

RECOVERY OUTLINE

Macaroni Penguin

1	Family	Spheniscidae
2	Scientific name	<i>Eudyptes chrysolophus</i> Brandt, 1837
3	Common name	Macaroni Penguin
4	Conservation status	Vulnerable: A1a, D2

5 Reasons for listing

Globally, this species is listed as Vulnerable (A1a) because its population size has decreased by at least 20% over 36 years (3 generations). Although there is presumed to be little genetic exchange between colonies, so the Australian status would normally be determined independently of global status (as per Gärdenfors *et al.* 1999), there has been no monitoring of numbers on Heard or McDonald Is to know whether they have escaped the decline suffered by some other populations. Therefore the Australian population is given the same status as the species is globally, but as there is only one Australian breeding location, it is also listed as Vulnerable: D2.

Australian breeding colonies	Estimate	Reliability
Extent of occurrence	5,000,000 km ²	low
trend	stable	high
Area of occupancy	20 km ²	medium
trend	stable	low
No. of breeding birds	4,000,000	low
trend	stable	low
No. of sub-populations	2	high
Largest sub-population	2,000,000	low
Generation time	12 years	medium
Global population share	20 %	high
Level of genetic exchange	low	medium

6 Intraspecific taxa

None recognised, though once considered conspecific with *E. schlegeli* (Marchant and Higgins, 1990).

7 Past range and abundance

Heard and McDonald Is, in Australian territory. Extraliminally, at 46 other sites, primarily on other Southern Ocean islands (Marchant and Higgins, 1990, Birdlife International, 2000).

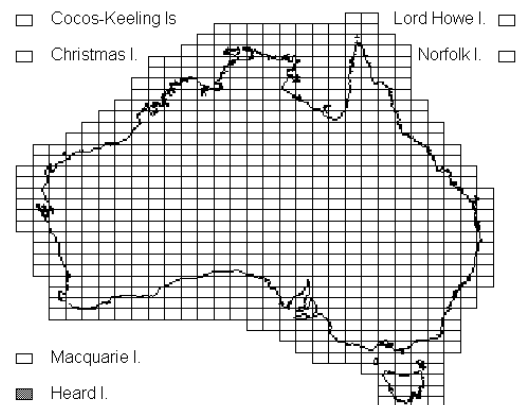
8 Present range and abundance

As above. About 1,000,000 pairs on each of Heard and McDonald Is (Woehler, 1991). Substantial decreases in number have been reported from Bird I., South Georgia, Marion I. and Bouvet I., but the populations at Kerguelen are stable or increasing (Ellis *et al.*, 1998).

9 Ecology

Macaroni Penguins nest in large colonies on flat, eroding rocky landscapes, sometimes well inland. They

feed on euphausiids, fish and cephalopods (Green *et al.*, 1998).



10 Threats

This isolated population of Macaroni Penguins is likely to have little resistance to introduced disease. Commercial fishing near the islands may affect the species. Some birds are undoubtedly killed at sea through ingesting plastic debris. The most likely long-term threat is the effect of climate change on food supply (Ellis *et al.*, 1998).

11 Information required

11.1 Determine rates and direction of change in sea temperature and other oceanographic variables, and their effect on prey distributions.

12 Recovery objectives

12.1 Maintenance of the existing population.

13 Actions completed or under way

13.1 Estimates of population have been made, and will be repeated in 2000/2001.

13.2 Diet has been studied.

14 Management actions required

None.

15 Organisations responsible for conservation

Australian Antarctic Division.

16 Other organisations involved

None.

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

Staff resources required 2001-2005 0.1 Technical Officer (monitoring)¹

Financial resources required 2001-2005

Action	Conservation agencies	Other funding sources	Total
Monitoring breeding sub-populations ¹	\$6,100	\$0	\$6,100
Total	\$6,100	\$0	\$6,100

¹ Costs of Heard I. monitoring divided among 19 threatened taxa (studies of oceanographic change not costed)

18 Bibliography

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