



## Conservation Advice for *Pterodroma arminjoniana* (Round Island petrel)

**This draft document is being released for consultation on the  
species listing eligibility and conservation actions**

The purpose of this consultation document is to elicit additional information to better understand the eligibility of the species for listing and inform conservation actions, further planning and the potential need for a Recovery Plan.

The draft assessment below should therefore be considered **tentative** at this stage, as it may change as a result of responses to this consultation process.

Note: Specific consultation questions relating to the below draft assessment and preliminary determination have been included in the consultation cover paper for your consideration.

In effect under the *Environment Protection and Biodiversity Conservation Act 1999* from **dd month yyyy**.

This document combines the approved conservation advice and listing assessment for the species. It provides a foundation for conservation actions and further planning.

### Conservation status

*Pterodroma arminjoniana* (Round Island petrel) is proposed to be delisted from the Critically Endangered category of the threatened species list under the *Environment Protection and Biodiversity Conservation Act 1999*.

*Pterodroma arminjoniana* was assessed by the Threatened Species Scientific Committee to not be eligible for listing under any of the listing criteria. The Committee's assessment is at Attachment A. The Committee's assessment of the species' eligibility against each of the listing criteria is:

- Criterion 1: Ineligible
- Criterion 2: Ineligible
- Criterion 3: Ineligible
- Criterion 4: Ineligible
- Criterion 5: Insufficient data

The main factor that makes the species not eligible for listing is that the species is not considered to be a species that occurs in Australia. A pair of petrels described by Stokes and Goh (1987) on North Keeling Island (part of the Cocos (Keeling) Islands) were identified to

*Pterodroma arminjoniana* and were included within the Action Plan for Australian Birds 2000 (Garnett and Crowley 2000). Subsequent review of the observation has determined that these birds likely belonged to the species *Pterodroma heraldica* (Garnett et al. 2011). *P. arminjoniana* is no longer considered to have a breeding population on North Keeling Island, or anywhere else within the Australian jurisdiction. Thus, the species is not eligible for listing under the EPBC Act.

Species can also be listed as threatened under state and territory legislation. For information on the current listing status of this species under relevant state or territory legislation, see the [Species Profile and Threats Database](#).

## Species information

### Taxonomy

Conventionally accepted as *Pterodroma arminjoniana* (Giglioli & Salvadori 1869). Common names include Round Island petrel and Trindade petrel.

### Description

The Round Island petrel (*Pterodroma arminjoniana*) is a medium to large-sized gadfly petrel. They are 34 – 39 cm long, have a wingspan of 80 – 100 cm, and weigh 280 – 450 g (Gardner et al. 1985; Marchant & Higgins 1990). The species is polymorphic, possessing both light and dark morphs. The plumage of both morphs is described well in literature (Marchant & Higgins 1990). The individuals identified on North Keeling Islands had a brown head, with white patches on either side of the beak. They have a white chin and throat. The feathers on their body and the top of their wings are grey-brown and their breast is white. The wings are grey and white on the underside. They have light pink legs, black toes, and black edges to their webbed feet. The species exhibits no sexual dimorphism, and juveniles appear similar to adults. The Round Island petrel is a tropical/sub-tropical species and is considered to be closely related to herald petrel (Imber 1985; Brooke et al. 1996; Brooke et al. 2000). Historically, they have been considered by some authors to be conspecific (Warham 1990).

### Distribution

The species does not occur within the Australian jurisdiction.

*Pterodroma arminjoniana* breeds on Trindade Islands off the coast of Espírito Santo, Brazil. It was considered abundant on Trindade in 1913 and 1986 (Murphy 1936; Filippini 1986). Surveys in the mid-1990s have indicated that the population on Trindade numbers 2,000-5,000 individuals (F. P. da Fonseca Neto *in litt.* 2000). The global population was estimated at 15,000 individuals (Brooke 2004), although recent estimates suggest the total may be as low as 1,130 breeding pairs (Luigi et al. 2008). Flocks have been noted flying around the Túnel, Pão de Açúcar, Farilhões and Crista de Galo peaks. Aerial courtship displays during daylight hours make the species very easily observable, despite low abundance. The species has been found to be breeding on Round Island, 22 km north of Mauritius, in the Indian Ocean (Brown et al. 2010). There have been confirmed sightings of several birds at sea in the central south Atlantic (490 nm northeast of Tristan da Cunha), off the Azores and a single sighting off Cape Verde Islands (Flood 2010). Geolocator trackings confirm they may regularly winter in the central North Atlantic (Ramos et al. *in prep.*). During breeding forage in a vast area around Trindade Island, from the Equator to 34°S, in deep waters. Apparently there is a staging area east of Trindade used by

birds after breeding and before migration to North Atlantic Ocean (L. Bugoni and G.R. Leal unpublished data).

## Relevant biology and ecology

The species is known to breed on Round Island, near Mauritius in the western Indian Ocean; on Trindade Island; and on the Martin Vaz Rocks in the southern Atlantic Ocean. It is present at Trindade Island year-round (BirdLife International 2022). Round Island petrel tend to only visit land to breed. They nest in sandy areas on the ground, sheltered under shrubs. On Trindade Island, nests are located in crevices and other cliff-cavities. Their breeding season is usually between February and July.

Round Island petrels are adapted to a highly aerial and oceanic life. At sea, Round Island petrel generally glide close to the surface of the water, only occasionally flapping their wings. They possess short sturdy bills adapted for seizing soft prey. Food is typically taken from near the surface. Their diet consists mainly of squid and fish. The high diversity of prey species and wide range of prey sizes consumed suggests the use of multiple foraging techniques (Leal et al. 2017).

## Threats

The species does not occur within the Australian jurisdiction.

In the past, this species has been severely affected by invasive mammals. Feral cats decimated the seabird population and were subsequently eradicated in the 1990s (Alves et al. 2011), they have since occasionally been seen on the island and, because of this, are thought of as relatively likely to return. Goats and pigs denuded the island's vegetation, likely degrading breeding habitat, but were eradicated in 2004 and 1965 respectively (Alves et al. 2011; Kruger et al. 2018). Mice are the only remaining invasive mammal on Trindade Island and have been seen foraging eggs from seabird nests (Alves et al. 2011) as well as eating seeds thereby slowing the rate of vegetation regrowth, this is unlikely to have a significant effect on the species as it nests in relatively inaccessible areas with little vegetation.

There is some potential for effects due to human development. The Brazilian navy expressed an interest in building a small airbase on the island, although this has not yet materialised, it would potentially cause habitat loss, degradation and the disturbance of birds. Experimental wind turbines have also been built, with plans to erect more in the future (Flood et al. 2015).

## Links to relevant implementation documents

BirdLife International (2022) Species factsheet: *Pterodroma arminjoniana*. Downloaded from <http://www.birdlife.org> on 07/02/2022.

## Conservation Advice and Listing Assessment references

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# THREATENED SPECIES SCIENTIFIC COMMITTEE

Established under the *Environment Protection and Biodiversity Conservation Act 1999*

The Threatened Species Scientific Committee finalised this assessment on DD Month Year.

## Attachment A: Listing Assessment for *Pterodroma arminjoniana*

### Reason for assessment

This assessment follows prioritisation of a nomination from the TSSC.

### Assessment of eligibility for listing

This assessment uses the criteria set out in the [EPBC Regulations](#). The thresholds used correspond with those in the [IUCN Red List criteria](#) except where noted in criterion 4, sub-criterion D2. The IUCN criteria are used by Australian jurisdictions to achieve consistent listing assessments through the Common Assessment Method (CAM).

### Key assessment parameters

Table 3 includes the key assessment parameters used in the assessment of eligibility for listing against the criteria. The definition of each of the parameters follows the [Guidelines for Using the IUCN Red List Categories and Criteria](#).

**Table 1 Key assessment parameters**

Metric	Estimate used in the assessment	Minimum plausible value	Maximum plausible value	Justification
Number of mature individuals	2,260			Luigi et al. (2008) have revised the previous population estimate of 15,000 individuals globally (Brooke 2004) to just 1,130 breeding pairs.
Trend	stable			The species is presumed to be stable as there are no current major threats (BirdLife International 2022).
Generation time (years)	15.6			BirdLife International 2022
Extent of occurrence	139,000,000 km <sup>2</sup>			BirdLife International 2022
Trend	stable			BirdLife International 2022
Area of Occupancy	11 km <sup>2</sup>			BirdLife International 2022
AOO is a standardised spatial measure of the risk of extinction, that represents the area of suitable habitat known, inferred or projected to be currently occupied by the taxon. It is estimated using a 2 x 2 km grid to enable comparison with the criteria thresholds. The resolution (grid size) that maximizes the correlation between AOO and extinction risk is determined more by the spatial scale of threats than by the spatial scale at which AOO is estimated or shape of the taxon's distribution. It is not a fine-scale estimate of the actual area occupied. In some cases, AOO is the smallest area essential at any stage to the survival of existing populations of a taxon (e.g. breeding sites for migratory species).				
Trend	stable			BirdLife International 2022
Number of subpopulations	2			BirdLife International 2022
Trend	stable			BirdLife International 2022

Metric	Estimate used in the assessment	Minimum plausible value	Maximum plausible value	Justification
<b>Basis of assessment of subpopulation number</b>	The species is known to breed on Round Island, near Mauritius in the western Indian Ocean; on Trindade Island; and on the Martin Vaz Rocks in the southern Atlantic Ocean. These two breeding areas are assumed to be genetically separated.			
<b>No. locations</b>	2			BirdLife International 2022
<b>Trend</b>	stable			BirdLife International 2022
<b>Basis of assessment of location number</b>	The spatial nature of the threats is such that there are likely 2 geographically or ecologically distinct areas where a single threatening event could affect all individuals of the species present within a period of one generation.			
<b>Fragmentation</b>	Not severely fragmented.			
<b>Fluctuations</b>	Not subject to extreme fluctuations in EOO, AOO, number of subpopulations, locations or mature individuals.			

### Criterion 1 Population size reduction

Reduction in total numbers (measured over the longer of 10 years or 3 generations) based on any of A1 to A4			
	Critically Endangered Very severe reduction	Endangered Severe reduction	Vulnerable Substantial reduction
<b>A1</b>	≥ 90%	≥ 70%	≥ 50%
<b>A2, A3, A4</b>	≥ 80%	≥ 50%	≥ 30%
<b>A1</b> Population reduction observed, estimated, inferred or suspected in the past and the causes of the reduction are clearly reversible AND understood AND ceased. <b>A2</b> Population reduction observed, estimated, inferred or suspected in the past where the causes of the reduction may not have ceased OR may not be understood OR may not be reversible. <b>A3</b> Population reduction, projected or suspected to be met in the future (up to a maximum of 100 years) [(a) cannot be used for A3] <b>A4</b> An observed, estimated, inferred, projected or suspected population reduction where the time period must include both the past and the future (up to a max. of 100 years in future), and where the causes of reduction may not have ceased OR may not be understood OR may not be reversible.	Based on any of the following: (a) direct observation [except A3] (b) an index of abundance appropriate to the taxon (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat (d) actual or potential levels of exploitation (e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites		

### Criterion 1 evidence

#### Not eligible

The species does not occur within the Australian jurisdiction. Birds identified by Stokes and Goh (1987) were likely to have been herald petrel (*Pterodroma heraldica*), rather than Round Island petrel (*Pterodroma arminjoniana*) (Garnett et al. 2011). Round Island petrel does not appear to have a breeding population on North Keeling Island, or elsewhere within the Australian territory.

Luigi et al. (2008) revised the previous population estimate of 15,000 individuals globally (Brooke 2004) to just 1,130 breeding pairs. The species is presumed to be stable as there are no current major threats (BirdLife International 2022).

The data presented above appear to demonstrate the species is **not eligible** for listing under this criterion. However, the purpose of this consultation document is to elicit additional information to better understand the species' status. This conclusion should therefore be considered to be tentative at this stage, as it may be changed as a result of responses to this consultation process.

## Criterion 2 Geographic distribution as indicators for either extent of occurrence AND/OR area of occupancy

	Critically Endangered Very restricted	Endangered Restricted	Vulnerable Limited
<b>B1.</b> Extent of occurrence (EOO)	< 100 km <sup>2</sup>	< 5,000 km <sup>2</sup>	< 20,000 km <sup>2</sup>
<b>B2.</b> Area of occupancy (AOO)	< 10 km <sup>2</sup>	< 500 km <sup>2</sup>	< 2,000 km <sup>2</sup>
<b>AND at least 2 of the following 3 conditions:</b>			
(a) Severely fragmented OR Number of locations	= 1	≤ 5	≤ 10
(b) Continuing decline observed, estimated, inferred or projected in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; (v) number of mature individuals			
(c) Extreme fluctuations in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations; (iv) number of mature individuals			

## Criterion 2 evidence

### Not eligible

The species does not occur within the Australian jurisdiction. The Round Island petrel's EOO is estimated at 139,000,000 km<sup>2</sup> and its AOO is estimated at 11 km<sup>2</sup> (BirdLife International 2022). The EOO and AOO of the species is thought to be stable. The species is not severely fragmented and is not subject to extreme fluctuations in EOO, AOO, number of subpopulations, locations or mature individuals (BirdLife International 2022).

The data presented above appear to demonstrate the species is **not eligible** for listing under this criterion. However, the purpose of this consultation document is to elicit additional information to better understand the species' status. This conclusion should therefore be considered to be tentative at this stage, as it may be changed as a result of responses to this consultation process.



### Criterion 3 Population size and decline

	Critically Endangered Very low	Endangered Low	Vulnerable Limited
Estimated number of mature individuals	< 250	< 2,500	< 10,000
AND either (C1) or (C2) is true			
C1. An observed, estimated or projected continuing decline of at least (up to a max. of 100 years in future)	Very high rate 25% in 3 years or 1 generation (whichever is longer)	High rate 20% in 5 years or 2 generation (whichever is longer)	Substantial rate 10% in 10 years or 3 generations (whichever is longer)
C2. An observed, estimated, projected or inferred continuing decline AND its geographic distribution is precarious for its survival based on at least 1 of the following 3 conditions:			
(i) Number of mature individuals in each subpopulation	≤ 50	≤ 250	≤ 1,000
(a) (ii) % of mature individuals in one subpopulation =	90 – 100%	95 – 100%	100%
(b) Extreme fluctuations in the number of mature individuals			

### Criterion 3 evidence

#### Not eligible

The species does not occur within the Australian jurisdiction. Luigi et al. (2008) revised the previous population estimate of 15,000 individuals globally (Brooke 2004) to just 1,130 breeding pairs. The species is presumed to be stable as there are no current major threats (BirdLife International 2022). The species is not severely fragmented and is not subject to extreme fluctuations in EOO, AOO, number of subpopulations, locations or mature individuals (BirdLife International 2022).

The data presented above appear to demonstrate the species is **not eligible** for listing under this criterion. However, the purpose of this consultation document is to elicit additional information to better understand the species' status. This conclusion should therefore be considered to be tentative at this stage, as it may be changed as a result of responses to this consultation process.

#### Criterion 4 Number of mature individuals

	Critically Endangered Extremely low	Endangered Very Low	Vulnerable Low
D. Number of mature individuals	< 50	< 250	< 1,000
D2. <sup>1</sup> Only applies to the Vulnerable category Restricted area of occupancy or number of locations with a plausible future threat that could drive the species to critically endangered or Extinct in a very short time			D2. Typically: area of occupancy < 20 km <sup>2</sup> or number of locations ≤ 5

<sup>1</sup> The IUCN Red List Criterion D allows for species to be listed as Vulnerable under Criterion D2. The corresponding Criterion 4 in the EPBC Regulations does not currently include the provision for listing a species under D2. As such, a species cannot currently be listed under the EPBC Act under Criterion D2 only. However, assessments may include information relevant to D2. This information will not be considered by the Committee in making its recommendation of the species' eligibility for listing under the EPBC Act, but may assist other jurisdictions to adopt the assessment outcome under the [common assessment method](#).

#### Criterion 4 evidence

##### Not eligible

The species does not occur within the Australian jurisdiction. Luigi et al. (2008) revised the previous population estimate of 15,000 individuals globally (Brooke 2004) to just 1,130 breeding pairs. The species is presumed to be stable as there are no current major threats (BirdLife International 2022).

The data presented above appear to demonstrate the species is **not eligible** for listing under this criterion. However, the purpose of this consultation document is to elicit additional information to better understand the species' status. This conclusion should therefore be considered to be tentative at this stage, as it may be changed as a result of responses to this consultation process.

#### Criterion 5 Quantitative analysis

	Critically Endangered Immediate future	Endangered Near future	Vulnerable Medium-term future
Indicating the probability of extinction in the wild to be:	≥ 50% in 10 years or 3 generations, whichever is longer (100 years max.)	≥ 20% in 20 years or 5 generations, whichever is longer (100 years max.)	≥ 10% in 100 years

## **Criterion 5 evidence**

### **Insufficient data to determine eligibility**

Population viability analysis has not been undertaken. Therefore, there is insufficient information to determine the eligibility of the species for listing in any category under this criterion.

### **Adequacy of survey**

The survey effort has been considered adequate and there is sufficient scientific evidence to support the assessment.

### **Public consultation**

Notice of the proposed amendment and a consultation document is made available for public comment for a minimum of 30 business days. Any comments received relevant to the survival of the species/subspecies are considered by the Committee as part of the assessment process.

### **Consideration for delisting**

The species does not occur within the Australian jurisdiction. Delisting the species would not negatively affect the survival of the species.

The species is listed as Vulnerable by the IUCN Red List under criterion D2. This species has a very small breeding range and population on two groups of islands in the South Atlantic Ocean, where it is susceptible to human impacts and stochastic events, which could drive the species to Critically Endangered or Extinct within a short period of time.

Since 1967, Brazilian law has afforded protection to all seabirds by forbidding persecution, killing, colony disturbance and the use of bird by-products (Antas 1991). Goats and pigs denuded the island's vegetation, likely degrading Round Island petrel breeding habitat, but were eradicated in 2004 and 1965 respectively (Alves et al. 2011, Kruger et al. 2018). Conservation actions proposed include the designation of the majority of Trindade as a federal reserve (Antas 1991) or national park (F. P. da Fonseca Neto in litt. 2000).

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This publication is available at the [SPRAT profile for Pterodroma arminjoniana \(Round Island petrel\)](#).

Department of Agriculture, Water and the Environment  
GPO Box 858, Canberra ACT 2601  
Telephone 1800 900 090  
Web [awe.gov.au](http://awe.gov.au)

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### Version history table

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