Brown Teal, *Anas chlorotis*

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Department of Conservation
Te Papa Atawhai

New Zealand Government

Introducing Pāteke

- Chocolate with white eye ring
- Males bigger than females
- Both smaller than mallards
- Females 550 - 800g
- Males 650 - 900g
- Mallards 1050 – 1300g

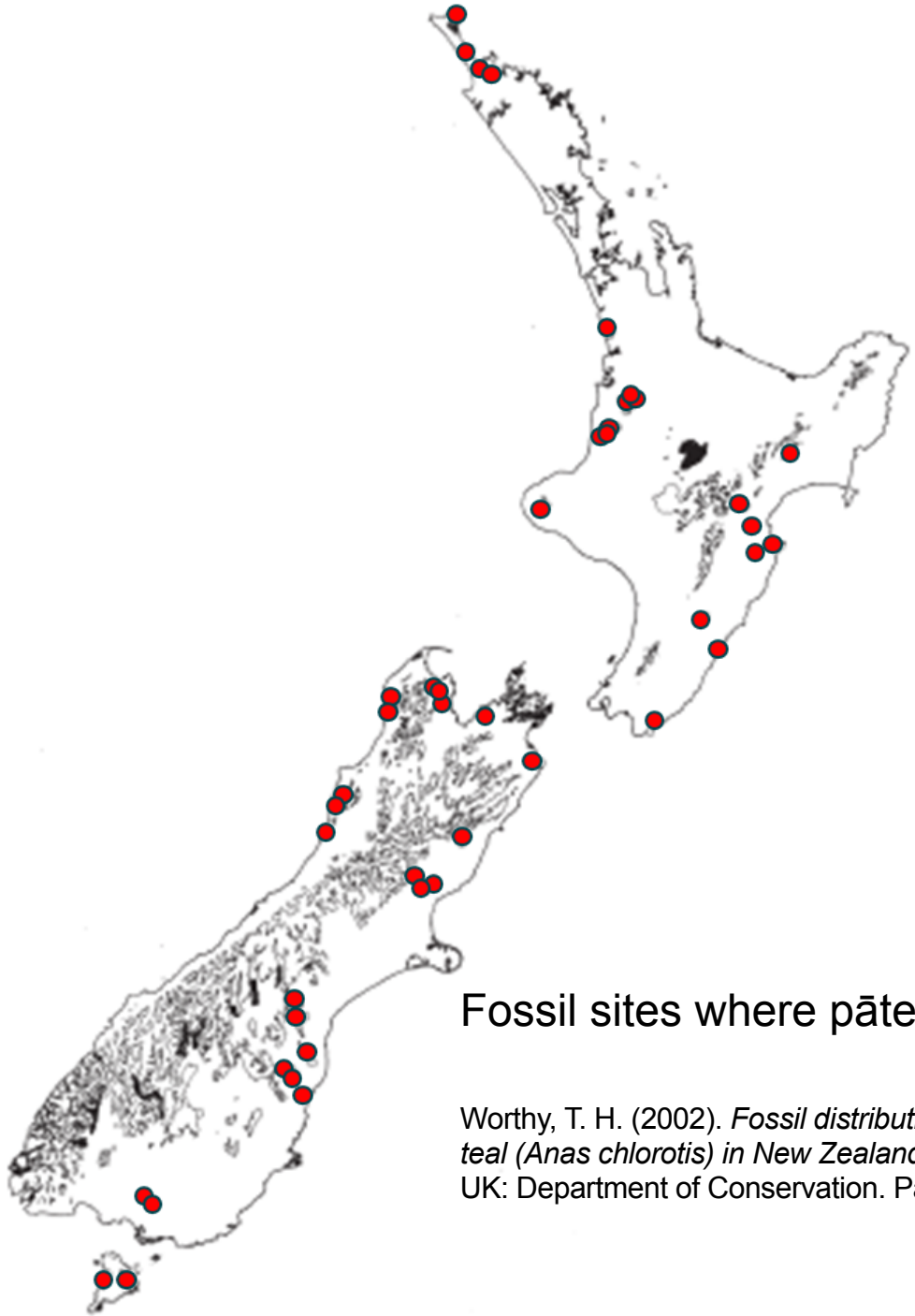
Female pāteke	Male pāteke – breeding
• Dark mottled brown. • Voice: rasping growl and quack. Only females quack.	• green iridescence on head • white neck ring sometimes • dark chestnut breast • white patch at the tail base. • Voice: Whistle rather than quack (trills or piping).

Female pāteke with ducklings (www.brownteal.com)

Male pāteke in breeding plumage (Sarah Dwyer)

Prehistoric Pāteke

- Fossil sites - large range of habitats across Aotearoa
- Lakes, swamps, coastal sites, wet podocarp, and dry beech forests up to 700m altitude
- In forests teal were foraging far from water features.
- https://www.doc.govt.nz/globalassets/documents/science-and-technical/dsis81.pdf



Fossil sites where pāteke reported

Worthy, T. H. (2002). *Fossil distribution of brown teal (Anas chlorotis) in New Zealand*. Wellington, UK: Department of Conservation. Page 10.

National status

- Threatened - nationally increasing
- Conservation dependent

Status of birds in Aotearoa 2021

Nationally increasing?

- Captive breeding programme since 1976
- Successful translocations to new sites
- Moehau, Fiordland x 2, Rotokare, Zealandia, Cape Sanctuary, Abel Tasman…

Captive birds at Peacock Springs, Christchurch
Arriving at Arthur Valley, Fiordland
(Sabine Bernert)

Pāteke breeding

- Main breeding from July - October
- Clutch 3 - 9 eggs
- Incubation 28 days
- Fledglings independent at 55 days
- Only female incubates
- Both parents guard ducklings

Nests:

- In dry areas wedged into base of ferns, grass clumps or sedges
- Usually near water

Pāteke nest in base of ponga, Okiwi Station (Sarah Giblin)

Pāteke moult

- Moult twice a year
- In winter body moult into breeding plumage
- Moult all flight feather simultaneously (usually after breeding)
- Adults temporarily flightless – vulnerable to predators

Pāteke habitat

Pāteke dabbling at Whangapoua Estuary (DOC)

Pāteke at Okiwi River Reserve, Aotea (DOC)

- Wide range of habitats: forest, swamps, slow-flowing streams, lake and estuaries
- Overhanging vegetation, shrubs, rushes and larger trees such as pohutakawa to roost on
- Foraging habitat: permanent seeps, swamps, damp pasture and the shallows of drains, streams, ponds and estuaries
- Flock sites: permanent slow flowing water bodies with safe roosting areas

Pāteke diet

- Very broad
- Terrestrial, freshwater and marine
- Invertebrates, fungi, and plants
- Seeds, leaves, fruits
- Sedge seeds, clover leaves, cased caddisfly larvae, beetles, caterpillars, moths and earthworms
- Inter-tidal areas: dabble in soft sediments for snails and bivalves, crustaceans, polychaete worms

Cased Caddis fly larvae
(Angus McIntosh, Canterbury University

Mayfly larvae
(Angus McIntosh, Canterbury University

Cockles (Erin Green)

Sedge, *Cyperus ustulatus*
*(*Wayne Bennett)

Tall mingimingi
Leucopogon fasciculatus
(John Sawyer)

Mud whelks (Paul Creswell)

Flocks

- Fledglings + moulted adults whose breeding territories have dried out
- Some pairs stay at breeding sites year round
- **Non-breeding birds may remain** as a flock through winter and spring

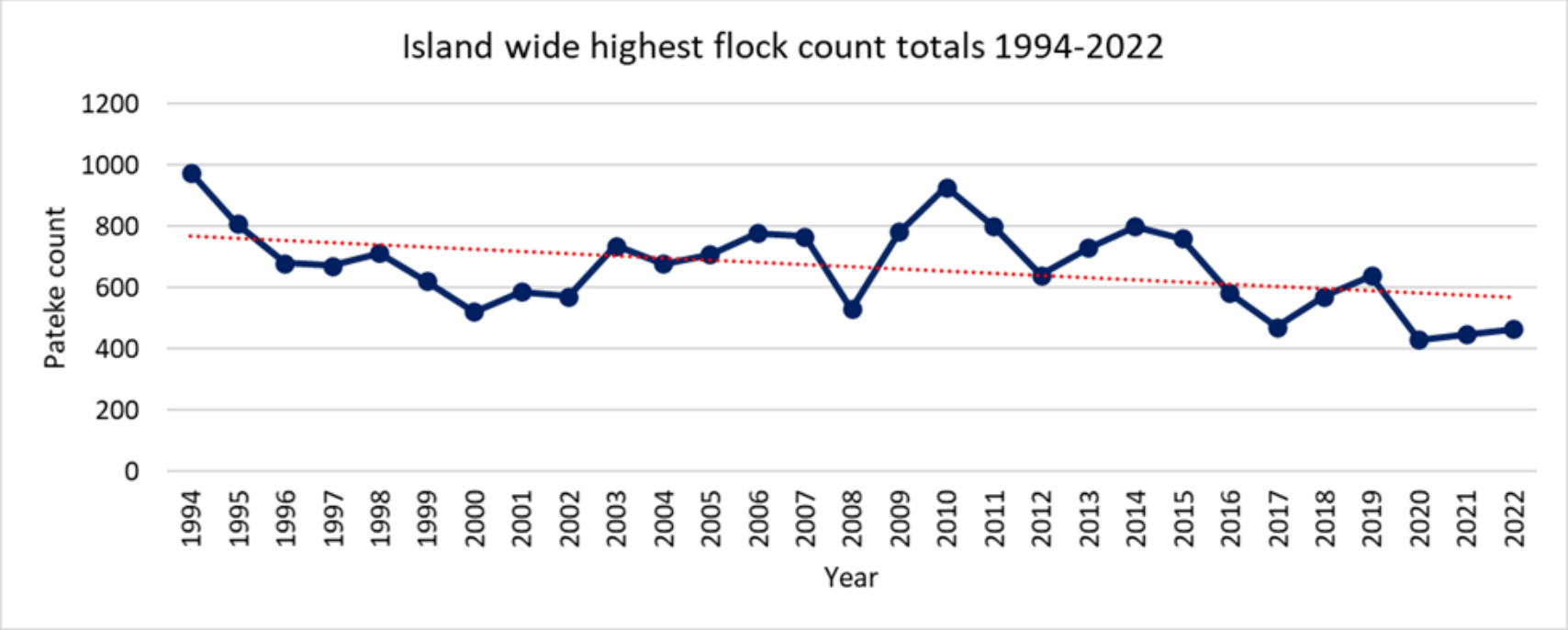
Romantic opportunities for juveniles, Okiwi Station, Aotea (DOC)

Flock Counts

- Team effort
- Repeat 3 x per year
- Usually in February March
- Historically – 13 sites
- Another 7 sites added since

Flock Counts

- Index of pāteke population
- Not total number of pāteke
- 19-31% tx birds at flocks 2003



- Intensive management started in 2000 on Aotea
- What is happening?

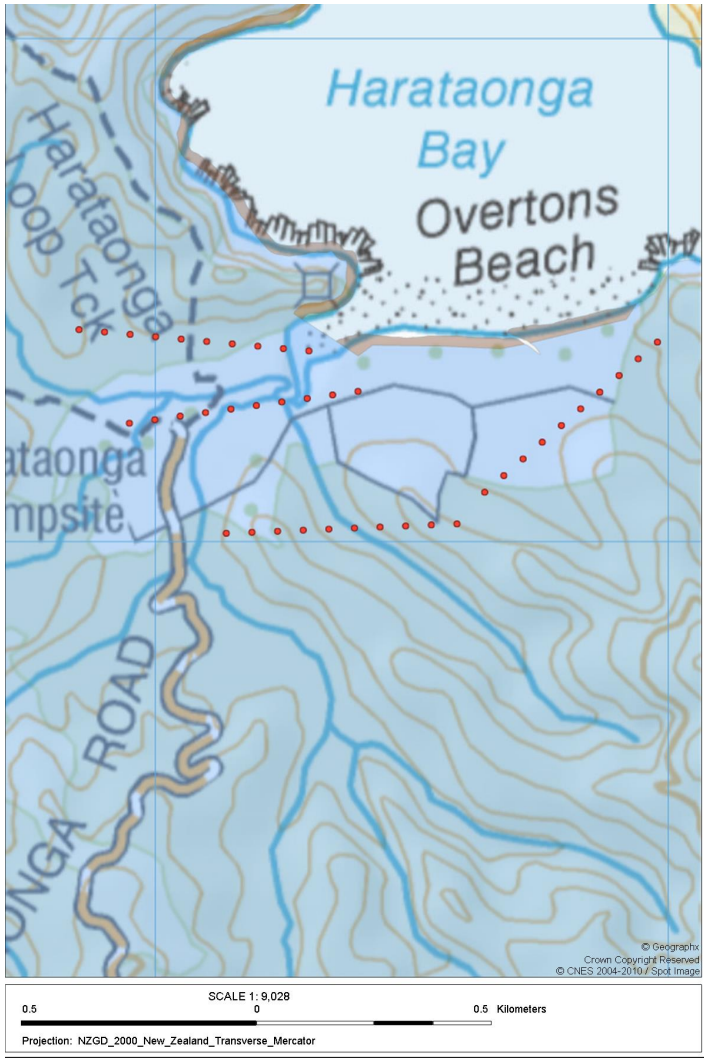
Management so far

- Predator control – targeting cats mainly trapping and some shooting
- Pukeko control – to reduce duckling predation
- Harrier control – mostly incidental captures in cat traps and not systematic control
- Rabbit control – mainly to reduce cat food supply and provides bait for cat traps
- Habitat work – mainly fencing ponds, establishing pioneer species around them, and some weed control

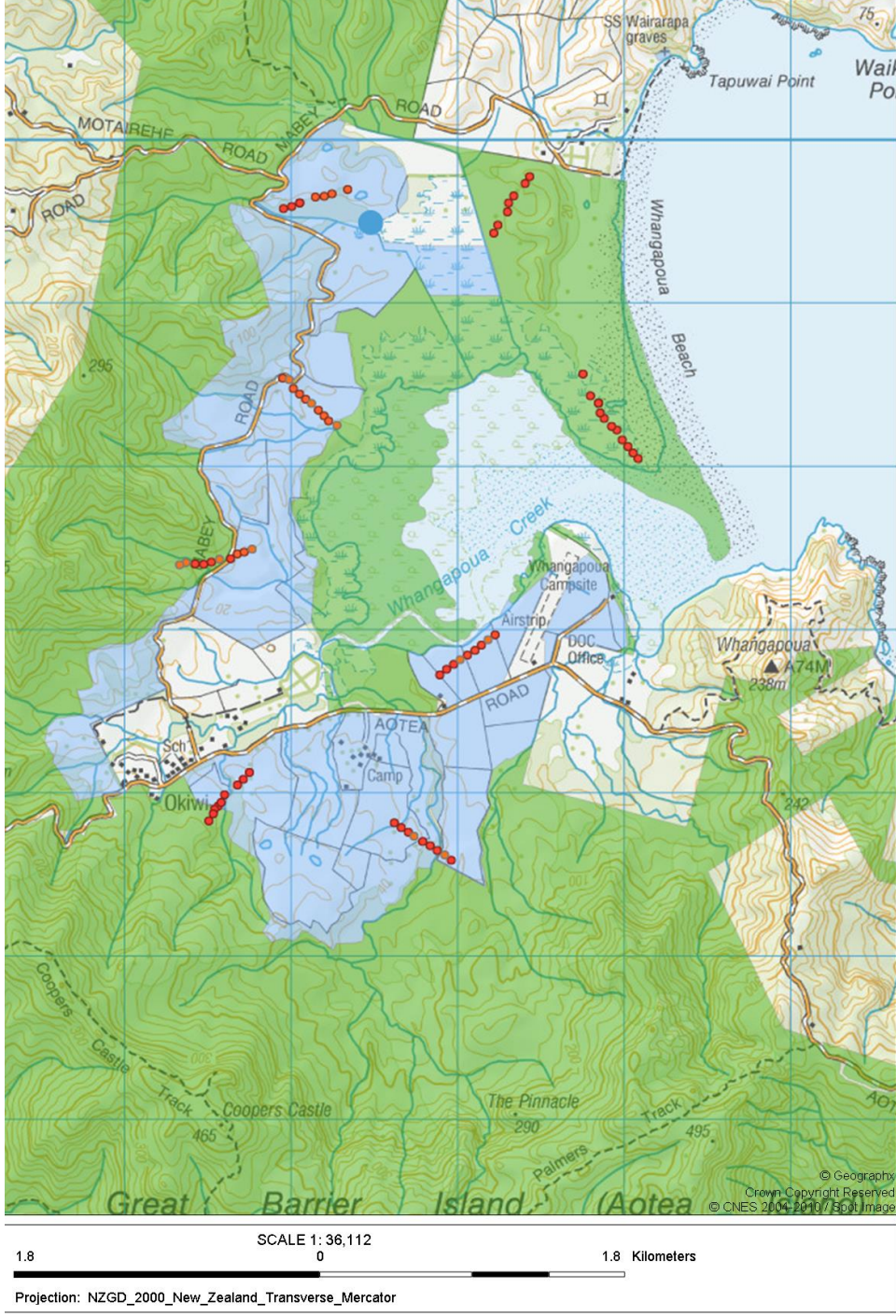
Monitoring

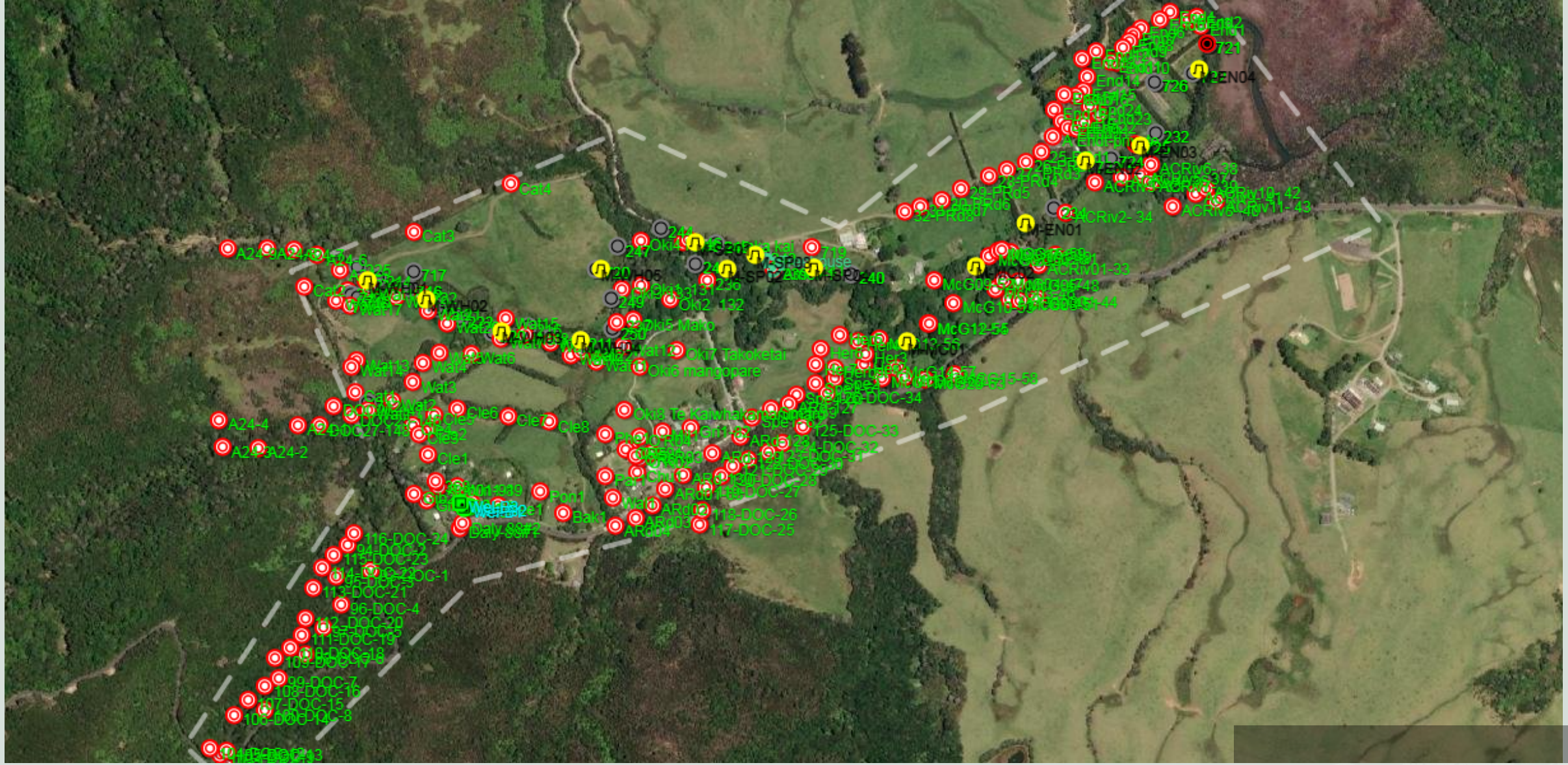
From 2021:

- Cat monitoring using trail cams on transects
- Rodent monitoring using footprint tracking tunnels



Rat monitoring sites at Whangapoua and Harataonga





Okiwi Community Ecology Project

Monitoring trials

- Nest monitoring

- Purpose: to understand hatching success
- Conservation dog to locate nests
- 8 nests located, trail cams used
- grazed, punga, pohutakawa, rank kikuya
- Clutch size 4-7 eggs
- Hatch success 14-100%, half 60%
- Leave nest unattended 30-50min nightly
- Rats and cats in vicinity

Monitoring trials

- Nest monitoring
- **Pathway monitoring**

- To study duckling survival
- Identifying animal tracks used by Pateke for moving between feeding areas and roost sites regularly or daily
- 8 ‘Pāteke pathways’ identified
- Clutches 1-6 ducklings
- 42% fledgling survival - small sample and not from hatch date
- pāteke, feral cats, rats, pukeko, paradise ducks, cows and pigs

Monitoring trials

- Nest monitoring
- Pathway monitoring
- **Night surveys**

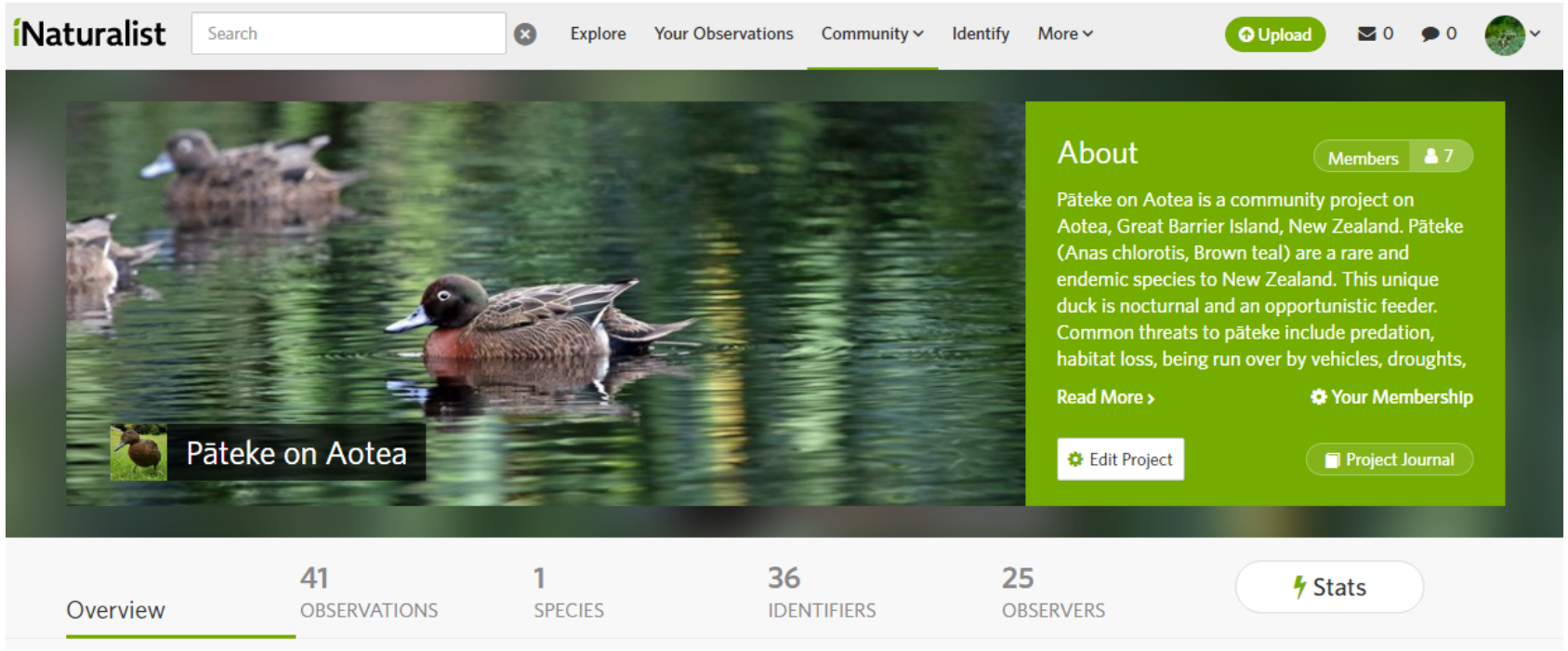
- Night surveys were trialled for monitoring relative abundance
- Conducted monthly using foot and LUV
- Information about behaviour but not abundance

Plans for 2023 onwards

- Cat control improvements
- Rat control scope and implementation
- Habitat restoration (focus on planting food species for pāteke)
- Rabbit control? – maybe
- Write up previous research
- Continue monitoring through flock counts, cat trail cameras and rodent (footprint) tracking tunnels

Pāteke on Aotea

- Inaturalist community project
- Anyone create an Inaturalist account and submit photos (observations)
- Must include location
- So far 41 pāteke observations



That’s all for now folks…

Aotea pāteke, (Dick Veitch)