



Agreement on the Conservation
of Albatrosses and Petrels

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Breeding population of Pink-footed Shearwaters on Isla Mocha, Chile

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SUMMARY

The Pink-footed Shearwater *Ardenna creatopus* is a burrow-nesting seabird that breeds on three islands worldwide. Isla Mocha, Chile, hosts the largest world breeding population of the species. We updated the breeding population estimate of Pink-footed Shearwaters on Isla Mocha and compared results from design- and model-based methods of population estimation. We counted shearwater burrows in 220 randomly generated five-meter diameter plots across pre-defined strata on Isla Mocha. We estimated the total number of shearwater burrows using an area-based extrapolation (design-based method), and separately using a model to predict burrow density based on habitat relationships (model-based method). We multiplied burrow-count estimates by a burrow occupancy factor to derive final breeding population estimates. The stratum-area-weighted burrow density estimate for the 15.8 km² study area was 0.0106 burrows m⁻² (0.0030 SE). The average island-wide proportion of occupied burrows was 0.758 (0.121 SD). The design-based method estimated a total of 168,209 burrows (74,715–261,704 95%CI, CV = 0.28), and 127,503 breeding pairs (87,610–167,395 95%CI). The model-based method estimated a total of 233,436 burrows (95% CI = 151,237–332,179; CV = 0.19) and 181,859 (95% CI = 95,773–267,945; CV = 0.24). These

estimates are greater than previous population estimates for Pink-footed Shearwaters on Isla Mocha, whose means ranged from 19,440-42,095 breeding pairs. Our estimate should be considered a new stand-alone result rather than an increase in the breeding population, because of differences in study design from previous estimates. Because of the low fit of the model-based result, we recommend the use of the design-based result as a more conservative estimate for conservation management. Based on our estimate, >90% of the world population of Pink-footed Shearwaters breeds on Isla Mocha. The world population of Pink-footed Shearwaters remains relatively small, and the species faces many threats, suggesting its present conservation status listings should remain unchanged.