EXPERIENCING BIRDS IN YOUR GREEN SPACE

Education resource

Department of Conservation
Te Papa Atawhai

Contents

Appendix

Landcare Research Manaaki Whenua

This resource has been developed in collaboration with **Landcare Research**

A. Introduction

New Zealand birds

Birds are an important part of our ecosystems and communities. They rely on trees, plants and other animals for food, shelter and their basic needs.

An incredible range of birds are found in New Zealand: from flightless, ground-dwelling large birds such as the kakapo and kiwi, to tiny, delicate songbirds like the grey warbler.

Why are birds important?

Endemic and native birds are an important part of balanced, healthy ecosystems. They pollinate and disperse the seeds of plants, spread nutrients and keep populations of insects and other living things stable. In Te Ao Māori, endemic and native birds enhance the mauri in an area and are part of whakapapa links (connections and ancestry).

Why collect data about birds?

Data about local birds can give people and scientists information about the environment. It can tell us which animals and plants live in the area, the ecosystem and which issues may be present. This resource supports you to participate in surveying local birds, contributing to the scientific community through worthwhile citizen science projects like the NZ Garden Bird Survey.

NB: The information in this resource is based around 10 common, widespread NZ birds. For more detailed information on specific birds which may be more relevant to your local context see:
doc.govt.nz

Key concepts

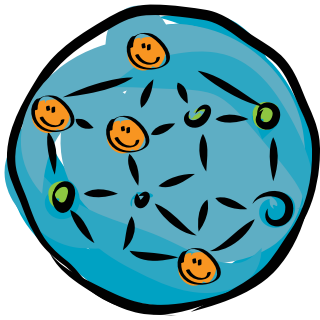
Using this resource students can:

- Gather and interpret data about birds living in a local green space
- Identify and learn about key native, endemic and introduced birds
- Begin to understand how birds are part of a wider ecosystem

Big Picture

You are connected to birds in your local environment.

You, the birds, trees and insects, your school and neighbourhood are all part of a bigger ecosystem.



Curriculum links

Science:

Living World: Evolution, Ecology, Life processes

Nature of Science: Investigating in science, Communicating in science, Understanding about science, Participating and contributing

Science capabilities: Gather and interpret data, use evidence, critique evidence, interpret representations and engage with science

Key vocabulary

• ecosystem • native • endemic • introduced • species • conservation

Endemic animals have evolved in New Zealand and are only found here

Native animals have arrived in New Zealand by themselves and are found here as well as in other countries

Introduced animals were brought to New Zealand by people

B. Suggested learning sequence

1. IDENTIFY A LOCAL GREEN SPACE in your school or community

Explore a local green space using the **Exploring your local environment resource**

YOU ARE HERE

2. EXPERIENCE BIRDS IN YOUR GREEN SPACE

Experience birds outdoors - introductory activities

Individual students have personal experiences to spark their interest in birds and establish prior knowledge

Plan your investigation

Students learn about NZ birds and form or add to a learning inquiry

Gather data about birds in your area and examine the data

Gather data with students about birds in your green space using a garden bird survey. Reflect on and critique data.

Find out more about birds

Continue the learning inquiry to find out more about native and endemic birds

Contribute to local and community information and share knowledge

Share knowledge and data of birds in your green space with others

Take the next steps

Use the following resources to continue learning about and enhancing your green space

3. EXPERIENCE INVERTEBRATES IN YOUR GREEN SPACE

Explore and investigate invertebrates in your green space using the **Experiencing invertebrates in your green space resource**

4. EXPERIENCE NATIVE TREES IN YOUR GREEN SPACE

Explore and investigate plants and trees in your green space using the **Experiencing native trees in your green space resource**

5. INVESTIGATE ANIMAL PESTS IN YOUR GREEN SPACE

Explore and investigate animal pests in your green space using the **Investigating animal pests in your green space resource**

6. INVESTIGATE PLANT PESTS IN YOUR GREEN SPACE

Explore and investigate plant pests in your green space using the **Investigating plant pests in your green space resource**

7. COME TO CONCLUSIONS AND LEARN HOW TO ENHANCE BIODIVERSITY

in your green space with the **Enhancing biodiversity in your green space resource**

8. FORM AN ACTION PLAN

for your green space using the **Tools for action resource**

Symbols used in this resource

This symbol represents New Zealand Curriculum links included in the resource.

This symbol represents a hands-on, outdoor-learning experience. These experiences encourage student connection to the natural world

This symbol represents student activities to learn about birds and reflect on their hands-on, outdoor learning experiences

This symbol represents inquiry-based learning experiences.

B. Experience birds outdoors

Introductory activities

Try one or several of these integrated curriculum activities to identify students' prior knowledge and experiences.

My experience of birds

Describe and/or draw any encounters you have had in the past with New Zealand birds.

Encourage students to write a narrative or recount of an experience with birds. Students could read their writing to each other and share experiences.

Bird brained

Make bird masks and wear them in your green space. Then see through the eyes of a bird!

See example: **landcareresearch.co.nz**

Birds show many examples of intelligent behaviour, such as planning for the future, using different strategies for accessing food and recognising different birds and their eggs. Encourage bird-like thinking! Groups or individuals could form a role-play, dance, story or musical interpretation of life as a bird in your green space. Consider what food is available, where birds might spend their time, where their shelter is, any potential threats and interactions with people.

Bird watching

Build birding 'binoculars' with cardboard rolls, wrapping paper, ribbon and tape. Other useful birding equipment: hat, bird ID guides, something to sit on, notebook or recording sheet, camera/ device for photos

Take your equipment into a green space to observe birds and their behaviour. What type (species) of birds can you see?

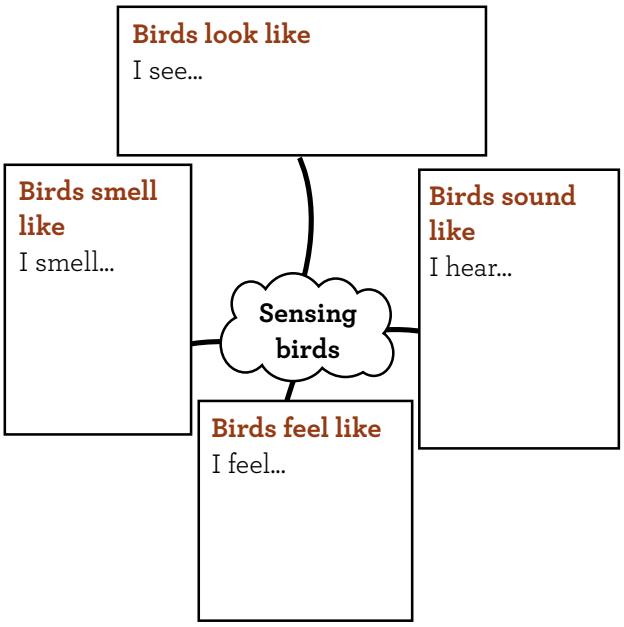
Which birds have been here?

Look for birds or proof of bird visits over several days in your school or green space. Proof of birds may include items such as feathers, nests, eggs, footprints, bones or other items.

Use the found items to identify which birds/ types of birds may have visited your school.

Sensing birds

What do birds look/ smell/ feel/ and sound like? After observing birds outside, record ideas about sensing birds on a mind map. Use an online tool such as coggle.it or draw your own.



C. Planning your investigation and learning about NZ birds

Curriculum links

Science: Nature of science: Investigating in science, communicating in science

Living world: Evolution

Minor curriculum links: English: Speaking, Writing

Science capabilities: Gather and interpret data, Interpret representations

Learning outcome

Students are learning to:

- Plan an investigation about birds
- Identify common NZ birds

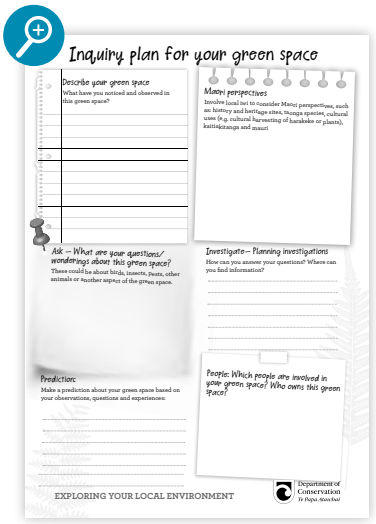
Success criteria

Students can:

- Establish an inquiry question about birds and make a prediction on 7. Thinking about birds
- Identify the 10 common NZ birds on 5. Birds often found in New Zealand

What will we investigate about birds?

- Review student's inquiry questions/ wonderings from the inquiry plan [**Inquiry plan for your green space**]. Did students have questions relating to birds? Do they have other questions about birds in their green space?
- Considering the observations so far, what are their predictions about BIRDS in their green space? Which species do students predict they will find? Why? Record ideas and questions on **Thinking about birds**.



Before gathering data

Resources about common New Zealand birds

Students can become familiar with common NZ birds using these resources:

Poster and NZ bird ID sheets

- **Birds often found in New Zealand** focuses on 10 common nationwide species from Landcare Research's NZ Garden bird survey. Adapt appropriately as a starter activity for Year 1-8 students. Cut along dotted lines on the sheet and use as a matching activity. Use appropriate content for your students: e.g. junior students may match the names to photos of birds (2 segments per species) and not the ID tips, whereas seniors might match bird photo and size to ID tips and the names (3 segments).
- NZ birds Landcare Research Garden Bird survey poster: **landcareresearch.co.nz**

Online resources

- Bird information on the DOC website: **doc.govt.nz**
- Landcare research guide to identifying birds: **landcareresearch.co.nz**
- NZ Birds Online website: **nzbirdsonline.org.nz**
- Science Learning Hub: **sciencelearn.org.nz.** Learn about the difference between endemic, native and introduced birds using this or other resources in the Conserving native birds context: **sciencelearn.org.nz** to further explore NZ birds.
- Become familiar with bird calls: **doc.govt.nz**. Knowing bird sounds will be useful during your bird survey.
- DOC's Identifying NZ forest birds online course: **doc.govt.nz**
- Whatbird NZ website - information about New Zealand birds: **whatbird.co.nz**
- Saving New Zealand's Native Birds **marigill.co.nz**

Videos

- Videos of the 6 endemic birds are within the DOC ID course under each bird's characteristics: **doc.govt.nz**
- Red-billed gulls: **doc.govt.nz**
- Blackbird: **rspb.org.uk**
- Thrush (song thrush): **rspb.org.uk**
- Sparrow: **rspb.org.uk**
- Starling: **rspb.org.uk**

Books

Any of Andrew Crowe's guides to the identification of New Zealand birds, e.g. Which NZ bird?
penguin.co.nz

or

A Mini Guide to the Identification of New Zealand's Land Birds (Penguin books, 2007)

The field guide to the birds of New Zealand by Barrie Heather and Hugh Robertson (Penguin books, 2015)

Apps

NZ Bird gallery (Android), Birdlife of New Zealand (Android), Birds of New Zealand LITE (Apple).

Birds often found in New Zealand

Tūī/ Kōkō

Size: Medium- large

Endemic

Found throughout NZ (except Canterbury)

ID tips: Mostly black birds with a white tuft under the chin

Kererū/ Kukupa/ NZ wood pigeon

Size: Very large (about 50cm long)

Endemic

Found throughout NZ

ID tips: Blue, green, and purple body with white chest and under-parts. Red legs and bill

Grey Warbler/ Riroriro

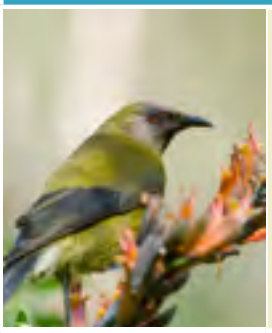
Size: Very small (about 11cm long)

Endemic

Found throughout NZ

ID tips: Small grey bird with some light coloured underparts. Dark grey tail with white tips

Bellbird/ Korimako



Size: medium

Endemic

Found throughout NZ

ID tips: Dark olive green and yellow body with black bill. Female is more brown

Fantail / Pīwakawaka

Size: Small

Endemic

Found throughout NZ

ID tips: Grey head with white eyebrows, brown body, fan-like tail

Silvereye/ Tauhou

Size: Very small (about 12cm long)

Native

Found throughout NZ

ID tips: Silver colour around eye, green upper parts with grey above neck

Blackbird

Size: Medium- large

Introduced

Found throughout NZ

ID tips: Male: black with yellow beak. Female: brown with yellow beak

Sparrow/ House sparrow

Size: Small

Introduced

Found throughout NZ

ID tips: Dark brown/black wing feathers with light brown chest and underparts. Male darker colours than female

Starling

Size: Medium- large

Introduced

Found throughout NZ

ID tips: Black coloured bird with some purplish/ green feathers. White tips on feathers look star-like

Myna

Size: Medium- large

Introduced

Not found south of Manawatu

ID tips: Brown bird with black head and yellow beak and around eye. White tipped tail feathers

NB: Introduced species are more often found in modified environments such as urban or farm locations.

Endemic species are often found in less modified environments such as near trees or bush. Their presence suggests there are signs of a healthy ecosystem.

Adult birds are described here, juveniles may look slightly different.

More information about these and other NZ birds can be found on the DOC website: ***doc.govt.nz***

D. Gathering data about birds in your green space

Curriculum links

Science: Nature of science: Investigating in science, Communicating in science

Living world: Evolution, Planet Earth and Beyond: Earth systems

Minor curriculum links: Mathematics: statistics

Science capabilities: Gather and interpret data Engage with science

Learning outcome

Students are learning to:

- Gather data about birds in their green space

Success criteria

Students can:

- Record accurate data and observations about birds

Preparing to gather data

- View *Takeaway table: Connected L2, 2013*, for ideas about student recording and observations, focus ideas and notes: **docs.google.com**
- Discuss how scientists might gather data about birds.

Which data will we observe and record?

- Look at **NZ garden bird survey tally sheet** for ideas about a student observation template.
- Decide on an appropriate format for recording student observations.

The Garden Bird Survey resources include some of the most common and widespread NZ birds. However, it may be necessary (according to your location) to alter the survey, and the birds that you focus on. For example if your school is a very coastal environment the garden bird survey may not include many of the species present. You may also need to adapt your tally sheet to reflect the species most common in your area.

See **doc.govt.nz**.

NZ Garden Bird Survey

Use resources on the NZ Garden bird survey website by Landcare Research to guide your bird survey:

landcareresearch.co.nz

NB: If your survey is during the NZ Garden Bird Survey week (usually late June/ early July) you can participate in the official survey and enter your data onto the website (see link above). If your survey is outside the official dates then you can still use the survey method but analyse your data separately.

Learn more about common New Zealand birds and experience an inspiring virtual journey with the LEARNZ Garden bird survey field trip at **rata.learnz.org.nz**

How to carry out a garden bird survey

Preparation

Before the garden bird survey, ensure students are familiar with common bird species.

- View pictures and videos of birds in your survey and on your tally sheet to help students quickly and easily recognise those species (see resources on pages 6-7). Also listen to and imitate bird calls so that students can recognise the sounds of the birds during the survey. Draw birds and their silhouettes to get to know their shapes and relative sizes.
- Use **Birds often found in New Zealand** to help learn the 10 species in the survey or focus on the 20 species on the garden bird survey website for more able students.

Equipment needed

Clipboards, data sheets, pencils/ pens, blankets or chairs to sit on, hats and sunblock, raincoats (if necessary).

Where to do the survey

It is preferable to do the survey in the green space you are focussing on for your inquiry.

The bird survey information can contribute to planning for the green space in in Resources 3-6 (to be developed). Otherwise you can do the survey at any location in your school. A quiet area with little traffic or disturbance and some trees will be more likely to have significant bird life. Survey results will be most accurate when students are still and quiet.

Timing

You can do a bird survey at any time during the day.

It is recommended for the official survey that students observe birds for a one hour period. For younger students, you may need to break the hour up into 4 observation sessions of 15 minutes or 6 sessions of 10 minutes, depending on the age and attention spans of your students. Observations could be done every day for the week or several times in one day by the same students. Another option is to break the hour session into 6 parts and have 6 pairs of students each do ten minutes of the hour, one after the other, all recording on the same sheet as one whole hour session.

What do students record?

Students record the HIGHEST number of each species seen at any ONE time. If they see two sparrows in the first minute and then later a group of six sparrows, they would record 6 (not 8) on their recording sheet (see also example on the **NZ garden bird survey tally sheet**).

For a video example of how to carry out the survey, check out the LEARNZ field trip - **rata.learnz.org.nz**

For more able students use the full official garden bird survey. This includes 20 species of birds. See:

landcareresearch.co.nz.

Handy teacher tips for a successful survey

Before the survey, emphasise that the survey is not a competition to find the highest number of birds. Explain that students need to act like scientists (they must work together and only report accurate information after careful observation)

Play a game of statues before the survey to practise being quiet and still during the survey

Working in pairs during the survey minimises distractions

Having birding equipment such as binoculars available can extend student focus

E. Finding out more about birds

Looking deeper into an inquiry: From knowledge to understanding

Curriculum links

English: Listening, reading and viewing: Ideas

Science: Living world, Nature of science

Minor curriculum links: Mathematics: statistics

Science capabilities: Gather and interpret data, Use evidence, Interpret representations

Learning outcome

Students are learning to:

- Collect relevant information and make observations to demonstrate an increasing understanding of birds

Success criteria

Students can:

- Find and record information about a NZ bird and reach conclusions about an area of interest

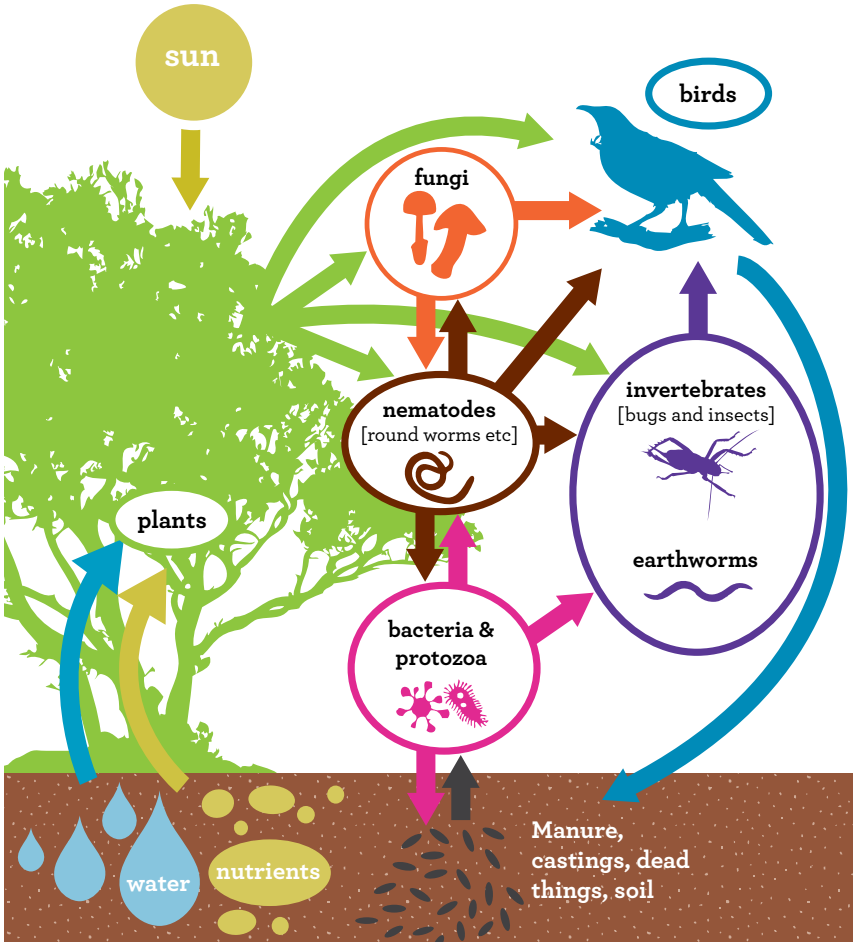
Steps to continue an inquiry and find out more about birds

a) Identify a native or endemic NZ species	Choose a focus bird that is native or endemic to New Zealand and is found in your green space. This may be a species that was observed during your survey e.g. you may wish to focus on tūī, as they might have been identified during your survey.
b) Review your initial wonderings and predictions and find a topic you want to find out more about	Discuss students' further questions/wonderings from **Thinking about birds**. Reflect on other initial questions and predictions. How do these apply to the focus bird? Identify what students would like to find out more about. Other options include finding out more about bird predators/ nesting/ breeding/ behaviour/ movement/ conservation/ cultural significance. E.g. student questions may have been around what birds eat. Students may then choose to find out more about 'what tūī eat'/ the tūī diet.
c) Head back out into your green space to investigate birds further	Students can then observe birds in their green space, focussing on what they want to find out about. Record information about what they see with photos, videos, notes, samples and observations. e.g. 'what tūī eat'- looking for examples of tūī feeding in the green space. Investigate what they are feeding on and take samples to identify. They may observe tūī feeding on plants such as flax/ harakeke or kōwhai.
d) Add to your new knowledge with more research	Students can then find out more about a chosen New Zealand bird or aspect of birds using the resource list (resources about New Zealand birds) on pages 6-7. This may be done individually, in groups or as a class, depending on the level of students. This could be used as an integrated literacy activity.
e) Support or challenge your research and observations	After considering your evidence as a whole, reach appropriate conclusions. Use your research to support or challenge your observations and ideas.

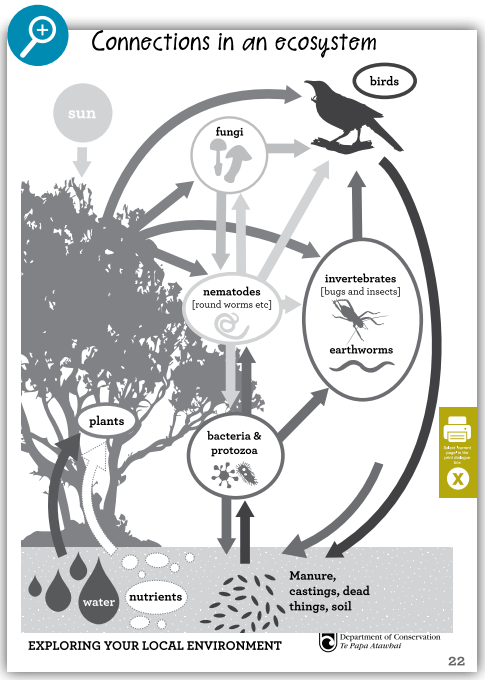
f) Explore Māori perspectives	You could also dig deeper to find out more about Māori perspectives of birds, for example: **landcareresearch.co.nz.** You could also ask local iwi to help you learn about their perspectives.
g) Express new understandings	Students can use their photos, records, research and notes to create a presentation, artwork, written report, blog or poem about the focus bird.

Extending thinking about the connections of birds

- Discuss how birds are connected to the environment, soil, living things, plants and other animals in an ecosystem. Identify the ways in which plants, animals and birds can be connected. *Plants provide food, habitat and shelter for birds and meanwhile birds can pollinate and disperse seed for some plants and trees.*
- Try the New Zealand bush ecosystems activity from Science Learning Hub: Conserving native birds context to explore the connections of kiwi, kereru and tūī in NZ bush ecosystems: **sciencelearn.org.nz**
- Where do birds fit into an ecosystem? What is their role? Birds are consumers (they must eat other living things to survive). Some birds eat plants/ nectar and others eat invertebrates. Some birds e.g. tūī eat both plant and animal material. Large birds and predators eat smaller birds. Birds have developed co-operative relationships with some species and competitive interactions with other types of birds and animals. (See diagram below).



Connections of birds in an ecosystem



- Students can draw a picture or diagram to represent the connections of their focus New Zealand bird in an ecosystem. Include ideas about the type of connection e.g. foods/ habitats/ shelter/ neighbours/ competitors/ threats.

Further information on other plants and animals in a green space ecosystem and their interactions can be found in the ***IN the environment resources***.

Exploring issues for birds and their habitats

Over time people have brought introduced pests with them and changed the landscape, sometimes drastically affecting our bird life and the places they live. In recent years we have become more aware of human-induced effects on native birds and how we can help slow their decline. Issues for birds and other native and endemic animals will be further explored in the **Investigating animal pests in your green space** and **Investigating plant pests in your green space**.

Reflecting on data and observations

Critiquing your evidence

- Read '*A bird in the hand' - Connected 3, 2007*' with students. This article describes how New Zealand scientists managed a range of data to prove the existence of storm petrels (a very rare seabird). Discuss how scientists use their data and observations and critique their evidence.
- Encourage critical thinking about the data collection and methods you have used during your bird survey.
    - Why did you see the birds you did during your survey in your location?
    - Is the data you have collected reliable?
    - Discuss the following questions and decide how reliable you believe your results to be.
    - What could have influenced your results?
    - How sure are you of your results?
    - Reflect on how you collected your data. What were the possible short comings of this method?
    - How could you check your findings? Would these results always be true?
    - What other information can you find that supports or challenges your ideas?
    - If you did the survey again, how could you make sure your results were even more reliable?

Organising and displaying data: Interpreting representations

Curriculum links

Mathematics: Statistics: Statistical investigation

Minor curriculum links: Science: Living world

Science capabilities: Interpret representations

Learning outcome

Students are learning to:

- Gather, sort and display data about bird numbers observed in their green space
- Identify patterns and trends in data about birds

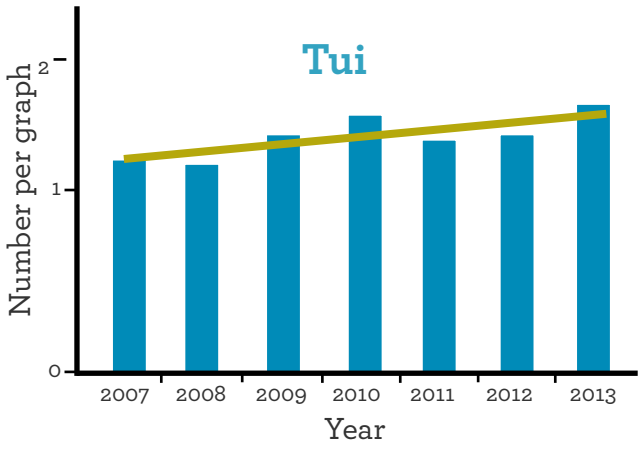
Success criteria

Students can:

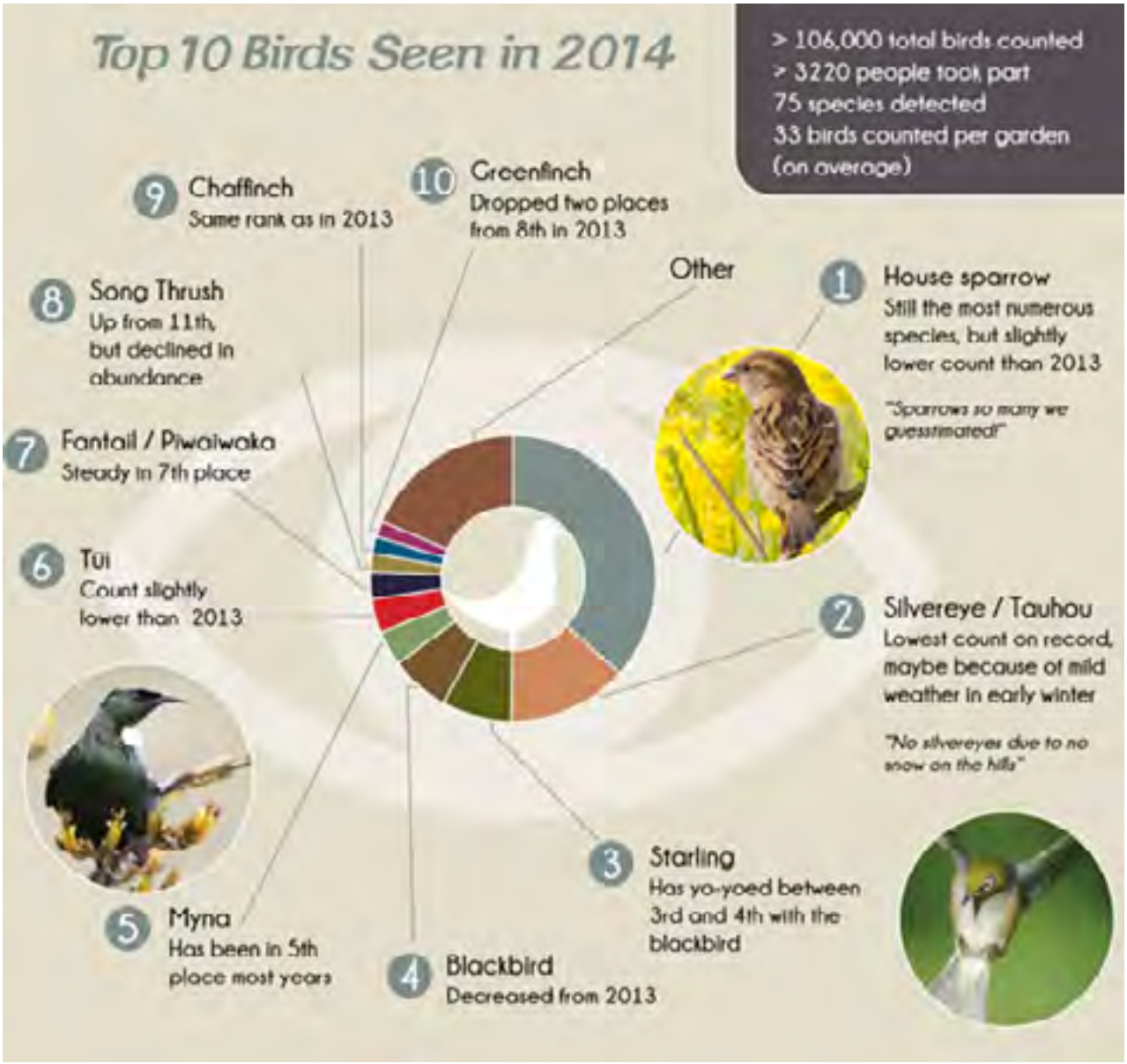
- Organise their data from the bird survey into tables and appropriate graphs
- Identify patterns and trends compared to the garden bird survey results.

- View your completed bird survey results.
- Combine the data into class or group data. Organise the data into tables and then graphs.
- Construct pictograms, bar charts or pie charts to display the total data set according to your students' needs.
- Students can then make statements about their data. Think about and record any patterns or trends you have observed. Record results on **Thinking about birds**.
- Examine examples of bar graphs of bird count data for tui and grey warbler below and others at:

  landcareresearch.co.nz
- Compare the numbers of tūī and grey warblers from your observations to the numbers from the bar charts below. Discuss average results found over the period 2007-2013. What is the trend or pattern over time for these two species? (see the line above bars on charts below).



- Explore the variety of species of birds you saw in your survey and compare the proportions of the different birds with the Garden bird survey results from 2014 (see the graph on the next page). The 2015 results are also online, see: **landcareresearch.co.nz**



- Were the proportions of endemic: introduced birds similar or different in your survey? Why do you think this is?
- What other patterns or trends can students find when comparing their data with the graphs from the NZ Garden bird survey 2014-2015?
- Students could write reports about their findings to summarise their results. If your survey was during the official Garden Bird Survey week, enter your results on **landcareresearch.co.nz**

F. Sharing your knowledge and data

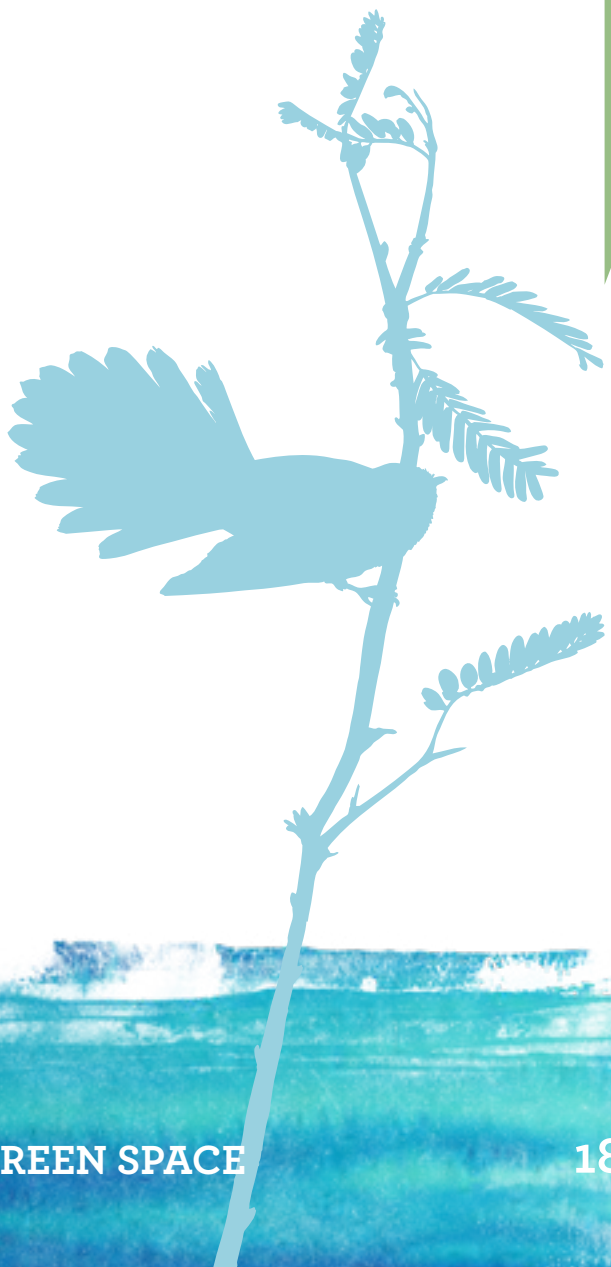
Becoming part of the bird science community: Engage with science

Citizen science enables students to participate in the scientific community and contribute to increasing our knowledge about New Zealand birds and other animals. It develops all aspects of the Nature of science strand, as well as science capabilities. Participating in the Garden Bird Survey is engaging with citizen science. For a list of citizen science projects suitable for NZ primary students see: **pond.co.nz**

Investigate other members of your community who are collecting data and/or caring for local birds. Contact local environmental groups and bird watchers. Share your information with them and find out about what they do.

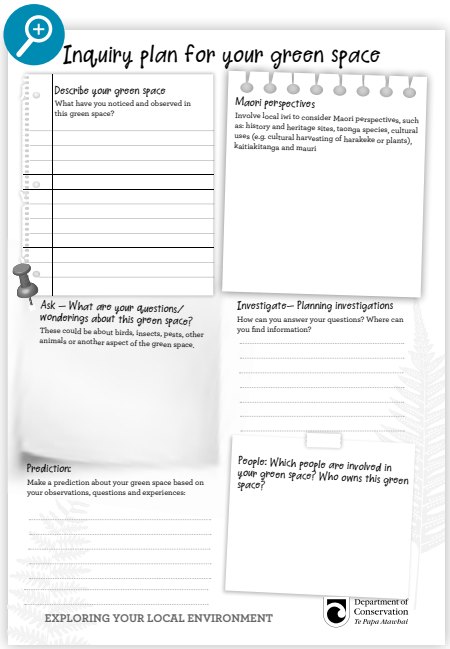
Sharing other findings

- Students could create presentations, speeches, blogs, reports, stories, journals, newsletter posts, assembly items or articles about birds found in their local environment.
- The information and data you have collected could be incorporated into a visual display, 3-D sculpture, sign, mural or artwork for display near your green space.
- Your findings and research about pests, invertebrates and plants and other native animals in Resources 3-5 (in development) could be combined to share later with your community.
- If your survey was outside the official Garden Bird Survey week, you could enter observations on **iNaturalistNZ**. iNaturalistNZ is a website where you can where you can record what you see in nature, meet other nature watchers, and learn about the natural world.
- For tips on how to use iNaturalistNZ, see resource 1 - **Exploring your local environment**



G. Next steps

- Keep a record of results for the long term. Bird monitoring data can be useful to see evidence of progress in increasing biodiversity in an area and restoring the health of an ecosystem. It can also help with funding applications and can form baseline data for restoration plans.
- Enter your bird survey results into your inquiry plan for your green space: **Inquiry plan for your green space**.
- Review your questions and wonderings. Are there any questions that remain unanswered?
- What are the next steps for finding out about your green space? See Resources 3-6.



New Zealand GARDEN BIRD SURVEY

TALLY SHEET FOR SCHOOLS

LANDCARE RESEARCH MANAAKI WHENUA

WHAT TO DO

1. Select a garden, park or school.
2. Look for birds for ONE hour.
3. **Use this tally sheet** to record for each species the HIGHEST number seen (or heard) at one time.

EXAMPLE:

If you see 2 blackbird at the same time, cross 2.

X X 3 4 5 6 7

If you then see 4 blackbirds together, cross up to box 4, not 6.

X X X X 5 6 7

If you later see 3 blackbirds, stay at 4. Do not add up to 7.

X X X X 5 6 7

If the count exceeds the boxes, then enter the final number into the spce provided by the bird's name.

5. **Submit your results online at:** gardenbirdsurvey.landcareresearch.co.nz

Please don't send us this sheet

Male ♂ Female ♀

Small birds 15cm or less

Medium-sized birds Up to 30cm

Large birds Over 30cm

Bellbird .....

Blackbird .....

Fantail .....

Kereru (Wood Pigeon) .....

Myna .....

Silvereye .....

Sparrow - house sparrow .....

Starling .....

Tui .....

Warbler - grey warbler .....

Other .....

Other .....

Select 'current page' in the print dialogue box

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Photographs by: Andrew Walmsley, Tom Marshall, Craig Mac-Kenzie, Brian Massa, Roger South, Anna Arrol, www.istock.com

New Zealand
GARDEN
BIRD
SURVEY

TALLY SHEET FOR SCHOOLS

LANDCARE RESEARCH
MANAAKI WHENUA

WHAT TO DO

1. Select a garden, park or school.
2. Look for birds for ONE hour.
3. **Use this tally sheet** to record for each species the HIGHEST number seen (or heard) at one time.

EXAMPLE:

If you see 2 blackbird at the same time, cross 2.

X	X	3	4	5	6	7

If you then see 4 blackbirds together, cross up to box 4, not 6.

X	X	X	X	5	6	7

If you later see 3 blackbirds, stay at 4. Do not add up to 7.

X	X	X	X	5	6	7

If the count exceeds the boxes, then enter the final number into the spce provided by the bird's name.

5. **Submit your results online at:**
gardenbirdsurvey.landcareresearch.co.nz

Please don't send us this sheet

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24

Other ....

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24

Other ....

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24

Other ....

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24

Other ....

Select 'current page' in the print dialogue box

X

Thinking about birds

1. Our question about birds:

2. Our before ideas/predictions:

3. Results and observations:

4. Patterns/themes:

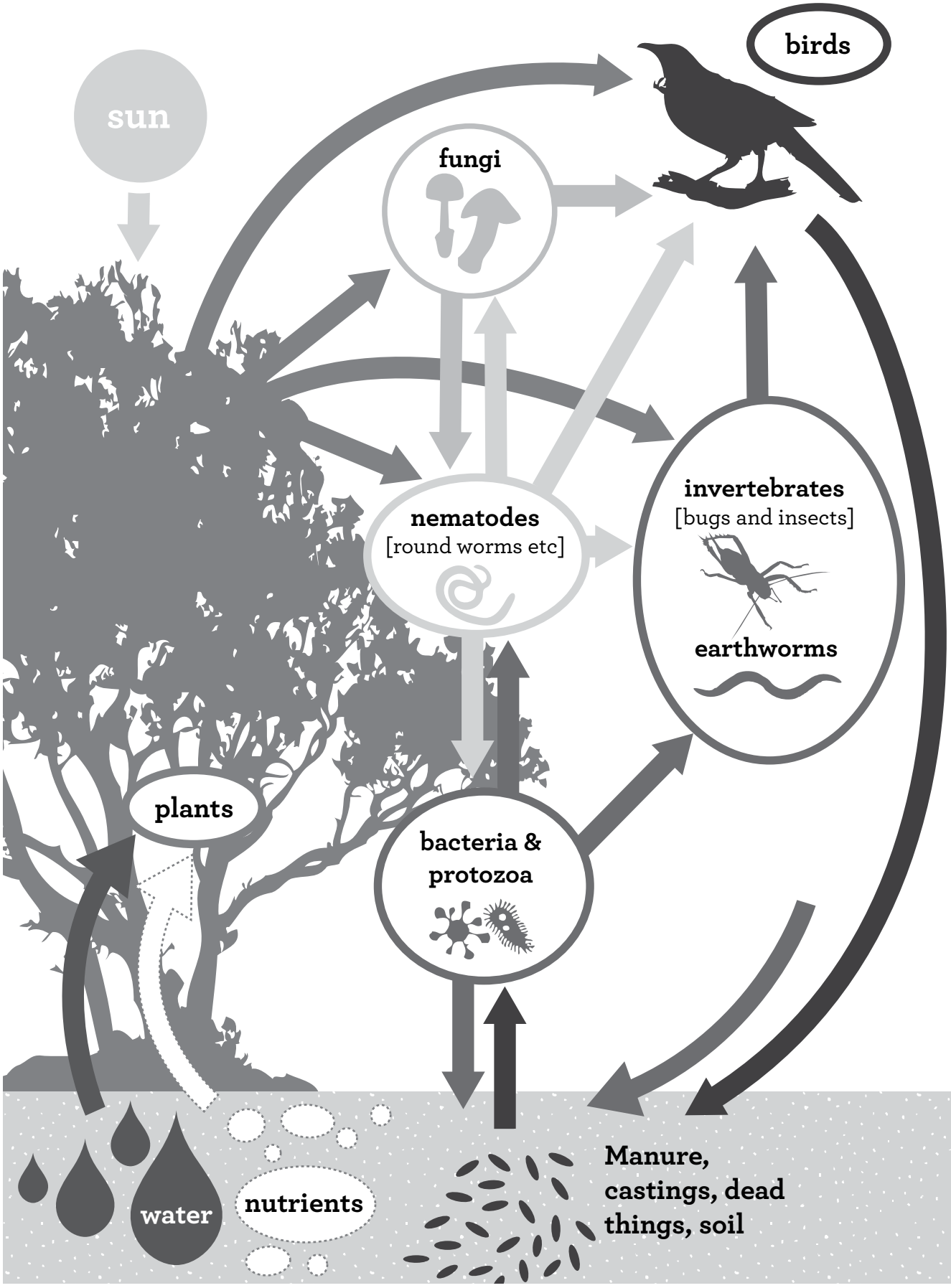
5. Ideas about why these patterns were observed:

6. Further questions/ wonderings:

Select 'current page' in the print dialogue box

Department of Conservation
Te Papa Atawhai

Connections in an ecosystem



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Department of Conservation
Te Papa Atawhai

Inquiry plan for your green space

A. Describe your green space

What have you noticed and observed in this green space?

B. Ask – What are your questions/ wonderings about this green space?

These could be about birds, insects, pests, other animals or another aspect of the green space.

C. Investigate– Planning investigations

How can you answer your questions? Where can you find information?

D. People: Which people are involved in your green space? Who owns this green space?

E. Prediction:

Make a prediction about your green space based on your observations, questions and experiences:

Department of Conservation
Te Papa Atawhai

Birds often found in New Zealand

Tūī/ Kōkō

Size: Medium- large

Endemic

Found throughout NZ (except Canterbury)

ID tips: Mostly black birds with a white tuft under the chin

Kererū/ Kukupa/ NZ wood pigeon

Size: Very large (about 50cm long)

Endemic

Found throughout NZ

ID tips: Blue, green, and purple body with white chest and under-parts. Red legs and bill

Grey Warbler/ Riroriro

Size: Very small (about 11cm long)

Endemic

Found throughout NZ

ID tips: Small grey bird with some light coloured underparts. Dark grey tail with white tips

Bellbird/ Korimako

Size: medium

Endemic

Found throughout NZ

ID tips: Dark olive green and yellow body with black bill. Female is more brown

Fantail / Pīwakawaka

Size: Small

Endemic

Found throughout NZ

ID tips: Grey head with white eyebrows, brown body, fan-like tail

Silvereye/ Tauhou

Size: Very small (about 12cm long)

Native

Found throughout NZ

ID tips: Silver colour around eye, green upper parts with grey above neck

Blackbird

Size: Medium- large

Introduced

Found throughout NZ

ID tips: Male: black with yellow beak. Female: brown with yellow beak

Sparrow/ House sparrow

Size: Small

Introduced

Found throughout NZ

ID tips: Dark brown/black wing feathers with light brown chest and underparts. Male darker colours than female

Starling

Size: Medium- large

Introduced

Found throughout NZ

ID tips: Black coloured bird with some purplish/ green feathers. White tips on feathers look star-like

Myna

Size: Medium- large

Introduced

Not found south of Manawatu

ID tips: Brown bird with black head and yellow beak and around eye. White tipped tail feathers