



Learn more about the environment and find out what Environment Southland's scientists are up to.

Land Use Change – Indigenous Vegetation

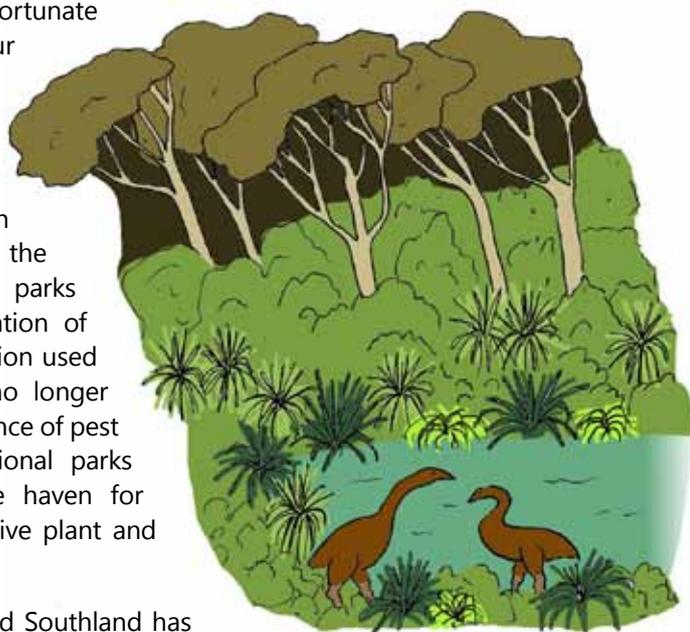


Southland is home to a diverse range of habitat types, ranging from forests to wetlands. However, what we see today is just a fraction of what once covered Southland.

What did Southland look like?

By looking back at what Southland used to be like, we can better understand the small patches or 'remnant' areas of native vegetation that remain today.

Here in Southland we are fortunate to have just over half our region as National Park (Fiordland National Park and Rakiura National Park on Stewart Island). Indigenous vegetation (found nowhere else in the world) in our national parks gives a good representation of what that part of our region used to look like. Although no longer 'pristine' due to the presence of pest plants and animals, national parks provide a relatively safe haven for many of our region's native plant and animal species.



Before people arrived in Southland there were many species of birds, such as moa, that aren't around today.

However, much of lowland Southland has changed significantly since the arrival of people.

Pre-human vegetation

Before the arrival of people, about 85% of Southland was covered in forest. Lowland forest in the Southland Plains was dominated by podocarp (native conifer) forest, mainly matai, kahikatea and mixed podocarp. Other forest types that would have been present include:

- Before human habitation **forest** covered **85%** of Southland.
- Just **10%** of forest that covered the Southland Plains in 1865 remains today.
- Around **90%** of Southland's **wetlands have been drained** and cleared for farmland.

- Kowhai-ribbonwood forest – along river margins
- Totara forest – in the Otatara/Sandy Point-Oreti Beach area
- Silver beech forest – along the Mataura River
- Mixed broadleaf (podocarp) and rata-kamahi forest – on the limestone hills

Upland areas were dominated by beech forest. There were relatively few areas of tussock and shrubland in pre-human times. Wetlands covered nearly 9% of the region, far greater than today.

The arrival of people – a time of change

The arrival of people to Southland inevitably brought change. Evidence suggests that Southland's land cover began changing with the arrival of early Māori. With people, came the use of fire – both deliberate and accidental. Although many fires would have been accidental, there's evidence to suggest that Māori used fire as a deliberate 'tool' to hunt food such as moa, encourage the growth of bracken fern (a key food source), and clear tracts of land for easier access and travel.

Forest fires in drier parts of Southland would have resulted in areas changing from forest to shrubland and tussock. Even though the landscape was changing, this was a relatively slow process over hundreds of years. Native forests were simply being replaced by other native ecosystems.

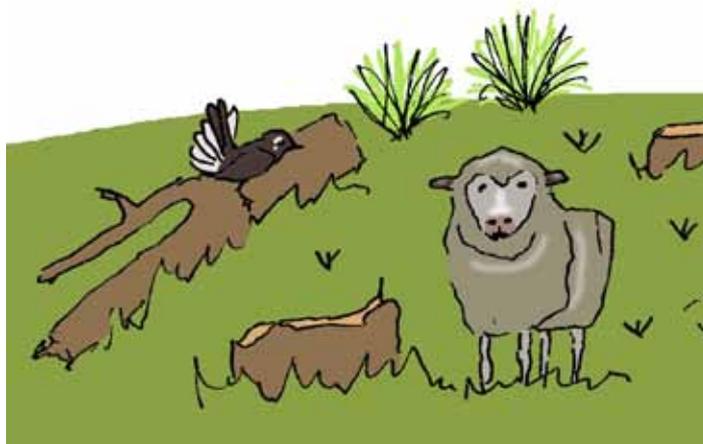


Forest fires often led to significant changes in the landscape – particularly in drier areas.

European arrival – native forest to farmland

By the time Europeans began to settle in Southland the landscape had been altered significantly. However, early settlers were quick to start clearing lowland forest and tussocklands to make way for farmland. This dramatic loss of native vegetation has been the single biggest change in land cover Southland has experienced.

Native vegetation was being replaced by introduced pastoral grass, crops and exotic trees – the start of the pastoral landscape we see today.

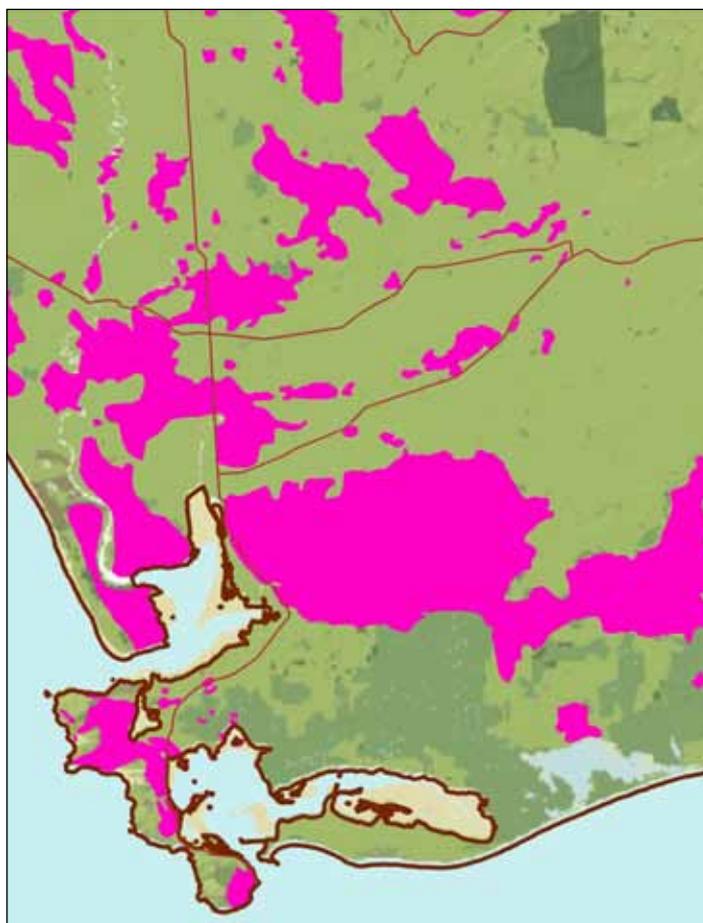


European settlers felled native forest and drained wetlands to make way for pastoral farming.

Early historic records – what did lowland Southland look like?

Early historic accounts describe the land to the north-east of Invercargill as being mostly covered in native grasses. Early survey maps show the upper Southland Plains as being a mosaic of tussock grassland, forest and some bogs (a type of wetland).

To the southeast of Invercargill to the coast was mostly peat lands and swamps, which are known today as the Awarua/Waituna Wetland complex. To the east of Invercargill was the vast Seaward Forest, covering approximately 8,000 ha.



Native forest (shown in pink) in lowland Southland – 1860.

Forest fragments today

Just 10% of the forest cover that was present on the Southland Plains in 1865 remains today. Small forest remnants are referred to as 'fragments' and play a crucial role in the long-term survival of many of our native plants, birds and animals.

Other ecosystems at risk are shrublands. While often referred to as 'scrub', these areas can be important refuges for some of our region's threatened plants. However, they are often located on private land in Southland and are often not protected.

Areas of shrubland on private land are increasingly at risk from intensive agriculture. Shrublands could once be found on hilly areas in little-used parts of a farm. However, as farming has changed to be more intensive, this land is increasingly being cleared for pasture. Shrublands are also at risk from fire as they tend to grow in drier parts of the region.

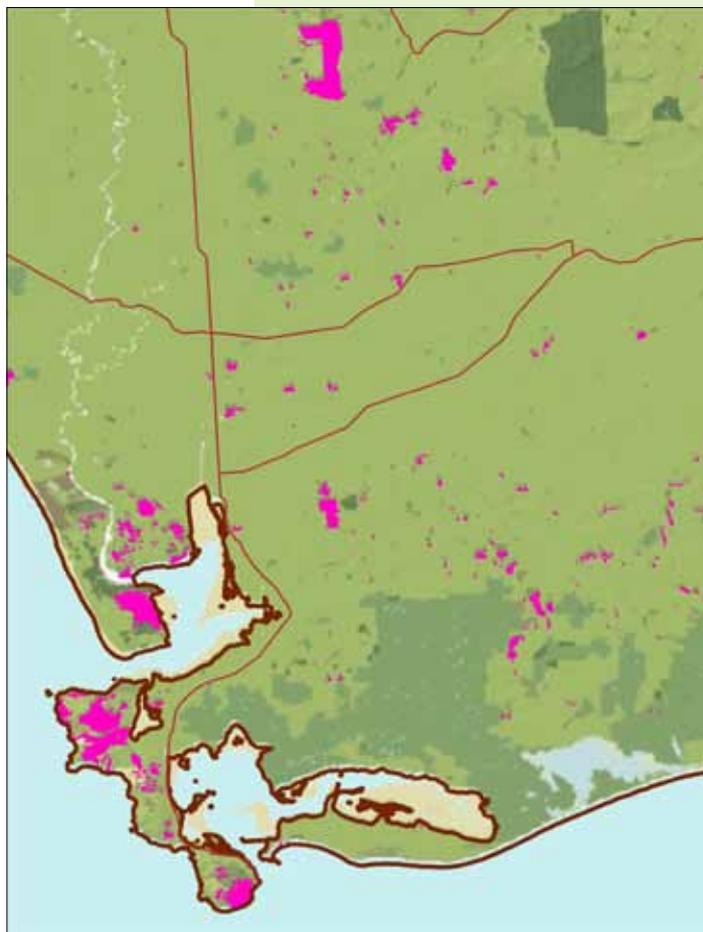
Wetlands today

Approximately 90% of Southland's wetlands have been lost – drained and cleared for farmland. We have only recently appreciated the important role wetlands play in our landscape. Because Southland has lost so much of its wetland habitat, it's important we look after and protect all our remaining wetlands.

Protecting what's left

Habitat loss continues to be a serious challenge for many of our region's indigenous plants and animals. However, they are also under threat from introduced weeds and animal pests.

Environment Southland works with Iwi and other agencies such as the Department of Conservation, QEII Trust, local Landcare groups, and numerous other community organisations to help protect the natural areas we have left.



Native forest (shown in pink) in lowland Southland – 2008.

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*For further information, or to read the **Land Use Change in the Southland Region** report, go to www.es.govt.nz*
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