

 <p>Agreement on the Conservation of Albatrosses and Petrels</p>	<p>Third Meeting of the Population and Conservation Status Working Group <i>La Serena, Chile, 5 – 6 May 2016</i></p> <p>Macquarie Island's giant petrels and the impacts of the pest eradication project on population abundance</p> <p><i>GN Tuck, R Alderman, C Castillo-Jordan, M Haddon and AE Punt</i></p>
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SUMMARY

The Macquarie Island Pest Eradication Project (MIPEP) successfully eradicated rabbits and rodents from the 12,850ha sub-Antarctic island, located ~1500km south-east of Tasmania, Australia. The initial aerial baiting phase in the winters of 2010 and 2011 resulted in significant mortality of several native seabird species through primary and secondary ingestion of broadleaf bait. A species of key concern is the Northern Giant Petrel (*Macronectes halli*), which, although relatively abundant and increasing on Macquarie Island, is listed as threatened under Australian legislation and was one of the species most affected by poisoning. Ground searches were conducted to locate NGP carcasses. However, this underestimates the total mortality because many carcasses were ingested before detection or died at sea.

The aim of this analysis was to estimate the total mortality and the response of the population to the poisoning event in the short to medium-term. We used a simulation model to understand the impacts of this sudden mortality event on Macquarie Island's giant petrels by estimating population trajectories and the potential mortality resulting from poisoning. We then considered how population abundance might respond over the ensuing years. Projections of population trajectories suggest a greater than 50% probability of recovery to the pre-poisoning levels of 2009 by 2017.

The results of this study will inform re-evaluations of conservation status of this species. This model could be applied to future planned eradications to quantify mortality and recovery of incidentally affected populations.

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