

BLACK PETREL ESSENTIALS

Procellaria Parkinsonii

Description

- All black except for pale sections on bill
- Medium-sized petrel (average about 700 g)
- Wingspan averages 110 cm
- Often seen in the outer Hauraki Gulf
- Oldest banded bird recorded is 27 years (E. Bell, pers. comm.)



Breeding sites

- Endemic to New Zealand - previously found throughout North Island and Northwest Nelson but predators (feral cats, pigs) caused their extinction on the mainland from about the 1950s (Medway 2002)
- Now restricted to main colony on Great Barrier Island (c. 5000 birds over summer, including approximately 1300 breeding pairs and 1000 “pre-breeders” looking for mates (Bell *et al.* 2011)
- Small colony present on Little Barrier Island of c. 250 birds (Imber 1987)

Population decline

- Classed under DOC Threat Classification System as **Nationally Vulnerable** (Miskelly *et al.* 2008) and by the International Union for Conservation of Nature or **IUCN Red list: Vulnerable**
- Land-based population research at their breeding colonies since 1995 indicates the species is declining at a rate of at least 1.4% per year (Bell *et al.* In press A)
- In 2011 chick survival fell to 77.5% and breeding success was 61% (Bell, *unpublished data*).

Breed from October to June in the Hauraki Gulf

- Adults return to the colony in mid-October to clean burrows, pair and mate with the same partner (Imber 1987)
- Males will return to the same burrow every year and try to attract another female if their mate does not return or if there is a “divorce” (about 12% annually) (Bell *et al.* 2011)
- Pairs then depart on “honeymoon”, returning to the colony again in late November when the females lay a single egg (Imber 1987)
- Both birds share incubation of the egg for 57 days (about 8 weeks) (Imber 1987)
- Eggs can hatch from late January through February (Imber 1987)
- Chicks fledge after 107 days (15 weeks) from mid-April through to late June (Imber 1987)
- About 75% of chicks survive to fledge (Bell *et al.* 2011)
- Adults and chicks migrate to South America for winter (to waters off the Ecuador coast) (Imber 1987, Bell *et al.* In press B)
- Juveniles will remain at sea in the West Pacific for 3-4 years until they are ready to breed – survival rate is 46% during this time vs 90% for birds over 3 years old (Bell *et al.* 2011)
- At about 4 years old, pre-breeding birds will fly back to the colony to find a mate – this may take 1-2 seasons (Bell *et al.* 2011)

Range while at sea

- In addition to breeding birds, there are likely to be a further 6000 juveniles, pre-breeders and non-breeding birds at sea
- Black petrels may range from the east coast of Australia all the way to the coast of South America between Mexico and Peru and the Galapagos islands (Bell *et al.* In press B)
- Females and males forage separately and in different places – it is not known why (Bell *et al.* 2009, Bell *et al.* In press B)
- Birds forage much closer to the Hauraki Gulf over the summer and autumn while incubating an egg and raising a chick – mainly in the Tasman Sea and to the North East of NZ (Bell *et al.* 2009, Bell *et al.* In press B)
- They may feed at night or during the day (unlike albatrosses which do not feed at night) (Imber 1976)
- Birds will aggressively follow fishing boats and long line hooks and may dive up to 20m below the surface after baits (Imber 1976)
- Black petrels can cover amazing distances – the longest recorded foraging trip for a bird from Great Barrier is 39 days (Bell *et al.* 2009, Bell *et al.* In press)
- Mapping of foraging patterns against fishing activity in NZ waters is currently underway (see reports – Bell *et al.* 2009, Bell *et al.* In press).

Threats to the survival of the black petrel

While at sea

- Black petrels are caught by commercial and recreational fishers both in New Zealand and overseas (Abrahams *et al.* 2010, Thompson 2010, Richards *et al.* 2011)
- Ministry of Fisheries research shows the black petrel is **the most at risk seabird in NZ** from commercial fishing, estimating that between 725 and 1524 birds may have been killed each year in the period 2003 to 2009 (Richards *et al.* 2011)
- Petrels may be drowned by taking long line hooks after they are set (launched) or when they are being pulled onto boats
- Inshore snapper and bluenose bottom long line fisheries are the greatest risks, especially where fisheries overlap with foraging patterns of breeding birds (Richards *et al.* 2011)
- Reported deaths by fishers are low – since 1996, there have been only 38 birds reported caught and killed in NZ waters by local commercial fishers, mainly on domestic tuna long-line and on snapper fisheries (Richards *et al.* 2011, Thompson 2011, Bell *et al.* In Press A)
- Less than 0.5% of boats in these high risk fisheries had observers on board in any one year
- The level of deaths in fisheries outside NZ waters is unknown
- There are anecdotal capture reports from recreational fishers especially in the outer Hauraki Gulf (Abrahams, *et al.* 2010) where birds are commonly reported

Threats in main breeding colony

- On Great Barrier feral pigs are known to dig up burrows and eat eggs and chicks – in one example in 1996 pigs destroyed 8 burrows in one incident (Bell & Sim 1998).
- Feral cats can kill adults on the ground or at the nest as well as chicks
- Cat numbers on Great Barrier are impacted by trapping by the Department of Conservation in the Whangapoua basin but there has been no specific protection of the colony to date
- Kiore and ship rats are also present on Great Barrier but predation levels are between 1 and 6.5% per annum (Bell *et al.* 2011); kiore cannot eat through a black petrel egg
- Risk to black petrel survival from a one-off event/events is significant due to limited habitat for breeding / ie a single site on Hirakimata on Great Barrier Island (for example fire, storm damage or predator invasion at main colony).

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