

Sea change for seabirds

Dr Matt Rayner



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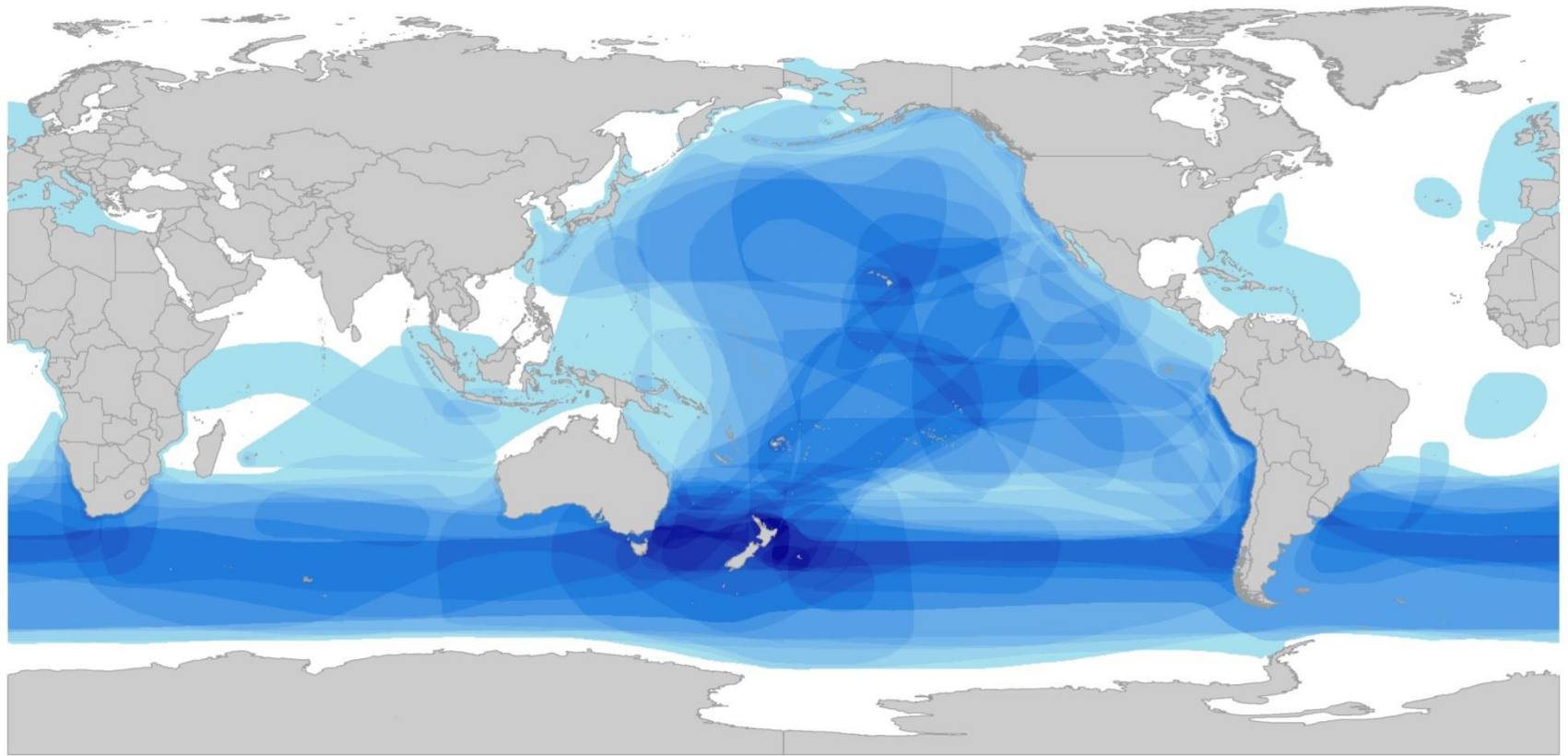


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Number of Globally Threatened Seabirds



Hauraki Gulf Seabirds in a global context

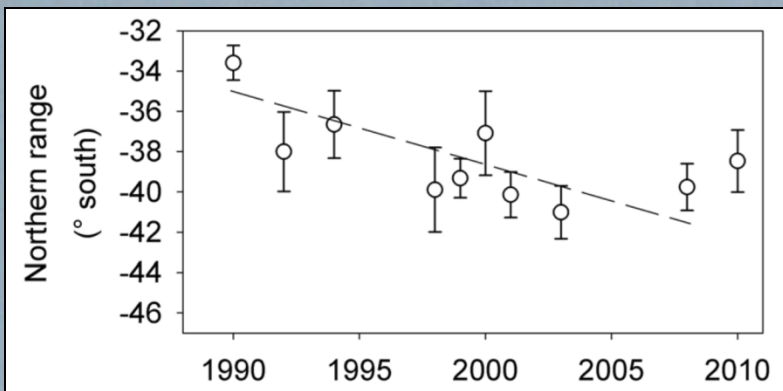
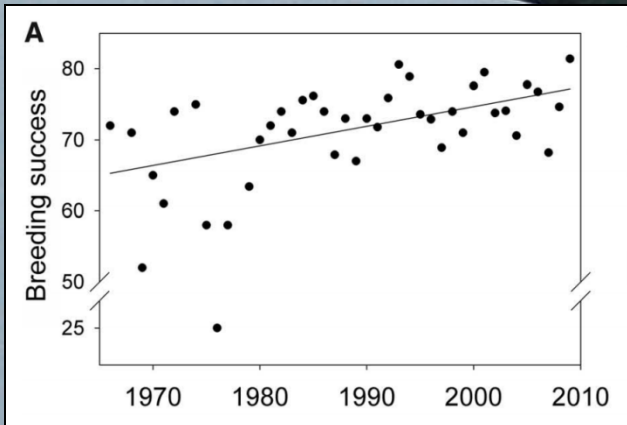
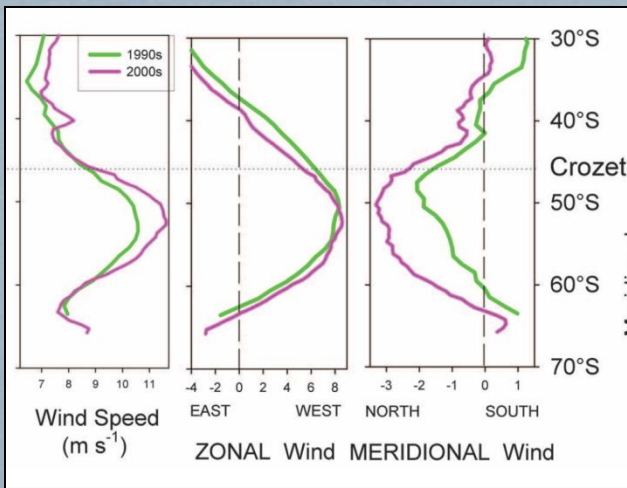
- NZ 84 species (36; 42% endemic)
- 10% all seabirds endemic to NZ
- HG 27 species (59% endemic)
- 20% worlds species seen here

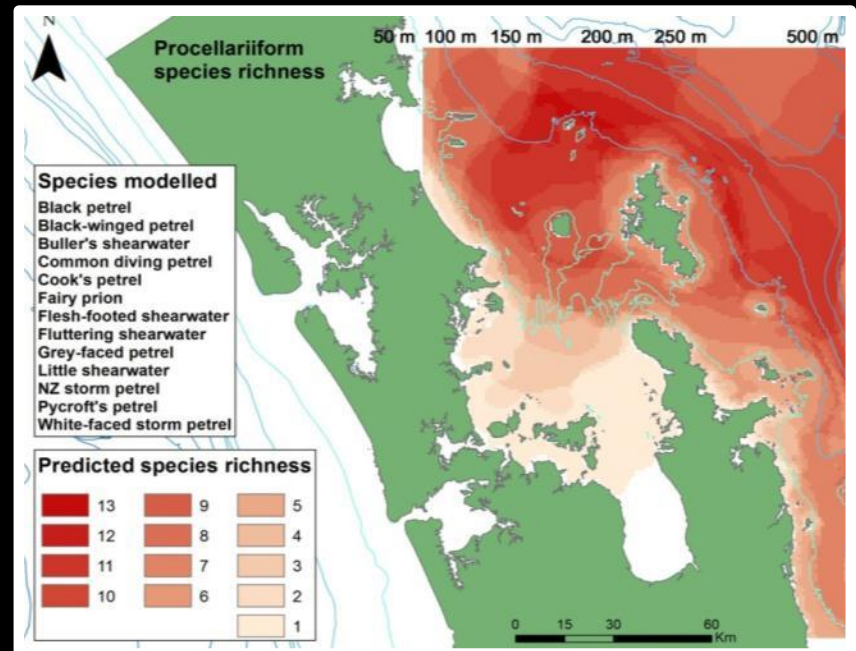
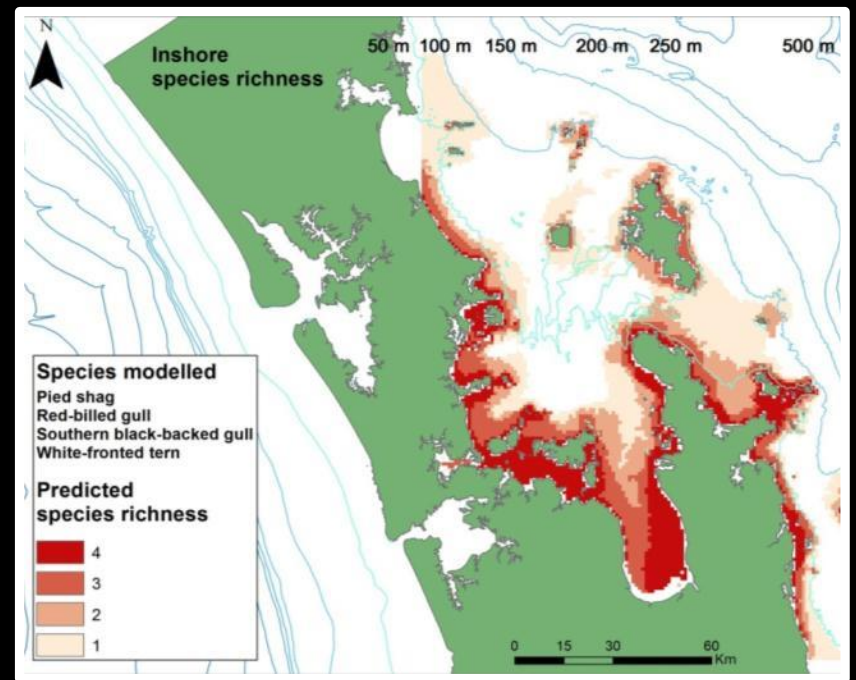


Biodiversity value of seabirds

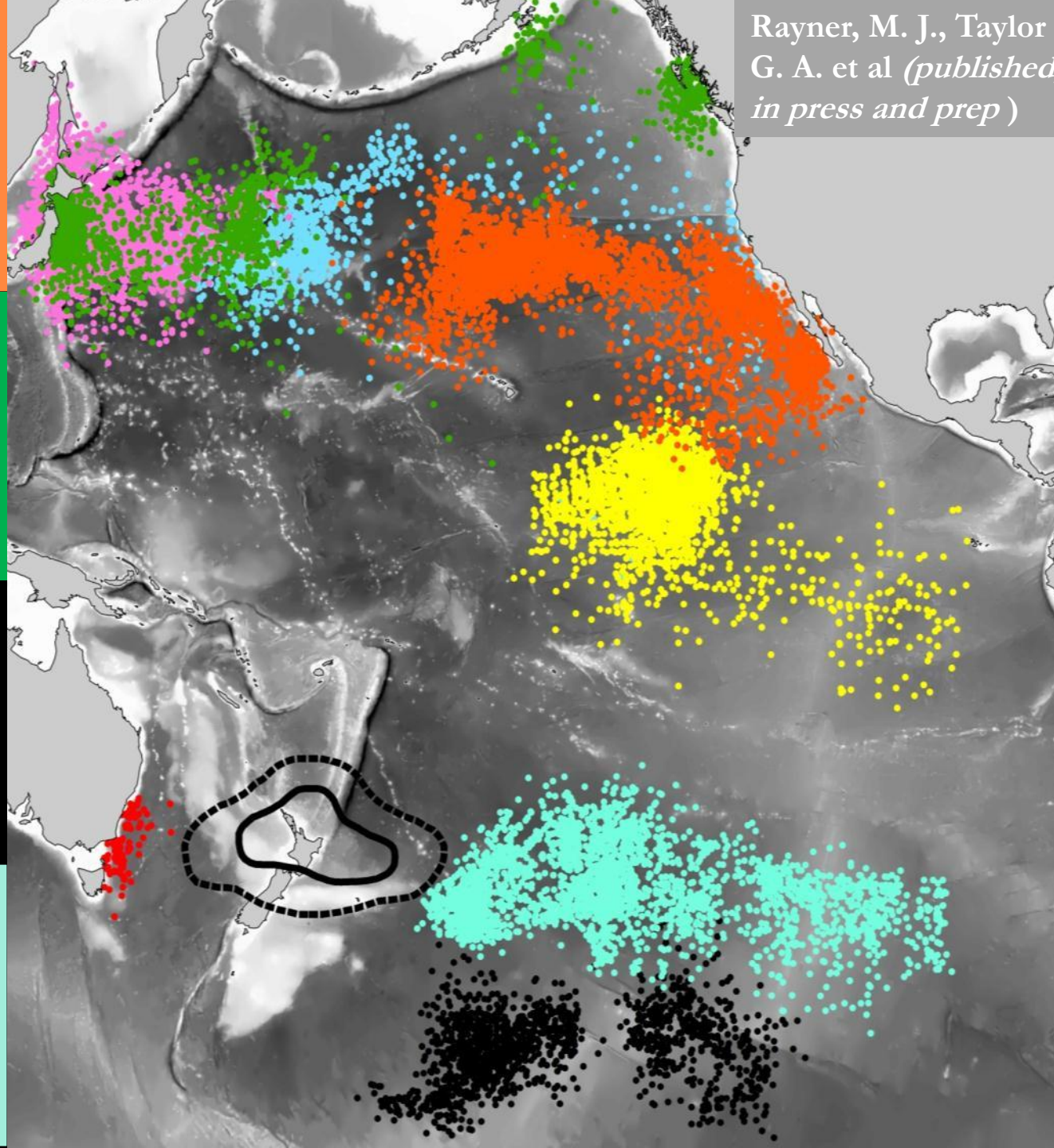


*Indicators of change in
our marine environment*





Rayner, M. J., Taylor
G. A. et al (*published
in press and prep*)





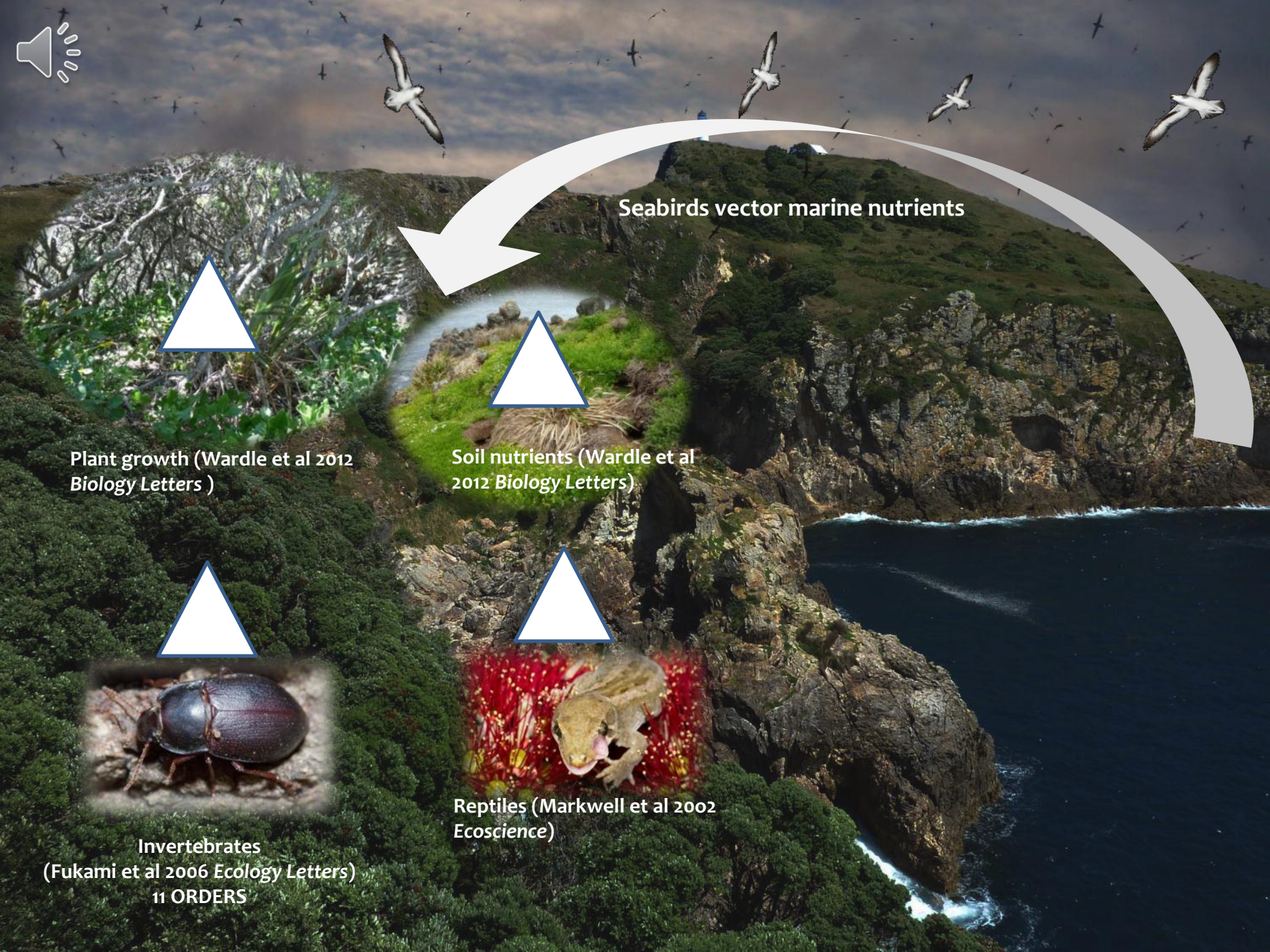
Seabirds vector marine nutrients

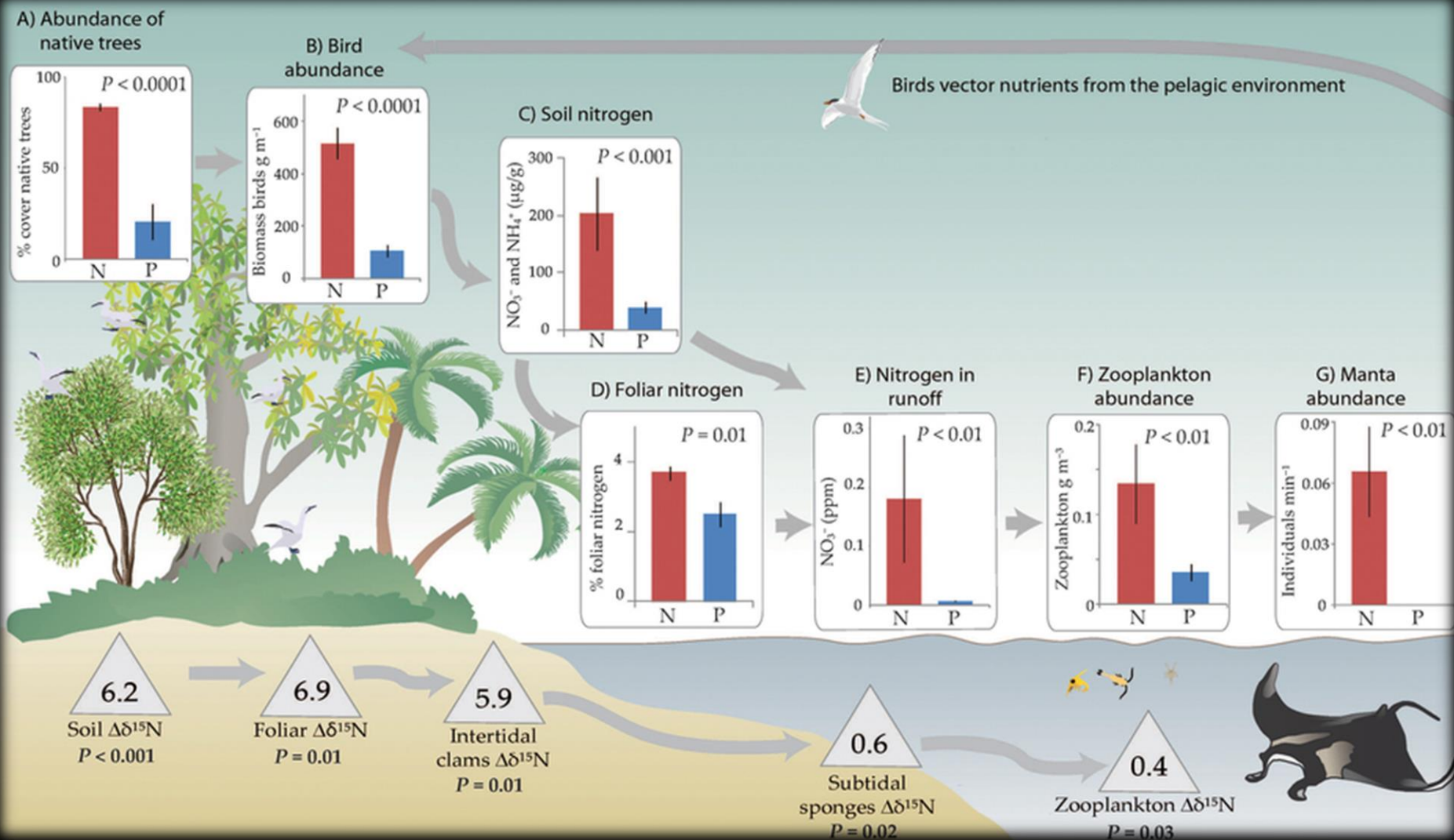
Plant growth (Wardle et al 2012
Biology Letters)

Soil nutrients (Wardle et al
2012 *Biology Letters*)

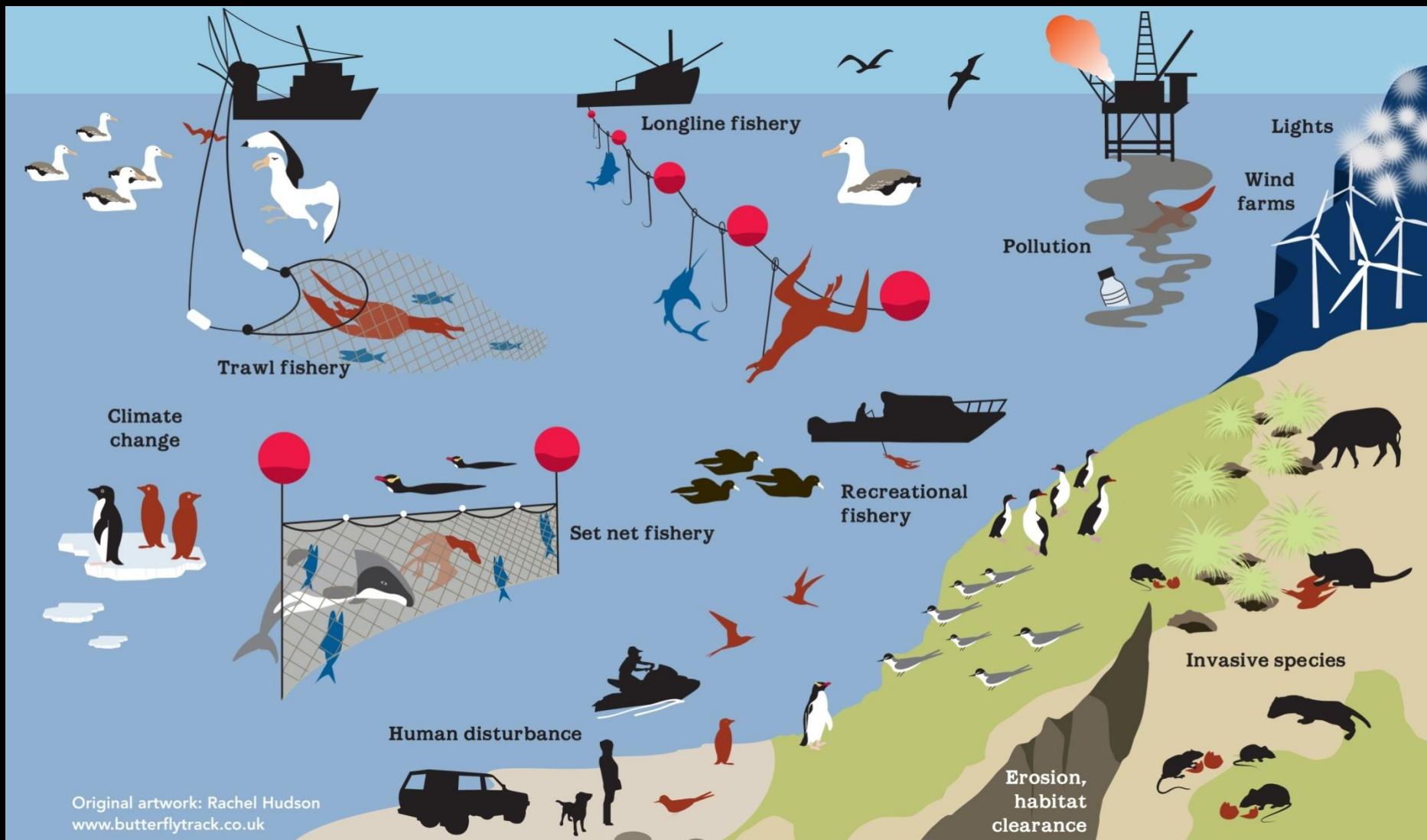
Reptiles (Markwell et al 2002
Ecoscience)

Invertebrates
(Fukami et al 2006 *Ecology Letters*)
11 ORDERS



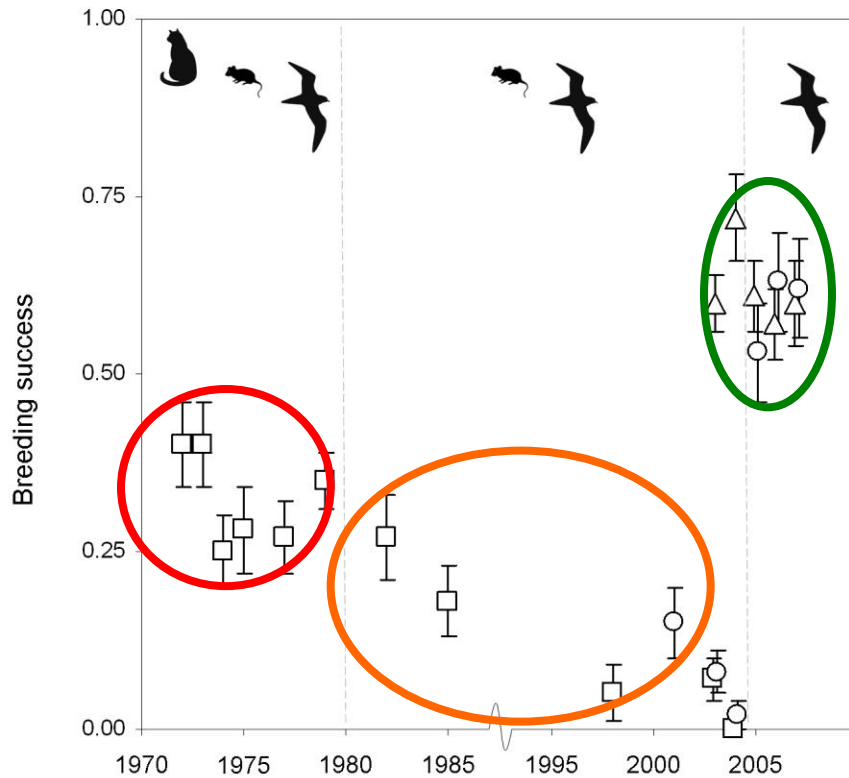


Threats to seabirds



Introduced predators

Rayner et al (2008) PNAS



Island Biosecurity



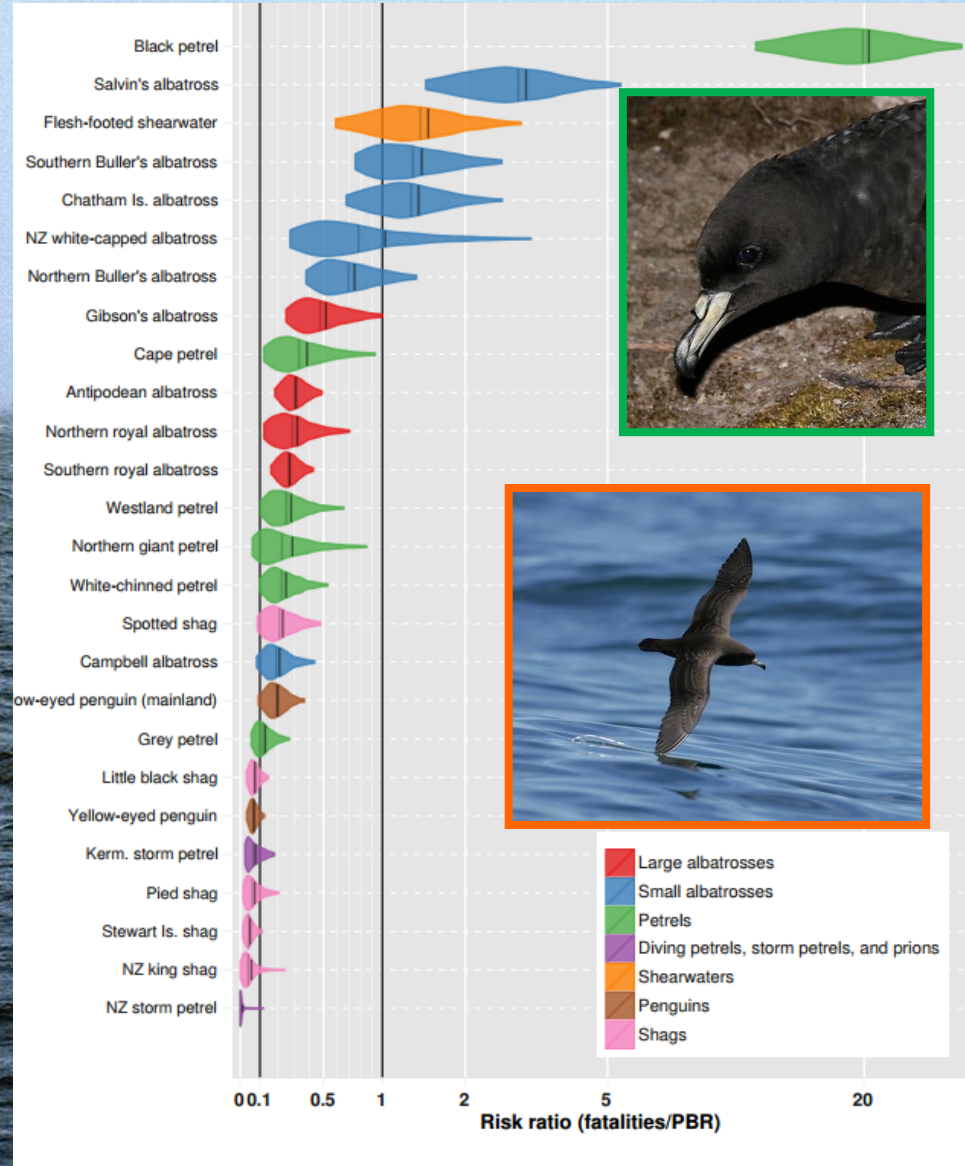
Burgess Island at risk



Fisheries mortality

Unsustainable by-catch in
Hauraki Gulf

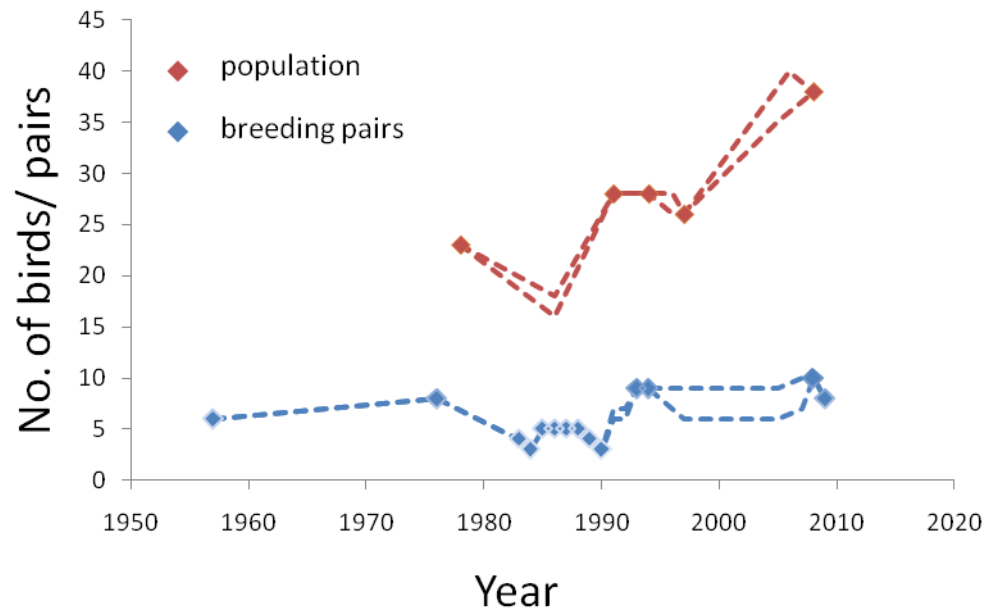
Richard Y.; Abraham, E.R. (2013).
Risk of commercial fisheries to
New Zealand seabird
populations. 109.



Human disturbance



- Major issue at coastal sites
- New Zealand fairy tern (10 pairs)



Pollution



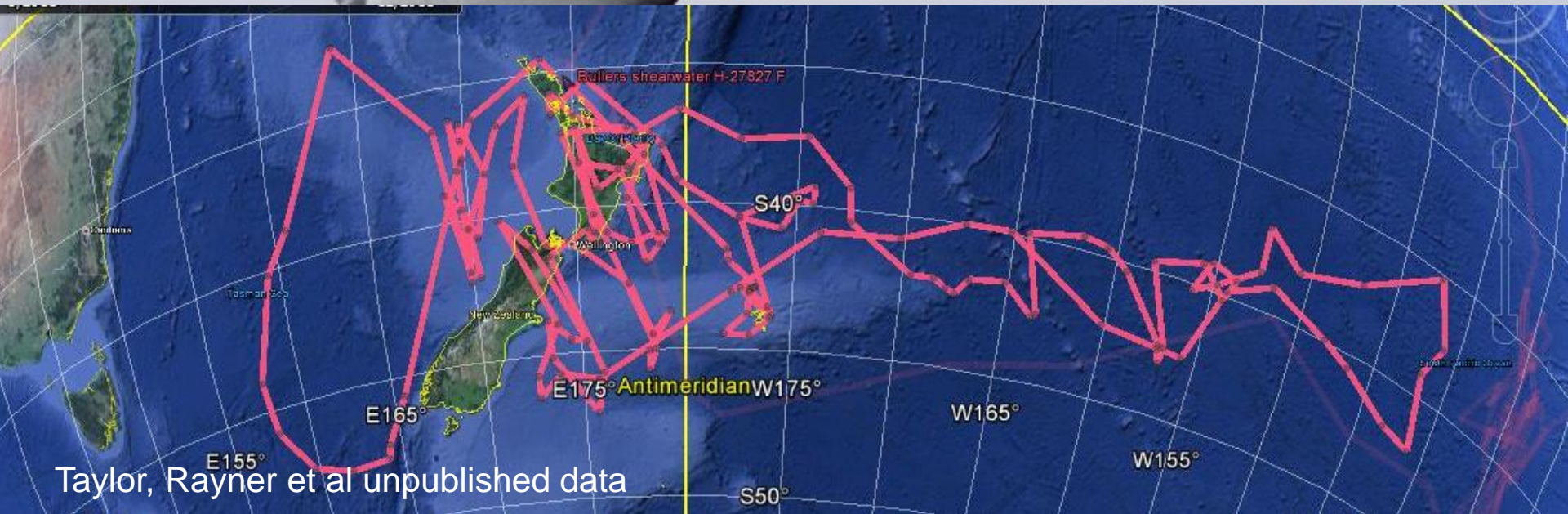


Ecosystem change

Buller's shearwater breeding behavior

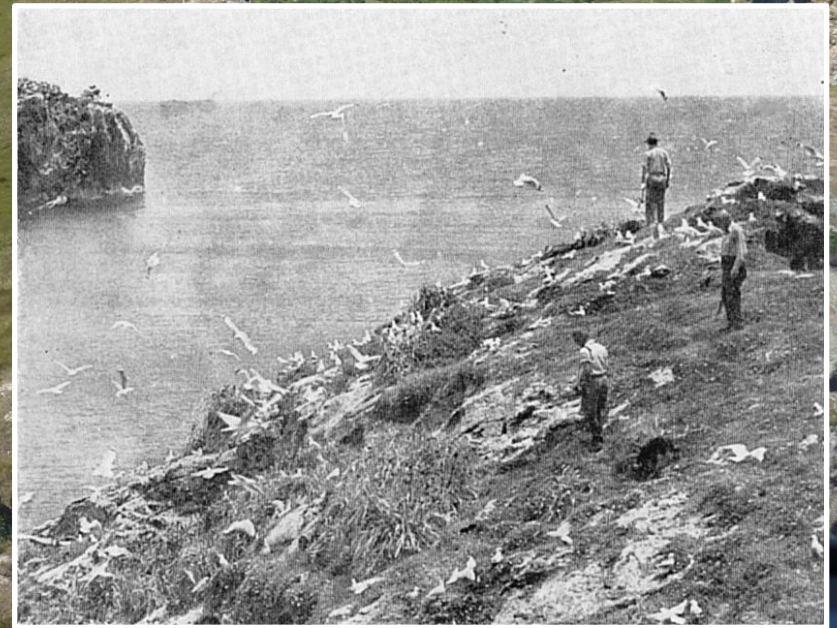
Incubation 4-7 days 1970s, 14 days
2010s

Foraging shifted beyond gulf



Ecosystem change

Red billed gull decline Burgess Is.
Fleming 1946 - 10,000 + pairs
Ismar et al 2014 - 150 pairs



A large flock of seabirds, likely albatrosses, is shown in flight over a blue ocean. The birds are densely packed in some areas, creating a sense of a massive colony. The text is overlaid on the image in a bold, black font.

Seabirds a globally recognised component of the Hauraki Gulf ecosystem

Offer amenity value, an ideal indicator for marine change and are vital ecosystem engineers challenging paradigm of separate management of the sea and land

Threatened on land and sea with key issues around biosecurity of islands and how our use of the gulf is impacting populations directly and indirectly

<http://www.aucklandcouncil.govt.nz/EN/AboutCouncil/representativesbodies/haurakigulffforum/Documents/haurakigulfseabirdmanagementplanmar2013.pdf>

<http://http://www.forestandbird.org.nz/important-bird-areas>

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