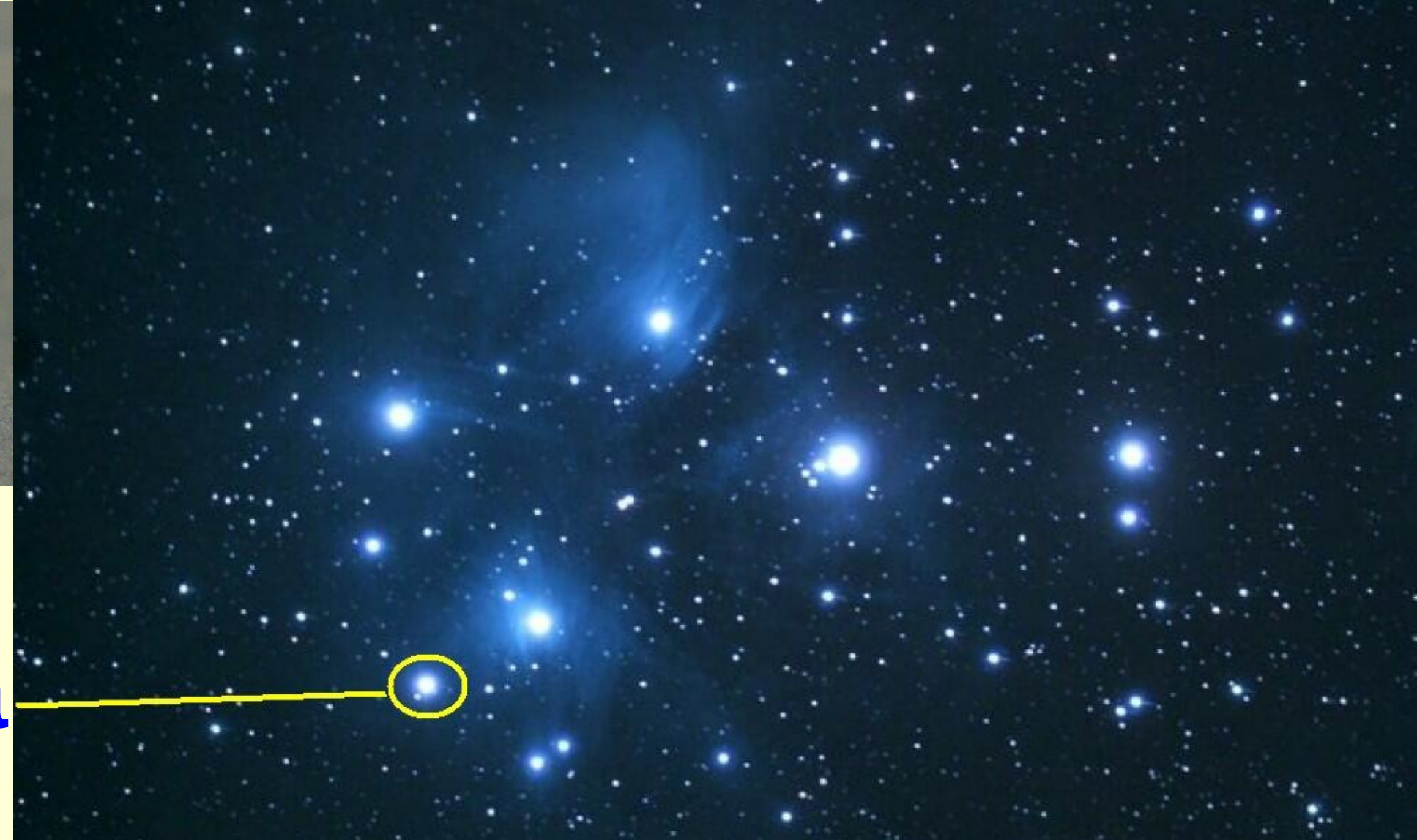




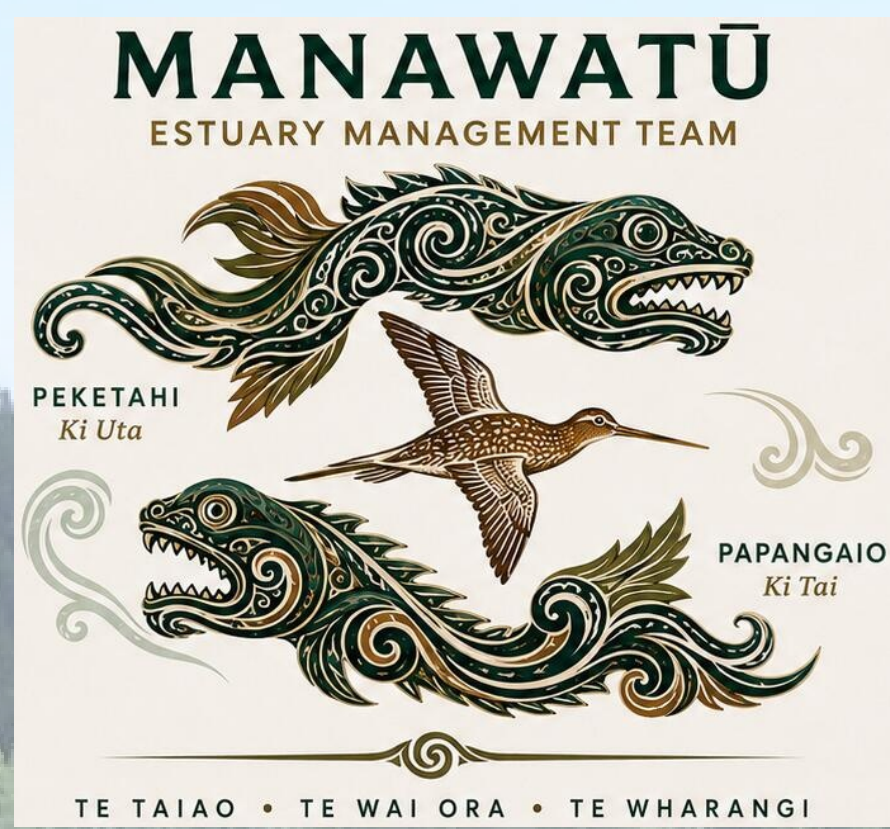
Waitā



Papangaio Te Wharangi Manawatū Estuary Ramsar Site



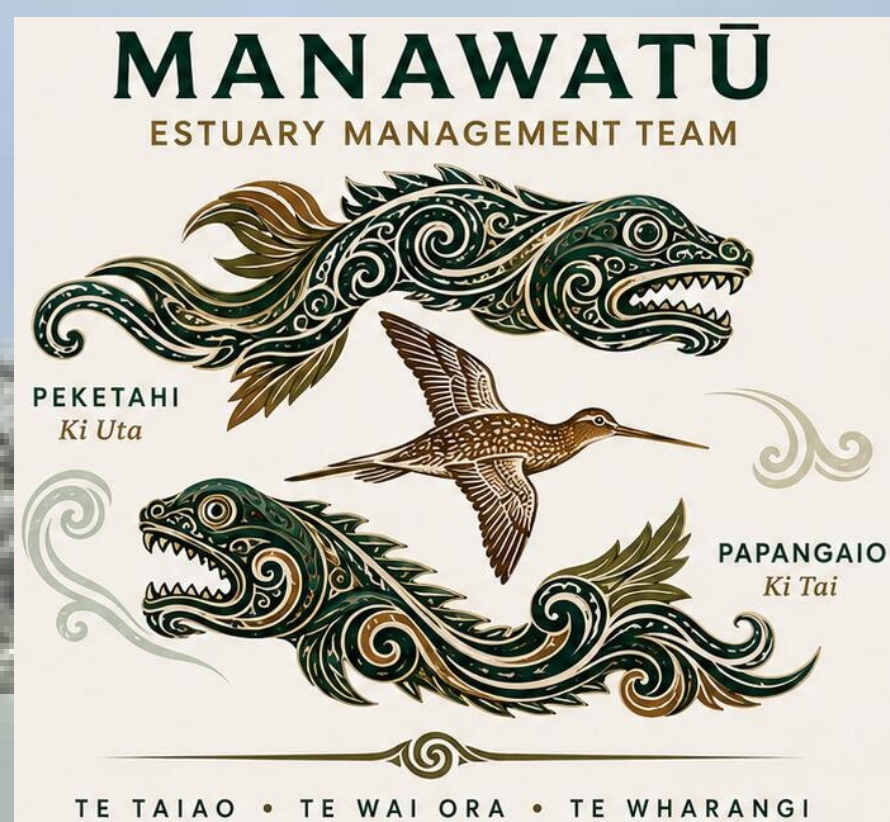
Why does it matter?
What about it is important?
How can you help?



Papangaio Te Wharangi Manawatū Estuary Ramsar Site

***Why** does it matter?
What about it is important?
How can you help?*





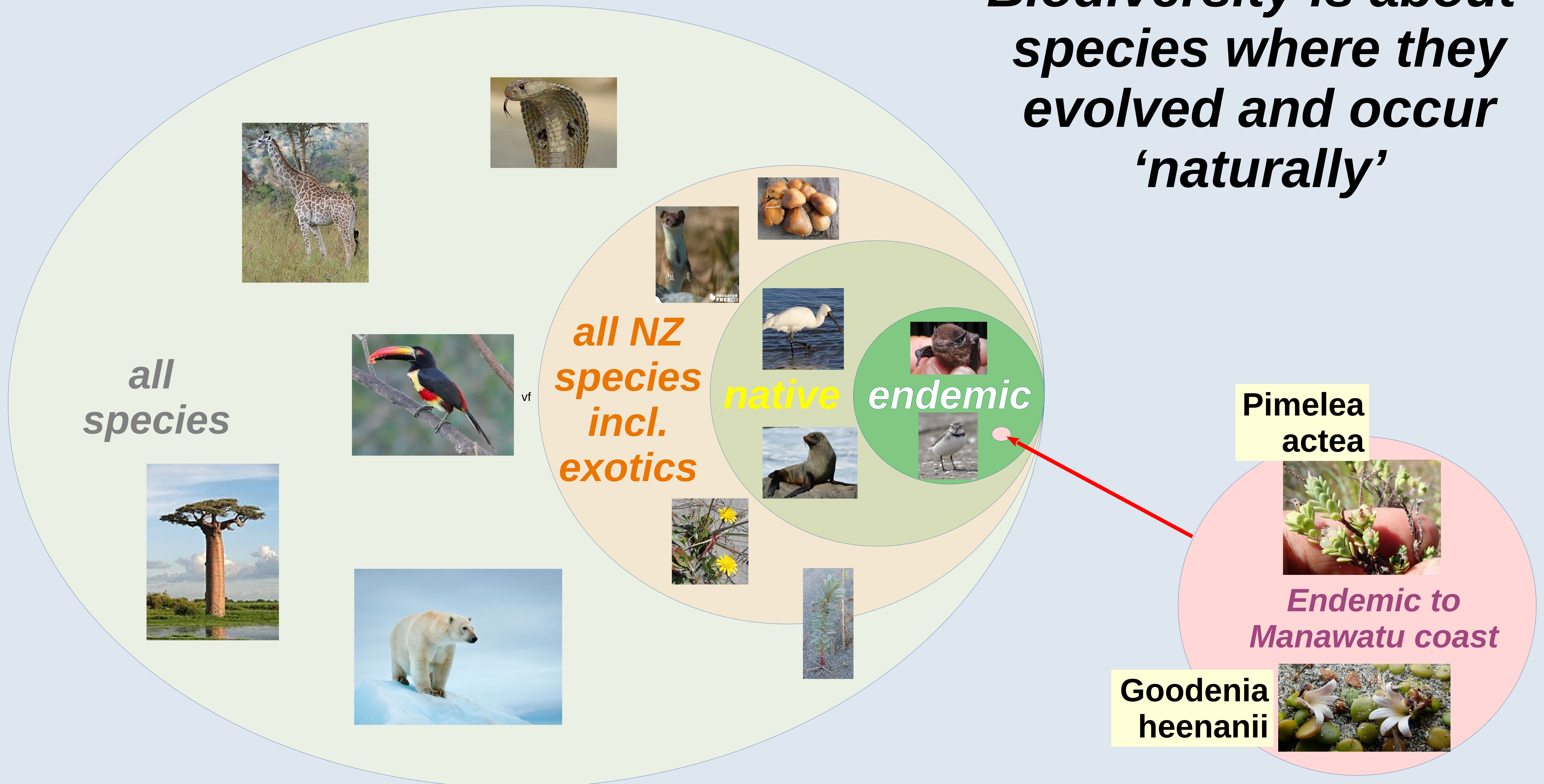
Mā te rongo, ka mōhio
Mā te mōhio ka mārama
Ma te mārama, ka mātau
Ma te mātau, ka ora

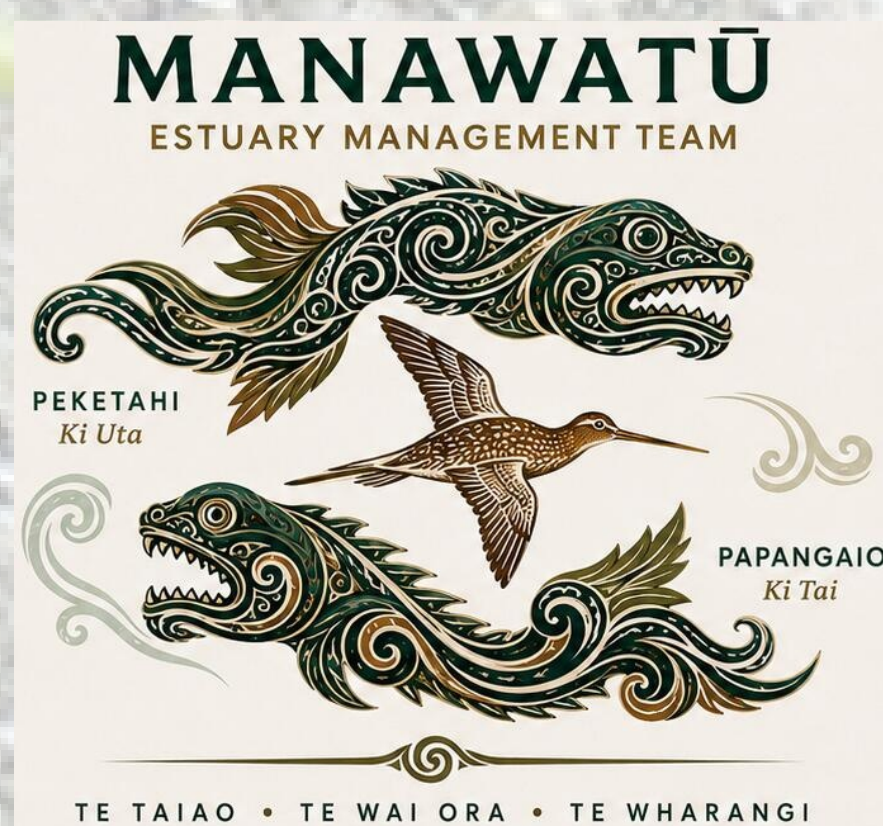
Through the senses comes awareness,
Through awareness comes understanding,
Through understanding comes knowledge,
Through knowledge comes life and well-being



Definitions:

Biodiversity is about species where they evolved and occur 'naturally'





Paparangi Te Wharangi Manawatū Estuary Ramsar Site

***Why* does it matter?**

***Shall we start with science?
Or is this economics?
Or accounting?***

Why biodiversity matters:

- More than 75% of global food crops rely on pollinators, contributing US\$ 235–577B annually to global agricultural output. Species: birds, bees, wasps, thrips, other insects, small mammals....



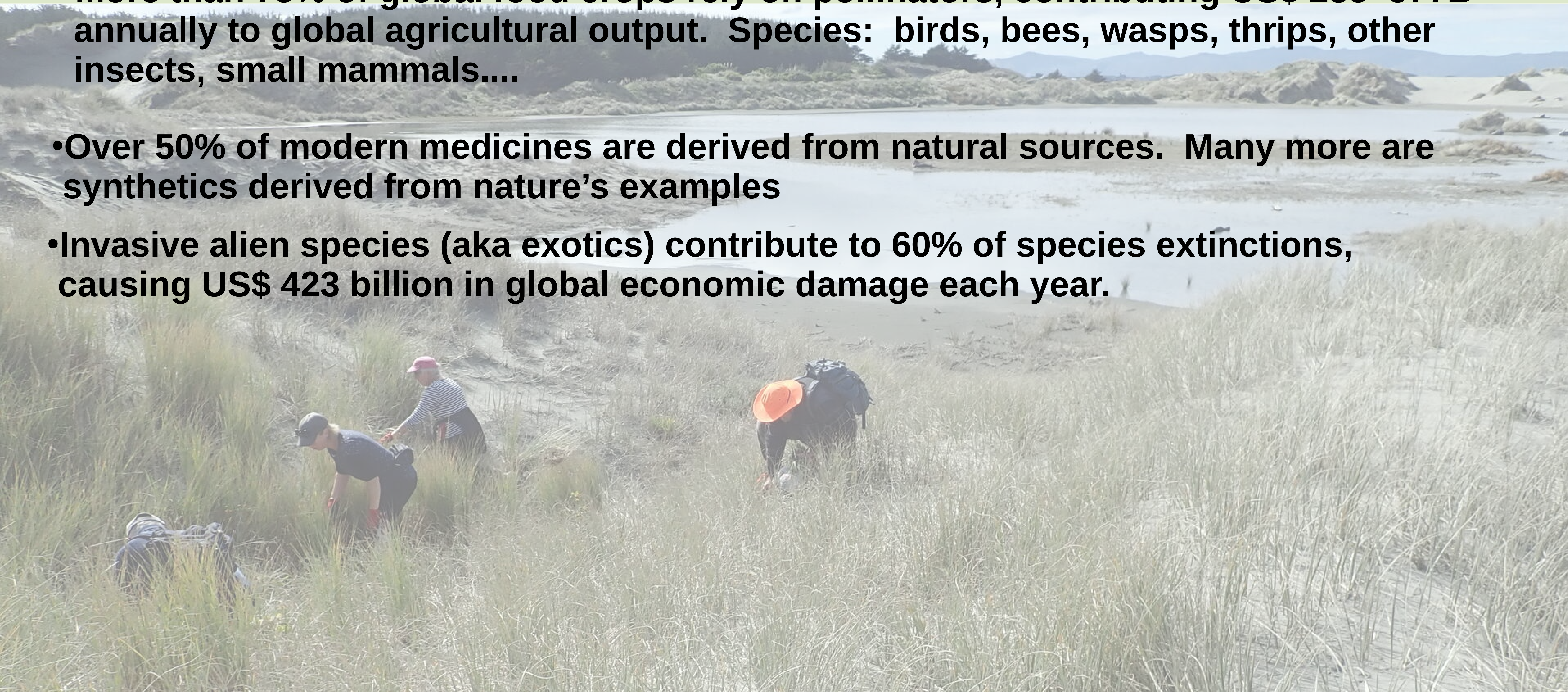
Why biodiversity matters:

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- Over 50% of modern medicines are derived from natural sources. Many more are synthetics derived from nature's examples



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- Invasive alien species (aka exotics) contribute to 60% of species extinctions, causing US\$ 423 billion in global economic damage each year.



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- Forests store 80% of terrestrial biodiversity, absorbing approximately 2.6 billion tonnes of carbon dioxide annually, helping mitigate climate change. Wetlands are 3% of Aotearoa's land area, harbour 25% of native species, and are significantly more effective carbon sinks than forest.
- Healthy ecosystems provide 75% of global freshwater resources, with wetlands playing a key role in water purification. However, since 1970, 35% of wetlands have been lost.

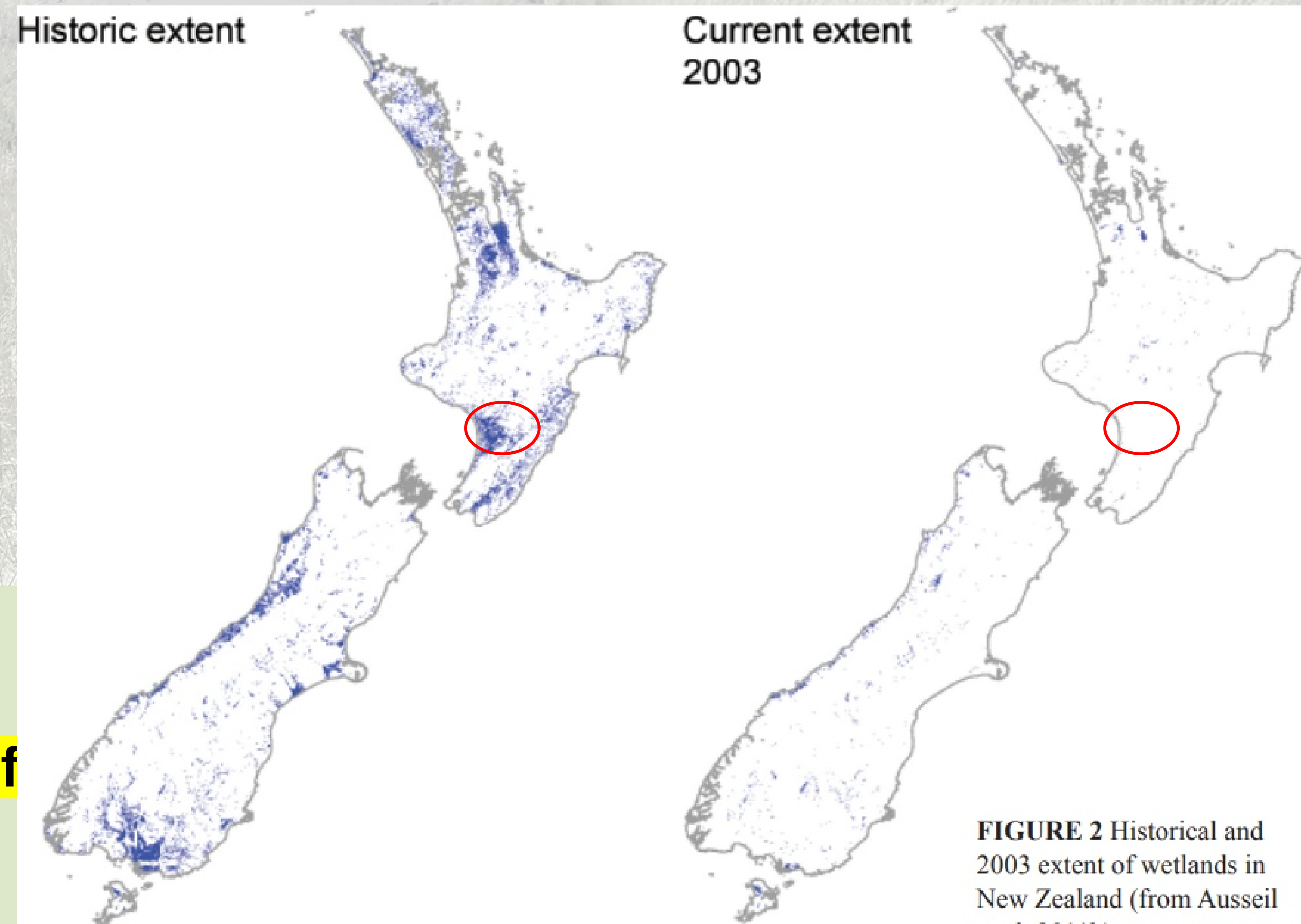
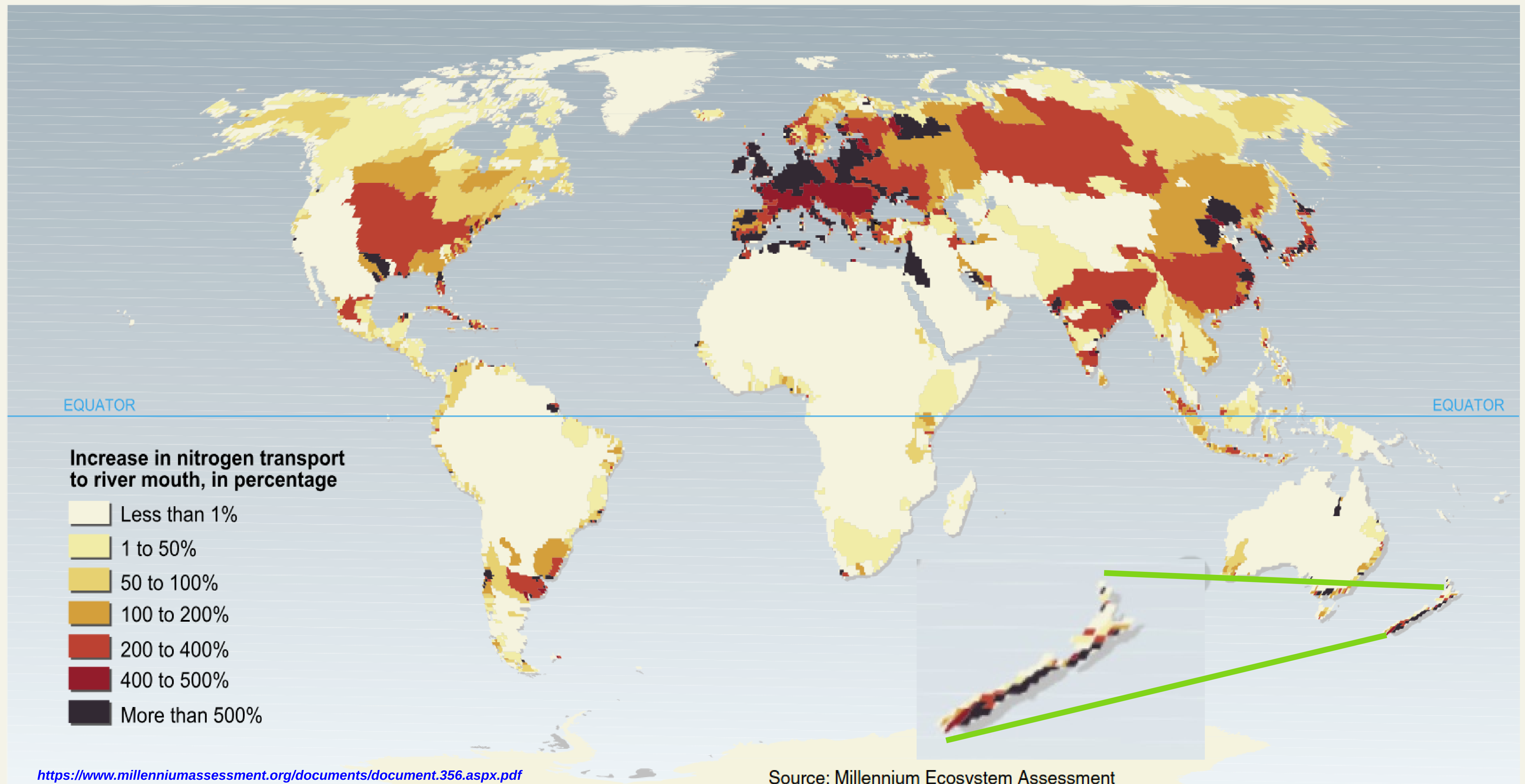


FIGURE 2 Historical and 2003 extent of wetlands in New Zealand (from Ausseil et al. 2011b).

Appendix Figure A.9. CONTRAST BETWEEN CONTEMPORARY AND PRE-DISTURBANCE TRANSPORTS OF TOTAL NITROGEN THROUGH INLAND AQUATIC SYSTEMS RESULTING FROM ANTHROPOGENIC ACCELERATION OF THIS NUTRIENT CYCLE (C7 Fig 7.5)

While the peculiarities of individual pollutants, rivers, and governance define the specific character of water pollution, the general patterns observed for nitrogen are representative of anthropogenic changes to the transport of waterborne constituents. Elevated contemporary loadings to one part of the system (such as croplands) often reverberate to other parts of the system (to coastal zones, for example), exceeding the capacity of natural systems to assimilate additional constituents.



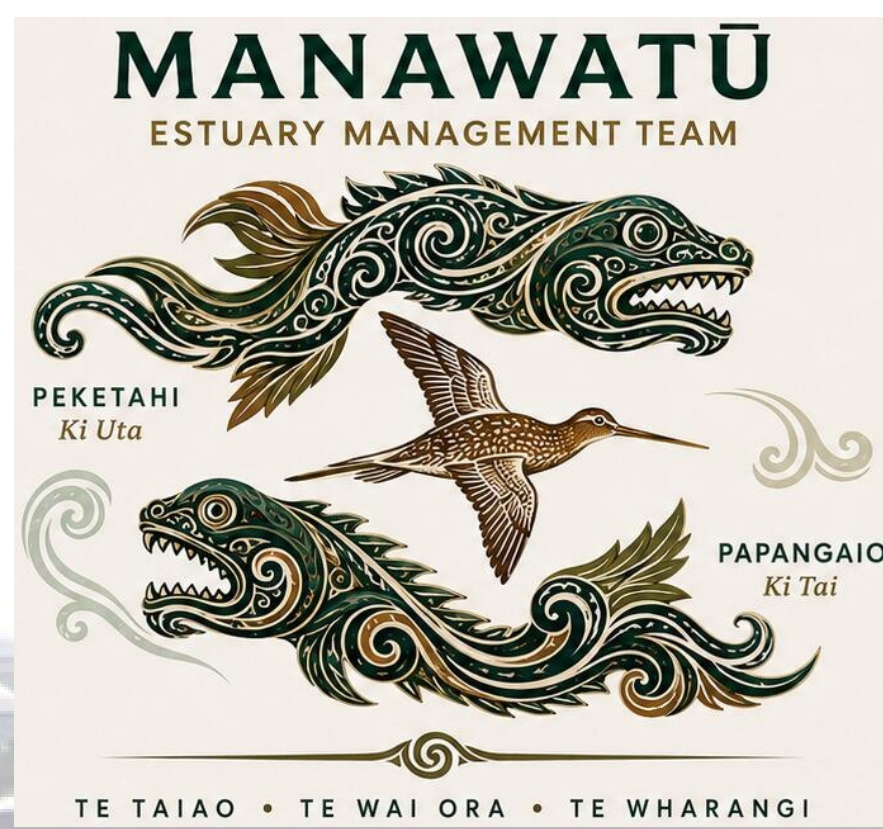
Humankind has not woven the web of life. We are but one thread within it. Whatever we do to the web, we do to ourselves. All things are bound together. All things connect.

Chief Seattle

<https://millstonenews.com/humans-one-thread-in-the-web-of-life/>



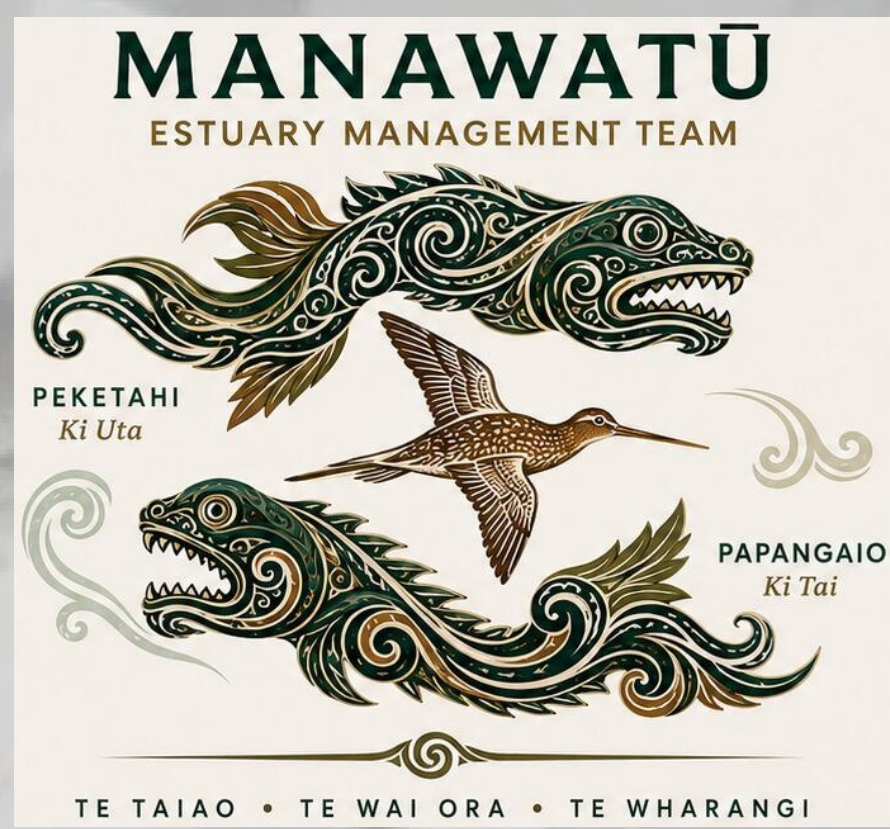
***Biodiversity + ecosystem services
are essential to the entire web of life,
.....including you!***



Papangaio Te Wharangi Manawatū Estuary Ramsar Site

***Why** does it matter?*

How might we look at this differently?



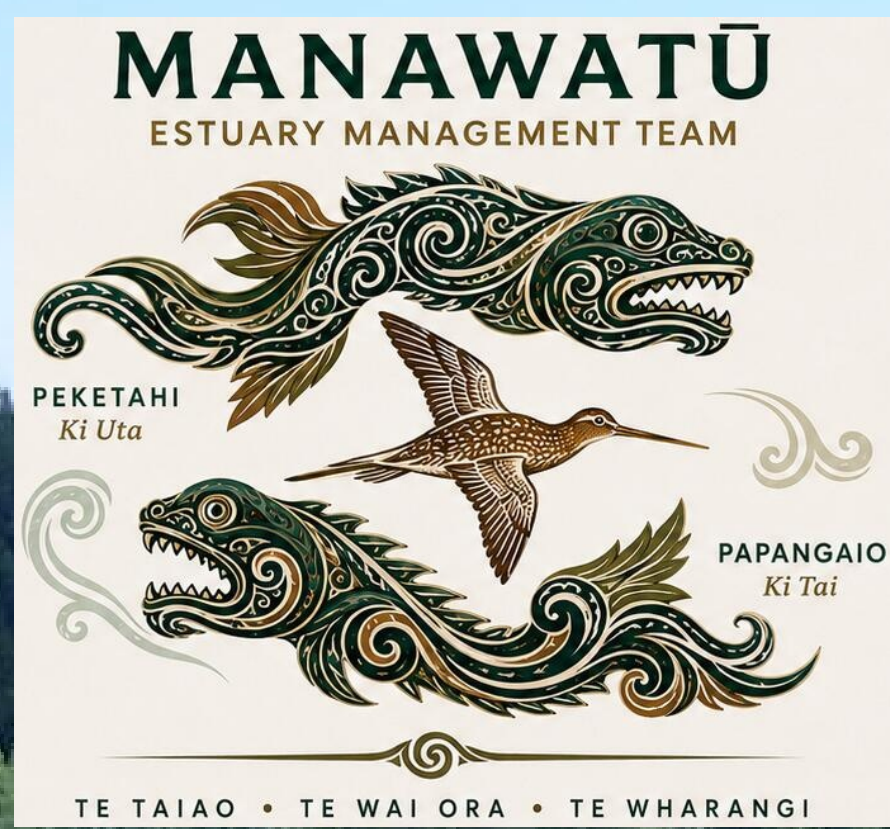
You don't learn mātauranga, you become part of it and in time you come to see and understand what is needed to ensure that the balance is maintained.

Because of this active connection to the environment you only gain mātauranga specific to the environment in which you are immersed

Robert (Pā) McGowan 2020

<https://www.doc.govt.nz/globalassets/documents/conservation/biodiversity/anzbs-2020-biodiversity-report.pdf>



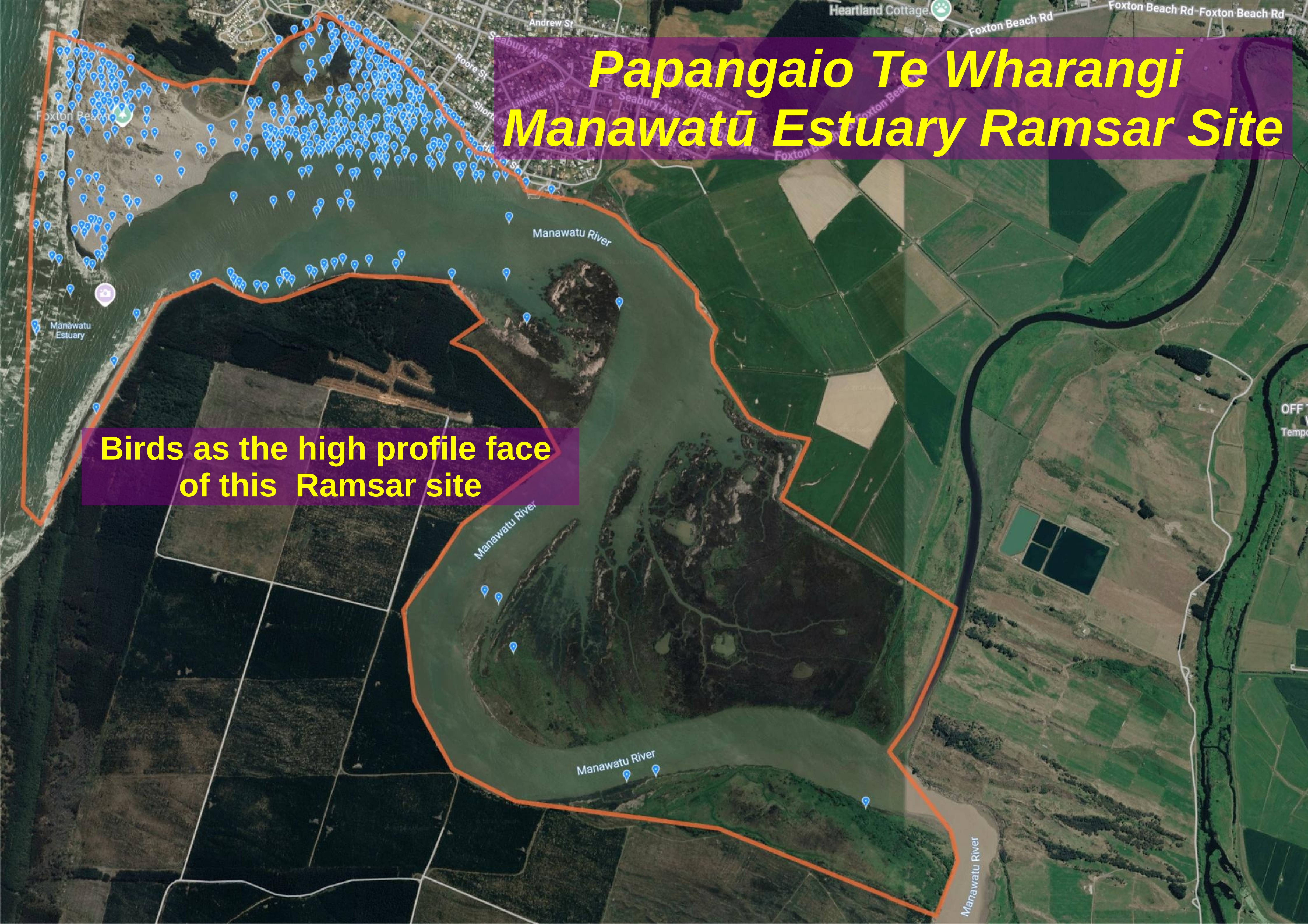


Papangaio Te Wharangi Manawatū Estuary Ramsar Site

***What** about it is important?*

Papangaio Te Wharangi Manawatū Estuary Ramsar Site

**Birds as the high profile face
of this Ramsar site**



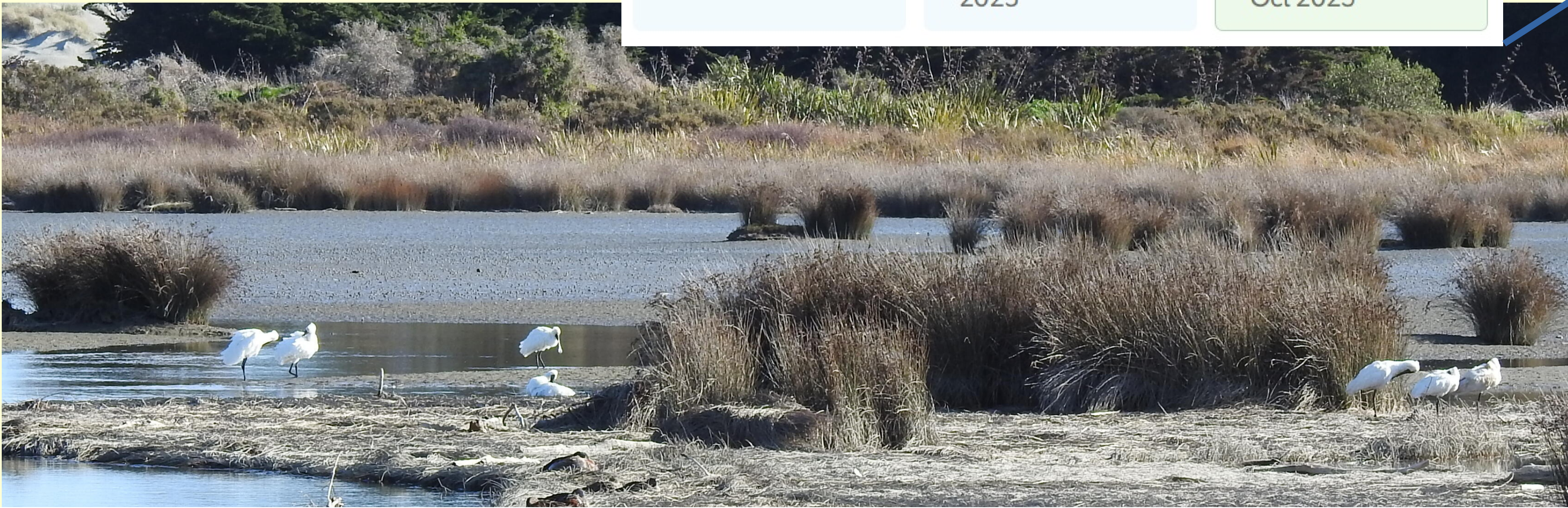
2) Birds as the high profile face of this Ramsar site

Bird List

114
All Years

56
This Year
2025

48
This Month
Oct 2025



114

Species

1147

Checklists

251

eBirders

Overview

Bird List

Recent Checklists

eBirders

Illustrated Checklist

EXPLORE...

Hotspot Map

Bar Charts

Media

Rare Bird Alerts

Printable Checklist

eBirding This Month

Oct 2025

Updated ~2 minutes ago

48

Species

4

Checklists

2

eBirders

New Species

Ring-necked Pheasant

Phasianus colchicus

*

2

5 Oct 2025

Neill Haggarty

Foxton Beach--Manawatu estuary (general)

Double-banded Plover

Anarhynchus bicinctus

2

5 Oct 2025

Neill Haggarty

Foxton Beach--Manawatu estuary (general)

Little Egret

Egretta garzetta

1

5 Oct 2025

Neill Haggarty

Foxton Beach--Manawatu estuary (general)

Swamp Harrier

Circus approximans

1

5 Oct 2025

Neill Haggarty

Foxton Beach--Manawatu estuary (general)

Shining Bronze-Cuckoo

Chalcites lucidus

1

4 Oct 2025

Neill Haggarty

Foxton Beach--Manawatu estuary (general)

All New Species

Change Region

Foxton Beach--Manawatu estuary (general)

Horowhenua District · Manawatu-Wanganui · New Zealand

Bird List

Recent Checklists

eBirders

Illustrated Checklist

EXPLORE...

Hotspot Map

Bar Charts

Media

Rare Bird Alerts

Printable Checklist

114

All Years

56

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Oct 2025

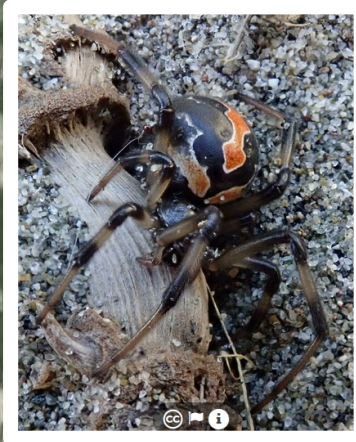
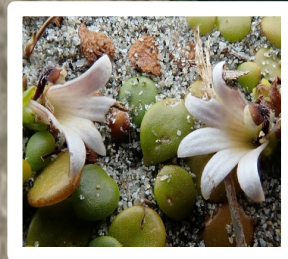
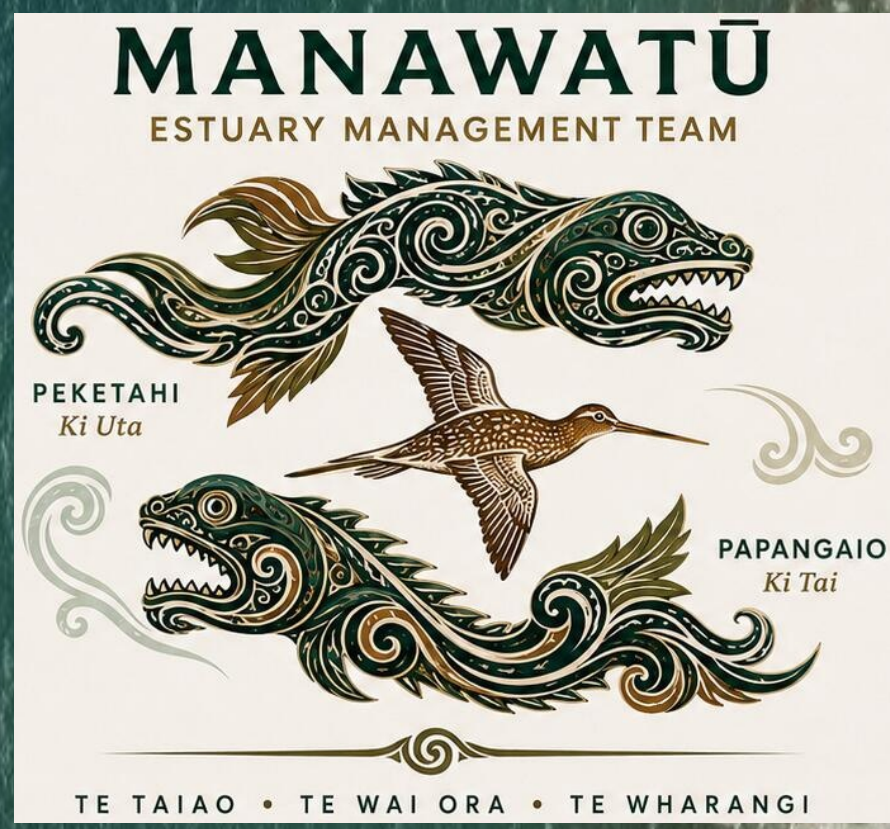
Last Observed

First Observed

High Count

Custom

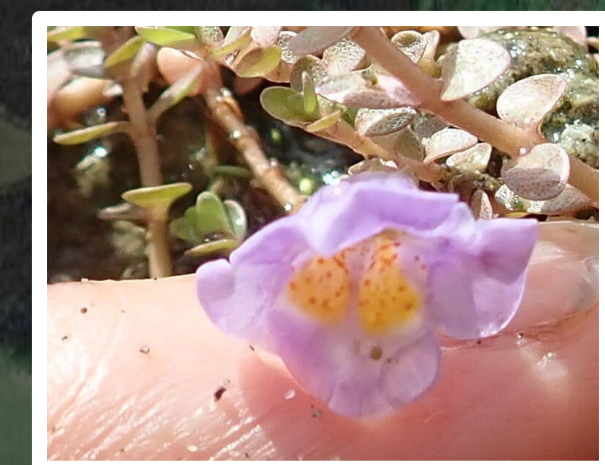
	SPECIES NAME	COUNT	DATE	OBSERVER	LOCATION
1.	Ring-necked Pheasant <i>Phasianus colchicus</i>	2	5 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
2.	Double-banded Plover <i>Anarhynchus bicinctus</i>	2	5 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
3.	Little Egret <i>Egretta garzetta</i>	1	5 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
4.	Swamp Harrier <i>Circus approximans</i>	1	5 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
5.	Shining Bronze-Cuckoo <i>Chalcites lucidus</i>	1	4 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
6.	Great Cormorant <i>Phalacrocorax carbo</i>	2	4 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
7.	Tui <i>Prosthemadera novaeseelandiae</i>	1	4 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
8.	Redpoll <i>Acanthis flammea</i>	4	4 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
9.	Canada Goose <i>Branta canadensis</i>	4	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
10.	Black Swan <i>Cygnus atratus</i>	9	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
11.	Paradise Shelduck <i>Tadorna variegata</i>	1	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
12.	Australasian Shoveler <i>Spatula rhynchotis</i>	2	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
13.	Mallard <i>Anas platyrhynchos</i>	28	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
14.	Gray Teal <i>Anas gracilis</i>	7	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
15.	New Zealand Scaup <i>Aythya novaeseelandiae</i>	1	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
16.	Rock Pigeon <i>Columba livia</i>	6	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
17.	Australasian Swamphen <i>Porphyrio melanotus</i>	8	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
18.	Pied Stilt <i>Himantopus leucocephalus</i>	5	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
19.	South Island Oystercatcher <i>Haematopus finschi</i>	8	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
20.	Pacific Golden-Plover <i>Pluvialis fulva</i>	3	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
21.	Masked Lapwing <i>Vanellus miles</i>	11	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
22.	Bar-tailed Godwit <i>Limosa lapponica</i>	131	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
23.	Red Knot <i>Calidris canutus</i>	3	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
24.	Caspian Tern <i>Hydroprogne caspia</i>	3	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
25.	Little Pied Cormorant <i>Microcarbo melanoleucos</i>	1	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
26.	Pied Cormorant <i>Phalacrocorax varius</i>	7	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
27.	Royal Spoonbill <i>Platalea regia</i>	18	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
28.	White-faced Heron <i>Egretta novaehollandiae</i>	4	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
29.	Sacred Kingfisher <i>Todiramphus sanctus</i>	1	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
30.	Gray Gerygone <i>Gerygone igata</i>	1	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
31.	New Zealand Fantail <i>Rhipidura fuliginosa</i>	2	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
32.	Welcome Swallow <i>Hirundo neoxena</i>	6	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
33.	Silvereye <i>Zosterops lateralis</i>	5	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
34.	European Starling <i>Sturnus vulgaris</i>	26	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
35.	Song Thrush <i>Turdus philomelos</i>	4	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
36.	Eurasian Blackbird <i>Turdus merula</i>	7	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
37.	House Sparrow <i>Passer domesticus</i>	37	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
38.	Common Chaffinch <i>Fringilla coelebs</i>	10	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
39.	European Greenfinch <i>Chloris chloris</i>	8	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
40.	European Goldfinch <i>Carduelis carduelis</i>	3	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
41.	Yellowhammer <i>Emberiza citrinella</i>	2	3 Oct 2025	Neill Haggarty	Foxton Beach--Manawatu estuary (general)
42.	Variable Oystercatcher <i>Haematopus unicolor</i>	3	3 Oct 2025	Josiah Ensing	Foxton Beach--Manawatu estuary (general)
43.	Silver Gull <i>Chroicocephalus novaehollandiae</i>	3	3 Oct 2025	Josiah Ensing	Foxton Beach--Manawatu estuary (general)
44.	Black-billed Gull <i>Chroicocephalus bulleri</i>	4	3 Oct 2025	Josiah Ensing	Foxton Beach--Manawatu estuary (general)
45.	Kelp Gull <i>Larus dominicanus</i>	18	3 Oct 2025	Josiah Ensing	Foxton Beach--Manawatu estuary (general)
46.	White-fronted Tern <i>Sterna striata</i>	4	3 Oct 2025	Josiah Ensing	Foxton Beach--Manawatu estuary (general)
47.	Australian Magpie <i>Gymnorhina tibicen</i>	1	3 Oct 2025	Josiah Ensing	Foxton Beach--Manawatu estuary (general)
48.	Eurasian Skylark <i>Alauda arvensis</i>	1	3 Oct 2025	Josiah Ensing	Foxton Beach--Manawatu estuary (general)



Some threatened species in this Ramsar site

satmap view, high tide, Sept. 2025

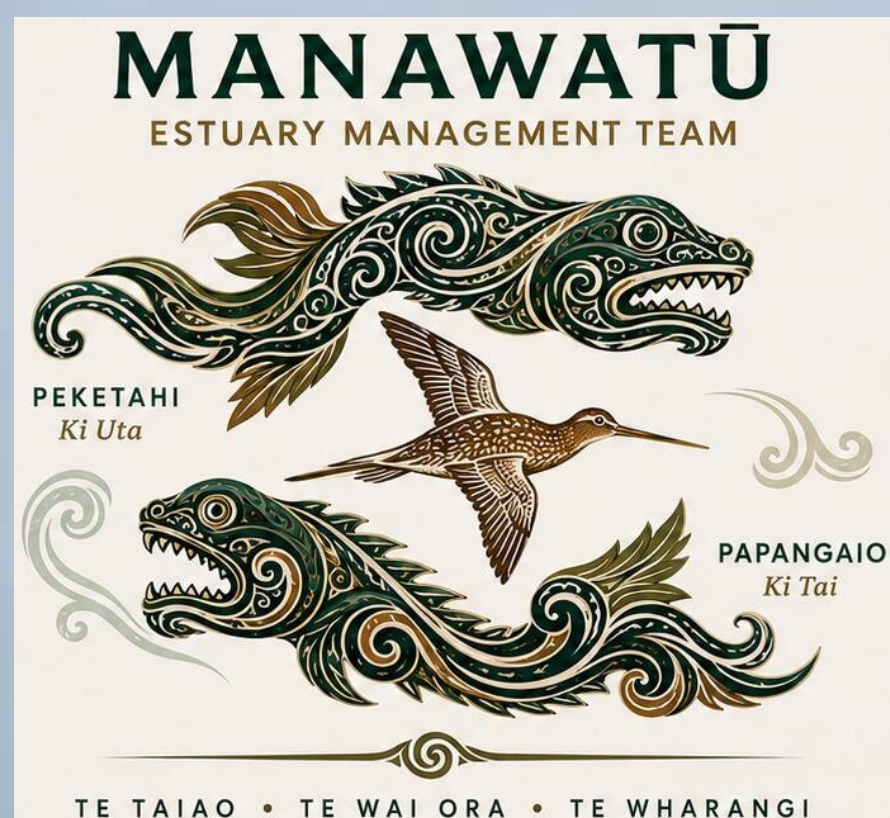
*This is not the whole story!
There are many more. A
big question remains –
How many do we not know
about?*





What are we not yet addressing?

And many more...

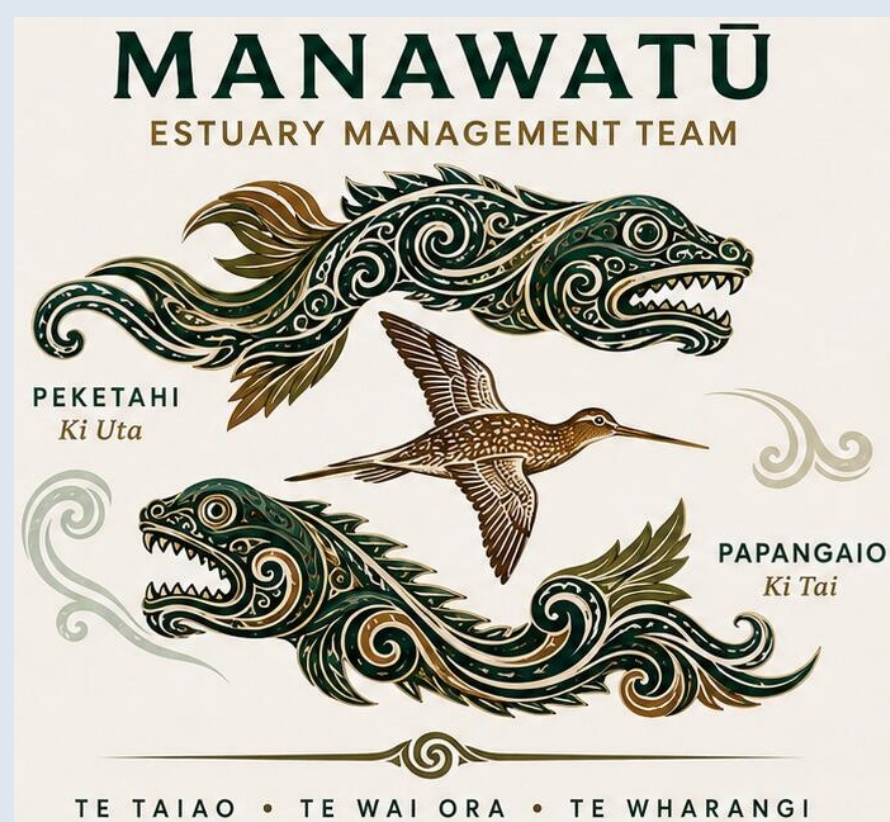


Papangaio Te Wharangi Manawatū Estuary Ramsar Site

Kāhore taku toa i te toa takitihi, he toa takitini.

We cannot succeed without the support of those around us.

How can you help?



**Pick
any**

**How can
You
help?**

print
media

social
media

newsletter

**Community
Engagement**

website

school
liaison



pest
trapping

Fauna

trap
network
mgmt

**Water
Quality**

agency
liaison

**Vehicle
Mgmt**

Flora

germinating
planting



weeding



monitoring

reporting

analysis

Catchment
liaison



public
meetings and
presentations

**Let's
look at
four:**

Contact information available at
https://metrust.org.nz/contacts/Ramsar_HowtoHelp.pdf

Papangaio Te Wharangi Manawatū Estuary Ramsar Site

Citizen science monitoring
of species in the Manawatu
Estuary Ramsar site, via
iNaturalist.nz

You can too!

This is one way to learn
about species...

7,621
OBSERVATIONS

602
SPECIES



577
IDENTIFIERS



128
OBSERVERS

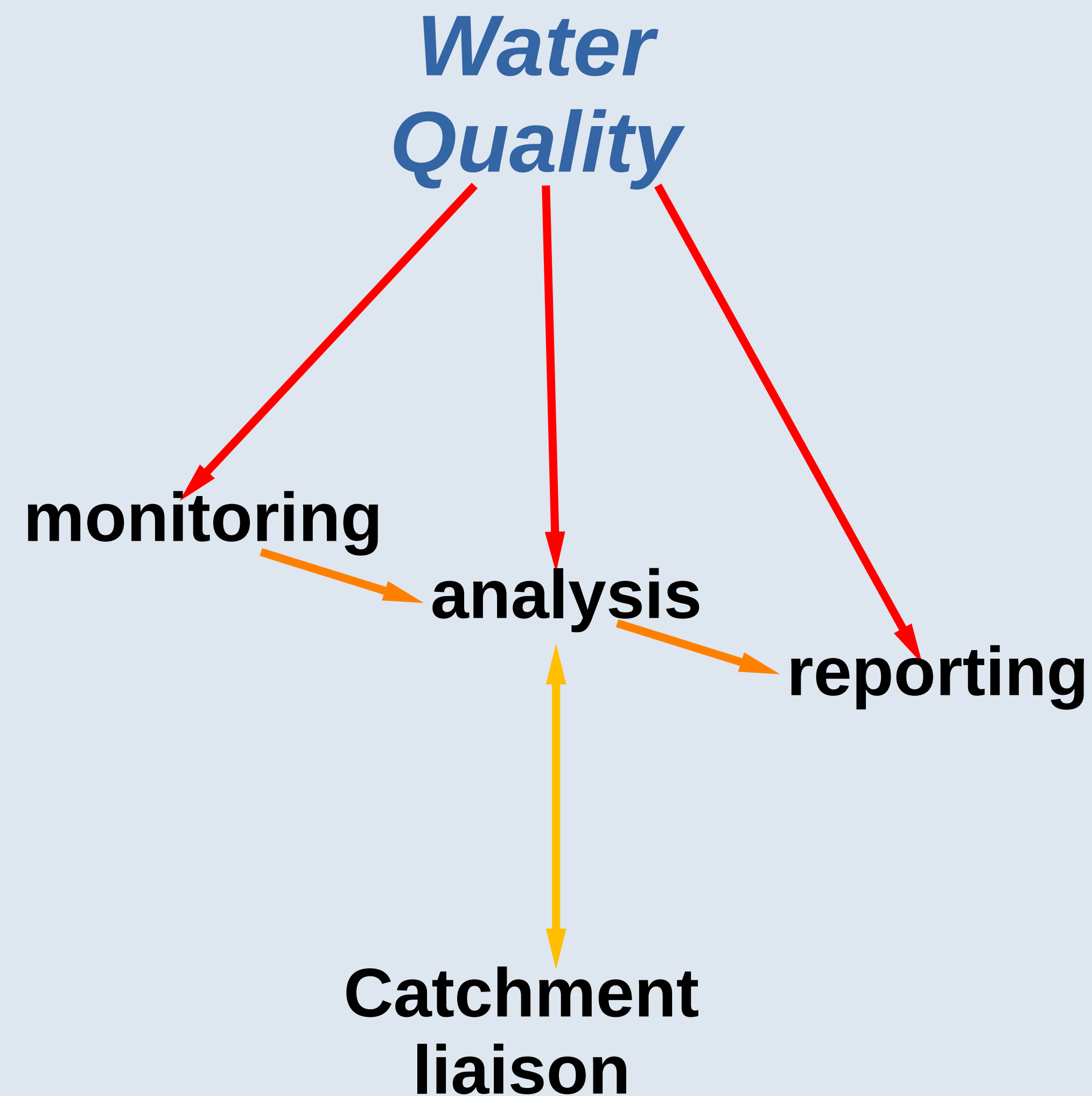
"In one drop of water are found all the secrets of the ocean."

Poet and philosopher, Kahlil Gibran

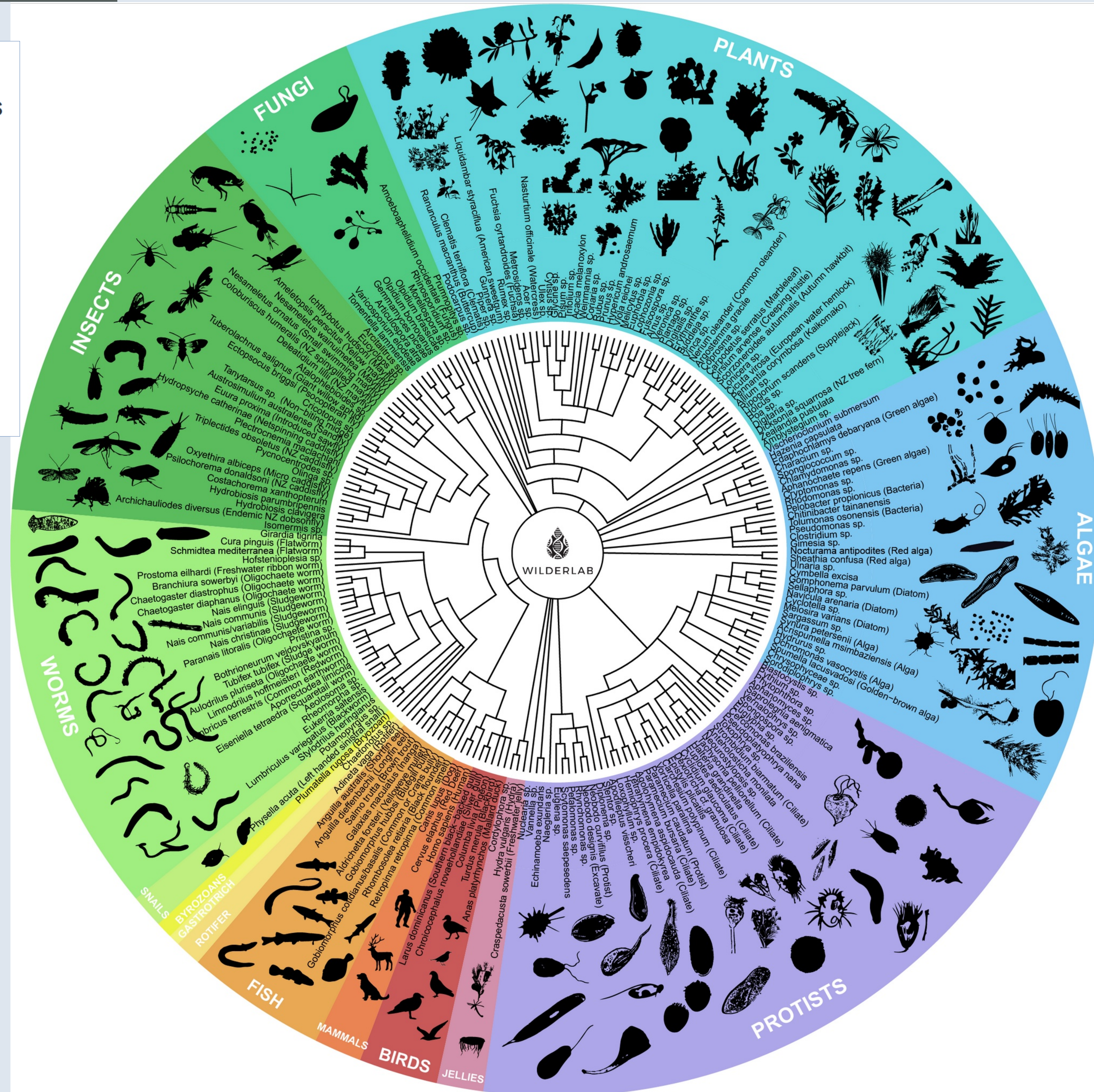
Environmental DNA, or eDNA, refers to all the tiny traces of genetic material that is left behind as living things pass through water or soil.

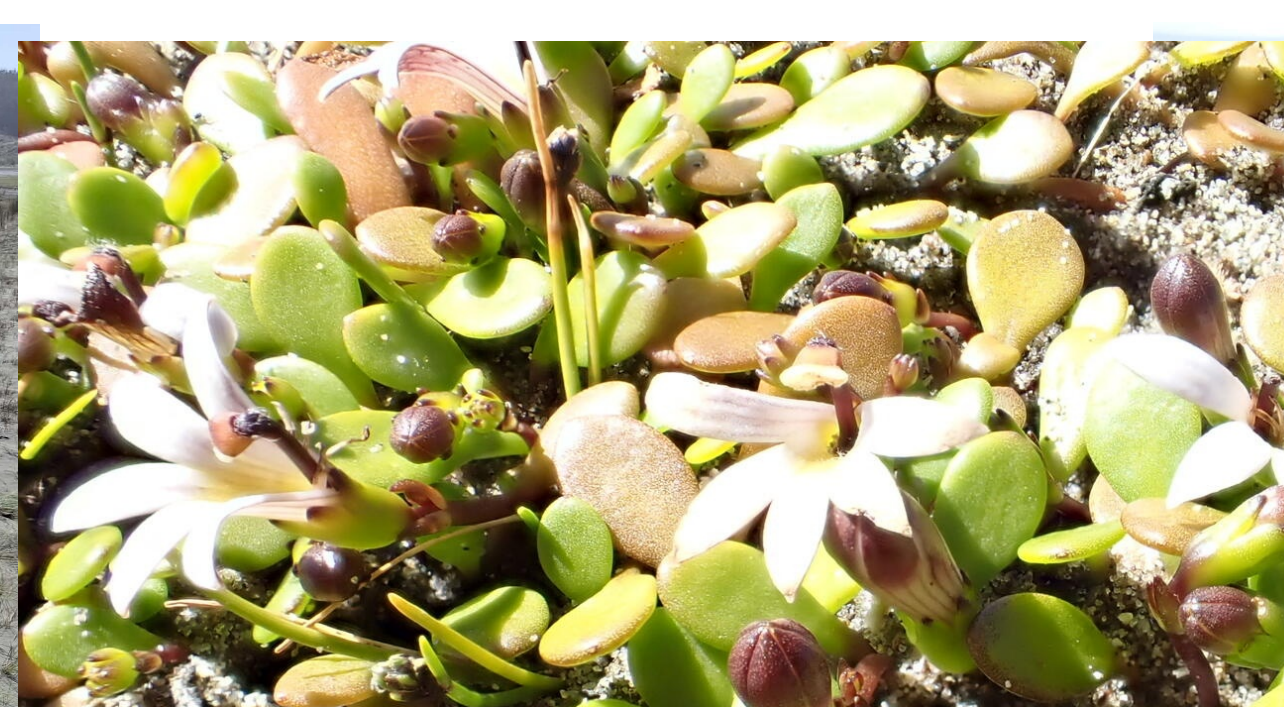
In your backyard, local stream or boggy field lurks a secret web of co-conspirators. Largely unseen, they slink and swoosh, creep and crawl, helping each other to survive. Sometimes there are many, sometimes there are few. How do we know this? They leave their DNA behind.

From kērēru to kōwhai, and the leaves in the wind, all living things shed genetic information into their local environment. This is called environmental DNA, or eDNA.

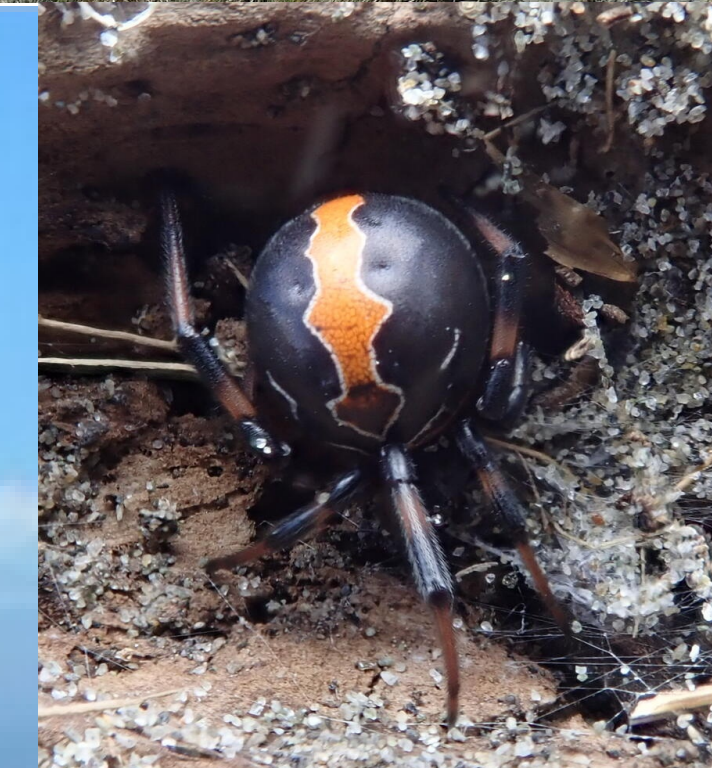


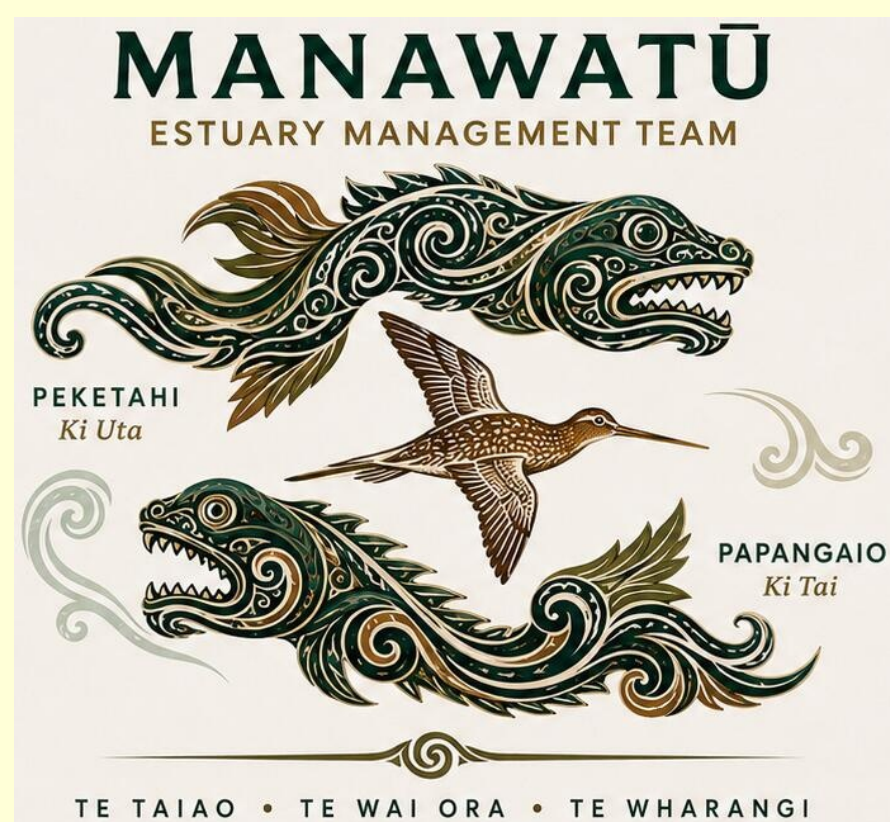
eDNA is a game changer





Dune Garden





Questions?

*Let's look at
the fourth:*

*Compilation and
most photos by
Arnim, June 2026*

*Special thanks to
Chris for the best photos
and Justin for the draft logo*



Wildlife Foxton Trust

- Who We Are
- What We Do
- Papangaio Te Wharangi Manawatū Estuary
- Biodiversity work
 - Marine Metre Squared
 - Trapping
- Kiwi Conservation Club