

# TIROMOANA BUSH

**Welcome to Tiromoana Bush**, Canterbury's regenerating native forest. Before people arrived in New Zealand, lowland coastal forest once covered the hills surrounding Mt Cass in the Waipara area of Hurunui District, one hour's drive north of Christchurch. Tōtara, matai and kahikatea grew above a diverse canopy of broadleaved trees including five-finger, kowhai, lacebark, lemonwood, ngaio, ribbonwood and small patches of black beech.



After 700 years of human settlement only a few remnants of the original forest remained and these might eventually have been lost. That changed when Kate Valley was identified as the most suitable location for a new landfill for waste from the Canterbury region. The site included a small stand of black beech trees along with remnants of coastal forest and regenerating shrub land considered significant.

Transwaste Canterbury Ltd, who were wanting to develop the Landfill, put forward an ambitious plan to protect and regenerate the bush and open it up for public access as part of their resource consent application for the Landfill. Consent was granted on the basis the company would protect, restore and manage a 407-hectare Conservation Management Area, now called Tiromoana Bush, which includes remnant and regenerating forest and shrub land, streams, wetlands, ponds and coastal margins.



## How the restoration project began

Dr David Norton, a professor at the University of Canterbury's Te Kura Ngahere | School of Forestry, was contracted to prepare *The Tiromoana Bush Restoration Management Plan* in 2004. The Plan recommended:

- removing domestic grazing animals (sheep and cattle) and wild animals (red deer and pigs) to allow natural regeneration of the remnant indigenous forest areas and in pasture areas;
- restoration plantings to enhance connectivity between the existing remnant patches of bush and to reintroduce key plant species to support indigenous fauna; and
- providing public access along a walkway through the site.

*The Restoration Plan* has been updated every five years and includes an annual work plan. Regular measuring of bush and restoration growth, bird abundance and photography at selected sites enables monitoring of the restoration process, which is documented in annual summary reports.

## Vision

In 300-year's time, Tiromoana Bush has been restored to a predominantly forest ecosystem (including coastal broadleaved, mixed podocarp-broadleaved and black beech forests) where dynamic natural processes occur with minimal human intervention, where the plants and animals typical of the Motunau Ecological District persist without threat of extinction, and where people visit for recreation and to appreciate the restored natural environment.



### The restoration project began in 2004

Protection works began in 2004, when sheep and cattle were removed from the bush and fencing was upgraded. A 20-kilometre deer fence was subsequently built that together with intensive animal control has eradicated red deer and helped reduce pigs straying into the bush. These actions stopped animals damaging the bush, protected restoration plantings and allowed natural regeneration to occur.

### There's an annual programme of restoration planting

Strategic restoration plantings are undertaken annually to increase the area of native forest and wetland vegetation, as well as providing nesting sites and food resources for native birds. Approximately 1 hectare of restoration planting takes place each year, with all plant species sourced either from Tiromoana Bush or from the southern part of the Motunau Ecological District. A key focus has been on enhancing linkages between existing areas of regenerating forest and re-establishing rare ecosystems, such as wetlands and coastal forest. Plantings have included seedlings from the remnant black beech forest, kahikatea, tōtara, ribbonwood, lacebark, tī kōuka, lemonwood, kōhūhū, ngaio, kānuka, mānuka, and five-finger.

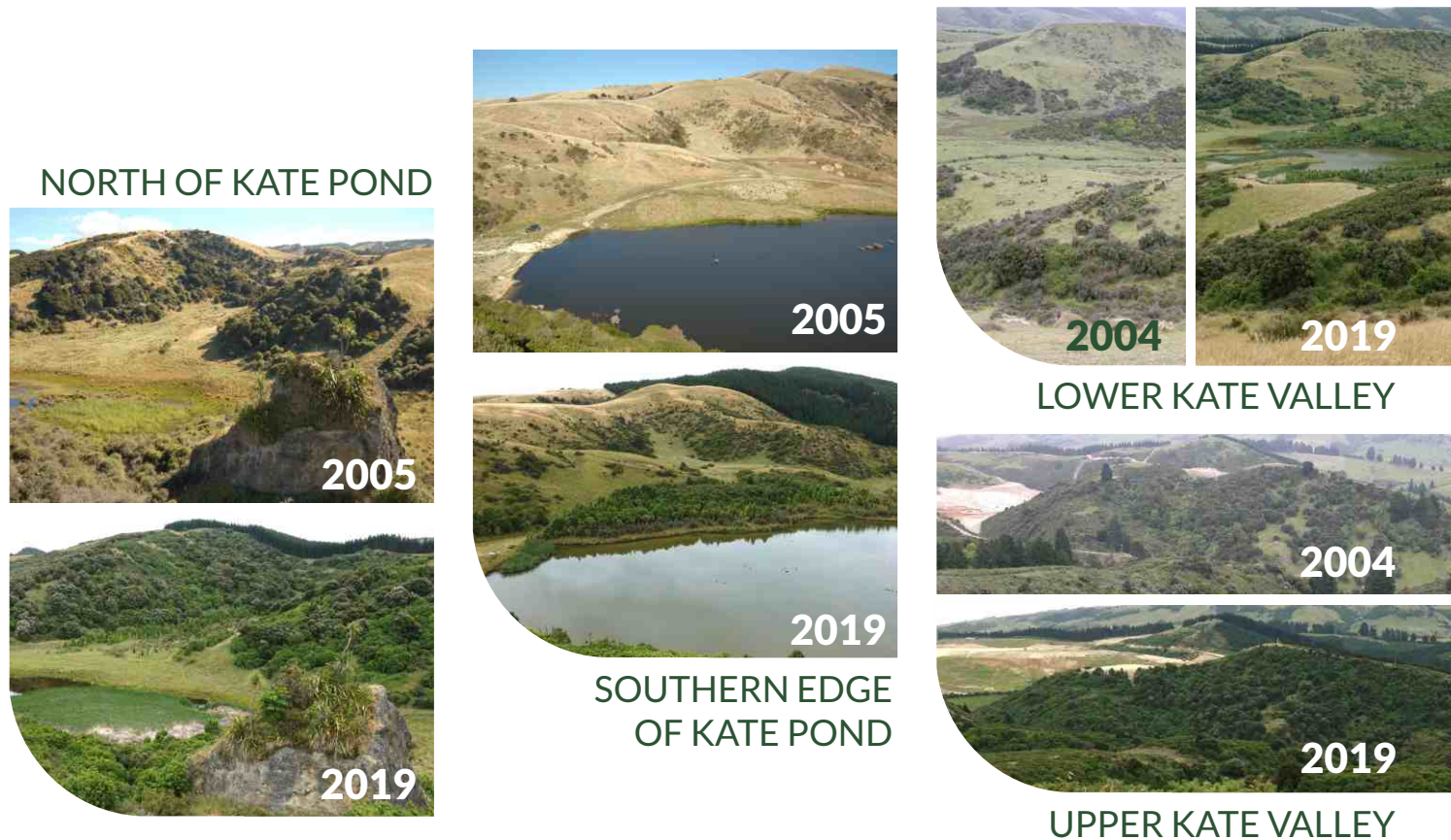
### Unwanted species must be removed

Annual weed control is undertaken focusing on species such as wilding conifers, willows, and old man's beard that have the potential to smother native vegetation. Gorse and European broom are not controlled as they act as a nursery for native forest regeneration and the cost and potential damage associated with their control outweighs any biodiversity benefits. As the native plants become established and successfully compete for water, nutrients in the soil and light the gorse dies out and is replaced by native forest.



## Monitoring is essential and important

Regular monitoring and photographing of vegetation and landscape, birds and animal pests over the last 15 years enables progress to be assessed. 177 native plants and 22 native bird species have been recorded, including four nationally threatened species and several regionally rare species. Examples of successful plantings include Kahikatea planted in 2006 around Kate Pond that were 4-5 metres high after 13 years. Tōtara, planted on the fringe of the bush is becoming well established. Under the restoration canopy five-finger and ferns are naturally regenerating, while in the previously heavily grazed kānuka stands a diversity of native plants are now flourishing. The photographs (see below) illustrate the successful restoration of the bush from remnants to increasingly bush cover across hillsides and through valleys.



## Restoration is a long-term process

The initial phase of restoration of Tiromoana Bush is a 35-year long project that commenced in 2004. While the project has been successful, there are ongoing challenges with maintaining fencing to prevent deer and pigs from entering the bush, and also controlling invasive species such as wilding pines, and other weed seeds carried by winds and birds. The natural regeneration processes appear to be favouring some native species, for example kānuka is being replaced by mahoe. The restoration management practices, such as opening up the canopy to allow more sunlight for seedlings, will continue for some years to ensure the bush regenerates into a diverse forest canopy. However, it will take more than one hundred years before a mature podocarp dominated forest comparable to what might have been at Tiromoana Bush becomes re-established.

## The wetlands benefit from the Landfill

The existing natural wetlands in the lower Kate Valley have been greatly enhanced and expanded with the new 12-hectare Kate Pond wetland. At the Landfill, rainwater and runoff is collected and filtered before being released into the Kate Stream that flows down the valley into Kate Pond. This stream used to dry up in summer, which meant the wetlands consequently dried up. By collecting and managing the water flow year round, Kate Pond and the natural Ella Ponds are no longer seasonal wetlands, but have grown in size and now support a wide variety of native species, such as harakeke/flax growing at the margins, and trees that like having their roots in damp soil. The wetlands are also a habitat for birds including rare species such as the spotless crane.

# INTRODUCING TRANSWASTE

Transwaste Canterbury is an innovative public-private partnership that was set up to own and operate the Landfill on behalf of the councils of Canterbury. The public shareholders are Christchurch City Council and the District Councils of Ashburton, Hurunui, Selwyn and Waimakariri. The private sector shareholder is Waste Management NZ Ltd, New Zealand's leading waste management company. The public and private partners each hold 50% of the shares making this a truly equal partnership. Transwaste will continue to fund the restoration and maintenance work at Tiromoana Bush during the operational life of the Landfill. After the Landfill has closed revenue from forestry activity will provide a sustainable source of funding for future restoration and maintenance work at Tiromoana Bush.

## Tiromoana Bush is protected in perpetuity

In July 2006, a QEII National Trust Open Space Covenant was gazetted on the title of the property, which provides protection for the bush irrespective of any change of future ownership. Tiromoana Bush is thereby protected for future generations.



### Tangata whenua

Transwaste worked closely with the local Tangata Whenua Ngāi Tūāhuriri, who has mana whenua (customary ownership) over the area, when the walkway was upgraded in 2017/18. Ngāi Tūāhuriri designed and built an ika pou whenua (mahinga kai fishing marker) at the walkway's coastal lookout. The carvings on the pou relate to the importance of the area to Ngāi Tūāhuriri and especially values associated with mahinga kai (resources from the area).



### Public access and visiting

Public access is a core component of the project so people can see the restoration project in progress. Walking tracks through regenerating bush and by the wetlands were constructed in 2006. In 2017/2018 the walkway was improved and extended, with new interpretation panels and information displays. There is no charge for visiting the bush. It is open year round during daylight hours, only closing at times of high fire risk. On the website is information about opening and closing hours, and a Walkways brochure with a detailed map of all the tracks, lookouts, picnic spots, toilets and beach access.

[tiromoanawalkways.nz](http://tiromoanawalkways.nz)



### Want to know more?

For more information about the restoration and project reports visit our website or contact us with enquiries  
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