



ARE NEW ZEALAND STORM PETREL NUMBERS ON TE HAUTURU-O-TOI /LITTLE BARRIER ISLAND INCREASING?

Using mark-recapture methods from both captures on land and observations of banded birds at sea in 2014 and 2015 we estimated the population of NZSP on Hauturu to be approximately 1600 individuals. Though anecdotal evidence suggests this population may be increasing accurate data are yet to be obtained and are critical for accurate conservation designations for the species.

Our proposal was to repeat the island-based survey on Hauturu in February and March 2023, by adhering to our established and published protocols. However, our February trip was cut short by extreme weather conditions, and the March trip cancelled due to a rahui being placed over the island. Results from our six nights of survey effort do appear to show that the population is increasing, however more nights of data are needed. Results based on the sightings at the light site and capture rates were much higher than in the earlier surveys and this supports a population increase. Further quantification will await a longer sequence of nights on the island in the near future.

Unfortunately scheduling more survey time on the island in 2024 also proved impossible. Funding will be sought to undertake the mark-resighting protocol in future, to complete the data collection required for a population re-estimate.

While on Hauturu we followed up on work conducted in previous seasons with the deployment of acoustic recorders in Parihakoakoa Valley near known natural burrows to try obtain new recordings of NZSP calls. To date, NZSP appear to have a very narrow calling period (mid-January to early-February). We were successful in recording new calls which have been added to our playback mix.

Only five active natural NZSP burrows have been discovered to date and all in difficult to access and fragile terrain. In Feb 2023 we deployed a portable playback system and camera, and installed nest boxes at an upper valley site. The purpose, to try and establish birds breeding in nest boxes in the vicinity of known breeding sites. This new artificial site, if successful, would allow us to study the birds more effectively, learning more about their breeding and behaviours.

We managed to make three short trips to the island in 2023 and 2024 to service the equipment and check for activity around the nest boxes. NZSP are being attracted to the site with the camera detecting birds entering one of the nest boxes.

The genomics study, also funded through the Birds NZ Research Fund conducted by Anika Trnka, a BSc Honours project, University of Auckland, compared the DNA of NZSP captured at sea in the Far North, with those in the Hauraki Gulf and on Hauturu. The purpose was to examine the population structure of NZSP and investigate the possibility of another NZSP breeding colony. The results showed that it is very unlikely the birds from the Far North are from a distinct population, i.e., species NZSP may only breed on Te Hauturu-o-Toi with a genetic status characteristic of small, isolated population and potentially limited capacity to adapt to new threats.

The threats to NZSP are warming seas and potential changes in prey distribution. Breeding on a single island, while predator-free, also places it at risk from predator reinvasion or disease. By trialling management techniques allows us to better understand their ecology, while exploring methods for establishing alternative breeding populations in predator-free locations. With Hauturu the only known breeding location for this vulnerable species, urgent action could be required safeguard the population.

NZ Storm Petrel Working Group

