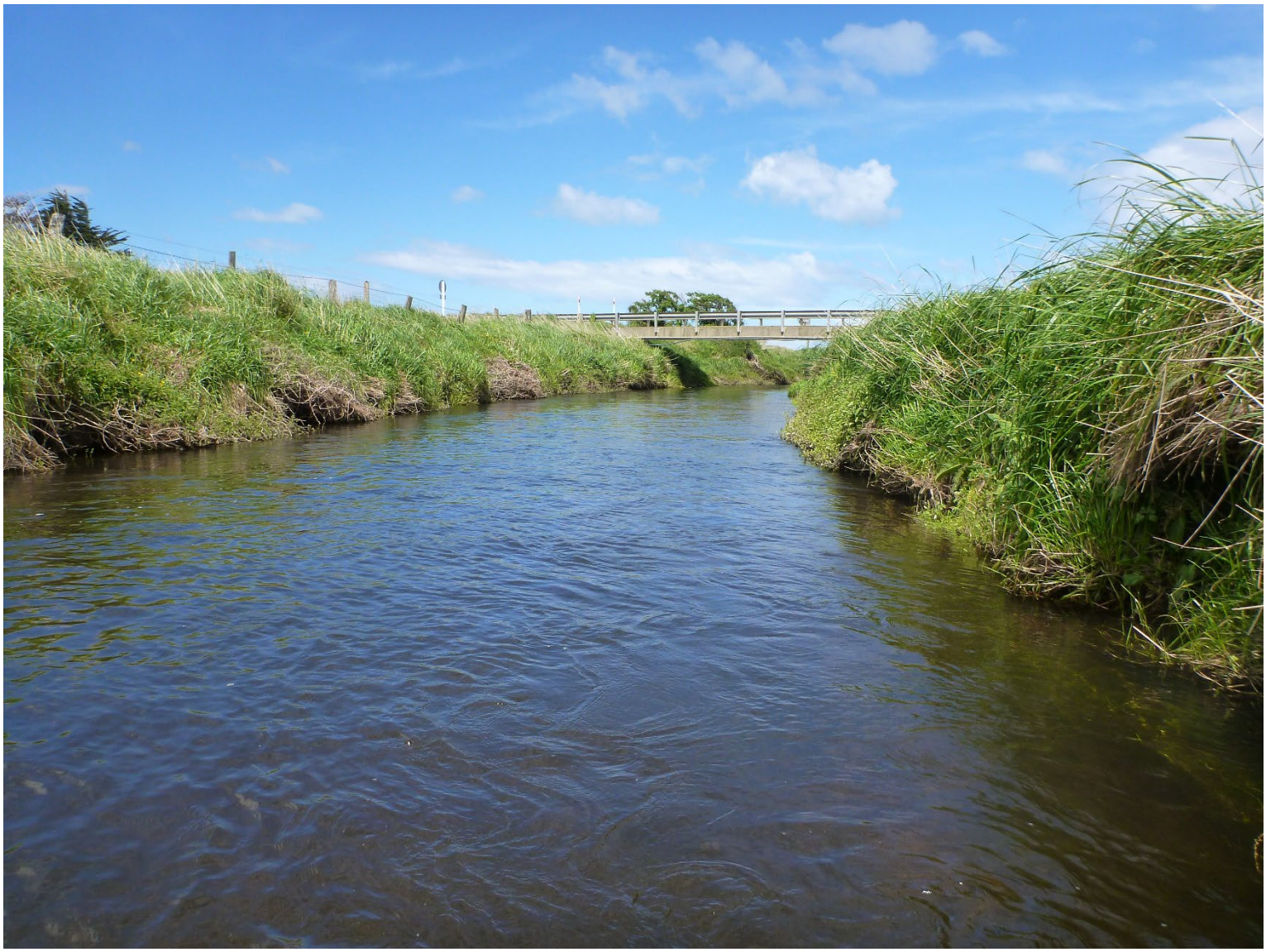


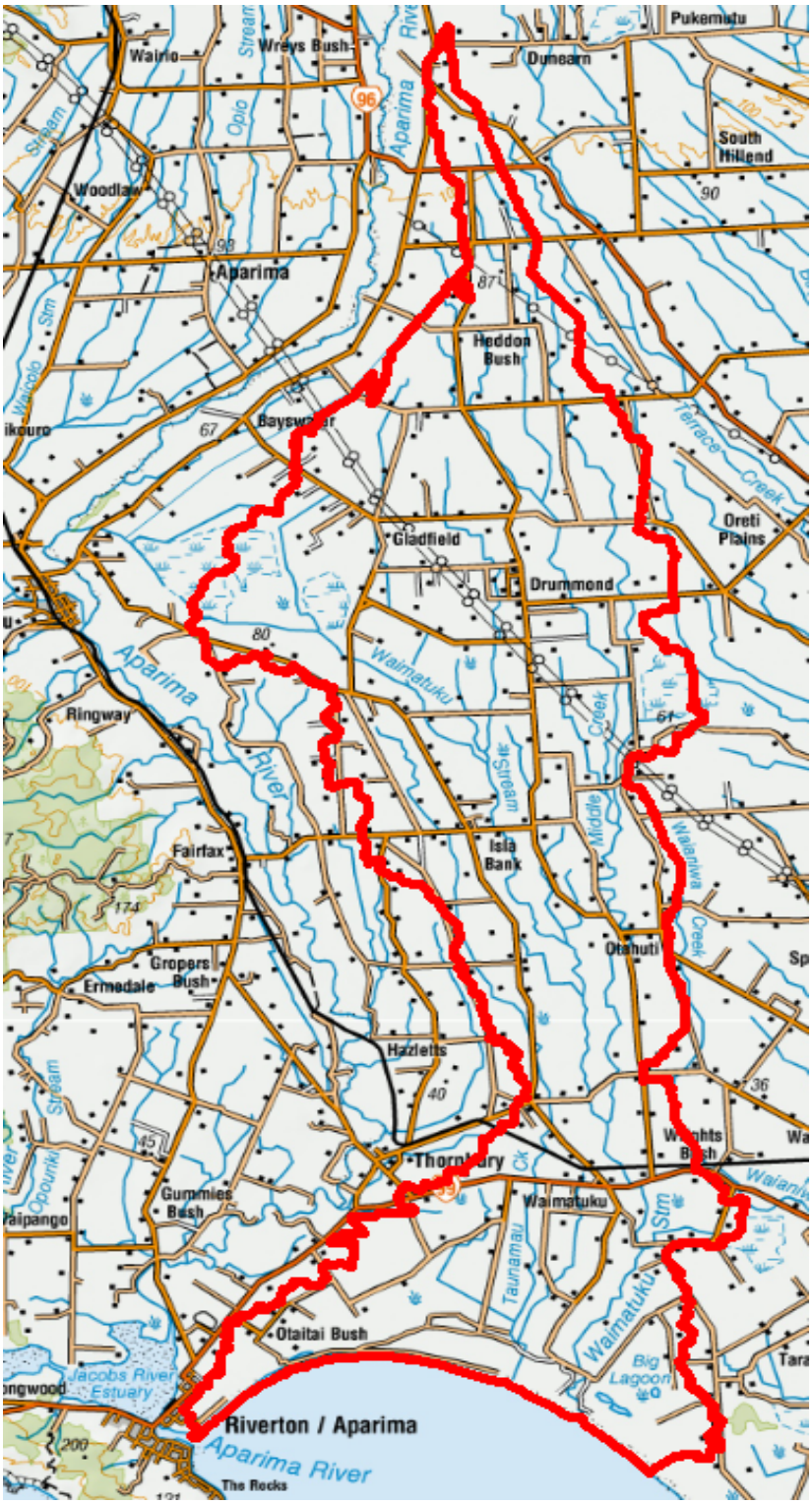
Catchment context, challenges and values for Waimatuku and Taunamau

Version 1.1 November 2024

Te Ao Marama Inc.

environment SOUTHLAND
REGIONAL COUNCIL
Te Taiao Tonga

Waimatuku and Taunamau



Ki uta ki tai (from mountains to sea)

The Waimatuku and Taunamau zone encompasses the narrow coastal margin around the southern end of the catchment from Riverton in the west to Big Lagoon in the east.

Waimatuku is a low-elevation, low-relief catchment that originates at Bayswater Bog near Otautau and extends across the Southland Plains to the Waimatuku Estuary. The neighbouring Taunamau catchment is located west of Waimatuku and broadly extends from Isla Bank to the coast.

The Waimatuku Stream and its tributaries underwent significant straightening works from the 1920s and is now a channelised stream with uniform bank margins. It typically has moderate flows, with few floods or extreme low flow events because much of the flow is derived from groundwater discharge. Wetland areas remaining in the Waimatuku and Taunamau catchments are recognised as being regionally significant. These include the whole of the Waimatuku Estuary, Big Lagoon, Waimatuku wetland, Drummond peat swamp and Bayswater Bog.

Groundwater is managed within the Waimatuku groundwater zone.

Today, the main town in the in the Waimatuku and Taunamau catchments is Drummond. The township grew after 1893 when the Gladfield Estate was broken into smaller lots. Settlers drained swamps, farmed sheep, and grew oats, wheat, linseed and grasses. Many of these land uses continue in the catchment today as does the harvesting of fish and water-based plants from the estuaries and the riverbank.

Approximately 1,000 people live in the Waimatuku and Taunamau zone. The relatively high proportion of people living rurally in these areas is reflective of Southland and highlights strong urban and rural connections.

Of the approximately 25,400ha of land in the zone, an estimated 13,600ha is farmed and 500ha is within conservation estate. The local catchment group is the Waimatuku Catchment Group.

There is 100ha of Māori freehold land within the Waimatuku and Taunamau zone.

Te Mana o Te Wai

Mauri 1: Maintaining the quality of water from the headwaters to the coast
Mauri 2: Protecting and restoring springs and the quality of spring fed waters to the coast
Mauri 3: Protecting, restoring and re-establishing wetlands
Mauri 4: Protecting groundwater quality
Mauri 5: Protecting coastal waters from contamination.

Hauora

A state of hauora and healthy resilience in the Waimatuku and Taunamau zones will be supported when:

- sources of *E. coli* from human activity are prevented from reaching waterbodies as much as possible
- erodible lands and waterbody margins are stabilised
- sediment is prevented from reaching waterbodies as much as possible
- the flow of water is slowed by reintroducing bends, pools and wetland margins to straightened and channelised waterbodies
- wetlands are protected and re-established or restored
- nitrogen and phosphorus are reduced to levels that restore water quality to within the natural range for waterbodies
- natural habitat and biodiversity are abundant in riparian margins and instream

Waimatuku and Taunamau – key freshwater issues

(not in order of priority)

- Elevated nutrient (nitrogen and phosphorus) concentrations and sedimentation in lowland streams.
- Animal and human faecal contamination of surface waterbodies (as indicated by *E.coli* levels).
- High levels of groundwater nitrogen contamination in the Central Plains-Waimatuku headwaters areas. These exceed drinking water standards in multiple locations.
- Concentrations of nitrate/nitrogen exceed national toxicity bottom lines at some locations.
- Threats to culturally significant indigenous species, including the loss of habitat required to support these species.
- Fish passage

- Wetland loss

Assessment of Degradation

As part of regional plan development an assessment of which catchments are degraded has been undertaken for the Southland Region. The mapping tool will have generated whether your boundary is within a degraded catchment or not and attached the map in the appendices. The below assessment of degradation is relevant to your location:

Your land may sit within a degraded catchment

The Waimatuku and Taunamau zones have been assessed as degraded. Actions must be included in the Farm Plan to demonstrate a reduction in contaminants contributing to this degradation. This definition of 'degraded' was set using a lower bar than what would be considered necessary to help achieve a state of hauora. The coming Plan Change Tuatahi will likely raise this bar to the level of hauora. To future-proof your operation you should incorporate actions that strive for a state of hauora. By default, doing this will also ensure the requirements of the Southland Water and Land Plan are met. Whilst the catchment context information provided here may give some guidance on what contaminants to focus on at a catchment scale, it is critical to utilise farm specific information when assessing contaminant loss risk and appropriate on farm mitigation actions.

Schedule X Maps

Schedule X is a new method that shows where water quality is degraded within a catchment. Using the catchment context online tool, schedule X maps (which show the status of degradation) for the following parameters are available for your farm boundary.

- Total phosphorus
- Total nitrogen
- Suspended sediment
- E-coli

The water quality in all areas needs to be maintained or improved. Not degraded catchments need farm plan actions that **minimise** contaminant losses to the smallest amount reasonably practicable. Degraded catchments need farm plan actions that **reduce** contaminant losses so as to cause a reduction in adverse effects on water quality.

Waimatuku & Taunamau contaminants

Supporting hauora outcomes

Modelling suggests that substantial nitrogen, phosphorus, sediment, and *E. coli* load reductions are required to support a state of hauora in the Waimatuku and Taunamau zones.

There are uncertainties associated with the exact percentage reductions required.[1] What is clear is that the gap between current water state and hauora is large and that we need to take significant action to address this. Property actions should focus on mitigating the specific contaminant loss risks that exist on your land. Given we know these substantial catchment reductions are required, significant on farm actions are needed to head in the right direction towards achieving the desired outcomes for our freshwater.

This modelling uses the updated 2022 periphyton criteria released by the Ministry for the Environment. These results are specific to achieving draft hauora objectives, assumes a 20% spatial exceedance criteria for periphyton and that streams and rivers are shaded. Reported results indicate the reductions required to meet river nitrate toxicity, river periphyton, river *E. coli* (human contact), lake and estuary macrophyte and phytoplankton, river visual clarity, and river suspended sediment draft objectives only. All draft objectives referred to are those to achieve the bottom of the hauora band as described in Bartlett et al. (2020).[2]

Property specific information

Each farm has its unique characteristics, such as soil type, topography, climate, land use, and management practices. Using farm-specific information allows for a tailored approach to environmental management.

To address the issue of contaminant loss, it is crucial to begin by assessing farm-specific information on potential loss pathways and associated risks. In the absence of more detailed farm-specific information, consider your property's location and physiographic information. This will help you identify key contaminants and loss pathways that should be given particular attention when choosing mitigation actions.

Soils

A soil breakdown and map are included for your property as a part of this report.

[1] Specific load reduction estimates can be found in: Snelder et al. (2021a) [Snelder et al. (2021b) [and Neverman et al. (2021) [LandCare Report (es.govt.nz)].

[2] See: Draft Murihiku Southland Freshwater Objectives [http://www.es.govt.nz/murihiku-southland-freshwater-objectives]

Climate

The climate of Waimatuku and Taunamau spans the coastal and intermediate climate zones. The coastal zone is subjected to cold, salt-laden winds from the south and west. The intermediate zone has a temperate climate with few severe frosts. It too, is subject to both southwest and northwest winds with annual rainfall totals around 1000 to 1100mm.[3]

Freshwater data

Water quality results can be explored on the Land, Air and Water Aotearoa website. You can also look at Southland's Water Story[4] for more information.

Sites of community significance

Drummond is the main settlement within the catchment, with approximately 100 people living in the Waimatuku-Taunamau zone.
The Waimakuku outlet to the sea is a popular coastal location for recreational activities such as whitebaiting and fishing.

Significant species or ecosystems

Taonga species[5]

- *Anguilla dieffenbachii* (longfin eel) – At Risk, Declining
- *Galaxias brevipinnis* (kōaro – whitebait) – At Risk, Declining
- *Galaxias maculatus* (īnaka – whitebait) – At Risk, Declining

Significant ecosystems include the wetlands and streams within the regionally significant wetland areas at Bayswater, Drummond and Big Lagoon.

[3] Environment Southland climate data
[4] https://waterstory.es.govt.nz/
[5] See: https://www.legislation.govt.nz/act/public/1998/0097/latest/DLM431337.html and https://www.legislation.govt.nz/act/public/1998/0097/latest/DLM431341.html

Cultural matters of importance to tangata whenua

The lowland waterbodies of Waimatuku catchment are known for interconnected forests, wetlands and coastal resources.

Waimatuku was once a tributary of the Aparima River. It was named after Waimatuku who spent time there at a coastal nohoanga (temporary encampment at the river mouth). Waimatuku was a warrior who was slain in battle and so the naming of the catchment honours him. There is also a connection to the matuku (Australasian bittern), which is a bird that inhabits networks of forests, marshes and coastal lagoons. Available connected habitat for matuku throughout the catchment is a Ngāi Tahu indicator of health, so protecting, restoring and connecting habitat preferred by matuku is a priority.

At the eastern edge of the Waimatuku and Taunamau zones is the coastal mātaitai associated with Ōreti Beach, which was established following Ngāi Tahu Settlement as a means of protecting customary kaimoana (seafood/shellfish) access. The quality of waters coming from the Waimatuku and Taunamau zones affects the quality of habitat and resources at the coast and within the mātaitai, so maintaining its health is a priority for Ngāi Tahu ki Murihiku.

Ngāi Tahu ki Murihiku identified a range of priorities in 2020 relevant to freshwater management in Waimatuku and Taunamau. Overall, Ngāi Tahu ki Murihiku seek to protect and enhance the mauri (life force) of freshwater resources so that future generations have the same or better access to healthy waterbodies, and that waterbodies are managed within a ki uta ki tai framework. This primary goal is supported by the fundamental concept of Te Mana o te Wai in the National Policy Statement for Freshwater Management and in the proposed Southland Water and Land Plan.

Glossary

Ki uta ki tai (from mountains to sea)

Ki uta ki tai is a concept that refers to the interconnectedness of the natural world, including the relationships of water and land, from the coast up to the hills and mountains.

Environment Southland, in partnership with Te Ao Mārama, seeks to manage water and land resources in a way that reinforces the Ngāi Tahu philosophy of ki uta ki tai (from mountains to sea). This integrated approach refers to the belief that all things are connected in the natural world and need to be managed that way. It is part of the foundation of regional planning in Southland, recognising the need to manage catchments as an integrated whole. This approach recognises the commitment of Environment Southland, in partnership with Te Ao Mārama, to manage the connections between people, water and land. This includes the impacts we have on the health of all types of waterbodies, including estuaries and coastal lagoons.

Te Mana o Te Wai

Te Mana o Te Wai is the fundamental concept that underpins all freshwater management.

Te Mana o te Wai recognises the fundamental importance of water in that protecting the health of freshwater protects the health and wellbeing of the wider environment. It is an approach that protects the Mauri (life force) of the water.

Protecting mauri as a priority is already a foundation of regional planning in Southland.

Hauora

Hauora means a state of health that could be described as fit and well. It reflects a level of healthy resilience we all want for our waterways. In other words, a waterway can take a knock and bounce back and still provide for uses that support people's health.

Users of water and land need to provide for hauora and in so doing, acknowledge and protect the mauri of water. This is a foundation of regional planning in Southland.

Environment Southland and Te Ao Mārama have identified a range of attributes that in combination provide for hauora, the health and wellbeing of waterbodies.

A change to the regional plan that is being developed, Plan Change Tuatahi, will guide what is needed to support healthy waterbodies in the catchments of Waiau, Aparima, Ōreti, Mataura and Waituna.

Mahinga kai

Mahinga kai refers to the customary gathering of food and natural materials, and the places where those resources are gathered by tangata whenua.

For Ngāi Tahu mahinga kai is about places, ways of doings things, and resources that sustain the people. It includes the work that is done (and the fuel that is used) in the gathering of all natural resources (plants, animals, water, sea life, pounamu) to sustain well-being. This includes the ability to clothe, feed and provide shelter.

Mahinga kai is a value that must be provided for when managing waterbodies.

Values

When we do a good job of managing freshwater then we provide for a range of values that matter to the communities of Southland.

When managing freshwater we must provide for certain kinds of values; including ecosystem health (water quality, water quantity, habitat, aquatic life and ecological processes), threatened species, mahinga kai, Māori freshwater values and human contact. These are compulsory values.

There are additional values that must be considered as well, and a range of values that have already been identified by Southlanders. Many of these values informed the current regional plan, and further values are being considered as part of Plan Change Tuatahi.

Document control

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Disclaimer: This catchment context contains key information to be included in farm environmental management plans. It should not be solely relied upon. The information contained is subject to change and updates.