

WETLAND REHABILITATION

WETLAND WISE

Wetlands are permanent or temporary wet areas that support plants and animals adapted to wet conditions. Here in the Waikato, we have two main types of freshwater wetland:

BOGS

These are areas of low nutrient peat (partly decomposed and waterlogged plant material) that are fed by rainwater alone. Highly specialised plants, including some unique to the Waikato, inhabit bogs.

SWAMPS

Most wetlands on private land are swamps. In contrast to bogs, swamps are nutrient rich, better aerated and fed by streams, groundwater or run off. They support a wide variety of plant communities.

FACTS AND FIGURES

Freshwater wetlands once covered extensive areas of New Zealand. About 90 per cent of them have been destroyed in the last 150 years.

An estimated 110,000 hectares of freshwater wetland once covered the lower Waikato area and Hauraki Plains. About 32,000 hectares (25 per cent) is left today. This figure includes Whangamarino (7100 hectares) and Kōpuatai Peat Dome (9200 hectares).

Although wetlands now cover less than 2 per cent of New Zealand's land area, they are home to 22 per cent of our bird species and 30 per cent of our native freshwater fish. Eleven threatened birds and 13 threatened plant species inhabit Waikato wetlands.

In the Waikato, about 50 per cent of all freshwater wetlands are legally protected, but most are bogs.

WHY REHABILITATE?

Wetlands are now some of New Zealand's rarest and most at-risk ecosystems. The conservation and rehabilitation of wetlands can make a real and positive difference for wetland species and benefit us directly.

Think of a wetland as a giant sponge. Wetland plants slow the flow of water off the land. In times of flood, more can be absorbed into the soil. In summer, this stored water is slowly released, maintaining water flows. Plants also trap waterborne sediment, preventing silt buildup. Along riverbanks, plants' roots hold the soil together, reducing erosion. Bacteria living in the damp soil of wetlands absorb and break down about 90 per cent of nitrogen from farm run off, eg fertilisers, chemicals and animal waste. Cleaner water prevents nuisance algal blooms and is better for stock.

Wetlands also form part of our natural landscape and offer many options for recreation such as fishing, hunting and canoeing.



HOW DO I GO ABOUT IT?

With all rehabilitation efforts, the aim should be to keep it simple. The eventual goal will be a wetland that takes care of itself with little effort from you.

Decide what you want and what suits your situation.

Seek advice from Waikato Regional Council and other agencies (see the Contacts and Information factsheet).

Is a resource consent required?

- Fence your wetland to exclude stock – even a simple electric fence at first.
- Prepare a planting plan.
- Begin pest control.
- Prepare the area for planting. Make sure you put the right plants in the right places and at the right time (see the Planting Guide factsheet for more information).

MAINTAIN WITH WEEDING AND PEST CONTROL

To protect the time and energy you have put into your wetland, a covenant can be placed on the site. This means land ownership is retained and transferable but the site's natural features are protected.

Make sure that the area has a water supply that will keep it damp throughout the year.

KEEPING YOUR WETLAND WET

Maintaining water levels will be one of the most important tasks in managing your wetland. Before you even lift a spade, spend some time monitoring the source and amount of water, especially over a range of seasons. Mark out where the water comes to at different times of the year.

A wetland with a high water table or steady water supply will stay damp throughout most of the year. However, if the area has been drained you may need to restore the original level by blocking a nearby ditch or drain.

In some instances, you may have to build a low bund, weir or dam, for which you may need a resource consent. To ensure water levels don't rise unnaturally high, these structures must allow for generous overflows.

A dammed pond will diversify your wetland habitat for plants and animals. However, they can be difficult to keep free of weeds and algae in summer, and block fish access. Most native birds prefer swampy rushes and flaxes rather than deep open water. Earthwork guidelines are available from Waikato Regional Council.

PLANTING YOUR WETLAND

Planting guidelines are available in Factsheet 3 of this series, from Waikato Regional Council.

PEST CONTROL

Ongoing pest control will enhance birdlife in your wetland and protect young plantings. Possums, hedgehogs, stoats, weasels, ferrets, feral cats and rats all remove bird eggs and most will also eat chicks and adult birds. Magpies and mynas are territorial and aggressive to other birds. Rabbits, hares and possums eat wetland plants. Waikato Regional Council can provide practical advice and factsheets on the best pest control methods for your situation.

Mosquitoes may become a problem near open water. The best solution is to allow water boatmen and other natural predators keep them in check. Mosquitofish are not native or effective in controlling mosquitoes and they drive out native fish. It is an offence to introduce freshwater fish species to a new area.



ANIMAL REPELLENTS

Various commercial repellents can be applied to plants to protect them against possum and rabbit browsing. The following repellent recipe, by Liza Crozier, has been used successfully in the forestry industry:

5 eggs

**150ml acrylic paint
(primal AC 235 acrylic resin)**

600ml water

Mix ingredients together and pour through a strainer into a spray pack applicator. Spray approximately 20-30ml over and around each seedling. A second application may be needed after winter.

Pūkeko are also able to undo a lot of your good work by nibbling and uprooting newly planted seedlings. To deter them, use larger and heavier potted plants or try placing a hedge of short sticks around them.

While pūkeko are game birds and not legally protected during hunting season, they are native and a natural part of a wetland ecosystem.



GRAZING MANAGEMENT

Stock with access to wetland areas will increase nutrient levels, compact the soil, cause erosion, disturb the wildlife and graze on and trample wetland plants. Cattle, in particular, tend to gather near water and wade in it.

It is better to graze sheep to keep surrounding plants cropped short for spawning inanga or as feeding areas for waterfowl and pied stilts. Sheep are less likely to enter water, pug soil or ring-bark trees. Mid-summer to mid-autumn is the best time to graze around wetlands as it will be drier and most bird breeding will have ended.

Fencing will encourage plants to regenerate from natural seed sources. It will also prevent stock getting trapped in the swamp, and in some areas may reduce incidence of liver fluke.

Consider placing a drinking trough for stock under the outflow pipe of a dam outside the wetland's fence.