



# Watching over Whenua Hou

With a population of less than 250, this small seabird needs urgent help if it is to survive. Photo: Jake Osborne

The race is on to protect a newly discovered diving petrel living on Codfish Island, as **Johannes Fischer**, from Victoria University of Wellington, explains.

One of New Zealand's most threatened seabirds is the Whenua Hou diving petrel. With less than 250 left in the world, all dependent on a single 1km stretch of sand dunes for breeding, they are in big trouble.

This little seabird was described as a new species to science only in June this year. The colony on Whenua Hou was previously considered to belong to the South Georgian diving petrel, but my research discovered differences in the birds' size, shape, and colour.

Together, these differences were enough to classify them as a separate species based on the criteria used by BirdLife International. I worked with Kaitiaki Roopu, a group made up of representatives from Southland's four Ngāi Tahu rūnanga, to name the species after Whenua Hou/Codfish Island, the only place they survive to the present day.

While the Whenua Hou diving petrel used to breed in colonies throughout southern New Zealand – in the Chatham Islands, Otago Peninsula, Stewart Island, and the Auckland Islands – they are now restricted to a tiny colony in the dunes of Sealers Bay, Whenua Hou, 3km west of Rakiura/Stewart Island.

The Whenua Hou diving petrel is a highly specialised species – the only seabird that breeds entirely within a sand dune environment. Unfortunately, this specialisation means it suffers from the effects of storms and storm surges, which erode the dunes these birds depend on and can entomb them inside their burrows.

Given this dire situation, the Whenua Hou diving petrel is considered nationally critical in New Zealand, the same threat status as kākāpō and kākī. Forest & Bird recognised the need for its conservation and supported my PhD project (2017–20) through a grant from the JS Watson Trust.

Seabirds like the Whenua Hou diving petrels are "ecosystem engineers" and have a significant impact on their surrounding environment. For example, they boost the diversity of other species groups, provide terrestrial

ecosystems with nutrients, and aerate the soil while digging their burrows. Unfortunately, seabirds are also one of the most threatened species groups on the planet, which means their conservation is of urgent importance.

The aim of my PhD is to identify the ideal conservation strategy to secure this species. Specifically, my project combines tracking, breeding biology, and capture-mark-recapture studies to identify threats and potential conservation strategies.

I have concluded the first season of my research, and the initial results are coming in. Twenty-six Whenua Hou diving petrels have been equipped with tiny data loggers and are now out at sea, collecting information on their winter locations. Ten nest boxes were also installed, but most information on the breeding biology was gathered with a burrowscope: the birds arrive in mid-September, lay their eggs in mid-October, which hatch in late November, and the chicks finally fledge in mid-January.

I'm also really pleased to report that nearly 95% of the adult population was captured and marked during the 2017/18 breeding seasons, making it one of the most well-marked seabird populations on the planet. Repetitions of these efforts in the 2018/19 and 2019/20 season will allow for robust analyses and thus the identification of the required conservation measures.

JS Watson trustee and ornithologist Alan Tennyson, from Te Papa, commented: "This is significant research, Johannes has achieved a huge step forward in understanding this species."



As rare as kākāpō. Johannes Fischer with a newly discovered Whenua Hou diving petrel. Photo: Graeme Taylor