



2021 Season Report – Tawaki monitoring in South Westland

In order to identify and further our knowledge of the threats Tawaki/ Fiordland Crested Penguins face (both on land and at sea), the Trust monitors the breeding success of three Tawaki colonies in South Westland, at Gorge River, Jackson Head, and Knights Point, each of which have differing levels of predator control. The scattered distribution of Tawaki, which generally breed in some of the least populated parts of the country (and therefore away from disturbances such as cars, dogs, and humans), means that stoats are likely to be the largest threat to Tawaki whilst they are on land. Starvation is also an issue for Tawaki in years when food is scarce, such as when we had strong El Niño conditions in 2015.

Overall, 2021 was a good breeding season for Tawaki, though not without its fair share of challenges for our rangers. Breeding success was very similar to both 2020 and 2019, which were both good years for Tawaki. This was the third year of our nest monitoring study, and although we lack a long-term data set, previous research by both the Trust and [The Tawaki Project](#) has given us knowledge about some of the signs of a bad breeding season, such as starving chicks, adults foraging far-offshore, and obvious signs of stoat predation (especially on young chicks). Thankfully, this was not the case this year, with only small numbers of chicks predated by stoats. Adults and chicks observed by our rangers were seen to be large, healthy and mobile, with a high number of chicks fledging, and adults seen foraging close to shore, suggesting that food was plentiful this season.

Site	Nests Monitored	Chicks seen at nest- pre crèching	Breeding success to crèching	Breeding success 2020	Breeding success 2019
Knights Point	17	16	0.94	1	0.8
Jackson Head	19	17	0.90	0.88	Not measured
Gorge River	28	23	0.82	0.83	0.9



An adult feeding a young chick

Due to the 2021 Covid lockdown in August, monitoring at Knights Point and Jackson Head was not able to start until late September, and chicks were already quite large and mobile by the time monitoring began. This meant we were unable to determine the true number of eggs laid and see if any nests failed in the early stages of the breeding season. Stoat predation was not seen to be a problem at these colonies, although it is possible that it may have occurred before monitoring began. Tracking tunnels at both of these colonies detected no stoats, with only 1 juvenile stoat detected on a trail camera at Knights Point in late September, and not seen again. Although we are now using trail cameras primarily to identify the presence and behaviour of predators within the Tawaki colonies, they also provide us with additional knowledge about the behaviour of Tawaki who unknowingly walk in front of the cameras (as well as some cute penguin photos!)



A Tawaki chick spreading its flippers in preparation for fledging – note some baby fluff still to be replaced by feathers

At Gorge River where we were able to start monitoring at the start of the season, five nests failed and were abandoned early in the season, with stoats caught on trail cameras entering at least two of these nests. Despite these early season losses, Tawaki at Gorge River had a good season, with only one other chick found dead throughout the season.

Tawaki have a few key differences in their breeding habit compared to Kororā/ blue penguins. Firstly, despite Tawaki laying two eggs, they will generally raise one chick per breeding pair, from the second and larger egg, other than when food is abundant – very rare on the West Coast but recorded in Milford Sound more often. The other key difference in the breeding habit of tawaki is that once chicks are of a certain size, usually around three weeks after hatching, they will begin to move around the colony, with multiple chicks often inhabiting a single nest or choosing a gathering site - this is known as crèching. An example of this can be seen on [this Tawaki Project video](#). It is thought that crèching offers numerous advantages, such as greater protection from predators, and communal warmth for the chicks. It does, however, make our rangers' lives difficult, with it becoming almost impossible to know which chick came from which nest!

Many thanks to Andre, Polly, Catherine, and Matt, who completed this at-times challenging monitoring work.