

# New Zealand's biodiversity crisis

Things we can do



Department of  
Conservation  
*Te Papa Atawhai*



Harlequin gecko, Stewart Island/Rakiura.  
*Photo: Sabine Bernert*

# What is biodiversity?

Biodiversity means the variety of life on earth. It includes all the animals, plants, fungi and micro-organisms that we share the planet with. New Zealand is recognised as a global 'hotspot' of biodiversity and has over 80,000 endemic species which are found **nowhere else in the world**, largely due to our long isolation from other land masses and diverse geography and climate.

Protecting and enhancing biodiversity improves our way of life, our natural places and our well-being. Every species, no matter how small, has an important role to play.



# Why is biodiversity important?

Our native animals, plants, fungi and micro-organisms provide us with invaluable **ecosystem services**. These are the benefits that society gains from the natural environment and its processes, and they are reliant on a thriving biodiversity.

When fungi, worms and bacteria convert sunlight, carbon and nitrogen, the resulting soil is an ecosystem service that farmers and gardeners use. When the marine environment allows snapper, hoki, squid and other commercial species to thrive, it is providing an ecosystem service to the fishing industry.

The air we breathe, the water we drink, the plants and animals we eat, the soils that sustain our pastures, forestry, orchards and crops are examples of environmental goods arising from ecosystem services.

Without these services, and the biodiversity that underpins them, our life would be very different.



Brown toadstools. Photo: Dick Veitch

# The biodiversity crisis – what can we do?

New Zealand's biodiversity is in crisis. Over 4000 of our endemic and native species are at risk of extinction, including some of our most precious taonga species such as kākāpō, kauri trees, Māui dolphin, albatrosses and tuatara. Many other less well-known but equally important species (including fungi, snails, insects, lizards and fish) are also at risk. Our native species are what makes New Zealand different from other places in the world and when we lose even one of them, we lose part of what makes our country unique.

Thousands of New Zealanders are already involved in conservation activities. We'll give you some ideas in this handbook about how you might also be able to help turn the biodiversity crisis around, because when we work together, we can make a big difference.

Everything is interconnected. Actions that we do or do not take affect everything around us. We can make a difference.



## Control pests

Do some pest control. The biggest threat to our wildlife is from introduced predators like rats, stoats, possums and wasps. Getting rid of predators is an important first step to improving conditions for native species.

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You can help by setting traps on your property or joining your local predator free network (for more information, see: **[www.doc.govt.nz/predator-free-2050](http://www.doc.govt.nz/predator-free-2050)** or contact your local DOC office for information.

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## Plant things!

Plant more native trees, shrubs and grasses on your property or join a care group to green your local spaces. This attracts native birds, bats, lizards and insects by providing habitat, food and shelter.

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See: **[www.doc.govt.nz/attracting-birds](http://www.doc.govt.nz/attracting-birds)**



## Eliminate weeds

Be a warrior in the War on Weeds. Take a good look at what's growing in your garden and in local areas around you - and don't be fooled by good looks! Even pretty plants can be problem weeds.

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Use

**[www.weedbusters.org.nz](http://www.weedbusters.org.nz)** to help you identify weeds and then find out how to get rid of them.



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## Make your cat conservation friendly

Ensure your cats (both males and females) are desexed so they won't have kittens. Kittens without homes become feral cats, which kill native wildlife.

Feed your cat regularly so it is less likely to hunt and fit it with a collar and bell because fewer birds are caught by cats with bells.

Consider making your cat an indoor pet, or at least keep it indoors at night.



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See: **[www.doc.govt.nz/cat-conservation](http://www.doc.govt.nz/cat-conservation)**



## Use vehicles responsibly

Be respectful when driving on beaches, dunes, riverbeds and wetlands. If formed tracks are available, use them. Don't drive over untracked areas - it is highly damaging to vegetation, causes unsightly tracks and could destroy the nests of **some of the world's rarest birds.**



A baby dotterel on the beach.  
*Photo: Lew Truscott*

## Fish and collect seafood thoughtfully



Be aware of what you are fishing for. Learn to identify protected marine fish. Some fish (eg spotted black grouper) are completely protected, so it is illegal to take or harm them.

See **[www.doc.govt.nz/protected-marine-fishes-and-invertebrates](http://www.doc.govt.nz/protected-marine-fishes-and-invertebrates)**.



Obey the rules around fish size and catch and think about how much you are catching. Do you really need that extra fish – why not leave it for another day?



Don't drop litter into the ocean while fishing and pick up any rubbish (especially plastic) you see while you are out.



Never leave setnets unattended. **Stay with your net at all times** so that you can watch out for dolphins and release them if they become entangled. Set nets are a particular threat to our smallest (Hector's and Māui) dolphins.

See **[www.doc.govt.nz/setting-nets](http://www.doc.govt.nz/setting-nets)**.

## Marine, freshwater and forest biodiversity

Most of us are unaware of just how spectacular and diverse our **marine** habitats are. Scientists estimate that as much as 80% of New Zealand's indigenous biodiversity may be found in the sea, yet we know very little about it.

Our **freshwater** biodiversity is better known, but faces many threats, as everything we do on land ultimately ends up in our waterways.

Our **forests** may appear healthy when we view them from a distance, but some particularly nasty diseases now threaten some of our main forest species, and predators continue to devastate the birds and other animals that live in them.

This is a grim message, but we can do things that will help. In particular, we can find out just how beautiful and interesting New Zealand's natural places are, and then decide what we would like to do, as individuals, to help protect them.

Here are some suggestions!



## Visit marine reserves

These places provide spectacular opportunities to see marine life thriving and abundant in its natural environment. You can sail, kayak, snorkel and dive while exploring above and below the surface, but you **can't fish or collect seafood in them**. New Zealand's marine reserves (all 44 of them) are no-take zones, which means you are not permitted to disturb or remove any marine life or naturally occurring materials within these areas. Do become familiar with the boundaries of marine reserves in areas where you regularly fish, to avoid accidentally straying into them.

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See: [www.doc.govt.nz/marinereserves](http://www.doc.govt.nz/marinereserves)



Poor Knights Islands. Photo: Vincent Zintzen

## Report Māui dolphin sightings

Māui dolphin is the smallest of the world's 32 dolphin species and is only found on the west coast of the North Island. At present, their population is believed to be 57-75 adults. DOC loves to hear about sightings, so if you think you've seen a Māui or Hector's dolphin – distinguishable by a rounded fin (**rounded fin, send it in!**) – report it straight away to our emergency hotline: **0800 DOC HOT (0800 362 468)**.



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For more information  
about Māui and Hector's  
dolphin, go to: **[www.doc.govt.nz/dolphins](http://www.doc.govt.nz/dolphins)**.

## Look out for dotterels / tūturiwhatu

The endangered New Zealand dotterel/  
tūturiwhatu was once widespread and  
common. Now there are only about 1700  
birds left, making them more at risk than  
some species of kiwi. They nest in open  
sites close to beaches and lagoons, where  
people also like to be, so look out for them  
or signs about them and stay away from  
these areas. Keep to available accessways  
and don't walk or drive over untracked  
areas of beaches or riverbeds. These  
actions also apply to your best friend –  
**make sure your dog is under control!**

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Some areas have volunteer  
dotterel minders during the  
breeding season. If you think  
this might be something you  
could do, check out the  
information here:  
**[www.doc.govt.nz/nz-dotterel](http://www.doc.govt.nz/nz-dotterel)**.



## Treat sand dunes with respect

Sand dunes are our natural barrier between land and sea, but they have become one of our most highly modified and degraded ecosystems. Help sand dunes by using motorbikes, ATVs and 4WD vehicles responsibly.

Don't drive on dunes.

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Join a community coastal care group and participate in planting dunes. To find out what is going on in your area, go to [www.doc.govt.nz/dune-restoration-advice](http://www.doc.govt.nz/dune-restoration-advice).



Sand dunes on the Chatham Islands.  
*Photo: Elena Sedouch*

## New Zealand fairy tern/ tara iti

The New Zealand fairy tern/  
tara iti is New Zealand's rarest  
endemic bird. A tiny population  
(about 40 birds) lives on northern  
beaches (including Mangawhai,  
Waipu, Papakanui and Pakiri).  
They are under constant  
threat from predators, storms,  
disturbance and habitat loss.

You can help by **keeping a safe  
distance from birds and their  
nests** when visiting beaches,  
by **joining a local care group** to  
assist with predator trapping, or  
volunteering as a warden **to help  
protect nests from storms.**



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For more information:  
[www.doc.govt.nz/fairytern](http://www.doc.govt.nz/fairytern).



# Look after water

By ensuring freshwater on your property is in good condition, you can leave a legacy that will make you and your children proud. On your land, you can fence off waterways and wetlands, plant riparian strips and control freshwater weeds. For wider impacts, get involved in community projects to fence and plant along local streams.

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There is a lot of information available now from many sources on protecting and improving waterways and wetlands, for example: **[www.doc.govt.nz/freshwater-restoration](http://www.doc.govt.nz/freshwater-restoration)** and **[www.doc.govt.nz/wetlands](http://www.doc.govt.nz/wetlands)**.

An important action is controlling freshwater weeds (e.g. yellow flag iris) and reporting new incursions of noxious species (such as alligator weed). Do not attempt to control alligator weed yourself. If you see it on your property, do not cut it or treat it.

**Call 0800 BIOSECURITY (0800 246 732).**

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Your local regional council and DOC office will be able to provide advice on dealing with weeds and it is also good to learn about how to avoid accidentally spreading them (see **[www.doc.govt.nz/freshwater-weeds](http://www.doc.govt.nz/freshwater-weeds)**).

## Freshwater eels/tuna

You may be lucky enough to have freshwater eels/tuna on your property or in nearby waterways.

Although it is legal to catch eels/tuna, their numbers are declining. Longfin eels are now ranked as 'At Risk, Declining' under the New Zealand Threat Classification System, so maybe think about whether you really need that tuna today, if you like eating them!

Everything you do to improve the quality of water and waterways on your property will make eels/tuna happy! Fence stream banks to keep stock out, plant trees to create shade (certain trees can also provide food). Don't let pollutants enter waterways and avoid obstructions that make it difficult for eels to migrate.

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See the New Zealand Threat  
Classification System at:  
[www.doc.govt.nz/nztcs](http://www.doc.govt.nz/nztcs).



## Whitebait

Whitebait/īnanga are the juveniles of six species of native freshwater fish that are fished for in spring when they migrate up rivers from the sea. Whitebait numbers are declining, so it is important that we find out about why this is happening, and what we can do to ensure we do not lose this taonga.

To help whitebait, we need to improve their environment and reduce how much we catch. Follow the whitebait fishing regulations, keep your whitebait catch small and **only take what you need for a feed**. Fence off waterways to keep farm animals out, replant stream sides with natives, keep streams free from pest plants and fish, ensure culverts, weirs, dams and floodgates are properly installed and maintained to be fish-friendly and limit the sediment and nutrients leaving your property. Report dams or overhanging culverts to your local DOC or regional council office.

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For more information about whitebait:  
[www.doc.govt.nz/whitebait-migratory-galaxiids](http://www.doc.govt.nz/whitebait-migratory-galaxiids).



Giant kōkopu



Banded kōkopu



Shortjaw kōkopu



Kōaro



Īnanga



common smelt

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Find out if you have Īnanga spawning sites on your property. If you do, there may be actions you can take to protect and improve them (see [www.doc.govt.nz/inanga-spawning-habitat](http://www.doc.govt.nz/inanga-spawning-habitat)).

## Australasian bittern/ matuku

Australasian bittern/matuku are large wetland birds, about the size of a heron, that are rarely seen because of their secretive behaviour, excellent camouflage and because more than 90% of their wetland habitat has been cleared. Listen for the distinctive booming calls of male matuku, which mark the beginning of their breeding season in spring. Unless you are particularly keen-eyed, these calls are often the only evidence that matuku are in a wetland. Report all sightings or booming calls to your nearest DOC office.



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For more information:  
[www.doc.govt.nz/bittern](http://www.doc.govt.nz/bittern).

# Forest



## Micro snails

New Zealand has a very large number of land snail species relative to the size of our country. However, the chances of you seeing them is low, as most of them are micro snails and can only be seen under a microscope! Experts estimate that we have as many as 2000 species of these tiny molluscs. They're detritivores that generally live on the forest floor munching their way through leaf litter. If you'd like to encourage more in your backyard, let leaves accumulate and decompose. Try looking for some – collect some leaf litter and look through it with a magnifying glass or microscope.



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These snails are vulnerable to invasive flatworms and some introduced snails, so check, clean and dry all your gear before venturing out into the bush and be careful moving garden material from one place to another. See [www.landcareresearch.co.nz/science/plants-animals-fungi/animals/invertebrates/molluscs](http://www.landcareresearch.co.nz/science/plants-animals-fungi/animals/invertebrates/molluscs).

## Bats/ pekapeka

New Zealand has two species of bat/pekapeka – the long-tailed bat and the lesser short-tailed bat. Both are in danger of extinction. They are susceptible to predation by introduced predators and loss of habitat, particularly old trees with holes and cavities that they use for roosts.

You can help by finding out whether there are bats in your area and then being careful about what trees you cut down. You may be tempted to remove old, untidy trees. But before you do, contact your local DOC office to see if they can be surveyed for bats first. Similarly, protect cabbage trees and other lone natives on farmland – hollows in cabbage trees are often important roosts. Replant natives in these areas to shelter the trees and ensure their long-term survival. Protect old trees and forest around ponds. Bats like to feed on aquatic insects over water, and ponds sheltered by overhanging trees help them to feed in poor weather.

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For more information:  
[www.doc.govt.nz/bats](http://www.doc.govt.nz/bats).

# Fungi

Fungi play an important role in ecosystems. At present, 50 species of fungi in New Zealand are listed as Nationally Critical, meaning that they have a high risk of becoming extinct. These include a truffle-like fungus known as Fischer's egg (which looks like a little white egg covered in a brown, gelatinous shell), and a large fungus called the pukatea bracket fungus. This fungus hasn't been seen since 1972 and is now believed to be extinct.

If you see an interesting fungus that you would like to have identified, don't pick it, because what you see above ground is the fruiting body that houses the spores and fungi need these spores to reproduce. Instead, take a close-up photo and have fun trying to identify it.



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There are websites and books that can help, for example:  
**[www.landcareresearch.co.nz/  
resources/identification/fungi](http://www.landcareresearch.co.nz/resources/identification/fungi)**.

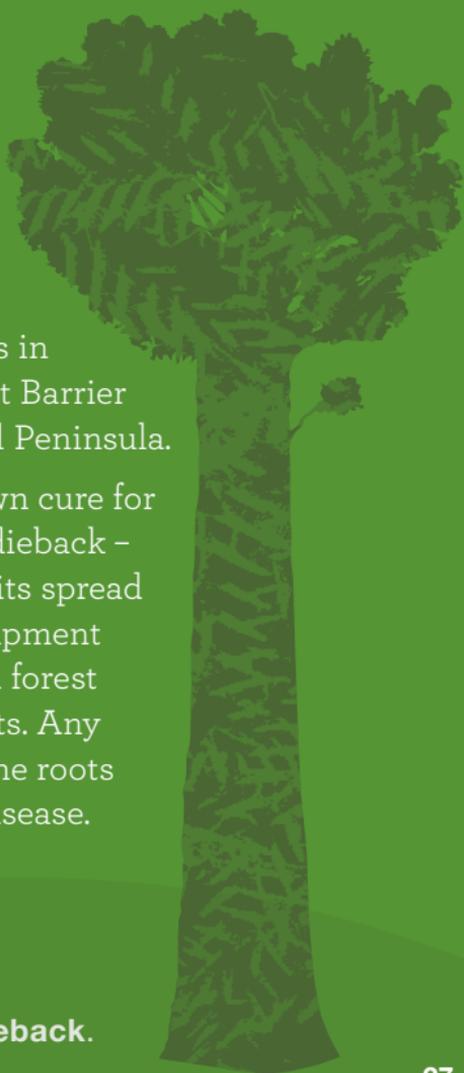
## Kauri dieback disease

Kauri are among the world's mightiest trees, growing to over 50 m tall, with trunk girths up to 16 m, and living for over 2000 years. After years of logging and forest clearance, very little kauri forest now remains, and what is left is threatened by a fungus-type disease which is having a devastating effect on New Zealand's kauri forests in Northland, Auckland, Great Barrier Island and the Coromandel Peninsula.

At present there is no known cure for this disease – called kauri dieback – but we can all help reduce its spread by cleaning boots and equipment before venturing into kauri forest areas and avoiding the roots. Any movement of soil around the roots of trees could spread the disease.

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For more information  
[www.doc.govt.nz/kauri-dieback](http://www.doc.govt.nz/kauri-dieback).



## Further information:

### Waikato District Office

Level 4, 73 Rostrevor Street  
Hamilton 3204

**PHONE: 07 858 1000**

**EMAIL: [waikato@doc.govt.nz](mailto:waikato@doc.govt.nz)**

**[www.doc.govt.nz](http://www.doc.govt.nz)**

This booklet was prepared  
for Fieldays 2019 by the  
Creative Services Team.

June 2019

*Editing and design:*  
Creative Services Team,  
Conservation House,  
Wellington, New Zealand.

