



FARMING WITH NATIVE BIODIVERSITY



Farming with Native Biodiversity Kete





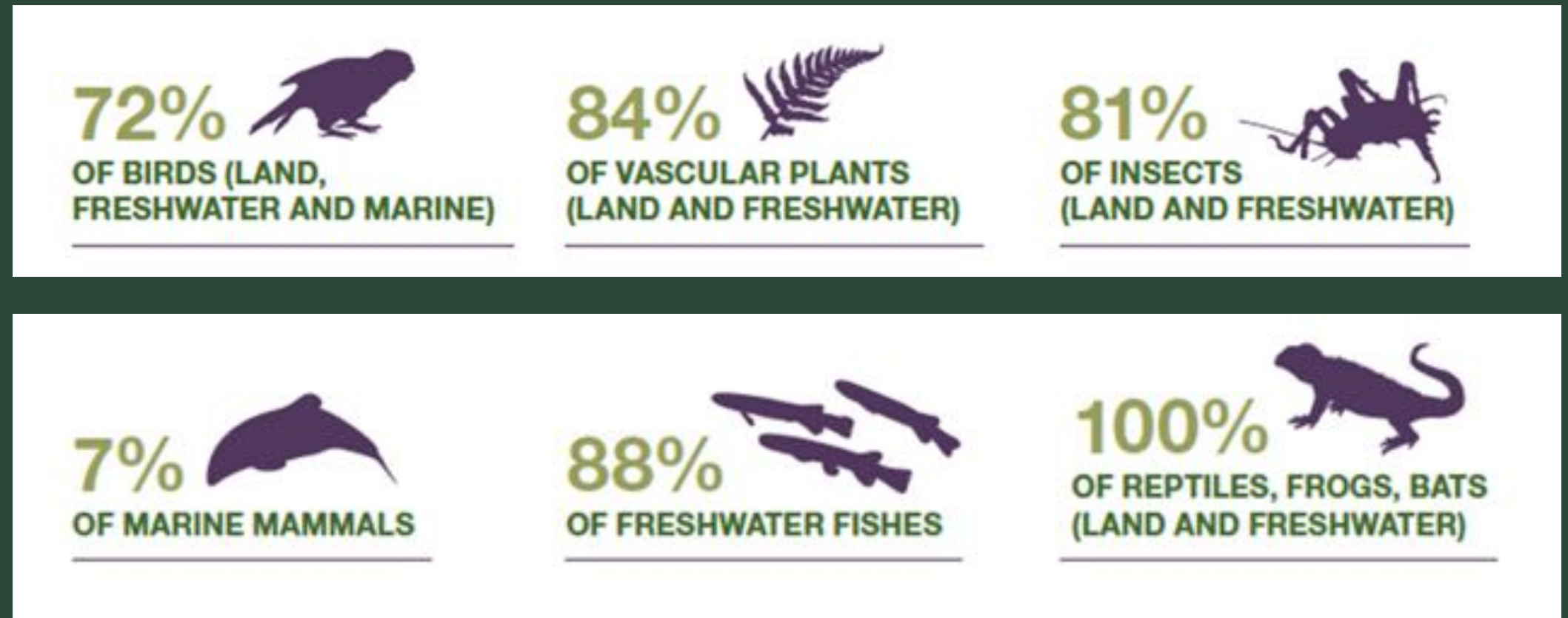
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Farming with Native Biodiversity Kete

What is biodiversity?

- Biodiversity refers to all life on planet earth – animals, plants, fungi, bacteria etc.
- Native biodiversity refers to the species that occur naturally in Aotearoa (tui, kōwhai, weta etc) rather than to those that have arrived here accidentally or deliberately with humans (gorse, clover, rats etc).
- Most native species are endemic, they only occur here.
- There are an awful lot of native species in Aotearoa – ca. 1,500 vertebrate animals (birds, fish etc); 2,200 plants; 18,000 worms/nematodes; 22,000 fungi; 25,000 insects/spiders.



Proportion of NZs native species that are endemic (unique as they occur only in New Zealand) From: Biodiversity in Aotearoa, An Overview of State, Trends and Pressures 2020

Why is native biodiversity important?

- Increasingly important part of social licence to farm – we need to ‘walk the talk’ and show that we are not ‘green-washing’.
- Increasingly important part of marketing our farm products overseas – environmental trade barriers (carbon, water, biodiversity) are becoming increasingly important.
- Regulatory pressures to include biodiversity as part of farm management (e.g. under the Freshwater and Biodiversity NPS’s).
- Because it is what makes Aotearoa unique and helps define who we are.



Key messages:

01

Every farm will be different in terms of what native biodiversity is present and where each farmer wants to be in the future in terms of biodiversity.

02

But whatever the individual situation, five key steps underpin biodiversity management:

- a. Understanding what biodiversity is present on the farm.
- b. Thinking about where biodiversity might be at some point in the future.
- c. Understand the risks/threats to native biodiversity on the farm.
- d. Implementing management in a staged manner.
- e. Monitoring what is done (e.g., photo-points and freshwater sampling).



Key messages:

03

Individual farms are part of a wider landscape/catchment which is critical for native biodiversity in terms of both:

- a. Native species depend on this wider landscape – e.g., birds, fish, plants.
- b. The factors that threaten biodiversity, especially plant and animal pests, also operate at scales larger than the individual farm.

04

Working in catchment/landcare groups is likely best for native biodiversity because:

- a. Allows for collective management (e.g., of a water way or a pest like deer).
- b. Share experience and expertise.
- c. Often easier to secure funding if working as part of a group.



How might a farmer undertake on-farm biodiversity work?

01

With help from advisors - Sustainable Dairying Advisor | On-Farm Sustainability Advisor.

02

As part of a catchment/landcare group.

03

Assistance from council staff (district & regional).

04

Employ specialist ecological assistance (especially if the farm is biodiverse).

Can't wait to get started

A farmer knowing what native biodiversity they have is important as it puts them in a stronger position for discussions with regulators.



BUT knowing what biodiversity is present (especially unusual features) is also empowering and a great motivation for further biodiversity work.



Emeritus Professor David Norton

Farming with Native Biodiversity Resources



Farming with Native Biodiversity Website


www.biodiversity.nz



Farming with Native Biodiversity Resources



An Introduction to Farming with Native Biodiversity




Chapter 1 What is biodiversity and why is it important?	Chapter 2 Principles of plant and animal pest control	Chapter 3 The principles of monitoring biodiversity
Chapter 4 Restoration planting	Chapter 5 Managing forest remnants	Chapter 6 Protecting and attracting native animals
Chapter 7 Healthy waterways	Chapter 8 Mahinga kai	Chapter 9 Biodiversity management planning


Farming with Native Biodiversity Pilot

Developing Biodiversity Management Plans

Becky Clements



Thinking about biodiversity across a landscape



Healthy terrestrial habitat patches

Well connected landscapes

Healthy waterways

eLearning Modules

<https://www.biodiversity.nz/e-learning-chapters>

Webinars

<https://vimeo.com/833863164?share=copy>
<https://vimeo.com/833863701?share=copy>



Farming with Native Biodiversity Resources

Podcast Series

Our Farms Our Future

Hosted by Tim Dangen - Young Farmer of the Year 2022

Maintaining Remnant Bush on Farm (and so much more...)
Feb 13 · Our Farms, Our Future
26:49

Planting Native Vegetation on Farm with Adam Thomp...
Mar 6 · Our Farms, Our Future
29:10

Managing Pests on Farm with Sam Gibson
Feb 7 · Our Farms, Our Future
30:11

How to Start Monitoring Biodiversity with Joanne Clap...
Feb 27 · Our Farms, Our Future
17:04

Making Room for Native Animals on Farm with Danielle ...
Feb 20 · Our Farms, Our Future
22:16

The Economics of Biodiversity with David Hall
Mar 13 · Our Farms, Our Future
29:26



Farming with Native Biodiversity Resources



Video Collection

Importance of Biodiversity

<https://vimeo.com/810726510>

Farming and Biodiversity

<https://vimeo.com/810730278>

<https://vimeo.com/810726418>

Riparian Margins

<https://vimeo.com/810725912>

Native Animals

<https://vimeo.com/810726933>

Forest Remnants

<https://vimeo.com/810730365>

Sam the Trap Man

<https://vimeo.com/810726034>

Mahinga Kai

<https://vimeo.com/810729633>

<https://vimeo.com/810729747>

Pest Management

<https://vimeo.com/814060363>

Where to start?

<https://vimeo.com/814823139>

Biodiversity Management Planning

<https://vimeo.com/814822747>

Native Planting

<https://vimeo.com/810726145>

Biodiversity Monitoring

<https://vimeo.com/810726342>



Farming with Native Biodiversity Resources

Basic Native Plant Species List for Shade and Shelterbelt Plantings



Plant Species List for Shade and Shelter

The plant species list provided below is a starting point for plantings to provide shade and shelter for livestock.

Please note: you will still need to discuss with local experts as to what plant species grow best in your situation, but these species grow well in most areas and regions of New Zealand.

Māori Name

Kohukohu, kōhūhū
Tarata
Māpou
Karamū
Whauwhaupaku
Mānatu
Kāpuka, papauma
Tī kōuka
Harakeke
Kānuka
Kahikatea
Tōtara

Common Name

Pittosporum, black matipo
Lemonwood
Red matipo
Caprosma
Five Finger
Ribbonwood, lowland ribbonwood
Broadleaf
Cabbage tree
Flax
Kānuka
Kahikatea
Totara

Scientific Name

Pittosporum tenuifolium
Pittosporum eugenioides
Myrsine australis
Coprosma robusta
Pseudopanax arboreus
Plagianthus regius
Griselinia littoralis
Cordyline australis
Phormium tenax
Kunzea robusta
Dacrycarpus dacrydioides
Podocarpus totara



General

Native Biodiversity Management Resources



Riparian Planting

www.dairynz.co.nz/environment/on-farm-actions/waterways/planting-waterways/

<https://landcare.org.nz/wp-content/uploads/2023/03/Carex-planting-guide-2023.pdf>

Wetland Restoration

www.landcareresearch.co.nz/publications/wetland-restoration/

Freshwater Fish

www.niwa.co.nz/information-services/nz-freshwater-fish-database

<https://niwa.co.nz/static/web/freshwater-and-estuaries/NZ-FishPassageGuidelines-upto4m-NIWA-DOC-NZFPAG.pdf>

Weed Management

www.weedbusters.org.nz

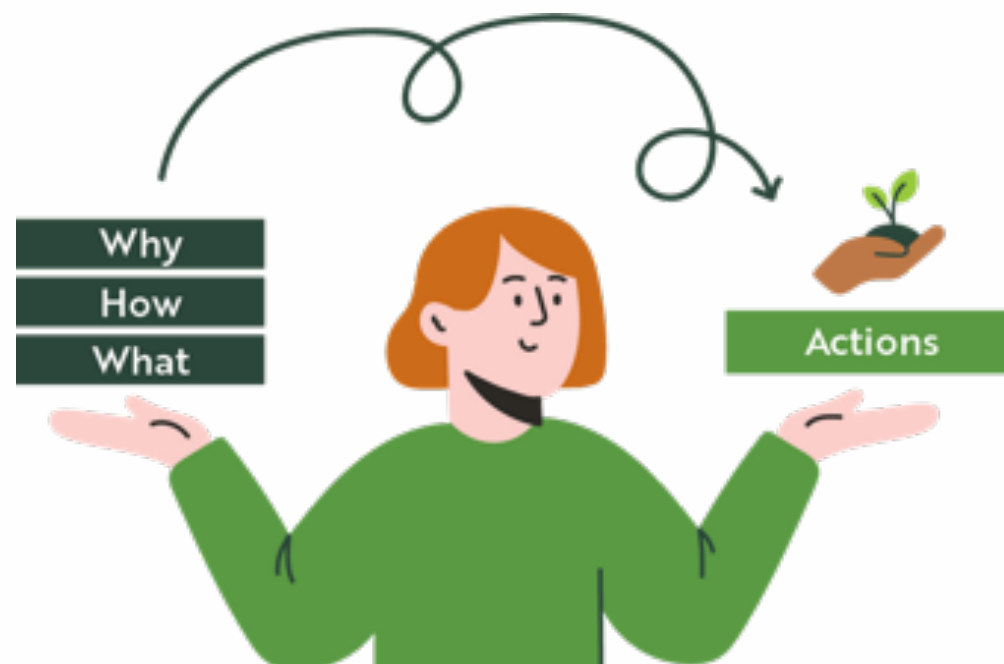
Land Atlas of New Zealand

ourenvironment.scinfo.org.nz

Species Identification

<https://inaturalist.nz/>

<https://www.nzpcn.org.nz/>





Northland Region Native Biodiversity Management Resources



Planting

<https://treesthatcount.co.nz/media/18142/trees-that-count-northland-regional-guide.pdf>

<https://www.nrc.govt.nz/media/sjkntobn/planters-handbook-for-northland-natives.pdf>

<https://kmr.org.nz/wp-content/uploads/2023/02/KMR-Planting-Guide-Feb-2023.pdf>

<https://www.nznatureguy.com/2019/07/11/new-zealands-podocarp-broadleaf-forest/>

<https://www.nzpcn.org.nz/ecosystems/plant-communities/forests/kauri-podocarp-broadleaved/>

<https://www.dairynz.co.nz/environment/on-farm-actions/waterways/planting-waterways/#guides>

Wetland Restoration

www.nrc.govt.nz/media/opbmfcs/looking-after-your-wetland.pdf

Pest Animal Management

<https://www.youtube.com/watch?v=hJ3ypl-abjM&t=18s>

<https://kiwicoast.org.nz/wp-content/uploads/2020/10/Northland-Pest-Control-Guidelines-2020.pdf>

<https://www.nrc.govt.nz/environment/weed-and-pest-control/funding-you-can-apply-for/bio-fund/>





Auckland Region Native Biodiversity Management Resources



Planting

www.aucklandcouncil.govt.nz/environment/plants-animals/plant-for-your-ecosystem/Documents/nativeforestrestorationguide.pdf

www.aucklandcouncil.govt.nz/environment/plants-animals/plant-for-your-ecosystem/Documents/streamside-planting-guide.pdf

www.aucklandcouncil.govt.nz/environment/plants-animals/plant-for-your-ecosystem/Pages/coastal-ecosystems.aspx

Wetland Restoration

www.aucklandcouncil.govt.nz/environment/plants-animals/plant-for-your-ecosystem/Documents/wetlandsrestorationguide.pdf





Waikato Region Native Biodiversity Management Resources

Planting

www.doc.govt.nz/get-involved/run-a-project/restoration-advice/native-plant-restoration/local-planting-guides/ecological-restoration-in-the-waikato/

www.waikatoregion.govt.nz/environment/biodiversity/planting-guides/what-to-plant-in-the-coromandel-ecological-region/

www.waikatoregion.govt.nz/environment/biodiversity/planting-guides/what-to-plant-in-maungatautari-ecological-district/

www.waikatoregion.govt.nz/environment/biodiversity/planting-guides/what-to-plant-in-the-central-volcanic-plateau-ecological-region/

www.waikatoregion.govt.nz/environment/biodiversity/planting-guides/

<https://waikatoriver.org.nz/plant-selection-tool/>

Wetland Restoration

www.waikatoregion.govt.nz/environment/biodiversity/planting-guides/wetland-planting-guide/



Bay of Plenty Region Native Biodiversity Management Resources



Planting

<https://treesthatcount.co.nz/media/18212/trees-that-count-bay-of-plenty-regional-guide.pdf>

<https://atlas.boprc.govt.nz/api/v1/edms/document/A3259555/content>

Wetland Restoration

www.boprc.govt.nz/media/29543/Guide-090618-WetlandRestorationGuide.pdf





Manawatu-Whanganui Region Native Biodiversity Management Resources

Planting

www.horizons.govt.nz/managing-natural-resources/water/freshwater

https://wildfortaranaki.nz/wp-content/uploads/2022/05/FRODO-2263238-v1-Plant_book_4_Foxton.pdf

https://wildfortaranaki.nz/wp-content/uploads/2022/05/Wild-for-Taranaki_Restoration-Planting-Guide_Manawatu-Wanganui.pdf



Taranaki Region

Native Biodiversity Management Resources

Planting

https://treesthatcount.co.nz/media/18157/ttc_taranaki_regional_advice.pdf

https://wildfortaranaki.nz/wp-content/uploads/2022/05/Wild-for-Taranaki_Restoration-Planting-Guide_North_Taranaki.pdf

https://wildfortaranaki.nz/wp-content/uploads/2022/05/FRODO-2263234-v1-Plant_book_1_Egmont_ecological_.pdf

https://wildfortaranaki.nz/wp-content/uploads/2022/05/Wild-for-Taranaki_Restoration-Planting-Guide_Matamateonga.pdf

Shelterbelts

www.trc.govt.nz/assets/Documents/Guidelines/Land-infosheets/LM16sheltertimberbeltdesign.pdf



Nelson | Marlborough Region Native Biodiversity Management Resources



Planting

www.doc.govt.nz/get-involved/run-a-project/restoration-advice/native-plant-restoration/local-planting-guides/ecological-restoration-in-nelson-marlborough/



Canterbury Region Native Biodiversity Management Resources



Planting

<https://treesthatcount.co.nz/media/18211/trees-that-count-canterbury-regional-guide.pdf>

www.doc.govt.nz/nature/native-plants/canterbury-native-plants/

Riparian Planting

<https://ccc.govt.nz/assets/Documents/Environment/Water/StreamsidePlantingGuide-streamsideplanting.pdf>

Shelterbelt Planting

www.goughsnurseries.co.nz/images/pdfs/Establishing_Shelter_In_Canterbury.pdf



Otago | Southland Region

Native Biodiversity Management Resources



Planting

<https://treesthatcount.co.nz/media/18213/trees-that-count-southland-regional-advice.pdf>

www.southlandcommunitynursery.org.nz/restoring-your-patch/know-your-patch/forests/forest-planting-list/

www.southlandcommunitynursery.org.nz/restoring-your-patch/know-your-patch/shrublands/shrublands-planting-list/

www.southlandcommunitynursery.org.nz/restoring-your-patch/planning-your-project/habitat-restoration/

Managing Riparian Margins

www.orc.govt.nz/media/5378/env_consider_cleanstreams.pdf

Shelterbelt Planting

www.southlandcommunitynursery.org.nz/restoring-your-patch/planning-your-project/shelterbelts/

