

Biodiversity Research Priorities

Biodiversity

A Historical Perspective

- 70% of landscape deforested
- 90% wetlands drained
- 30% of terrestrial & wetland birds extinct
- Over 2000 exotic plant spp. naturalised
- 32 mammal, 34 birds and 19 fish spp. naturalised
- Fire common
- Fertiliser over 50% of landscape

Biodiversity Strategy

Operational Goals

1. Species occupancy

- Prevent extinctions ✓
- Develop self-sustaining populations ✗

2. Environmental representation

- Sustain rare ecosystems ✗
- Provide habitat for native species across a full range of environments ✗

Biodiversity Research Priorities

1. Cost effective performance measurement / outcome monitoring tools
3. “Effectiveness” (ecological and economic) of pest control regimes
 - Pest free – zero density of all species (Maungatautari)
 - DOC mainland islands – sustained low level control of some species
 - Cyclical knockdowns (AHB/DOC model) – possum control every X years
 - Integrated, multi-species control

Biodiversity Research Priorities

3. Indicative pest levels for maximum biodiversity gains (How much is enough?)
4. How to maximise gains and habitat connectivity in fragmented, productive landscapes?
5. Can management be more 'holistic' to benefit both terrestrial and aquatic systems?

Caveat 1

Habitat Loss on Private Land

- **Recognise these priorities are about better managing existing habitat; not stopping habitat loss**

Absence of national bottom line (NPS)

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Multiple subjective decisions ('overall broad judgment')

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Cumulative, ongoing loss of remaining indigenous habitats, especially in lowlands

- **Need RMA best practice requirements, not scientific research**

Caveat 2

You Can Never Have Too Much Research, but...

- Sense that much work is being done on these topics, but scattered, silo-ed, not well communicated to managers/users
- Need an initiative to pull people who are working on this stuff together to codify what we know already

Thank you



Watercolour & Gouache on paper, 73cm x 35cm

Kawekaweau
(*Hoplodactylus delcourti*)

Painted by Mark W Neilson