

The investigation of Aotearoa's albatrosses diet during critical life stages

Globally, seabirds are recognised as one of the most vulnerable groups of birds, with 41% of species listed as *Threatened* or *Near Threatened* ([BirdLife International, 2022](#)). The dominant threats to seabirds are related to interactions with human fishing activities both directly (e.g., incidental capture whilst feeding on bait and discards) and indirectly through the reduction in the abundance of key prey species. In addition, climate change is increasingly impacting the foraging behaviour of seabirds and their prey species. Thus, knowledge of the diet composition of seabirds has become increasingly important to better understand their ecology, especially in terms of identifying and addressing anthropogenic factors that are impacting their survival.



An Antipodean albatross chick near fledging, Antipodes Island.
Photo credit: Dr Kath Walker.

This research project will focus on two sub-Antarctic albatross species, Antipodean (*Diomedea antipodensis antipodensis*) and Gibson's (*D. antipodensis gibsoni*) albatrosses located on Antipodes Island and Adams Island, respectively. These birds are classified as nationally critical with their populations predicted to decline by > 70% in the coming years ([Conservation status of birds in Aotearoa New Zealand, 2021](#)). There is very limited dietary information available for these seabirds whose food sources are threatened by both anthropogenic and climate change. DNA metabarcoding¹ has proved to be successful in identifying dietary target species from seabird regurgitated pellets/boluses², which are ideal sample types to gain dietary information from. What is particularly unique about albatross

bolus samples is that a single sample represents an individual chick's dietary period over a few months before they leave the colony.

This study aims to investigate the bolus contents that have been regurgitated from Antipodean and Gibson's albatross chicks using DNA metabarcoding to help determine the importance of various fish and cephalopod species during this critical stage. This applied research has the potential to be immediately expanded to previously collected samples that could help us understand why there was a sudden decline in the numbers of these albatrosses in 2006-2007, and possibly lead to measures to prevent further events like these by informing effective conservation management. This project's research team includes Dr Aimee van der Reis and Professor Andrew Jeffs from the University of Auckland, and Dr Kath Walker and Dr Graeme Elliott from the Department of Conservation.

¹ A molecular method to determine species composition from mixed samples.

² Undigested materials that the bird regurgitates after a period of time.