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TITLE: Future Directions in Conservation Research on Petrels and Shearwaters

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ABSTRACT:

Shearwaters and petrels (hereafter petrels) are highly adapted seabirds that occur across all the world's oceans. Petrels are a threatened seabird group comprising 120 species. They have bet-hedging life histories typified by extended chick rearing periods, low fecundity, high adult survival, strong philopatry, monogamy and long-term mate fidelity and are thus vulnerable to change. Anthropogenic alterations on land and at sea have led to a poor conservation status of many petrels with 49 (41%) threatened species based on IUCN criteria and 61 (51%) suffering population declines. Some species are well-studied, even being used as bioindicators of ocean health, yet for others there are major knowledge gaps regarding their breeding grounds, migratory areas or other key aspects of their biology and ecology. We assembled 38 petrel conservation researchers to summarize information regarding the most important threats according to the IUCN Red List of threatened species to identify knowledge gaps that must be filled to improve conservation and management of petrels. We highlight research advances on the main threats for petrels (invasive species at breeding grounds, bycatch, overfishing, light pollution, climate change, and pollution). We propose an ambitious goal to reverse at least some of these six main threats, through active efforts such as restoring island habitats (e.g. invasive species removal, control and prevention), improving policies and regulations at global and regional levels, and engaging local communities in conservation efforts. The clear message that emerges from this review is the continued need for research and monitoring to inform and motivate effective conservation at the global level.

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