

# NEW ZEALAND

NATURE

HEROES



The head of Tennyson Inlet, Marlborough Sounds.

**NEW ZEALAND**

**NATURE**  
**HEROES**

**GILLIAN CANDLER**

**pb** potton & burton

# CONTENTS

6 Introducing New Zealand nature heroes

**8 RICHARD HENRY**  
The grandfather of conservation

10 Caring for kākāpō

12 Making a tracking tunnel & chew cards

**14 PÉRRINE MONCRIEFF**  
Bird & parks campaigner

16 Bird observation

18 Taking part in a bird count

**20 LANCE RICHDALÉ**  
Seabird saviour

22 Albatross and other seabirds

23 Penguins of New Zealand

24 Protecting nesting shore or river birds

**26 BETTY BATHAM**  
Marine biologist & research director

27 Studying the rocky shore

28 Taking a shore survey

**30 DON MERTON**  
Saving birds from extinction

31 Saving tieke

32 Making a sugar-feeder for birds

**34 GEORGE GIBBS**  
Wētā expert

35 Searching for wētā

37 Designing & building a wētā 'motel'

**38 INGRID VISSER**  
Friend of Aotearoa's orca

39 Identifying orca

40 Reporting an orca sighting

**42 MIRIAM RITCHIE**  
Conservation dog-handler

43 Conservation dogs

44 Planning a trip to leave no trace

**46 PĀTAKA MOORE & CALEB ROYAL**  
River kaitiaki

47 Mangapouri stream restoration

48 Stopping stormwater pollution

49 Understanding your local waterway

**50 CATHERINE KIRBY**  
Climbing trees for conservation

51 Exploring the world of epiphytes  
and vines

53 Making seed bombs

**54 NICOLA TOKI**  
Threatened species ambassador

55 Caring for lizards

56 Making a lizard home

**58 ANTHONY BEHRENS**  
Weed-buster & whio protector

59 Wilding pines and other weeds

61 Weed-busting

**62 JORDAN ARIA HOUSIAUX**  
Marine scientist

63 Understanding sharks

65 Beach clean-up & litter-monitoring

**66 RANGATAHI**  
Youth nature heroes

66 Brandon Intermediate School  
Enviro Team - freshwater guardians

67 George Hobson - caring for birds

68 Riley Hathaway - ocean advocate

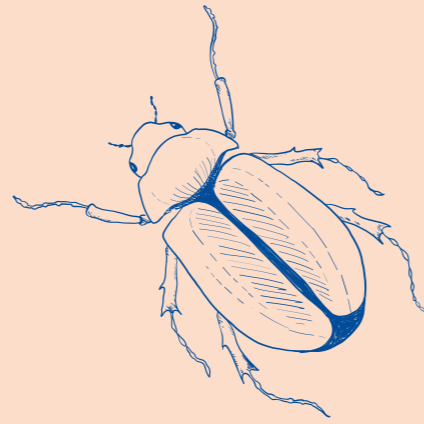
69 Speaking up for nature

72 Resources & further information

76 Photographic credits



# INTRODUCING NEW ZEALAND NATURE HEROES



**E**ver wondered how people get to be heroes? Or how you, too, could be a hero? New Zealand's natural world is in real need of heroes, with birds, lizards, insects and marine creatures under serious threat from introduced predators, loss of habitat and pollution. The good news is there are many people working hard to save our unique animals and plants and the wild places where they live. These heroes have taken up the challenge to be guardians, to be kaitiaki of the natural world, and they are the subject of this book.

There are so many nature heroes to choose from in New Zealand. In fact, the more I looked, the more I found. There are people who have saved forests, set up wildlife rescue centres, planted thousands of trees, protected kiwi, discovered unusual lizards, and many more. I wish I could have included them all.

The nature heroes in this book come from all walks of life. Some lived in the past, while, of those alive today, some are volunteers, others are trained scientists, some are young, some not so young. The one thing they all have in common is their passion for the natural world.

Each of the personal stories also has information about a featured animal, plant or habitat, such as the royal albatross that Lance Richdale worked so hard to save. Others include what scientists want us to learn more about, such as the rocky shore Betty Batham spent her life studying. One story features some conservation dogs, which are trained to help save wildlife; another is about epiphytes that grow in trees. When I met Pātaka Moore and Caleb Royal, they suggested that the Mangapouri Stream they are working to restore should actually be the hero.

Although some of the nature heroes in this book worked alone, most of them would say they couldn't have done their work without help from others. For example, in saving the tieke/saddleback, Don Merton worked with school children gathering data on tieke, botanists identifying tieke habitat, sound engineers recording tieke calls and other bird experts.

Many of the nature heroes have also written books, created websites or started up campaigns for their projects, such as Richard Henry's book *The Habits of the Flightless Birds of New Zealand* in 1903, Catherine Kirby's 'Tree Project' exhibition and Riley Hathaway's Young Ocean Explorers videos and website. This is because an important part of being a nature hero is helping others become aware of New Zealand's wildlife and wild places and understanding what needs to be done to protect or save them.



Top: A cicada on a summer's day.  
Above: A pōhutukawa in full flower.  
Opposite, top: South Island robin.  
Opposite, below: Harakeke/flax flowers.

## TAKING ACTION

This book is packed with activities and ideas for ways you can take some action to save your local wildlife and contribute to the work of scientists.

While you might not be able to find a new species of wētā, as George Gibbs did, or take care of rescued lizards like Nicola Toki, there are many things you can do to make the survival of these species more certain and maybe become a nature hero yourself.

Up-to-date information can be found on the website that accompanies this book: [www.discovernature.nz/nature-heroes](http://www.discovernature.nz/nature-heroes)



## KEEPING SAFE

Before you start any project, think carefully about how you (and your team) can keep safe. Here are some tips:

- ★ make sure you can use all equipment safely
- ★ ask adults for assistance when you need it
- ★ know the water safety code
- ★ Adventure Smart has advice on how to keep safe on land and water: [www.adventuresmart.nz](http://www.adventuresmart.nz)

**There are helpful resources  
and further information on  
pages 72-75**



# RICHARD HENRY

## THE GRANDFATHER OF CONSERVATION

In the late 1800s, while he was working in the bush around Te Ānau, Richard Henry spent a lot of time observing the behaviour of native birds and other animals. He began to realise that flightless birds such as the kākāpō and kiwi might soon become extinct, as they were an easy meal for the rats, ferrets, stoats and weasels that had been introduced and were spreading throughout New Zealand. Rats had arrived, unwanted, from ships, but ferrets, stoats and weasels had been deliberately released by farmers to kill the rabbits (which were also introduced into New Zealand by well-meaning people). These animals had become a plague and were devastating farms.

It was difficult for conservationists to persuade the government to set up sanctuaries, but eventually the government agreed, and three sanctuaries were created: Hauturu (Little Barrier Island) in the Hauraki Gulf, Kāpiti Island, north of Wellington, and Tau Moana (Resolution Island) in Fiordland's remote Dusky Sound.

Richard Henry was asked to be caretaker of Resolution Island in 1894. Like many people who lived in Fiordland 120 years ago, Richard Henry was an adventurer who had learnt lots of practical skills. He knew how to camp, cook, grow food, hunt, build wooden houses, build and sail boats, train dogs and track wildlife.

At first, he and his young assistant captured kākāpō and kiwi and transferred them to the island by boat. His dog, which was probably the first conservation dog in New Zealand, wore a muzzle so it did not harm the birds it found, and it wore a bell so Richard Henry could keep track of it.

Sadly, Resolution Island wasn't as safe as he and others thought. Poachers, sealers and hunters brought or threatened to bring dogs to the island. But worst of all, stoats and weasels were able to swim across from the mainland. When he discovered this, Richard Henry tried to trap these predators, but more kept arriving. In 1908, disheartened after years of work, he gave up and moved to be caretaker of Kāpiti Island.

It must have been extremely sad for Richard Henry to have to abandon his work at Resolution Island. If only he could be alive today to visit Anchor Island, which lies just off Resolution Island in Dusky Sound. Now cleared of pests, it is a crucial kākāpō sanctuary, where the birds are successfully breeding.



### TIMELINE OF RICHARD HENRY

- 1845: Born in Ireland.
- 1851: Immigrated by ship with his family to Australia. He was six years old.
- 1874: Travelled by ship to live in New Zealand. Here, he took on many different jobs from boat building to controlling rabbits.
- 1883: Settled down to live by Lake Te Ānau.
- 1894: Became caretaker of Resolution Island.
- 1903: Wrote *The Habits of Flightless Birds of New Zealand: with notes on other New Zealand birds*.
- 1908: Moved to be ranger on Kāpiti Island.
- 1912: Retired to the mainland.
- 1929: Died aged 84.



Clockwise from top left: Richard Henry by his boatshed on Pigeon Island; the beach below his house on Pigeon Island; a captive kiwi; his dog Lassie, muzzled and ready for work; a map of Resolution Island, Pigeon Island and Dusky Sound, Fiordland.

'Kakapo is from two Maori words: kaka, a parrot, and po, night – which is very becoming, because I think they are the only parrots that feed at night.'

RICHARD HENRY



## CARING FOR KĀKĀPŌ

Richard Henry observed all the birds around him in the forest of Fiordland, including weka, kiwi, penguins and kākāpō. He wrote down his observations and in 1903 published them in a book called *The Habits of Flightless Birds of New Zealand: with notes on other New Zealand birds*.

Richard Henry observed that kākāpō males scratch out a dust bowl and create a well-worn track, usually on a ridge. The male tries to attract females to this area with his booming calls. It took 70 years for scientists to confirm Henry's observations were correct. Scientists now call this a 'track and bowl' system but Richard Henry described it as a 'bower'. He wrote:

'I think it likely that the males take up their places in these "bowers", distend their air-sacks and start their enchanting love songs; and that the females love the music and parade and come up to see the show.'

Henry also tried to figure out why chicks weren't born every year. Now scientists know that kākāpō breed in a 'mast year', when rimu (or other fruit) is plentiful. But back then, Richard Henry joked that all the kākāpō must get together for a meeting to decide whether to breed or not!

Kākāpō are flightless, have a strong musky smell, and are quite tame and curious, so they easily fall prey to introduced mammals that hunt by scent.

After Richard Henry's efforts failed, not much more was done to save kākāpō until the Kākāpō Recovery programme was set up. From the 1970s, kākāpō were taken from Fiordland and Stewart Island to islands such as Whenua Hou (also called Codfish Island) off Stewart Island/Rakiura, where they could be safe from predators. Only 51 birds were known to be alive in 1995, but scientists have worked hard to increase the population, giving the chicks the best possible chance to survive. Now there are nearly 160 birds.



### STRONG SWIMMERS

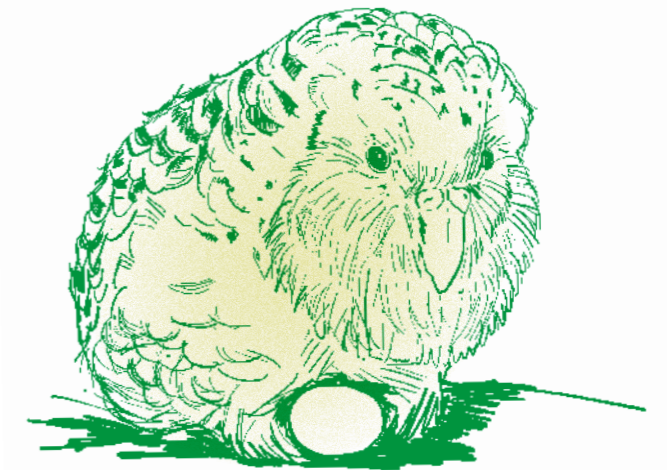
Stoats have been found on islands more than 2 kilometres from the mainland. They have also shown they are able to swim long distances. Resolution Island was easily reached as it is less than 1 kilometre from the mainland. Now, all island sanctuaries have traps set around the coast, and if the island is close to the mainland, there must be traps on the mainland coast as well.



Top left: A kākāpō on Whenua Hou, an island sanctuary off Stewart Island/Rakiura. Top: The stoat, a deceptively friendly looking predator. Above: Baiting a predator trap with a hen's egg, to catch stoats. Opposite top: Changing a kākāpō's transmitter on the Anchor Island sanctuary, Fiordland. Opposite below: The view into Dusky Sound from the Anchor Island sanctuary, Fiordland.

### Kakāpō facts

- \* flightless but can climb
- \* vegetarians
- \* only breed when there is a lot of food around
- \* adults weigh 1-4 kg!
- \* females look after chicks



### ISLANDS CAN GET TOO FULL

As bird populations increase on island sanctuaries, there may be not enough food or suitable habitats for all the animals. One solution is to build sanctuaries on the mainland, protected by predator-proof fences. All sanctuaries, even the islands, need to keep a watch out for rats and other predators, so you will see traps set along the coast of an island or near a sanctuary's surrounding fence.



## TAKING ACTION: TRACKING & TRAPPING PESTS

Conservation is about saving native wildlife, so it might seem strange that we have to kill other animals to achieve this. Unfortunately, introduced animals such as stoats, weasels, rats, hedgehogs and even mice can wipe out entire native species. To protect native animals, these introduced animals must be killed, as sending them back to where they came from isn't an option.

Trapping technology has improved a lot since Richard Henry tried to lure stoats and weasels into a box propped up on a stick. Now we use more effective traps that kill as quickly and humanely as possible. Some traps can even reset themselves.

You can help make your garden into a sanctuary for the birds and lizards that live there. Or you might like to work together with others to protect wildlife in your local park or your school grounds.

### ACTIVITY

## MAKING A TRACKING TUNNEL & CHEW CARDS

To find out what pests live in your backyard, you can build a tracking tunnel to see what animals' footprints are left behind. You can also create chew cards that the pests will bite. You will need to be a pest detective to identify the footprints and bite marks to find out what animal has been there. A helpful website is [www.pestdetective.org.nz](http://www.pestdetective.org.nz).

### TRACKING TUNNEL

You will need:

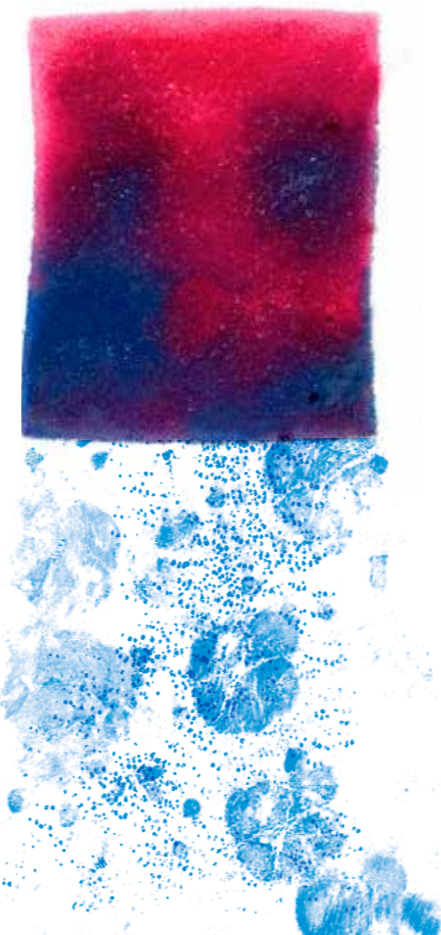
- ☆ empty plastic milk bottles or cartons
- ☆ food colouring, sponge, tray
- ☆ craft knife
- ☆ white paper
- ☆ black plastic or paper and tape
- ☆ peanut butter or other bait

#### METHOD

1. Cut the ends off a milk bottle or carton so it forms a tunnel; put two or more together to make a longer tunnel.
2. Darken the tunnel by wrapping it in black plastic or black paper.
3. Place white paper in the tunnel. Wet the sponge with food colouring and place in a tray in the tunnel, with a small quantity of peanut butter or other lure in the middle of the sponge.



Above: A chew card installed on the trunk of a tree and a tracking tunnel waiting for a visitor. Below: The evidence left behind by two kinds of visitors. Can you work out that a stoat and mice walked over the sponge?



4. Leave it outside on a dry night to see what animals visit your tunnel. Do this for several nights with a fresh piece of paper each night. (Make sure your tunnel can't tip over – you may need to put a stone on top to keep it steady.)
5. Use the Pest Detective guide, [www.pestdetective.org.nz](http://www.pestdetective.org.nz), to identify by their footprints which animals visited your tunnel.

### CHEW CARDS

You will need:

- ☆ corrugated plastic, e.g. Corflute
- ☆ nails
- ☆ or used plastic, such as 'For Sale' signs or election placards
- ☆ peanut butter or other bait
- ☆ scissors or Stanley knife

#### METHOD

1. Cut the plastic into small rectangles 10 cm by 20 cm and fold each in half.
2. Smear peanut butter on the plastic and poke some into the hollow part of the plastic using a nail.
3. Nail or attach the chew cards to trees or fence posts where you think hedgehogs, rats or mice might be; near a compost bin is a good place.
4. Leave out for a week and then look for bite marks. Match these to pests using photos online and use [www.pestdetective.org.nz](http://www.pestdetective.org.nz)

#### NEXT STEPS

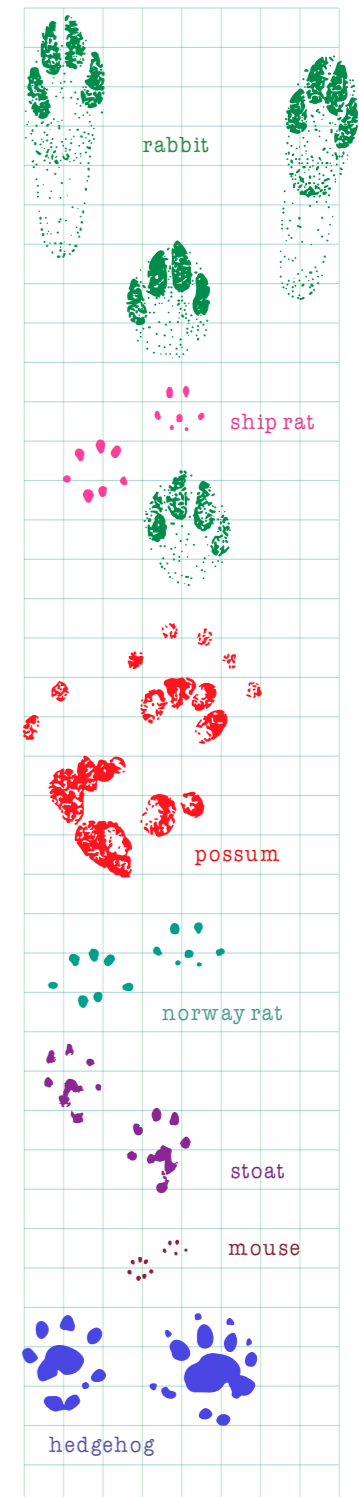
Once you have worked out what pests are in your garden, it's time to set some traps. You can contact your local pest-free or predator-free group for suitable traps, or buy rat and mouse traps from a hardware store. Traps should be put inside tunnels to keep small children, birds and pets safe. If you have carpentry skills, you can make a tunnel yourself; see Resources and Further Information (page 72) for where to find instructions.

#### WANT TO DO MORE?

Find out about the Kākāpō Recovery programme and what you can do to help or join a local sanctuary project. You could also learn how to identify pest droppings, as well as other tracks and signs when walking in the bush.

#### TIP

Remember: some of the animals walking through your tracking tunnel might not be pests. For example, you might find the footprints of wētā or lizards.



These paw prints might help you work out who has visited your tracking tunnel. (They are reproduced at about half their actual size with each square representing 1 cm<sup>2</sup>.) Remember that actual tracks will look messier, there will often be parts of the print missing, and rats especially, tend to leave more of a scratchy trail rather than clear prints. See example on page 12.

# PÉRRINE MONCRIEFF

## BIRD & PARKS CAMPAIGNER



Pérrine Moncrieff was always very interested in nature, and birds in particular. She was born in England and when she, her husband and their sons travelled to New Zealand in 1921, they were so delighted with the country and the wildlife they decided to stay, settling in Nelson.

As she couldn't find a good field book on New Zealand birds, Pérrine Moncrieff set about writing one. She had the help of several scientists, and she received permission to use information about introduced birds from a similar publication in Britain. *New Zealand Birds and How to Identify Them* was so popular, it was still available in a revised fifth edition 35 years after it was first published in 1925. Moncrieff dedicated the book 'to the children of New Zealand'.

In the 1920s and 1930s, native birds were not as well protected as they are now. Fishermen shot native black shags to protect introduced fish such as trout. Hunters regularly shot godwits and other migrating birds. Ornithologists (scientists who study birds) also killed birds for museum collections. Some ornithologists did what seems like very cruel experiments, for example, seeing how long a chick would last without its parents. Pérrine Moncrieff was shocked by this behaviour and she worked hard to protect birds.

She influenced many people through her involvement in the Native Bird Protection Society (later renamed the Royal Forest and Bird Protection Society, and now known as Forest & Bird). She and her husband donated land they owned to create reserves for wildlife. She also fought to protect bird habitats at Lake Rotoroa, in what is now Nelson Lakes National Park, where black shags were being killed, and Farewell Spit in Golden Bay, where godwits were being killed.

Pérrine Moncrieff was very good at using publicity and she was always busy writing for newspapers and holding meetings trying to encourage people to save forests and wild places. Her biggest success was a seven-year campaign to create Abel Tasman National Park, which was opened in 1942. She then served on the park board for over 30 years and also became an honorary ranger.

'The importance of my mission is to save the wonderful forest and birds of New Zealand'

PÉRRINE MONCRIEFF



Pérrine Moncrieff's bestselling book sold many thousands of copies over a 35-year period.



Above: Coquille Bay in Abel Tasman National Park.

Right: A Girl Guide from 1925, wearing the black stockings that Pérrine Moncrieff objected to.



GIRL GUIDE LEADER

In 1924 Pérrine Moncrieff became the first Girl Guide commissioner in Nelson. She worked hard to publicise the guide movement and recruit girls to join, believing Girl Guides provided a good opportunity for young women to get out into nature and learn outdoor and other life skills. Moncrieff wanted the girls to wear practical clothes and was against them having to wear black stockings while hiking. When she realised she couldn't change the uniform rules, she resigned.



### NATURE DIARY COMPETITION

For 30 years, Pérrine Moncrieff organised an annual Nature Diary competition for school children in Nelson. Children were encouraged to keep a daily diary throughout October. Entries ranged from observations of a fantail nest to collections of leaves. She would then summarise the best entries in an article in the *Nelson Evening Mail*.

## BIRD OBSERVATION

In *New Zealand Birds and How to Identify Them*, Pérrine Moncrieff explained that anyone could contribute to the store of knowledge about birds. This is perhaps even more true today than in 1925 when she wrote it. Now, bird watchers (adults and children) can use online tools or Apps such as Nature Watch NZ and e-Bird to share what they have seen and seek help with bird identification. They can also connect to scientists through citizen science projects such as a Bioblitz.

Pérrine Moncrieff's tips for getting to know different species are still just as relevant today. She pointed out how we recognise people from a distance not just from their clothes and shape but also from the way they walk, and from other movements such as their hand gestures. In the same way, bird species can be recognised if you get to know the way they move, their habitat and their colours.

Recognising and identifying birds around your house or school is a good way to start. Get to know the sizes of a few common birds. Then, when you see a bird you don't recognise, ask yourself is it larger or smaller than the ones you know?

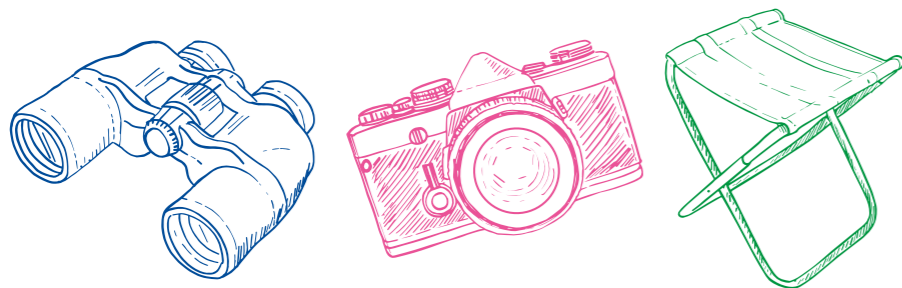
Here are some examples:

- ☆ piwakawaka/ fantail, 16 centimetres
- ☆ sparrow, 15 centimetres
- ☆ blackbird, 25 centimetres
- ☆ tūi, 30 centimetres
- ☆ kererū, 150 centimetres

Other things to notice: how different each of their beaks and feet are; how they stand or fly; where they like to spend their time.

As birds often stay quite still, Pérrine Moncrieff suggested children (and adults) learn to train themselves to see details. To do this, concentrate on a particular spot and pay attention to all the detail you see in that spot, for example, you might notice that although the tree looks green, in that particular place you can see a reddish leaf, or there is a tiny flower or a bent twig. Then focus somewhere else and look at the details there. This trains your eye.

You can do the same to train your hearing: watch and/or listen to a tūi sing and try to catch all the sounds it makes. Close your eyes and listen to the sounds in your neighbourhood, then open them and see if you can work out where the noises are coming from.



In her spare time Pérrine Moncrieff painted watercolours. This one is of piwakawaka/ fantails in Abel Tasman National Park.

### QUIET & RESPECTFUL

**'No bird observation or photography should be carried out at the expense of the bird,' said Pérrine Moncrieff, who was concerned that bird-watching might disturb birds or cause them harm. She said observers should be so quiet and careful that the bird wouldn't even realise it is being watched.**

### PERRINE MONCRIEFF'S BIRD OBSERVATION EQUIPMENT LIST:

- patience, sharp eyes and keen ears
- binoculars
- notebook and pencil
- something to sit on
- camera



Pérrine Moncrieff signing her new book in 1976, with Nelson bookseller Jill Blechynden.

## TAKING ACTION: COUNTING BIRDS

Once you can identify a few different species of birds you can add to our knowledge of New Zealand birds by taking part in a bird count. A bird count can tell us whether a species is declining or at risk of extinction. It can also tell us whether actions such as planting trees or trapping pests are making a difference to bird populations.

Some of the problems you may encounter when you are counting birds might be birds flying somewhere else and being counted twice, birds hiding in the bush not being counted at all, or seeing so many birds it's hard to count them.

Scientists know it is impossible to count every single bird. But if we use the same method each time we do a count, we can compare the results and make a note of what the differences are. Also, the more people who take part, the more accurate the data will be.



### BEING A CITIZEN SCIENTIST

'Citizen science' is the term used to describe how people who aren't trained as scientists can still contribute to scientific knowledge. For example, bird photographers often catch important details in their pictures that can be useful. From photos of shining cuckoos (pipīwharau), scientists have been able to identify what food these cuckoos eat because many photos showed shining cuckoos with caterpillars in their beaks. It seems they are able to eat caterpillars that would be poisonous to other birds.

See [nzbirdsonline.org.nz](http://nzbirdsonline.org.nz).



## ACTIVITY

# TAKING PART IN A BIRD COUNT

Because birdlife is an important part of the environment, every year at the end of June, people all across New Zealand count the birds that live in their gardens, parks and school grounds as part of the New Zealand Garden Bird Survey. Scientists share what they find out with the public on the Landcare Research website (see Resources page 72). You can also find previous survey results there.

### Getting ready to take part in the bird count

Go outside and see if you know the names of all the birds you see in your garden or street. Look up the birds you don't know on the Garden Bird Survey website or NZ Birds Online. Use Perrine Moncrieff's tips to learn more about the different birds in your garden. Keep doing this until you are familiar with the birds you see most days. There are also some quizzes and other resources on the website that you can use to improve your knowledge.

### Do a practice run of the Garden Bird Survey

- ☆ Write down a list the names of birds you normally see, so all you will need to do on the day of the survey is record the numbers of birds seen.
- ☆ Find somewhere to sit where you can get a good view (this could be inside looking out).
- ☆ Look and listen for birds for half an hour.
- ☆ When you see birds, write down the number you see next to the species name.
- ☆ If you see a bird that's not on your list, add it on.
- ☆ Were there any birds you had problems recognising? Did anything go wrong with the survey? Keep practising until you recognise all the birds and can count large numbers of birds quickly (if there are large numbers).

### Take part in the Garden Bird Survey

- ☆ Choose one day that suits you within the survey week.
- ☆ Prepare your list or print out the tally sheet from the website.
- ☆ Look and listen for birds for an hour.
- ☆ When you see birds, put the number seen next to the species name.
- ☆ At the end of the hour look at your results. Circle the largest number of each bird seen at any one time.
- ☆ Fill in the survey form online.



### TIP

The Great Kereru Count is usually held in September. It is an easy bird count to take part in because the only bird you have to be able to identify is the kereru/New Zealand pigeon.



### TIP

You can use the e-Bird App or website all year round to record the birds you see. Observations entered into e-Bird between now and 2024 can contribute to the New Zealand Bird Atlas, which maps where different species of birds live and their numbers. See [www.birdatlas.co.nz](http://www.birdatlas.co.nz) for more information.

Above: The tally sheet that is used in the New Zealand Garden Bird Survey. You can download these from [www.landcareresearch.co.nz](http://www.landcareresearch.co.nz). Right: A lone Mandarin duck, who has chosen to make its home at Lake Rototi in Nelson Lakes National Park. This would be an unusual duck to see in a bird survey.



### WANT TO DO MORE?

- You can learn more about identifying birds by joining Young Birders, Kiwi Conservation Club or Forest & Bird Youth.
- Birds New Zealand and local restoration groups often need volunteers to count birds.
- Get involved with bird banding. Banding means a bird can be traced, which helps identify how far a bird has flown or how old it is. (See more about banding on page 23).