

RECOVERY OUTLINE

Southern Giant-Petrel

1	Family	Procellariidae
2	Scientific name	<i>Macronectes giganteus</i> (Gmelin, 1789)
3	Common name	Southern Giant-Petrel
4	Conservation status	
	Australian breeding population	Endangered: A1a
	Population visiting Australian territory	Vulnerable: A1abde+2bde

5 Reasons for listing

The Australian population of the species has decreased in number by 50% (Endangered: A1) and the global population by 20-50% (Vulnerable: A1) in the last three generations, as determined from direct observation (a), an appropriate index of abundance (b), probably as a result of long-line fishing (d) and possibly introduced predators (e). There is a high probability that the global decrease will continue at the same rate (b) as a result of fishing bycatch (2d) and predators (e). Site fidelity is high, so the immigration rate is assumed to be low. The national status of the breeding population is therefore independent of the global status (as per Gärdenfors *et al.*, 1999).

Australian breeding colonies	Estimate	Reliability
Extent of occurrence	5,000,000 km ²	medium
trend	stable	medium
Area of occupancy	40 km ²	medium
trend	decreasing	medium
No. of breeding birds	12,000	medium
trend	decreasing	high
No. of sub-populations	2	high
Largest sub-population	7,200	medium
Generation time	17 years	medium
Global population share	15 %	high
Level of genetic exchange	low	medium

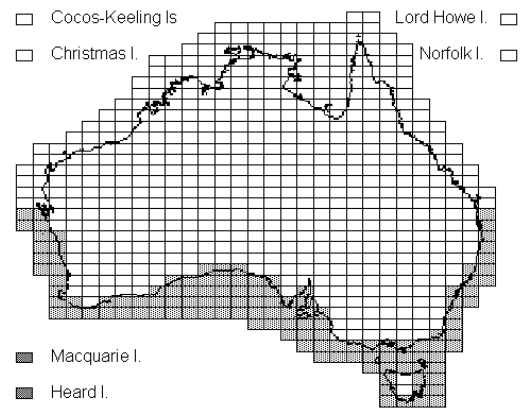
6 Intraspecific taxa

None described.

7 Past range and abundance

Within Australian territory, breeding on Macquarie and Heard Is. and in Australian Antarctic Territory (not considered in this Action Plan) on *Giganteus*, Hawker and Frazier Is (Woehler *et al.*, 1990, EABG, 1999). Extraliminally, breeding on islands in southern Pacific, Indian and Atlantic Oceans, at Cape Horn and on Antarctic Peninsula. In breeding season, most commonly found south of 53°S. In winter, departs southern oceans and frequently found in subtropics or further north (Marchant and Higgins, 1990). Population estimates: Heard I., about 3,500 chicks present in 1959, Macquarie I., 4,000 nests in 1974,

Dewart I., 29-53 chicks in 1970s, Charlton I., 5-10 chicks in 1970s, Nelly I., 52-76 chicks in 1970s, Hawker I., 90 nests in 1970, *Giganteus* I., 25 nests in 1956 and McDonald Is., 1,400 nests in 1979 (Patterson *et al.*, in press). Global population, 38,000 in 1985 (Hunter, 1985).



8 Present range and abundance

Breeding colony on Tristan da Cunha is regionally extinct, and many others are decreasing. The 5,000 or so pairs in Australian territory represent a population reduction of around 50% since the middle of the 20th century (Marchant and Higgins, 1990, Gales and Brothers, 1996). Most recent population estimates: Macquarie I., 1,988 nests in 1996; Dewart I., 54 chicks in 1986, Charlton I., 14 nests in 1989, Nelly I., 73 nests in 1989, Hawker I., 18 nests in 1989, and *Giganteus* I., 2 nests in 1993. No estimate from McDonald I. since 1979, nor from Heard I. since 1959, though latter sub-population is thought to have decreased in number (Patterson *et al.*, in press). Current global population estimated at 31,358 breeding pairs (Patterson *et al.*, in press).

9 Ecology

Southern Giant-Petrels nest annually in small colonies amongst open vegetation, with about 30% of the potential breeding population not attempting to breed each year (Voisin, 1988). When successful, they raise a single chick. They feed on cephalopods and euphausiids, attend fishing boats, scavenge on land, and prey on other birds on land or at sea (Marchant and Higgins, 1990). They are sensitive to human

disturbance and will desert their nests if disturbed at the breeding colony (EABG, 1999).

10 Threats

Longline fishing vessels operate throughout the range of the Southern Giant-Petrel. When attempting to take bait from lines, giant-petrels are frequently caught and drowned on the baited hooks, with significant numbers being killed around breeding islands (Gales and Brothers, 1996, Ryan *et al.*, 1997). On Macquarie I., breeding success and/or nest-site selection have probably been adversely affected by predation by rats, cats and an elevated number of Subantarctic Skuas *Catharacta lonnbergi* (EABG, 1999, N. Brothers), although the threat from the latter two has been substantially reduced (G. Copson). Construction of three research bases in the Australian Antarctic Territory has probably caused localised reductions in the number of breeding Southern Giant-Petrels (Woehler *et al.*, 1990, Woehler, 1993). Ingestion of plastics and hooks, and their regurgitation to chicks, entanglement in marine debris, human disturbance and accumulation of chemical contaminants may also pose risks to this species (EABG, 1999). Decreases and extirpations recorded throughout the breeding range indicate present mortality rates cannot be sustained.

11 Information required

- 11.1 Determine diet and foraging areas of breeding sub-populations.
- 11.2 Quantify extent of plastic debris ingestion.
- 11.3 Assess chemical pollutant levels in tissue and the effect of pollutants on fertility.
- 11.4 Develop genetic profiles for breeding sub-populations.
- 11.5 Determine levels of land-based and at-sea threats.

12 Recovery objectives

- 12.1 Reduce at-sea threats to acceptable levels.
- 12.2 Reduce land-based threats to acceptable levels.
- 12.3 Obtain global agreement on conservation measures required.
- 12.4 Promote public awareness of the conservation needs of giant-petrels.

13 Actions completed or under way

- 13.1 A Threat Abatement Plan (TAP) to minimise fishing bycatch has been prepared (EABG, 1998).
- 13.2 Effective mitigation techniques have been developed and are being improved.
- 13.3 Bycatch rates in the AFZ and the success of mitigation measures are monitored and the results quickly analysed.
- 13.4 Measures known to be effective in mitigating seabird bycatch within the AFZ are promoted by legislation, a code of practice and education programs.
- 13.5 Continued monitoring of breeding population size and success.
- 13.6 Ongoing feral animal control on Macquarie I.
- 13.7 Tourists on breeding islands are managed to prevent disturbance.
- 13.8 A Recovery Plan has been written and a Recovery Team is in place.

14 Management actions required

- 14.1 Limit further construction on breeding islands.

15 Organisations responsible for conservation

Australian Antarctic Division, Environment Australia
Tasmanian Parks and Wildlife Service.

16 Other organisations involved

Antarctic Science Advisory Committee, Australian Department of Foreign Affairs and Trade, Australian Agriculture, Fisheries and Forestry - Australia, Australian Fisheries Management Authority, Convention for Conservation of Migratory Species of Wild Animals, Ecologically Related Species Working Group of the Commission for the Conservation of Southern Bluefin Tuna, Food and Agricultural Organization of the United Nations and its Committee on Fisheries, Incidental Mortality Arising from Longline Fishing – ad hoc Working Group of the Working Group on Fish Stock Assessment of Convention for the Conservation of Antarctic Marine Living Resources, Tasmanian Fisheries Service, professional fishing industry groups.

17 Staff and financial resources required for recovery to be carried out

Staff resources required 2001-2005	1.0	Project Officer (international liaison) ¹
	2.0	Project Officer (diet, foraging range) ²
	3.0	Technical Officers (fisheries observers) ¹
	1.0	Technical Officer (monitoring) ²
	1.0	Technical Officer (ferals) ³
	1.0	Technical Officer (monitoring) ³
	1.0	Extension Officer ¹

Financial resources required 2001-2005

Action	Conservation agencies	Other funding sources	Total
Develop improved fishing bycatch mitigation ¹	\$10,500	\$10,500	\$21,000
Monitor bycatch rates in the AFZ and success of mitigation measures ¹	\$3,600	\$8,600	\$12,200
Analysis of annual bycatch data ¹	\$8,300	\$0	\$8,300
Educate fishers in the AFZ in mitigation techniques ¹	\$6,300	\$5,400	\$11,700
Inform national fora about the TAP ¹	\$2,300	\$0	\$2,300
Inform international fora about the TAP and pursue international threat abatement ¹	\$3,900	\$0	\$3,900
Maintain currency of TAP and report annually ¹	\$2,100	\$0	\$2,100
Demographic and foraging studies ²	\$64,000	\$28,300	\$92,300
Monitoring breeding sub-populations ³	\$21,900	\$0	\$21,900
Feral animal control on Macquarie I. ³	\$277,900	\$0	\$277,900
Research on plastic pollution ⁴	\$6,500	\$6,500	\$13,000
Research on genetics ⁵	\$500	\$500	\$1,000
Managing recovery process ⁵	\$4,600	\$1,800	\$6,400
Total	\$412,400	\$61,600	\$474,000

1 Costs for TAP actions divided amongst all 20 albatrosses, 2 giant-petrels, White-chinned Petrel and Grey Petrel; costs to fishing industry assumed to be offset by improved catch of fish

2 Costs for diet and foraging range studies on Macquarie I divided among Rockhopper Penguin, four breeding albatrosses and two giant-petrels; Heard I. divided among Rockhopper Penguin, three albatrosses and Southern Giant-Petrel

3 Costs of Macquarie I. monitoring and feral animal control shared among 19 threatened taxa; Heard I. monitoring divided among 17 taxa

4 Costs shared among 2 penguins, 2 giant-petrels, Wandering, Black-browed, Grey-headed, Shy and Light-mantled Albatrosses

5 Costs shared among 20 albatrosses and 2 giant-petrels

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