

**PROPOSAL FOR INCLUSION OF SPECIES ON THE APPENDICES OF THE CONVENTION
ON THE CONSERVATION OF MIGRATORY SPECIES OF WILD ANIMALS**

A. PROPOSAL: Inclusion of *Diomedea irrorata* in Appendix II.

B. PROPONENT: Government of Australia

C. SUPPORTING STATEMENT

1. Taxonomy

1.1 Class	Aves
1.2 Order	Procellariiformes
1.3 Family	Diomedeidae
1.4 Genus/Species	<i>Diomedea irrorata</i> Salvin 1883
1.5 Common Name(s)	Waved Albatross (English) Albatros des Galapagos (French) Albatros de las Galapagos (Spanish)

2. Biological Data

2.1. Distribution (current and historical)

Breeds at two sites: Isla Espanola in the Galapagos and La Plata I.. There have been no systematic studies of the marine distribution of *D. irrorata*. The at-sea observations are summarised by Harris (1973) and Duffy (1981). The feeding range apparently extends from the Galapagos Islands to the coastal waters of Ecuador and Peru, in the region of the Humboldt Current. The southern limit appears to be about 12°S, and they are rarely seen north of the equator (although there have been occasional sightings off the coast of Colombia). From these records, it appears that after leaving the colonies in January - March, birds disperse eastwards to the coast of Ecuador and Peru and remain in this area until April when they return to the colonies.

2.2. Population

Breeding population estimated at about 15 600 pairs, which equates to about 70 000 birds (Gales, in press).

Early estimates of populations on Isla Espanola were incomplete and not necessarily conducted at the most appropriate time of year. Harris (1973) conducted the first complete census of the island in 1971. Since then, partial censuses are carried out annually by Servicio Parque Nacional Galapagos and there have been no observed changes in population size (F. Cruz unpublished data in Gales 1993) although the methods used limit the reliability of these data (F. Cruz and D. Anderson pers. comm. in Gales 1993). Douglas (1995) and Anderson and Schwandt (1995) resurveyed in 1995 and estimated the population to be 15 581 and "approximately 17 000" birds respectively.

There are estimated to be 10 - 50 pairs breeding on La Plata but there are no published census data (Duffy and Hurtado 1984). There is an Ecuadorian study of this colony but the results are not known (D. C. Duffy pers. comm. in Gales 1993). A third "tiny" colony may have also become established on Genovesa Island in the Galapagos group, but this report is not confirmed (D. C.

Duffy pers. comm. in Gales 1993). Albatrosses are seen on the island but no breeding has been observed by tourist guides on visits to the island (D. Anderson pers. comm. in Gales 1993). Monogamous. Breeds annually after fifth or sixth year. Breeding is synchronised with a single egg laid in May (April-June), chicks hatch in July after a 60 day incubation and fledge in December.

2.3. Habitat

Unlike other albatrosses, this species has no nest structures and not even a fixed nest site. Eggs are laid on flat ground, either in the open or under a bush, and the birds may move, with their eggs, amongst the colony. This practise often results in the eggs being broken.

2.4 Migratory patterns

See Distribution.

3. **Threat data**

3.1 Direct threats to the population

F. Cruz (pers. comm. in Gales 1993) reports that there are no interactions between *D. irrorata* and fisheries in terms of direct interaction or competition for food. Interactions may be limited because, unlike many of its congeners, *D. irrorata* does not appear to follow ships (S. Chapman pers. comm. in Harris 1973). There is potential for direct interaction, however, as the feeding grounds in the Peruvian upwelling area is a rich fishing ground. Further, there is a developing longline industry in Peru which apparently has a problem with bird bycatch of an unknown species (M. Earl pers. comm. in Gales 1993).

On La Plata human predation of eggs and chicks are the most serious threats facing the population (Duffy and Hurtado 1984).

3.2 Habitat destruction

None known.

3.3 Indirect threat

The main breeding area, Isla Española, is free from feral species since the eradication of goats (D. Anderson pers. comm. in Gales 1993). However, the island is occasionally visited by fishers which could provide a route for introduction of feral species. The island is also visited by thousands of tourists each year but these visits pose no apparent threat as they are well regulated and supervised by the Servico Parque Nacional Galapagos.

The effects of feral animals (rats, cats, goats) on the albatross are unknown on the small colony on la Plata. Despite the declaration of the island as part of Machalilla National Park in 1979, it is thought that the practice of inducing the seabirds to regurgitate for the collection of fish bait, and direct human predation of eggs and chicks probably still occurs (Duffy and Hurtado 1984).

Breeding success is extremely variable between years and between colonies. Differences between colonies are due to localised and synchronised mass desertions which only occur in some colonies.

In some years, however, desertions are more widespread, resulting in complete breeding failure. The average breeding success in 1970 - 71 was 25.4%, although between 1961 - 72 there were 4 years of complete breeding failures. In 1983, the adults were late in their return to the island and only 15% of the population attempted to breed with no success. For comparison, the estimated breeding success in the preceding two seasons was 46% in 1981 and 8% in 1982.

Reductions in breeding success pose a threat to the population (Harris 1973; Rechten 1985, 1986; Anderson and Fortner 1988). Rechten (1985) calculates that high immature and adult survival rates and relatively low age at first breeding, counterbalance periods of low breeding success, resulting in a stable population. Any reduction in survivorship or recruitment, or incidence of breeding failures, would however result in a population decline.

The variation in breeding success has been linked to the occurrence of El Nino, which results in "atypical" weather patterns and suppresses productivity in the seas where the albatross feed. The consequences of El Nino events include changes in food availability leading to poor condition of breeding birds, high rainfall causing dense vegetation, flooding and an increased mosquito population. Although these El Nino events have been implicated, their relationship with albatross breeding failure is not clear. In some El Nino years (e.g. 1965, 1969, 1983) the effect on breeding success was devastating but in other years (e.g. 1972 and 1976) there was no apparent detrimental effect on the albatross. Further, breeding success is very low in some years with no El Nino events (e.g. 1967, 1968).

Lack of comprehensive dietary studies precludes any assessment regarding the occurrence of competition with commercial fisheries for food resources.

3.4 Threat connected especially with migrations

None known.

3.5 National and International Utilisation

None known.

4. Protection status and needs

4.1. National protection status

Completely protected in Australia, including its Exclusive Economic Zone (to 200nm) and all external territories.

4.2. International protection status

None known.

4.3. Additional protection needs

Given the limited breeding range and uncertain status of this species it is essential that management initiatives are given high priority. Conservation measures are only realistic if international aid is directed towards the Galapagos and Ecuador to assist the local agencies in obtaining the necessary

resources (D. C. Duffy pers. comm. in Gales 1993).

Duffy and Hurtado (1984) recommended that a census be conducted on La Plata together with an assessment of the impact of cats, rats and goats on the resident seabirds and that the island be afforded effective park jurisdiction and protection. The task is complex but could conceivably be achieved given the effective predator removal programs in the Galapagos (Coulter 1984).

The potential for interactions with fishing practices should be considered. There are no available data regarding seabird bycatch from the Peruvian region although Greenpeace International have had reports of seabird bycatch in the area (M. Earl pers. comm. in Gales 1993). The development of the Peruvian longlining industry, for example, should be monitored and the nature of the bird bycatch associated with this fishery established. It is pertinent to note that seabird bycatch in other fisheries was not reported until observers were present on vessels (Scientific Committee of CCAMLR 1990).

5. Range states (*Breeding Sites)

Ecuador*
Colombia
Peru
International Waters (Pacific Ocean)

6. Comments from Range States

7. Additional remarks

D. irrorata is considered to be *near threatened* by Collar *et al.* (1994).

8. References

See Reference at the very end of this document (pp. 182-187).