



# Waitui Farm Landscape Strategy & Plan

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# Site & Location

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Waitui Farm Landscape Strategy & Plan





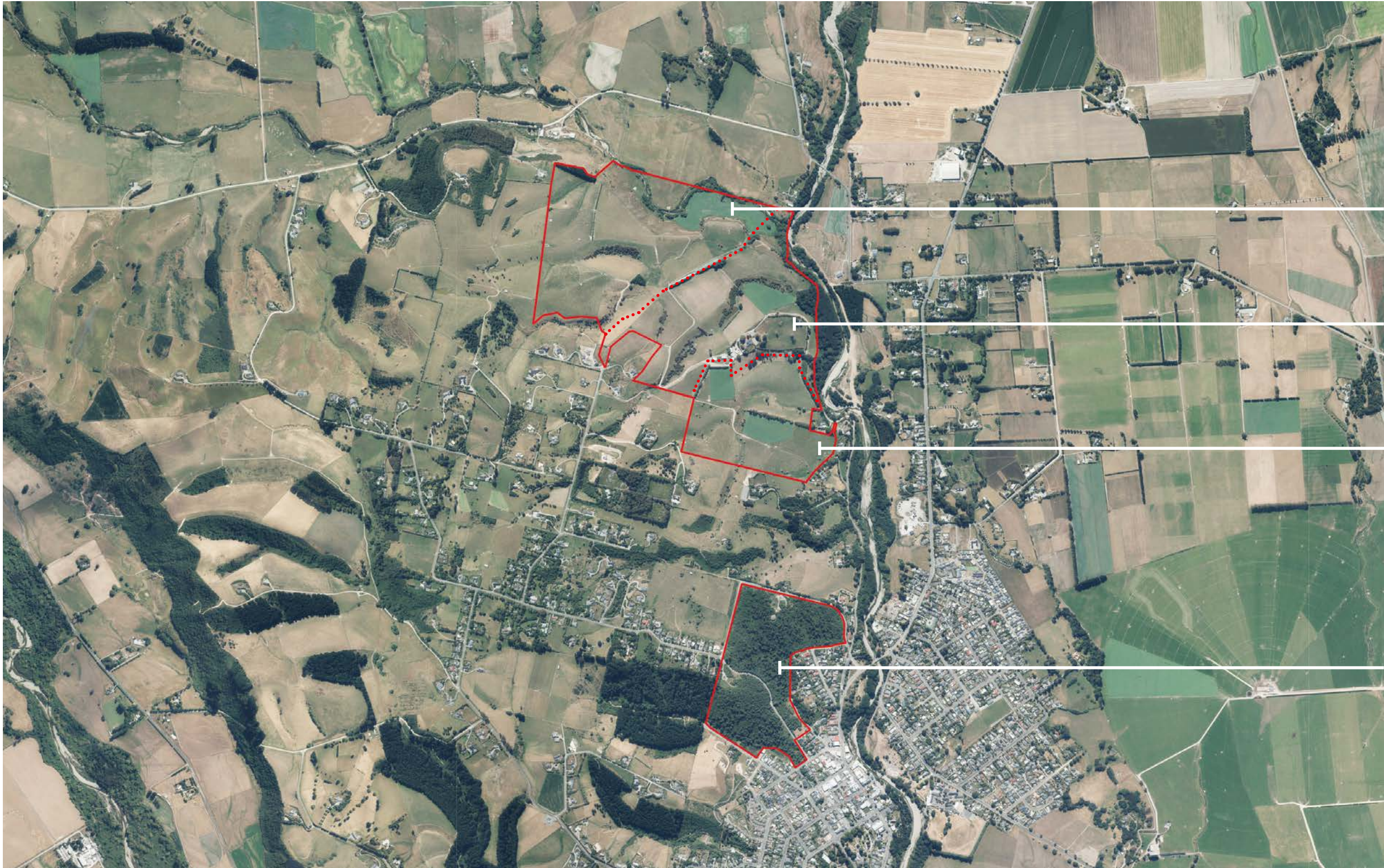
Conditions

Geraldine is located south of Waitui Farm, with the Waihi River flowing through the town. The surrounding landscape is predominantly characterized by pivot-irrigated dairy and crop land. To the north, Peel Forest is the nearest major area of native forest. There is a significant gap in native vegetation between Geraldine and Peel Forest.

Opportunities

Waitui Farm provides excellent opportunities to support the reconnection of native vegetation from Geraldine to the foothills of the Southern Alps. The farm’s proximity to Geraldine provides opportunities for it to contribute to the town’s rapidly growing efforts that focus on strengthening native biodiversity through native planting projects.





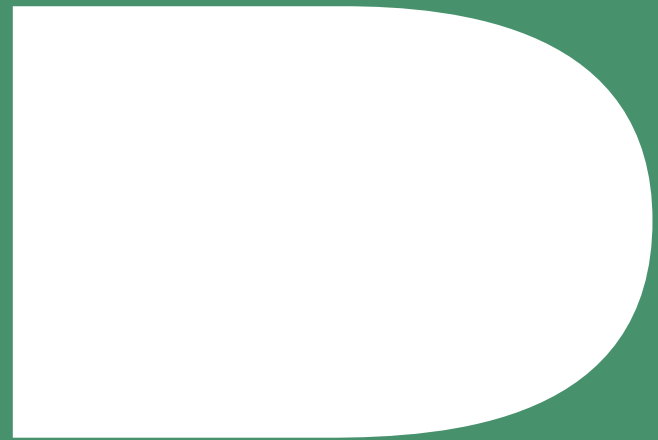
- Area C  
48 ha
- Area B  
41 ha
- Area A  
26.22 ha
- Talbot Reserve (26 ha)



# Ecological & Environmental Context

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Waitui Farm Landscape Strategy & Plan







- The Geraldine Downs is a distinctive plateau within the South Canterbury downlands, surrounded by low altitude plains.
- Talbot Forest Scenic Reserve and other native bush remnants provide high ecological value.
- Rural residential development has increased, changing parts of the landscape.
- Native vegetation, including matagouri, mānuka, and kānuka, is concentrated in gullies.
- Exotic pasture dominates productive hill areas, some surrounding centre-pivot irrigation.
- Land use includes pastoral grazing, rural residential development, small-scale forestry, and horticulture.
- Plantation forestry is present but mainly confined to small areas.
- A long-tailed bat population is found in forest remnants and riparian areas.
- Characterized by rolling hills, escarpments, and incised gullies formed by the Waihī and Hae Hae Te Moana Rivers.
- Limestone formations and volcanic features add geological interest.
- The area provides an important transition between the plains and the front ranges.
- The Geraldine Downs retains a strong visual and ecological identity despite evolving land uses.

Information adapted from: Boffa Miskell (2020). *Timaru District Landscape and Coastal Study*: Landscape and Coastal Natural Character Assessment. Prepared for Timaru District Council.





Talbot Forest Scenic Reserve (top right image) and other native bush remnants provide high ecological value.

## Conditions

- Waitui Farm sits within the Geraldine Downs area. It is a distinctive plateau that is surrounded by low altitude plains.
- Land use predominantly involves pastoral grazing, rural residential development, small scale forestry and horticulture.
- In gullies and other marginal land, small patches of matagouri, mānuka and kānuka can be found. Rural residential development is increasing changing some of the landscape.



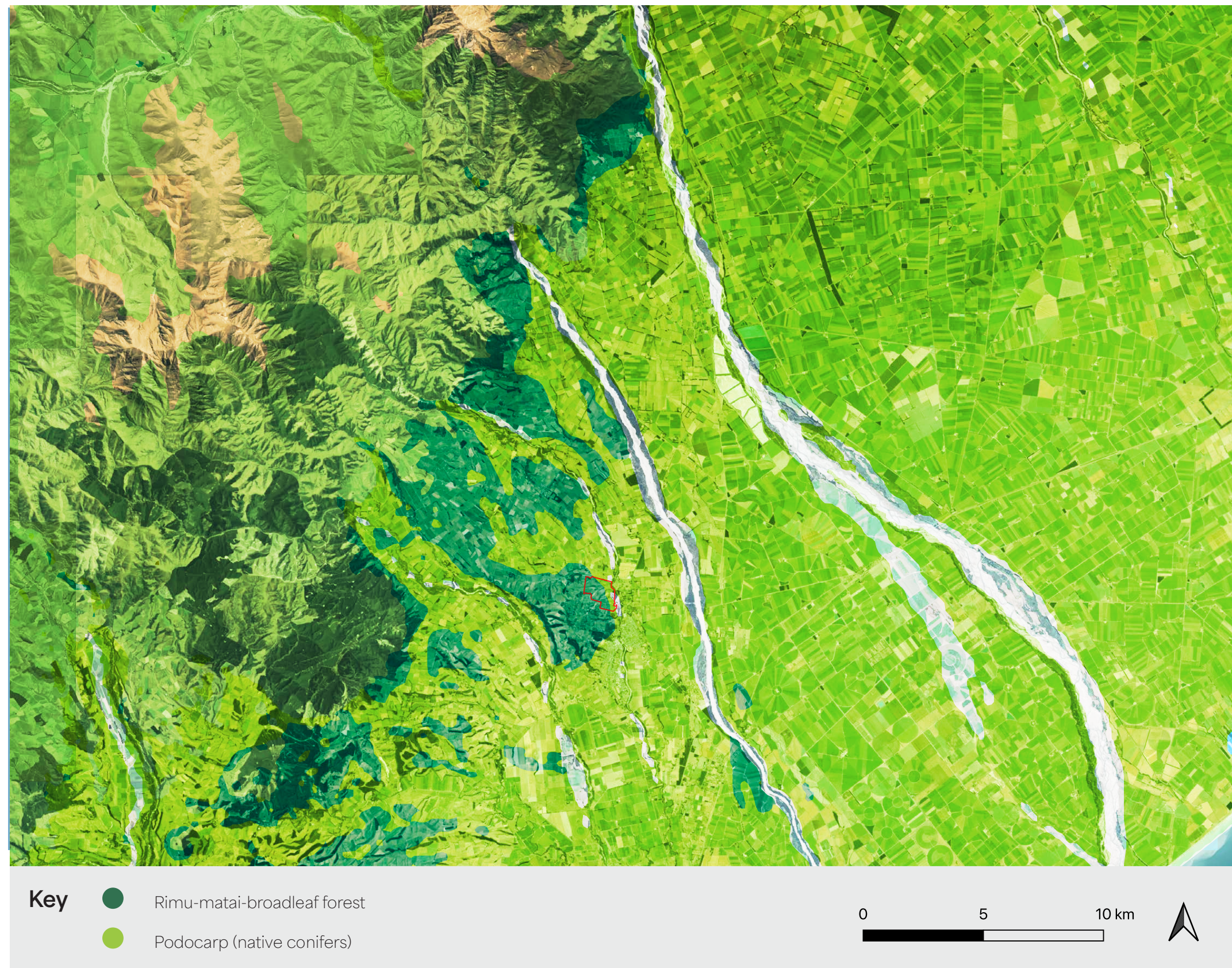
Rural residential development has increased, changing parts of the landscape.



However some remnants have become severely degraded (above).



# Past Forest Coverage

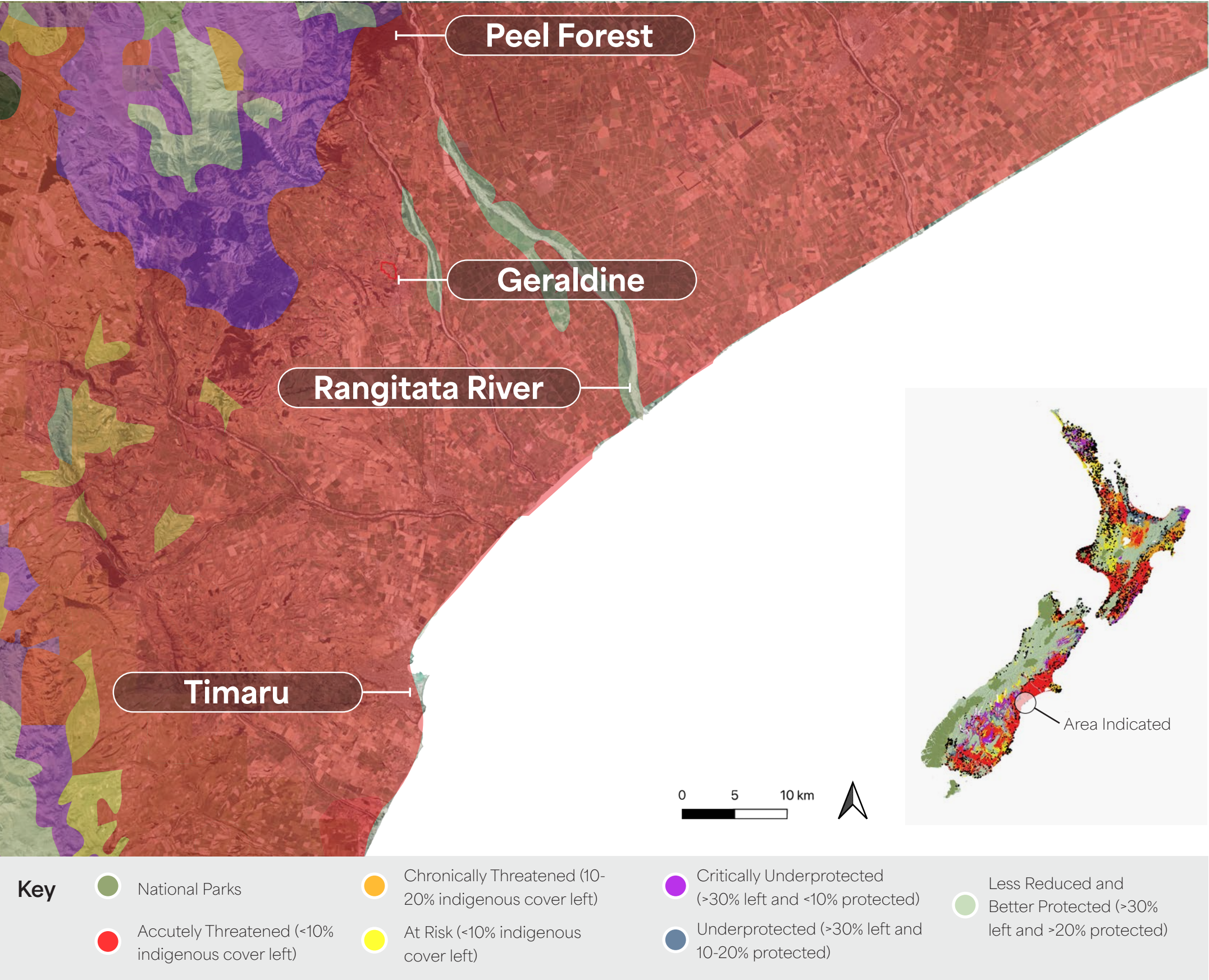


- Land Environments NZ Modelling suggests that pre-human settlement the region was covered in podocarp forest including matai, tōtara, kahikatea and rimu.
- Broadleaf, fuchsia and tarata/lemonwood were also common species.
- In Canterbury's low-lying areas almost none of this forest cover remains, with Talbot Forest Reserve Canterbury's most significant example of this form of low-lying forest.

Land Environments of New Zealand (LENZ) Potential Natural Vegetation Map. Retrieved from OurEnvironment.



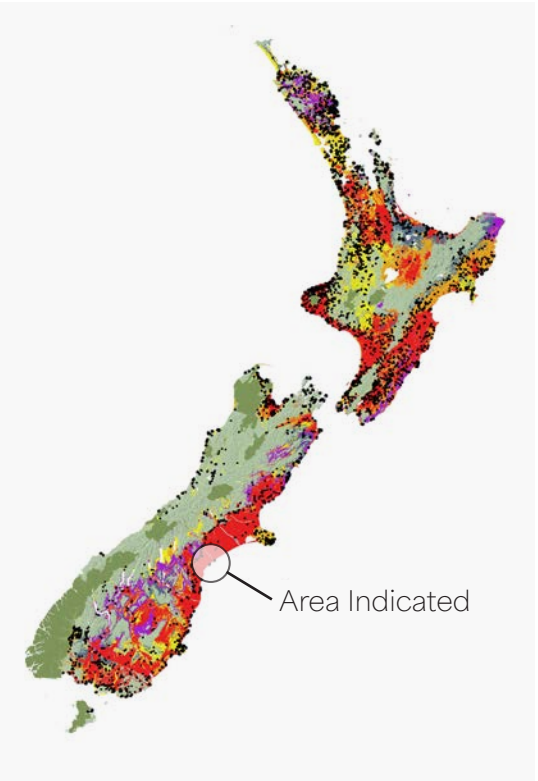
# Representativeness of ‘Protectedness’ of Indigenous Ecosystems in South Canterbury



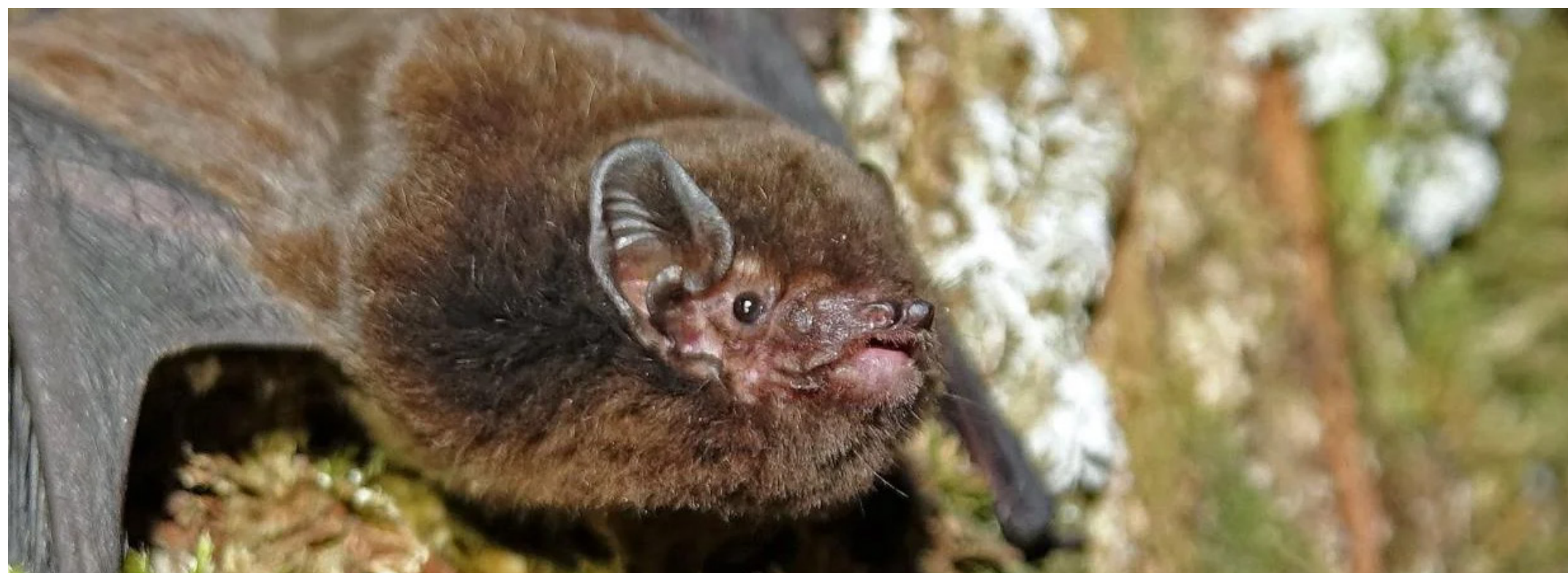
Scaled in image of southern Canterbury Plains showing threatened and critically underprotected areas.

Studies show the region has very little indigenous land cover remaining.

- Restoration planting is a key means by which to increase this representativeness.
- Remnant native ecosystems are crucial as they are the last vestiges of pre-agricultural landscapes.
- These remnants serve as both ecological legacies and sources for future regeneration.
- Private land plays a key role in conservation, as important sites for restoration projects that can be undertaken at scale.







Images: (Top) Freewalks.co.nz (Bottom) Ian Davidson-Watts

Information Source: <https://www.stuff.co.nz/timaru-herald/news/127471049/public-invited-to-view-pekapeka-at-geraldines-talbot-forest>

## About the Reserve

Talbot Reserve is a 28-hectare remnant native bush area located south of Waitui Farm in southeastern Canterbury. The reserve supports a rich biodiversity, with approximately 90 indigenous plant species, including an estimated 800-year-old tōtara tree. This level of native diversity is significant for the region, as some of these species are classified as at risk with declining populations.

## Engagement with the Public

Talbot Forest Scenic Reserve offers a network of walking tracks, providing visitors with the opportunity to explore and appreciate the diverse native ecosystem. These tracks facilitate recreational activities such as birdwatching, nature walks, and educational experiences related to conservation efforts. The reserve plays a crucial role in fostering public awareness and engagement with New Zealand's indigenous flora and fauna.

## A Haven for Native Species

Talbot Reserve serves as a vital habitat for the critically endangered long-tailed bat (pekapeka-tou-roa), New Zealand's only native land mammal. This species is highly significant due to its declining numbers and specific ecological requirements. The bats feed on insects and roost in native trees, typically giving birth to one pup per year.

The South Canterbury population of long-tailed bats is one of only two known colonies on the east coast of the South Island, the other being in the Catlins. Given the species' conservation status, Talbot Reserve provides an essential refuge, contributing to the long-term survival of this unique native mammal.



# Lessons from Talbot Reserve



## Conservation Considerations

Given its ecological importance, any development or activity proposed in or near Talbot Reserve must carefully consider potential impacts on native flora and fauna, particularly the long-tailed bat population. Protective measures should include habitat preservation, pest control, and visitor management strategies to minimize disturbance and ensure the continued health of the ecosystem.



Images of Talbot Reserve, many indicative native species can be found here.



# Influence on Local Ecology



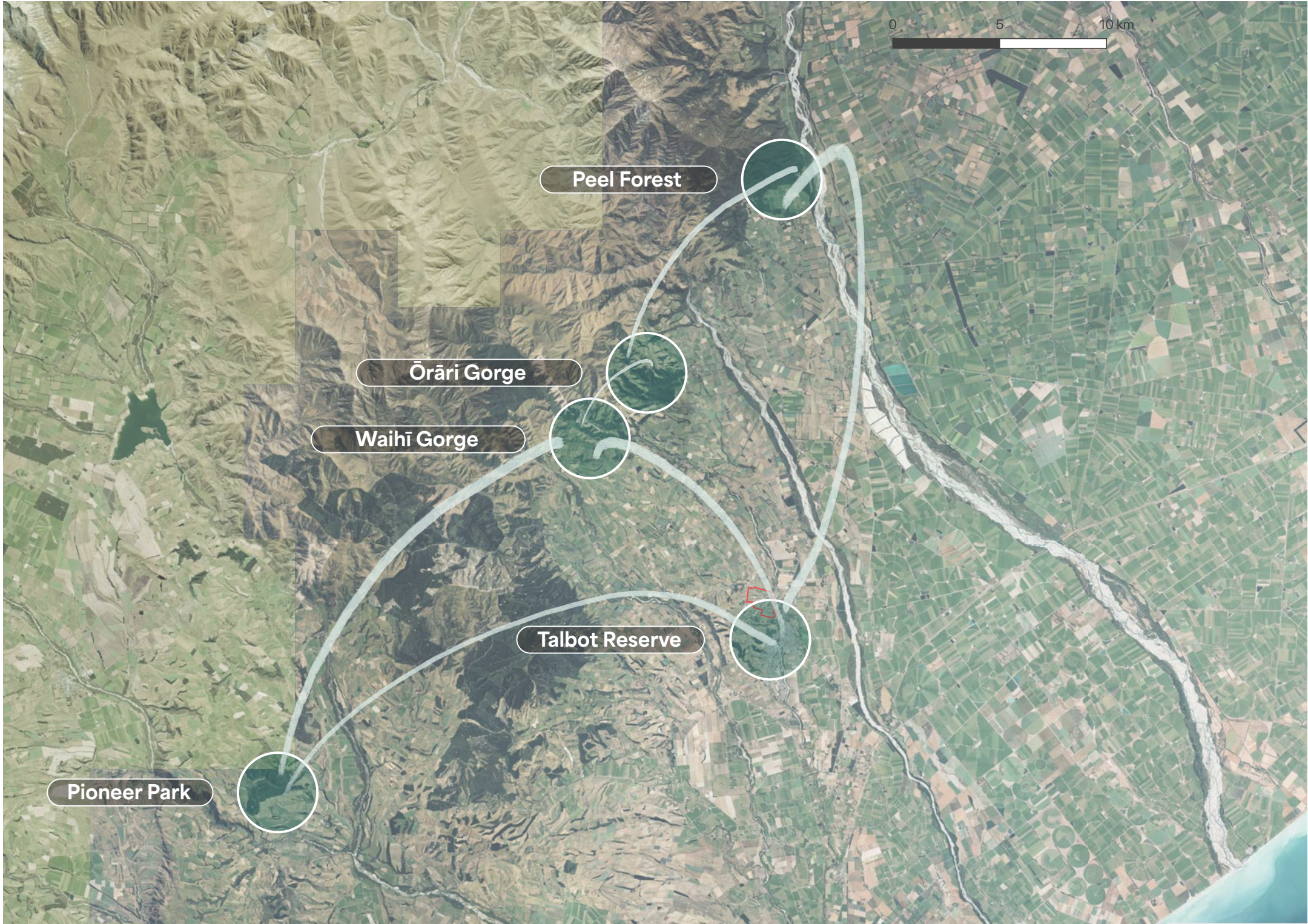
## Conditions

- Waitui Farm is in close proximity to Talbot Forest Reserve and the Waihi River.
- Currently pasture and exotic trees dominate the landscape, with very few patches of native vegetation remaining.

## Opportunities

- This proximity provides options for the farm's land use to be reconfigured to shift from farming so that it can focus on supporting local native biodiversity.





Map of reserves and conservation areas in the wider region surrounding Geraldine

## Conditions

- Other significant native patches in the area include: Peel Forest Park scenic reserve, Ōrāri Gorge scenic reserve, Waihi Gorge scenic reserve and Pioneer Park conservation area.
- Given the extremely low level of native podocarp forests remaining on the Canterbury Plains, it can be expected every effort to restore native plants to the region will provide significant benefit.

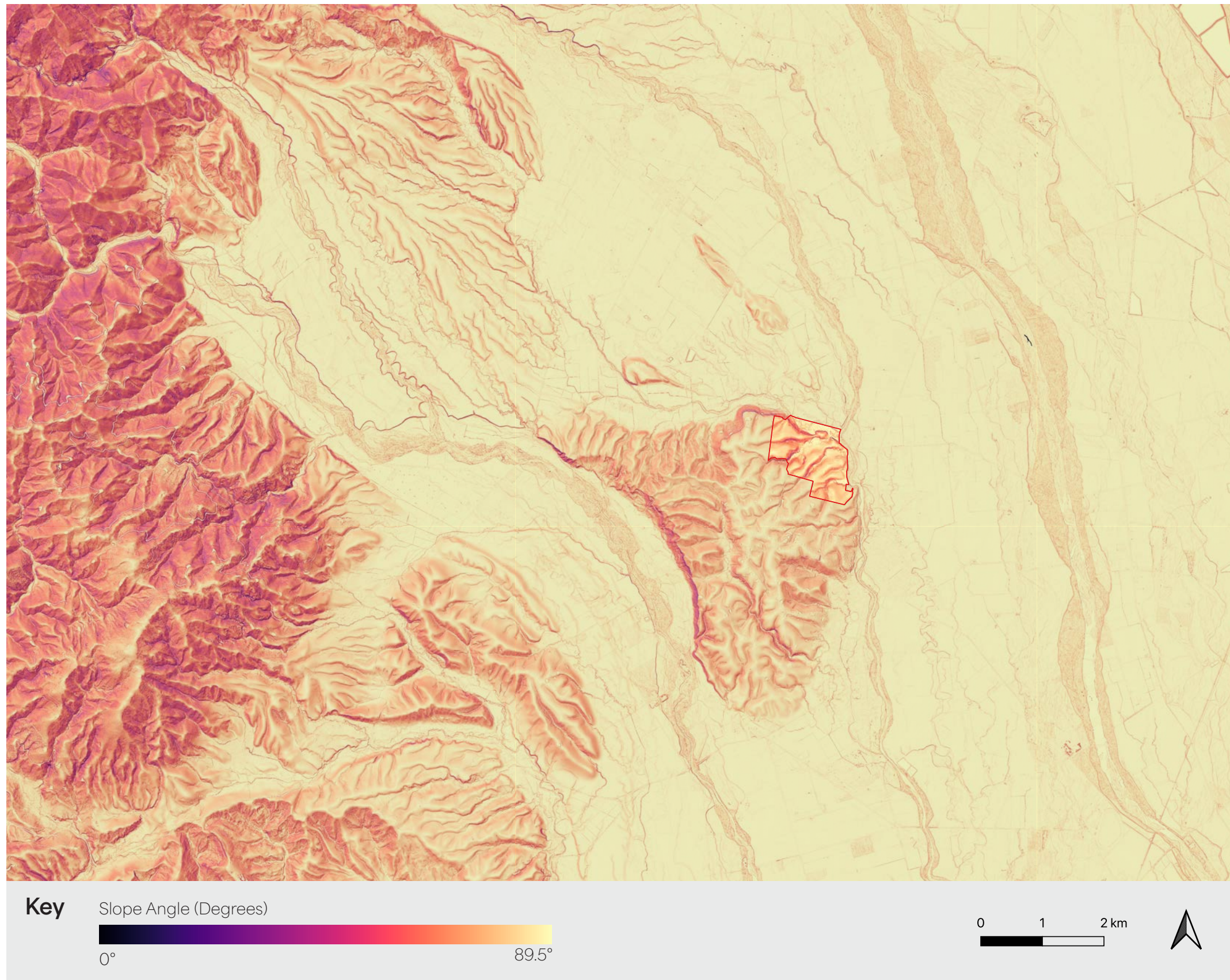
## Opportunities

- Changing the land use of Waitui Farm such that it is restored into a functioning native forest whose scale can support local biodiversity values including those at Talbot Forest Reserve.
- Extending potential connections between Talbot Forest Reserve and the foothills of the Southern Alps.



Restored areas of native vegetation create ecological corridors, allowing flora and fauna to travel more widely throughout the Canterbury Plains.





## Conditions

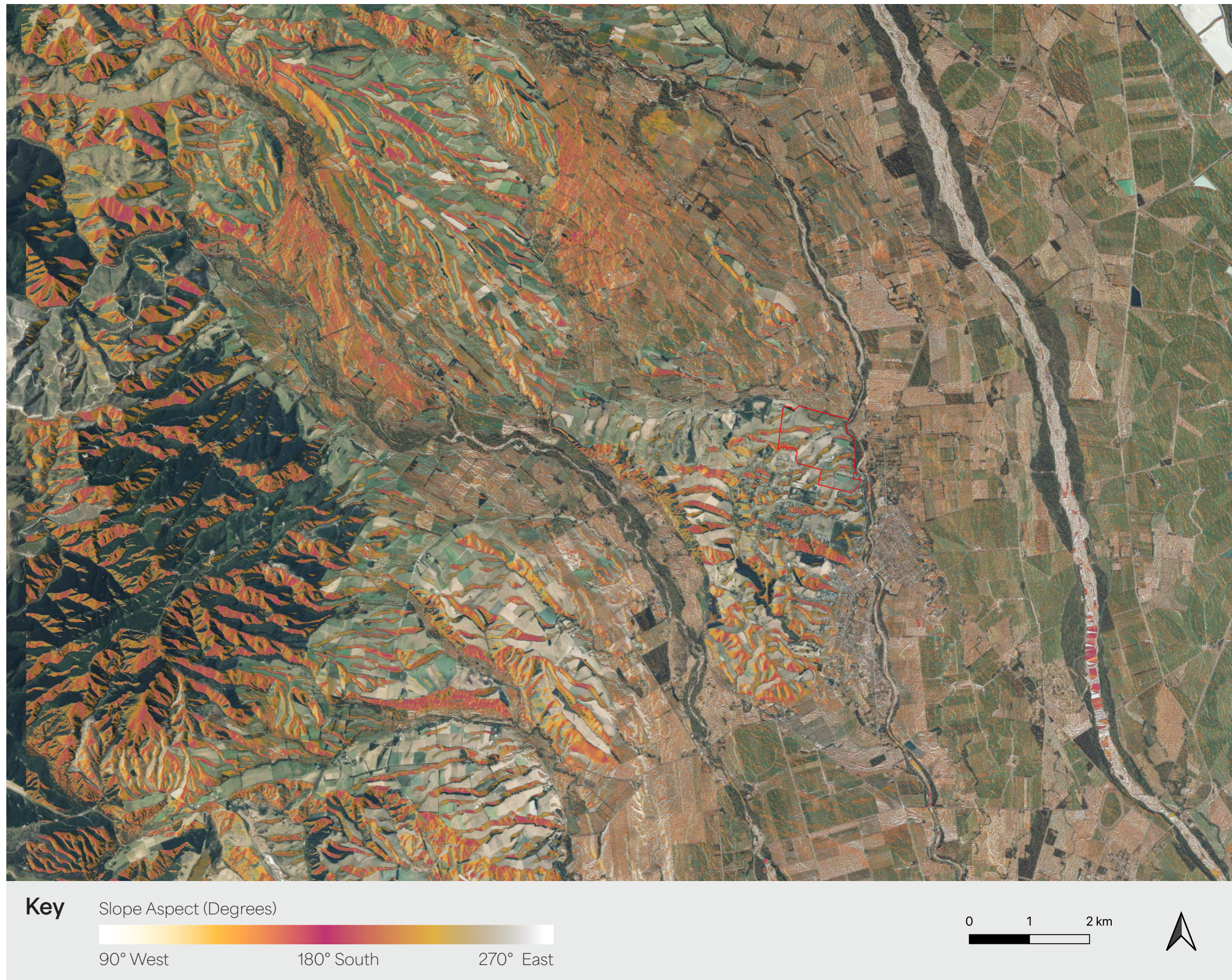
- Slope analysis shows Waitui Farm has a constantly undulating landform with few flat areas. This is representative of the Geraldine Downs area.
- The steepness of contour can make the land susceptible to trampling and other related issues that come from farming livestock.
- This is contrast to the more productive flat lands surrounding Geraldine Downs whose land-use is more focused on agriculture than native planting restoration projects.

## Opportunities

- The steep gradient provides suitable microclimate areas suitable for re-establishing for native plants.
- Such planting can also help stabilise unstable banks.
- Southern slopes retain moisture that can greatly assist native species replanting, especially during very dry times of the year.



# Aspect Analysis



## Conditions

- This map highlights the southern aspect slopes to indicate where the ideal areas for native planting can be found.

## Opportunities

- Those parts of the land that are steepest, wettest or low lying are the most suited areas for establishing native plants.
- In particular, those slopes facing south offer the most potential.
- Any repurposing from farm to lifestyle blocks should ensure that those sites most advantageous for native planting are given priority for such planting.
- The rolling tops of the Downs will require the greatest effort for native planting, with house sites to be located on on these upper areas.



# Slope / Aspect Extraction

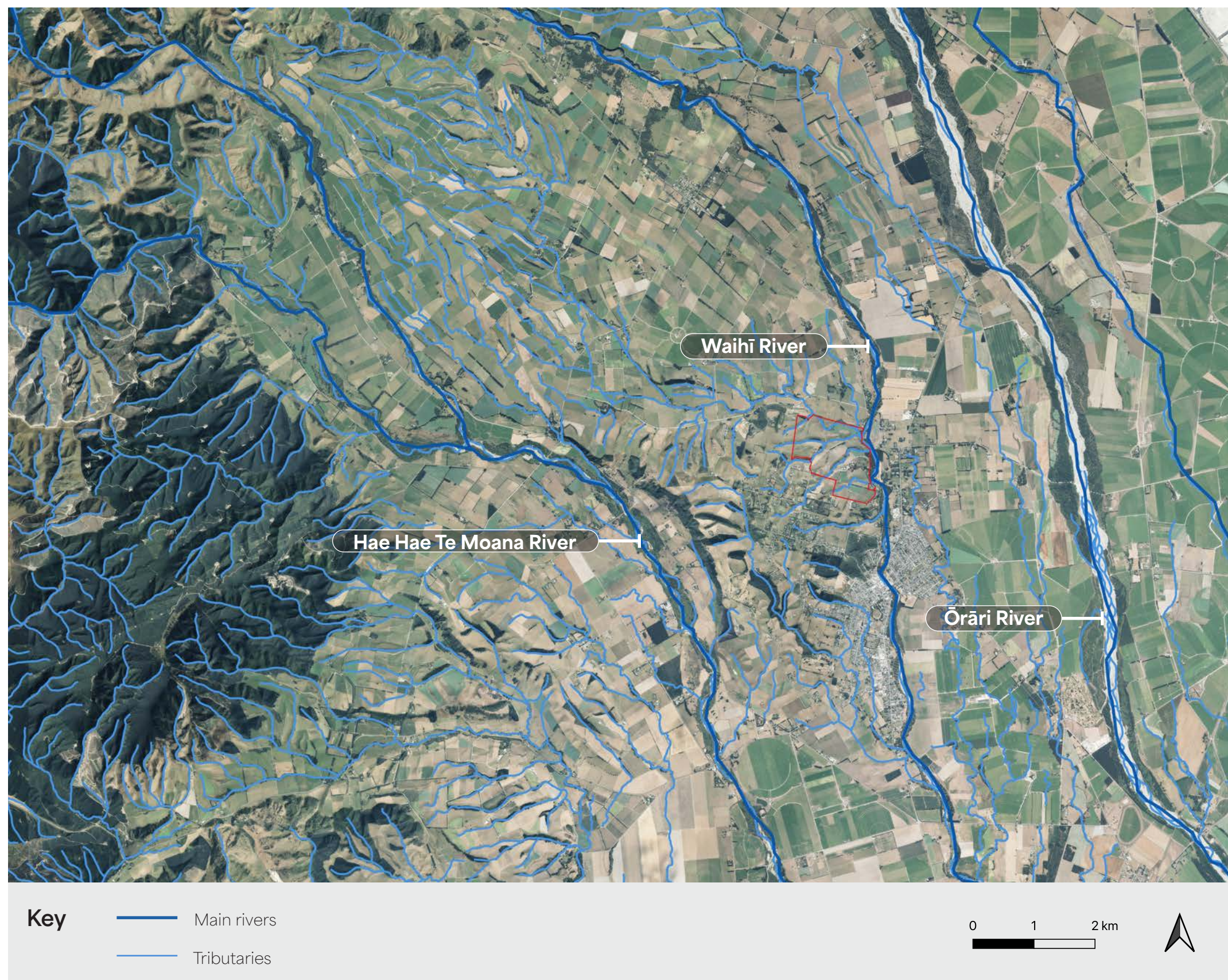


Key ● Areas most suitable for restorative planting



- Using the slope and aspect analysis, an extraction of useful information can be found to understand the site's unique topography.
- Strategically highlighted areas for planting are highlighted according to the ideal slope gradient and direction (steeper, southfacing slopes).





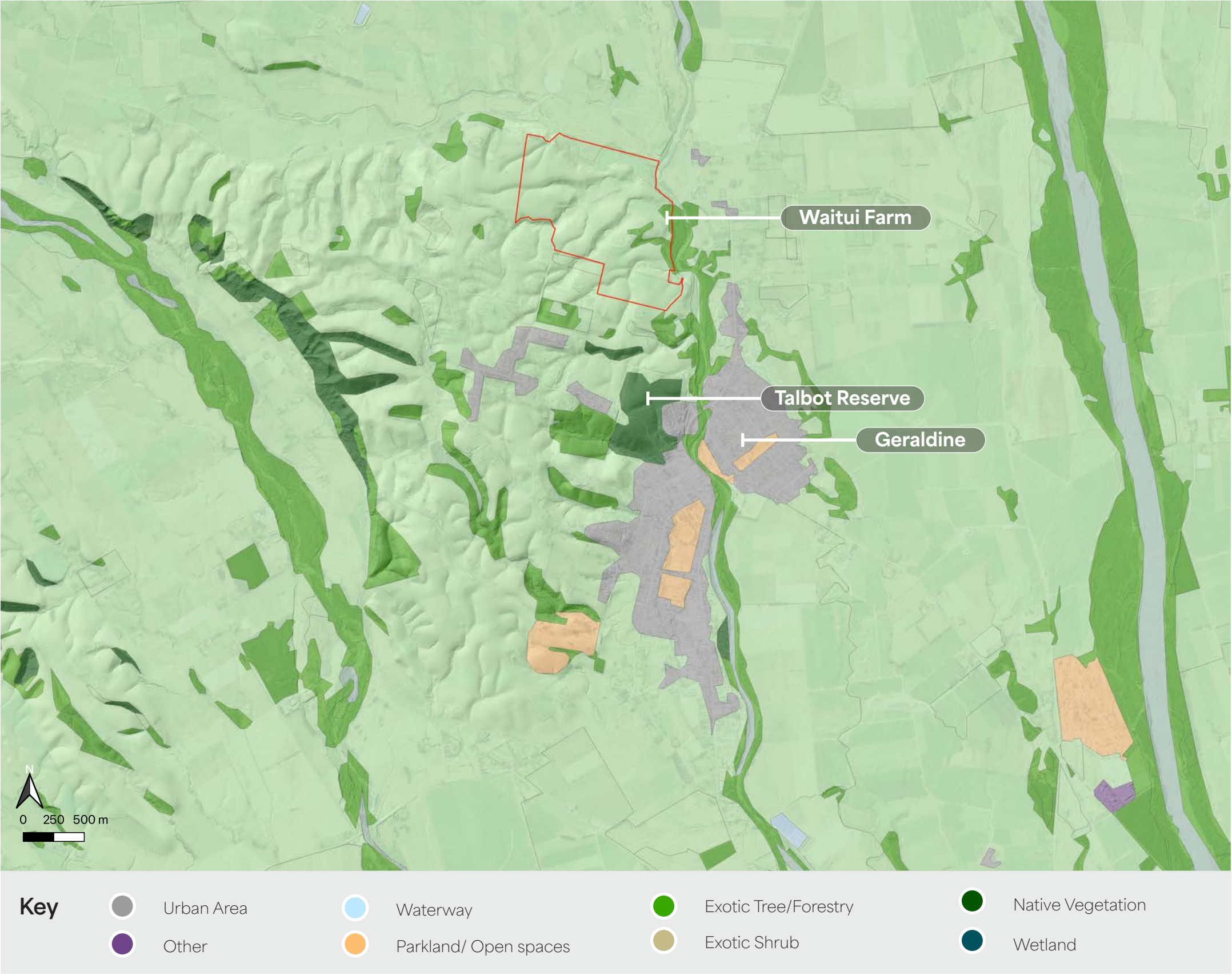
## Conditions

- Waitui Farm is located directly adjacent to the true right of the Waihi River and several kilometres to the true left of the Hae Hae Te Moana River.
- Traditional farming practices in the area contribute to nitrogen and fertiliser runoff, which flows directly into these waterways.
- The farm also contains several gullies that channel water into the Waihi River, further influencing its water quality.

## Opportunities

- Landscape restoration opportunities could halt farm run-off and act as a buffer for further stormwater and other run-off from various lands uses.





Conditions

- This land use map gives a clear indication of the state of land in the wider Canterbury region.
- Exotic grasslands and trees dominate the landscape, with small and fewer patches of native vegetation in areas of marginal land and within urban areas.

Opportunities

- Residential development has the capacity to influence native restoration, extending Talbot Forest Reserve northwards, with podocarp and rimu-matai-broadleaf forest ecosystems.



# Public Riparian Margins and other Crown Land



Key  Untitled Crown Land

## Conditions

- The several public land and green spaces surrounding the Waitui farm make the farm a suitable area for restoration and recovering native land remnants.

## Opportunities

- The opportunities this brings is the potential to reconnect native patches in the area.
- This can create beneficial ecological changes to what is currently a highly modified landscape.



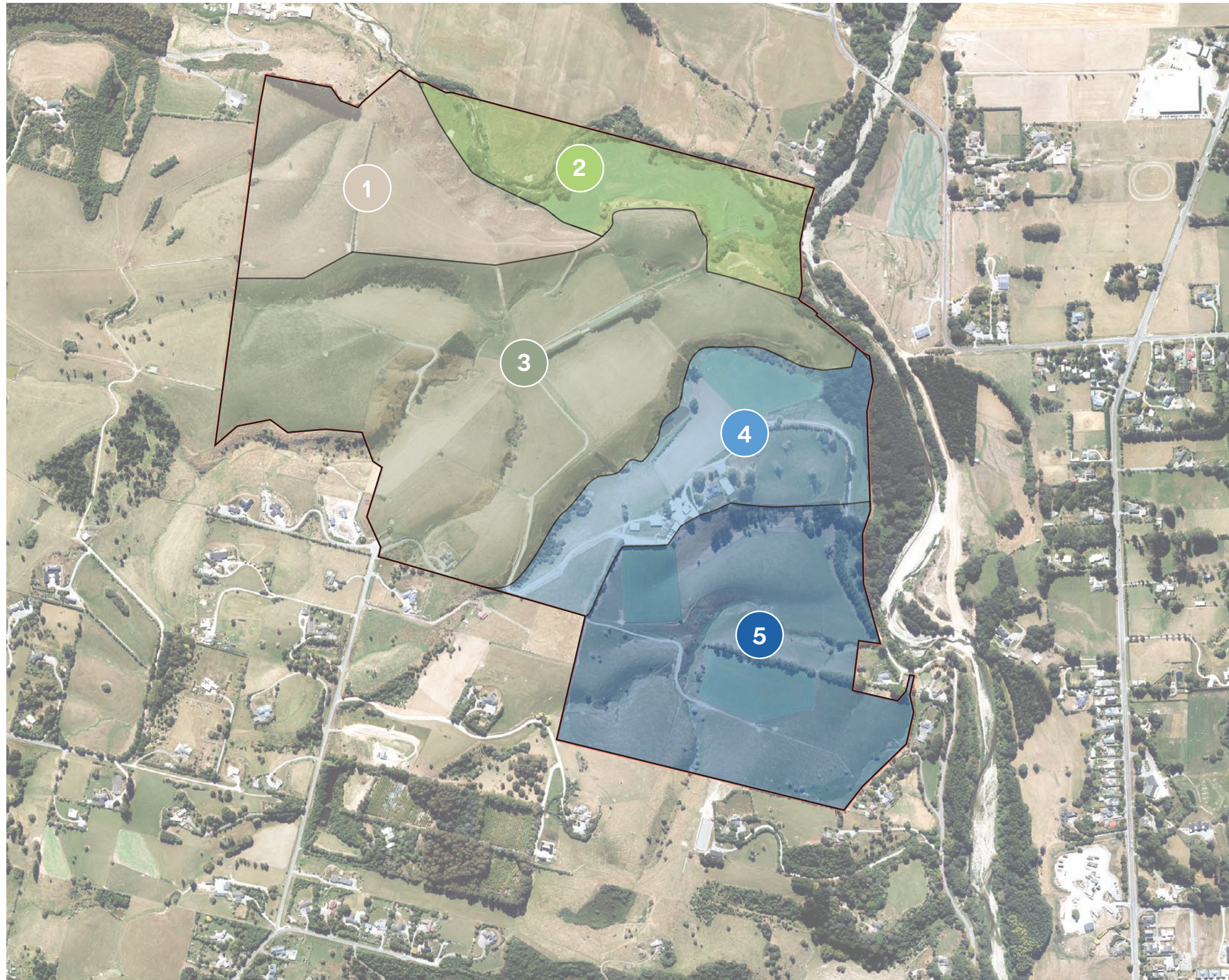


# Site Study

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- 1 North West Corner Area**  
Lower elevation areas that are prone to flooding.  
Wetland plant mixes are suited to these areas.
- 2 Wetland Zone**  
Less exposed slopes that will be ideal for new planting.
- 3 Central Farm**  
Areas adjacent to waterways, water-loving canopy are ideal replacements to the invasive willow.
- 4 Farmhouse Area**  
Lands suited to extensive native planting.
- 5 Southern Area**  
Predominately pasture with some remnant native vegetation, in varying conditions from mostly dead to healthy.



# 1 North West Corner Area



Large pasture currently used for winter feed.



Grazing paddock.



Paddock looking toward the northern end of property.



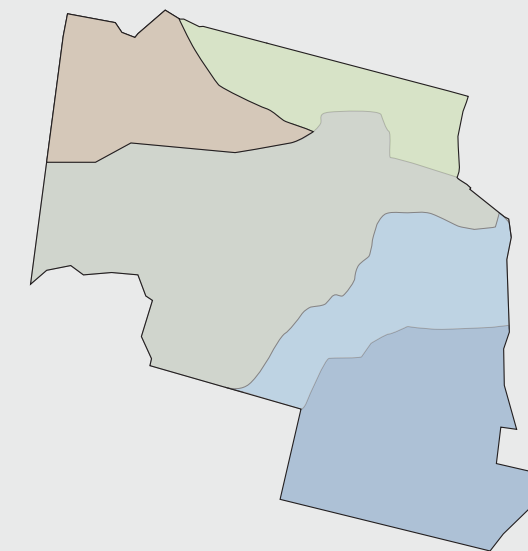
Looking toward the north west corner area from the central farm.



Looking up toward the highest point on the property.



High point of the property this paddock overlooks the farm and the Waihi River.



## 1 North West Corner Area

- One of the higher hills in the area
- Undulating open pasture fields





A tributary of the Waihi River, this winter feed experiences deluge during significant rainfall.



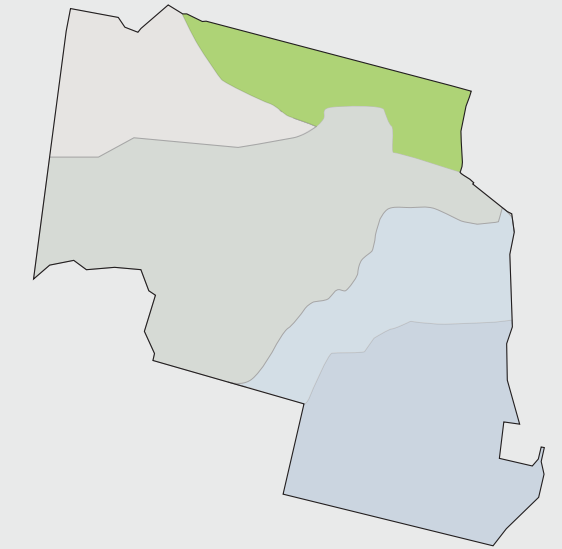
View toward the Waihi River with willow and hawthorn in the foreground.



Hawthorn found extensively within the many gullies of the property.



Where hawthorn is found, so are signs of flooding.



### 2 Wetland Zone

- Wetter area low down and adjacent to the Waihi tributary waterway
- Boggy areas can be found and annually this zone is prone to extensive flooding
- Potential for wetland planting to regulate water levels by encouraging infiltration into groundwater systems





Gully with farm house on the other side, hillside erosion is seen in the lower slopes.



One of the larger more open valleys on the property, with a waterway running through, gum trees and pine populate this area.



Open hilltop facing north, exposed to wind and rain.

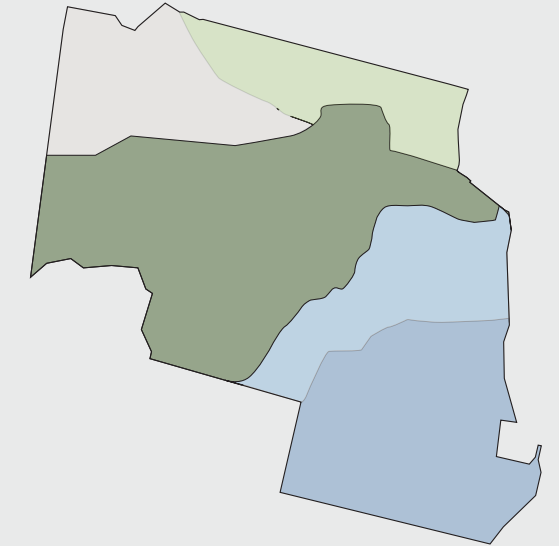


Gully densely populated with hawthorn.



Gully with farm sheds on the other side, a row of hawthorn can be seen in the foreground.

3



3

## Central Farm

- Numerous gullies run through this zone with good potential of native planting to restore waterways, stabilise banks and bring biodiversity into the area





Hawthorn along fenceline.



Lake north of the farm house has been dammed to maintain water level. Water is stagnant.



South of the farm house, a valley with gum trees and a SNA area off to the left.



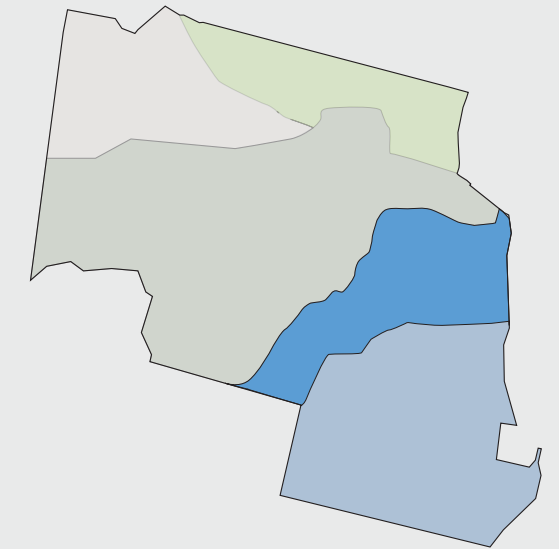
Steep gully in front of the farm sheds.



Looking toward the end of a gully as it enters the Waihi River.



Upper end of a gully, with hawthorn dominating the waterway.



### 4 Farmhouse Area

- The hub of the site where the main farmhouse sits and the only current entry point to the property.
- A maimai and lake is found in the northern gully, moderately polluted and dammed
- Hawthorn dominates the gullies effecting the waterways





Native tōtara, very degraded.



One of the numerous SNA areas on the site, this gully has a mixture of tōtara and exotic trees.



A still standing deceased tōtara.



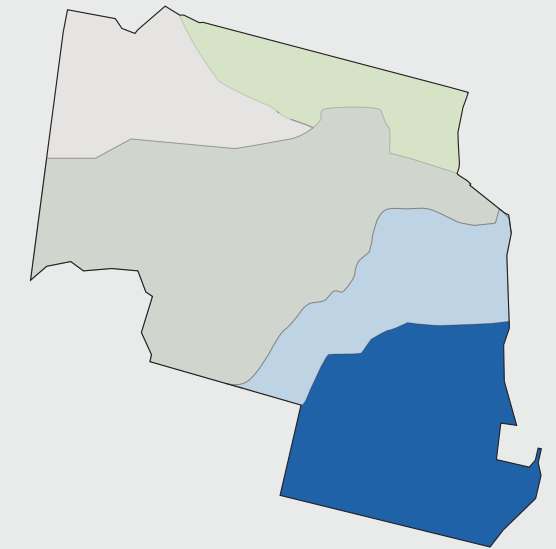
A tōtara mostly deceased.



Multiple hilltops with some singular native trees scattered throughout.



Tōtara in foreground with smaller ones behind.



## 5 Southern Area

- Where most of the SNA areas are found



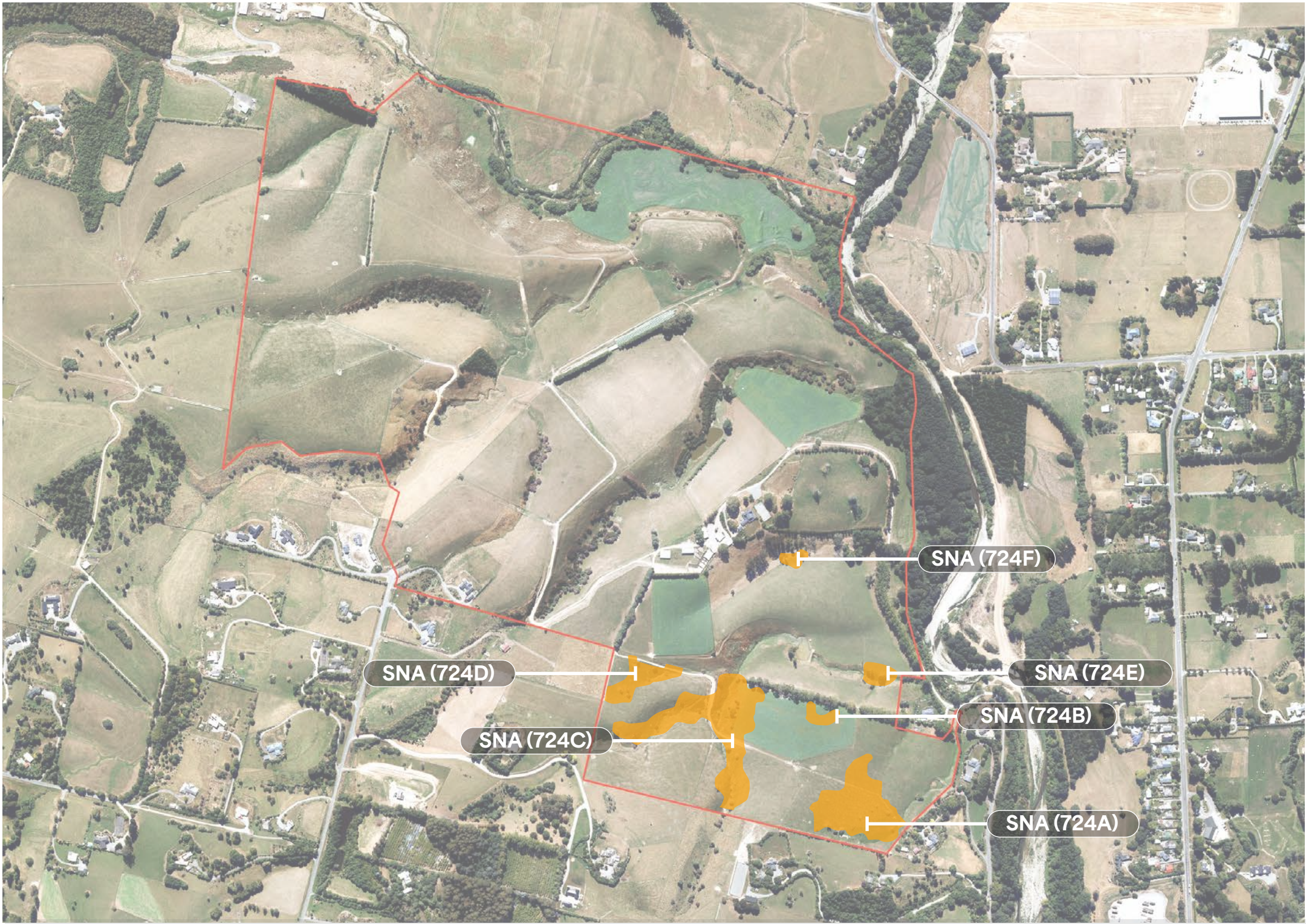


Historic photo of the main farm building from 1865.



Old maimai on the lake's edge.





## Significant Naural Areas (SNA)

There are 6 identified SNA areas, labelled on the map from SNA 724A - SNA 724F.

## Overview

- Significant Natural Areas (SNAs) on the property consist of remnant native vegetation in either very poor condition or non-existent.
- These are located on the southern side of the farm.

Key      ● Significant Natural Area (SNA)



# Significant Natural Area SNA (724A)



- One severely damaged tōtara tree, with evidence of some browsing and bark stripping.
- No other native trees evident.
- Exotic hawthorn trees evident, with bases heavily trampled by stock.





# Significant Natural Area SNA (724B)



- No native trees evident.
- Only pasture present.
- Shelterbelt lies just past northern edge of SNA.





# Significant Natural Area SNA (724C)



- Six-eight tōtara present, all with evidence of browsing and some bark stripping.
- Some dead, still standing trees. No other native trees evident.
- Exotic hawthorn trees evident, with bases heavily trampled by stock.





# Significant Natural Area SNA (724D)



- One severely damaged tōtara present, one branch still living.
- No other native trees evident.
- Exotic hawthorn trees evident, with bases heavily trampled by stock.





# Significant Natural Area SNA (724E)



- A small stand of tōtara present, with evidence of extensive bark stripping. Four-six other tōtara present.
- Stagnant waterway.

