

# Building trustworthy biodiversity indicators

Using birds as a proof of concept



Visit our website: [bit.ly/TrustworthyIndicators](https://bit.ly/TrustworthyIndicators)

# THE CHALLENGES



## People

How to engage them?  
What matters to them?



## Data

How to collect it?  
How to use it?

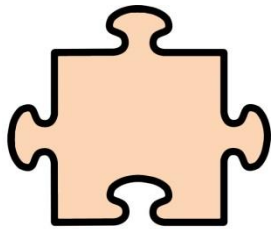


## Knowledge

How to report it?  
How to communicate it?



Involving science and non-science communities



# **BUILDING ENGAGEMENT AND TRUST**



# The challenges

- Lots of people & organisations involved
- Difficult to know what is meaningful to them
- No single agency responsible for biodiversity monitoring and reporting





# Facilitating engagement?

## **Focus groups & workshops**

- Discussing broad issues with a range of groups

## **Online surveys**

- Canvassing a wider audience

## **Case studies**

- Working with key individuals on specific issues

# BUILDING TRUSTWORTHY BIODIVERSITY INDICATORS

**FOCUS GROUPS SUMMARY: JUNE-SEPT. 2014**

WORKING WITH  
A DIVERSE RANGE  
OF PEOPLE &  
ORGANISATIONS

INVOLVED  
WITH BIRDS  
& BIRD  
MONITORING

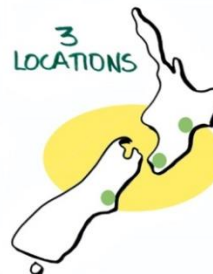


Learning how to build indicators that people find useful & trust. Visit our website: [bit.ly/TrustworthyIndicators](https://bit.ly/TrustworthyIndicators)



# What matters?

## FOCUS GROUP EFFORT



21 ORGANISATIONS



66 PEOPLE



Equivalent to  
130 HOURS  
of discussion



145 PAGES  
114,058 WORDS  
transcribed



97 CODES  
11 THEMES  
used to  
characterise  
discussion



Follow-up workshop with 5 participants from  
multiple Hapū in Hawkes Bay



★ What are your  
interests in birds  
& bird monitoring?



## INTERESTS IN BIRDS



MĀORI



COMMUNITY



CITIZEN  
VOLUNTEERS



PRIMARY PRODUCERS,  
LAND/ RESOURCE  
MANAGERS



SCIENTISTS  
MANAGERS,  
PROFESSIONALS



BIOSECURITY  
MANAGERS,  
PROFESSIONALS



GOVERNMENT  
POLICY ADVISERS





[www.wildaboutnz.co.nz](http://www.wildaboutnz.co.nz)

“I remember stories about  
our Nannies and the puku  
of the kererū .....  
a rongoa or some kind of  
poultice for certain kinds  
of wounds or hakihaki....”

Hapū participant from Hawke's Bay

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PROFESSIONALS



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POLICY ADVISERS



(CC ) Duncan Wright

“... the birds are telling  
us what’s wrong.  
We should be  
taking notice.”

Hapū participants from Hawke’s Bay

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PROFESSIONALS



GOVERNMENT  
POLICY ADVISERS



[www.kiwibird.org](http://www.kiwibird.org)

“important in terms  
of our cultural  
identity....”

Community participant from Hawke’s Bay

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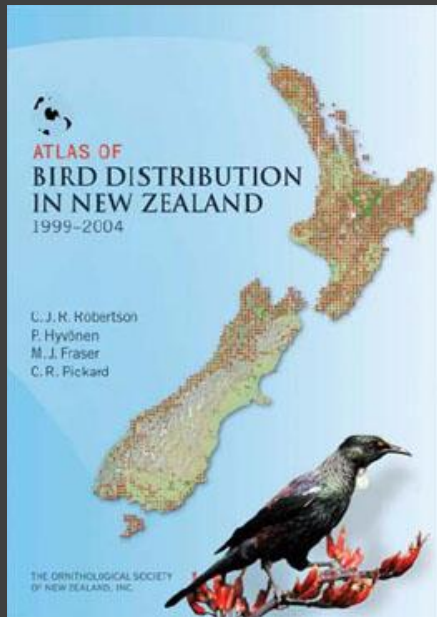
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BIOSECURITY  
MANAGERS,  
PROFESSIONALS



GOVERNMENT  
POLICY ADVISERS



“you went to lots of places  
you would never have  
thought of going  
otherwise....”

Citizen scientist from Christchurch

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POLICY ADVISERS





“You get a real thrill if they accept your pictures....”

Citizen scientist from Christchurch

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“Garden birds are an engagement tool”

Biodiversity managers from regional councils

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## Tūi to Town

Natural habitat restoration  
for lowland South Marlborough



What you can do

- Protect existing remnants of natural habitats or vegetation
- Create more natural habitat by planting suitable native species (funding may be available)
- Support existing landcare groups
- Report native bird sightings (date and location) to the Council

Online:  
<http://www.marlborough.govt.nz/Environment/Tui-to-Town/Report-Tui-Sighting-Form.aspx>  
 Email:  
[tui@marlborough.govt.nz](mailto:tui@marlborough.govt.nz)  
 Phone : 03 520 7400

Brochures and native planting guides are available from the Council

**CONTACT NICKY EADE**  
 Marlborough District Council  
 Phone: 03 520 7400  
<http://www.marlborough.govt.nz/Environment/Tui-to-Town.aspx>  
 E-mail: [nicky\\_eade@marlborough.govt.nz](mailto:nicky_eade@marlborough.govt.nz)

**MARLBOROUGH DISTRICT COUNCIL**

Photo: Dennis Taylor

“... to encourage people  
to restore habitat .....  
based on birds and bird  
habitat and seeing birds”

Biodiversity manager from regional councils

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GOVERNMENT  
POLICY ADVISERS

## Bird numbers start soaring

Thanks to a joint effort by the community and local bodies the chatter of the dawn chorus is getting louder on Napier Hill.

On-going efforts by the community, a joint possum control programme by Hawke's Bay Regional Council and Napier City Council, a subsidised garden planting scheme to encourage native habitat and a focused effort by Napier SPCA to keep feral cats under control are bringing back the native bird.



**PROUD AS PUNCH:** Native Keriū along with tui and bellbirds are flourishing on Napier Hill with the assistance of the community and local bodies.



### FLOURISHING NAPIER HILL

It's not just the dawn chorus but bird song all day that is weaving Napier Hill residents. They are enjoying the renewed bird life after last year's possum control operation.

And it could not have come at a better time: after a wet spring (and a wet summer!), the plants and trees are flourishing and the bird numbers are well up.

The Regional Council has completed a bird survey to measure the success of the possum control. "Preliminary results are encouraging with the survey highlighting a high number of fledglings, which indicates a successful breeding year," says biosecurity officer, Rod Dickson. Results will be published in the next edition of The Big Picture.

“If they [the public] see that birds are looking good or increasing, they are more likely to help or to back funding allocation”

Biodiversity manager from regional councils

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POLICY ADVISERS





A Framework for  
Environmental Reporting  
in New Zealand

[newzealand.govt.nz](http://newzealand.govt.nz)

“Birds are a proxy  
for the state of the  
environment...”

Policy advisor from a central government agency

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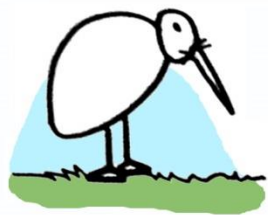
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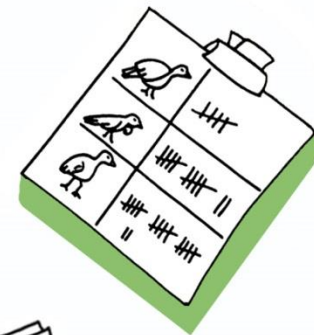


GOVERNMENT  
POLICY ADVISERS



# INTERESTS

## in birds & bird monitoring



PERSONAL  
OR GROUP



ENVIRONMENTAL



POLICY &  
MANAGEMENT

- Recreation
- Resource assessment
- Personal or professional development

- Kaitiakitanga
- Conservation
- Awareness & involvement
- Knowledge
- Mātauranga Māori
- Intergenerational Learning

- Kaitiakitanga
- Conservation evaluation
- Threat surveillance
- Ecosystem health
- Compliance
- Statutory reporting



# INTERESTS in birds & bird monitoring

■ STRONG



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## PERSONAL OR GROUP

Recreation

Resource assessment

Personal or professional development



## ENVIRONMENTAL

Kaitiakitanga

Conservation

Awareness & involvement

Knowledge

Mātauranga Māori

Intergenerational Learning



## POLICY & MANAGEMENT

Kaitiakitanga

Conservation evaluation

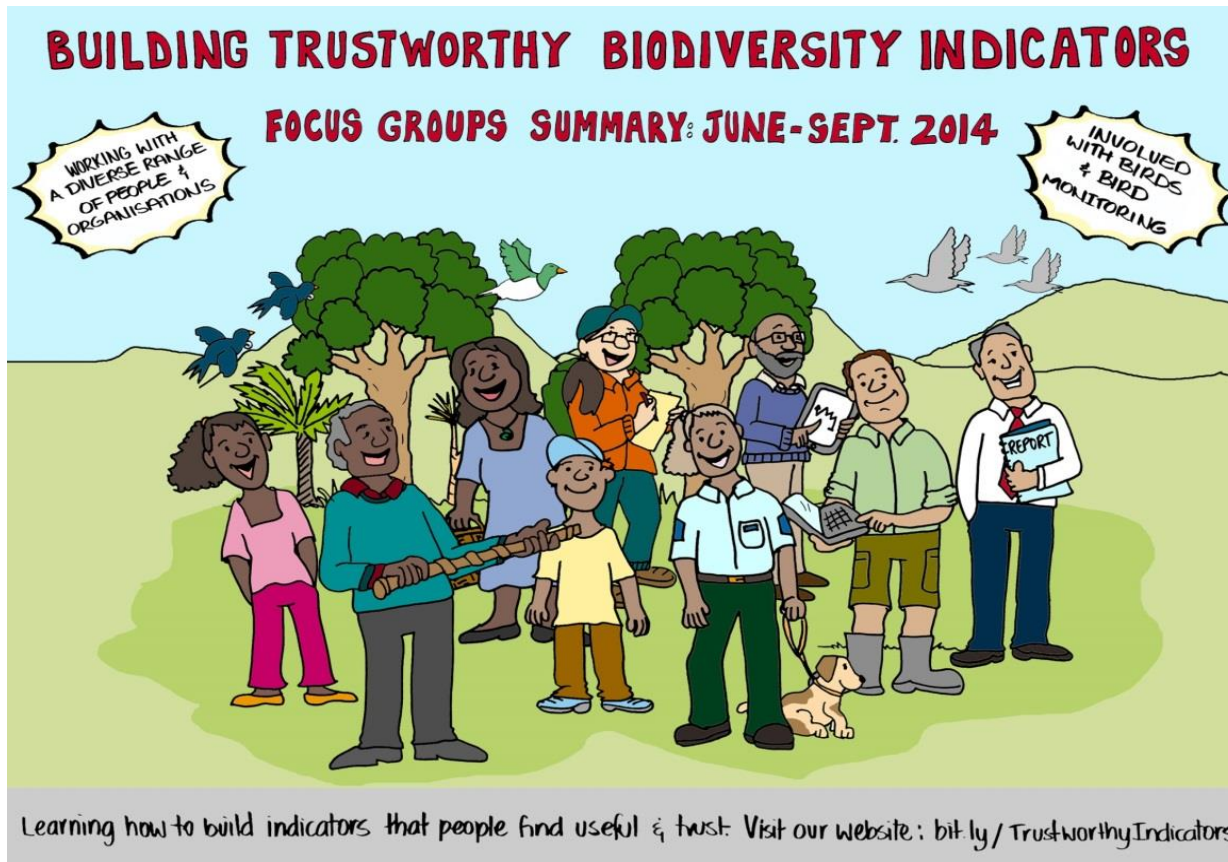
Threat surveillance

Ecosystem health

Compliance

Statutory reporting





Share your perspectives  
...participate in our online survey!





# Building engagement?



New Zealand  Aotearoa  
**GARDEN BIRD SURVEY**

← 2015 Instructions  
2014 Summary →

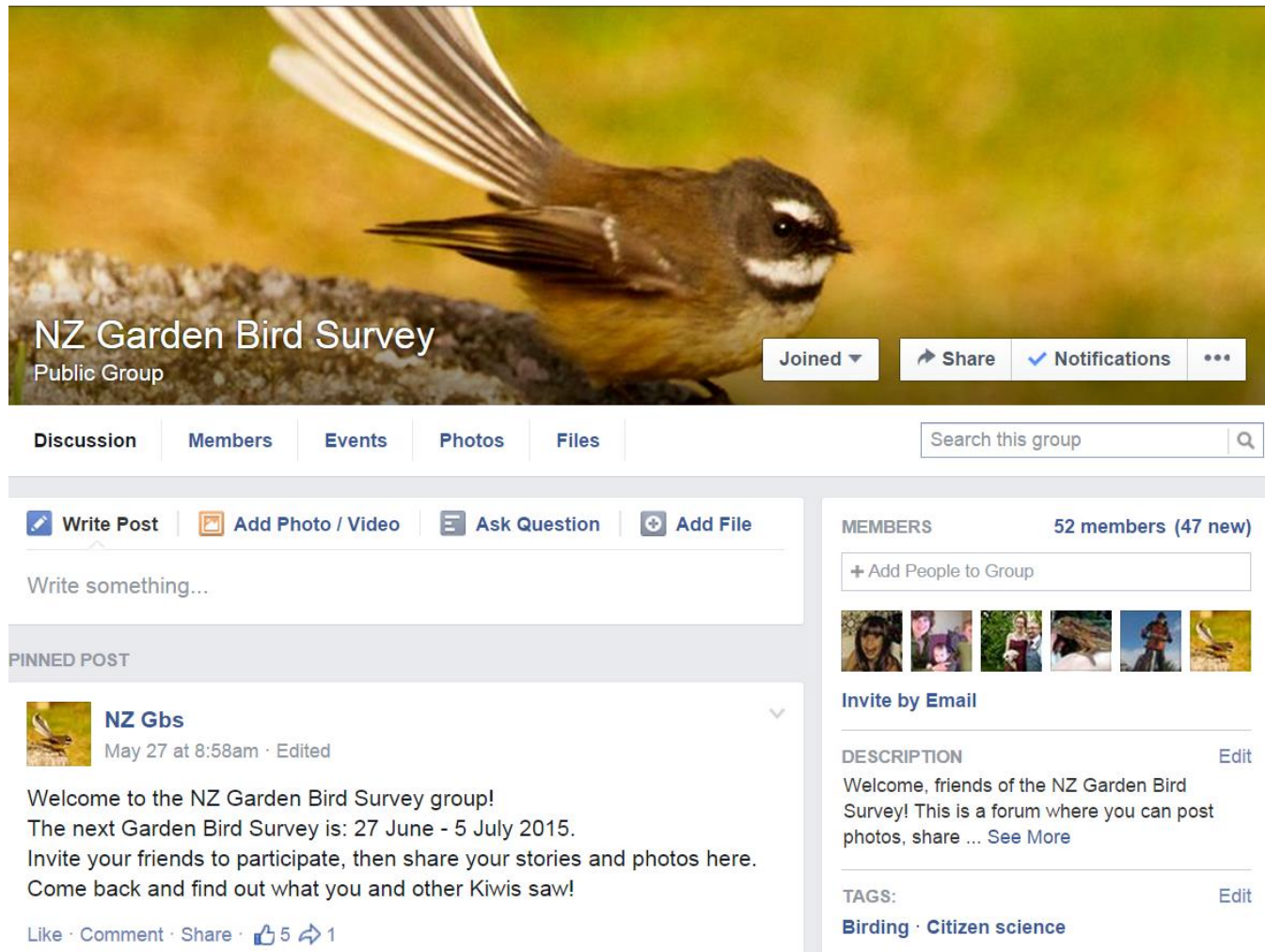
 **Landcare Research**  
**Manaaki Whenua**



# Join in the conversation!

[www.facebook.com/groups/nzgardenbirdsurvey](http://www.facebook.com/groups/nzgardenbirdsurvey)



The image shows a screenshot of the 'NZ Garden Bird Survey' Facebook group page. At the top is a cover photo of a small brown bird with a white forehead and a long, deeply forked tail, perched on a rock. Below the cover photo, the group name 'NZ Garden Bird Survey' is displayed as a 'Public Group'. To the right of the name are buttons for 'Joined', 'Share', 'Notifications', and a menu icon. Below this is a navigation bar with tabs for 'Discussion', 'Members', 'Events', 'Photos', and 'Files', along with a search bar labeled 'Search this group'. Under the navigation bar is a post creation area with buttons for 'Write Post', 'Add Photo / Video', 'Ask Question', and 'Add File', followed by a text input field 'Write something...'. Below the creation area is a 'PINNED POST' section featuring a post from 'NZ Gbs' dated 'May 27 at 8:58am · Edited'. The post text reads: 'Welcome to the NZ Garden Bird Survey group! The next Garden Bird Survey is: 27 June - 5 July 2015. Invite your friends to participate, then share your stories and photos here. Come back and find out what you and other Kiwis saw!'. At the bottom of the post are the interaction options 'Like · Comment · Share' and a count of '5' likes and '1' share. On the right side of the page is a sidebar with a 'MEMBERS' section showing '52 members (47 new)' and a '+ Add People to Group' button, followed by a row of six member profile pictures. Below the members is an 'Invite by Email' section, a 'DESCRIPTION' section with the text 'Welcome, friends of the NZ Garden Bird Survey! This is a forum where you can post photos, share ... See More' and an 'Edit' link, and a 'TAGS' section with the tags 'Birding' and 'Citizen science' and another 'Edit' link.

**NZ Garden Bird Survey**  
Public Group

Joined ▾ Share Notifications ⋮


Discussion Members Events Photos Files

Search this group 🔍

Write Post Add Photo / Video Ask Question Add File

Write something...







**PINNED POST**

 **NZ Gbs**  
May 27 at 8:58am · Edited

Welcome to the NZ Garden Bird Survey group!  
The next Garden Bird Survey is: 27 June - 5 July 2015.  
Invite your friends to participate, then share your stories and photos here.  
Come back and find out what you and other Kiwis saw!

Like · Comment · Share · 5 1

**MEMBERS** 52 members (47 new)  
+ Add People to Group

**Invite by Email**

**DESCRIPTION** Edit  
Welcome, friends of the NZ Garden Bird Survey! This is a forum where you can post photos, share ... [See More](#)

**TAGS:** Edit  
**Birding** · **Citizen science**



# Share what you see!

[www.facebook.com/groups/nzgardenbirdssurvey](http://www.facebook.com/groups/nzgardenbirdsurvey)







# Tell your stories!

[www.facebook.com/groups/nzgardenbirdssurvey](https://www.facebook.com/groups/nzgardenbirdssurvey)





# Help us choose a logo!

[www.surveymonkey.com/s/MHH3ZJS](http://www.surveymonkey.com/s/MHH3ZJS)





★ Which bird species are you interested in?



## SPECIES & PLACES OF INTEREST



MĀORI



COMMUNITY



CITIZEN  
VOLUNTEERS



PRIMARY PRODUCERS,  
LAND/ RESOURCE  
MANAGERS



BIODIVERSITY  
SCIENTISTS  
MANAGERS,  
PROFESSIONALS



BIOSECURITY  
MANAGERS,  
PROFESSIONALS



GOVERNMENT  
POLICY ADVISERS



[www.stuff.co.nz](http://www.stuff.co.nz)

“... the tūī was a taonga species, it can mimic a lot of birds and it is unique. ....they have an awesome waiata or karanga to it”

Hapū participants from Hawke's Bay

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“All native birds, tūī, fantail, grey warblers – the sounds they make represent New Zealand.”

Primary producers from Hawke's Bay

## SPECIES & PLACES OF INTEREST



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PROFESSIONALS



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POLICY ADVISERS





[www.buksia.com](http://www.buksia.com)

“One thing we celebrated,  
the other night, was  
seeing a flock of kererū fly  
over our place.”

Primary producers from Hawke's Bay

## SPECIES & PLACES OF INTEREST



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PROFESSIONALS



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*Keven Drew*

“We get a lot of phone calls, from orchardists and vegetable growers, about pūkeko. Pūkeko are destructive.”

Primary producers from Hawke's Bay

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PROFESSIONALS



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“All native birds really.”

“Native forest species in general, for outcome monitoring.”

Biodiversity managers from a regional council

## SPECIES & PLACES OF INTEREST



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[www.stuff.co.nz](http://www.stuff.co.nz)

“For us it would be tūī,  
we’ve ticked tūī, and now  
we want to see bellbird  
and kererū ”

Biodiversity manager from a regional council

## SPECIES & PLACES OF INTEREST



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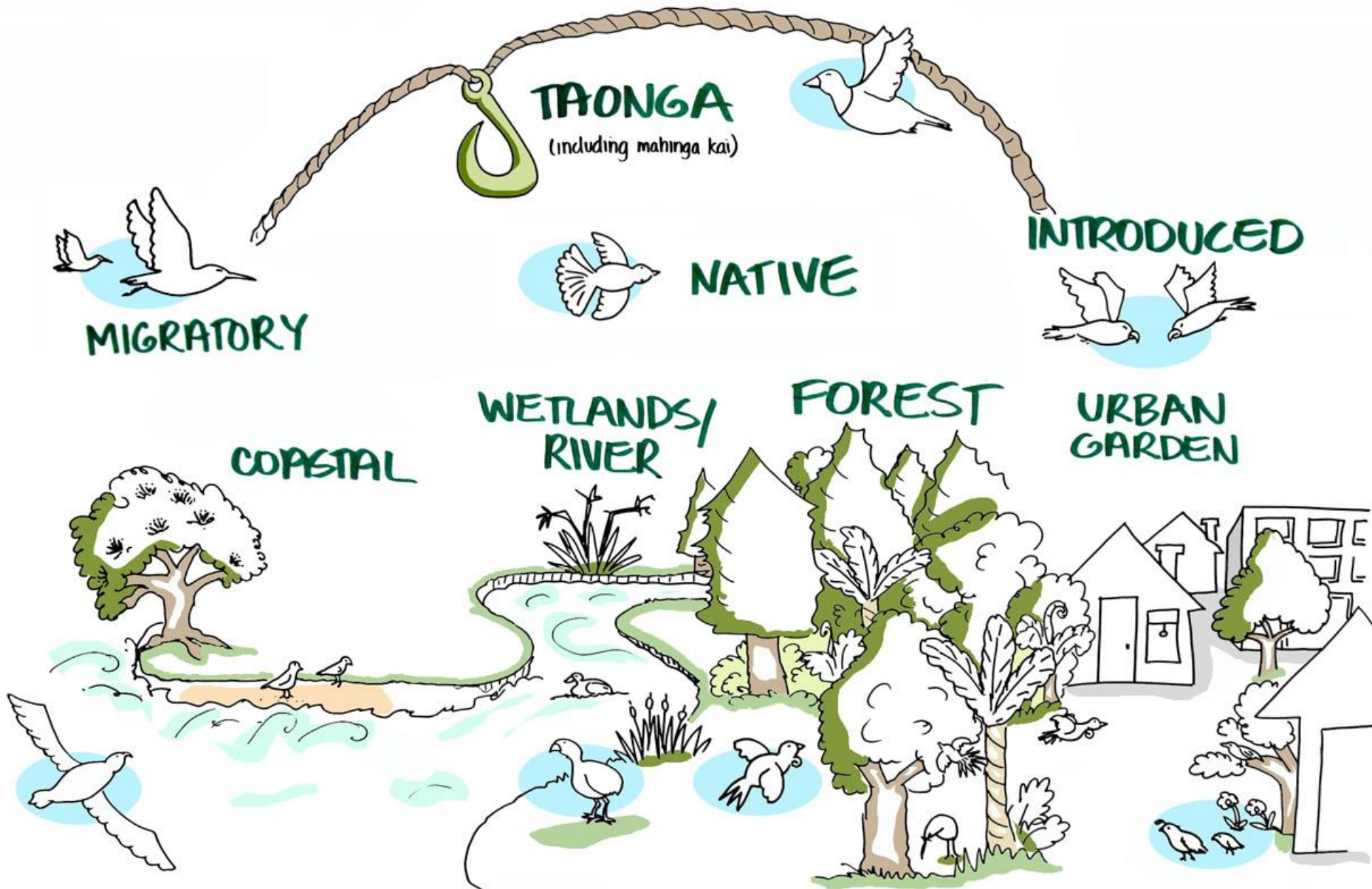
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# Types of SPECIES & PLACES discussed





# Particular SPECIES of interest



## TAONGA

(including mahinga kai)

## NATIVE

## MIGRATORY

godwits/kuaka,  
long-tailed cuckoo,  
titi/sooty shearwaters

## TAONGA

(including mahinga kai)

tūi, kereŋu, weka,  
rūrū/morepork,  
titi/sooty shearwaters  
paradise ducks/  
pūtangitangi

## FOREST

tūi, kereŋu, fantail/  
piwakawaka, kiwi,  
bellbird/korimako  
grey wabler/riroriro,  
falcon/kārearea

## INTRODUCED

(including pest species)  
rosella, rainbow  
lorikeet, starlings,  
rooks, Canada  
geese, magpies,  
peafowl, turkey

## URBAN GARDEN

tūi, kereŋu, bellbird/  
korimako, silvereye,  
starling, finches,  
house sparrow, dunnoek

## RIVER/ WETLANDS

Pukeko, bittern/matuku,  
native ducks

## COASTAL

titi/sooty shearwaters,  
dotterel, terns, petrels





# What matters to people?

## Species of interest?

- Different reporting sources
- Among regions
- Over time

## **OTAGO CASE STUDY:**

2006-2015 OSNZ newsletters



*Birds New Zealand*



Birds New Zealand

# Mentioned most often?







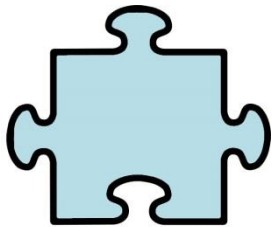
# The challenges

- Working towards shared goals?
- Reporting to reflect values/interests?
- Learning what works and what doesn't?





Making best use of existing data



# **HARMONISING INDICATORS FOR REPORTING**

★ What types of  
bird data do  
you want?



## DATA TYPES



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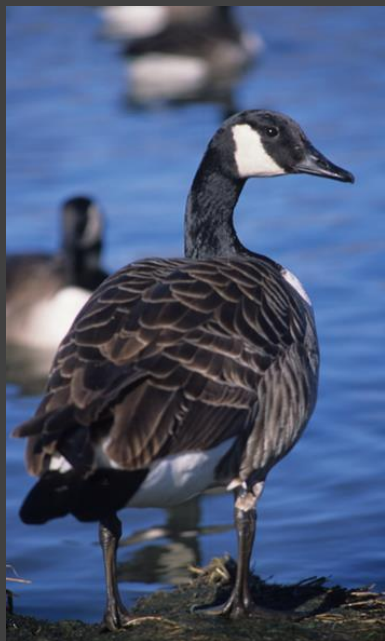
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Keven Drew

“...the abundance and distribution are key aspects for us”

Biosecurity manager

## DATA TYPES



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*John Hunt*

“It’s generational for me;  
what the general trend is....  
Over 25 years perhaps  
because you get aberrations  
in the short term.”

Primary producer in Hawkes Bay

## DATA TYPES



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# TYPES OF DATA

People were broadly interested in five types of bird monitoring data



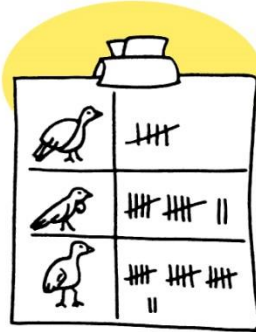
Where does a species occur?

- presence/absence
- sightings
- occupancy



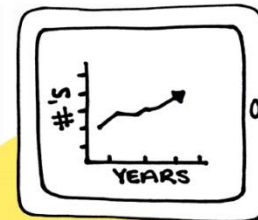
What is the geographic extent of a species?

- distribution



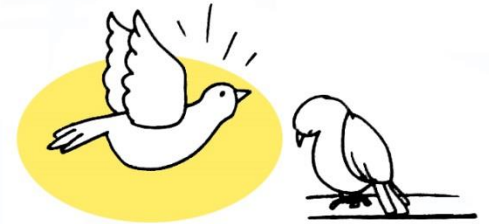
How abundant is a species?

- counts
- numbers
- total count
- abundance
- flock size
- males, females, nests, chicks
- cohorts



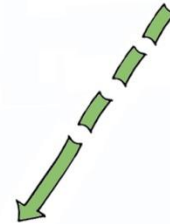
What are the trends over time?

- changes in:
- presence/absence
  - counts of a species
  - condition/health of a species or individual



Is species in good condition?

- health of traditional game species





# DATA SOURCES



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*Keven Drew*

“...we don't have regional monitoring – it's just about time, ongoing and indefinite, watching trends”

Biodiversity manager from a regional council

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*Catriona MacLeod*

“....we have a programme  
to bring tūī back to  
Hamilton.....we do  
management but no  
regional assessment of tūī”

Biodiversity manager from a regional council

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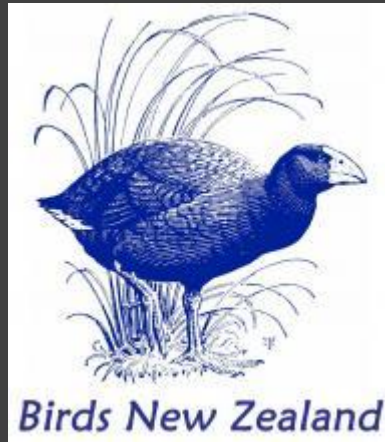
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“The ornithological society  
leads most of the studies ....  
We don’t have any monitoring  
programmes at all”

Biodiversity manager from a regional council

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MANAGERS,  
PROFESSIONALS



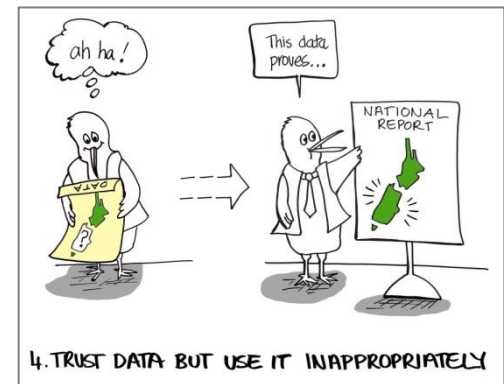
BIOSECURITY  
MANAGERS,  
PROFESSIONALS



GOVERNMENT  
POLICY ADVISERS



# Data challenges





# Data challenges







*John Hunt*

“ ..... the big issue ....  
is that most of the  
observations that are  
being collected aren't  
going into any database”

Biodiversity manager from a regional council

## DATA SOURCES



MĀORI



COMMUNITY



CITIZEN  
VOLUNTEERS



PRIMARY PRODUCERS,  
LAND/ RESOURCE  
MANAGERS



BIODIVERSITY  
SCIENTISTS  
MANAGERS,  
PROFESSIONALS



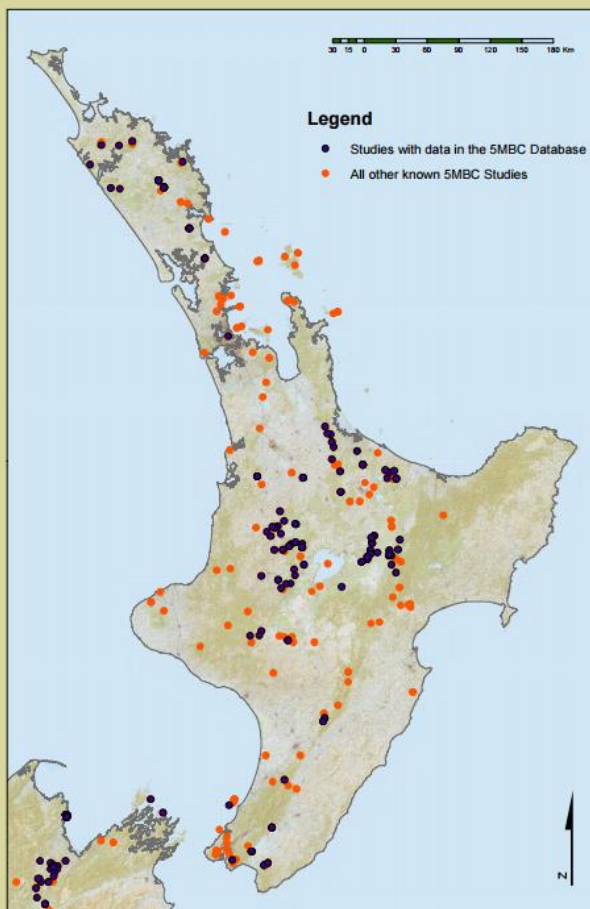
BIOSECURITY  
MANAGERS,  
PROFESSIONALS



GOVERNMENT  
POLICY ADVISERS



# Data challenges

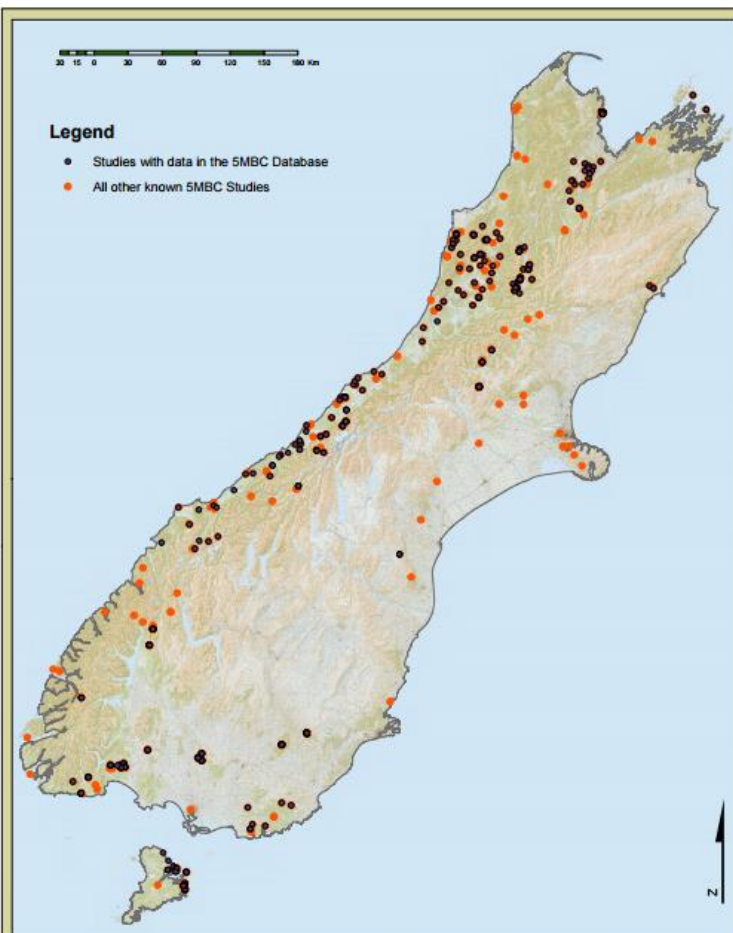


North Island Five-Minute Bird Count Studies



Department of Conservation  
*Te Papa Atawhai*

May 2012  
R&D, Christchurch



South Island Five-Minute Bird Count Studies



Department of Conservation  
*Te Papa Atawhai*

May 2012  
R&D, Christchurch



# Data challenges



2. AWARE OF DATA SOURCE BUT CAN'T ACCESS IT



John Hunt

“ Having to pay for data  
..... makes accessing  
that data harder”

Biodiversity manager from a regional council

## DATA SOURCES



MĀORI



COMMUNITY



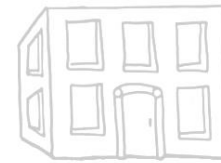
CITIZEN  
VOLUNTEERS



PRIMARY PRODUCERS,  
LAND/ RESOURCE  
MANAGERS



BIODIVERSITY  
SCIENTISTS  
MANAGERS,  
PROFESSIONALS



BIOSECURITY  
MANAGERS,  
PROFESSIONALS



GOVERNMENT  
POLICY ADVISERS





*Morgan Coleman*

“...there is so much information, but not in one place”

Primary producer in Hawke's Bay

## DATA SOURCES



MĀORI



COMMUNITY



CITIZEN  
VOLUNTEERS



PRIMARY PRODUCERS,  
LAND/ RESOURCE  
MANAGERS



BIODIVERSITY  
SCIENTISTS  
MANAGERS,  
PROFESSIONALS



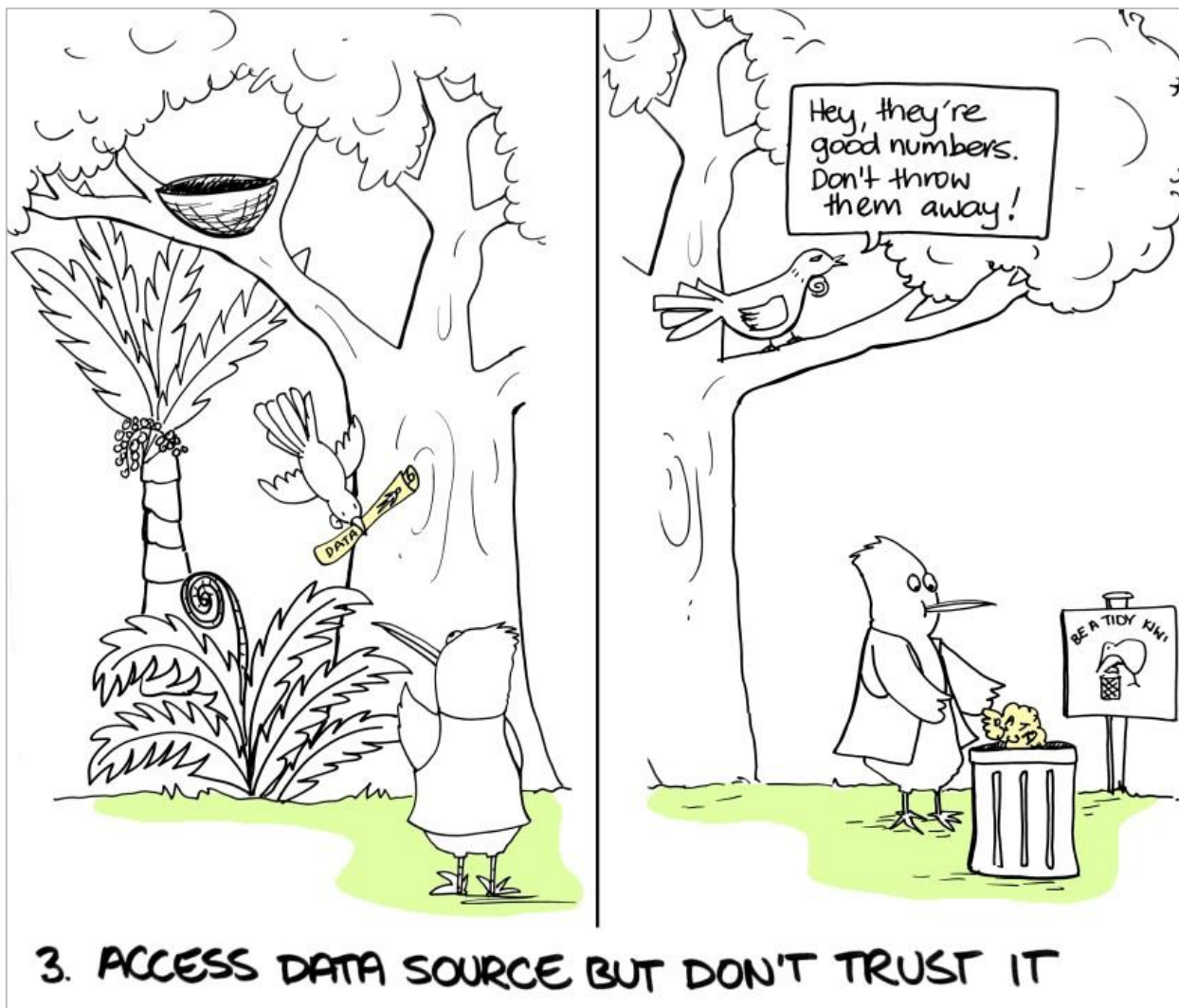
BIOSECURITY  
MANAGERS,  
PROFESSIONALS



GOVERNMENT  
POLICY ADVISERS



# Data challenges





*Morgan Coleman*

“The trustworthiness of the data would have to come back to the ability of the people creating it”

Citizen scientist from Christchurch

## DATA SOURCES



MĀORI



COMMUNITY



CITIZEN  
VOLUNTEERS



PRIMARY PRODUCERS,  
LAND/ RESOURCE  
MANAGERS



BIODIVERSITY  
SCIENTISTS  
MANAGERS,  
PROFESSIONALS



BIOSECURITY  
MANAGERS,  
PROFESSIONALS



GOVERNMENT  
POLICY ADVISERS



*Morgan Coleman*

“.... reliable data, published from a trustworthy source: one that’s published, from a source you would know....had that training”

Biodiversity manager from a regional council

## DATA SOURCES



MĀORI



COMMUNITY



CITIZEN  
VOLUNTEERS



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SCIENTISTS  
MANAGERS,  
PROFESSIONALS



BIOSECURITY  
MANAGERS,  
PROFESSIONALS

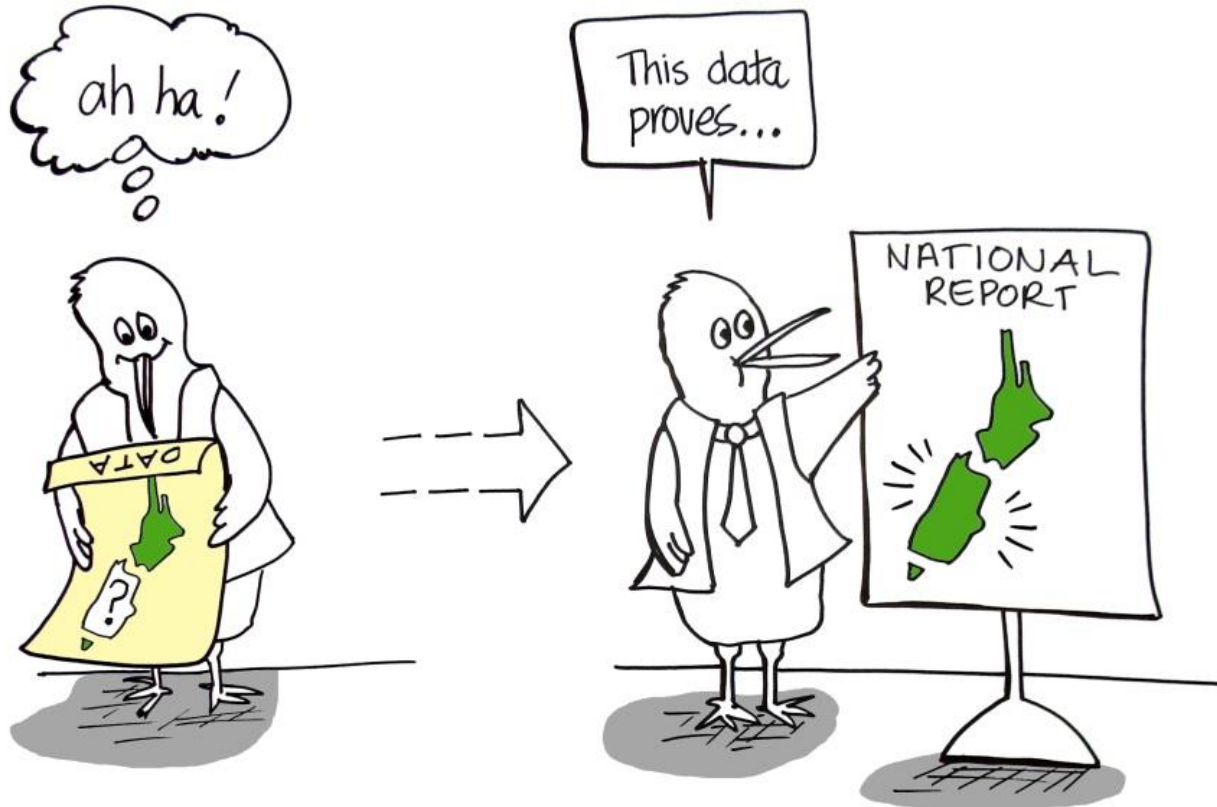


GOVERNMENT  
POLICY ADVISERS





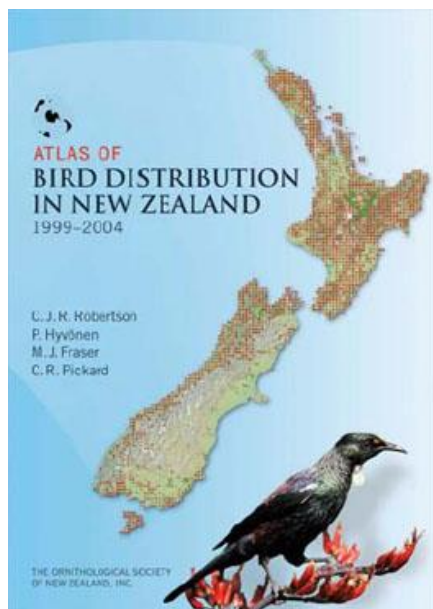
# Data challenges



4. TRUST DATA BUT USE IT INAPPROPRIATELY



# Data challenges



MUSEUM OF NEW ZEALAND  
TE PAPA TONGAREWA

New Zealand  
**eBird**



[Home](#)

[Submit Observations](#)

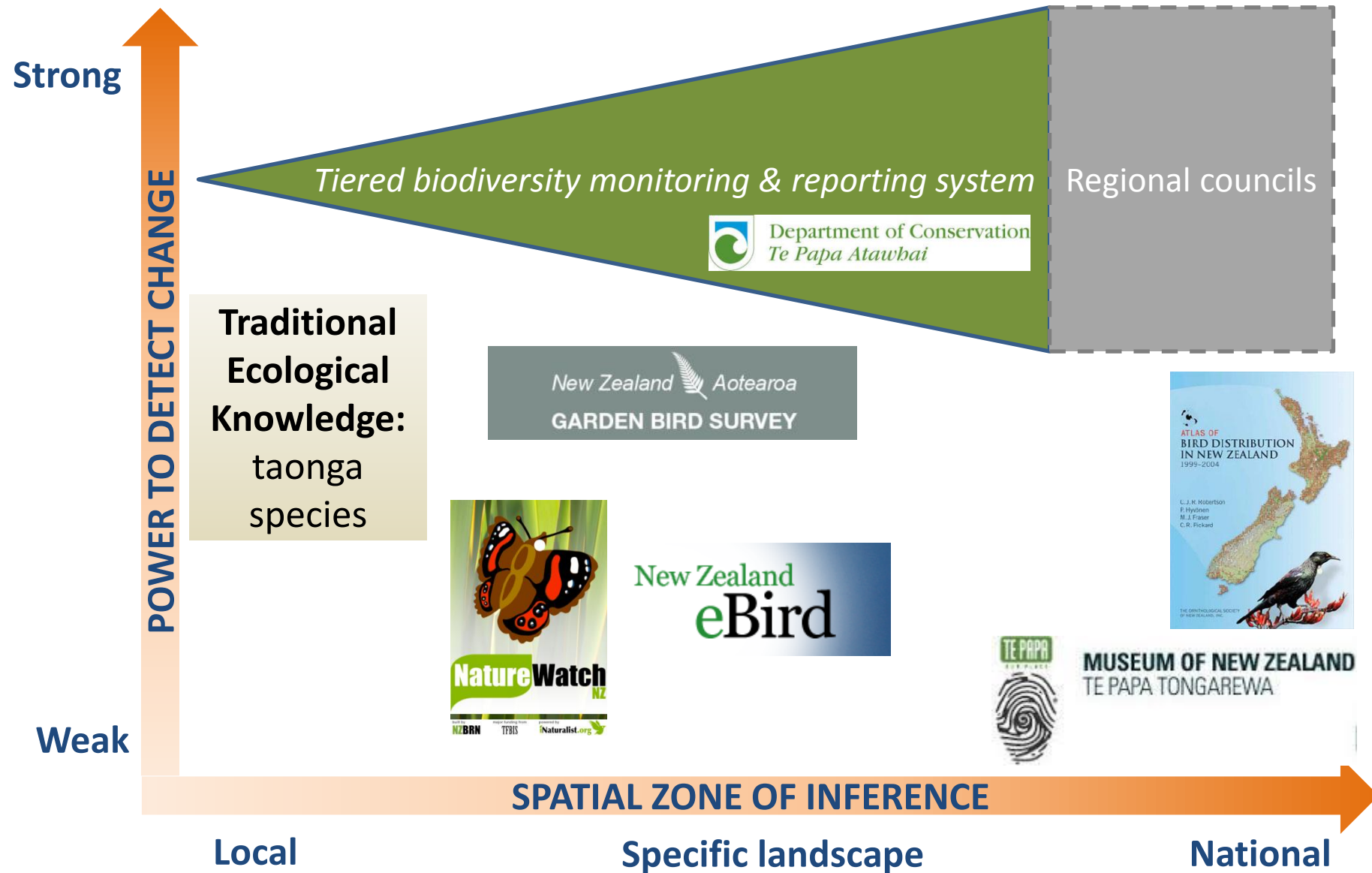
[Explore Data](#)

[My eBird](#)

[Help](#)

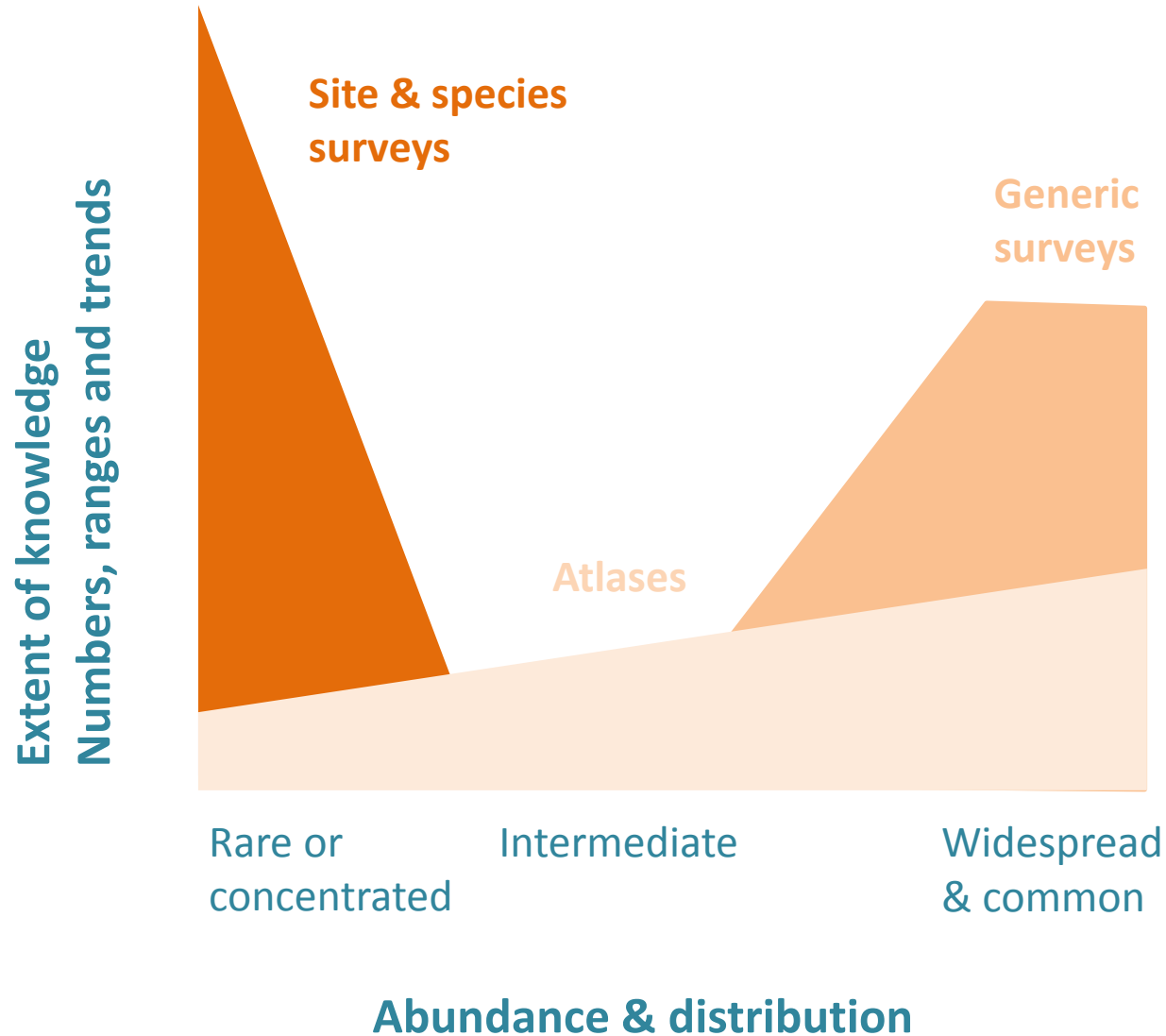


# Data challenges



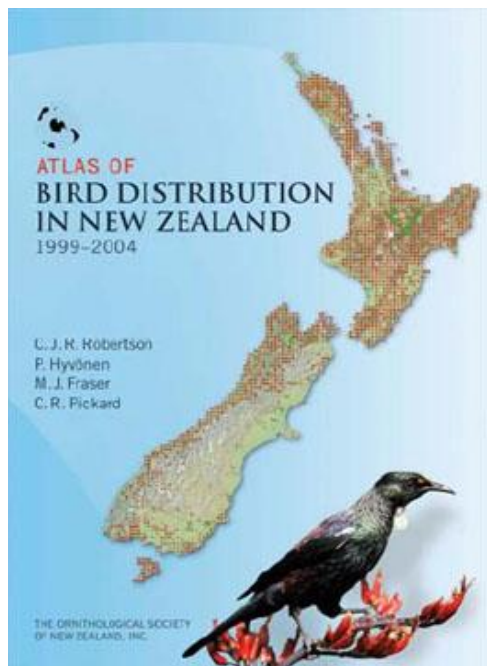


# Data challenges





# ‘State of Birds’ Reporting



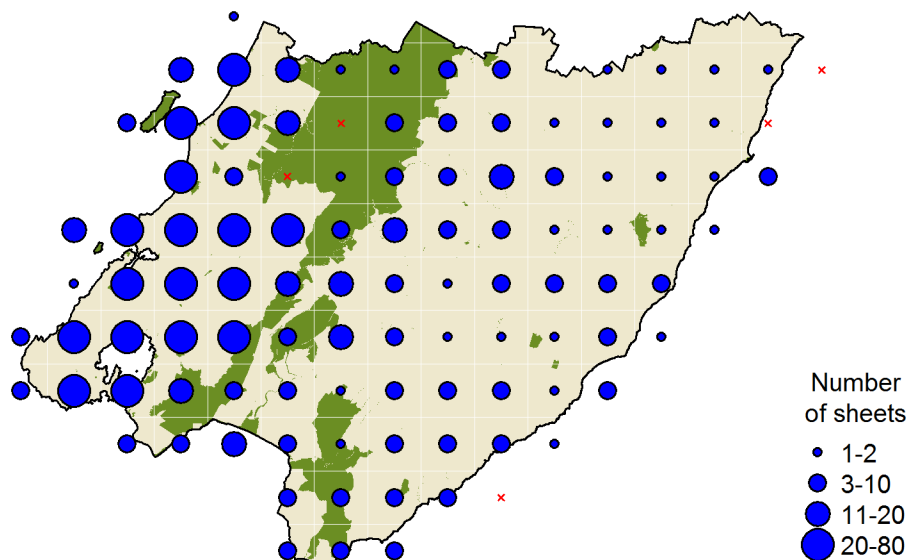
Change in species  
distributions?

**eBird**  
2008-2014

# 'State of Birds' Reporting

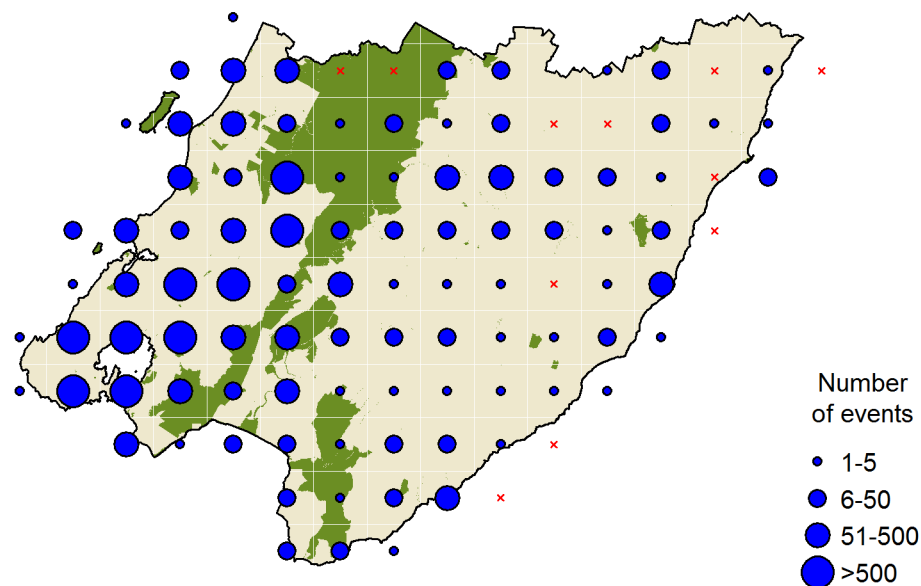


Atlas

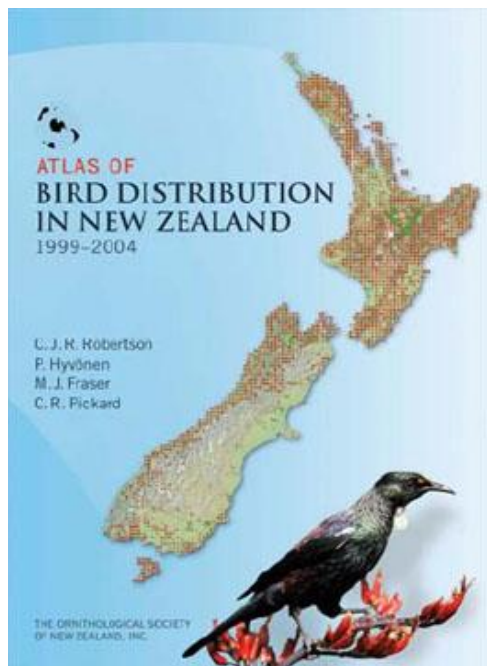


eBird

eBird



# ‘State of Birds’ Reporting



Change in species  
distributions?

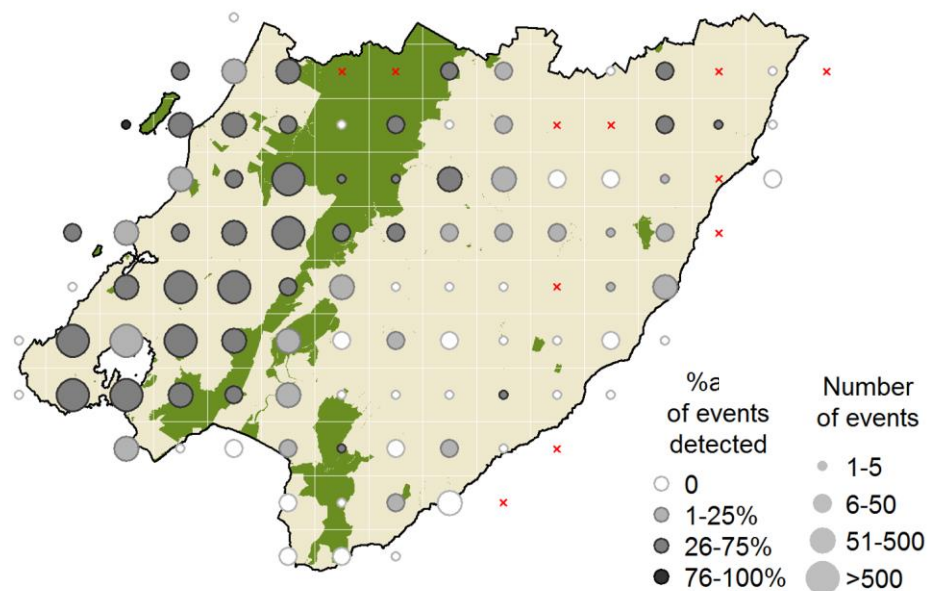
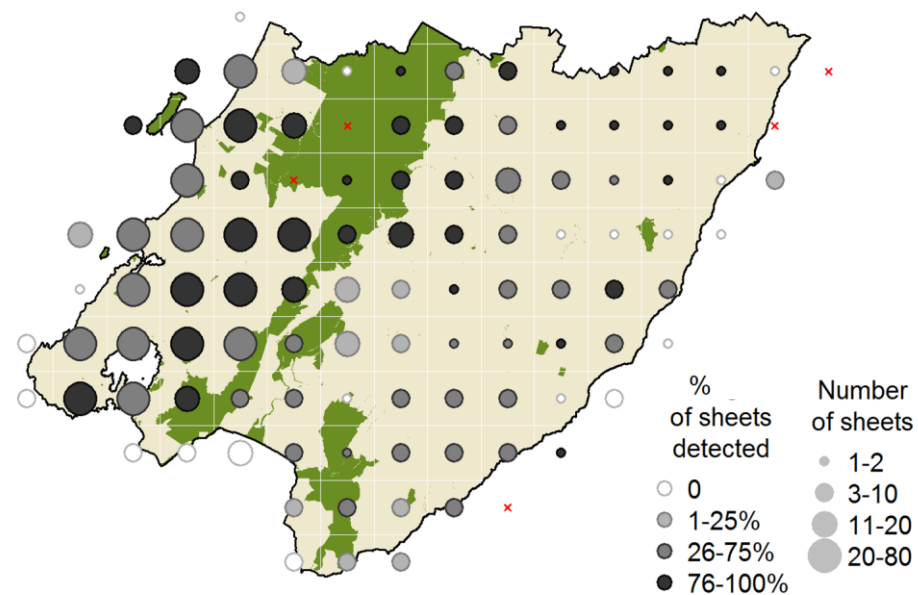


**eBird**  
2008-2014

# 'State of Birds' Reporting



(CC) Sid Mosdell



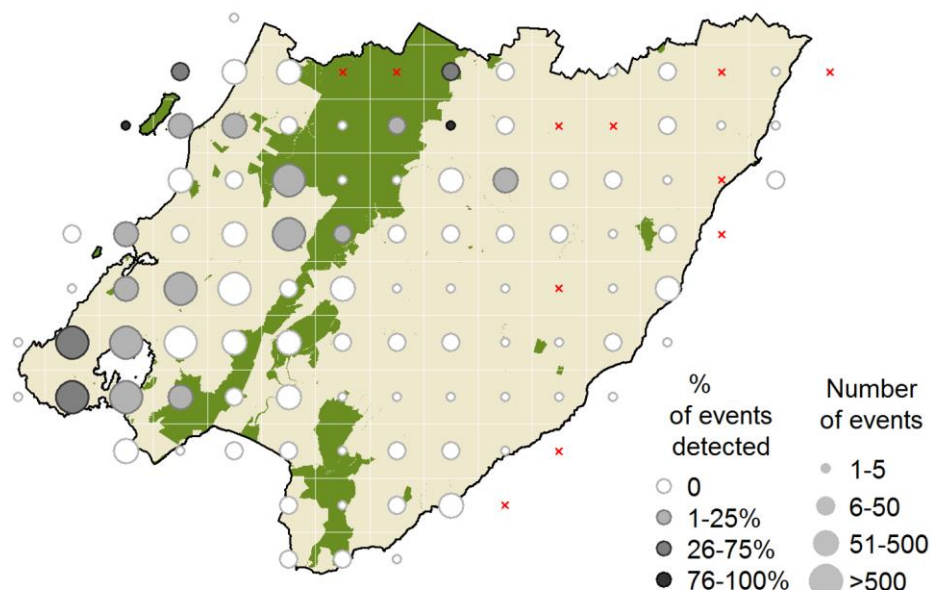
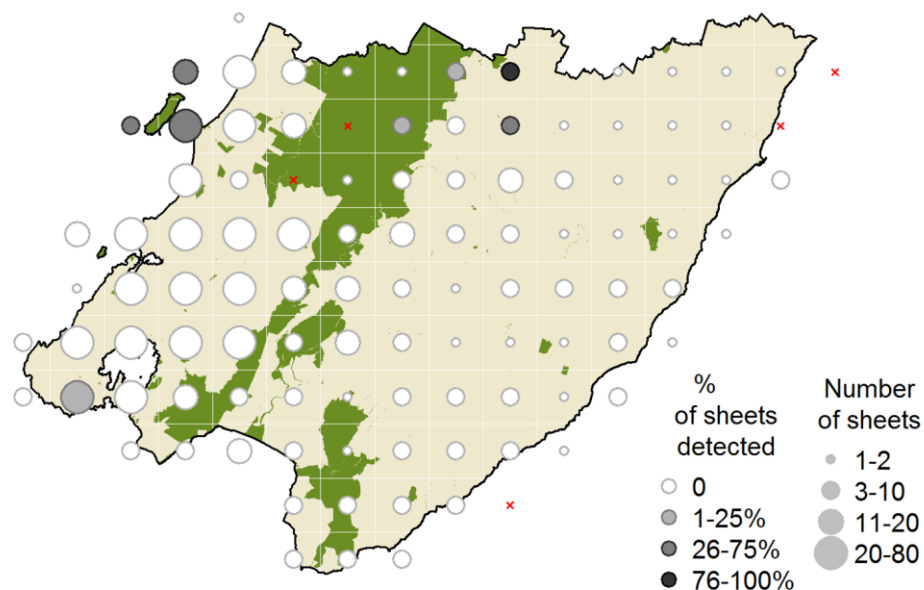


# 'State of Birds' Reporting



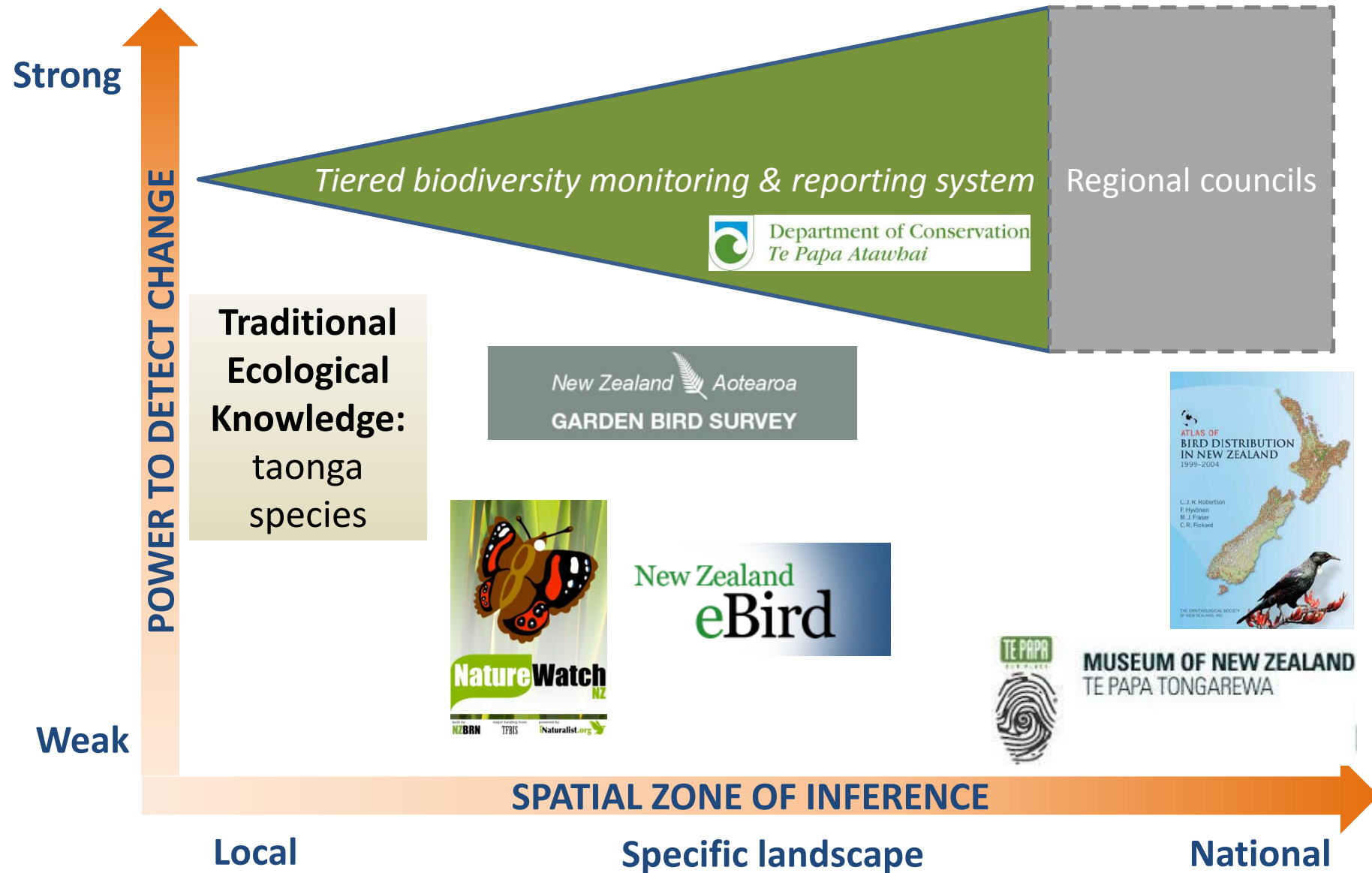
eBird

(CC) Kahuroa



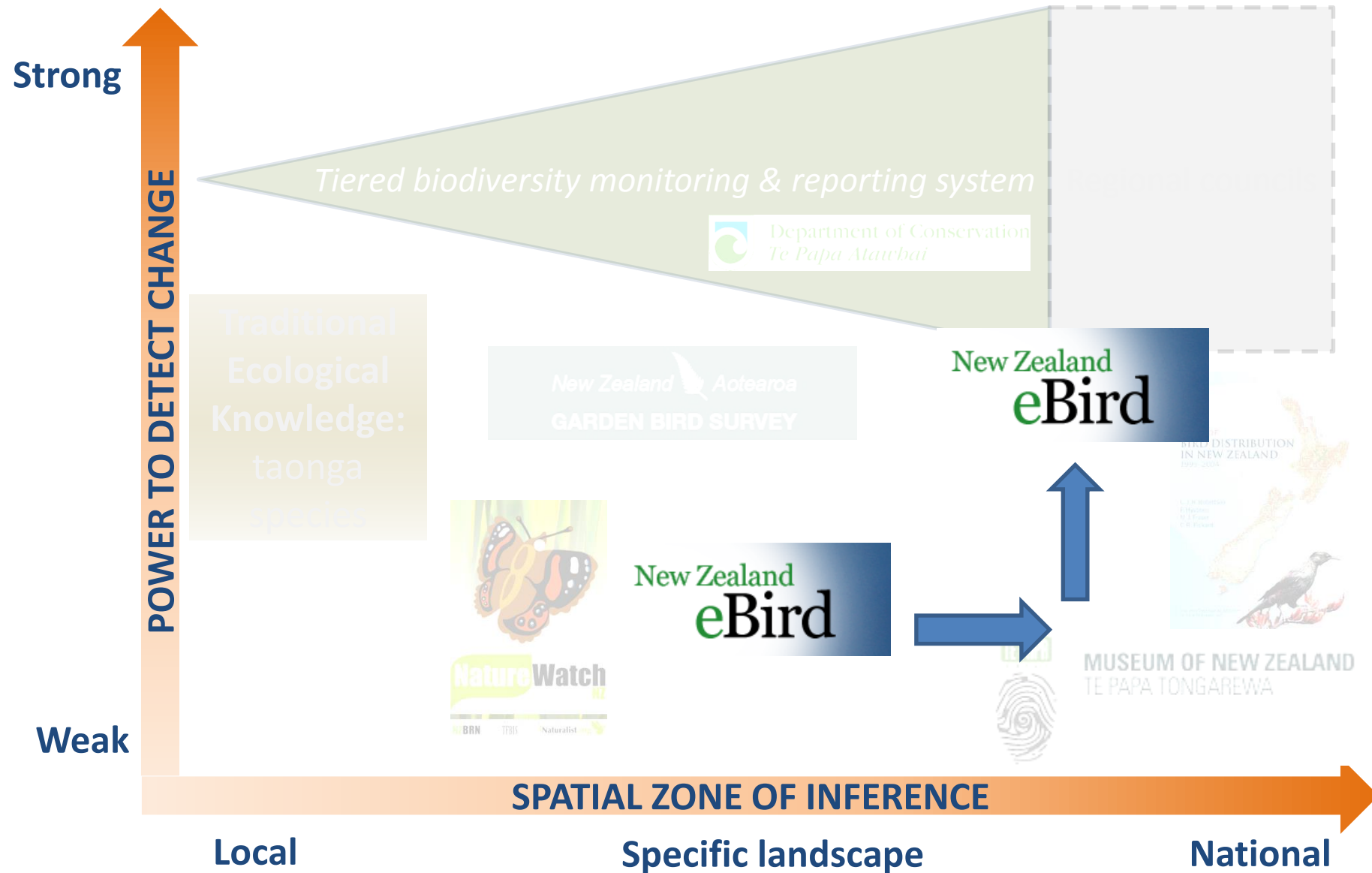


# Data challenges

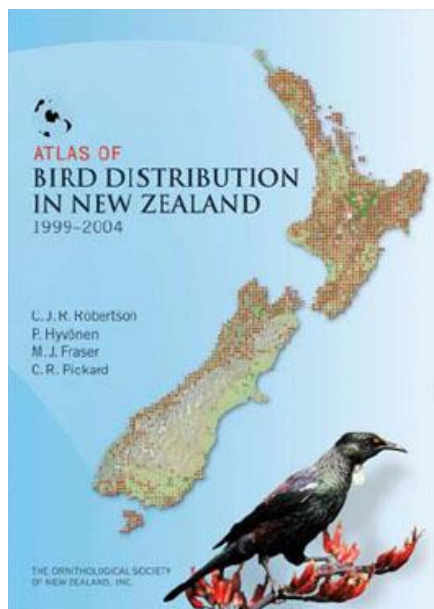




# Data challenges



# ‘State of Birds’ Reporting



eBird

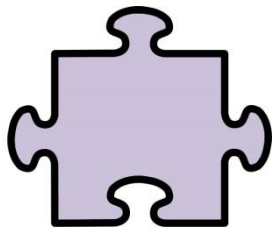


Department of Conservation  
*Te Papa Atawhai*





Tailoring reporting to reach different audiences



# IMPROVING COMMUNICATION

★ What type of bird reports do you find most accessible & useful?



## COMMUNICATION



MĀORI



COMMUNITY



CITIZEN  
VOLUNTEERS



PRIMARY PRODUCERS,  
LAND/ RESOURCE  
MANAGERS



BIODIVERSITY  
SCIENTISTS  
MANAGERS,  
PROFESSIONALS



BIOSECURITY  
MANAGERS,  
PROFESSIONALS



GOVERNMENT  
POLICY ADVISERS



*Catriona MacLeod*

“words put you to sleep”

Hapū participant from Hawke’s Bay

## COMMUNICATION



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PROFESSIONALS



BIOSECURITY  
MANAGERS,  
PROFESSIONALS



GOVERNMENT  
POLICY ADVISERS



Keven Drew

“Simple stories that people can relate to.”

Biodiversity manager from a regional council

## COMMUNICATION



MĀORI



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PROFESSIONALS



BIOSECURITY  
MANAGERS,  
PROFESSIONALS



GOVERNMENT  
POLICY ADVISERS





*Keven Drew*

“The internet is amazing.  
We’ll often see a bird and  
find out all about it.”

“The internet is my first  
port-of-call”

Primary producers in Hawke’s Bay

## COMMUNICATION



MĀORI



COMMUNITY



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BIOSECURITY  
MANAGERS,  
PROFESSIONALS



GOVERNMENT  
POLICY ADVISERS



Keven Drew

“we are trying to look at each and every individual species response, but we keep that information to ourselves .... and turn it into a story that is digestible”

Biodiversity manager from a regional council

## COMMUNICATION



MĀORI



COMMUNITY



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VOLUNTEERS



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MANAGERS



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MANAGERS,  
PROFESSIONALS



BIOSECURITY  
MANAGERS,  
PROFESSIONALS



GOVERNMENT  
POLICY ADVISERS



Keven Drew

“Scientists feel professionally compelled to be honest about the caveats – but people don’t want to hear about it”

Biodiversity manager from a regional council

## COMMUNICATION



MĀORI



COMMUNITY



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VOLUNTEERS



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MANAGERS



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SCIENTISTS  
MANAGERS,  
PROFESSIONALS



BIOSECURITY  
MANAGERS,  
PROFESSIONALS



GOVERNMENT  
POLICY ADVISERS



*Cape-to-City*

“It is interesting to read about [bird count reports] but it’s not like advice”

“If the [bird] numbers are dwindling, what can we do, what can everybody do?”

Primary producers from Hawke’s Bay

## COMMUNICATION



MĀORI



COMMUNITY



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VOLUNTEERS



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MANAGERS,  
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MANAGERS,  
PROFESSIONALS



GOVERNMENT  
POLICY ADVISERS

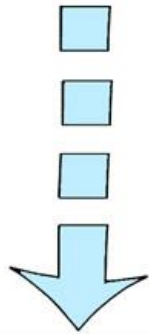


# COMMUNICATING ABOUT BIRDS

What type of reports do you find most accessible & useful?  
Presenting in different ways to reach different audiences

Formal  
scientific  
reports

that are reliable &  
defensible, with the data  
& methods used available  
for experts to critically  
review



Key messages  
& stories

that can readily be  
shared through  
talks / kōrero, conversations /  
kanohi ki te kanohi,  
meetings / hui & the internet





# What matters to people?

## Māori bird names

- Recognise the relationship between tangata whenua and birds
- Characterise local significance and history of birds
- Add a unique NZ flavour to bird reporting



*Courtesy of Pei Jones Collection*



Birds New Zealand

# Māori bird names: most often used?





Birds New Zealand

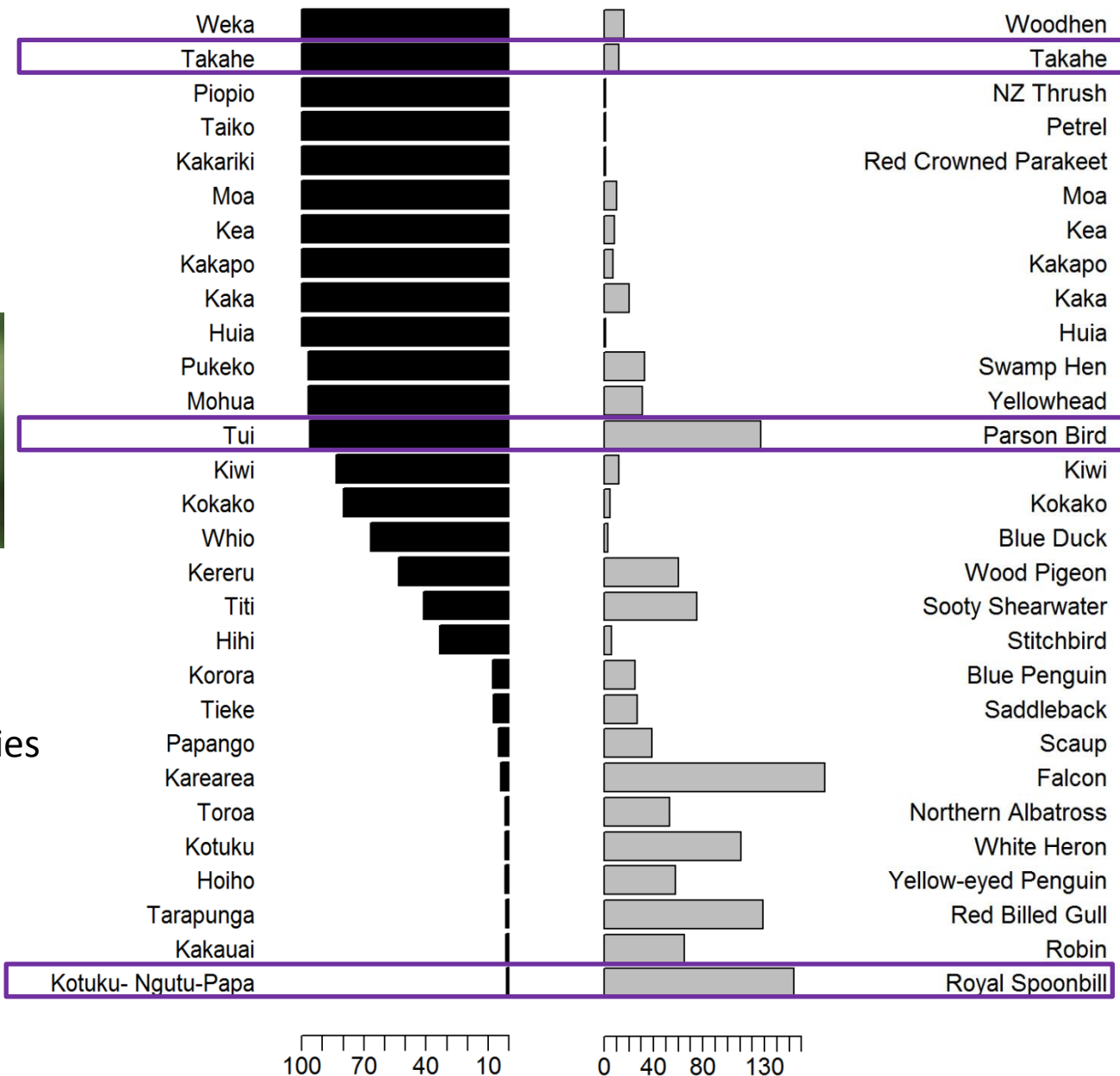


Top 20 species  
Total 200+ species



## Percent mentions in Maori

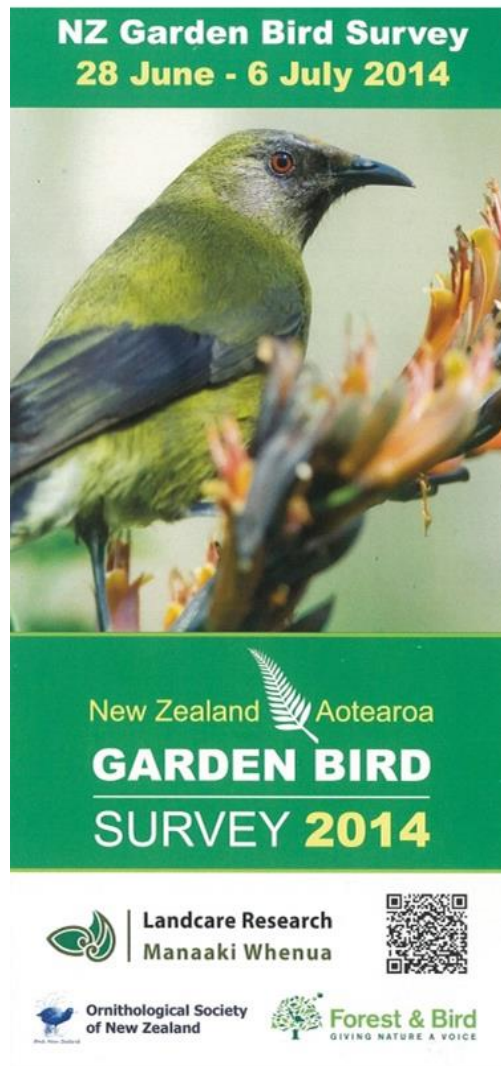
## Number of records







# How to improve?



- > 3000 people took part
- > 60% provided feedback via an online survey.



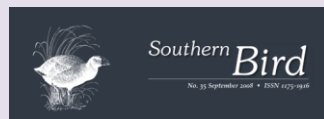
# How to report?

Detailed  
written reports

special issue:  
Advances in tools for bird population  
monitoring in New Zealand



Written summary  
Graphs, Tables



Maps  
Infographics

?

Neutral

Interested

Very interested





# How to report?

## GARDEN BIRD SURVEY

[Instructions](#)  
[Results map 2014](#)  
[Results graph 2014](#)  
[Trends in survey participation](#)  
[Feedback from participants](#)  
[How to identify birds](#)  
[Questions & answers](#)  
[Activities for schools](#)  
[Results from previous years](#)

2014 Results

Graphs

2013 Results

2012 Results

2011 Results

2010 Results

2009 Results

2008 Results

2007 Results

Garden bird surveys overseas

Participants stories

Species by year counts

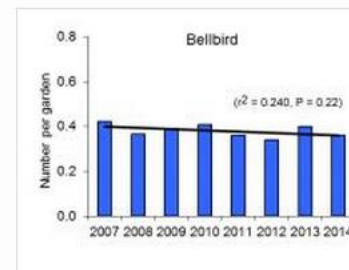
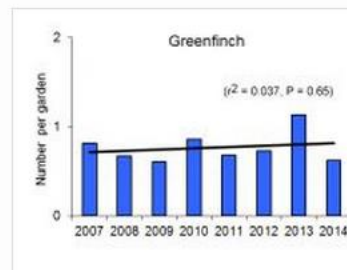
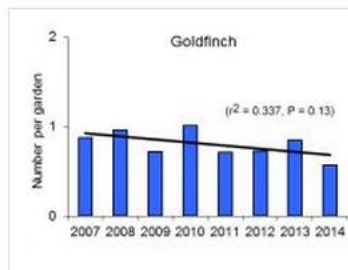
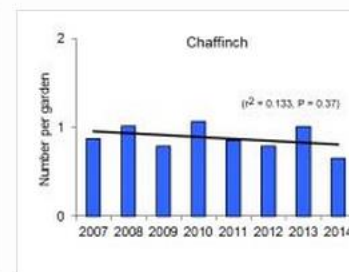
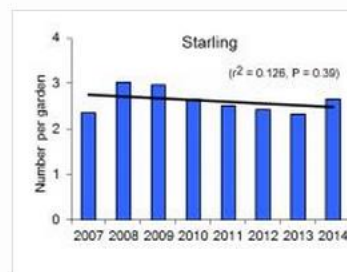
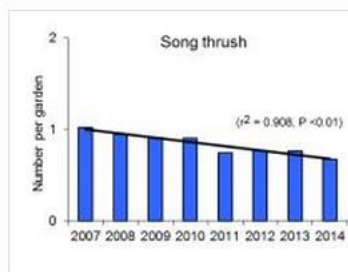
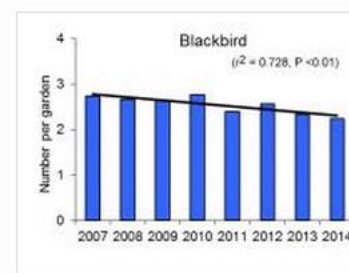
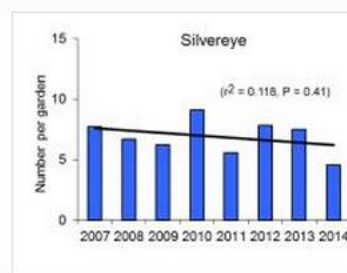
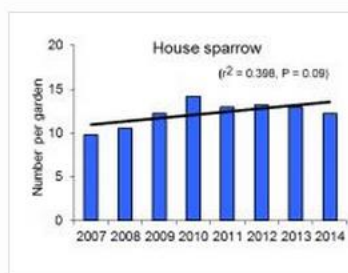
Feeding birds

Garden Bird Survey Blog

[Home](#) » [Our Science](#) » [Plants, animals & fungi](#) » [Animals](#) » [Birds](#) » [Garden bird survey](#) » [Results from previous years](#) » [2014 Results](#) » [Graphs](#)



## GRAPHS OF RESULTS FROM 2014 GARDEN BIRD SURVEY





# How to report?

shinyapps.io

Powered by R Studio

## Garden Bird Survey - National Annual Averages

### What does this app do?

This app allows you to explore the effect of accounting for changes in the number of survey returns from different regions and/or garden-type when calculating the national average for a species.

Select the species you wish to display and then select up to four different methods of calculating the average annual counts.

### Species

Bellbird

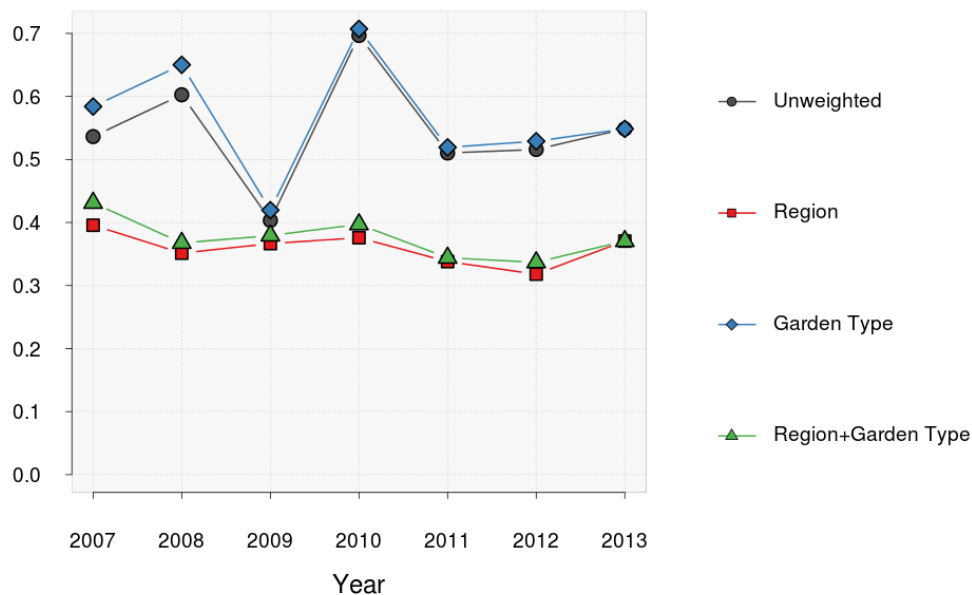


Select the type(s) of annual average that you want to plot

- ☒ Unweighted
- ☒ Region
- ☒ GardenType
- ☒ Region+GardenType



Average  
Bellbird/  
Korimako  
per  
Garden



Visit the Garden Bird Survey [webpage](#)

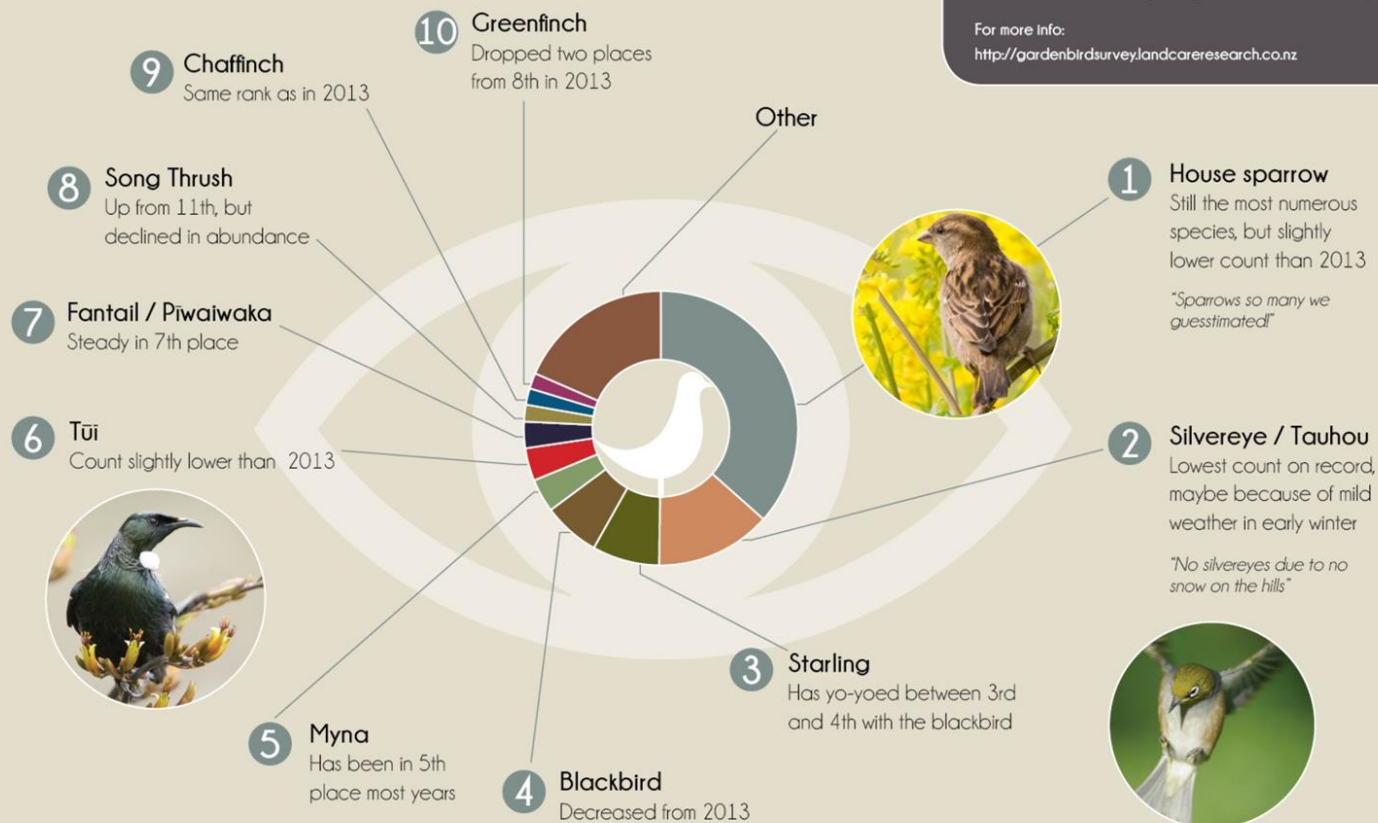


Landcare Research  
Manaaki Whenua



# 2014 Summary

## Top 10 Birds Seen in 2014

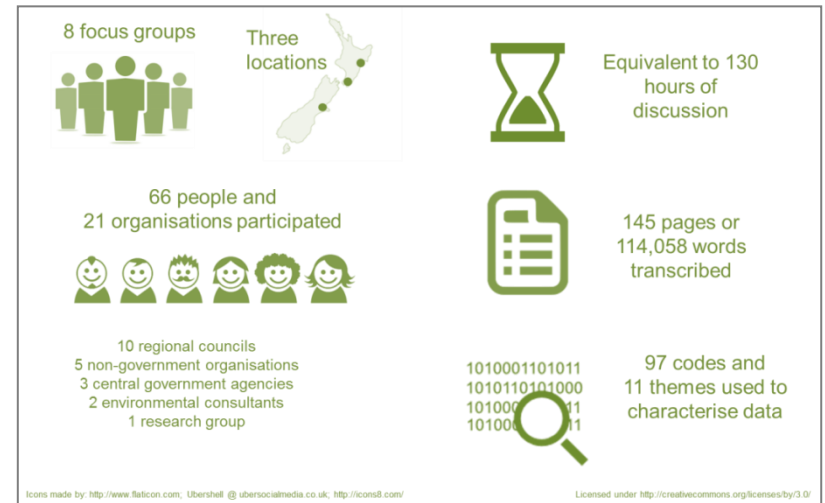
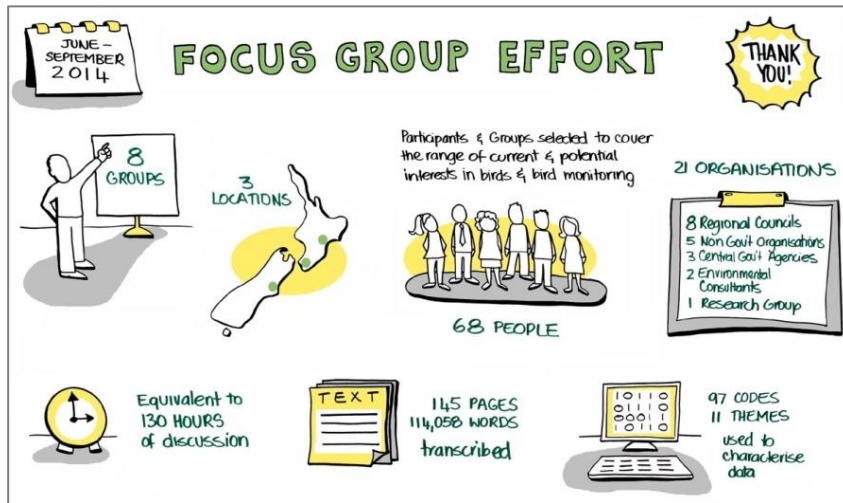


> 106,000 total birds counted  
> 3220 people took part  
75 species detected  
33 birds counted per garden (on average)

For more info:  
<http://gardenbirdssurvey.landcareresearch.co.nz>



# What style?



Casual and fun?

Modern, slick and professional?

**Target audience:**  
General public?

**Target audience:**  
Our peers and clients?



# What style?



EXPLAINERS



MONITORING  
GUIDE



INTERACTIVE  
DATA





# What style?

'Very  
1990s'

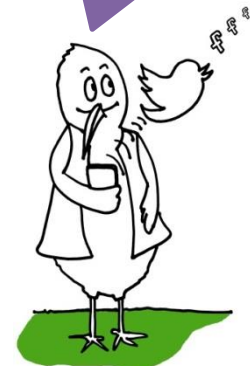
'very cute'

'really  
engaging'

'why isn't the  
kiwi wearing  
a dress'

'why doesn't  
it have any  
trousers on'

'looks like a  
cross  
between a  
human and a  
kiwi'







# What style?

'Too busy'

" ... "

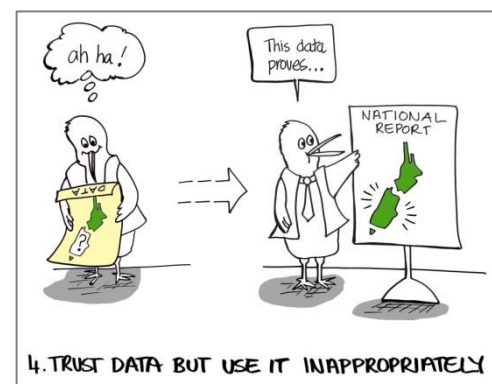
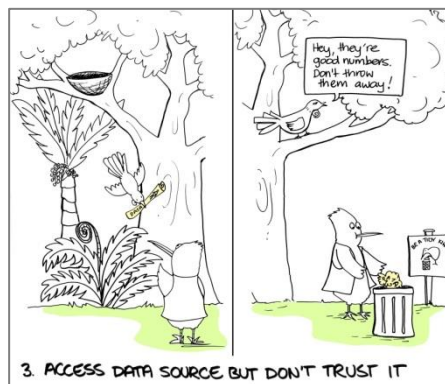
'very cute'

'Don't add  
more  
colour'

'Very  
1990s'

'newspaper  
editorial' feel

'Depends who  
your target  
audience is'

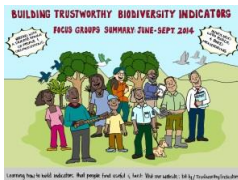


# Learning what works & what doesn't



## People

How to engage them?  
What matters to them?

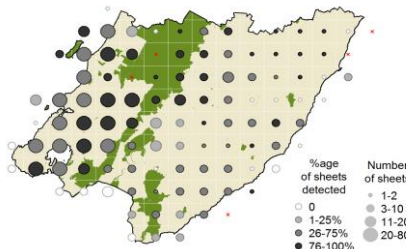


## Data

How to collect it?  
How to use it?

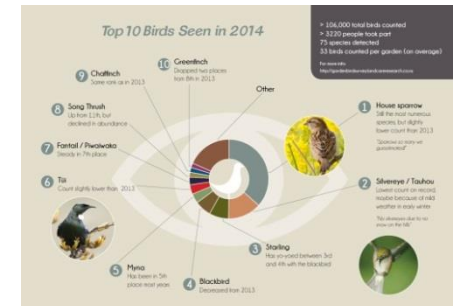


eBird



## Knowledge

How to report it?  
How to communicate it?



# THANK YOU to our research partners & funders!



Birds New Zealand



Landowners & multiple hapū  
from Hawke's Bay

Kāti Huirapa in Otago



Regional Council  
Biodiversity  
Working Group



# Building trustworthy biodiversity indicators



**Landcare Research**  
**Manaaki Whenua**

**fitzgerald applied sociology**



Visit our website: [bit.ly/TrustworthyIndicators](https://bit.ly/TrustworthyIndicators)