

## German Hill Wetland

### Site Details

- **Landowner:** Tiffany and Bevan McKnight
- **Primary contact:** Bevan McKnight.
- **Location**
  - Coordinates: Easting 1345879, Northing 4995280
  - Ecological District: Maniototo
  - Ecological Region: Central Otago
- **Wetland size:** 5.2 ha.

### Site Map



*\*existing fence lines are indicative only*

## Current wetland condition photo

Photo taken 21<sup>st</sup> of November 2024.



## Site Description

### General

Primary hydrosystem: Palustrine

Secondary hydrosystem: Riverine

Primary wetland class: Marsh

Secondary wetland class: N/A

Primary wetland form: Flat with some channels and terraces

Secondary wetland form: Floodplain

Primary structural class: Grassland

Secondary structural class: Sedgeland

### Topography

*Information retrieved from S-MAP Online (Manaaki Whenua, 2019)*

**Soil sibling:** Awate\_11a.1. Very shallow, sand over loam, well drained.

Proportion: 49.3%

**Soil sibling:** Idam\_3a.1. Very shallow, loam, imperfectly drained.

Proportion: 16.5%

**Soil sibling:** Ardgo\_3a.1. Shallow, loam, well drained.

Proportion: 7.1%

### Current Vegetation

The site is relatively large with a number of vegetation types present, most of which are

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dominated by exotic species; however, native plants are present and more abundant in the north east corner of the site. Large crack willow trees are present at both the northern and southern boundary.

The channel/gully that runs north to south through the site is mostly comprised of exotic grasses and herbs with water forget-me-not, water cress, blue sweet grass, soft rush and marsh foxtail. An area dominated by raupō is present near the north east boundary of the site. Adjacent to this vegetation comprises indigenous and exotic species. Exotic grasses are common, including Timothy, red fescue, Yorkshire fog and marsh fox tail, the exotic sedge, oval sedge is also present. Indigenous sedges are also common including sharp spike sedge, rautahi and occasional *Carex virgata*.

The edges of the wetland and lower terraces are dominated by rautahi and exotic species including sweet vernal, crested dogstail, cats ear, mouse ear chick weed and timothy.

## Nearby Natural Areas

The German Hill wetland is fed by tributaries off North Rough Ridge. The North Rough Ridge is home to a range of indigenous flora and fauna.

## Wildlife

EDNA results from the nearby Shepherd Creek show that the Central Otago roundhead galaxias (*Galaxias anomalus*) are present. The German Hill wetland is currently providing habitat for a range of waterfowl.

## Site History

The German Hill diggings were once home to over 1,500 gold miners during the 1860's. Consequently, this site has been highly modified and the pond at the top of the site is the result of old mining diggings and has subsequently formed the wetland.

## Description of water flow and drainage

The German Hill Diggings wetland is fed by German Creek and tributaries coming off the nearby North Rough Ridge. Shepherds Creek is the closest named waterway. This is a modified area from historic gold mining which has resulted in the formation of this wetland. Water from this site eventually enters the Manuherekia River after passing through the Poolburn Gorge.

## Current condition

The vegetation at the site is considered 'mixed', cover of exotic species is higher than indigenous, however, there are still pockets where there are a substantial number of indigenous species present. Woody weeds are at low abundance other than the large crack willows and there was minimal stock damage observed.





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## Enhancement Proposal

### Vision

Restored wetland ecosystem that provides habitat for diverse native flora and fauna values and reduces channelisation of creek. This wetland has a strong historical connection to the area and there is the opportunity to promote this in conjunction with agri-tourism.

### Objectives

Prevent further spread of woody weeds into wetland area, exclude stock from sensitive wetland areas and enhance current biodiversity values through plantings of natives.

### Expected outcomes

#### *Fencing & Planting*

Fencing the southern boundary of this wetland will prevent stock from accessing the wetland area and grazing botanical values. Planting, along with enhancing botanical values, will also minimise erosion and channelisation of the waterway running through the wetland. The benefit of the existing rūpo areas for wetland birds may be enhanced through the establishment of native vegetation in the area.

#### *Weed control*

Managing willow infestation in the wetland area while native plants establish is crucial for achieving the planned biodiversity gains. Given the low prevalence of willow in the wetland, leaving the dead trees in situ can provide additional habitat for birds and facilitate seed dispersal from native plantings. In the absence of grazing, controlling the spread of woody willows, particularly crack willow, will reduce the likelihood of their re-establishment. This can be achieved by removing willows from the entire catchment upstream of the wetland.

The main channel of the wetland does contain some small crack willow trees which should be controlled as soon as possible. There are also scattered gorse plants which require control.

#### *Sedimentation*

This wetland site experiences occasional flooding which has caused some erosion of the main channel. It is expected that native plantings will help stabilise the banks and help reduce erosion.

## Total Investment

Fencing: \$9,336  
Weeds: \$3,000  
Planting: \$25,000  
Total: \$37,336

### 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.



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Annual SHMAK monitoring can be used to track improvements in ecosystem health.

