WAIORA MANUHEREKIA

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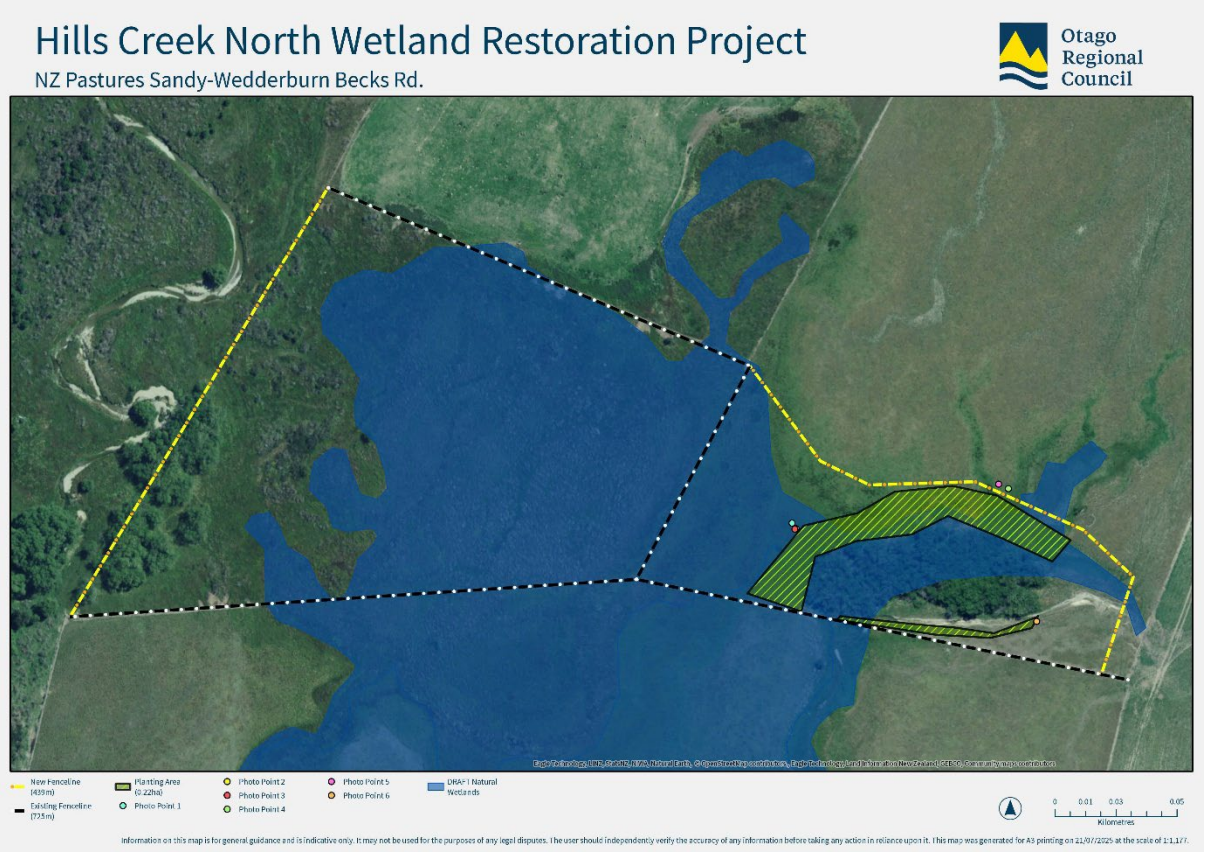
Manuherekia wetland network

Hills Creek North wetland

Site Details

- **Landowner:** NZ Pastures
- **Primary contact:** Sandy Sutherland
- **Location**
  - Coordinates: Spring: Easting 1356552, Northing 5017551
  - Ecological District: Maniototo
  - Ecological Region: Central Otago
- **Wetland dimensions:** Wetland area extending 400 m from Hills Creek riparian zone and about 100m down the length. 5.3 ha.

Site Map



**existing fence lines are indicative only*

Current wetland condition photo

Photos taken 21st of November, 2024.

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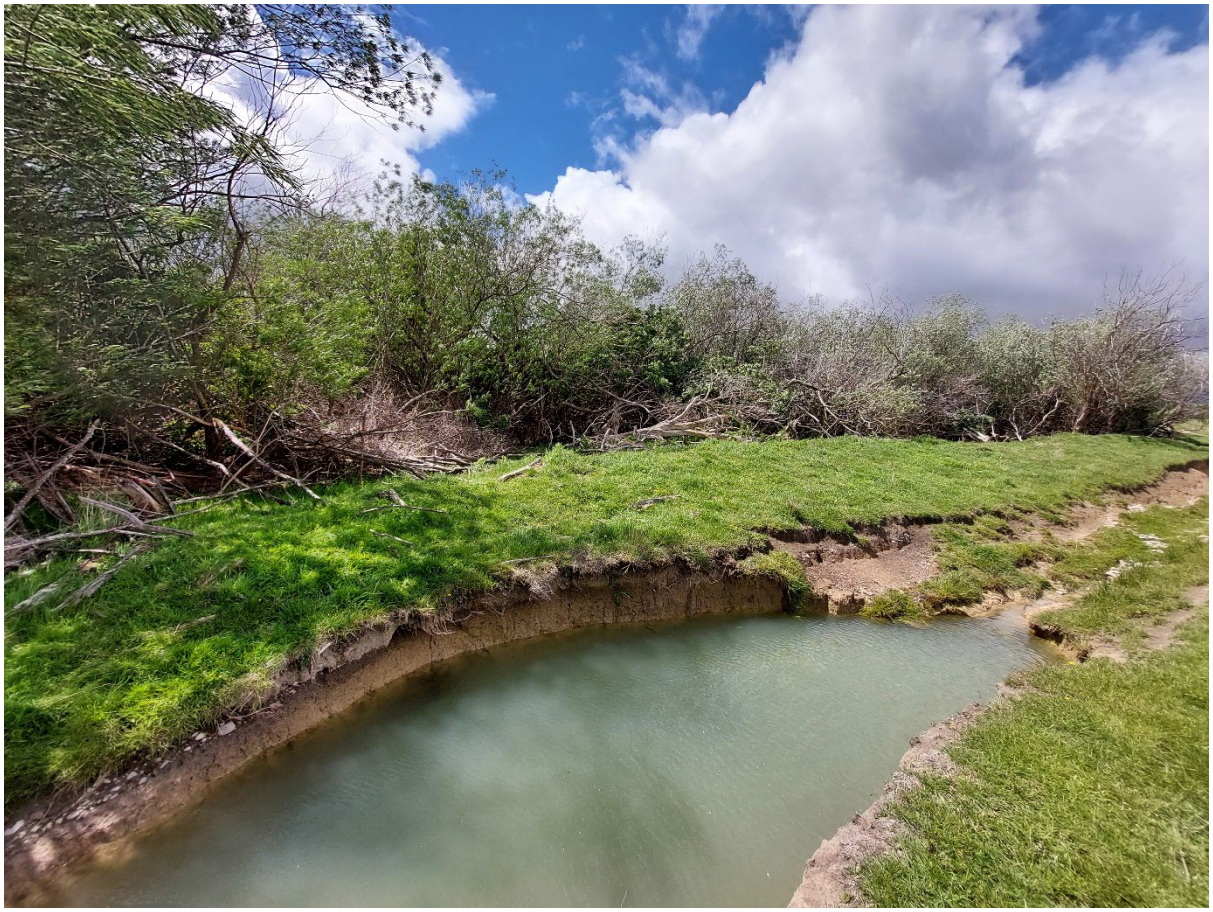

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Site Description

General

Primary hydrosystem: Palustrine
Secondary hydrosystem: Riverine
Primary wetland class: Marsh
Secondary wetland class: Swamp
Primary wetland form: Basin
Secondary wetland form: Floodplain
Primary structural class: Grassland
Secondary structural class: Sedgeland

Topography

Soils: Information retrieved from S-Map online 27/03/2025.
Soil sibling: Matpi_37a.2. Moderately deep, silt, poorly drained. Proportion: 42.8%
Soil sibling: Rang_63a.1. Very shallow, sand, moderately well drained. Proportion: 30.7 %
Soil sibling:Ohua_15a.1. Very shallow, loam, well drained. Proportion: 26.5%

Current Vegetation

The swamp near the western boundary of the site is dominated by tall, mature crack willow

trees with abundant blue sweet grass and occasional water cress and starwort growing below as well as areas with standing water.
Vegetation in the centre of the wetland is dominated by indigenous sedges, bog rush is the most abundant with frequent other sedges including sharp spike sedge, *Carex diandra,* star sedge and rautahi. The exotic sedge, oval sedge, is common throughout the wetland. Exotic grasses, rushes and herbs are also present including Yorkshire fog, blue sweet grass, red fescue, jointed rush and clover and creeping buttercup. Other indigenous species noted at lower abundance include waoriki, *Rumex flexuosus* and leek orchid. In flowing channels and deeper water vegetation is dominated by blue sweet grass and kneed foxtail (both exotic). Non-wetland areas directly adjacent are comprised of pasture grasses and herbs with woody weeds including gorse and broom and hawthorn and some matagouri with some denser patches of gorse and broom closer to the river at the edge of the site.

Special Features

The spring represents a perennial discharge point that supplies a large volume of water to the downstream channel system. Springs are vulnerable to the effects of land use activities and water abstraction, which can alter the hydrology of downstream freshwater habitats. Because of their perennial nature and often high-water quality status, springs often provide habitat to unique assemblages of macrophytes and invertebrates.

Nearby Natural Areas

The main stem of Hills Creek is approximately 280 m west of the spring and provides habitat for Central Otago roundhead Galaxias (*Galaxias anomalus*), brown trout and various native plant species. The spring channels support a variety of freshwater dependant plants, including submerge macrophytes such as *Potamogeton*.

Wildlife

Central Otago roundhead Galaxias (*Galaxias anomalus*) inhabit waterways along the floodplain and channels with flow derived directly from the spring. Regenerating tussocklands adjacent to the river will support a range of native insects.

Site History

Prior to land development and agriculture, it is believed that the terrestrial site was likely to have been Cool forest and scrub (CLF1; Otago Regional Council Otago Ecosystems and Habitat Mapping). This ecosystem could have included Hall's tōtara, *Phyllocladus alpinus* and broadleaf forest.

Description of water flow and drainage

Discharge from spring is unlikely to fluctuate dramatically during the course of the year. Discharge is downslope via a series of fast flowing channels that connect with other spring systems in the surrounding floodplain. These channels get progressively larger in volume to where the creek meets swamp wetlands that slow the discharge into Hills Creek.

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Current condition

The swamp surrounding the spring is currently infested with woody weeds (primarily crack willow). The seepage is currently in poor condition. Surrounding swamps, particularly those where fencing has already been done, are in good condition with rehabilitating tussockland. Stock access into seepage area is causing some erosion.

Enhancement Proposal

Vision

Restored marsh wetland ecosystem and surrounding swamps which supports diverse native flora and fauna.

Objectives

Control woody weeds in seepage area and establish native vegetation that represents the ecosystem type. Enhance the surrounding tussock lands by fencing and woody weed (gorse and broom) control.

Expected outcomes

Fencing & Planting

New fencing will enhance past fencing efforts and will provide protection of the seepage wetland, while the establishment of natives currently infested with willow will provide a seed source for downstream areas and support native bird and insects. Preventing stock access from surrounding marsh areas will allow tussocks to re-establish.

Weed control

A small number of large crack willows and elderberry will require poisoning and can be left in situ dead or removed. Leaving dead willows in situ may provide additional cover for native plantings but may require on going management as they begin to decay.
Additional weed control and surveillance should be undertaken within the sedge dominated marsh (the areas outside of the crack willow), a small number of Hawthorn and broom plants were noted in this area and control of these individuals should be undertaken before there is more extensive spread and while they are small enough to be cut and pasted.

Sedimentation

There is a low risk of flooding and sedimentation at this site. However, preventing stock access to the seepage area will help avoid pugging and reduce sediment inputs into downstream waterways. Additionally, planting native species in the seepage area will further decrease sedimentation and provide extra stabilisation.

Total Investment

Fencing: $6,670
Weeds: $3,000
Planting: $17,000
Total: $26,670

Funding source

Fencing materials, planting & weed control – Waiora Manuherekia
Fencing installation & ongoing weed maintenance – Landowner.

Monitoring

Annual photopoint monitoring to be used to track changes in the wetland.
Annual SHMAK monitoring can be used to track improvements in ecosystem health.