RECOVERY OUTLINE

Gould's Petrel (Australian)

1	Family	Procellariidae
2	Scientific name	*Pterodroma leucoptera leucoptera* (Gould, 1844)
3	Common name	Gould's Petrel (Australian)
4	Conservation status	Vulnerable: D2

5 Reasons for listing

The subspecies breeds at fewer than five locations (Vulnerable: D2). It was previously considered Endangered because it not only bred at few locations (B1) but the habitat quality was deteriorating (2c) and the small population was decreasing in number (C2b). This decline has now been reversed by concerted conservation management.

	Estimate	*Reliability*
Extent of occurrence	*20,000 km²*	*low*
trend	*stable*	*high*
Area of occupancy	*2 km²*	*high*
trend	*stable*	*high*
No of breeding birds	*1,200*	*medium*
trend	*increasing*	*medium*
No. of sub-populations	*2*	*high*
Largest sub-population	*1,150*	*medium*
Generation time	*10 years*	*medium*

6 Infraspecific taxa

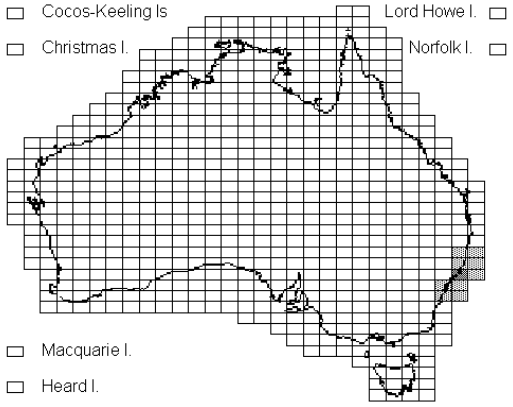
Two other subspecies are recognised, though other populations may also warrant specific status.
P. l. caledonica, which breeds in New Caledonia but feeds in Australian waters, is Least Concern.
P. l. brevipes is extralimital, breeding in Fiji, Rarotonga, Vanuatu. Globally, the species is Least Concern.

7 Past range and abundance

Historically, known from only two gullies on 26 ha Cabbage Tree Island, New South Wales, dispersing during non-breeding season (May - Oct.), presumably to the Tasman Sea (Davey, 1990). Pelagic distribution not known, as birds at sea are indistinguishable from the New Caledonian subspecies (Marchant and Higgins, 1990). Gould reported that the subspecies bred in 'great numbers' on Cabbage Tree Island in 1844 (Marchant and Higgins, 1990). It subsequently decreased from 375±102 pairs in 1970 (Davey, 1990) to as few as 122 pairs in 1990 (Priddel *et al.*, 1995, Priddel and Carlile, 1997a). The numbers visiting the island decreased from about 2,000 to 1,150 from the period 1970 to 1993 (Priddel and Carlile, 1997a)

8 Present range and abundance

Breeding in same gullies on Cabbage Tree I. as well as peripheral screes. The breeding population in 1995 was at least 426 pairs and had increased each year since 1990. There have been no estimates of total population size since 1993 (Priddel and Carlile, 1997a). A smaller colony, fewer than 10 pairs, has become established 1.4 km away on 9.3 ha Boondelbah I. (Priddel *et al.*, 1995, Priddel and Carlile, 1997b). This has recently been supplemented by the transfer of fledglings from Cabbage Tree I. (D. Priddel).



9 Ecology

Gould's Petrel nests among rocks and debris of Cabbage Tree Palms *Livistona australis* on Cabbage Tree I., and among rocks on Boondelbah I. (Priddel and Carlile, 1997a, b). It feeds on fish (Imber, 1996) and cephalopods, and possibly other marine creatures, at some distance from breeding islands (Marchant and Higgins, 1990).

10 Reasons for listing

Predation by Pied Currawongs *Strepera graculina* and Australian Ravens *Corvus coronoides* and entanglement of petrels in seeds of the Birdlime Tree *Pisonia umbellifera* appear to be the main causes of decline between 1970 and 1990, with mortality of adults being greater than the recruitment rate (Priddel and Carlile, 1995, Priddel *et al.*, 1995). The petrels probably became more vulnerable to currawong predation because grazing by rabbits, introduced to the island in 1906, reduced the amount of cover available (Werren and Clough, 1984, Priddel and Carlile, 1997a). Control of currawongs and ravens, and removal of Birdlime Trees was followed by a rapid increase in the number of breeding birds and the number of young fledged (Priddel and Carlile, 1995, 1997a). Disturbance by planes and people also increases vulnerability to predators which may also include owls and goshawks (D. Priddel). High rates of

egg abandonment in 1996 were unassociated with any terrestrial catastrophe and suggest events at sea, such as pilchard deaths, may affect the petrels should the frequency of such events increase (Priddel and Carlile, 1997a). Being so close to the mainland, and occurring on only two islands, the petrel is particularly vulnerable to introduction of exotic terrestrial predators such as cats or rats.

11 Information required

11.1 Collect demographic and life history data to facilitate population modelling and track recruitment and recovery as well as provide important information regarding age of first breeding, the survival of sub-adults, longevity and age specific mortality.

11.2 Undertake dietary and energetic studies to identify marine food resources and the physiological factors that affect the reproductive success of adult petrels.

12 Recovery objectives

12.1 Maintain positive trend in breeding population.

13 Actions completed or under way

13.1 Mature Birdlime Trees have been removed from breeding areas and seedlings are pulled out when found.

13.2 Australian Ravens and Pied Currawongs are being kept to no more than 10 on Cabbage Tree I. following culling.

13.3 Owl and goshawk predation is being monitored to ensure annual predation of the petrels does not exceed 20 individuals.

13.4 Rabbit eradication has been completed.

13.5 A no-fly zone has been imposed within 2 km of the breeding localities to reduce disturbance.

13.6 A community education campaign is on-going.

13.7 Annual monitoring of breeding population and reproductive output on both Cabbage Tree and Boondelbah Is is continuing.

13.8 Sub-population on Boondelbah I. augmented by translocation of 200 fledglings from Cabbage Tree I.

14 Management actions required

14.1 Declare the breeding islands Critical Habitat and erect signs to reduce disturbance.

14.2 Form a Recovery Team to oversee the recovery program.

15 Organisations responsible for conservation

New South Wales National Parks and Wildlife Service.

16 Other organisations involved

Birds Australia.

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

Staff resources required 2001-2005

0.1	*Project Officer*
0.2	*Technical Officer*

Financial resources required 2001-2005

Action	*Conservation agencies*	*Other funding sources*	*Total*
Study of demography, diet and movements	$22,500	$66,000	$88,500
Continued control of avian predators	$39,000	$0	$39,000
Establishment of a second sub-population	$12,300	$0	$12,300
Community education	$20,300	$1,500	$21,800
Minimise disturbance	$5,900	$0	$5,900
Monitor population	$101,600	$250,000	$351,600
Recovery Plan coordination	$11,000	$0	$11,000
Total	$212,600	$317,500	**$530,100**

18 Bibliography

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