

# Sooty shearwater: Conservation conundrum on Kapiti Island

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Largely due to invasive predators, habitat changes, pollution, and fishing mortality, 90% of New Zealand seabirds are threatened or at risk of extinction, making it the highest number of threatened seabird species in the world (Our Marine Environment, 2019). Among those species, *Puffinus griseus* (sooty shearwater), also called tītī, has been decreasing at an alarming rate for the past decades and has disappeared from numerous former nesting sites. On the bird sanctuary of Kāpiti Island, the formerly abundant tītī have decreased to an historically low chick productivity (2 chicks/year in 2021, 0 in 2022). The reasons for this needs to be quantified but are likely a mix of large-scale shifts in marine conditions compounded by predation of weka (*Gallirallus australis*). The situation is creating a conservation conundrum with one taonga species (weka), predated upon the chicks of another (tītī).

A few kilometres south of Kāpiti is the island of Mana where weka are absent and tītī population is stable. With this unique situation of two adjacent colonies, Mana can act as a study control. Thus, we aim to i) quantify influence of abiotic/oceanographic variables on adult breeding and chick stress/survival, ii) quantify influence of biotic parameters (weka predation) on chick survival and iii) develop an integrated population model (IPM) to predict the future of the population of tītī as well as the outcome of possible solutions.

Regarding weka predation (ii), we hypothesize that only part of the population may be predated on tītī. To test this hypothesis, we need to assess weka distribution on Kāpiti Island through a GPS tracking. By covering the costs associated with this GPS tracking, Birds NZ Research Fund 2022 will make a major contribution to this project and the future of tītī on Kāpiti.

Such conservation conundrum must be addressed with great care, planning and close attention. For that, the aim is to assess a range of options (and predicted outcomes) to be discussed through a structured decision making with DOC, iwi and conservation groups. The objective is to avoid relying solely on Western science and on top-down implementation to practice inclusion by considering the cultural values of iwi as well as their knowledge of the ecosystem. The overall intention is to understand the factors driving the decline of sooty shearwater's population on Kāpiti Island and identify the best management steps. This research will serve as a basis to reduce weka predation and lift sooty shearwater chicks' survival across Kāpiti island and in central Aotearoa New Zealand.



South Atlantic Ocean Tītī, Photo: Nick Athanas