when the lagoon remains open during the macrophyte growth period, beds are lost, either through desiccation of sites or through increased pressure from wave action or grazing birds as a result of lowered water levels.

Increased salinity during prolonged openings during the growth period was also associated with a shift in productivity in the *Ruppia spp.* Beds. Prolonged lagoon openings during the growth period in recent years resulted in major loss of *Ruppia spp.* beds throughout the lagoon

2. Ngāi Tahu Association with Waituna^{viii}

- 2.1. Ngāi Tahu value the kaimoana available at the lagoon, alongside Harakeke, Raupō, manuka, tōtara and tōtara bark, and Pīngao were also regularly harvested cultural materials. Paru or black mud was available, particularly sought after as a product for making dyes.
- 2.2. The tūpuna had considerable knowledge of whakapapa, traditional trails and tauranga waka, places for gathering kai and other taonga, ways in which to use the resources of Waituna, the relationship of people with the lake and their dependence on it, and tikanga for the proper and sustainable utilisation of resources. All of these values remain important to Ngāi Tahu today.
- 2.3. As a result of this history of use and occupation of the area, there are wāhi tapu and wāhi taonga all along its shores. It is also possible that particular sections of the wetland were used for waiwhakaheketūpāpāku (water burial).
- 2.4. Urupā and wāhi tapu are the resting places of Ngāi Tahu tūpuna and, as such, are the focus for whānau traditions. These are places holding the memories, traditions, victories and defeats of Ngāi Tahu tūpuna, and are frequency protected by secret locations.
- 2.5. The mauri of Waituna 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 Whānui with the area.

3. Economic Benefits of Opening

- 3.1. The applicant states that the economic wellbeing includes those farming on the lagoon margins who are affected by management of the lagoon, and whose wellbeing is strongly linked to being able to farm that land.

4. Impacts of Opening

- 4.1. Understanding the trade-off between improved water quality during lagoon opening and protecting the *Ruppia* spp. habitat is pivotal in management decisions regarding the likely impact of opening events on the ecological character of Waituna Lagoon. More investigation needs to go into this before granting of any drainage consents should be considered.
- 4.2. Managing both the lagoon opening regime and nutrient loads entering into the lagoon from freshwater inputs is vital for ensuring the lagoon remains in a macrophyte dominated state.
- 4.3. The mechanical opening of Waituna Lagoon is a trade-off between providing farm drainage, flushing nutrients and sediment and negative effects incurred from successive openings. The selection of a favoured opening site is also a trade-off between benefits of one site versus negative effects upon the whole lagoon.

- 4.4. Lagoon opening causes physical scouring of *Ruppia* beds due to high flow speeds through the opening.
- 4.5. Lagoon opening is likely to have an impact on the fish populations of Waituna Lagoon, as well as the wildlife populations, which will be influenced by the length of time the lagoon is open.
- 4.6. Opening the lagoon has the potential to remove large and differing amounts of sediment, Total Phosphorus and Total Nitrogen depending on the location. Discharges of these contaminants to the adjacent marine ecosystem have the potential to have an adverse effect.
- 4.7. Mouth opening can change the morphology of the lagoon, build the intertidal sand flat, increase the size of islands within the lagoon, and may cause erosion and/or a significant build-up of marine gravels.
- 4.8. Only tidal phase can be used as a predictor of closure. The most probable 'closing months' are May to August, with winter representing the 'best' chance of closure. The 'worst' chance of closure is between late-October and early-March. Therefore, it has been recommended all openings be avoided over the late-spring and summer months. The applicant has proposed to have the ability to open the lagoon to the coast year wide.

Statutory Assessment

			Forest and Bird assessment
Resource Management Act 1991 (RMA)	Part 5 - Purpose	1) The purpose of this Act is to promote the sustainable management of natural and physical resources. 2) In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while <ul style="list-style-type: none"> a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and c) avoiding, remedying, or mitigating any adverse effects of activities on the environment. 	This application is not consistent with this part of the Act as it has the potential to cause more than minor effect to Waituna Lagoon, the coast and to Ngai Tahu well-being and does not promote the sustainable management of natural and physical resource.
	Part 6 - Matters of national importance	In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance: <ul style="list-style-type: none"> (a) the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development. 	Opening of the lagoon will not preserve the natural character of the coastline, and has the potential to cause further degradation.
	Part 7 - Other matters	In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to— <ul style="list-style-type: none"> (a) kaitiakitanga: <ul style="list-style-type: none"> (aa) the ethic of stewardship: (b) the efficient use and development of natural and physical resources: <ul style="list-style-type: none"> (ba) the efficiency of the end use of energy: 	Regard has not been given to Ngai Tahu and kaitiakitanga. Opening of the lagoon will not maintain or enhance amenity values. Due to the risk of damaging sensitive ecosystems of unique flora and fauna in the lagoon, intrinsic value could be damaged.

		<ul style="list-style-type: none"> (c) the maintenance and enhancement of amenity values: (d) intrinsic values of ecosystems: (e) [Repealed] (f) maintenance and enhancement of the quality of the environment: (g) any finite characteristics of natural and physical resources: (h) the protection of the habitat of trout and salmon: (i) the effects of climate change: (j) the benefits to be derived from the use and development of renewable energy. 	
	Part 8 - Treaty of Waitangi	In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).	Waituna Lagoon is a culturally significant site for Ngai Tahu and is an important mahinga kai area. The Lagoon is of cultural significance to Ngai Tahu recognised by a Statutory Acknowledgement under the Ngai Tahu Claims Settlement Act 1998.
	Section 104 - Consideration of applications	<p>1) When considering an application for a resource consent and any submissions received, the consent authority must, subject to Part 2 and section 77M, have regard to—</p> <ul style="list-style-type: none"> a) any actual and potential effects on the environment of allowing the activity; and ab) any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity; and b) any relevant provisions of— <ul style="list-style-type: none"> (i) a national environmental standard: (ii) other regulations: (iii) a national policy statement: (iv) a New Zealand coastal policy statement: (v) a regional policy statement or proposed regional policy statement: (vi) a plan or proposed plan; and c) any other matter the consent authority considers relevant and reasonably necessary to determine the application. 	<p>It is not proven that the potential positive effects of the activity will outweigh the more than minor negative effects.</p> <p>There are provisions of further statutory documents which are discussed as part of this assessment.</p> <p>As discussed below, this proposal should be assessed as a prohibited activity under the NES-FM (section 53). Therefore, unable to be granted by the Consent Authority.</p>

		5) A consent authority may grant a resource consent on the basis that the activity is a controlled activity, a restricted discretionary activity, a discretionary activity, or a non-complying activity, regardless of what type of activity the application was expressed to be for.	
National Policy Statement for Freshwater Management 2020 (NPS-FM)	Policy 3	Freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole-of-catchment basis, including the effects on receiving environments.	Effect on the whole receiving environment need to be assessed thoroughly, such as the effect of discharged water on the receiving environment in a variety of different tides and weather scenarios. Different regimes of lagoon opening have not been assessed in-depth (such as restoring the natural process of lagoon opening, or only opening every 2-3 years), these should be explored further and managed appropriately.
	Policy 6	There is no further loss of extent of natural inland wetlands, their values are protected, and their restoration is promoted.	This proposal does not promote the restoration of the wetland, its purpose is primarily for drainage of farmland and the Waituna Lagoon values could be further lost.
	Policy 8	The significant values of outstanding water bodies are protected.	Due to Waituna Lagoon being a RAMSAR Wetland Convention site, it has been identified as an outstanding water body with significant value. This must be protected to the upmost ability of decision makers and any activity within it which has a potential of causing more than minor effect must be considered very seriously.
	Policy 9	The habitats of indigenous freshwater species are protected.	There are many indigenous flora and fauna species that exist within the lagoon and rely on the ecosystems within. The proposed activity has the potential to cause significant effect to these.
Resource Management	Section 53	Drainage of natural wetlands - Prohibited activities 1) Earthworks within a natural wetland is a prohibited activity if it—	The application and notification report prepared by Environment Southland both assess the activity as non-complying under Reg 52.

<p>(National Environmental Standards for Freshwater) Regulations 2020 (NES-FM)</p>		<ul style="list-style-type: none"> a) results, or is likely to result, in the complete or partial drainage of all or part of a natural wetland; and b) does not have another status under any of regulations 38 to 51. <p>2) 2) The taking, use, damming, diversion, or discharge of water within a natural wetland is a prohibited activity if it—</p> <ul style="list-style-type: none"> a) results, or is likely to result, in the complete or partial drainage of all or part of a natural wetland; and b) does not have another status under any of regulations 38 to 51. 	<p>This assessment relies upon a very artificial and ecologically questionable distinction that the lagoon itself is not a ‘natural wetland’ – the ‘wetland’ being confined to the peat cushion bog around the margins.</p> <p>The Resource Management Act 1991 (RMA) definition of a wetland is: ‘Wetland includes permanently or intermittently wet areas, shallow water, and land water margins that support a natural ecosystem of plants and animals that are adapted to wet conditions’</p> <p>The Waituna Lagoon and ‘Waituna Scientific Reserve Area’ fits the RMA description.</p> <p>The counter argument is that the lagoon could be considered a lake under the RMA which is defined as ‘a body of fresh water which is entirely or nearly surrounded by land’.</p> <p>Due to the lagoon being characterised as ‘brackish’, meaning it has slightly salty water, means it does not meet the definition of a lake under the RMA, and should be considered a wetland and is subject to regulation 52 of the NES-FW.</p> <p>Furthermore, on the RAMSAR website it is specified that the whole 20,000ha of Awarua is considered a wetland. Even Environment Southland themselves refer to the area as a wetland, ‘Waituna Lagoon is one of the largest remaining wetland systems in New Zealand and is made up of a number of nationally significant ecosystems’.</p>
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New Zealand Coastal Policy Statement 2010 (NZCPS)	Objective 1	To safeguard the integrity, form, functioning and resilience of the coastal environment and sustain its ecosystems, including marine and intertidal areas, estuaries, dunes and land.	The mechanical opening of the lagoon does not safeguard the integrity of its natural functioning. As mentioned above, it also has the potential to significantly harm eco-systems.
	Objective 2	To preserve the natural character of the coastal environment and protect natural features and landscape values.	Mechanically opening the lagoon to the coast does not preserve the natural character or features of the lagoon and will release estuarine and wetland sediment to the coastal marine area.
	Objective 3	To take account of the principles of the Treaty of Waitangi, recognise the role of tangata whenua as kaitiaki and provide for tangata whenua involvement in management of the coastal environment.	As above, Waituna Lagoon is a culturally significant site for Ngai Tahu and is an important mahinga kai area. The Lagoon is of cultural significance to Ngāi Tahu recognised by a Statutory Acknowledgement under the Ngāi Tahu Claims Settlement Act 1998.
	Policy 3	1) Adopt a precautionary approach towards proposed activities whose effects on the coastal environment are uncertain, unknown, or little understood, but potentially significantly adverse.	As above, effect on the whole receiving environment needs to be assessed thoroughly, such as the effect of discharged water on the receiving environment in a variety of different tides and weather scenarios. Different regimes of lagoon opening have not been assessed in-depth (such as restoring the natural process of lagoon opening, or only opening every 2-3 years), these should be explored further and managed appropriately.
	Policy 11	Indigenous biological diversity (biodiversity) - To protect indigenous biological diversity in the coastal environment	As above, the proposed activity has the potential to cause significant effect to indigenous flora and fauna.
	Policy 13	Preservation of natural character 1) To preserve the natural character of the coastal environment and to protect it from inappropriate subdivision, use, and development	As above, mechanically opening the lagoon to the coast does not preserve the natural character or features of the lagoon and will release estuarine and wetland sediment to the coastal marine area.

Proposed Southland Water and Land Plan – Part A (partially operative)	Objective 14	The range and diversity of indigenous ecosystems and habitats within rivers, estuaries, wetlands and lakes, including their margins, and their life-supporting capacity are maintained or enhanced.	The mechanical opening of the lagoon does not safeguard the integrity and natural functioning of ecosystems and habitats and has the potential to significantly harm eco-systems.
	Objective 17	Preserve the natural character values of wetlands, rivers and lakes and their margins, including channel and bed form, rapids, seasonably variable flows and natural habitats, and protect them from inappropriate use and development.	Mechanically opening the lagoon to the coast does not preserve the natural character or features of the lagoon and will release estuarine and wetland sediment to the coastal marine area. Seasonably variation in flows will not be preserves, as the natural hydrology is altered with mechanical opening and closing.
Regional Coastal Plan for Southland (2013)	3.9	<p>Coastal Values - Bluff Harbour and Awarua Bay</p> <p>3.9.2) The Department of Conservation has defined all of Awarua Bay to be an area containing significant values, principally because it is an unmodified habitat of national importance, especially the large eel grass beds and maritime marsh, which adjoins Crown estate managed by the Department of Conservation including the Waituna Wetlands Scientific Reserve and Tiwai Peninsula Conservation Land.</p> <p>3.9.4) Ecosystems, Vegetation and Fauna Habitats</p> <p>Awarua Bay, with its extensive low tide feeding areas, is part of the five Southland estuaries complex which are ranked in the top five most important wading bird habitats in New Zealand. This wetland complex is internationally recognised and is an integral part of world wildlife habitat.</p> <p>3.9.11) Principal Issues:</p> <p>5) Maintenance and enhancement of water quality.</p> <p>6) Protection of significant habitats of indigenous fauna.</p>	<p>Due to the potential to harm eco-systems and habitat from the proposed activity, these values will be put at risk. Water quality could be further degraded from agricultural run-off.</p>

	3.10	<p>3.10.3) Natural Character and Landscape Values:</p> <p>The dominant landscape elements in this reach are the extensive shingle beaches, gravel bars, dune lands and their associated native vegetation, and the adjoining peat bogs, lagoons, estuaries, salt marshes and tidal flats, most of which are largely unmodified. The lack of modification results in the area having very high natural character of a type not found elsewhere in the region.</p> <p>3.10.5) Coastal Landforms and Associated Processes</p> <p>Tiwai Peninsula, Waituna Lagoon and Fortrose Spit are all geologically recent landforms connected to changes in sea level and the Maitara River. Submarine lignite deposits found in Toetoes Bay are rated as being of regional geological significance because they illustrate sea level rise and tectonism since early Quaternary time.</p> <p>While the relief of the peninsulas, spits and barrier beaches along this reach is low, they have strong, yet soft, horizontal lines. The dune system on the Fortrose Spit has been identified as containing a diverse and natural community of dune species which is rated as nationally important. The interaction between the sea and inland waters is evident by the natural closing of the Waituna Lagoon outlet and the instability of the bar at the mouth of the Toetoes Estuary.</p> <p>The nearshore and foreshore protect these landforms from the action of waves.</p> <p>Sediments, especially quartz gravels are derived from local sources.</p> <p>Past coastal monitoring has suggested a trend towards accretion but this is possibly not indicative of every location within this reach</p>	<p>As above, mechanically opening the lagoon to the coast does not preserve the natural character or features of the coast or estuarine systems and will release estuarine and wetland sediment to the coastal marine area.</p>
	Policy 6.1.4	Protect the cumulative habitat value of Southland estuaries:	Due to the points of discharge proposed, there is a risk that the habitat value of some of these areas will be degraded.

		<p>Protect the cumulative habitat value of the New River Estuary, Awarua Bay, Bluff Harbour, Jacobs River Estuary, Waituna Lagoon, Haldane Estuary, Waikawa Harbour and Toetoes Estuary complex to bird species.</p>	
	<p>7.4.2.2</p>	<p>Issue: The opening or diverting of river mouths can alter social, cultural and habitat values and natural character.</p> <p>Policy: The status of the Waituna Lagoon:</p> <p>Recognise the status of the Waituna Lagoon as a major part of the Waituna Wetlands Scientific Reserve when considering its opening for the purpose of relieving adjoining land and infrastructure from the adverse effects of inundation. In considering whether opening should occur impacts upon the wildlife and indigenous vegetation values of the wetland need to be taken into account.</p> <p>Rule: Opening of the Waituna Lagoon:</p> <p>Explanation - The values to be taken into account in assessing an application are farmland infrastructure, wildlife and ecosystems.</p>	<p>Due to the significance of Waituna Lagoon and the wider Waituna Scientific Area, the values of wildlife and eco-systems should be given greater weight than that of farmland and man-made infrastructure.</p>



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ⁱ Environment Southland (2015) Strategy and Action Plan for Waituna

ⁱⁱ Southland Conservancy Published by Department of Conservation Christchurch 2006 RS007

ⁱⁱⁱ Department of Conservation 2006. Information Sheet on Ramsar Wetlands.

^{iv} Lagoon Technical Group, 2013. Ecological Guidelines for Waituna Lagoon.

^v NIWA (2021) Vegetation Status in Waituna Lagoon: Summer 2021

^{vi} Wildlands (2019) Whakamana Te Waituna Biodiversity Plan

^{vii} Lagoon Technical Group, 2013. Ecological Guidelines for Waituna Lagoon.

^{viii} Southland Water and Land Plan - Ngāi Tahu Association with Waituna