



BEN DILLEY

NEW PROJECT TO ASSESS PETREL STATUS

Many seabird populations are easy to monitor, because their adults gather in colonies to breed each year. However, most petrels breed in burrows and only return to their nests after dark, making it difficult to estimate their populations. A new Fitzpatrick project has begun at Marion Island to assess how petrel populations have fared since cats were eradicated from the island more than 20 years ago.

Marion Island, the larger of the two Prince Edward Islands, lies in the heart of the Roaring Forties, more than 2000 kilometres from South Africa. A feral cat population became entrenched on the island after a few pets were taken to control house mice at the weather station that was established after South Africa annexed the islands in 1948. The mice were themselves introduced by sealers who visited the island in the 19th century. Unfortunately, the cats preferred to eat the island's native birds, especially the burrow-nesting petrels, and by the 1970s more than 2000 cats were killing some 450 000 petrels each year. As a result, at least one species, the Common Diving Petrel, disappeared from the island and all the other petrels became far less common than at predator-free Prince Edward Island.

A decade-long programme led by Marthan Bester finally succeeded in eradicating cats from the island in 1991. At 295 square kilometres, Marion remains the largest island from which cats have been removed. With the cats gone,

petrel populations should have recovered; 20 years is long enough for their populations to increase three- to four-fold simply through natural growth. And growth rates can be much faster when there are adjacent populations that act as a source of immigrants, as is the case at Marion, with Prince Edward only 19 kilometres away.

Initial signs were positive and petrel breeding success did increase immediately after the cats were eradicated. However, the extent to which their populations have recovered is unknown, and evidence from Subantarctic Skuas is not encouraging. Whereas skuas breeding on Prince Edward Island prey mainly on petrels, the diet of those on Marion is dominated by penguin eggs and chicks. This diet hasn't changed over the past two decades, and skua numbers have almost halved at Marion Island during this period.

There is a baseline estimate of petrel numbers on Marion Island. Mike Schramm counted burrows in a range of habitats in the north-eastern part of the island in 1979–80. But surveying burrowing petrel nests is not the

most objective of techniques. Fortunately, we were able to entice Mike back to Marion in April–May 2012 to help set up the new project. His experience and insights proved invaluable to Ben Dilley, the student tackling the current survey. Ben will repeat Mike's surveys during the coming year to see whether petrel numbers have recovered. He will also estimate the breeding success of selected species and place cameras in the nests of some species to see whether there are any untoward visitors.

Our fear is that mice are attacking petrel chicks, as they do on Gough Island. Mike reports that the biggest change he noticed on his return to Marion was the dramatic increase in mouse densities. And given attacks on Wandering and Sooty albatross chicks on Marion in the past few years, it seems likely that mice are indeed attacking burrowing petrel chicks. Ben's project should tell us how severe a problem they pose and give us some idea of how much petrel populations have benefited from the removal of cats from Marion Island.

Mike Schramm uses a point-and-shoot camera to check on a Grey Petrel incubating in its nest burrow. Grey Petrels remain scarce on Marion, despite cats being absent from the island for more than 20 years.



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