

Make your native bush sing

Biodiversity protection & enhancement

What gets you up in the morning?

Living and working outdoors in a great environment are among the joys of farming. Our deer and their wonderful products are the main reasons why we farm, but many of us get a buzz when we hear and see native birds in the trees and fish in our streams.

By protecting and enhancing native biodiversity on our farms, we help protect some of New Zealand's unique plants and fauna, many of which are threatened or rare.

Areas of healthy native biodiversity – along with amenity and shelter plantings – add to the appeal of a farm and are increasingly valued by buyers of farmland. They also help give substance to the clean green brand values that many of our customers have in mind when they buy our deer products.

Biodiversity also provides productive benefits.

Deer thrive where there is shelter and shade. Pasture growth is higher where there is wind protection. Beneficial insects, including bees and insect predators, do best where they have access to native vegetation. Healthy and productive soils are full of earthworms and beneficial organisms. Areas that have been retired from grazing can help filter run-off and remove carbon dioxide from the atmosphere.

If you – like many other deer farmers and their families – see biodiversity protection as the right thing to do, there's

Key points

- Healthy native bush, wetlands, shrubland, tussock grasslands and dunes add to the appeal of a farm as a place to live and work.
- By protecting and enhancing these areas of native biodiversity on your farm, you will help protect our country's unique plants and fauna for future generations.
- There's lots of expertise and funding available to help you do this.
- Start by finding out what's living in the area you would like to protect. Then make a plan.
- Pest and weed control can require a lot of work, but can have substantial benefits. Start small with enrichment planting, do it well, then build from that.
- Native biodiversity protection enjoys huge public support. Involve the community in your project.
- Take photos from fixed points each year, so you can see the progress you are making.
- Enjoy the areas you have protected.

lots of help available. Many district and regional councils offer funding help and expertise.

This *Deer Fact* is an overview of what you need to think about when protecting and enhancing existing areas of native biodiversity.

Are you among the lucky ones?

Many deer farmers are fortunate to have areas of native bush, wetlands, shrubland, tussock grasslands and dunes on their farms. Many of these are remnants of once common local ecosystems that are fast disappearing.

There are 72 naturally rare ecosystems in New Zealand, of which 45 are threatened with collapse. Many of these are on private farmland. See www.landcareresearch.co.nz for more details.

These areas are vital for the survival of the native plants, birds, fish, reptiles, invertebrates, fungi, soil mycorrhiza and other organisms that live there. If these remnants continue to degrade and disappear, so will the small native critters that remain.

Many deer farmers are working with the community to actively restore and enhance what's left of these ecosystems. It's something they can be proud of.

Often, these areas of native biodiversity have limited farming value. Retiring them doesn't reduce production but can have management benefits. Deer that are farmed in environments that mimic their natural habitat tend to be more settled, make use of the shade and shelter, and are less prone to fence-pacing.

Then there is the satisfaction for those living and working on the farm that comes from seeing native species flourish.



Deer farmers are playing an important part in protecting some of New Zealand's unique ecosystems for future generations to enjoy



"We fenced off 10 - 50 metres of native bush along our river boundary. I go for a walk there most days. It's a personal thing – there's always something happening – we get more bird life than ever. I love listening to the birds and the sound of the river."
Pourakino, Southland, deer farmer Johnny Watkinson

Being part of a bigger picture

Having a healthy area of native vegetation on your farm can help improve biodiversity across your region or along your catchment.

Fencing off and controlling weeds and pests in a gully, a wetland, or in a patch of totara or kahikatea, may seem to be a small thing. But these 'islands' of native vegetation, along with 'corridors' of planted riparian strips, provide valuable habitat for highly mobile species, such as bats and many species of native bird. For example, North Island brown kiwi will cross up to 300 metres of farmland to reach another patch of bush. But with islands and corridors to use as stepping stones they can move kilometres.

Involve the community

Native biodiversity enjoys huge public support. Thousands of New Zealanders are joining community groups and trapping pests, planting trees and controlling weeds on their own properties, farms and public land.

Being involved in one of these groups, or involving the local school in tree planting, are great ways to make non-farmers aware of the good work you are doing to protect and enhance biodiversity on your farm. Expand your audience by sharing photos of these activities on Facebook and other social media.

In many regions catchment groups have formed, involving local councils, land owners, iwi and members of the public. Volunteers help with weed and pest control, and planting in riparian areas and wetlands. Similar groups are protecting the margins of lakes and estuaries.

If you have a stream or river that passes through multiple properties, or are on the shore of a large lake or estuary, consider joining the local group.

QEII National Trust

QEII National Trust partners with land owners to protect natural and cultural heritage sites on private land with covenants. QEII has more than 4600 covenants – legal agreements that protect the land forever.

Many deer farmers have found a QEII covenant is the most effective way to protect precious areas of native biodiversity. It ensures that these areas will be there for future generations, despite changes in ownership or surrounding land use.



"I think farmers who have slices of thriving native biodiversity on their farms are privileged. At the end of the day there's very little of it in our developed farming areas. Looking after it can bring great joy and enhance the value of a farm – people enjoy beautiful spaces."

Esk Valley, Hawkes Bay, deer farmer Mark Mitchell, shown here checking a predator bait station



Covenants are tailored to reflect the wishes of the land owner. For voluntary covenants, QEII provides expertise and covers the cost of surveying and registering the covenant on your land title. They also provide establishment funding such as a contribution towards fencing, or weed and pest control, to support work that will enhance the values of the protected area.

Contact your local QEII National Trust representative for more information.

Where to start?

1. Understand what it is that you are protecting. What's living there? See below.
2. Write a biodiversity plan that ties in with your overall farm plan. What can you afford? What will the labour requirements be? Don't bite off more than you can chew – you don't have to do it all in one year.
3. Consider setting up a covenant. This will ensure your special places are protected forever.



"When we took over the farm in 2004, there were 60 hectares in a QEII covenant. The next year we expanded it to 125 ha – doing 2.5 km of fencing in one hit. Basically we removed three massive gorges from grazing.

"We did it because we had some nice bush on the farm that we wanted to remain once we were gone. The area was difficult to farm and we figured we could get by without it.

"QEII and the regional council came to the party with funding – we provided labour as our contribution.

"We've now got possums under reasonable control. The bush is really healthy and we're seeing steady regeneration. The birdlife has improved dramatically."

Manawatu deer farmers Linda & Tony Gray

4. Take photos from fixed points when you start, so you can measure your progress over time.

What's living there?

Start by finding out what's living in your special area. Ask an expert to help you with a baseline survey. Your local QEII rep may be able to help you do an ecological assessment, or point you to someone local who can.

If you have a wetland in the area you wish to protect, Fish & Game are a great source of knowledge and practical advice. Local district and regional councils have biodiversity managers who are keen to share their knowledge. They may be able to help you access funds for fencing and other works.

Once you have baseline information you can measure your progress. Ask friends and family to help you with an annual bird count. Consider doing a 'bio-blitz' with the local school.

Animal and pest control

Fencing to exclude farmed and feral animals is essential.

Feral deer

Farmed deer attract feral deer, so your biodiversity protection areas – even if they are not on your deer block – need to be deer-fenced, and any feral deer within these fenced areas removed. Feral deer are quick to destroy young trees, especially any edible species. Stags can also smash young trees during velvet stripping.

Pests in new plantings

Even at low densities, hares and rabbits can cause severe damage to newly-planted young trees and young plants. Before planting in rabbit-prone areas, consider rabbit-netting the protected area, followed by poisoning.

If rabbit netting is not practical or affordable, shooting and trapping will reduce pest numbers. Tree guards and pest repellents will help minimise damage from the pests that remain.

Long-term pests

Without effective pest control, protected areas (especially restored riparian strips) can become homes and highways for possums, stoats and rats, which in turn attract feral cats. These pests eat birds and their eggs, bats, lizards, native insects, invertebrates and native vegetation.



A DoC 250 stoat trap baited and ready to go: predator control is an ongoing challenge, but the technology is constantly improving

There can be huge possum populations in bush blocks. On Evan and Linda Potter's 740 ha Hawkes Bay deer farm, 4000 were killed on their first blitz and 2000 on the second. Most were taken from the farm's 125 hectares of bush that's now in a QEII covenant.

In tussock, scree, riverbed and dune environments, hedgehogs and feral cats can take a huge toll of nesting native birds as well as geckos, skinks and invertebrates.

Controlling pests is an ongoing challenge but better traps and baits, as well as ways to monitor pest activity, are constantly being invented. With effective pest control, you'll see more native species. You and your livestock will also be protected from the diseases spread by pests, such as bovine Tb, leptospirosis and toxoplasmosis.

Some deer farmers hire pest control contractors to do a blitz once or twice a year. To control highly mobile species like possums and cats it pays to work with neighbours.

Restoration planting

After decades of grazing, species that are highly palatable to livestock and pests may no longer be present. Take the time to visit local conservation reserves to see what species are present on protected land with similar vegetation, terrain and aspect to yours. Planting these missing species

in your protected area is known as enrichment planting.

Eco-sourcing

The plants you introduce into areas of native biodiversity on your farm should ideally come from



Kakabeak ('red kowhai') was almost extinct in the wild because it is so palatable to browsing animals. Now it is being planted in protected areas on Hawkes Bay farms

seeds that come from plants growing in your area. Using eco-sourced plants means your protected area will help protect the wide diversity of our native plant species. Also, most plants tend to do best in the region and climate they are adapted to.

Ask local biodiversity experts, such as QEII reps or regional council biodiversity managers, for the names of local plant nurseries that source their seeds from your region.

Planting into pasture

Weed and grass control is essential if you plan to expand or restore a bush block or wetland by planting native species into existing pasture. For more information see the *Deer Fact* 'Trees for deer farms' (August 2020).

Wetlands

The Wetland Restoration Handbook, published by Landcare Research, is the Bible on this topic.

Coastal areas

For coastal ecosystems, including dunelands, go to: www.coastalrestorationtrust.org.nz



"Our QE II block was taken out of production 10 years ago. It is one of our wetter areas, it didn't offer much feed and the deer were wrecking it. Now a lot of native plants have come back and the red tussocks are head-high.

"We have done electric fishing with the Waiau Trust in Bartletts stream that runs through the covenant. It's packed with fish and eels. Even the Gollum galaxid. There's nothing like seeing the benefits of what you are doing with your own eyes.

"Bartletts is next to some of our most highly productive paddocks. It's all part of the balance we are trying to strike between production and biodiversity protection. The aim is to have the best of both worlds."

Mararoa Station, Te Anau, manager Matt Canton

Native grasslands

The restoration of native grassland ecosystems often involves the reintroduction of plants, reptiles and invertebrates that may be locally rare. Consider joining a local ecological restoration group to gain and share knowledge.

Problem weeds

If fast-growing scrub weeds such as blackberry, broom and gorse are present, ongoing control will be needed. Consider carrying a container of picloram prills in your vehicle cab, so you can deal with these weeds when you see them.

To find out more about the control of specific weeds, go to www.weedbusters.org.nz

Government policy

District councils are required to identify Significant Natural Areas (SNAs) on private, public and iwi land and to ensure they are protected.

Land owners are usually not permitted to develop the land or clear vegetation in a SNA. In return, many councils offer farmers rates remissions, free biodiversity management advice and subsidies toward the cost of stock exclusion fencing, weed and pest control, and restoration planting.

More >>

Deer Industry NZ

www.deernz.org

Deer Facts: Trees for deer farms: (August 2020).

Manaaki Whenua/Landcare Research

www.landcareresearch.co.nz

Benefits of biodiversity for farmers, by Yuki Fukuda

How to start a catchment group

Naturally uncommon ecosystems

Wetland Restoration Handbook

Catchment enhancement case studies

www.landcare.org.nz

Native grassland ecosystems

www.mackenziecountrytrust.org.nz

www.mokomokosanctuary.com (Central Otago)

Pest control

www.bionet.nz

www.doc.govt.nz/animal-pests

www.kiwisforkiwi.org (pest trapping where there are ground birds)

www.landcareresearch.co.nz

www.pestdetective.org.nz

Pest repellents

www.hbrc.govt.nz (search for animal pest repellents)

Weed control

www.weedbusters.org.nz

QEII National Trust

www.qeii-nationaltrust.org.nz

Tree establishment

www.tanestrees.org.nz

Photography: Trevor Walton & QEII National Trust (photo of sign)



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