

**At-sea distribution and population estimate
of Black Petrel, *Procellaria parkinsoni*,
on Great Barrier Island, Hauraki Gulf, New Zealand**



ELIZABETH BELL¹, Joanna Sim, and Paul Scofield

1. Wildlife Management International Limited, PO Box 45, Spring Creek, Marlborough 7244, New Zealand, biz@wmil.co.nz

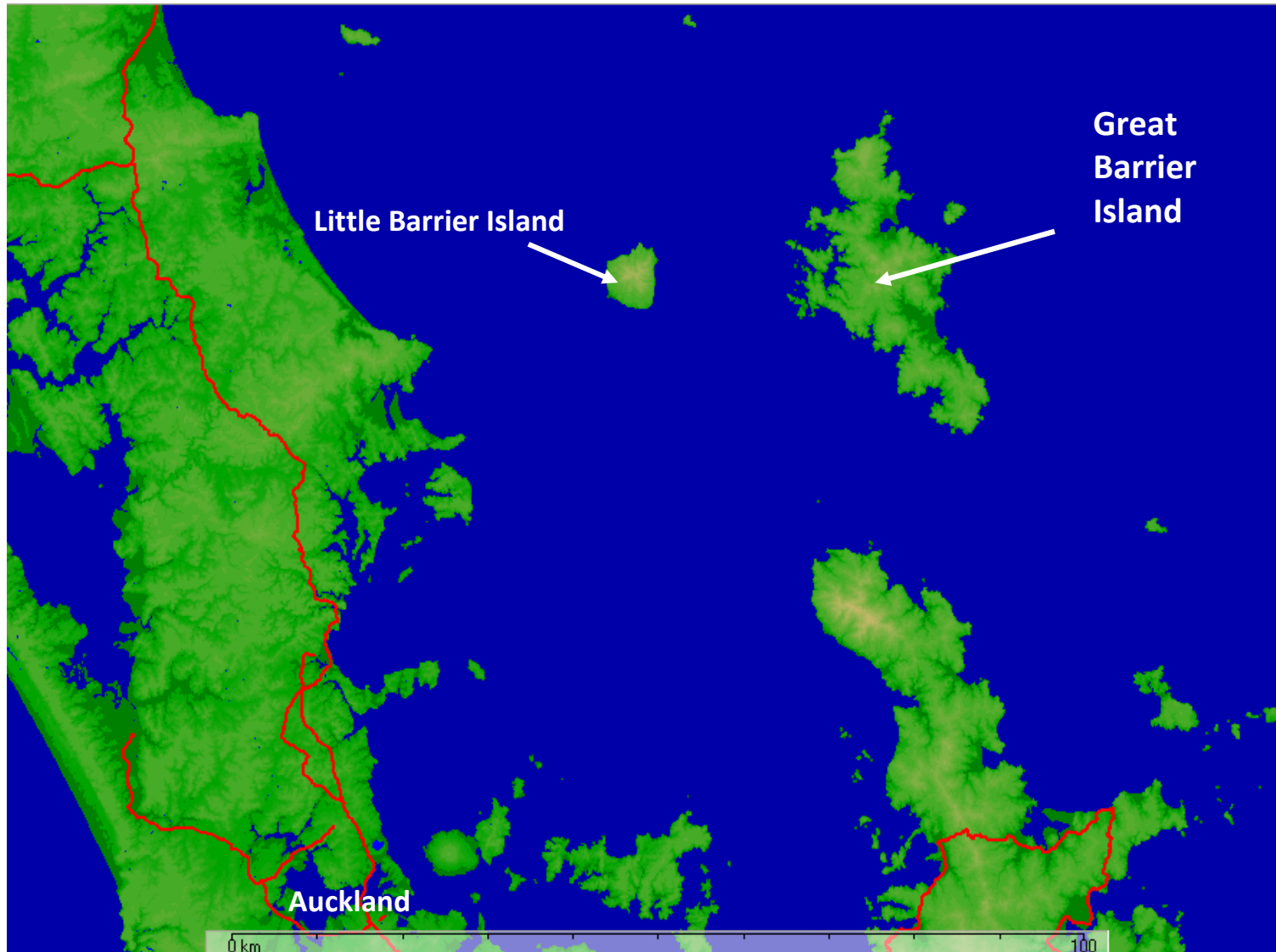
BLACK PETREL RESEARCH PROJECT



- Medium-sized petrel (average 700 g)
- All black (with pale sections on bill)
- Endemic to New Zealand
- Previously found throughout North Island and NW Nelson
- On Great Barrier Island (c. 5000 birds)
- On Little Barrier Island (c. 250 birds)



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- **Breed from October to June**

- Adults return to the colony in mid-October to clean burrows, pair and mate, then depart on “honeymoon”
- Return to colony in late November to lay a single egg
- Incubate egg for 57 days
- Eggs hatch from late January through February
- Chicks fledge after 107 days (from mid-April through to late June)
- Adults and chicks migrate to South America for winter



- **Black petrels caught by commercial and recreational fishers both in New Zealand and overseas**
 - Since 1996, **61** have been caught in NZ waters by local commercial fishers (mainly on domestic tuna long-line and on snapper fisheries)
 - Anecdotal capture reports from recreational fishers
 - Unknown level of fisheries impact overseas

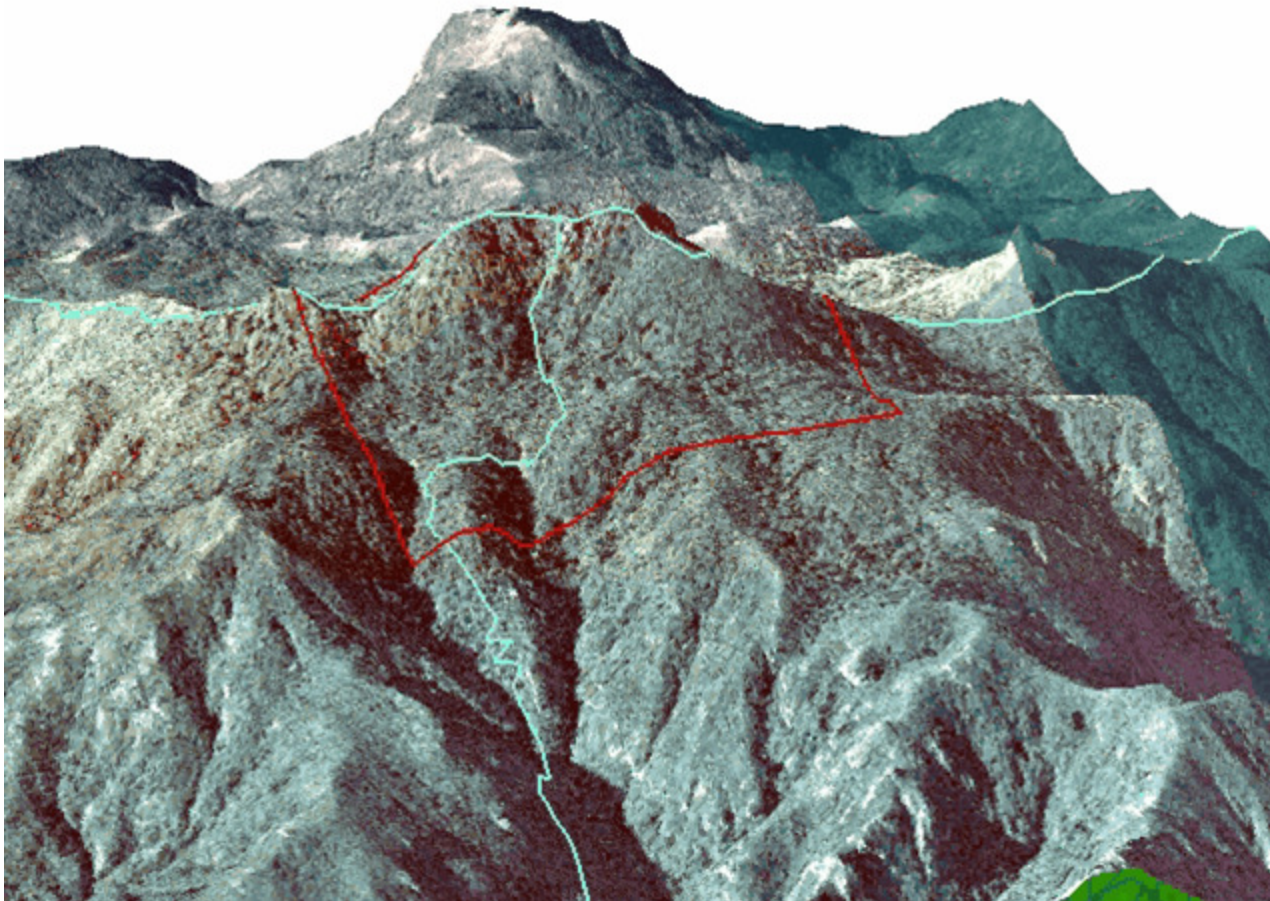


- **Long-term research project on Great Barrier Island (since 1995/96 breeding season)**

- Long-term mark-recapture programme
- Determine baseline population dynamics, including an accurate population estimate
- Determine breeding success (and causes of failures)
- Determine at-sea distribution of the Great Barrier Island black petrel population (and identify areas of risk from fisheries)
- Determine population trends (including survival and recruitment)



Mount Hobson (Hirakimata) Study Site



- Covers 35 hectares around the summit.
- **409** numbered burrows
- **401** study burrows (including **157** in nine census grids)
- Burrows are accessed through entrance or study hatch

PROJECT OUTLINES:

- Three trips per breeding season
- **Population parameters:**
 - ✓ Mark-recapture of adults at the colony
 - ✓ Monitor study burrows
 - ✓ Estimate population (and determine trends)
 - ✓ Determine breeding success (and causes of failures)
 - ✓ Random transects through study area



PROJECT OUTLINES:

Transects through entire study area:

- Random GPS start points
- Random compass bearing from the start point
- 400 m length
- 2 metre strip on either side of transect central line
- Edge effect minimised:
 - Burrows east or north of the central line were counted if any part of the burrow entrance was within the 2-m strip
 - Burrows west or south of the central line were counted only if the entire burrow entrance was within the 2-m strip.



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PROJECT OUTLINES:

• **At-sea distribution:**

- ✓ Deploy GPS loggers
 - ✓ 30 in December and up to 50 in February
- ✓ Deploy Dive Depth devices
 - ✓ 15 in December and again February
- ✓ Determine foraging range, migration routes and behaviour at sea during breeding season
- ✓ Determine risk from and overlap with fisheries



OTHER ASPECTS:

- Hands-on involvement for local Iwi
- Feral cat, rat and feral pig control on Mt Hobson/Hirakimata
- Public Awareness Meetings on GBI
 - Look out for fledglings on the road during May and June
 - Control rats and feral cats on private land
 - Prevent dogs from roaming
 - Report (or hand-in) any injured or dead birds to DOC
 - **FISH SEABIRD SMART:**
 - How to deter seabirds from around recreational fishing vessels, avoid accidental capture of seabirds when fishing and how to remove hooks if birds are accidentally caught during fishing



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- **Annual reports are published by DOC and are available from www.doc.govt.nz as PDF files**



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Any questions?