

Black petrels (Taiko) return to Great Barrier (Aotea) natal colony

Rachel Hufton, Ecologist reports

Mt Hobson (Hirakimata) at 621m is home to the largest breeding colony of black petrel (Taiko) *Procellaria parkinsoni*. View (below) from Mt Hobson with Little Barrier Island in the far distance.



The geologically and ecologically captivating slopes of Mt Hobson comprise semi-mature forest with remnants of ancient and precious conifer forest. The woodland assemblage combines endemics such as totara, rimu, kirks pine, and kauri. Diurnally the mountain is audibly dominated by the prehistoric raucous call of kaka, coupled with contrasting melodic tones of the grey warbler.

As dusk turns to night the summit of Mt Hobson becomes alive with the distinctive clamour of black petrel clacking. This is the male at his most vocal to ensure he attracts a mate for the season. Black petrels can also be heard crashing through the forest as they descend for their nesting burrows. Their large wingspan (115 cm) can be seen gliding, silhouetted ascending into the night as they launch from the summit or Launch Rock (below).

I was fortunate to stay on Mt Hobson and assist Elizabeth (Biz) Bell (Wildlife Management International Limited) and her team on the Great Barrier Black Petrel Monitoring Project during December 2016. The black petrel is a Nationally Vulnerable Threatened Species. Biz Bell has been committed to the long term conservation monitoring, research and advocacy Black Petrel Project for the past 21 years since the 1995/96 breeding season.



Launch Rock where the scratch marks of black petrels can be seen caused by sharp claws as they climb up before launching off to sea.

Black petrels are remarkable birds with unique lifecycles spending the majority of their life in

New Zealand waters (Oct – June) with four months in South American waters (apart from the first couple of months after fledging). Here they take advantage of the Humboldt Current that sustains a wealth of marine life important for essential foraging. Philopatric; they return to their natal colonies at Great Barrier and Little Barrier (Te Hauturu-o-Toi) from October - July. Their acute sense of smell is thought to help aid relocation of their nest sites when returning from sea. Great Barrier Island holds the largest colony estimated at over 2700 breeding pairs. Black Petrels belong to the diverse Procellariiformes order of tubenose seabirds including; petrels, shearwaters, albatrosses and storm petrels found across the world's oceans. There are five species of Procellaria petrels; white-chinned petrel, spectacled petrel, Westland petrel (largest), grey petrel and the black petrel.

The males usually return to Great Barrier first; excavating their own burrows, or utilising caves, hollow logs and cavities under banks and bases of trees. At night during the breeding season the male black petrel can be seen clacking loudly outside burrow entrances. Pairs are usually monogamous and a



Typical Black Petrel burrow beneath tree roots above and an egg below.



single egg is laid incubated by both parents.

A typical day involved orienteering through the "forest gym" locating the 450 study burrows. After inspection of the burrow entrance for activity, an arm is put down the length of the burrow to feel for the bird or the presence of an egg. If an egg is felt then this is removed temporarily for safety. Once the bird has bitten a gloved hand; it is then pulled out of the burrow and processed in relation to sex, condition and banding. Both the bird and the egg are returned and data recorded. Occasional courting pairs may be found together inside the burrows or the occasional interloper trying to claim the burrow for himself. Burrow ownership can cause serious conflict between males and was seen on one occasion. The cumulative results of the study burrows and other research such as acoustic

recording monitoring help indicate how the population is doing in terms of conservation status.

Black petrel habitat around the summit of Mt Hobson with young kauri sapling in the foreground.



Key Threats and Mitigation

Black petrels can be long lived up till around 30 years however, they are recognised as the most vulnerable tubenose seabird at risk of being caught by commercial fishing boats within New Zealand Fisheries waters. This is due to the attraction of fishing boat bait or offal discards whilst the birds are out foraging.

Part of my time on Mt Hobson with Biz Bell and the project team involved advocacy work whilst hosting a number of visitors keen to learn about the black petrels. Visitors included staff from commercial fisheries, Kennedy Warne (Co-founder of the New Zealand Geographic) from Radio New Zealand and Tim Higham of the Hauraki Gulf Forum. The purpose of the advocacy day was to help raise awareness about this important species. Fishers were able to learn how to correctly handle the birds (Biz Bell giving a handling demonstration here of a male black petrel) and to see their important nesting sites first hand.



Terrestrial threats include ship rat, Pacific rat and the largest of these threats being feral cats. Fortunately there are no mustelids or possums present on Great Barrier Island and rat and cat control is currently in progress on the mountain subject to funding. Two feral cats were caught by DOC trapping staff during my time on the mountain. Disturbance is also potentially a threat as this is a

popular summer location. However visitor pressure has been mitigated through the installation of an incredible construction of stairs and decking which has been built over the burrows to minimise disturbance to ground nesting bird habitat. At the same time the boardwalk construction protects tree roots and helps to control the spread of Kauri Dieback.

The black petrel research has contributed to important processes such as the Hauraki Gulf Forum - Sea Change. Prior to this, the Black Petrel Accord was formed by Southern Seabird Solutions and collaboration with MPI, DOC, Forest & Bird, WWF *etc.* and the fishing industry. Such collaborations are working towards safe fishing that does not catch seabirds. Indicating that enhanced education and awareness is evolving attitudes to address situation in response to seabird bycatch. An example is Leigh Fisheries who pledged to eliminate bycatch as a result of increased knowledge and innovation.

The Black Petrel Monitoring Project continues into 2017 with banding of chicks and continued searching of new study burrows by random transects and the aid of a seabird-detector dog. This incredible project highlights the importance of biological information, awareness raising, positive collaborative partnerships and communication to ensure the conservation of biodiversity and in this case; that black petrels (Taiko) continue to return to their natal home Great Barrier, each year for future generations to enjoy.



Kennedy Warne assisting the banding of a black petrel as part of ongoing population monitoring study.

For further information or to hear Kennedy Warne's Great Barrier experience featured on "Off the Beaten Track" Radio New Zealand refer to links below.

Bell, E.A. Diving Behaviour of black petrels (*Procellaria parkinsoni*) in New Zealand waters and its relevance to fisheries interaction. 2016, *Nortornis*, Vol. 63: 57-65.

Elizabeth (Biz) Bell, personal communication, 2016.

http://wwf.panda.org/about_our_earth/ecoregions/humboldt_current.cfm

Bell, E.A. 2013. Black petrel. In Miskelly, C.M. (ed.) *New Zealand Birds Online*. www.nzbirdsonline.org.nz

<http://www.radionz.co.nz/national/programmes/ninetoon/audio/201828260/off-the-beaten-track-with-kennedy-warne>

Onley, D & Scofield, P (2016) reprinted. *Albatrosses, Petrels and Shearwaters of the World*. Helm Field Guide. Christopher Helm. London.

<http://www.seachange.org.nz/About-Sea-Change/Our-approach/>