



## Marine ecology, breeding biology and population size of Fiordland penguin/Tawaki

Until recently, the Fiordland penguin or tawaki remained one of the least known penguin species in New Zealand. In 2014, the Tawaki Project set off to investigate how this enigmatic species copes with living in the diverse oceanic habitats that characterize their breeding distribution ranging from Southwestland via Fiordland down to Stewart Island. Using miniaturized GPS dive loggers, the project studies the penguins' foraging movements and diving behaviour for the first time, thus, collecting information essential for the planning of marine protected areas and the assessment of impacts of anthropogenic factors such as fisheries and pollution. Other aspects of the project include determination of diet preferences (e.g. via faecal DNA analysis), examination of gene flow, and establishment of basic breeding parameters across the species' entire breeding range.

Besides collecting research data at key sites – Jackson Head, Milford Sound and Codfish Island – the project also strives to communicate results through public talks, social media and illustrated reports, and engage the public in a citizen science project. A first trial in 2016 showed that using colour coded devices in Milford Sound allows tour operators and visitors to accurately report sightings of study birds. With the help of local tour operators, the Tawaki Project also aims at mapping and counting the local tawaki population in Milford Sound to gauge the accuracy of existing population estimates.

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