

**GADFLY PETREL AND PSEUDOBULWERIA LISTING PROPOSAL
SUPPORTING INFORMATION:**

**Distribution, Population Size, Breeding Habitats, Migration Movements and Maps, Legal
Protection Status and Key Conservation Measures**

Species Proposed for Listing on Appendix I

Genus, species or sub-species, including author and year	Scientific synonyms	Common name(s), in all applicable languages used by the Convention	Page No.
<i>Pseudobulweria aterrima</i> (Bonaparte, 1857)	<i>Pterodroma aterrima</i>	EN – Mascarene Petrel; Mascarene Black Petrel; Réunion Black Petrel; Réunion Petrel FR – Pétrel de Bourbon ES – Petrel de Reunión	3
<i>Pseudobulweria becki</i> (Murphy, 1928)	<i>Pterodroma becki</i>	EN – Beck's Petrel; Solomon Island Petrel FR – Pétrel de Beck ES – Petrel de Beck	6
<i>Pseudobulweria macgillivrayi</i> (Gray, 1860)	<i>Pterodroma macgillivrayi</i>	EN – Fiji Petrel; MacGillivray's Petrel FR – Pétrel des Fidji ES – Petrel de las Fiji	9
<i>Pterodroma barau</i> (Jouanin, 1964)	No scientific synonyms	EN – Barau's Petrel FR – Pétrel de Barau ES – Petrel de Barau	11
<i>Pterodroma cervicalis occulta</i> (Imber & Tennyson, 2001)	<i>Pterodroma occulta</i>	EN – Vanuatu Petrel; Falla's Petrel FR – Pétrel à col blanc ES – Petrel Cuelliblanco	13
<i>Pterodroma hasitata</i> (Kuhl, 1820)	No scientific synonyms	EN – Black-capped Petrel; Diablotin FR – Pétrel diablotin ES – Petrel antillano	15
<i>Pterodroma incerta</i> (Schlegel, 1863)	<i>Procellaria sandaliata</i> ; <i>Procellaria satalandia</i>	EN – Atlantic Petrel; Hooded Petrel; Schlegel's Petrel FR – Pétrel de Schlegel ES – Petrel de Schlegel	18
<i>Pterodroma madeira</i> (Mathews, 1934)	Formerly considered sub-species of <i>Pterodroma mollis</i>	EN – Zino's Petrel; Madeira Petrel FR – Pétrel de Madère ES – Petrel Freira	20
<i>Pterodroma magentae</i> (Giglioli & Salvadori, 1869)	No scientific synonyms	EN – Magenta Petrel; Chatham Island Taiko FR – Pétrel du Magenta ES – Petrel Taiko	22

Species Proposed for Listing on Appendix II

Genus, species or sub-species, including author and year	Scientific synonyms	Common name(s), in all applicable languages used by the Convention	Page No.
<i>Pseudobulweria rostrata</i> (Peale, 1848)	<i>Pterodroma rostrata</i> . Includes two subspecies – <i>P. r. rostrata</i> and <i>P. r. trouessarti</i>	EN – Tahiti Petrel FR – Pétrel de Tahiti ES – Petrel de Tahiti	25
<i>Pterodroma alba</i> (Gmelin, 1789)	No scientific synonyms	EN – Phoenix Petrel FR – Pétrel à poitrine blanche ES – Petrel de las Fénix	27
<i>Pterodroma arminjoniana</i> (Giglioli & Salvadori, 1869)	Formerly considered conspecific with <i>Pterodroma heraldica</i> and <i>Pterodroma atrata</i> .	EN – Trindade Petrel; Round Island Petrel FR – Pétrel de Trindade ES – Petrel de Trinidad	29

<i>Pterodroma axillaris</i> (Salvin, 1893)	No scientific synonyms	EN – Chatham Petrel FR – Pétrel des Chatham ES – Petrel de las Chatham	32
<i>Pterodroma brevipes</i> (Peale, 1848)	Includes subspecies <i>P. b. magnificens</i>	EN – Collared Petrel FR – Pétrel à collier ES – Petrel Acollarado	35
<i>Pterodroma cervicalis cervicalis</i> (Salvin, 1891)	Includes rare subspecies <i>P. c. occulta</i>	EN – White-necked Petrel; White-naped Petrel FR – Pétrel à col blanc ES – Petrel Cuelliblanco	37
<i>Pterodroma cookii cookii</i> (Gray, 1843)	No scientific synonyms	EN – Northern Cook's Petrel FR – Pétrel de Cook ES – Petrel de Cook	40
<i>Pterodroma cookii orientalis</i> (Murphy, 1929)	No scientific synonyms	EN – Southern Cook's Petrel FR – Pétrel de Cook ES – Petrel de Cook	43
<i>Pterodroma defilippiana</i> (Giglioli & Salvadori, 1869)	<i>Pterodroma velificans</i>	EN – Masatierra petrel; De Filippi's Petrel FR – Pétrel de Filippi ES – Petrel Chileno	45
<i>Pterodroma deserta</i> (Mathews, 1934)	No scientific synonyms	EN – Desertas Petrel; Bugio Petrel FR – Pétrel des Desertas ES – Petrel de las Desertas	47
<i>Pterodroma externa</i> (Salvin, 1875)	No scientific synonyms	EN – Juan Fernandez Petrel FR – Pétrel de Juan Fernandez ES – Petrel de Las Juan Fernández	49
<i>Pterodroma feae</i> (Salvadori, 1899)	Formerly considered subspecies of <i>Pterodroma mollis</i>	EN – Cape Verde Petrel; Fea's petrel FR – Pétrel gongon ES – Petrel gongón	51
<i>Pterodroma leucoptera</i> (Gould, 1844) (Australian population)	<i>Pterodroma leucoptera leucoptera</i>	EN – Gould's Petrel; White-winged Petrel FR – Pétrel de Gould ES – Petrel Aliblanco	53
(New Caledonian population)	<i>Pterodroma leucoptera caledonica</i> (Imber & Jenkins, 1981)	EN – Gould's Petrel, White-winged Petrel, New Caledonian Petrel, FR – Pétrel de Gould ES – Petrel Aliblanco	56
<i>Pterodroma longirostris</i> (Stejneger, 1893)	<i>Pterodroma cookii masafuerae</i>	EN – Stejneger's Petrel FR – Pétrel de Stejneger ES – Petrel de Más Afuera	59
<i>Pterodroma neglecta juana</i> (Mathews, 1935)	No scientific synonyms	EN – Chilean Kermadec Petrel FR – Pétrel des Kermadec (juana) ES – Fardela negra de Juan Fernández	61
<i>Pterodroma pycrofti</i> (Falla, 1933)	No scientific synonyms	EN – Pycroft's Petrel FR – Pétrel de Pycroft ES – Petrel de Pycroft	64

Appendix I species

Mascarene Petrel *Pseudobulweria aterrima* (Bonaparte, 1857)

IUCN Status: *Critically endangered*

Current trend: *Declining*

Breeding Range States: *France*

Other Range States: *Australia, India, Indonesia, Mauritius, Madagascar, Mozambique, Pakistan, Seychelles, Somalia, Sri Lanka, United Kingdom*

Proposed CMS listing: *Appendix I*

Mascarene Petrel Distribution

The Mascarene Petrel is considered a breeding endemic to La Réunion (France) in the Indian Ocean, as it is only known to breed in two colonies on this island (Juhasz et al., 2022). Subfossil records show a wider distribution covering areas of Mauritius and the associated island of Rodrigues (Tatayah et al., 2011). The Mascarene Petrel was first collected in ~1770, however was not described until 1856. There was then a long hiatus of sightings, and it was considered Critically Endangered (Possibly Extinct). After 130 years, the first breeding site was found by the LIFE+Petrels project team in 2016 when an active nest was discovered at Saint-Joseph. A second colony has also been discovered, and 38 birds were banded from these two colonies. Additional acoustic surveys have detected the species in the central portion of La Réunion around the Grand Bassin, Le Tampon and Entre Deux (Juhasz et al., 2022; Shirihai et al., 2014). During the non-breeding season, the Mascarene Petrel migrates away from the breeding site across the Indian Ocean, making substantial use of the high seas and crossing many Exclusive Economic Zone (EEZ) boundaries around the Indian Ocean (Fernandez 2021, Fernandez et al., 2022).

Mascarene Petrel Population

The Mascarene Petrel has a tiny global population. In 1970 and 1973, two grounded birds were found on La Réunion. Subsequently, a public awareness and rehabilitation programme was set up. These campaigns have resulted in the finding of 58 Mascarene Petrels between 1996 and 2021, of which 49 were released successfully by 2021. Population estimates made from at-sea sightings in 1997 suggested around 1,000 individuals and 250 breeding pairs of this species (Attié et al., 1997). More recent estimates in 2010 suggested there may only be a few dozen pairs (Tatayah et al., 2011). However, in 2014 relatively large numbers were seen at sea south of the island – 33 over three days. Therefore, the population data is still poor but currently stands at a possible 100 breeding pairs (Shirihai et al., 2014).

Mascarene Petrel Habitat

The Mascarene Petrel's breeding sites have only recently been identified. Using acoustic monitoring and thermal imaging cameras the breeding sites all appear to be in the central mountains of La Réunion. The two colonies accessed so far are on tall vertical cliffs covered with native vegetation, at elevations of 650m and 1250m respectively. The nests are in burrows like other Procellariidae, however very little is known about the full extent of the breeding habitat inland. Access to nesting sites requires ropes and climbing skills (Juhasz et al., 2022). The chicks are raised during the austral summer. At sea, Mascarene Petrels seem to select a wide range of migration areas characterised by surface waters above 28°C with a weak gradient of bathymetry and depth of ~4000m (Fernandez et al., 2022).

Movements of Mascarene Petrels

The species has been recently tracked using geolocation loggers to determine the patterns of at-sea movements. During the breeding period, the birds travel widely in the Indian Ocean. After breeding they migrate to pelagic waters throughout the tropical and equatorial Indian Ocean from Africa to Australia and north to Pakistan and India (Fernandez et al., 2022; see Figure 1).

National and Regional Legal Protection

This petrel is a protected species of Réunion Island, by the Ministerial Decree of February 17, 1989, as amended. This decree prohibits, at all times, throughout the territory of the department of Réunion, the destruction and removal of eggs and nests, the destruction, mutilation, capture or removal, or the stuffing of birds, whether alive or dead, their transport, peddling, use, offering for sale, sale, or purchase.

The main breeding sites are protected by the following reserves (Birdlife International, 2025):

Pitons, cirques and remparts of Reunion Island	World Heritage Site (natural or mixed)	105,838 km ²	Protected area overlaps with site	60.1%
Bras de la Plaine	Arrêté de protection de biotope	1,111 km ²	Protected area overlaps with site	22.6%
Bebour	Réserve biologique	5,146 km ²	Protected area overlaps with site	15.4%

Main Threats

Footage from trail cameras has revealed that feral cats, rats and tenrecs are present at some breeding sites (Juhasz et al., 2022). Light attraction is a major threat as birds nesting inland must fly out over brightly lit-up coastal towns and cities. At-sea threats are poorly understood.

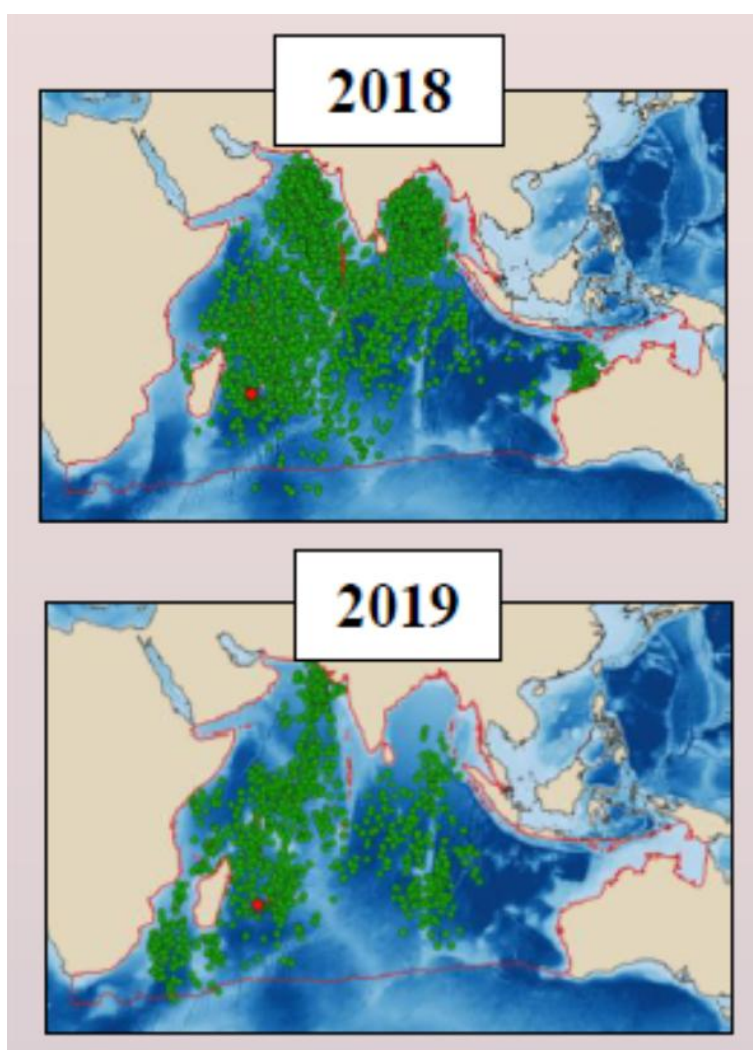


Figure 1 This map shows two years of migration data collect by attaching light-level Geolocation loggers to Mascarene Petrels from the breeding colony on La Réunion. Data was collected in the non-breeding seasons of 2018 and 2019. Data owned by Matthieu Le Corre and Audrey Jaeger and mapped by Romain Fernandez (Fernandez et al., 2022). The red circle (•) represents the colony.

Conservation Actions

The presence of invasive species at the known colonies is an immediate threat to the species survival. The use of poisons and traps has been successful in controlling invasive species but will need

to continue indefinitely. Attraction of birds to easier to manage sites including potentially predator-fenced locations may allow the birds to expand beyond the current refuges on cliffs. Disorientation due to light pollution is thought to be causing further declines in this species and will need active collaboration with authorities to find ways to reduce this impact including implementing the CMS guidelines on light pollution. Engaging at international forums around managing light pollution risks from commercial shipping may also be needed as the birds are vulnerable while on migration.

Key References

Fernandez, R. (2021). Modélisation de la distribution océanique du pétrel noir de Bourbon (*Pseudobulweria aterrima*) dans l'océan Indien pendant sa période internuptiale. Université de La Réunion, Saint-Denis, La Réunion, France

Fernandez, R., Saunier, M., Solaimana-Mattoir, Y., Dubos, J., Pinet, P., Guilhaumon, F., Le Corre, M., & Jaeger, A. (2022). Non-breeding at-sea distribution and spatial distribution modelling of the Mascarene petrel, an endemic seabird species of Reunion Island. Western Indian Ocean Marine Science Association 12th Scientific Symposium. <https://symposium.wiomsa.org/wp-content/uploads/2022/Oral-Presentations-2022/10October/Fernandez-Saunier-Soulaimana-Mattoir-Dubos-Pinet-Francois-Guilhaumon-Le-Corre-and-Jaeger.pdf>

Juhasz, C.-C., Dubos, J., Pinet, P., Soulaimana Mattoir, Y., Souharce, P., Caumes, C., Riethmuller, M., Jan, F., & Le Corre, M. (2022). Discovery of the breeding colonies of a critically endangered and elusive seabird, the Mascarene Petrel (*Pseudobulweria aterrima*). *Journal of Field Ornithology*, 93(4),11. [online] URL: <https://doi.org/10.5751/JFO-00160-930411>

Beck's Petrel *Pseudobulweria becki* (Murphy, 1928)**IUCN Status:** *Critically endangered***Current trend:** *Declining***Breeding Range States:** *Papua New Guinea***Other Range States:** *Indonesia, Solomon Islands, Vanuatu***Proposed CMS listing:** *Appendix I**Beck's Petrel Distribution*

Beck's Petrel was described from individuals taken at sea in 1928 and 1929: a female collected off New Ireland – Papua New Guinea; and a male collected off Rendova – Solomon Islands (Murphy & Snyder, 1952). Three birds were then identified in 2003 off New Ireland, followed by 30 records from an expedition in 2007 (Shirihai, 2008). Cape St George at the southern portion of New Ireland was favoured by Beck's Petrel where they outnumbered Tahiti Petrels at sea. Beck's Petrels have been recorded annually in the Solomon Sea between the Solomon Islands and New Ireland by a bird-watching cruise. Recently fledged juveniles and moulting adults were seen close to land at dawn and dusk. Shirihai (2008) postulated that Beck's Petrel breeds in the montane forests of southern New Ireland. The islands of Western Province in the Solomon Islands might also provide suitable breeding habitat (Bird et al., 2014).

Following the upsurge in interest in this species after the 2007/2008 observations, targeted searches have focused on identifying the breeding sites. This led to the discovery of a regular aggregation of birds sitting in rafts on the water during the day in Silur Bay off south-east New Ireland (Bird, 2012). Away from southern New Ireland, two were seen near Efate in the Vanuatu archipelago in February 2010, while a possible record was seen and photographed from a boat crossing the Coral Sea east of Australia's Great Barrier Reef in 2006; due to the difficulty of reliable identification in the field, a number of records of Tahiti Petrel (*P. rostrata*) from the Solomon Islands and Bismarck Archipelago (Coates, 1985; Coates & Swainson, 1978), may also refer to Beck's Petrel. Separating similar-looking taxa based on size is very difficult at sea. A single tracked bird caught at sea also migrated to the seas off West Papua (Rayner et al., 2020a).

As the breeding grounds are not yet known, although likely breeding on New Ireland, it does not rule out the possibility that the species is also breeding on other Pacific Islands such as the Solomon Islands.

Beck's Petrel Population

There are confirmed records of >30 and up to 160 birds from expeditions in 2007 and 2008; additionally with a minimum of 100 birds estimated in 2012. The most birds observed was a minimum of 300 individuals in April 2016. There were also 250+ in 2017 in Silur Bay (Rayner et al., 2020a). No birds have ever been observed on land at breeding colonies so at-sea estimates are the only information available. Based on these observations BirdLife International (2025) suggested there might be 50-249 mature individuals, representing approximately 70-400 individuals in total. The field teams who did the counts consider many of these birds were likely to be non-breeders based on their diurnal flocking behaviour (C. Gaskin pers. comm.). Rayner et al. (2020a) considered the Beck's Petrel population size to be low thousands of birds. The total population is assumed to be decreasing due to the threats still present on the likely breeding islands.

Beck's Petrel Habitat

The species is assumed to breed in the same type of habitats as its larger and similar looking close relative the Tahiti Petrel. This latter species nests in burrows on steep inland slopes of mountains on larger Pacific islands, however islet breeding is also possible. The multiple locations observed from the satellite tracked bird caught at sea in 2017 included visits over land on southern New Ireland. These tracks offer more certainty of the locations where the petrels might breed. The bird prospected up to 20 km inland near the tops of the Hans Meyer Range, which reach 2,000 metres above sea level, with a maximum altitude of about 2,400 metres (Rayner et al., 2020). At sea, Beck's Petrel likely forages in the extremely deep waters just a few kilometres off the coast of New Ireland. Additionally, Silur Bay may represent a rafting and staging ground for Beck's Petrels when accessing and leaving the breeding sites (Rayner et al., 2020a).

Movements of Beck's Petrel

There are major knowledge gaps regarding the at-sea movements of Beck's Petrel since it was only recently rediscovered. Satellite tracking was carried out on a single bird caught at sea. This individual was tracked consistently around the eastern islands of Papua New Guinea in the Solomon Sea. The bird visited the inland mountains of New Ireland (Papua New Guinea) during the breeding season, with signal losses postulated to be due to the occupation of underground burrows. The tagged bird then migrated 1,400 km north-west to the pelagic seas off West Papua, passing through the Bismarck Sea before the signal was lost (Rayner et al., 2020a). It is likely other birds in the population migrate in a similar manner from breeding sites, out to pelagic waters, and back again to Papua New Guinea. This is supported by earlier ornithological sightings of Tahiti Petrel/Beck's Petrel type birds along the northern sides of Papua New Guinea.

National and Regional Legal Protection

For National Policies on seabirds, Papua New Guinea does not have Species Protection Policies. Papua New Guinea has the Fauna Protection Act which concentrates on Habitat Protection and lists only a few species and the new Protected Areas Act which repeals the Fauna Protection Act. Papua New Guinea Conservation and Environment Protection Authority (CEPA) recognizes CMS, the Convention on International Trade in Endangered Species (CITES), the Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia (IOSEA), the Convention on Biological Diversity, the Papua New Guinea MARINE PROGRAM (Threatened Species) and AT-SEA PROGRAM (Endangered Threatened Protected Species) which falls under IUCN.

In Papua New Guinea, migratory species are protected once they are in a Protected Area by the Protected Areas Act and the Fauna Control and Protection Act. Species outside of the Protected Area are not protected unless they are listed on CITES or CMS. For Beck's Petrel, generally, Papua New Guinea has no National Policy for protecting this species. There is a need for such National Policies to be developed to protect sea and shore birds including Beck's Petrel and all other similar species in Papua New Guinea.

However, in Papua New Guinea, local communities can develop by-laws based on their Traditional Ecological Knowledge using their Customary Resources User Rights within their own communities to conserve and protect certain species and areas. This is another way local people are involved in conservation practices locally. Customary Resources User Rights give power to local Chiefs and leaders to make their own by-laws to manage their wellbeing without any influences from National Policies.

Main Threats

The breeding sites are still unknown. However, the islands in Papua New Guinea have both native predators and invasive species so there are likely to be predator impacts at the breeding colonies. Light attraction on land and at sea may also be a threat, but this is poorly understood for this species. In 2010, a Beck's Petrel was found on board a cruise vessel by P. Harrison and J. Roussoux. The bird, likely attracted by the ship's lights, had landed on the deck at night somewhere between Bougainville and New Ireland. After measurements and photographs were taken the bird was released (P. Harrison pers. comm.). Tahiti Petrels follow fishing vessels so fisheries bycatch might also be a risk for Beck's Petrel.



Figure 2 The movements of Beck's Petrel caught in 2017 during the breeding season in the Bismarck Sea westwards from New Ireland (most likely colony location) and the Bismarck archipelago over to West Papua (Indonesia). Data is from August to November. Figure taken from Rayner et al. (2020a).

Conservation Actions

The key action needed for Beck's Petrel is to locate the breeding sites to determine what land-based threats are present at sites and to develop strategies to manage these threats. It is highly likely that invasive species will be present around colonies and pose an immediate threat to the species survival. Understanding which species are there will assist with planning active management measures to prevent losses of adults and nest contents. Attraction of birds to easier to manage sites including potentially predator-fenced locations may allow the birds to expand beyond their current refuges. Building an understanding of the risks from light attraction and fisheries bycatch is needed for this species.

Key Reference

Rayner, M. J., Baird, K. A., Bird, J., Cranwell, S., Raine, A. F., Maul, B., Kuri, J., Zhang, J., & Gaskin, C. P. (2020a). Land and sea-based observations and first satellite tracking results support a New Ireland breeding site for the Critically Endangered Beck's Petrel *Pseudobulweria becki*. *Bird Conservation International*, 30(1), 58-74. <https://doi.org/10.1017/S0959270919000145>

Fiji Petrel *Pseudobulweria macgillivrayi* (Gray, 1860)**IUCN Status:** *Critically endangered***Current trend:** *Declining***Breeding Range States:** *Fiji***Other Range States:** *Possibly Tonga***Proposed CMS listing:** *Appendix I**Fiji Petrel Distribution*

The Fiji Petrel was first officially recorded in 1855 on Gau Island in Fiji. Between 1983 and 2012 there were 6 sightings at sea and 15 reports of grounded birds on Gau, mostly immatures or fledglings (Priddel et al., 2008; Shirihai et al., 2009). However, by 2025 no nests have been found for this species on Gau. This is despite various seabird specialists spending time looking, including some teams with seabird detecting dogs, and with local villagers assisting in the search. At sea, the only unequivocal sightings of the Fiji Petrel have been off Gau in May and October 2009 (Shirihai et al., 2009). There is a possibility that the species occurs on other islands in the vicinity such as Taveuni. Additionally, all dark *Pseudobulweria* have been recorded in the Bismarck Sea, but these are not confirmed as Fiji Petrels (Bird, 2017). There is also a possible record of a Fiji Petrel at sea off Tonga (Harrison et al., 2021). As for Beck's petrel, the breeding grounds are not yet known and with the rugged remote nature of many Pacific countries, there remains the possibility it may also be breeding on other Pacific Islands, including other locations in Fiji.

Fiji Petrel Population

The Fiji Petrel population is likely very small - there are no expedition data, and the rate of confirmed sightings is also low. It is possible there are less than 50 mature individuals remaining, so this may mean less than 75 individuals for the whole species (Birdlife International, 2025). For such a small population the trend is unfortunately still decreasing, most likely due to predation by invasive species.

Fiji Petrel Habitat

This species is likely to breed amongst the harsh montane forest terrain of interior Gau and is strictly nocturnal when flying to and from its colonies. It is possible that breeding occurs throughout most of the year with two peaks of activity in April-July and October-January, but the breeding cycle is still poorly understood. The at-sea habitats are expected to be like others of its genus, using the high seas in the south-west Pacific region.

Movements of Fiji Petrel

The Fiji Petrel is another species with significant knowledge gaps. It is presumed to breed on Gau Island in Fiji with two peaks of activity in April-July and October-January (Shirihai et al., 2009; Watling & Lewanavanua, 1985). There are currently no tracking data available, and there are few reports of birds on land or at sea near Fiji. There are just a few reports of birds resembling this species in the Bismarck Sea (Bird, 2017; Flood et al., 2017; Shirihai, 2008).

Based on the behaviour of similar species it is likely that they regularly migrate between the breeding areas and pelagic feeding grounds, covering significant distances and crossing international boundaries.

National and Regional Legal Protection

The species is listed under Schedule 1 of the Fiji Endangered and Protected Species Act 2002 which classifies them as species of the highest conservation concern and affords them protection under Fijian Law. The United States Fish and Wildlife Service also lists the Fiji Petrel under the Endangered Species Act.

Main Threats

Predation by invasive, non-native species likely pose the greatest threat to this species with Pacific rats (*Rattus exulans*) and feral cats (*Felis catus*) found over the entire island of Gau (BirdLife International, 2025; Watling & Lewanavanua, 1985). Ship rats (*R. rattus*) and brown rats (*R. norvegicus*) are also present on the island and though their current range is limited they have potential to

cause decline (Priddel et al., 2008). Feral pigs (*Sus scrofa*) have established in the forests of Gau and may represent a serious additional threat (Priddel & Carlile, 2004). Fiji Petrels have been grounded under village lights and light attraction onto brightly lit ships at sea is a risk for this species. Fiji Petrels have been noted to be attracted to fish discards, thus incidental capture in longlines poses a potential threat. Although bycatch of Fiji Petrels has not been documented so far, similar species including Tahiti Petrel (*Pseudobulweria rostrata*) and Kermadec Petrel (*Pterodroma neglecta*) were found on seabird watching trips off Gau, with obvious damage resulting from long-lining, suggesting that Fiji Petrels are also potentially at risk (Shirihai et al., 2009).

Conservation Actions

The most urgent priority remains locating the breeding grounds for the Fiji Petrel which will enable a better understanding of the species breeding cycle, onshore threats and more targeted management actions including invasive alien species control.

A Recovery Plan for the Fiji Petrel exists and as part of BirdLife's Preventing Extinctions programme, NatureFiji-MareqetiViti have taken on the role of Species Guardian and are implementing actions from the recovery programme. This includes work to locate breeding sites, understand distributions of invasive alien species, feral pig control and advocacy on bird welfare and release procedures for grounded birds. This also includes the development of local expertise in the collection of scientific data following such incidental captures and attempts to attract birds to a predator-free site using playback. Building an understanding of the risk from fisheries bycatch is also needed for this species.

Key References

Priddel, D., Carlile, N., Moce, K. & Watling, D. (2008). A review of records and recovery actions for the 'Critically endangered' Fiji Petrel, *Pseudobulweria macgillivrayi*. *Bird Conservation International*, 18(4), 381-393. [A review of records and recovery actions for the 'Critically Endangered' Fiji Petrel *Pseudobulweria macgillivrayi* | Bird Conservation International | Cambridge Core](#)

Shirihai, H., Pym, T., Kretzschmar, J., Moce, K., Taukei, A. & Watling, D. (2009). First observations of Fiji Petrel *Pseudobulweria macgillivrayi* at sea: off Gau Island, Fiji, in May 2009. *Bulletin of the British Ornithologists' Club*, 129(3), 129-148. [boc1293-090805:BOC Bulletin.qxd](#)

Barau's Petrel *Pterodroma barau* (Jouanin, 1964)**IUCN Status:** *Endangered***Current trend:** *Declining***Breeding Range States:** *France,***Other Range States:** *Australia, Madagascar, Mauritius, South Africa, United Kingdom***Proposed CMS listing:** *Appendix I**Barau's Petrel Distribution*

The Barau's Petrel is endemic to Réunion Island (France) in the Indian Ocean off the coast of Madagascar. They breed on the massifs of Piton des Neiges and Gran Bénare, La Réunion, and reliably occupy these sites. One nest has also been discovered on Rodrigues Island (Mauritius) in 1974, with some birds observed prospecting in the Valley of Black River National Park in Mauritius Island (Pinet et al., 2009). However, no evidence of breeding on either of these islands has been found in recent years. The adults typically forage over a large area between La Réunion, south Madagascar and South Africa (Pinet et al., 2012). During the breeding season they range far, from La Réunion 1,000 km south of Madagascar and up South Africa's coast. During the non-breeding season, the species migrates 5,000 km east to the Ninety East Ridge (Pinet et al., 2012; Pinet et al., 2011; Stahl & Bartle, 1991).

Barau's Petrel Population

Most breeding colonies of Barau's Petrel are completely out of reach and have only recently been properly assessed. Using a combination of methods, this has enabled more reliable preliminary population estimates of 15,000-20,000 breeding pairs (30,000-40,000 adults), a larger number of mature individuals than previously reported (Birdlife International, 2025). Nevertheless, previous estimates were based only on partial knowledge of the species. This species global population remains declining. The species was suspected to be undergoing a long-term decline in line with increased juvenile mortality caused by disorientation due to light pollution along with predation at breeding colonies.

Barau's Petrel Habitat

Barau's Petrel nest on inaccessible cliff-ledges between 2,400 and 2,700 metres in volcanic ash in upland elfin forest on Piton des Neiges and Gran Bénare, La Réunion (Probst et al., 2000). A thick humus layer seems to be important for burrow establishment, which makes the species vulnerable to trampling by larger vertebrates, and to the effects of soil erosion. The breeding season spans September to April with chicks raised during the austral summer. At sea during the non-breeding season they forage in regions characterized by warm sea surface temperatures and low productivity, consistent with strong and reliable easterly winds. Their main prey are fish and squid taken from the surface.

Movements of Barau's Petrel

Pre-breeding and incubating birds perform very long foraging trips up to the continental plateau of South Africa and the Walter Shoal area, 1000 km south of Madagascar. When rearing their chicks, birds adopt a dual foraging strategy with a clear alternation of short (2-3 day) trips around Réunion Island and long (10-14 day) trips to the south of Madagascar. During the non-breeding season, the species forages in regions characterized by warm sea surface temperatures and low productivity, consistent with strong and reliable easterly winds, between the western South Equatorial Current and the eastern Equatorial Counter Current (see Figure 3; Pinet et al., 2011; Pinet et al., 2012). The mean distance travelled per day en route to wintering areas is 110-600 km; once there, travel distances drop significantly. There is considerable consistency in wintering areas from year to year (Pinet et al., 2011).

National and Regional Legal Protection

This petrel is a protected species of Réunion Island, by the Ministerial Decree of February 17, 1989, as amended. This decree prohibits, at all times, throughout the territory of the department of Réunion, the destruction and removal of eggs and nests, the destruction, mutilation, capture or removal, or the stuffing of birds, whether alive or dead, their transport, peddling, use, offering for sale, sale, or purchase. The National Park of Réunion Island has implemented a joint initiative to reduce light

pollution across the whole island. All known breeding colonies are fully protected since 2007 within the core area of the National Park.

Main Threats

Invasive mammals represent the greatest threat to Barau's Petrel with modelling indicating that feral cats are likely to be causing rapid population declines through predation of both adults and fledglings (Russell et al., 2009). Introduced rats also pose a significant threat taking eggs and chicks and have been recorded at all visited breeding colonies. Light pollution also represents a significant threat, leading to an estimated 5-20% mortality of fledglings annually (Le Corre et al., 2002). Climate change may also affect the species with tracking data and habitat suitability modelling showing that wintering habitat may shift southward and be reduced in size during the 21st century (Legrand et al., 2016).

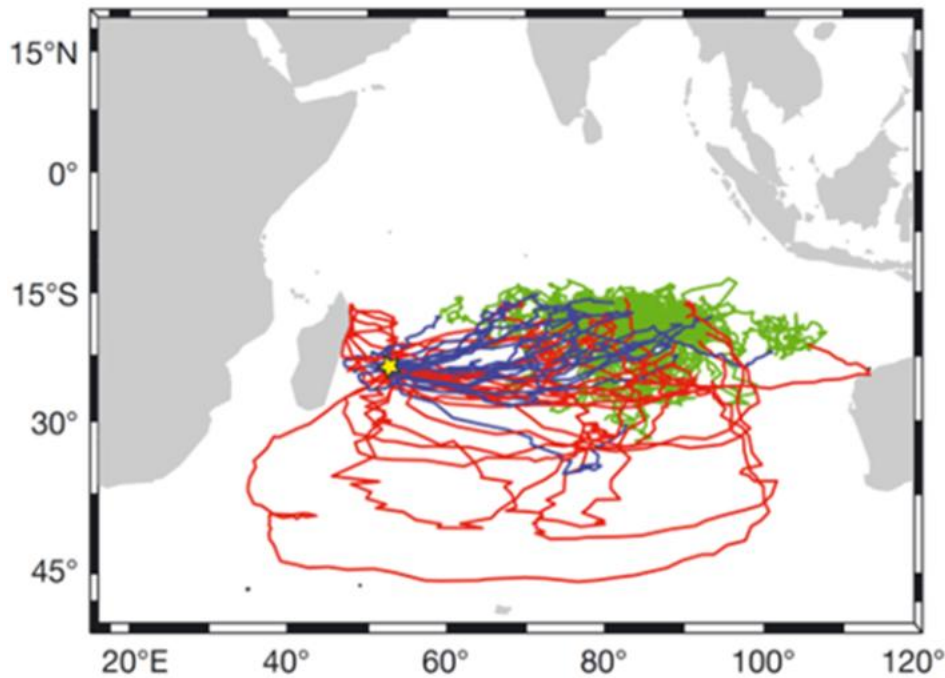


Figure 3 Distribution of Barau's Petrel (n=23) in the Indian Ocean migrating from Réunion to wintering grounds and back. Red = outward migration; green = wintering location; blue = returning migration; ★ = breeding colony. Figure from Pinet et al. (2011).

Conservation Actions

Control of predators, particularly feral cats, at breeding colonies is required year-round and should be established since predation represents a key threat to species survival. Regular surveys to obtain up-to-date population estimates and monitor population trends are needed. Annual island scale rescue campaigns of grounded fledglings have rescued >12,000 fledglings and, more recently, localised reduction of light pollution during the fledging period has led to a corresponding decrease in numbers of grounded birds. These initiatives should be continued. A joint initiative to reduce light pollution island wide has been implemented by the National Park of Réunion Island. Light pollution could be reduced through light shielding or restriction along with considerations to adjusting direction, intensity and colour of lighting used.

Key Reference

Legrand, B., Benneveau, A., Jaeger, A., Pinet, P., Potin, G., Jaquemet, S. & Le Corre, M. (2016). Current wintering habitat of an endemic seabird of Réunion Island, Barau's petrel *Pterodroma barau*, and predicted changes induced by global warming. *Marine Ecology Progress Series*, 550, 235-248.

Vanuatu Petrel *Pterodroma cervicalis occulta* (Imber & Tennyson, 2001)**IUCN Status:** *Vulnerable* (for full species)**Current trend:** *Unknown (likely declining)***Breeding Range States:** *Vanuatu***Other Range States:** *Australia, Fiji***Proposed CMS listing:** *Appendix I**Vanuatu Petrel Distribution*

Specimens from the subspecies were first collected off the Banks Islands, Vanuatu in 1927 but the taxon was only described in 2001 (Imber & Tennyson, 2001). In February 2010, the species was photographed 60 nautical miles from the site of the original specimens, with a total of 21 individuals sighted at sea over a three-day period, including nine which were seen rafting before dusk. Otherwise, the at-sea distribution from confirmed sightings/specimens is largely unknown apart from a dead road-killed specimen recovered from the coast of northern New South Wales, Australia, in 1983 and recent pelagic observations from Ogasawara, Japan in 2018 and 2020 (Vaughan et al., 2024). Online records meeting reliability thresholds for Vanuatu Petrel (37 out of 43) have all shown them to be within ~150km north and ~500-650km east, west and south of Vanua Lava (Vanuatu). The Vanuatu Petrel breeding area on Vanua Lava was first shared by local communities in 2009 (Totterman, 2009) and these colonies have since been more extensively studied. Searches outside Vanua Lava for Vanuatu Petrel breeding colonies have yielded nothing.

Vanuatu Petrel Population

Varying population estimates exist which need to be verified. A population estimate of 100-500 mature individuals was reported by Harrison et al. (2021). Conversely, expeditions in 2009 and 2011 made a rough population estimate of a minimum of 2,500 pairs. This was generated based on calling activity at known sub-colonies (Vaughan et al., 2024).

Vanuatu Petrel Habitat

Several sub-colonies of Vanuatu Petrel have been found on Mount Suretamatai on the Island of Vanua Lava at approximately 590 metres above sea level. Burrows were concentrated in areas of dense vegetation on steep slopes which may explain the scattered distribution of sub-colonies. The breeding season is from February to July, approximately six weeks later than that of the White-necked Petrel (*Pt. c. cervicalis*; Priddel et al., 2010).

Movements of Vanuatu Petrel

The Vanuatu Petrel is another species with significant knowledge gaps. While it is known to breed on Vanua Lava there are few definitive at-sea records. No tracking data are currently available. Recent tracking of White-necked Petrels during the breeding season has recorded short foraging trips away from the colony of 25-480km and long foraging trips of 520-2680km. It is possible that the Vanuatu Petrels behave in a similar manner.

National and Regional Legal Protection

The breeding colony is on land owned by local tribal authorities. The breeding colony and surrounding area have recently been declared a Community Conservation Area by these authorities, under joint management with the Vanuatu Department of Environmental Protection and Conservation and Torba Provincial Government Office (P. Allen pers. comm.).

Main Threats

Cats, dogs, ship rats, Pacific rats, and feral pigs have all been reported on Vanua Lava and, given that they are all predators of burrow/ground nesting seabirds elsewhere, likely pose a threat to the Vanuatu Petrel. Human interaction through tourism or unregulated research along with disease may also pose threats. With the only known breeding sites for the Vanuatu Petrel being on the slopes of an active volcano the population is also at risk of future eruptions. Understanding the nature and extent of risks from light attraction on the petrels would help identify if this is a threat to this species as it is to other gadfly petrels.

Conservation Actions

Resolving the taxonomic status of Vanuatu Petrel may improve prospects for appropriate conservation action for the species. Likewise, reliable population estimates, understanding population trends and a better understanding of their terrestrial and pelagic distributions may improve prospects for conservation action. Understanding the impact of invasive species in and around the Vanuatu Petrel colony would inform management for the species including what control of invasive species at the breeding sites is necessary. Attraction of birds to other locations which can be fenced from predators may allow them to expand beyond their current refuges and help secure the subspecies. Engaging early with local communities would be necessary to support any research or conservation action.

Key Reference

Vaughan, P. M., Bird, J. P., Bretagnolle, V., Shirihai, H., Tennyson, A. J. D., Miskelly, C. M., & Clarke, R. H. (2024). A review of records and research actions for the poorly known Vanuatu Petrel *Pterodroma [cervicalis] occulta*. *Bird Conservation International*, 34, e9.

Black-capped Petrel *Pterodroma hasitata* (Kuhl, 1820)**IUCN Status:** *Endangered***Current trend:** *Declining***Breeding Range States:** *Dominican Republic, Haiti***Other Range States:** *Canada, Colombia, Costa Rica, Cuba, Dominica, France, Jamaica, Netherlands, Panama, The Bahamas, United Kingdom, United States of America, Venezuela***Proposed CMS listing:** *Appendix I**Black-capped Petrel Distribution*

The Black-capped Petrel is currently only confirmed breeding on the Caribbean Island of Hispaniola (Dominican Republic and Haiti). However, radar and thermal imaging surveys conducted in Dominica along with recent observations of downed individuals on the island could indicate birds are prospecting there for nest sites. The last confirmed breeding record on Dominica was from 1862 (Brown, 2015). Black-capped Petrels previously nested on Guadeloupe and Martinique but have not been documented there since before 1900. Though there is no historic documentation of Black-capped Petrels nesting in Cuba, there have been observations of birds flying inland at dusk from a known foraging area.

At sea the species is highly pelagic occurring in tropical and subtropical waters in the Western Atlantic Ocean between 10° and 40°N (Goetz et al., 2012; Satgé et al., 2023). They range widely throughout the Caribbean Sea from the coast of Cuba in the north, Costa Rica in the south-west, Aruba in the south and Guadeloupe in the east (Leopold et al., 2019). Additional data from satellite-tagged individuals breeding on the Sierra de Bahoruco in the Dominican Republic showed these birds frequently flew to continental shelf waters off northern South America (Jodice et al., 2015). The South Atlantic Bight (off South Carolina, USA) serves as the primary foraging region during the non-breeding season (Goetz et al., 2012).

Black-capped Petrel Population

Population estimates vary from 1,000-2,000 to 2,000-4,000 birds or 600-2,000 breeding pairs (Lee, 2000; Goetz et al., 2012). Though current population estimates remain uncertain, the total number of pairs are likely to be in the thousands but may be far less. The morphological differences around dark plumage on the cap and the eye region has been shown to have genetic structuring (Manly et al., 2013) but it is unclear whether these represent different breeding populations in the Caribbean.

Black-capped Petrel Habitat

All the currently known nesting sites are in mountainous regions at 1,500-2,000 metres. Eggs are laid in mid-January with fledglings departing the colony by early-June. The species nests in the thick mesic understory of steep montane forests and excavate burrows in soil or karstic crevasses (Satgé et al., 2021). It is suggested nesting on such harsh terrain is a response to anthropogenic change on more accessible areas. The highest density of nests and most of the population occurs on La Visite Ridge in the western extent of the Massif de la Selle, Haiti. Smaller populations occur eastward along the Massif de la Selle and across the border in the Sierra de Bahoruco of the Dominican Republic, as well as around Pic Macaya in Massif de la Hotte in western Haiti. Black-capped Petrels have been found to forage along the Gulf Stream off North Carolina, in shallow waters near Florida and to prefer water over seamounts, submarine ridges and mesas on the Blake Plateau (Haney, 1987). Foraging appears to be most influenced by the Gulf Stream and not sea surface temperature or depth (Simons et al., 2013). It is primarily nocturnal and crepuscular, feeding on squid, fish, crustaceans and *Sargassum*.

Movements of Black-capped Petrel

This petrel is highly pelagic and frequently conducts long distance foraging trips. From the available tracking data, they are known to frequent waters in the Florida Current and the Gulf Stream, inter-island regions, straits and offshore zones of the Greater and Lesser Antilles in the Caribbean Sea and, larger ranges in the Caribbean Sea between the breeding grounds and South America (Haney, 1987; Jodice et al., 2015). There is spatial segregation between the two phenotypes of the Black-capped Petrel during the non-breeding period (Satgé et al., 2023). In 2023, a Black-capped Petrel was seen about 30 km to the southwest of Bermuda (per Bermuda Conservation staff).

National and Regional Legal Protection

The Black-capped Petrel is classified as Critically Endangered in the Red List of the Dominican Republic (2018) and is protected under the national environmental laws of the Dominican Republic.

Main Threats

Habitat loss, driven by the increasing frequency of wildfires, small-scale agriculture, cattle grazing, and logging for charcoal production, represents a significant threat to the Black-capped Petrel. In addition, the species faces intense predation pressure at nesting sites in both the Dominican Republic and Haiti, primarily from domestic and feral dogs, feral cats, and the introduced mongoose (*Herpestes javanicus*). These invasive predators pose a critical threat to eggs, chicks, and incubating adults in burrows.

Populations of rats (*Rattus* spp.) have also been documented at nesting sites, and while their precise impact is not fully understood, they are likely an additional risk factor.

Furthermore, wildfires and artificial lighting from nearby towns cause disorientation in adult birds, especially during nocturnal return flights to colonies. This disorientation can lead to grounding, collisions with human structures, and increased mortality.

A particular threat is posed by electric communication towers located on mountaintops near nesting areas. These towers, often stabilized with multiple guy wires, have been identified as a significant source of mortality due to bird collisions during nocturnal flights.

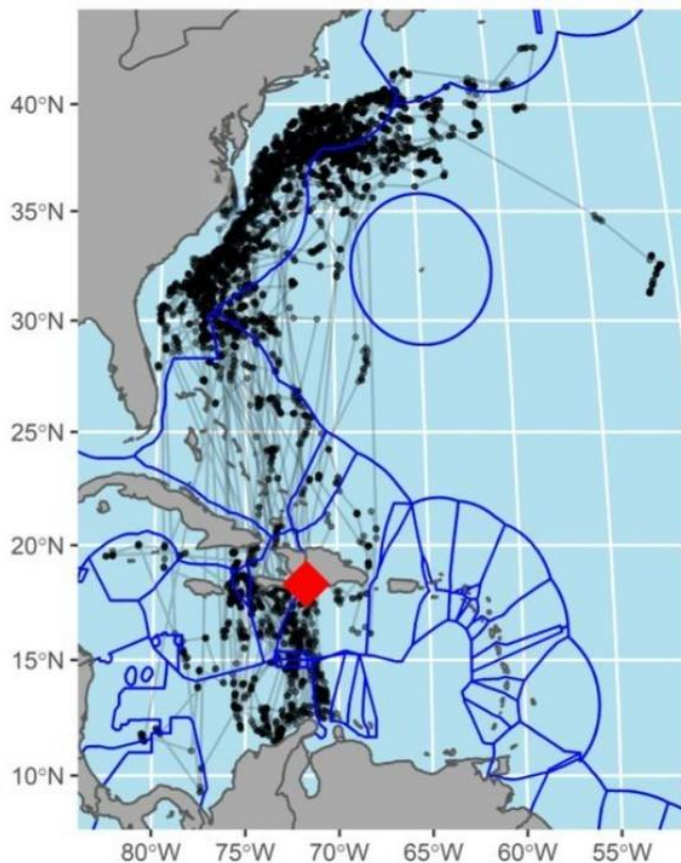


Figure 4 Migration data of Black-capped Petrels during the non-breeding season in the Caribbean Sea and western North Atlantic Ocean. Location data is overlapped. Also includes EEZ boundaries as blue borders. ♦ breeding site at the Sierra de Bahoruco ridge in Hispaniola

Conservation Actions

The Black-capped Petrel faces severe threats from habitat loss due to agricultural expansion, logging for charcoal, and uncontrolled fires, as well as predation by invasive species such as feral dogs, mongooses, and cats. Although its main nesting areas in the Dominican Republic lie within protected areas such as Sierra de Bahoruco National Park and Valle Nuevo National Park, the presence of invasive predators within these zones continues to impact both adult birds and chicks.

In Haiti, core nesting habitats such as La Visite Ridge and Pic Macaya also lie within national parks; however, enforcement and habitat protection are limited. The creation of predator-free breeding refuges is a critical conservation strategy to expand nesting success and reduce mortality. Artificial lighting in nearby towns, and especially mountaintop communication towers stabilized with guy wires, have caused documented mortality due to disorientation and collisions. To address these issues, targeted mitigation efforts (such as tower modifications and lighting control) have been initiated in some areas, showing positive results. Further investigation and structural adaptation are urgently needed for additional towers located near breeding zones.

In the Dominican Republic, Grupo Jaragua, a national NGO, leads the most consistent and long-term monitoring efforts of nesting colonies, habitat modeling, and conservation planning for Black-capped Petrels. The Ministry of Environment (Ministerio de Medio Ambiente) occasionally provides support, but Grupo Jaragua is the main implementing organization. Additionally, satellite telemetry research and habitat-use studies (Jodice et al., 2015; Satgé et al., 2022) have contributed valuable insights to guide marine conservation measures across multiple EEZs used by the species.

Key References

Jodice, P.G.R., Ronconi, R.A., Rupp, E., Wallace, G.E. & Satgé, Y. (2015). First satellite tracks of the Endangered black-capped petrel. *Endangered Species Research*, 29, 23–33.

Satgé, Y.G., Rupp, E., Brown, A. & Jodice, P.G.R. (2021). Habitat modelling locates nesting areas of the Endangered Black-capped Petrel *Pterodroma hasitata* on Hispaniola and identifies habitat loss. *Bird Conservation International*, 31(4), 573-590.

Satgé, Y.G., Keitt, B.S., Gaskin, C.P., Patteson, J.B. & Jodice, P.G.R. (2023). Spatial segregation between phenotypes of the diabolite Black-capped Petrel *Pterodroma hasitata* during the breeding and non-breeding period. *Endangered Species Research*, 51, 183–201. <https://doi.org/10.3354/esr01254>

Atlantic Petrel *Pterodroma incerta* (Schlegel, 1863)**IUCN Status:** *Endangered***Current trend:** *Declining***Breeding Range States:** *United Kingdom***Other Range States:** *Argentina, Brazil, Namibia, South Africa, Uruguay***Proposed CMS listing:** *Appendix I**Atlantic Petrel Distribution*

The species is currently only known to breed on Gough Island in the Tristan da Cunha Archipelago. The Atlantic Petrel is absent from the Nightingale Islands which lack suitable habitat and likely absent from Inaccessible Island. Its occurrence on Tristan da Cunha Island is not clear; in 1972-1974 the population there was estimated to be 100-200 pairs. However, there may only be a few scattered pairs remaining and its current status on the island needs assessment. The at-sea distribution is mainly restricted to the South Atlantic, occurring off the east coast of South America – from Brazil in the north to the seas north of Antarctica in the south and across to the west coast of Africa. Birds have been recorded along the southern African coast, and occasionally round the Cape of Good Hope into the Indian Ocean. They primarily remain within proximity to the colony during the breeding season (up to 2500 km) and spend the non-breeding season primarily on the South American shelf slope in the western South Atlantic (Pastor-Prieto et al., 2019).

Atlantic Petrel Population

On Gough Island, Cuthbert (2004) estimated 1.8 million breeding pairs in 2001, suggesting a world population of around 5 million birds. The population size was re-estimated by Rexer-Huber et al. (2014), considering the occupancy rates of suitable burrows in 2010 and 2012 to give a population size of 860,000 pairs (range: 630,000-1,100,000 pairs). Because occupancy rates varied interannually, the species total breeding area could only be estimated crudely, and burrow densities were assumed to be similar throughout the habitat; therefore, this estimate should be considered with caution.

Atlantic Petrel Habitat

The Atlantic Petrel nests in burrows dug in peaty soils in fern-bush vegetation from 50-300 metres on Gough Island and, formerly, at higher elevations of up to 700 metres on Tristan da Cunha. They breed in the austral winter with eggs laid in June-July and chicks fledging in December. The species feeds mainly on squid with some fish and crustaceans (Klages & Cooper, 1997).

Movements of Atlantic Petrel

Sighting records show the Atlantic Petrel travels long distances between the Atlantic coasts of South America and Africa (Enticott, 1991). Additional tracking data exists which shows that the southwest Atlantic Ocean is the main distribution range for Atlantic Petrels year-round (Pastor-Prieto et al., 2019; Ramos et al., 2017). Two main foraging areas were shown as important during incubation and chick rearing, one around Gough Island and the other closer to the South American coast. During the non-breeding season adults spent time off northern Argentina, Uruguay and southern Brazil and mainly used waters off the edge of the South American continental shelf during the pre-laying exodus (Pastor-Prieto et al., 2019).

National and Regional Legal Protection

Gough Island, the only known breeding site for Atlantic Petrels, is a Nature Reserve and World Heritage Site, which affords them legal protection. ■

Main Threats

The main threat to Atlantic Petrels on Gough Island is egg and chick predation by invasive house mice which results in a very low breeding success rate of 20% (Dilley et al., 2015; Caravaggi et al., 2019). As a result, the population is estimated to be declining by 0.7% per annum (Wanless et al., 2012). Skua predation occurs on Gough Island though is unlikely to be significant unless the population becomes greatly depleted. Significant mortality of females during Hurricane Catarina, indicates

that increasing storm intensity and frequency may cause unpredictable adult mortality (Bugoni et al., 2007).

Conservation Actions

The presence of mice on Gough Island is an immediate threat to the species survival so work towards mice eradication should continue. Biosecurity work to minimise the risk of further introduced species establishing should continue to be prioritised.

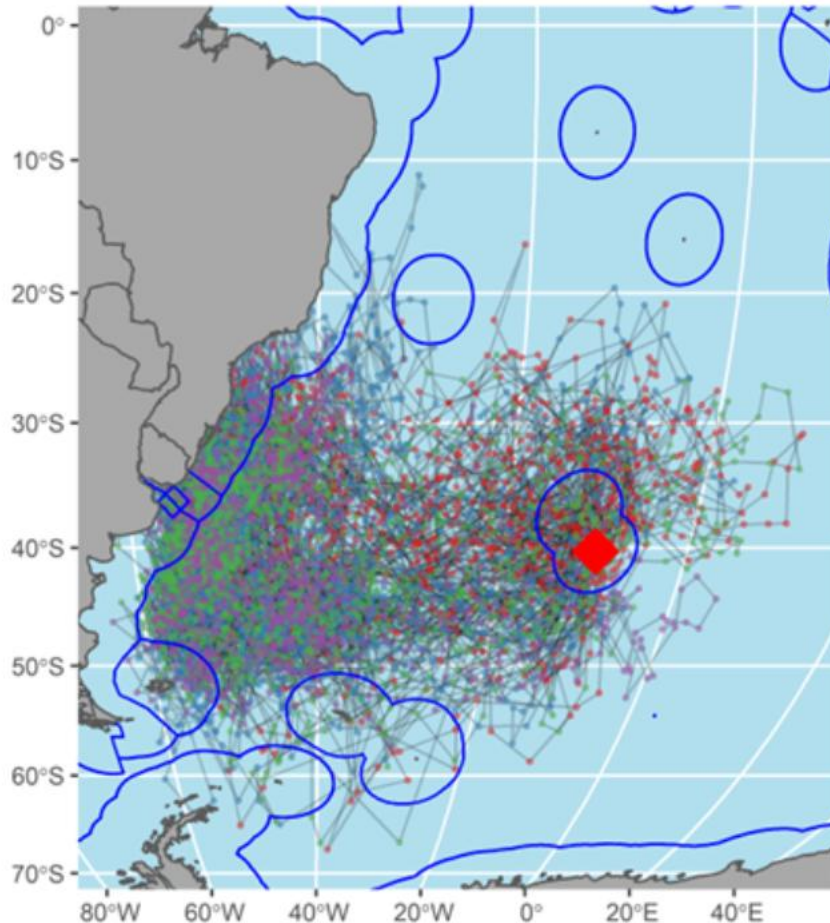


Figure 5 This map shows multiple years of migrations of the Atlantic Petrel over the South Atlantic, with the breeding colony on Gough Island (United Kingdom). Data collection is from August 2010 to August 2013, each year is represented by a different colour. Data owned by Peter Ryan and Jacob González-Solís. Blue zones are EEZs; ◆ red diamond represents the colony.

Key Reference

Pastor-Prieto, M., Ramos, R., Zajková, Z., Reyes-González J.M., Rivas, M.L., Ryan, P.G. & González-Solís, J. (2019). Spatial ecology, phenological variability and moulting pattern of the endangered Atlantic petrel *Pterodroma incerta*. *Endangered Species Research* 40, 189-206. [Endangered Species Research 40:189](#)

Zino's Petrel *Pterodroma madeira* (Mathews, 1934)

IUCN Status: *Endangered*

Current trend: *Stable*

Breeding Range States: *Portugal*

Other Range States: *Brazil, Cabo Verde, Côte d'Ivoire, Mauritania, Senegal, Spain, United Kingdom, Western Sahara*

Proposed CMS listing: *Appendix I*

Zino's Petrel Distribution

Zino's Petrel was first recorded in 1903 but by the middle of the 20th century they were considered extinct until a small population was rediscovered in 1969. They are currently known to breed only in the central mountain massif of Madeira, Portugal, on six inaccessible ledges. Subfossil remains elsewhere in Madeira and on neighbouring Porto Santo Island suggest that it was historically more widespread and more abundant (Zino et al., 2001). Surveys are ongoing in the attempt to identify further breeding sites. During the non-breeding season, they disperse far from the colony to either the Cabo Verde region, further south to equatorial waters in the central Atlantic, or to the Brazil Current (Ramos et al., 2016; Zino et al., 2011).

Zino's Petrel Population

There are estimated to be around 160 mature Zino's Petrel. Prior to 2010 the species was stable and showing slight increases in population size. However, a forest fire in 2010 decimated much of the habitat and killed 65% of the chicks. The subsequent soil erosion removed normal food for predatory species and of the 13 remaining chicks that year only one fledged. In 2011 many of the surviving adults laid eggs, with 43 active nests found in 45 burrows searched. From these nests 19 chicks hatched and 16 managed to fledge. However, the long-term impacts of the 2010 fire on the breeding population are not yet known.

Zino's Petrel Habitat

Zino's Petrel breeds in burrows under vegetation at heights of around 1,600 metres in the central massifs of Madeira. Breeding has only been recorded on six ledges within this central region. Birds return to the colony as early as late March with eggs laid mid-May to early-June and chicks fledging by early-October. At sea they tend to select areas characterised by high sea surface temperatures, low wind speeds and high productivity. Its diet probably consists of small squid and fish.

Movements of Zino's Petrel

Tracking data show Zino's Petrel exploits the oceanic area between the Canaries and Azores during the breeding season (Ramos et al., 2016). However, during the non-breeding season they were found around the Cabo Verde archipelago with a considerable proportion also migrating to equatorial waters or even further south to the North Brazil Current. A small number of birds also exploited a vast area in the central Atlantic, between the equator and South Atlantic Ocean (around Saint Helena). See Figure 6.

National and Regional Legal Protection

Zino's Petrels are protected under Portuguese law and the breeding sites have been designated a Special Protection Area under the European Union's Wild Birds Directive.

Main Threats

A severe fire in 2010 resulted in the near total breeding failure that season via direct mortality and subsequent predation of chicks as well as the loss of at least six adults. The colony is at risk from future fires. Cats are a significant predation threat and though there is an active trapping programme in place, the impact of fires on the island has reduced available resourcing. Similar issues exist for maintaining a bait cordon limiting ship rats accessing the colony which are themselves a known source of reproductive failure through predation of eggs and chicks.

Conservation Actions

The cat and rat control programmes currently in place need to be continued and potentially

increased. Novel methods of cat control could be investigated to increase efficiency and effectiveness. Through conservation efforts a large fire was prevented from reaching the colony in 2016. Similar efforts should be employed with future fires.

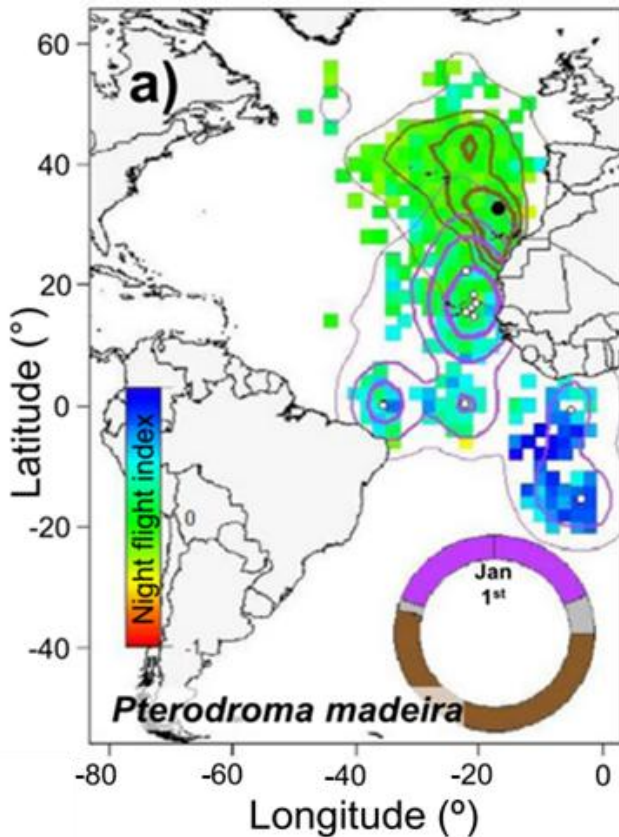


Figure 6 Kernel density distribution (25, 50, 75 and 95%, from thicker to lighter line contours, respectively) of Zino's Petrel over the Atlantic Ocean, specifically looking at spatial-temporal variation in circadian flight activity. This figure provides an indication of the extent to which the species travels over a year. • breeding site on Madeira. Schematic annual cycle (starting 1st January) is also shown in coloured circles (brown for breeding, purple for non-breeding and grey for migration periods). Figure from Ramos et al. (2016).

Key Reference

Ramos, R., Ramírez, I., Paiva, V.H., Militão, T., Biscoito, T., Menezes, D., Phillips, R.A., Zino, F. & González-Solís, J. (2016). Global spatial ecology of three closely-related gadfly petrels. *Scientific Reports*, 6, 23447.

Magenta Petrel (Chatham Island tāiko) *Pterodroma magentae* (Giglioli & Salvadori, 1869)**IUCN Status:** *Critically endangered***Current trend:** *Increasing***Breeding Range States:** *New Zealand***Other Range States:** *Australia, Chile, Cook Islands, Fiji, France, Niue, Peru, Tonga, United Kingdom***Proposed CMS listing:** *Appendix I**Magenta Petrel Distribution*

The Magenta Petrel was rediscovered in 1978 in the south-west corner of Chatham Island / Rēkohu / Wharekauri, New Zealand, 111 years after it was first collected at sea to the south of French Polynesia. Its prevalence in Moriori (the indigenous people of the Chatham Islands, New Zealand) middens suggest it was previously widespread and common on Chatham Island but underwent a massive historical decline (Crockett, 1994). Inshore waters (1-2 km offshore from the colony) around Otawae Point are thought to be important for non-breeders visiting the colony and during courtship at night (Imber et al., 2005). During the breeding season birds feed mainly south and south-east of the Chatham Islands. The at-sea wintering distribution then stretches across the South Pacific towards South America.

Magenta Petrel Population

After being rediscovered in 1978, only four breeding pairs were recorded in 1994. Whilst there is a likelihood that other nests were present undetected, the population was still declining. Ten years later a survey found a population of 120 individuals, consisting of 15 breeding pairs (Butchart et al., 2006). In 2006 there were found to be 35 active burrows, with 25 estimated breeding pairs (including known and suspected pairs based on the genetics of juvenile birds captured away from the colonies) (Lawrence et al., 2008). Between 2007 and 2011, a total of 59 chicks (all known chicks produced in those seasons) were successfully translocated from the Tuku Nature Reserve in the south of Chatham Island / Rēkohu / Wharekauri to the nearby Sweetwater Conservation Covenant, where they all successfully fledged (Miskelly et al., 2009; G. Taylor unpubl. data.). There are estimated to be 90-100 mature individuals representing 150-200 total birds and the population is listed as increasing.

Magenta Petrel Habitat

The Magenta Petrel nests inland along stream courses in the south-west corner of the main island. Some burrows occur up to 5 km from the coast. The nests are found under dense temperate rainforest dominated by tall tree ferns. The birds dig out cryptic burrows up to 5 metres long in deep peaty soil under forest cover (Taylor et al., 2012). The petrels return to the breeding colony in September-October, eggs are laid late-November to December, and chicks fledge in May. The at sea habits and foraging is expected to be like other *Pterodroma*. The diet is not well known but includes squid and fish.

Movements of Magenta Petrel

During the breeding season, waters to the south and south-east of the Chatham Islands are used by both breeding and non-breeding individuals (Imber et al., 2005). During the non-breeding season, the population is known to migrate across the South Pacific. Tracking data shows this population migrates to various wintering areas from the Tasman Sea to the waters off the west coast of South America (G. Taylor, NZ Dept. of Conservation) (Fig.7).

Cultural Importance

Tāiku/Tāiko (Magenta petrel/Chatham Island taiko) holds great cultural importance for the imi/iwi (tribes) - Moriori and Ngāti Mutunga - who reside on Rēkohu / Wharekauri / Chatham Islands. For Moriori and Ngāti Mutunga, Tāiku/Tāiko are not just endangered seabirds - they are miheke/taonga tuku iho (treasures handed down from ancestors) and part of their hokopapa/whakapapa (genealogy) and identity. They see themselves as carrying a responsibility to assist in the care for them as tchieki/kaitiaki (guardians). The survival of Tāiku/Tāiko/ is not only a scientific issue but also a cultural one. Imi/iwi are recognised as partners in both decision making and delivery of conservation actions. Community-based conservation initiatives include support for the recovery programme through the

Chatham Island Taiko Trust. Hundreds of volunteers have donated their time to this project since 1969 helping to capture and band birds near the Taiko base camp and assisting with tracking birds to new nest sites.

National and Regional Legal Protection

The Magenta Petrel is a fully protected species under the New Zealand Wildlife Act (1953) and protection extends across the full EEZ. There are no permitted cultural harvests of this species and no evidence of illegal hunting. The locations of most known breeding burrows are within either the Tuku Nature Reserve or the privately owned Sweetwater Conservation Covenant which further ensures protection. The Magenta Petrel was also listed by the US Fish and Wildlife Service as an Endangered Species requiring protection throughout its range. [Species Profile for Magenta petrel \(Pterodroma magentae\)](#)

Main Threats

Introduced species represent the major threat to the species when unmanaged. Feral pigs, feral cats and uncontrolled dogs can kill adults while rats, hedgehogs, weka, and possums can take eggs and chicks. However, with intensive predator control efforts the incidence of predation is greatly reduced, and the population is currently increasing.

Conservation Actions

Control of invasive species throughout the Tuku Nature Reserve, along with maintenance of the predator proof fence at Sweetwater Conservation Covenant, needs to be continued. Novel methods to control invasive species should be investigated as increasing the efficiency and effectiveness of control may allow the current ranges of control to be extended. Continue to translocate additional chicks to Sweetwater Conservation Covenant to build a secure population within the predator-proof fenced area and investigate other locations that could be used for translocation. Continue to monitor breeding pairs and attempts, including active intervention (top-up feeds) if chicks are undernourished.

The recovery project is supported by the Chatham Island Taiko Trust, who are contracted by New Zealand Department of Conservation to manage the pest control work and burrow monitoring. The Chatham Island Council, Hokotehi Moriori Trust and Ngāti Mutunga o Wharekauri Iwi Trust have established the Chatham Islands Landscape Restoration Trust which aims to restore ecosystems and protect species across the Chatham Islands. Its work includes seabird translocations and predator control. Through the [Island-Ocean Connection Challenge \(IOCC\)](#), the Chatham Islands Landscape Restoration Trust, in collaboration with Moriori, Māori, the community, and other local and national groups, have embarked on an ambitious “Predator Free” project beginning with removal of key introduced predators (possums, rats and feral cats) from the main island, Rēkohu / Wharekauri (main Chatham Island).

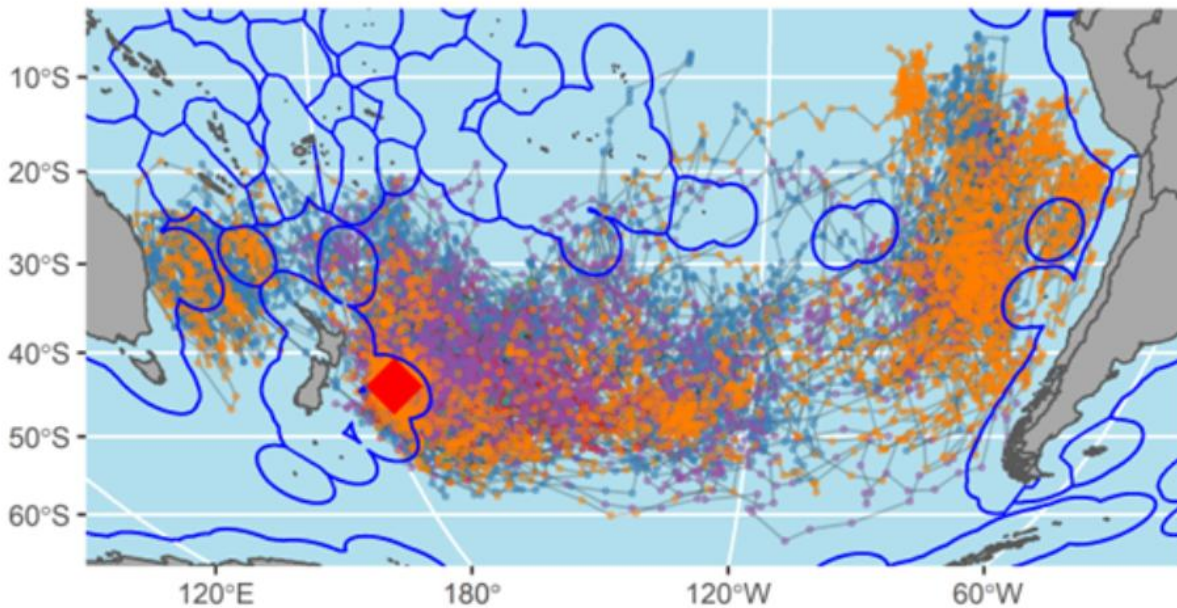


Figure 7 This map is showing multiple years of migrations of the Magenta Petrel over the South Pacific, with the breeding colony on the main Chatham Island / Rēkohu / Wharekauri (New Zealand). Data collection is from October 2008 to October 2012, each year is represented by a different colour. Data owned by Graeme A. Taylor (NZ Department of Conservation). Blue zones are EEZs; ◆ red diamond represents the colony.

Key References

Imber, M.J., Taylor, G. A., Tennyson, A.J.D., Aikman, H. A., Scofield, R. P., Ballantyne, J. & Crockett, D.E. (2005). Non-breeding behaviour of Magenta Petrels *Pterodroma magentae* at Chatham Island, New Zealand. *Ibis*, 147, 758-763.

Taylor, G., Cockburn, S., Palmer, D., & Liddy, P. (2012). Breeding activity of Chatham Island taiko (*Pterodroma magentae*) monitored using PIT tag recorders. *New Zealand Journal of Ecology*, 36(3), 1.

Appendix II species

Tahiti Petrel *Pseudobulweria rostrata* (Peale, 1848)

IUCN Status: *Near Threatened*

Current trend: *Decreasing*

Breeding Range States: *Cook Islands, Fiji, France, Samoa, United States of America*

Other Range States: *Australia, Colombia, Costa Rica, Ecuador, El Salvador, Federated States of Micronesia, Guatemala, Mexico, New Zealand, Nicaragua, Panama, Papua New Guinea, Peru, Solomon Islands, Vanuatu*

Proposed CMS listing: *Appendix II*

Tahiti Petrel Distribution

The Tahiti Petrel breeds in the Marquesas, Society, Austral Islands (on the island of Raivavae) and Gambier Islands, French Polynesia; Fiji; American Samoa (USA); and New Caledonia (France). It has recently been rediscovered breeding on Rarotonga in the Cook Islands and is known to breed in Samoa both on Savaii and Upolo, but exact locations of colonies are yet to be determined. It used to breed in Vanuatu and may breed on other Pacific islands (Thibault & Bretagnolle, 1999). In the non-breeding season, the species disperses widely, and birds have been recorded as far east as the coast of Central America, particularly Peru, Mexico and Costa Rica (Ballance et al., 2002). There is an outlier record from the Mozambique Channel (Lambert, 2004).

Tahiti Petrel Population

Breeding on several Pacific Islands, the Tahiti Petrel is thought to consist of not more than 10,000 pairs, suggesting 20,000 adults and 30,000 individuals. There is no recent population trend data, however the species is thought to be declining mainly due to nest predation by introduced predators and open cast mining activities (Pagenaud et al., 2022a). Marine surveys in the eastern tropical Pacific from 1988-2000 estimated a 35% reduction between the periods 1988-1990 and 1998-2000 (Ballance et al., 2002).

Tahiti Petrel Habitat

The Tahiti Petrel has a widespread breeding range, on numerous islands in the Pacific Ocean. This petrel typically nests high under forest or scrub on steep mountain slopes and in craters on volcanos. It is also known to nest on low coralline or rocky hill islets and backshore sandy areas (Pagenaud et al., 2022b). Burrows are dug, under natural structures such as rocks or tree roots (Delelis et al., 2007). Breeding of Tahiti Petrels in New Caledonia appears to occur throughout the year with egg laying peaking in December (Pagenaud et al., 2025).

Movements of Tahiti Petrel

The Tahiti Petrel breeds on several Pacific Islands - The Marquesas, Society and Gambier Islands (French Polynesia), Cook Islands, Fiji, American Samoa (USA), New Caledonia (France) and Samoa. Due to their numerous breeding grounds this species is widely dispersed during non-breeding migrations. They have been recorded off the west coast of Central America down to Peru, and as far east as the Mozambique Channel (Ballance et al., 2002; Lambert, 2004). The species is regularly recorded (most months) on pelagic seabird trips that leave from the Gold Coast, south-east Queensland, Australia and geolocator tracking shows birds occur north and south of Papua New Guinea and the Solomon Islands (A. Ravache pers. comm.). Tracking data from New Caledonian birds during the breeding season showed they headed toward the south and northeast, mostly targeting the coasts of Loyalty and Vanuatu Islands (Ravache et al., 2020).

National and Regional Level Protection

In French Polynesia, the Tahiti Petrel is legally protected under local environmental regulations. It is listed as a protected species by Council of Ministers decree 256 (1988) and 1975 (2005), which prohibit its capture, disturbance, destruction, and trade (A. Ravache pers. comm.). The species is also protected in French Polynesia as a Category A species (Decree 466 CM of 22 March 2018), which prohibits, in particular, the capture, disturbance, destruction, trade in all or part of these species. In New Caledonia, the species is also legally protected under the environmental codes of

both the Northern and Southern Provinces. In the Loyalty Islands Province, where Tahiti Petrels are presumed to breed, the species is included in the Environmental Code as a protected species. Tahiti Petrels are listed under Schedule 1 of the Fiji Endangered and Protected Species Act 2002 which classifies them as species of the highest conservation concern and affords them protection under Fijian Law.

Main Threats

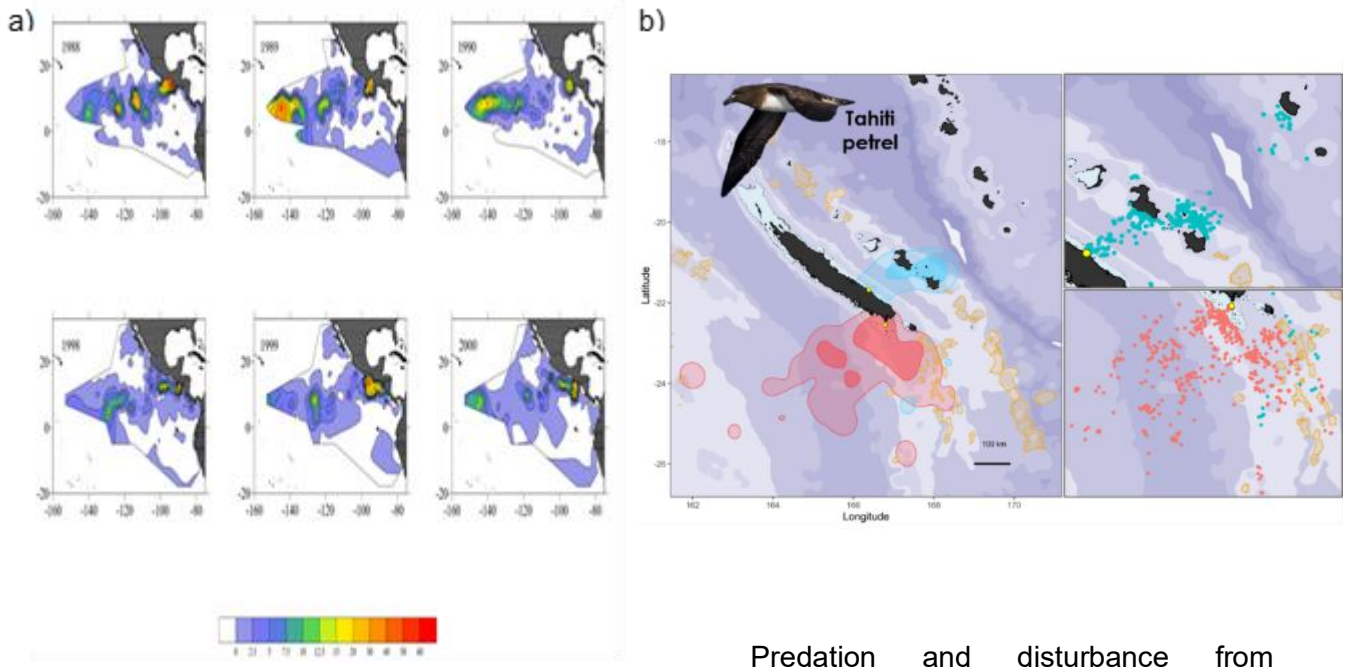


Figure 8 a) Distribution map of the Tahiti Petrel in the eastern Pacific only based on sightings collected at sea. The colour contours represent birds per 100 km² per day. This species breeds in the western South Pacific Ocean and so by frequently occurring in this location shows the extent of its migration. Figure from Ballance et al. (2002). b) Breeding season kernels for Tahiti Petrels tracked from Mato Islet (red) and Nemou Islet (blue) in New Caledonia. Yellow dots represent the colonies and orange polygons represent seamounts. Data owned by Andreas Ravache.

Predation and disturbance from

introduced species likely represents the most serious threat to the species throughout its range (Pagenaud et al., 2025). Feral cats predate both adults and chicks, with dogs and pigs also observed digging out adults and chicks from their burrows. Despite their legal protection status in French Polynesia, few breeding sites fall within formal protected areas, and enforcement remains limited (A. Ravache pers. comm.). Despite legal protection in New Caledonia, threats from mining, fire, and invasive species persist. Fallout due to light attraction is a known issue for these birds in Pagopago, American Samoa and efforts are being made to raise awareness of this issue. Potential development of windfarms in the flight path of this species on land is also a potential threat.

Conservation Actions

Conservation efforts in French Polynesia focus on monitoring, public awareness, and reducing light pollution. A network of volunteers has been organised in Tahiti since 2007 to collect stranded Tahiti Petrels and enable them to fly again. Active conservation programmes are in place at some breeding sites in New Caledonia (e.g., Koniambo), including predator control, nest monitoring, and research on at-sea movements. Monitoring of nest sites is also taking place in American Samoa, with efforts also to source funding for predator control. Continue public awareness programme about light fallout during fledging. Other conservation actions to be considered throughout its range include: improving census and population size estimates at breeding sites to better monitor population trends; carrying out predator control around known colonies or eradicating predators from known breeding islands where possible and; investigate setting up predator-proof fenced areas on large islands and using a

combination of sound system attraction, artificial burrows and chick translocation to establish secure breeding colonies. In Samoa, try to determine nesting locations including continuing traditional knowledge surveys with local communities and protect any colonies found from predators.

Key Reference

Ravache, A., Bourgeois, K., Weimerskirch, H., Pagenaud, A., de Grissac, S., Miller, M., Dromzée, S., Lorrain, A., Allain, V., Bustamante, P., Bylemans, J., Gleeson, D., Lettourneur, Y. & Vidal, É. (2020). Behavioural and trophic segregations help the Tahiti petrel to cope with abundance of wedge-tailed shearwater when foraging in oligotrophic tropical waters. *Scientific Reports*, 10, 15129.

Phoenix Petrel *Pterodroma alba* (Gmelin, 1789)**IUCN Status:** *Vulnerable***Current trend:** *Decreasing over past 3 generations but recent increases***Breeding Range States:** *Chile, France, Kiribati, United Kingdom***Other Range States:** *Fiji, New Zealand, Tonga***Proposed CMS listing:** *Appendix II**Phoenix Petrel Distribution*

This species breeds on several Pacific Islands – Line and Phoenix Islands (Kiribati), Marquesas Islands (French Polynesia), and Pitcairn Islands (UK). The largest estimated population is on Kiritimati (Christmas Island), Kiribati, with smaller populations elsewhere throughout its range. The highest densities at sea are recorded near the breeding grounds, around the Phoenix Islands and Kiritimati (Christmas Island) in the Line Islands (Pierce et al., 2020). During the non-breeding season, the species disperses over much of the tropical Pacific, as far north as Hawaii and as far south as the Kermadec Islands (New Zealand) (Gangloff et al., 2009).

Phoenix Petrel Population

The Phoenix Petrel's stronghold is on Kiritimati (Line Islands, Kiribati) where it is estimated to have around 20,000 mature individuals breeding on the main island (Pierce et al., 2020). The largest population on Kiritimati doubled from 2011 to 2023 (R. Pierce pers. comm. 2025). There were estimates from 1999 of 200 and 300 pairs also breeding on Motu Tabu and Motu Upua, respectively (D. Watling in Birdlife International, 2025). Surveys at other breeding locations recorded 100-500 (variance between surveys in March 2007 and November 2010) individuals on Hatuta'a (Marquesas; Thibault et al., 2013), 12 individuals on Fatu Huku (Marquesas) in 2011, 10 individuals on Kanton (Phoenix Islands, Kiribati) in 2011 (Pierce et al., 2020) and 12-20 pairs on Oeno (Pitcairn Islands) in 1997-1998 (Bell & Bell, 1998). The overall population size is therefore estimated to fall in the band of 20,000-30,000 mature individuals. The subpopulation structure has not been directly analysed. Although there are no recent declines on Kiritimati, the population elsewhere is likely to have declined across the past three generations due to the presence of land-based threats, including invasive species at many of its colonies and increased frequency of storm events destroying nesting habitats.

Phoenix Petrel Habitat

Historically the Phoenix Petrel is likely to have nested on a wide range of island types within the Pacific including large volcanic islands from which they are now extirpated (e.g., Raoul Island, Kermadec Islands, Veitch et al., 2004). Currently the colonies are limited to smaller low-lying islands or small motu within the lagoons of larger islands though they have been recorded on land at up to 475 metres above sea level. They nest in excavated bowls under tall grasses or low leafy shrubs (e.g. *Scaevola*). Where densities of nesting birds are high, they also nest under more open vegetation or in the entrances to abandoned Wedge-tailed Shearwater (*Ardenna pacifica*) burrows. They can nest year-round, with breeding peaks in May and December. They feed mainly on squid, supplemented by fish and crustaceans, feeding in proximity to breeding islands during the breeding season (Pierce et al., 2020).

Movements of Phoenix Petrel

The Phoenix Petrel is known to breed on multiple Pacific islands: The Line and Phoenix Islands (Kiribati); The Marquesas Islands (French Polynesia); and Pitcairn (UK). Information on their movements comes primarily from pelagic sightings. Highest at-sea densities are in proximity to breeding locations, but they disperse widely during the non-breeding season (Pierce et al., 2020). Phoenix Petrels are recorded as travelling north to the Line Islands and over to Hawaii and south to the Kermadec Islands. Therefore, this species can cross national boundaries often over the course of a year.

National and Regional Level Protection

The main breeding islets (motu) at Kiritimati are local Nature Reserves or Wildlife Refuges. The Phoenix Islands are also protected. The species is protected in French Polynesia as a Category A

species (Decree 466 CM of 22 March 2018), which prohibits, in particular, the capture, disturbance, destruction, trade in all or part of these species.

The Phoenix Petrel is protected in Chile under Hunting Law No. 19,473. Additional legislation under Article 18 of Chile's MMA Decree No. 1/2022 (Norma Lumínica) ensures mitigation of the impacts of light pollution for this and other Chilean species.

Main Threats

Invasive alien species are a significant threat with the presence of cats or rats at breeding locations thought to have caused several population crashes (Pierce et al., 2020). Evidence of cat predation on adults has been found at some breeding locations, and at motu where Pacific rats (*Rattus exulans*) have been eradicated there have been increases in breeding numbers of Phoenix Petrels. Pacific rats can reinvade these islands therefore repeat eradications are sometimes needed. Habitat loss through sea level rise may also significantly impact this species with many of the islands used for nesting being low lying. Some areas have human harvests of seabirds where other protein sources are lacking. The depletion of pelagic fish stocks may impact food availability for Phoenix Petrels.

Conservation Actions

Continue with programmes to remove or control invasive alien species from breeding locations along with promoting biosecurity compliance and education to ensure sustainability of efforts. Support projects that are developing breeding locations at lower risk from sea level rise and consider translocation or attraction using acoustic playback to help secure the species long-term. In places where human harvest pressures may be an issue continue with community education and providing support around better access to more sustainable protein sources. More detailed recommendations can be found in Pierce et al., (2020), include monitoring of nests, surveillance for pests and cat eradication planning etc.

Key Reference

Pierce, R., VanderWerf, E., Cranwell, S., Taabu, K., Ghestemme, T. & Withers, T. (2020). A conservation action plan for two endangered seabirds – Phoenix Petrel (*Pterodroma alba*) and Polynesian Storm-petrel (*Nesofregetta fuliginosa*) 2020-2025.

Trindade Petrel *Pterodroma arminjoniana* (Giglioli & Salvadori, 1869)**IUCN Status:** *Vulnerable***Current trend:** *Stable***Breeding Range States:** *Brazil, Mauritius***Other Range States:** *Australia, Canada, France, India, Indonesia, Madagascar, Maldives, Oman, Pakistan, Portugal, Republic of Maldives, Seychelles, Somalia, South Africa, Sri Lanka, United Kingdom, United States of America, Yemen***Proposed CMS listing:** *Appendix II**Trindade Petrel Distribution*

The Trindade Petrel has two geographical breeding populations, one in the north-westerly South Atlantic on the Trindade Islands, and one in the western Indian Ocean on Round Island (Mauritius). The Trindade breeding population use the southwest Atlantic over the breeding season (Neves et al., 2006) and migrate through pelagic waters to the North Atlantic during the non-breeding season (Krüger et al., 2016; Leal et al., 2017; Ramos et al., 2017). On Round Island birds migrate across much of the Indian Ocean north of 40°S. One Round Island bird was tracked to the south-west Pacific Ocean off Australia (Booth-Jones et al., 2017). Two Trindade Petrels have been observed prospecting in Bermuda (UK) in recent years (via Caroline Daisley, Department for Environment, Food & Rural Affairs).

Trindade Petrel Population

The Trindade Petrel has two main geographical populations and population estimates have been hard to accurately calculate due to individuals likely flying between the different geographical locations and birds nesting on high cliffs. Considered abundant on the Trindade Islands between 1913 and 1986, later surveys in the 1990s placed numbers at 2,000-5,000 individuals. Since efforts to eradicate invasive alien species, the population on Trindade Island was estimated as high as 15,000 individuals (Brooke, 2004) or more likely 6,500 individuals (Fonseca-Neto, 2004). Even the lower of these counts was likely incorrect, with more reliable estimates from Luigi et al. (2009) and Kruger et al. (2018), mapping 1,130 and 1,228 breeding pairs, respectively. Despite this historic uncertainty it is thought that the current population on Trindade Island is stable. On Round Island, using data from a long-term capture-mark-recapture study, it is estimated that around 2000 petrels visit the island each year (M. A. C. Nicoll, pers. comm.).

Trindade Petrel Habitat

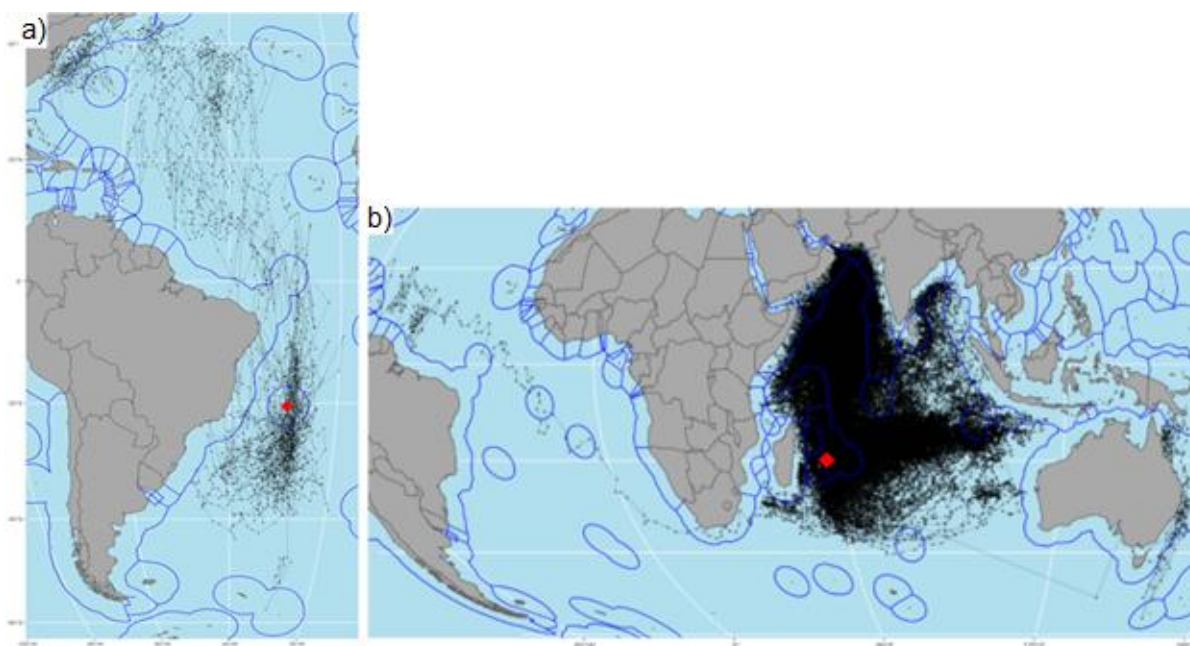
Although present all year on Trindade, there are two peaks in breeding, one with egg-laying in April and the other in October. Breeding occurs in burrows on ledges and in crevasses in the highest regions of Trindade. The population on Round Island breeds year-round, under ledges, in clusters of boulders and in tussock grass, with a peak in activity between August and December (Nicoll et al., 2017). Like other gadfly petrels, the Trindade Petrel prefers pelagic waters and feeds mainly on squid while also taking small fish as well as crustaceans and insects (Leal et al., 2017).

Movements of Trindade Petrel

The Trindade Petrel is known to breed in two distinct geographical locations: the Trindade Islands off Brazil in the Atlantic Ocean and Round Island in Mauritius within the Indian Ocean (Brown et al., 2010; Gardner et al., 1985; Leal & Bugoni, 2021; Leal et al., 2017). The Atlantic population forages widely in equatorial Atlantic waters before migrating to over-winter in the central North Atlantic (Flood & Danzenbaker, 2009; Flood, 2010; Leal & Bugoni, 2021; Ramos et al., 2017). On Trindade Island, the first breeding group of Trindade Petrels typically arrive at their breeding sites between January and February and start to migrate away between June and August. Arrival at the core non-breeding area in the North Atlantic Ocean was recorded between August and November, with birds migrating back to the breeding grounds in January (Leal & Bugoni, 2021). For the population breeding in the austral winter, their migration back to the breeding grounds coincides with the other group leaving Trindade. The Round Island population forages widely around the Indian Ocean throughout the year, with individual adult petrels repeating their non-breeding season migration strategy from year to year (Franklin et al., 2022). During their first year at sea, juvenile petrels move into the northern Indian Ocean, including the Arabian Sea and Bay of Bengal (Nicoll et al., 2017).

National and Regional Level Protection

In Brazil the species is considered Critically Endangered (Bugoni, 2018). Since 2018, Trindade Island has been a protected area designated as a “Natural Monument” and “Protected Terrestrial/Marine Landscape,” equivalent to IUCN categories III and V. Human presence on the island has been limited to military presence since 1957 and scientific activities since 1984; the only existing settlement on the island is the Trindade Island Oceanographic Station (POIT), a military garrison maintained by the Brazilian Navy (SECIRM 2018; de Lima Martins et al., 2021). Recently, a Marine Protected Area was created extending the conservation area surrounding the island, in the form of a Natural Monument Reserve and Environmental Protection Area following Brazil legislation (ICMBIO, 2018a & b), although it covers a minimal part of the species range in Brazil EEZ or in areas beyond national jurisdiction. Round Island has been a designated Nature Reserve since 1957 with access to the island restricted to authorised staff and researchers and strict quarantine procedures in place (Booth Jones, 2017).



On Trindade the population was severely affected by invasive species, with introduced goats and pigs significantly impacting the island’s vegetation, likely degrading breeding habitat. Pigs were removed by 1965 and feral goats were successfully eradicated by 2005. Feral cats took significant numbers of petrels until the cats were removed in the 1990s (Alves et al., 2011). Mice are still present on Trindade and have been seen preying eggs from seabird nests. On Round Island hybridisation occurs among the Trindade Petrel and at least two other *Pterodroma* confirmed breeding on the

Figure 9 a) This map shows the migration and distributions in the Atlantic of the Trindade Island (Brazil) breeding Trindade Petrels. The data shows 1 migration from/to the breeding colony. Data owned by Leandro Bugoni & Lucas Krüger. b) The migration and distribution over the Indian Ocean of Round Island (Mauritius) breeding Trindade Petrels. Data owned by Malcolm Nicoll, Norman Ratcliffe, Katherine Booth Jones & Kirsty Franklin Blue zones are EEZs; ♦ red diamond represents the colony.

island (Kermadec Petrel *Pt. neglecta* and Herald Petrel *Pt. heraldica*; Booth Jones et al., 2017).

While the land crab *Johngarthia lagostoma* is considered a native species endemic to Atlantic Ocean Islands, the species is thought to have been introduced to Trindade in the late 1600s (Alves & Silva, 2016). Land crabs are one of the most conspicuous and abundant animals on the Island, even in records from the 1700s and 1800s (Alves & Silva, 2016; Soto, 2009). They have potential to be a problematic species with reports of significant predation on threatened sea turtle eggs (Pinheiro de Faria et al., 2022). They are a likely predator of seabird eggs and chicks, although it has not been systematically documented (Krüger pers. comm.).

Conservation Actions

The Reter Trindade project is conducting bird monitoring, coordinated by FURG's Leandro Bugoni's Lab. Trindade Island is dealing with several invasive plants that are hindering its natural recovery, but a management project is currently ongoing. Removal of invasive mice would greatly benefit seabirds, especially as there is a risk that in the future, they might start taking seabird chicks as happens on Gough Island (Caravaggi et al., 2019). Ensure biosecurity procedures are carried out for Trindade to ensure cats don't re-establish. Continue with quarantine procedures for access to Round Island to ensure introduced predators don't establish on that island.

Key References

Franklin, K. A., Norris, K., Gill, J. A., Ratcliffe, N., Bonnet-Lebrun, A-S., Butler, S., Cole, N. C., Jones, C. G., Lisovski, S., Ruhomaun, K., Tatayah, V. & Nicoll, M. A. C. (2022). Individual consistency in migration strategies of a tropical seabird, the Round Island petrel. *Movement Ecology*, 10 (1), 13.

Leal, G. R., & Bugoni, L. (2021). Individual variability in habitat, migration routes and niche used by Trindade petrels, *Pterodroma arminjoniana*. *Marine Biology*, 168(8), 134.
<https://doi.org/10.1007/s00227-021-03938-4>

Chatham Petrel *Pterodroma axillaris* (Salvin, 1893)**IUCN Status:** *Vulnerable***Current trend:** *Increasing***Breeding Range States:** *New Zealand***Other Range States:** *Chile, Costa Rica, Ecuador, Peru***Proposed CMS listing:** *Appendix II**Chatham Petrel Distribution*

The Chatham Petrel is endemic to the Chatham Island archipelago (New Zealand) and although subfossils indicate it would have been one of the more abundant burrowing seabirds, being present on all the major forested islands in the Chatham Islands, it was restricted to South-East Island (Rangitira/Hokoreoro) by 1900 (Gummer et al., 2015). Between 2002 and 2006, chicks were translocated to a newly created predator-free site at the Ellen Elizabeth Preece Conservation Covenant on Pitt Island (Rangihau/Rangiāuria) where successful breeding first occurred in 2006. Between 2008 and 2011 chicks were transferred to the 2.4ha predator-free Sweetwater Conservation Covenant on Chatham Island. The first breeding attempt at this site occurred in 2012. As a result of these translocation, small colonies (numbering in the tens of breeding pairs) are now also present at both these sites. A third translocation programme to Mangere/Maung'Rē Island began in 2023 though it is too early to start seeing results. At sea, during the breeding season they range up to 3000km south-east of the Chatham group and in the non-breeding season migrate to waters near the coast of Peru and Chile.

Chatham Petrel Population

The Chatham Petrel has seen significant declines in numbers throughout the 20th century. The most recent population estimate in 2010 shows an increase from the 600-800 birds in 1995 to around 1,400 birds which likely includes around 1,100 mature individuals (Gummer et al., 2015). Therefore, the population has been slowly increasing over the past few decades, however the declines over the past three generations are still >30%. Prior to intensive nest management, annual breeding success was as low as 10% (Gummer et al. 2015).

Chatham Petrel Habitat

The Chatham Petrel breeds solely on the Chatham Islands (New Zealand) in the South Pacific Ocean. Burrows are created in loose soil in lowland temperate forest and scrub. Birds begin returning to the colony in November with laying occurring between late December and early February and chicks fledging early May-mid-June. During the breeding season Chatham Petrels occupy pelagic foraging habitats up to 3000km south and east of the Chatham Islands (Rayner et al., 2012). During the non-breeding season birds migrate to the west coast of South America over pelagic waters of the Humboldt current. The diet consists mostly of squid and fish taken from the surface of the sea.

Movements of Chatham Petrel

During breeding the Chatham Petrel forages 1,000-3,000 km south-east of the Chatham Islands between the Subtropical Convergence and Subantarctic Fronts, with the Bollon's Seamount being important during chick rearing (Rayner et al., 2012). The population then migrates north-east to areas ~1000km off the coasts of Peru and Chile. Here they spend their time over pelagic waters of the outer edge of the Humboldt Current, especially over the Nazca Sea Ridge. Typical timings for the migrations each year are recorded as leaving the breeding colony quickly after chick fledging in May, reaching the core non-breeding locations at the end of May. Approximately 162 days are spent in the non-breeding area, before the population migrates back between late October and early December, arriving back to the core breeding region on the Chatham Islands from early November. See Figure 10.

Cultural Importance

Ranguru (Chatham petrel) holds great cultural importance for the imi/iwi (tribes) - Moriori and Ngāti Mutunga - who reside on Rēkohu / Wharekauri / Chatham Islands. For Moriori and Ngāti Mutunga, Ranguru are not just endangered seabirds - they are miheke/taonga tuku iho (treasures handed down from ancestors) and part of their hokopapa/whakapapa (genealogy) and identity. They see

themselves as carrying a responsibility to assist in the care for them as tchieki/kaitiaki (guardians). The survival of Ranguru is not only a scientific issue but also a cultural one. Imi/iwi are recognised as partners in both decision making and delivery of conservation actions. Community-based conservation initiatives for Ranguru include population monitoring, assisting with translocations, and ranger training.

National and Regional Legal Protection

The Chatham Petrel is a fully protected species under the New Zealand Wildlife Act (1953) with protection extending across the full EEZ. There are no permitted cultural harvests of this species and no evidence of illegal hunting. The main breeding colony is located on South-East Island (Rangatira/Hokoreoro) which is protected as a Nature Reserve with the two other established colonies, though small in number, being on privately owned Conservation Covenants within predator proof fences. Mangere Island/Maung'Rē, the location of a third translocation project currently underway, also has Nature Reserve status.

Main Threats

The Chatham Petrel is vulnerable to predation by introduced mammals in places where they co-exist. Rat predation of breeding adults was confirmed for several known burrows located outside the predator proof fence at Sweetwater Conservation Covenant in recent years and a previous cat incursion into the predator proof fence at Ellen Elizabeth Preece Conservation Covenant severely affected the breeding population there. Historically, habitat loss and populations of feral cats would have significantly impacted Chatham Petrels restricting them to the predator-free South-East Island (Rangatira/ Hokoreoro). Following this, burrow competition with broad-billed prions has become a significant threat to the population. The prions have a long prospecting phase occurring over the Chatham Petrel's vulnerable chick rearing period. Left unmanaged, this results in high incidence of Chatham Petrel chick injury and death, and also displacement of adults from established breeding burrows.

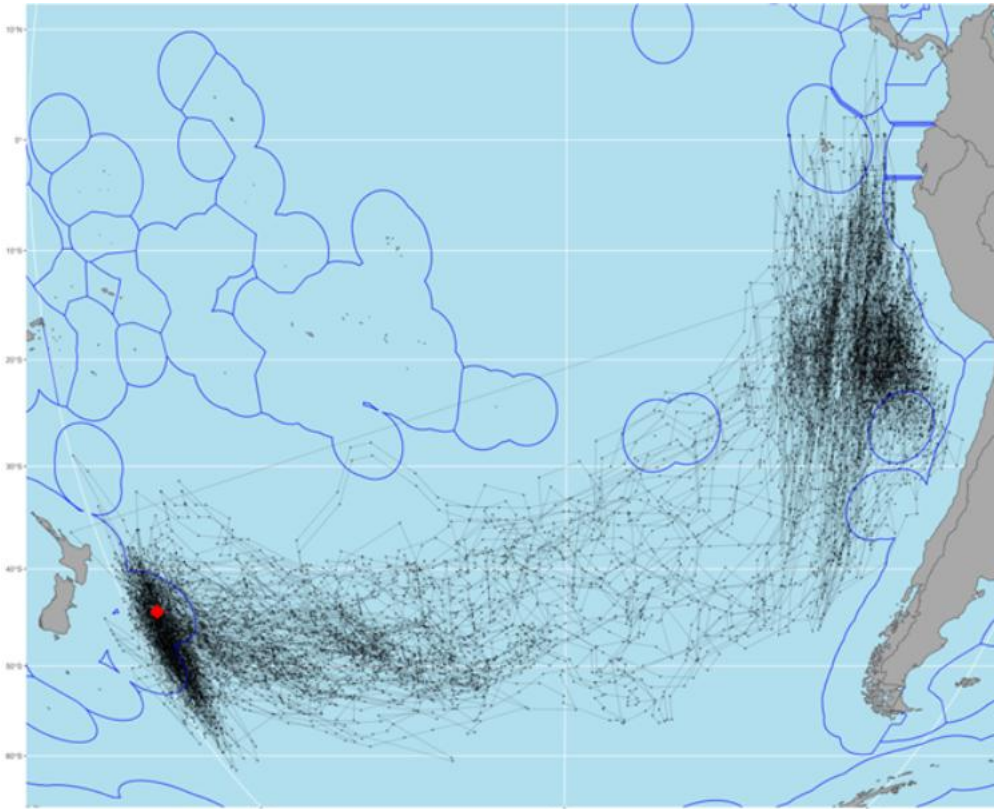


Figure 10 Migration path and distribution over the Pacific of Chatham Petrels breeding on South-East Island/Hokoreoro/Rangatira in the Chatham Islands (New Zealand). The data shows 1 migration from/to the breeding colony. Data owned by Graeme A. Taylor. Blue zones are EEZs; ◆ red diamond represents the colony.

Conservation Actions

On South-East Island (Rangatira/Hokoreoro) continue with quarantine and biosecurity surveillance procedures to ensure invasive species don't establish on the island. Continue with work to manage artificial burrows to reduce competition with broad-billed prions including closing off artificial burrows during the Chatham Petrel's non-breeding season to ensure broad-billed prions cannot access them and continuing to maintain neoprene flaps at burrow entrances during the breeding season to hinder access by broad-billed prions. If active burrow numbers fall below 150, putting some effort into locating new burrows should be considered. Breeding should continue to be monitored at all sites including banding unbanded adults and chicks prior to fledging. Continue with the Mangere translocation with the aim to translocate 200 chicks over a 4-year period. Through trainee ranger programmes established in partnership with Chatham Island tribal authorities (imi and iwi), members were able to contribute to Chatham petrel conservation efforts.

Key References

- Gummer, H., Taylor, G., Wilson, K.-J., & Rayner, M. J. (2015). Recovery of the endangered Chatham petrel (*Pterodroma axillaris*): A review of conservation management techniques from 1990-2010. *Global Ecology and Conservation*, 3(2015), 310-323.
- Rayner, M. J., Taylor, G. A., Gummer, H. D., Phillips, R. A., Sagar, P. M., Shaffer, S. A. & Thompson, D. A. (2012). The breeding cycle, year-round distribution, and activity patterns of the endangered Chatham petrel (*Pterodroma axillaris*). *EMU – Austral Ornithology*, 112(2), 107-116.

Collared Petrel *Pterodroma brevipes* (Peale, 1848)

IUCN Status: *Vulnerable*

Current trend: *Decreasing*

Breeding Range States: *Cook Islands, Fiji, Solomon Islands, United States of America, Vanuatu*

Other Range States: *Australia, New Zealand*

Proposed CMS listing: *Appendix II*

Collared Petrel Breeding Distribution

The Collared Petrel is currently known to breed only on Kadavu and Gau (Fiji) (O'Brien et al., 2016), Vanua Lava and Tanna (Vanuatu). Historically the species bred at Tau (American Samoa), Rarotonga (Cook Islands), Â Makira (Solomon Islands) and it is possible they still breed at these and other unassessed sites. This petrel is known to have bred historically on Viti Levu, Kadavu, Ovalau, and Vanuabalavu (Fiji). The non-breeding range is thought to cover the tropical Pacific, as far east as the Galapagos Islands.

Collared Petrel Population

Unpublished data for the Collared Petrel from the Fiji Important Bird Areas (IBA) project in the early 2000s suggest that the global population numbers 1,000-10,000 individuals, roughly equivalent to 670-6,700 mature individuals. The uncertainty is likely due to this species being spread out over multiple jurisdictions and so are largely estimates. A newly described subspecies - *Pt. b. magnificens* – breeds on Vanua Lava and 180 were sighted at sea in 2009. Research from 2023-2025 detected a maximum of 35 adult birds present in the air above the single known breeding colony, though no burrows could be accessed to assess breeding stage (P. Allen pers. comm.). These estimates would boost the numbers of the previous species estimates. A recent discovery (June 2025) of a fledgling Collared Petrel on Rarotonga, strongly suggests the species is still breeding there. The bird died and was sent to the Te Papa Museum in New Zealand.

Collared Petrel Habitat

The Collared Petrel breeds widely on Pacific Islands, all the way from the Solomon Sea to near the central South Pacific. On such islands this petrel breeds between 100 and 600 metres above sea level in burrows on highly forested slopes (Tennyson et al., 2012). Chicks can typically be found early in the year on Vanuatu and from May to August in other locations. During the non-breeding season, the Collared Petrel stays over the South Pacific and as far east as the Galápagos feeding on cephalopods and fish.

Movements of Collared Petrel

There are no tracking data for this species, but the non-breeding range is thought to be the tropical Pacific covering a large range between 10°N and 10°S as far as the Galapagos Islands. Though there are significant knowledge gaps for this species it is thought, based on similar species, that they regularly migrate between breeding areas and pelagic feeding grounds, covering significant distances and crossing international boundaries.

National and Regional Level Protection

The *Pt. b. magnificens* breeding colony on Vanua Lava (Vanuatu) is on land owned by local tribal authorities. The breeding colony and surrounding area have recently been declared a Community Conservation Area by these authorities, under joint management with the Vanuatu Department of Environmental Protection and Conservation and Torba Provincial Government Office (P. Allen pers. comm.).

Main Threats

Invasive species is one of the greatest threats to the Collared Petrel. Evidence of nest predation by rats has been recorded and may be the most significant current threat (Tennyson et al., 2012). In addition, the small Indian mongoose has caused rapid declines historically, cats appear to be a significant predator of chicks and adults, dogs and pigs may cause declines through predation and goats through habitat modification. The Collared Petrel has been heavily exploited in the past as a food source by local communities.

Conservation Actions

Conduct surveys during the breeding season to determine its status on all islands where it is known or suspected to occur. Consider community surveys including of traditional knowledge holders on islands where birds may be breeding. Field surveys could be supplemented with searches using trained dogs to find active burrows on islands where breeding is suspected. Assess breeding success and predation levels at sites where breeding is confirmed and control introduced mammals around known nesting sites. Advance a project to install predator-proof fencing at key sites. Deploy further acoustic attraction devices at predator-free sites within its range (e.g. Monuriki, Fiji).

Key Reference

Tennyson, A.J., Miskelly, C.M. & Totterman, S.L. (2012). Observations of collared petrels (*Pterodroma brevipes*) on Vanua Lava, Vanuatu, and a review of the species' breeding distribution. *Notornis*, 59, 39-48.

White-necked (White-naped) Petrel *Pterodroma cervicalis cervicalis* (Salvin, 1891)**IUCN Status:** *Vulnerable***Current trend:** *Increasing***Breeding Range States:** *Australia, New Zealand***Other Range States:** *Cook Islands, Federated States of Micronesia, Fiji, France, Japan, Mexico, Niue, United States of America, Vanuatu***Proposed CMS listing:** *Appendix II**White-necked Petrel Distribution*

Most White-necked Petrels breed on the 240 ha Macauley Island in the Kermadec Island group (Rangitāhua), New Zealand, where the species is known locally as the White-naped Petrel. A second much smaller colony established on 190 ha Phillip Island off Norfolk Island (Australia) in the 1990s. Historically this species also bred on Raoul Island (Kermadec Islands). It was last recorded breeding there in the early 20th century (Veitch et al., 2004). Two birds were found ashore on Raoul Island in 2005 and 2006; both covered in seed-burrs. It was suggested that these birds may have been prospecting for nests (Gaskin, 2011). At sea the species has an extensive foraging and migratory range across the Pacific Ocean.

White-necked Petrel Population

The White-necked Petrel population in New Zealand was last assessed towards the end of the 20th century. On Macauley Island there were an estimated 50,000 breeding pairs present in 1988, equating to about 150,000 total individuals. The breeding population on Raoul Island was estimated at <500 breeding pairs in 1908 but none were found by the 1966-67 Kermadec expedition (Miskelly et al., 2019). Therefore, the population on Raoul Island was most likely extirpated by invasive species (feral cats and rats). The eradication of rats and cats from Raoul Island in 2006 has resulted in five seabird species confirmed recolonising the island. It is highly probable that White-necked Petrel are also breeding there now (K. Baird pers. comm.). The breeding population on Macauley Island was first discovered in 1970 during the eradication operations on feral goats (*Capra hircus*) on the island. The recently established breeding colony on Phillip Island, Australia had six nests in 1994, increasing to 20 nests by 2005 (Priddel et al., 2010) and more than 40 by 2024 (N. Carlile pers. comm.).

White-necked Petrel Habitat

The White-necked Petrel bred in burrows in localised clusters on suitable well drained soils on slopes, gullies and the plateau of Macauley Island under native grasses, dense sedges and sometimes under native ferns. There have been large scale vegetation changes occurring on Macauley Island following the removal of goats in 1970 and Pacific rats (*Rattus exulans*) by 2006. It is unknown how these successional processes might be impacting White-necked Petrel populations. Tall fern now covers much of the island and may have displaced the species to other easier to access habitat types on Macauley Island.

On Raoul Island, the species previously bred below 300 metres on forested ridges. The native grass (*Cenchrus calyculatus*) covers much of the open areas on the island and birds have been grounded by dense coverings of spiny burrs from this grass. White-necked Petrels have been seen nearby at sea around the Kermadec Islands in May and so these are expected to be breeding foraging trips (Gaskin, 2011). In contrast, White-necked Petrels on Phillip Island (Australia) do not commonly nest in burrows, instead nesting predominantly beneath boulders in a rocky area with sparse understory, below a canopy of mature White Oaks (*Lagunaria patersonia*). The oaks provide concealment from aerial predators (Priddel et al., 2010). Some individuals also nest on the surface amongst New Zealand Flax (*Phormium tenax*), inside tree hollows, under roots or logs, inside old manmade structures on the island and in artificial nest boxes. When foraging at sea the species feeds nocturnally by dipping, patterning and surface seizing. The diet is largely unknown but contains squid and fish.

Movements of White-necked Petrel

The White-necked Petrel mostly breeds on the remote and difficult to access Macauley Island in the Kermadec Islands. There have been no tracking studies carried out from this location. On the Phillip Island population off Norfolk Island (Priddel et al., 2010), there have been Global Positioning System

(GPS) tracking studies on breeding season movements (Halpin et al., 2022) as well as Global Location Sensor (GLS) tracking of migration movements. These tracking data show that this species moves towards the eastern Australian coast and northern New Zealand during breeding. From at-sea observations, the species has an extensive initial migration, heading north-east over tropical and sub-tropical seas of the Pacific Ocean and then towards Hawaii (Spear et al., 1992) with the core wintering area to the north-west in the North Pacific Ocean near to Japan revealed from tracking studies.

Cultural Importance

White-necked Petrel and their main breeding site, Rangitāhua/Kermadec Islands, are culturally important for the iwi (tribe) Ngāti Kuri. Rangitāhua is a tūpuna (ancestor) and kainga motuhake (a home that is sovereign and controls its own destiny) of special and sacred significance. White-necked Petrel are considered taonga tuku iho (treasures handed down from ancestors) and part of the whakapapa (genealogy) and identity of Ngāti Kuri, for which they continue to exercise kaitiakitanga (care and protection) for. Through the Te Ara Whānui Research Centre, Ngāti Kuri are leading an ambitious project - Te Mana o Rangitāhua – which, among other things, aims to increase understanding of biodiversity and ecosystem functions, including in relation to seabirds, as well as uplifting Mātauranga Māori (Māori knowledge) and science and developing new knowledge and ecosystem models that allow Rangitāhua to guide us in how we interact with the region.

National and Regional Legal Protection

White-necked Petrels are fully protected by national legislation in both New Zealand and Australia. There are no traditional harvests of this species. The Kermadec Islands are Nature Reserves administered by the New Zealand Department of Conservation. The surrounding territorial seas are fully protected (no take) marine reserves. Phillip Island is part of Norfolk Island National Park, administered by Parks Australia, and is surrounded by the Norfolk Marine Park.

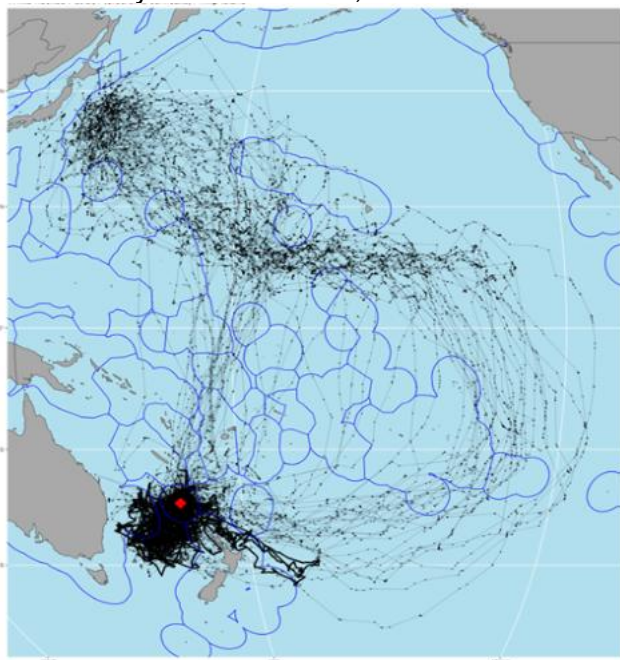


Figure 11 This map displays the migration and distributions over the Pacific Ocean of White-necked Petrels that breed on Phillip Island off Norfolk Island (Australia). The data shows migration from/to the breeding colony and breeding season foraging locations. Data owned by Nicholas Carlile, Terence O'Dwyer and Luke R. Halpin. Please also see Halpin et al. (2022). Blue zones are EEZs; ◆ - red diamond – represents the colony.

Main Threats

Macauley Island was cleared of feral goats in 1970 and Pacific rats in 2006. There are no introduced mammals remaining on any of the Kermadec Islands. Phillip Island is now free of introduced mammals after rabbits were removed in 1985. The native pūkeko or purple swamphen (*Porphyrio melanotus*) has self-colonised both Raoul Island and Phillip Island. This species has proven to be a predator of surface nesting seabirds on Phillip Island and has been observed preying on White-necked

Petrel eggs. Control is undertaken periodically at this site (Halpin et al., 2021). There is no free-standing water on Macauley Island, so this rail species is unlikely to survive on that island. Introduced weed species and native grasses are potential threats to White-necked Petrels if they reestablish back on Raoul Island. The natural succession processes on Macauley Island could be impacting available nesting habitat. Fire (caused by lightning) is a potential risk on Macauley Island during the breeding season.

Conservation Actions

Monitoring and assessment of current population size and impacts of native plant succession are needed on Macauley and Raoul Islands. Sound attractions systems have been deployed on Raoul Island to lure birds back to this former breeding site. These need to be checked and maintained. Biosecurity measures are needed to prevent new invasive species reaching the known breeding islands.

Key References

Halpin, L.R., Mott, R., Clay, T.A., Humphries, G.R.W., Chatwin, T.A., Carlile, N. & Clarke R.H. (2022). Predicting the foraging habitats of sympatrically breeding gadfly petrels in the South Pacific Ocean. *Frontiers in Marine Science*, 9, 853104. <http://doi:10.3389/fmars.2022.853104>

Taylor, G. (2000). Action plan for seabird conservation in New Zealand, Part A. Threatened species occasional publication. Department of Conservation, Wellington, NZ.

Northern Cook's Petrel *Pterodroma cookii cookii* (Grey, 1843)**IUCN Status:** *Vulnerable***Current trend:** *Stable or Increasing***Breeding Range States:** *New Zealand***Other Range States:** *Australia, Chile, Cook Islands, Ecuador, France, Mexico, Niue, United States of America***Proposed CMS listing:** *Appendix II**Cook's Petrel Distribution*

The Northern Cook's Petrel's breeding stronghold is on Little Barrier/Te Hauturu-o-Toi (New Zealand) with several pairs still breeding on Great Barrier/Aotea. Subfossil records indicate that prior to human arrival over 800 years ago, Cook's Petrel bred throughout New Zealand, in the coastal and interior ranges of the North and South Islands, (Worthy & Holdaway, 2002). It is believed that the Northern Cook's Petrel historically bred throughout the northern North Island (Rayner et al., 2020). From 2010 to 2013, 347 chicks were translocated from Little Barrier/Te Hauturu-o-Toi to Boundary Stream (Hawkes Bay), a predator fenced mainland island (Gummer et al., 2014) and several breeding pairs have established at the site since.

Behavioural, morphological and genetic analyses have produced evidence of a distinct population genetic structure between the two breeding populations (Rayner et al., 2020b), with a recent study of year-round movements indicating two separate migration routes over historic timescales. During the non-breeding season, the Northern Cook's Petrel breeding on Little Barrier Island/Te Hauturu-o-Toi migrates to the north-eastern South Pacific Ocean as opposed to the Southern Cook's Petrel breeding on Codfish Island/Whenua Hou which migrates east toward the Humboldt Current (Rayner et al., 2011).

Cook's Petrel Population

The most recent estimates of population size are over 650,000 mature individuals on Little Barrier/Te Hauturu-o-Toi (New Zealand) in 2007. The population on Great Barrier/Aotea is thought to be no more than 20 pairs and, at Boundary Stream at least 24 adults including seven breeding pairs have been confirmed.

Cook's Petrel Habitat

On Little Barrier Island/Te Hauturu-o-Toi the Northern Cook's Petrel nests in burrows under forest canopy across large areas of steeper slopes and ridge-top habitat, predominantly at higher altitudes above 300 metres (Rayner et al., 2008). It would have formally nested throughout the mountains of the northern North Island (Rayner et al., 2020). They return to breeding grounds in late-September with egg laying occurring in November, a month earlier than for the Southern Cook's Petrel. During the breeding season the Northern Cook's Petrel migrate east and west of the North Island over the continental shelf, shelf break and pelagic waters, rarely overlapping with the Southern Cook's Petrel (Rayner et al., 2008). It feeds mainly on squid, crustaceans and small fish (Imber, 1996). Seasonal changes were seen in the species of cephalopods consumed; additionally non-edible items such as pumice and plastic were found in stomach contents.

Movements of Cook's Petrel

Tracking studies show that during the non-breeding season the Northern Cook's Petrel migrates in an anticlockwise migration within the North and South Pacific Ocean (Rayner et al., 2011). Birds tracked initially moved east, then north across the equator to reach their core non-breeding areas within the California and North-Pacific currents. Pre-breeding migration returning to New Zealand waters was undertaken via a direct southwest route. During the breeding season they forage east and west of the North Island with core areas in the region of the colony, to the west of the Challenger Plateau and Lord Howe Rise and to the east over the Hikurangi Trough and Plateau (Rayner et al., 2008).

Cultural Importance

Tītī (northern Cook's petrel) breed primarily on Te Hauturu-o-Toi and Aotea, two ecologically significant islands in the Hauraki Gulf. Te Hauturu-o-Toi holds particular cultural and spiritual significance for Ngāti Manuhiri. The tītī are regarded by the iwi (tribe) as *taonga tuku iho* — treasures handed

down through generations — and are deeply embedded in their *whakapapa* (genealogy), identity, and *kaitiakitanga* (guardianship) responsibilities. Ngāti Manuhiri are the recognised *kaitiaki* (guardians) of Te Hauturu-o-Toi, exercising their guardianship through active involvement in conservation decision-making and delivery. This includes co-governance of the island through the Ngāti Manuhiri Settlement Trust and the Auckland Conservation Board. Their role ensures that restoration and protection efforts are guided by *mātauranga Māori* (Māori knowledge), uphold *tikanga* (customs and protocols), and reflect the enduring relationship of Ngāti Manuhiri with the *whenua* (land) and its biodiversity.

National and Regional Legal Protection

The Northern Cook’s Petrel is a fully protected species under the New Zealand Wildlife Act (1953) with protection extending across the full EEZ. There are no permitted cultural harvests of this species and no evidence of illegal hunting. The primary breeding colony is located on Little Barrier Island/Te Hauturu-o-Toi which is protected as a Nature Reserve affording additional protection to the species.

Main Threats

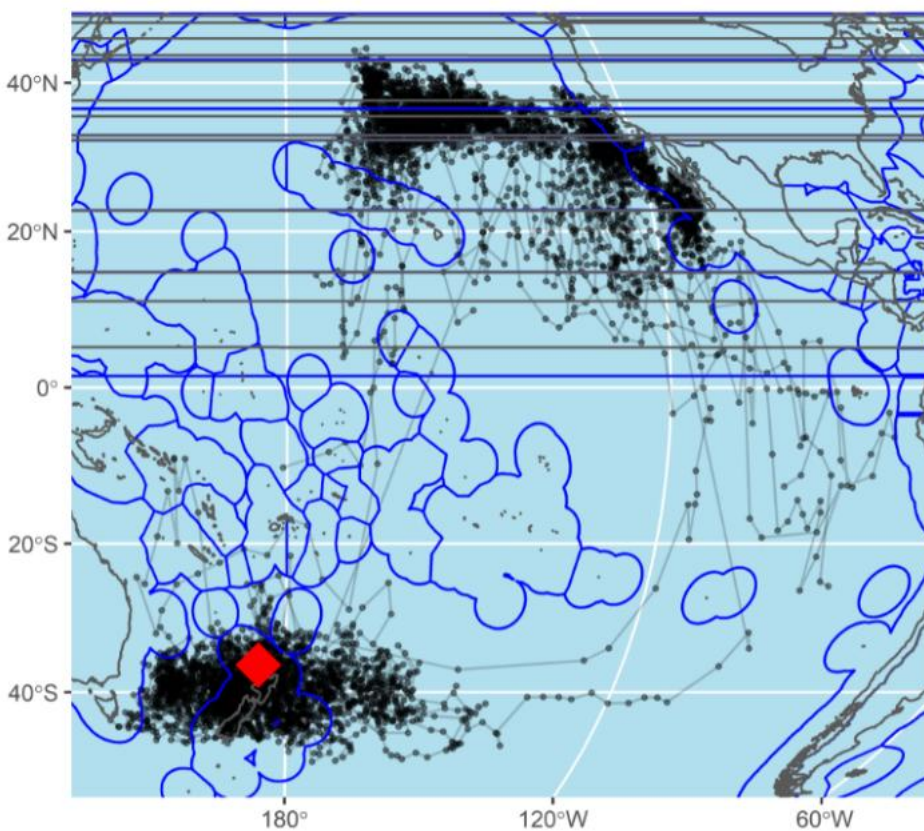


Figure 12 Migration and distributions over the Pacific of the Northern Cook’s Petrel breeding on Te Hauturu-o-Toi/ Little Barrier Island. Blue zones are EEZs; ♦ red diamond represents the colony.

Historically, the main threats to the Northern Cook’s Petrel would have been predation by introduced mammalian species and habitat loss. It is currently protected from these threats at its primary breeding location on the predator-free Little Barrier Island/Te Hauturu-o-Toi and at the Boundary Stream translocated site. On Great Barrier/Aotea predation is the most significant threat impacting the population and breeding attempts, though a few pairs are known to breed within a predator proof fenced area on the island.

Conservation Actions

Continue with strict quarantine and biosecurity surveillance procedures to ensure Little Barrier/Te Hauturu-o-Toi remains free of introduced mammals. Continue to monitor the establishing population at Boundary Stream and ensure good maintenance of the fence and surveillance procedures to

reduce the risk of an incursion. Monitor breeding within the Glenfern fenced area on Great Barrier/Aotea and consider setting up a sound system to broadcast calls and attract more birds. Implement appropriate predator control around any significant breeding sites found outside the fence. Consider reintroductions to other mainland islands (mainland areas with intensive predator control or fenced from predators) within its historic distribution this could include supporting natural reintroductions through broadcasting calls and installing artificial burrows.

Key References

Rayner M. J., Hauber M. E., Steeves, T. E., Lawrence, H. A., Thompson, D. R., Sagar, P. M., Bury, S. J., Landers, T. J., Phillips, R. A., Ranjard, L. & Shaffer, S. A. (2011). Contemporary and historic separation of transhemispheric migration between two genetically distinct seabird populations. *Nature Communications*, 2(1), 332.

Rayner, M. J., Van Loenen, A. L., Shepherd, L. D., Cubrinovska, I., Scofield, R. P., Tennyson, A. J., ... & Steeves, T. E. (2020b). Comprehensive evidence for subspecies designations in Cook's Petrel *Pterodroma cookii* with implications for conservation management. *Bird Conservation International*, 31 (1), 1-13.

Southern Cook's Petrel *Pterodroma cookii orientalis* Murphy, 1929**IUCN Status:** *Vulnerable***Current trend:** *Increasing***Breeding Range States:** *New Zealand***Other Range States:** *Australia, Chile, Colombia, Ecuador, Peru***Proposed CMS listing:** *Appendix II**Southern Cook's Petrel Distribution*

The Southern Cook's Petrel currently only breeds only on Codfish Island/Whenua Hou (New Zealand) while the Northern Cook's Petrel breeds on Little Barrier/Te Hauturu-o-Toi and in small numbers on Great Barrier/Aotea. Subfossil records indicate that prior to human arrival over 800 years ago, Cook's Petrel bred throughout New Zealand, in the coastal and interior ranges of the North and South Islands (Worthy & Holdaway, 2002). It is believed that the Southern Cook's Petrel historically bred throughout the southern North Island, the South Island along with Stewart Island and its surrounding islets (Rayner et al., 2020).

Behavioural, morphological and genetic analyses have produced evidence of a distinct population genetic structure between the two breeding populations (Rayner et al., 2020), with a recent study of year-round movements indicating two separate migration routes over historic timescales. During the non-breeding season, the Southern Cook's Petrel breeding on Codfish Island/Whenua Hou migrate east toward the Humboldt Current as opposed to the Northern Cook's Petrel breeding on Little Barrier Island/Te Hauturu-o-Toi which migrates to the north-eastern Pacific Ocean (Rayner et al., 2011).

Southern Cook's Petrel Population

The population of Southern Cook's Petrel is estimated to be approximately 5,000 breeding pairs and 7,000-14,000 individuals (Rayner et al., 2008).

Southern Cook's Petrel Habitat

On Codfish Island/Whenua Hou the Southern Cook's Petrel nests in burrows under forest canopy across large areas of slope and ridge-top habitat, predominantly at higher altitudes (Rayner et al., 2008) though ranging between 4 metres and 250 metres above sea level. It would have formally nested throughout the mountains of the southern North Island, South Island, Stewart Island and associated islets (Rayner et al., 2020). They return to breeding grounds in November with egg laying occurring in December. During the breeding season the Southern Cook's Petrel forages over deeper cooler water with higher primary productivity. (Rayner et al., 2008). It feeds mainly on squid, crustaceans and small fish (Imber, 1996). Seasonal changes were seen in the species of cephalopods consumed; additionally non-edible items such as pumice and plastic were found.

Movements of Southern Cook's Petrel

Tracking studies show that during the non-breeding season the Southern Cook's Petrel migrates east within the South Pacific Ocean then north within the Humboldt Current to reach their core non-breeding distributions off the Peruvian Coast (Rayner et al., 2011). They return to New Zealand ahead of the breeding season through a south-western corridor, north of the region traversed during the post-breeding migration. During the breeding season they forage west of the South Island in the Tasman Sea away from the continental shelf, and more often over deeper cooler waters than the northern subspecies (Rayner et al., 2008).

Cultural Importance

Tītī (southern Cook's Petrel) and its sole breeding site, Whenua Hou, are both extremely culturally significant to Ngāi Tahu, the principal Māori (indigenous) iwi (tribe) of the southern region of New Zealand where the Tītī breed. They are recognized as a taonga tuku iho - treasures handed down from nga tipuna o Ngāi Tahu (ancestors of Ngāi Tahu), Whenua Hou being the island where colonization first took place in the south of New Zealand (Murihiku). The Whenua Hou Komiti is one of the outcomes from the Ngāi Tahu Settlement Act. Ngāi Tahu have representation on the Whenua Hou Komiti who advise the Minister of Conservation on all matters related to the management of Whenua Hou. Whenua Hou holds a turangawaewae (a place to stand, representing a place of belonging and

empowerment) status to many Ngāi Tahu whanui who whakapapa to the motu (Ngāi Tahu people who have a genealogical connection to the island).

National and Regional Legal Protection

The Southern Cook's Petrel is a fully protected species under the New Zealand Wildlife Act (1953) with protection extending across the full EEZ. There are no permitted cultural harvests of this species and no evidence of illegal hunting. The only breeding colony is located on Codfish Island/Whenua Hou which is protected as a Nature Reserve affording additional protection to the species.

Main Threats

Historically the main threats to the Southern Cook's Petrel would have been predation by introduced mammalian species and habitat loss. It is currently protected from these threats with its only breeding location being on the predator-free Codfish Island/Whenua Hou which has Nature Reserve status. Weka, a flightless rail endemic to New Zealand, are known to have caused population declines in the Southern Cook's Petrel before they were eradicated from Codfish/Whenua Hou between 1980 and 1985.

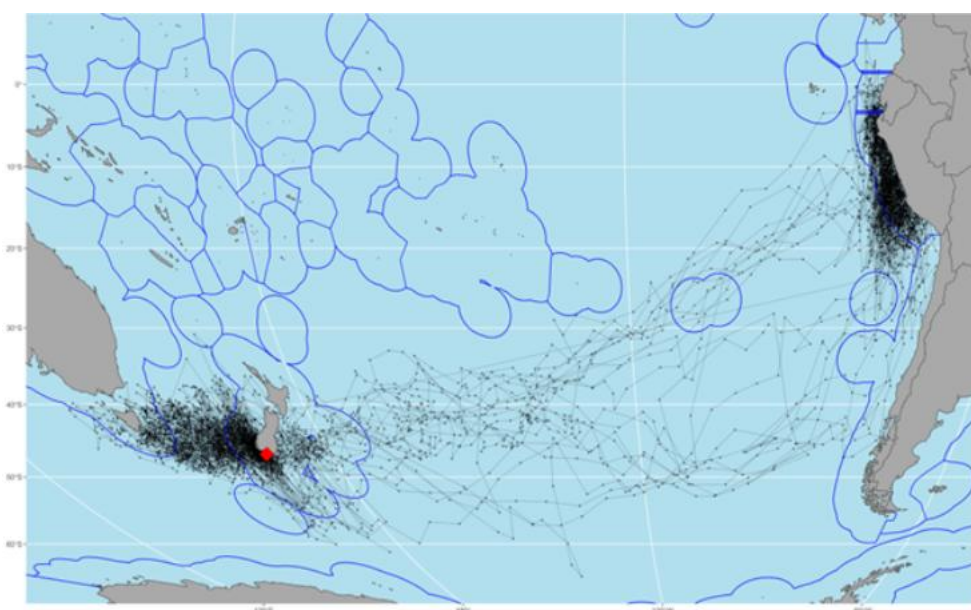


Figure 13 The migration and distribution over the Pacific of Southern Cook's Petrel breeding on Codfish Island / Whenua Hou (New Zealand). The data shows 1 migration from/to the breeding colony. Data owned by Matt J. Rayner. Blue zones are EEZs; ♦ red diamond represents the colony.

Continue with strict quarantine and biosecurity surveillance procedures to ensure Codfish Island/Whenua Hou remains free of introduced mammals. Monitor breeding success and recruitment and map burrows at five-yearly intervals. Consider reintroductions to mainland islands (mainland areas with intensive predator control or fenced from predators) within its historic distribution.

Key References

Rayner M. J., Hauber M. E., Steeves, T. E., Lawrence, H. A., Thompson, D. R., Sagar, P. M., Bury, S. J., Landers, T. J., Phillips, R. A., Ranjard, L. & Shaffer, S. A. (2011). Contemporary and historic separation of transhemispheric migration between two genetically distinct seabird populations. *Nature Communications*, 2 (1), 332.

Rayner, M. J., Van Loenen, A. L., Shepherd, L. D., Cubrinovska, I., Scofield, R. P., Tennyson, A. J., ... & Steeves, T. E. (2020). Comprehensive evidence for subspecies designations in Cook's Petrel *Pterodroma cookii* with implications for conservation management. *Bird Conservation International*, 31 (1), 1-13.

Masatierra Petrel *Pterodroma defilippiana* (Giglioli & Salvadori, 1869)**IUCN Status:** *Vulnerable***Current trend:** *Stable***Breeding Range States:** *Chile***Other Range States:** *Peru, United Kingdom***Proposed CMS listing:** *Appendix II**Masatierra Petrel Distribution*

The Masatierra Petrel has had limited research. Currently it is known to breed on only three or possibly four islands off the coast of Chile. These are the Desventuradas Islands (San Ambrosio and San Félix) and the Juan Fernández Islands (Santa Clara). The species has possibly been extirpated on Masatierra (Robinson Crusoe Island). The remaining breeding birds are on small rock stacks immediately offshore of Robinson Crusoe. This petrel ranges at sea in the nearby Peru Current up to 10° S, remaining south of the equator (Spear et al., 1992). Harrison et al. (2021) reported 50 birds displaying in flight over Ducie Island, Pitcairn Island group (UK) in 2015.

Masatierra Petrel Population

At the Desventuradas Islands 10,000+ birds were recorded on San Ambrosio Island in 1970 and 150-200 breeding pairs on San Félix Island. The most recent estimate is 4600 breeding individuals on San Ambrosio (Hodum, 2010). The population on Santa Clara (Juan Fernández Islands) was suggested at hundreds to thousands of birds in 1986, but available habitat was found for only 100-200 individuals in a 1991 survey. A more recent estimate for the Juan Fernández Islands was 954 breeding individuals, of which 327 breeding pairs are on Santa Clara (Hodum, 2010). Current best estimates for the total breeding population of the Masatierra Petrel are 2,777 breeding pairs, which equates to 5,554 breeding adults and around 10,000 individuals total (Hodum, 2010). The population is currently stable, but like many other *Pterodroma* petrels in this region, the very small breeding range renders it susceptible to stochastic events.

Masatierra Petrel Habitat

Masatierra Petrels breed on three smaller islands and several rock stacks west of Chile. The birds nest on sheltered cliff-ledges, and in crevices, caverns and amongst boulders at the foot of lava cliffs. The petrels nest colonially, with eggs apparently laid in the austral winter (late July to early August), chicks hatch in September to early October and the colonies are abandoned in December (Hodum, 2010). However, it has been reported that breeding occurs in February on San Félix. The at-sea foraging behaviours are expected to be similar to other gadfly petrels.

Movements of Masatierra Petrel

The Masatierra Petrel breeds on very remote and fairly inaccessible islands. There are no tracking data available and few scientific articles for this species. Its migration routes and vagrant areas are believed to include the Humboldt Current and the Peru Current off Chile and Peru (Jaramillo, 2009; Roberson & Bailey, 1991; Spear et al., 1992). Based on the limited data seen in the Figure 14, this species is at least crossing from Chilean to Peruvian waters. Birds seen in courtship flight over Ducie Island in 2015 suggest some are prospecting on islands further to the west of the known at-sea range (Harrison et al., 2021).

National and Regional Legal Protection

The Masatierra Petrel is protected in Chile under Hunting Law No. 19,473. Additional legislation under Article 18 of Chile's MMA Decree No. 1/2022 (Norma Lumínica) ensures mitigation of the impacts of light pollution for this and other Chilean species. The Juan Fernández Islands were designated as a National Park in 1935 and protected from 1967. They were included in a Biosphere Reserve in 1977. The Chilean government began a habitat restoration programme in 1997. In 2018 the government created the Juan Fernández Marine Park, a protected area that encompasses over 100,000 square miles (almost 260,000 square km) of ocean around the islands. All three islands of the Juan Fernández archipelago have been recognised as an Important Bird Area by Birdlife International.

Main threats

Invasive species are present on the neighbouring islands at Juan Fernández group and may prey on eggs and chicks of birds attempting to breed there. The known breeding sites are all free of invasive mammals. Other risks include fires, light pollution leading to grounding or collision, landslides, the potential for habitat transformation by an invasive plant species found on the island, marine debris and plastics.

While most of the breeding population appear to be on predator-free islands, the presence of cats, coati and rats may continue to prevent recovery on Robinson Crusoe and cats have caused extensive mortality on San Félix. Rats are present on many islands, but it is unclear whether they are causing declines. Goats are present on San Ambrosio, but their impacts on the species are unknown.

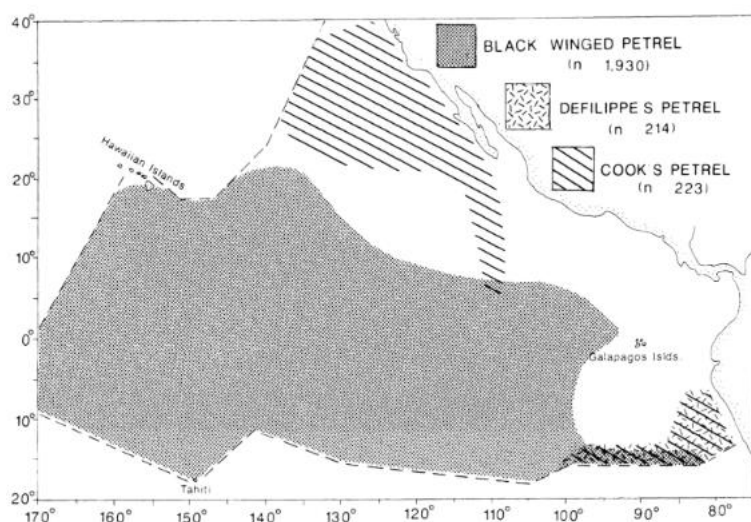


Figure 14 This map shows the limited range data for the Masatierra Petrel (Defilippe's) in the eastern Pacific Ocean. There are very few at-sea data for this species. The few recorded sightings show a specific range in the eastern equatorial Pacific off Peru—denoted by the speckled area. From Spear et al. (1992).

Conservation Actions

Mapping of breeding colonies and a population estimate for all breeding locations except for San Félix were completed in 2010-2012 by Oikonos Ecosystem Knowledge. A long-term breeding season monitoring program was established on Santa Clara in 2010 by Oikonos. Monitoring on San Ambrosio was planned by Oikonos for the 2016 breeding season, in collaboration with local fishermen. Oikonos has also undertaken awareness-building programs with the local community in Juan Fernández.

Masatierra Petrels are poorly studied except some fleeting visits to the breeding sites. Monitoring of numbers ashore at colonies is needed and research on at-sea movements are required for this species. Light attraction is considered a risk to *Pterodroma* species and measures to implement the CMS guidelines on light pollution will also be helpful for this petrel. This includes engaging at international forums around managing light pollution risks on commercial ships.

Key References

- Hodum, P. (2012). Estimación poblacional y evaluación de la clasificación de la Fardela Blanca de Masatierra (*Pterodroma defilippiana*). *Technical report for the Corporación Nacional Forestal (CONAF)*.
- Roberson, D. & Bailey, S. F. (1991). *Cookilaria* Petrels in the eastern Pacific Ocean. *American Birds*, 45, 1067-1081.

Desertas Petrel *Pterodroma deserta* (Mathews, 1934)**IUCN Status:** *Vulnerable***Current trend:** *Stable***Breeding Range States:** *Portugal***Other Range States:** *Brazil, Cabo Verde, Cuba, France, Gambia, Guinea-Bissau, Ireland, Mauritania, Morocco, Senegal, Spain, The Bahamas, United Kingdom, United States of America, Western Sahara***Proposed CMS listing:** *Appendix II**Desertas Petrel Distribution*

Desertas Petrel is endemic to Bugio in the Desertas off Madeira (Portugal) (Jesus et al., 2009). Tracking data for 43 individuals between 2007 and 2013 has shown that this species ranges widely in the North Atlantic in the breeding season before migrating to five main non-breeding sites around the South Atlantic Ocean.

Desertas Petrel Population

Estimated population numbers from past surveys placed the number of pairs at 150-180 in 2001 and a slight reduction to 120-150 in 2006-2007. The current breeding population of Desertas Petrels on Bugio is thought to be 160-180 pairs, which suggests there are 250-999 mature individuals and 350-1,500 total individuals (Menezes et al., 2010). The population is thought to be stable, despite continuing threats of habitat loss and disturbance by problematic native species. Invasive species have been removed from the islands in previous efforts. It is unknown whether this species was historically more widespread than its current known range.

Desertas Petrel Habitat

The Desertas Petrel is known to breed at 80-300 metres on Bugio in excavated burrows or in crevices in the rock face. They return to the breeding island in June, with eggs laid promptly. These are incubated in July to August and juveniles fledge throughout November and December. Adult petrels leave for the staging grounds shortly after before migrating to distant moult sites (Ramírez et al., 2013; Ramos et al., 2016).

Movements of Desertas Petrel

The Desertas Petrel forages widely in the eastern North Atlantic during the breeding season on Bugio in the Desertas. After the breeding season the birds migrate to five different areas to moult: two areas off the Brazilian coast; around Cabo Verde; off the south-eastern coast of the USA and The Bahamas; and an area in the high seas in the South Atlantic Ocean (Ramírez et al., 2013).

National and Regional Legal Protection

Unknown

Main threats

The main threat to the species is the loss of breeding burrows and nesting birds to habitat erosion at the colonies. Erosion is triggered by severe storm events which are occurring with increasing frequency. So far only a small proportion of the colony has been affected with minor short-term population impacts, but this risk will increase with climate change. The non-breeding pool of birds likely buffers the population to some degree. Predation and disturbance by Yellow-legged Gulls (*Larus michahellis*) are potential threats on Bugio. In the past, this species has been targeted by humans, however this no longer occurs and is thought to be unlikely in the near future.

Conservation Actions

Historically, the species was hunted by invasive feral cats. The breeding sites were also affected by habitat degradation caused by introduced goats, rabbits and mice. These threats were targeted through European Union funds during the period 2006-2010 and these invasive species have not been recorded in the breeding plateau since 2008 (Birdlife, 2025).

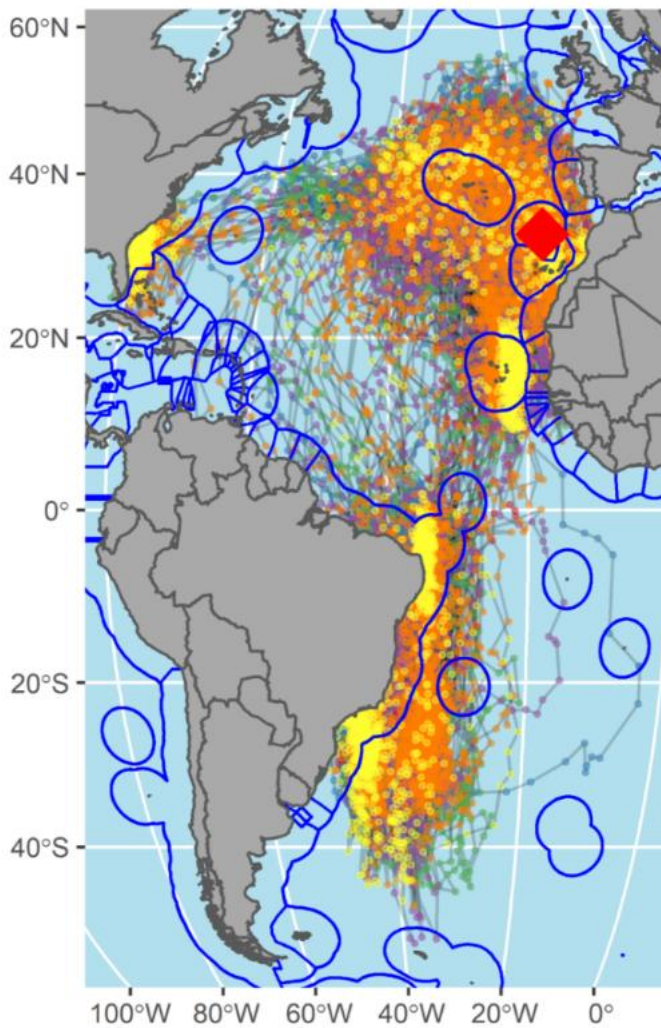


Figure 15 This map shows multiple years of migrations of the Desertas Petrel over much of the Atlantic Ocean from the breeding colony on Bugio Island in the Desertas (Portugal). The species winters in 5 core areas: Gulf Stream Current; North Equatorial Current; North Brazil Current; South Brazil Current; central South Atlantic. Data were collected from July 2008 to August 2013, each year is represented by a different colour. Data owned by Vitor Paiva and Iván Ramírez. Blue zones are EEZs; ♦ red diamond represents the colony.

Key Reference

Ramírez, I., Paiva, V. H., Menezes, D., Silva, I., Phillips, R. A., Ramos, J. A., & Garthe, S. (2013). Year-round distribution and habitat preferences of the Bugio petrel. *Marine Ecology Progress Series*, 476, 269-284.

Juan Fernández Petrel *Pterodroma externa* Salvin, 1875**IUCN Status:** *Vulnerable***Current trend:** *Stable***Breeding Range States:** *Chile, France***Other Range States:** *Australia, Ecuador, Mexico, New Zealand, United Kingdom, United States of America***Proposed CMS listing:** *Appendix II**Juan Fernández Petrel Distribution*

The Juan Fernández Petrel is a little studied petrel that is currently only confirmed breeding on Alejandro Selkirk Island in the Juan Fernández Islands (Southeast Pacific, Chile). There are few historical data, so it is unknown if it was previously more widespread in the group. This petrel predominantly conducts a trans-equatorial migration dispersing over much of the eastern Pacific Ocean and north as far as Hawaii. Recent observations of Juan Fernández Petrels calling in flight and some landing ashore on Amsterdam Island in the Southern Indian Ocean (France) suggests that the species is attempting to colonise this island. A regular presence on Amsterdam Island over much of the known breeding season along with observation of several individuals in burrows suggests that the species may be breeding there (Lesage et al., 2024). The species has frequently been observed at sea around New Zealand and has prospected ashore on the Chatham Islands (Imber et al., 1991). The species has also been observed at sea around eastern Australia and has recently been observed prospecting on Phillip Island (Norfolk Group, Australia).

Juan Fernández Petrel Population

The Juan Fernández Petrel has a relatively large population in comparison to other species in this listing proposal. However, the species predominantly only breeds on one island in the Juan Fernández Islands group, though a small breeding population has established on Amsterdam Island (France) in the Southern Indian Ocean. In 1986 there was estimated to be 1,000,000 breeding pairs equating to 3,000,000 individuals. The breeding population size appears to have remained unchanged between 1980 and 2009 (Reyes-Arriagada et al., 2012). It is unknown whether introduced mammals at the breeding colony are likely to cause future declines.

Juan Fernández Petrel Habitat

The Juan Fernández Petrel nests in burrows on steep slopes, in fern forest, grasslands and along open ridges at between 600 metres and 1,150 metres in altitude. The preferred foliage for nesting under is *Dicksonia externa* (Hodum, 2010). The Juan Fernández Petrel forms mixed breeding colonies with the other Juan Fernández Islands endemic seabird, Stejneger's Petrel (Reyes-Arriagada et al., 2012). A single egg is laid in December to January, with chicks hatching in February to March. When not breeding ashore the Juan Fernández Petrel is highly pelagic, rarely approaching land. It has been found to track large subsurface marine predators which help to push prey up to the surface. The species is often found associating with Yellowfin Tuna (*Thunnus albacares*; Ballance et al., 2002).

Movements of Juan Fernandez Petrel

The Juan Fernandez Petrel forages across the south-east Pacific Ocean during the breeding season on Alejandro Selkirk Island (Chile). Tracking data from the breeding season show individual birds crossing various island groups which are territories of Chile (Clay et al., 2023; see Figure 16). Outside the breeding season the population predominantly migrates north and north-east over tropical and subtropical waters of the eastern Pacific, as far north as Hawaii, though a few individuals have been found to migrate to an area south of the Galapagos instead of crossing the equator (T. A. Clay pers. comm.). This species has frequent sightings off the west coast of Mexico (Howell, 2012). Birds returning south pass through French Polynesia and the seas of the Pitcairn Islands (UK). Vagrants have been documented to 42°N in the central Pacific and as far west as New Zealand and eastern Australia (Carboneras, 1992; Patterson, 1996). The recent observations at Amsterdam Island (Indian Ocean) suggest some birds are dispersing across the Southern Ocean region.

National and Regional Legal Protection

The Juan Fernández Petrel is protected in Chile under Hunting Law No. 19,473. Additional legislation under Article 18 of Chile's MMA Decree No. 1/2022 (Norma Lumínica) ensures mitigation of the impacts of light pollution for this and other Chilean species. The breeding island is part of the Juan Fernández National Park. In 2018 the Chilean government created the Juan Fernández Islands Marine Park, a protected area that encompasses over 100,000 square miles (almost 260,000 square km) of ocean around the islands. All three islands of the Juan Fernández archipelago have been recognised as an Important Bird Area by Birdlife International.

Main threats

Invasive species, in particular feral cats, Norway Rats, Ship Rats and are House Mice are present on the breeding island and within colonies. There is clear evidence of feral cats depredating adult Juan Fernández Petrels and it is likely that introduced rodents prey on eggs and chicks (Hodum & Wainstein, 2003). Other risks include fires, light pollution leading to grounding or collision, landslides, the potential for habitat transformation by an invasive plant species found on the island, marine debris and plastics.

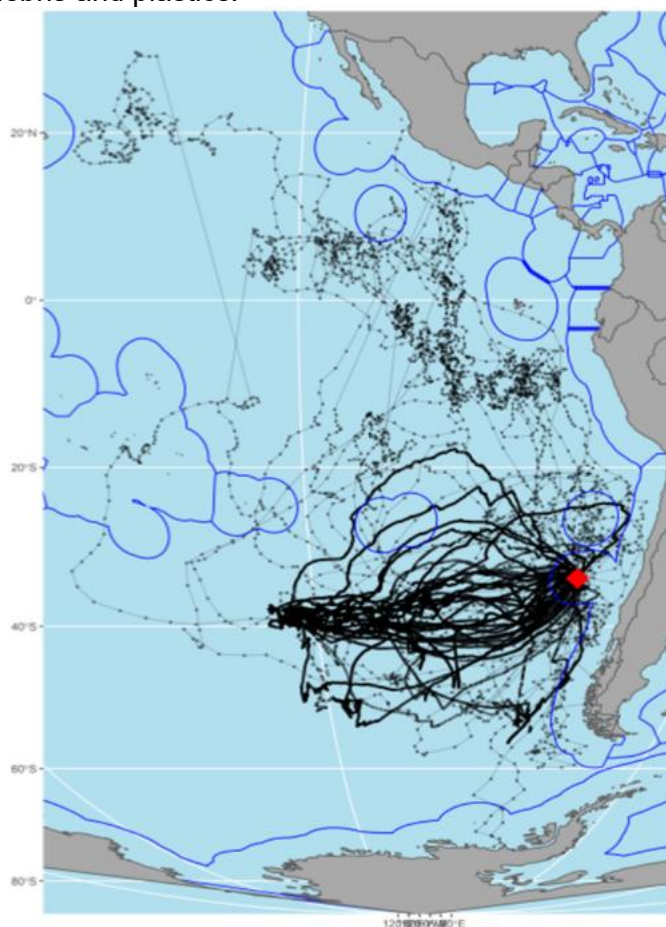


Figure 16 The breeding distribution out to the Pacific Ocean of Juan Fernandez Petrels that breed on Alejandro Selkirk Island (Chile). The data shows 1 breeding season and some migration locations. Data owned by Michael de L. Brooke & Thomas A. Clay. Blue zones are EEZs; ♦ red diamond represents the colony.

Conservation Actions

Juan Fernández Petrels breed on an island with two significant predators of petrels (feral cats and rats). Monitoring of breeding populations is needed to better understand how these invasive species impact on the petrel populations. Control may be needed to reverse declines. Eradication of invasive species would provide the best solution to protect this species and the smaller Stejneger's Petrel. Light attraction is considered a risk to *Pterodroma* species and measures to implement the CMS guidelines on light pollution will also be helpful for this petrel. This includes engaging at international forums around managing light pollution risks on commercial ships.

Key Reference

Reyes-Arriagada, R., Hodum, P. J., & Schlatter, R. P. (2012). Nest site use in sympatric petrels of the Juan Fernández Archipelago, Chile: Juan Fernández petrel (*Pterodroma externa*) and Stejneger's petrel (*Pterodroma longirostris*). *Omitología Neotropical*, 23(1), 73-82.

Cape Verde Petrel *Pterodroma feae* (Salvadori, 1899)**IUCN Status:** *Near Threatened***Current trend:** *Unknown (possibly declining)***Breeding Range States:** *Cabo Verde***Other Range States:** *Portugal, Spain, Senegal, Western Sahara***Proposed CMS listing:** *Appendix II**Cape Verde Petrel Distribution*

The Cape Verde Petrel breeds on Fogo, Santo Antão, São Nicolau and Santiago in the Cabo Verde archipelago. There are few data about the historical distribution of this species, and any past records may be confounded due to Zino's Petrel *P. madeira* and Desertas Petrel *Pt. deserta* previously being recorded as conspecific with the Cape Verde Petrel *Pt. feae*.

Cape Verde Petrel Population

The latest census for the Cape Verde Petrel is from 1998 where 500-1,000 breeding pairs were estimated, equating to 1,000-2,000 adults and 1,500-3,000 total individuals (Ratcliffe et al., 2000). There were estimated to be 50 pairs, ≥200 pairs, ~30 pairs and ~50 pairs on Fogo, Santo Antão, São Nicolau and Santiago, respectively (Militao et al., 2017; Ratcliffe et al., 2000). It is likely that additional colonies exist on the breeding islands in the Cabo Verde archipelago, and so the actual global population may be higher than this. Although further analysis is necessary to assess the current population trend, preliminary results of data collected on Fogo reflect a decline due to a number of threats, which are likely to be similar in the four breeding islands since all of them are inhabited by rural communities (Militao et al., 2017).

Cape Verde Petrel Habitat

The Cape Verde Petrel is endemic to four islands in Cabo Verde where it breeds in the mountainous rocky zones up to heights of 2,200 metres. Historically this petrel bred lower down in forests, however this habitat no longer remains on Cabo Verde. Eggs are typically laid from January to February, and chick raising takes several months (Militao et al., 2017). The Cape Verde Petrel is pelagic like other gadfly petrels; however, it does not migrate quite as far as other North Atlantic Ocean *Pterodroma* species, preferring to stay in the tropical seas (Ramos et al., 2016). This is still quite a large oceanic range. Foraging is expected to be the same as other gadfly petrels, consisting mainly of a diet of squid.

Movements of Cape Verde Petrel

The Cape Verde Petrel breeds on four Cabo Verde Islands and forages near these islands during breeding. During the non-breeding season this species appears to migrate to waters off the north-west African coast as far north as the Azores (Ramos et al., 2016).

National and Regional Legal Protection

Unknown

Main Threats

The Cape Verde Petrel is susceptible to invasive predators, especially feral cats (*Felis catus*), which continue to take adults and chicks on Fogo (Militão et al., 2017) and cats were anecdotally responsible for a dramatic reduction in numbers breeding on São Nicholau in the latter part of the 20th century (Ratcliffe et al., 2000). Birds are also likely predated by rats and dogs, and breeding sites are limited by overgrazing by goats (Barov & Derhé, 2011). The species is also collected by humans for food and medicinal purposes. Light-induced mortality impacts are known from several related species, but there are very few light sources that may pose a problem for the species near the breeding grounds (Militão et al., 2017), but it presents a potential threat if light spill is not considered and controlled in any new development, particularly in the northeast of the island (Militão et al., 2017).

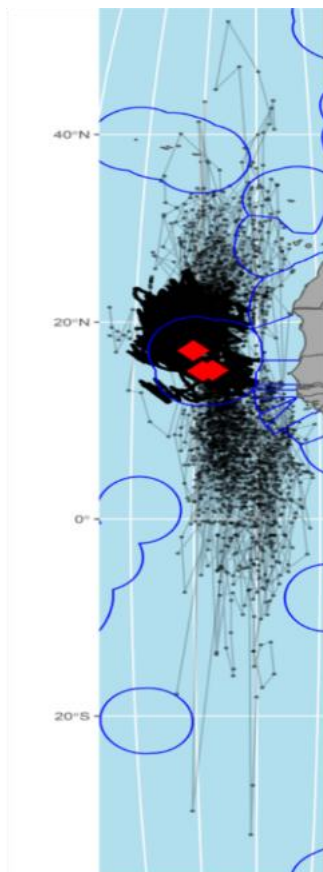


Figure 17 Map showing breeding season foraging trips and migrations of the Cape Verde Petrel breeding on Fogo, Santiago and Santo Antão in the North Atlantic Ocean. Data collection is from February 2009 to February 2012, each year is represented by a different colour. Data owned by Jacob González-Solís. Blue zones are EEZs; ♦ red diamonds represent the colonies.

Conservation Actions

Management of feral cats is needed to prevent further declines and potential local extinctions of breeding colonies. Research is needed to understand current population trends and to determine which invasive species are having the most impact on Cape Verde Petrels.

Key References

- Militão, T., Dinis, H. A., Zango, L., Calabuig, P., Stefan, L. M., & González-Solís, J. (2017). Population size, breeding biology and on-land threats of Cape Verde petrel (*Pterodroma feae*) in Fogo Island, Cape Verde. *PloS one*, 12(4), e0174803.
- Ramos, R., Ramírez, I., Paiva, V.H., Militão, T., Biscoito, T., Menezes, D., Phillips, R.A., Zino, F. & González-Solís, J. (2016). Global spatial ecology of three closely-related gadfly petrels. *Scientific Reports*, 6, 23447.
- Ratcliffe, N., Zino, F. J., Oliveira, P., Vasconcelos, A., Hazevoet, C. J., Costa Neves, H., ... & Zino, E. A. (2000). The status and distribution of Fea's Petrel *Pterodroma feae* in the Cape Verde Islands. *Atlantic Seabirds*, 2(2), 73-86.

Gould's Petrel *Pterodroma leucoptera* (Gould, 1844) (Australian population)**IUCN Status:** *Vulnerable***Current trend:** *Decreasing***Breeding Range States:** *Australia***Other Range States:** *Chile, Cook Islands, Fiji, France, Kiribati, Marshall Islands, New Zealand, Niue, Papua New Guinea, Samoa, Solomon Islands, Tonga, United Kingdom, United States of America, Vanuatu***Proposed CMS listing:** *Appendix II**Australian Gould's Petrel Distribution*

Gould's Petrel (*Pterodroma leucoptera*) consists of two geographically separate populations. The Australian population of Gould's Petrel breeds on several Islands off the coast of Australia. The New Caledonian population mainly breeds on New Caledonia (France). The tiny population on Raivavae (France) is most similar in appearance to the New Caledonian birds but its genetic status remains uncertain. The Australian and New Caledonian populations are similar morphologically and genetically despite splitting 30,000 years ago (Portelli 2016; Iglesias-Vasquez et al., 2017). However, they have strong ecological distinctiveness in foraging distribution, winter distribution, breeding phenology and breeding distribution (Iglesias-Vasquez et al., 2017). Australian Gould's Petrel breeds on Cabbage Tree Island, Boondelbah, Broughton Island, Little Broughton Island, Barunguba-Montague Island and Tollgates off the east coast of New South Wales. During the breeding season, birds forage primarily in the Tasman Sea and waters off the south-east coast of Australia (Priddel et al., 2014). During the non-breeding season, the Australian Gould's Petrel migrates to the central Pacific Ocean (Priddel et al., 2014) with sighting records from waters around Fiji, possible ones from around the Windward Islands. Non-breeders forage in the Southern Ocean as far south as Antarctica. Recent tracking studies have revealed that during the non-breeding season, both geographic populations migrate across the Pacific but use different migration routes and over-winter in different regions of the ocean with Australian Gould's Petrel over-wintering in the central Pacific south of Hawaii (Priddel et al., 2014, Rayner et al., 2016).

Australian Gould's Petrel Population

The current population of Australian Gould's Petrels, based off estimates from known colonies, is thought to be 1,700 breeding adults (Carlile et al., 2021). They were once considered stable at around 1000 breeding pairs on Cabbage Tree Island, but following intensive habitat restoration in mid-1990s, have declined to 500-800 pairs. Breeding success has fluctuated, owing mainly to at-sea threats including reduced prey availability linked to climate change. A translocation of Gould's Petrel to Boondelbah Island by the early 2000s (Priddel et al., 2006) has seen the colony there increase to approximately 40 pairs. Barunguba-Montague Island, on the New South Wales south coast, was found to have Gould's Petrels breeding there in 2012 (Carlile et al., 2020), with more than 39 pairs now in residence (Carlile et al., 2021). A few pairs breed on two islands in the Broughton Island Group (Carlile et al., 2012, 2013).

Australian Gould's Petrel Habitat

Australian Gould's Petrel nests are often found amongst rocks or scree and under cabbage tree palms (*Livistona australis*) at the principal colony (Carlile et al., 2003). They occur on exposed loose slopes on Boondelbah Islands (Priddel & Carlile, 1997) and within tussock vegetation on Montague Island (Carlile et al., 2020). The species breeds in small colonies of 10-50 nests. Birds typically arrive back at the colony in October with chicks fledging through till early May. Artificial nesting boxes have been installed on Cabbage Tree, Boondelbah, Broughton and Barunguba-Montague Islands to provide stable supplementary habitat and protection from predators. On Broughton Island, nesting currently appears to be restricted to these nesting boxes. The petrels have been recorded as foraging mainly on cephalopods, fish and crustaceans during the breeding season (Priddel et al., 2014). Foraging items likely remain similar during the non-breeding season migrations.

Movements of Australian Gould's Petrel

Tracking studies show that individuals from both geographic populations forage within the Tasman Sea and south of the Australian continent during the breeding season (Priddel et al., 2014). However,

the two populations migrate to distinct locations in the central Pacific during their non-breeding season with Australian Gould's Petrel migrating to the central Pacific south of Hawaii (Rayner et al., 2016). The full range extends north into the northern Pacific, south into the Southern Ocean and east off the coasts of Central and South America (see Figure 18)

National and Regional Legal Protection

The Australian Gould's Petrel is recognised as a threatened species under both Australian national and state legislation. At the Commonwealth level, it is listed as Endangered under Australia's national environmental law, the Environment Protection and Biodiversity Conservation Act 1999. In New South Wales, the species is listed as Vulnerable under the Biodiversity Conservation Act 2016. Cabbage Tree, Boondelbah, Little Broughton and Barunguba-Montague Islands are protected as Nature Reserves under the New South Wales National Parks and Wildlife Act 1967. Under the same Act, Broughton Island is also protected within the Myall Lakes National Park and designated as part of the Great Lakes Marine Park, offering further habitat protection under park and reserve management plans. In addition, Cabbage Tree and Boondelbah Islands are recognised as Key Biodiversity Areas (ID23859).

Main Threats

Historically, grazing by introduced rabbits altered the vegetation structure on Cabbage Tree Island by removing the understorey and suppressing regeneration. This led to greater exposure of Australian Gould's Petrel adults and chicks to predation by Pied Currawongs (*Strepera graculina*) and Australian Ravens (*Corvus coronoides*) and facilitated the proliferation of the native birdlime tree (*Pisonia umbellifera*), which drops sticky fruit clusters that can entangle adults and juveniles (Priddel & Carlile 2009). Rabbits were eradicated in 1998, and *Pisonia* trees in the main breeding areas were removed. Culling of Australian Ravens and Pied Currawongs was undertaken to reduce predation, which continues as necessary.

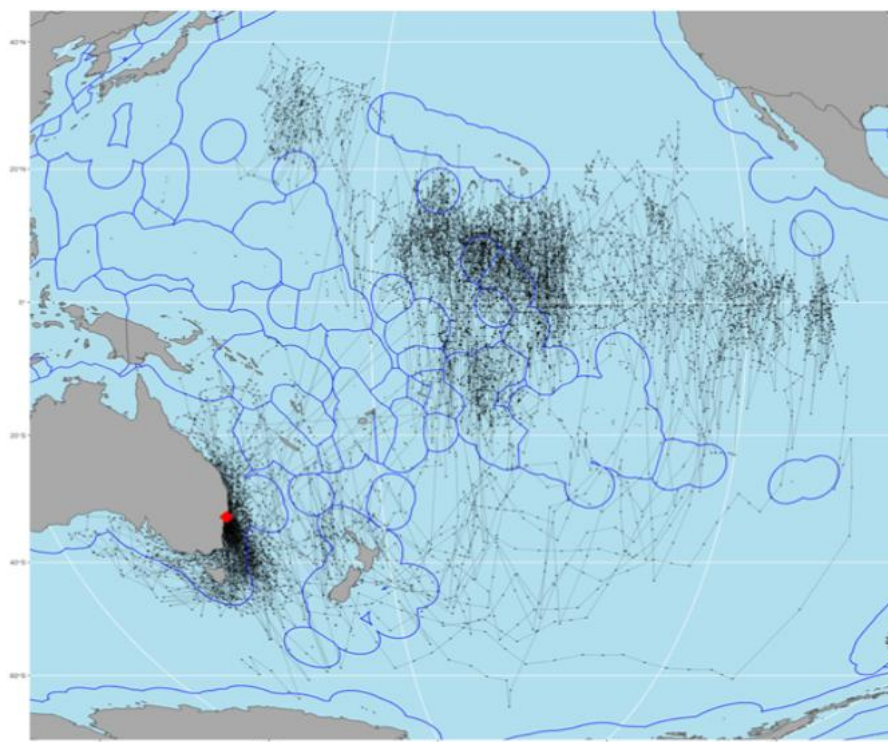


Figure 18 The migration and distribution over the Pacific of Australian Gould's Petrels (*P. leucoptera*) breeding on Cabbage Tree Island (Australia). Data owned by Yuna Kim. The data represents one migration to/from the colony. Blue zones are EEZs; red diamond represents the colony.

Introduced mammalian predators constitute a major potential threat with birds only able to establish on Broughton, Little Broughton and Barunguba-Montague Islands following rodent eradication. The species' small size means it is highly vulnerable to predation should rodents be reintroduced to any

of its breeding sites. Introduced plants have been recorded overgrowing nesting habitat on Little Broughton Island. Kikuyu grass (*Cenchrus clandestinus*) has the potential to smother nesting habitat on Montague Island. These plants are managed to reduce their potential impacts on the species. Breeding success at Cabbage Tree Island has dropped below 40% for the past seven years, having reached 55% after initial population recovery. With on-island threats remaining unchanged over this time, at-sea threats, particularly climate-related variation in food availability in their breeding or non-breeding range, are likely to be a contributing factor (Carlile et al., 2021).

Conservation Actions

Management of Gould's petrels in Australia follows the guidance of a species recovery programme (Department of Environment and Conservation (New South Wales), 2006). Control of native avian predators and removal of *Pisonia* seedlings from the main breeding habitat continues as required on Cabbage Tree Island. It is important to monitor and manage invasive weeds at all breeding locations. Maintenance of artificial nest boxes on all islands is important to ensure they remain useable for breeding. Installation of additional nest boxes at Barunguba-Montague Island will increase the availability of nesting habitat and likely increase the island's population.

Key References

Priddel, D., Carlile, N., Portelli, D., Kim, Y., O'Neill, L., Bretagnolle, V., Ballance, L. T., Phillips, R.A., Pittman, R. L., & Rayner, M. J. (2014). Pelagic distribution of Gould's Petrel (*Pterodroma leucoptera*): linking shipboard and onshore observations with remote-tracking data. *Emu*, 114, 360-370.

Rayner, M.J., Carlile, N., Priddel, D., Bretagnolle, V., Miller, M.G.R., Phillips, R.A., Ranjard, L., Bury, S.J., & Torres, L.G. (2016). Niche partitioning by three *Pterodroma* petrel species during non-breeding in the equatorial Pacific Ocean. *Marine Ecology Progress Series*, 549, 217-229.

Gould's Petrel *Pterodroma leucoptera* (Gould, 1844) (New Caledonian population)**IUCN Status:** *Vulnerable***Current trend:** *Decreasing***Breeding Range States:** *France***Other Range States:** *Australia, Chile, Cook Islands, Fiji, New Zealand, Niue, Tonga, Vanuatu, United Kingdom, United States of America***Proposed CMS listing:** *Appendix II**New Caledonian Gould's Petrel Distribution*

The Gould's Petrel population on New Caledonia was previously described as subspecies *Pterodroma leucoptera caledonica* (Imber & Jenkins, 1981), which breeds solely on New Caledonia (France). Recent morphological studies have not supported the original subspecies separation (Portelli 2016). The genetic relationship with the tiny population breeding on Raivavae is still indeterminate (Bretagnolle et al., 2025). The Australian population of Gould's Petrel breeds on several islands off the coast of Australia. These two geographically separated populations are similar genetically despite splitting 30,000 years ago, however they have strong ecological distinctiveness in foraging distribution, winter distribution, breeding phenology and breeding distribution (Iglesias-Vasquez et al., 2017).

During the non-breeding season, the New Caledonian Gould's Petrels migrate to the equatorial regions of the Eastern Pacific, west of Ecuador, as opposed to the Australian population of Gould's Petrel which concentrates in the central Pacific Ocean south of Hawaii (Priddel et al., 2014, Rayner et al., 2016). Non-breeders can forage in the Southern Ocean as far south as Antarctica.

New Caledonian Gould's Petrel Population

Based on Bretagnolle et al. (2021), the New Caledonian population is thought to comprise 2,000-5,000 breeding pairs, mainly concentrated on high-elevation forested ridges in the central mountain ranges of Grande Terre. This suggests a total of 4,000–10,000 individuals, although precise trend data are lacking. No robust long-term population monitoring has yet been established to assess trends definitively for the New Caledonian population of Gould's Petrel.

New Caledonian Gould's Petrel Habitat

Gould's Petrels on New Caledonia breed in burrows on steep slopes in the central mountains ranges at 350-650 metres (Bretagnolle et al., 2021). Nesting burrows occurred in two habitat types: near streams where the main vegetation is shrubs and riparian trees, on slopes near ridges where there are shrubs with no canopy. The burrows were found in natural rock crevices and occasionally in soil burrows. The New Caledonian Gould's Petrel breeding timetable typically lags that of the Australian Gould's Petrel by 2-4 weeks with laying occurring from late-November to mid-January and chicks fledging through until mid-May (Bretagnolle et al., 2021). They forage mainly on cephalopods, fish and crustaceans taken from the Tasman Sea and waters off the south coast of Australia during the breeding season (Priddel et al., 2014). It is highly likely that the foraging items remain similar during the non-breeding migrations.

Movements of New Caledonian Gould's Petrel

Tracking studies have shown that breeding individuals of the New Caledonian population foraged in the Tasman Sea midway between Australia and New Zealand with occasional forays into the Indian Ocean before laying, while the Australian Gould's Petrel foraged much closer to eastern Australia (Priddel et al., 2014). The two populations migrate to distinct locations in the central Pacific during their non-breeding season: the New Caledonian Gould's Petrel migrates to the Eastern Pacific west of Ecuador as opposed to the Australian Gould's Petrel which migrates to the central Pacific south of Hawaii (Rayner et al., 2016). For their migrations both subspecies travelled ~20,000 km or more in a counterclockwise direction, moving eastwards at higher latitudes and returning at lower latitudes (see Figure 19).

National and Regional Legal Protection

Gould's Petrels in New Caledonia are protected under the Environmental Codes of both the Northern and Southern Provinces, along with all other breeding seabirds of New Caledonia. It is listed as a rare and threatened species, prohibiting any disturbance at its breeding sites.

This is an excerpt from Article 240-3 of the Environmental Code of the Southern Province relating to the protection of seabirds:

" 1.- The following are prohibited:

1° The destruction or removal of eggs or nests; hunting, fishing, mutilation, killing, consumption, capture or removal, intentional disturbance, or taxidermy of specimens of the animal species listed in Article 240-1; as well as their possession, transport, trading, use, offering for sale, sale, or purchase;

2° The transport, trading, use, offering for sale, sale, or purchase of any products or parts derived from specimens of these species;

3° The destruction, alteration, or degradation of the specific habitats of these animal species.

"Intentional disturbance of seabirds," including approaching closer than 40 meters, the use of fire-crackers or fireworks, landing on an islet marked with a standardized mast (a red triangular metal flag at the top), as well as bringing dogs onto breeding or nesting sites during the reproductive period.

"

Main Threats

Introduced species constitute a major threat to the species. On New Caledonia, feral pigs have been shown to excavate burrows killing chicks, fledglings and adults, and feral cats have also been confirmed to kill adults (Bretagnolle et al., 2021). Rats have also been confirmed to take eggs and hatchlings though the extent of rat predation on chicks remains unquantified. Currently tens of birds are accidentally killed around Noumea through attraction to lights and this figure may increase with continuing urbanisation. A dramatic reduction in breeding success (from >50% to <20%) during an Australian-wide die-off of Pilchards *Sardinops sagax neopilchardus* highlights the vulnerability of the species to changes in the marine environment. Nickel mining may further threaten the population with historic reports of two colonies being destroyed by mining activity or associated road construction (Bretagnolle et al., 2021).

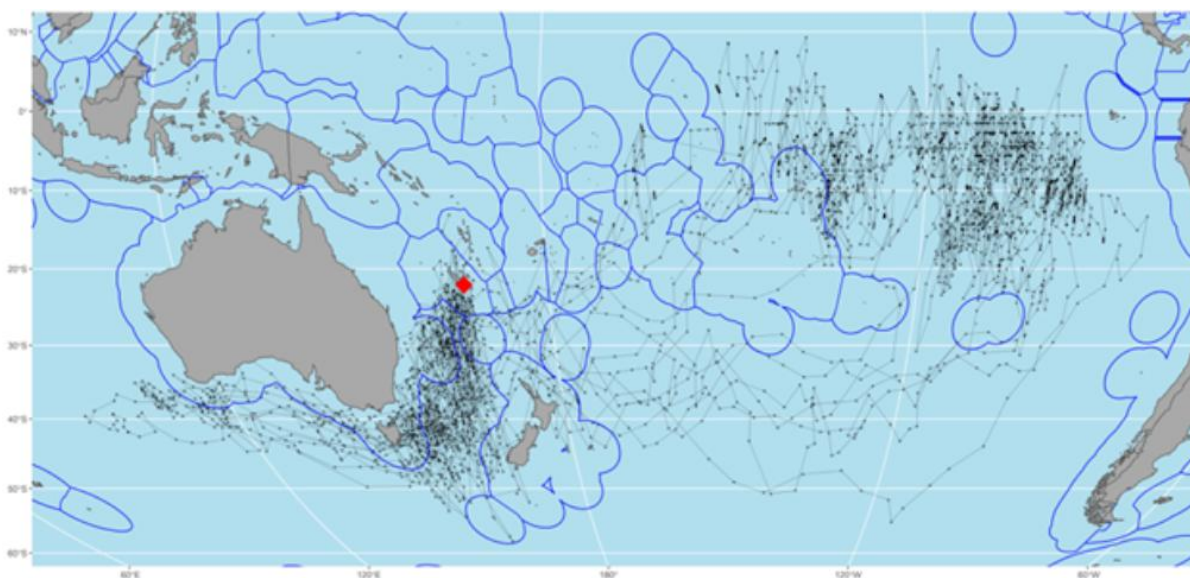


Figure 19 The migration and distribution over the Pacific of Gould's Petrels (*Pterodroma leucoptera*) breeding on New Caledonia (to France). Data owned by Matt J. Rayner. The data represents one migration to/from the colony. Blue zones are EEZs; ♦ red diamond represents the colony.

Conservation Actions

Control of introduced mammals, particularly feral cats and feral pigs, is needed near breeding areas in New Caledonia. Rat control was once also carried out at the colony so this could be reinstated. Translocation to predator-free areas (offshore islands or an area fenced off from predators) could be considered. Increase the scope of campaigns to save birds attracted to lights in the Noumea area. A key foraging area for this species has been identified as overlapping with an Ecologically and Biologically Significant Marine Areas (EBSAs) identified and hosted by the Secretariat of the Convention on Biological Diversity. This is the Northern Lord Howe Ridge and Petrel Foraging Area. This species and Northern Cook's Petrels are known to use this marine area.

Key References

Bretagnolle, V., Renaudet, L., Villard, P., Shirihai, H., Carlile, N. & Priddel, D. (2021). Status of Gould's Petrel *Pterodroma leucoptera caledonica* in New Caledonia: distribution, breeding biology, threats and conservation. *Emu – Austral Ornithology*, 121, 303–313

Rayner, M.J., Carlile, N., Priddel, D., Bretagnolle, V., Miller, M.G.R., Phillips, R.A., Ranjard, L., Bury, S.J., & Torres, L.G. (2016). Niche partitioning by three *Pterodroma* petrel species during non-breeding in the equatorial Pacific Ocean. *Marine Ecology Progress Series*, 549, 217-229.

Stejneger's petrel *Pterodroma longirostris* (Stejneger, 1893)**IUCN Status:** *Vulnerable***Current trend:** *Decreasing***Breeding Range States:** *Chile***Other Range States:** *Federated States of Micronesia, France, Japan, Marshall Islands, New Zealand, United States of America***Proposed CMS listing:** *Appendix II**Stejneger's Petrel Distribution*

Stejneger's Petrel is endemic to Alejandro Selkirk Island in the Juan Fernández Islands (Chile). It is unknown whether these petrels were previously more widespread. During the non-breeding season Stejneger's Petrel has a large trans-equatorial migration over the Pacific Ocean moving anticlockwise from Chile northwards towards the seas east of Japan, crossing the jurisdiction of USA and its territories, and then southwards towards New Zealand before returning eastwards towards breeding grounds (Clay & Brooke, 2024; Roberson & Bailey, 1991).

Stejneger's Petrel Population

In 1986 the population of Stejneger's Petrel was estimated at 131,000 pairs, implying a world population in excess of 400,000 individuals. More recent estimates suggest that the population size may be lower (Hodum & Wainstein, 2003). Invasive alien species are present and are the likely reason that the population trend is decreasing. Breeding on only one oceanic island, Alejandro Selkirk Island (Chile), makes this species highly vulnerable to catastrophic events.

Stejneger's Petrel Habitats

Stejneger's Petrel breed on the Juan Fernández Islands and so its breeding ecology is similar to that of the larger Juan Fernández Petrel. Due to the similarities in habitat choice, mixed petrel colonies are often found, with Stejneger's Petrel forming small monospecific clusters of burrows within the numerically more abundant Juan Fernández Petrel colony (Carboneras, 1992). Burrows are excavated on slopes in *Dicksonia externa* fern forest and on nearby grasslands at 700 - 1,120 metres (Reyes-Arriagada et al., 2012). One egg per pair is laid in November to December with chicks hatching in late January to February. It takes around four months before the chicks are ready to fledge in May. When at sea the adults feed on squid and fish, likely also taking small crustaceans like other *Pterodroma* (Hodum & Wainstein, 2003).

Movements of Stejneger's Petrel

Stejneger's Petrel forage in seas south and south-west of the Juan Fernández Islands during the austral summer. After the breeding season this species migrates north-west across the Pacific Ocean to their non-breeding grounds in the seas east of Japan and north-west of Hawaii (Clay & Brooke, 2024). After several months here they move south towards the Chatham Islands, east of New Zealand before travelling due east across the Pacific towards the coast of Chile and then travelling back north to breeding grounds. The species was previously considered vagrant in New Zealand (Roberson & Bailey, 1991). However, recent tracking results now show that the species regularly reaches the southwest Pacific, east of New Zealand, before crossing eastwards to the breeding grounds in Chile using the prevailing westerly winds (Clay & Brooke, 2024; see Figure 20).

National and Regional Legal Protection

The Stejneger's Petrel is protected in Chile under Hunting Law No. 19,473. Additional legislation under Article 18 of Chile's MMA Decree No. 1/2022 (Norma Lumínica) ensures mitigation of the impacts of light pollution for this and other Chilean species. The breeding island is part of the Juan Fernández National Park. In 2018 the Chilean government created the Juan Fernández Islands Marine Park, a protected area that encompasses over 100,000 square miles (almost 260,000 square km) of ocean around the islands. All three islands of the Juan Fernández archipelago have been recognised as Important Bird Areas by Birdlife International.

Main threats

Invasive species, in particular feral cats, Norway Rats, Ship Rats and are House Mice are present on the breeding island and within colonies. There is clear evidence of feral cats killing adult Stejneger's Petrels and it is likely that introduced rodents take eggs and chicks (Hodum & Wainstein, 2003). Other risks include fires, light pollution leading to grounding or collision, landslides, the potential for habitat transformation by an invasive plant species found on the island, marine debris and plastics.

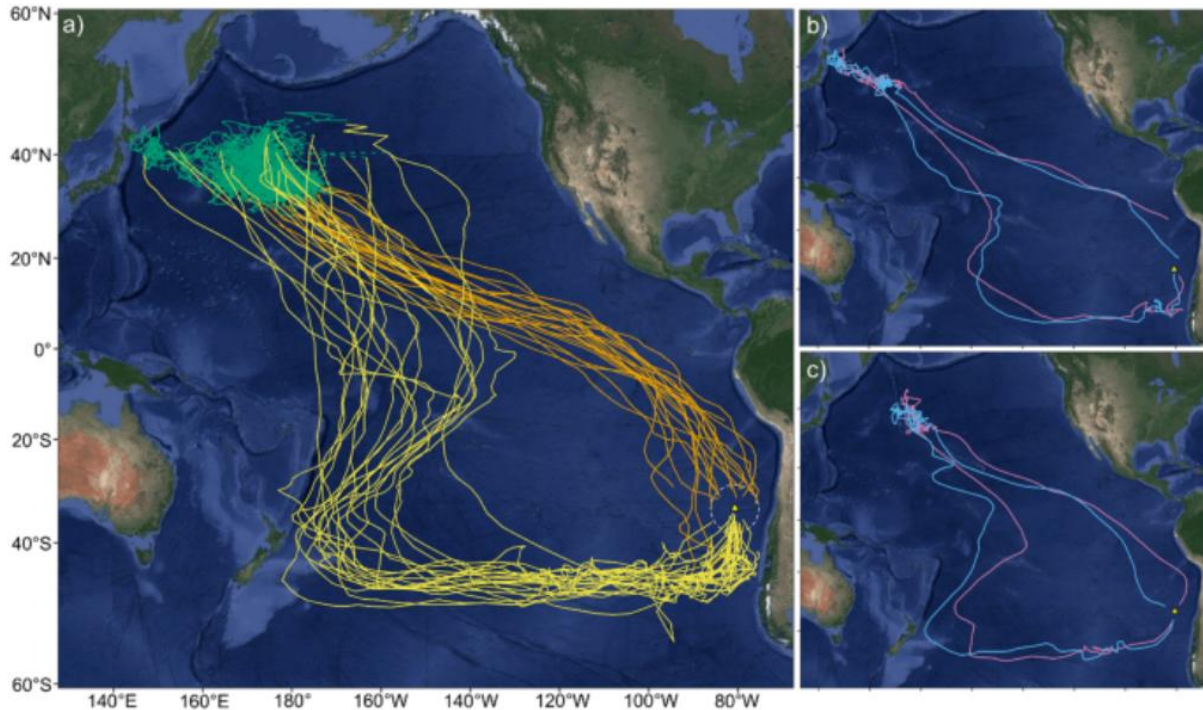


Figure 20 From Clay and Brooke, 2024 a) Migration routes and non-breeding areas of Stejneger's petrels tracked with geolocators over two years from Isla Alejandro Selkirk, Juan Fernández Islands (yellow triangle). The outbound and return migrations and non-breeding movements are shown as orange, yellow, and green lines, respectively. Tracks during the autumn equinox when latitude estimation was unreliable are shown by dashed lines and the 500 km buffer around the colony used to define departure on migration is shown by a white dashed circle. b), c) The non-breeding movements of two example individuals in both years of tracking (2020: pink, 2021: sky blue) are shown in two separate panels. Blue shading represents ocean floor depth with lighter shades indicating shallower waters. Maps were plotted using the ggmap R package in the Mercator projection, which stretches regions at higher latitudes.

Conservation Actions

Control of introduced predators (feral cats and rodents) may be needed to reverse declines, though eradication of invasive species would provide the best solution to protect this species and the larger Juan Fernández Petrels. Light attraction is considered a risk to all *Pterodroma* species and measures to implement the CMS guidelines on light pollution will also be helpful for this petrel. This includes engaging at international forums around managing light pollution risks on commercial ships.

Key Reference

Clay, T. A., & Brooke, M. D. L. (2024). Trans-equatorial migration links oceanic frontal habitats across the Pacific Ocean: year-round movements and foraging activity of a small gadfly petrel. *Marine Biology*, 171(2), 60.

Chilean or Eastern Kermadec petrel (Juan Fernández Black Petrel), *Pterodroma neglecta juana*
(Mathews, 1936)

IUCN conservation category: *Least concern*

Current trend according to the IUCN: *Declining*

Breeding range states: Chile

Other range states: Peru, Mexico

Proposed inclusion in CMS: *Appendix II*

Distribution of the Chilean Kermadec petrel or Juan Fernández Black Petrel

This eastern subspecies of Kermadec petrel (*Pterodroma neglecta juana*) breeds in Marine Protected Areas. There are six Marine Parks and one ACMU (the ACMU has an approved Management Plan) exclusively on oceanic islands in the South Pacific, specifically in the Juan Fernández archipelago and on the Desventurada Islands in Chile. In the Juan Fernández archipelago, the colonies are located on cliffs and small rocky islets around Robinson Crusoe Island (formerly called Más a Tierra) and Santa Clara, nesting in cavities and crevices between rocks. In the Desventuradas Islands, which are part of the Nazca-Desventuradas Marine Park, the breeding area is restricted to San Ambrosio Island, where the largest known colony of the subspecies is found (Marín *et al.*, 2020). Guide to Marine Parks and Marine Reserves https://www.sernapesca.cl/app/uploads/2023/11/guia_parques_y_reservas_2022_-_web.pdf, SUBPESCA map viewer <https://mapas.subpesca.cl/ideviewer/>

Most sightings are concentrated around the aforementioned breeding areas, although occasionally scattered individuals have been observed in north-central mainland Chile. During the non-breeding season, it is believed to migrate to the North Pacific, following a pattern similar to that of the western subspecies *P. n. neglecta* (Murphy & Pennoyer, 1952).

Population of the Chilean Kermadec petrel

Hodum and Wainstein (2004) confirmed nesting in the Juan Fernández archipelago on two rocky outcrops, Morros Janango and Verdugo Islet, indicating a restricted breeding distribution even within the archipelago; however, the authors do not rule out nesting in other areas of the islands. During this expedition, 23 active nests were marked, of which nine were without eggs or chicks, four had eggs, and 10 had one chick each.

On the other hand, the work of Marín *et al* (2020) represents the first detailed census of the eastern subspecies of the Kermadec Petrel on San Ambrosio Island in the Desventuradas. This expedition took place in December 2019 and estimated a minimum population of 22,686 breeding pairs, making San Ambrosio the largest known colony for the species.

Based on the above, it can be concluded that the information available on the population size and trends of *Pterodroma neglecta juana* is scarce, as the reproductive habits of the species, nesting on small islets and rocky outcrops that are difficult to access, make monitoring a complex task from a logistical and economic point of view.

Habitat of the Chilean Kermadec Petrel

The results of the aforementioned studies indicate that the subspecies has a summer breeding cycle during the southern hemisphere summer, nesting on rocky cliffs that are difficult to access and rocky terrain on islets and coastal islands. However, on San Ambrosio Island, the breeding colony is recorded as being located on the island's high plateau, nesting near rocks or under dry vegetation, avoiding exposed areas without shade.

To date, there is no detailed information on the diet of the Chilean Kermadec Petrel. However, a diet similar to that of other Procellariiformes has been described, consisting of small fish, krill and other zooplankton components, generally epipelagic prey accessible from flight or during shallow dives. In addition, kleptoparasitic behaviour has been described in populations in the eastern tropical Pacific as a facultative trophic strategy (Spear & Ainley, 1993).

Movements of the Chilean Kermadec Petrel

Although the breeding areas for this subspecies are partially described, the dispersal areas are scarcely described. According to the official species classification file of the Ministry of the Environment (Tomasevic, 2008), the subspecies is highly pelagic and rarely approaches the coast, except in its nesting colonies.

Historical records indicate that during the southern winter, the Kermadec Petrel migrates northwards, possibly over the tropical and subtropical Pacific (Carboneras, 1992; Jehl, 1973). In fact, Murphy and Pennoyer (1952) documented the capture of a specimen in 1897 near the Revillo Gigedo Islands, which constitutes direct evidence of trans-equatorial movements. This pattern is consistent with that observed in the western subspecies (*P. n. neglecta*), which, after breeding at Norfolk Island, migrates to the North Pacific, reaching the coasts of Japan and California. Consequently, it is presumed that *P. n. juana* follows similar migratory routes, moving towards the cold currents of the northeast Pacific, influenced by the Humboldt and California systems (Marín et al., 2020).

However, direct information on routes, feeding areas and connectivity between colonies is still limited. To date, there are no satellite tracking or geolocation studies for this subspecies. Its oceanic nature and the isolation of the Chilean islands make monitoring difficult, so its migratory ecology continues to be inferred mainly from sightings and specimens recovered in the open sea. Obtaining telemetry data is considered a priority in order to determine the total extent of their annual movements and their relationship with the main currents of the South Pacific (Tomasevic, 2008; Marín et al., 2020).

Protection at national and regional level

The islands of the Juan Fernández archipelago were declared a National Park in 1935 and have been under official protection since 1967 (CONAF, 2002). In 1977, UNESCO incorporated them into the World Network of Biosphere Reserves, recognising their extraordinary ecological value and endemism (UNESCO, n.d.). Subsequently, in 1997, the Chilean government implemented an ecological restoration programme aimed at recovering habitats affected by invasive alien species, mainly goats, rabbits and introduced plants (Hodum & Wainstein, 2004). On the same subject, Hodum and Wainstein (2004) propose the creation of a petrel reserve in the archipelago and constant monitoring by the community and the municipality. However, the plan has only been partially implemented, with the replacement of urban lighting that indirectly illuminates the breeding areas of various species of petrels and shearwaters.

In the marine sphere, the Juan Fernández Marine Park was established in 2018, one of the largest protected ocean areas in the south-eastern Pacific, covering an area of approximately 260,000 km². This measure significantly expanded the protection of pelagic ecosystems where several endangered seabird species forage, including the Chilean subspecies of Kermadec Petrel (MMA, 2018). In addition, the three main islands of the archipelago—Robinson Crusoe, Santa Clara, and Alejandro Selkirk—have been recognised by BirdLife International as Important Bird Areas (IBAs), given the presence of endemic species and critical breeding colonies for seabirds (BirdLife International, 2023).

Main threats

The Chilean Kermadec Petrel faces various threats associated with its limited distribution and the fragility of the island ecosystems where it breeds. In the islands of the Juan Fernández archipelago, the historical introduction of exotic mammals—mainly rats (*Rattus rattus*), cats (*Felis catus*) and rabbits (*Oryctolagus cuniculus*)—has had negative effects on native birdlife, leading to the predation of eggs and chicks, as well as the degradation of nesting vegetation (Hahn & Römer, 2002; Hodum & Wainstein, 2004). Although confirmed breeding sites of the Chilean Kermadec Petrel, such as Morro Juanango and El Verdugo Islet, currently remain free of invasive mammals, the proximity of other inhabited islands poses a potential risk of accidental reintroduction of these species (Tomasevic, 2008).

Other emerging threats include light pollution, which can disorient birds during night-time flights to or from colonies, and the presence of marine debris and plastics in surrounding waters, which can be accidentally ingested or affect food availability (Marín et al., 2020). Furthermore, climate change and possible alterations in ocean currents could modify marine productivity patterns in foraging areas, affecting the survival of adults and juveniles. Given the small number of colonies and their

extremely localised distribution, any environmental or ecological disturbance can have disproportionate effects on the population viability of the species.

Conservation measures

Research on this subspecies has been limited, focusing on brief reproductive monitoring campaigns. Therefore, given the scarcity of demographic and trophic information, it is essential to establish periodic monitoring programmes to estimate population size and reproductive success in known colonies, as well as to incorporate satellite tracking or geolocation technologies to study their dispersal movements. Light pollution represents an emerging risk for all species of the order Procellariiformes, including this subspecies, as disorientation by artificial lights can cause collisions and falls to the ground due to exhaustion (Rodríguez et al., 2017). In this context, the application of the Light Pollution Guidelines of the Convention on Migratory Species (CMS, 2020) is an important tool for mitigating potential impacts. In addition, the national lighting standard that came into force in October 2024 would encourage the adoption of coordinated measures to reduce the brightness of commercial vessels and coastal settlements.

It is also a priority to maintain and strengthen programmes for the eradication and control of invasive alien species on the islands of the archipelago, together with strict island biosecurity policies to prevent new introductions (Hahn & Römer, 2002; MMA, 2008). At the same time, raising awareness and socialising mitigation measures with the community and involving them in the implementation of actions plays a key role in the sustainability of these efforts, promoting the appreciation of local natural heritage.

Key References

- Hodum, P. J., & Wainstein, M. (2004). Biology and conservation of the Juan Fernández Archipelago seabird community. Wildlife Conservation Society / CONAF.
- Marín, M., González, R. & Trucco, S. (2020). Population status of the Kermadec Petrel (*Pterodroma neglecta juana*) at San Ambrosio Island, Chile. *Marine Ornithology*, 48, 209–214. <https://doi.org/10.5038/2074-1235.48.2.1375>
- Murphy, R.C. & Pennoyer, J.M. (1952) Larger petrels of the genus *Pterodroma*. *American Museum Novitates*, 1580, 1-43.

Pycroft's Petrel *Pterodroma pycrofti* (Falla, 1933)**IUCN Status:** *Vulnerable***Current trend:** *Increasing***Breeding Range States:** *New Zealand***Other Range States:** *Australia, Cook Islands, Ecuador, France, United States of America***Proposed CMS listing:** *Appendix II**Pycroft's Petrel Distribution*

Pycroft's Petrel breeds on 14 islands off the north-east coast of North Island, New Zealand. Colonies occur at the Poor Knights/Tawhiti Rahi Islands, the Hen/Taranga and Chicken/Marotere Islands, the Mercury Islands, and Stephenson/Ririwha and Ohinau Island. Chick translocations to Cuvier/Repanga Island in 2001-2003 have resulted in a small but growing breeding population (numbering 14 pairs in 2012 and 33 pairs in 2025). Another translocation of Pycroft's Petrel chicks to Motuora Island started in March 2013 and 20 pairs now breed at this site. Sub-fossil remains indicate that the species once bred on Norfolk and Lord Howe Islands (Australia). Recently, Pycroft's Petrels have been found prospecting on islands off the east coast of Australia.

Studies utilising geolocator tracking tags have shown that, when not breeding, birds disperse to the central and eastern tropical Pacific (Rayner et al., 2016). A banded adult found in May 2005 offshore from Lelehudi Village, Milne Bay Province, Papua New Guinea, may indicate that some birds spend the non-breeding season in the Papua New Guinea region. This is well outside the range shown by the sample of birds tracked with geolocators.

Pycroft's Petrel Population

Pycroft's Petrel was last subject to detailed population monitoring in 2012. At this time, the population was estimated to consist of 5,000-10,000 breeding pairs representing 12,000-22,000 adults and 30,000-40,000 total individuals. Up to the mid-1990s, Pycroft's Petrels were in decline due to invasive rat predation on eggs and chicks. However, since successful pest eradications this species seems to be recovering at a rapid rate as breeding can occur as early as 4-5 years of age. Red Mercury Island/Whakau (~80% of total world population) supported 1,000-2,000 pairs in 1989-1991, and this had increased to 2,000-3,000 in 1998. Surveys in 2010 indicated that this population had expanded to at least 5,000-10,000 pairs and was now the dominant seabird on the island. The population at the Hen/Taranga and Chicken/Marotere Islands has been much slower to respond to pest removal and there were probably less than 500 pairs in 2010. The other populations are tiny with fewer than 10-50 pairs each. These small and localised island breeding colonies are at high risk from future invasive alien species invasions.

Pycroft's Petrel Habitat

Pycroft's Petrel has a large breeding area in comparison to many other species in this proposal, since it breeds on 14 offshore islands along the coast of New Zealand. Due to this large range, it can often be found in mixed colonies with other burrowing petrels. Pycroft's Petrel burrows are usually on coastal slopes under temperate broadleaf forest below 150 metres in altitude. Therefore, it breeds a lot closer to sea level than many other gadfly petrel species. The adults return to their colonies in October, with egg laying in November to December, and the young fledge in March to April (Pierce, 2009; Taylor, 2013). Tuatara share burrows on some islands and likely take small chicks as prey items.

The diet of Pycroft's Petrels is poorly known but is thought to be the same as for other gadfly petrels (small surface fish, crustaceans and juvenile squid). When at sea, these petrels prefer to forage over deep waters in the sub-tropical and tropical Pacific Ocean.

Movements of Pycroft's Petrel

There has been limited tracking of this species with just one project tracking birds from Red Mercury Island/Whakau in 2009-11 (Rayner et al., 2016). The birds foraged north and east of New Zealand during the breeding season. The tracking dataset shows a circular distribution with birds migrating from New Zealand across to the central Pacific Ocean. It appears that most non-breeding birds use an area in the equatorial Pacific east of the Hawaiian Ridge and west of the Northeast Pacific Basin. There are also tracking points over to the Peru Basin and back across the Pacific Ocean to New

Zealand on the return migration. But due to the equinox effect on light level location data, these positions are not accurate enough to map the return journey. See Figure 21.

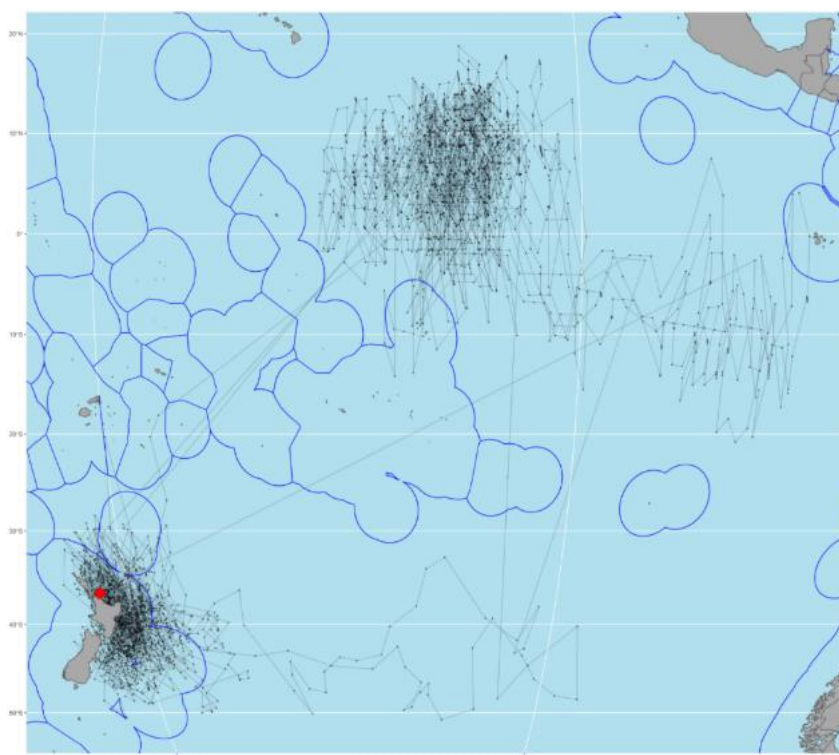


Figure 21 Migration and distribution over the Pacific Ocean of Pycroft's Petrel that breed on Red Mercury Island/Whakau (New Zealand). The data shows one breeding season. Data owned by Matt J. Rayner. Blue zones are EEZs; ♦ red diamond represents the colony.

Cultural Importance

Tāiko (Pycroft's Petrel) and their breeding sites in the north-east of New Zealand, including Whakau, Taranga and Marotere Islands, are culturally important for the local hapū (sub-tribes or groupings of whanau or families). Tāiko are considered taonga tuku iho (treasures handed down from ancestors) and part of the whakapapa (genealogy) and identity of hapū for which they exercise kaitiakitanga for (care and protection, or responsibility to maintain to ensure their descendants can also thrive).

National and Regional Legal Protection

Pycroft's Petrel is a fully protected species under the New Zealand Wildlife Act (1953) with protection extending across the full EEZ. There are no permitted cultural harvests of this species and no evidence of illegal hunting.

Main Threats

Invasion of breeding sites by rats or feral cats, fires, light pollution, marine debris and plastics.

Conservation Actions

Pycroft's Petrels breed on islands free of introduced mammalian species except at two sites. One small island has a cultural agreement to retain Pacific rats (*Rattus exulans*) in exchange for support for pest eradication operations at larger islands in that region. The other island is privately owned but the owners have shown interest in the past in managing pests at that site. Further chick translocations are likely to take place to former parts of the historic breeding range now that invasive species have been removed. More monitoring of populations would be useful at a selection of sites. Light attraction is considered a risk to the species and measures to implement the CMS guidelines on light pollution will also be helpful for Pycroft's Petrel. This includes engaging at international forums around managing light pollution risks on commercial ships. The foraging area in the non-breeding season has been identified as the Clipperton Fracture Zone Petrel Foraging Area for Pycroft's Petrels. It is one of the Ecologically and Biologically Significant Marine Areas (EBSAs) identified and hosted by the Secretariat of the Convention on Biological Diversity.

Key Reference

Rayner, M.J., Carlile, N., Priddel, D., Bretagnolle, V., Miller, M.G.R., Phillips, R.A., Ranjard, L., Bury, S.J. & Torres, L.G. (2016). Niche partitioning by three *Pterodroma* petrel species during non-breeding in the equatorial Pacific Ocean. *Marine Ecology Progress Series*, 549, 217-229.

Annex 2 References

- Alves, R.J.V., da Silva, N.G., Aguirre-Muñoz, A., Veitch, C., Clout, M., & Towns, D. (2011). Return of endemic plant populations on Trindade Island, Brazil, with comments on the Fauna. International Conference on Island Invasives. Auckland.
- Alves, R. J. V., & N. G. Silva. (2016). *De Historia Naturali Insulæ Trinitatis MDCC-MMX: Three Centuries of Natural History on Trindade Island, Brazil, With Comments on Conservation*, 141. Smashwords.
- Attié, C., Stahl, J. C., & Bretagnolle, V. (1997). New data on the endangered Mascarene Petrel *Pseudobulweria aterrima*: a third twentieth century specimen and distribution. *Colonial Waterbirds*, 406-412.
- Ballance, L. T., Pitman, R. L., Spear, L. B., & Fiedler, P. C. (2002). Investigations into temporal patterns in distribution, abundance and habitat relationships within seabird communities of the eastern tropical Pacific. *Southwest Fisheries Science Center Administrative Report LJ-02-17*, available from National Marine Fisheries Service, Southwest Fisheries Science Center, NMFS, PO Box, 271.
- Barov, B. & Derhé, M. A. (2011). Fea's Petrel *Pterodroma feae* species action plan implementation review. In: Barov, B. and Derhé, M. A. (eds), Review of The Implementation of Species Action Plans for Threatened Birds in the European Union 2004-2010. Final report. BirdLife International for the European Commission.
- Bell, B. & Bell, D. (1998). Pitcairn paradise preserved. *World Birdwatch*, 20, 8-11.
- Bird, J. P. (2012). Targeted searches to identify nesting grounds of Beck's Petrel *Pseudobulweria becki*. *Notornis*, 59, 189-193.
- Bird, J. P., Carlile, N., & Miller, M. G. (2014). A review of records and research actions for the Critically Endangered Beck's Petrel *Pseudobulweria becki*. *Bird Conservation International*, 24(3), 287-298.
- Bird, J. P. (2017). Observation of an all-dark *Pseudobulweria* petrel in the Bismarck Sea, with a review and discussion of recent records. *Bulletin of the British Ornithologists' Club*, 137(4), 272-277.
- BirdLife International. (2023). Important Bird Areas factsheet: Juan Fernández Islands. Retrieved from <https://datazone.birdlife.org/>
- BirdLife International (2025) IUCN Red List for birds. Downloaded from <https://datazone.birdlife.org> in 06/2025
- Booth Jones, K. A. (2017). *Distribution and gene-flow in a hybridising population of Pterodroma petrels* (Doctoral dissertation, University College London).
- Booth Jones, K. A., Nicoll, M. A. C., Raisin, C., Dawson, D. A., Hipperson, H., Horsburgh, G. J., Groombridge, J. J., Ismar, S. M. H., Sweet, P., Jones, C. G., Tatayah, V., Ruhomaun K., & Norris, K. (2017). Widespread gene flow between oceans in a pelagic seabird species complex. *Molecular Ecology*, 26(20), 5716-5728.
- Bretagnolle, V., Renaudet, L., Villard, P., Shirihai, H., Carlile, N., & Priddel, D. (2021). Status of Gould's Petrel *Pterodroma leucoptera caledonica* in New Caledonia: distribution, breeding biology, threats and conservation. *Emu*, 121(4), 303-313.
- Bretagnolle, V., David, Y., Ghestemme, T., Butaud, J.-F., Withers, T., Shirihai, H., & Thibault, J.-C. (2025). A petrel breeding diversity hotspot: Raivavae Island (Austral Islands, French Polynesia), with a need for conservation action. *Marine Ornithology*, 53(1), 163-171.
- Brooke, M. (2004). *Albatrosses and Petrels Across the World*. Oxford University Press.
- Brown, R. M., Nichols, R. A., Faulkes, C. G., Jones, C. G., Bugoni, L., Tatayah, V., ... & Jordan, W. C. (2010). Range expansion and hybridization in Round Island petrels (*Pterodroma* spp.): evidence from microsatellite genotypes. *Molecular Ecology*, 19(15), 3157-3170.
- Brown, A. (2015). Radar Surveys for the Endangered Black-capped Petrel on Dominica, West Indies. *Unpublished report by Environmental Protection in the Caribbean (EPIC)*. Submitted April 2015: Downloaded from <http://www.birdscaribbean.org/our-work/black-capped-petrel-working-group/> July 2016.
- Bugoni, L. (2018) *Pterodroma arminjoniana* (Giglioli & Salvadori, 1869). In Livro vermelho da fauna brasileira ameaçada de extinção, volume III – Aves. ICMBio, Brasília.
- Bugoni, L., Sander, M., & Costa, E. S. (2007). Effects of the first southern Atlantic hurricane on Atlantic petrels (*Pterodroma incerta*). *The Wilson Journal of Ornithology*, 119(4), 725-729.
- Butchart, S. H., Stattersfield, A. J., & Collar, N. J. (2006). How many bird extinctions have we prevented? *Oryx*, 40(3), 266-278.
- Carboneras, C. (1992). Family Procellariidae (Petrels and Shearwaters). In: del Hoyo, J.; Elliott, A.; Sargatal, J. (ed.), *Handbook of the birds of the world*, pp. 216-257. Lynx Edicions, Barcelona, Spain.

- Caravaggi, A., Cuthbert, R. J., Ryan, P. G., Cooper, J., & Bond, A. L. (2019). The impacts of introduced House Mice on the breeding success of nesting seabirds on Gough Island. *Ibis*, 161(3), 648-661.
- Carlile, N., Priddel, D., Zino, F., Natavidad, C. & Wingate, D. B. (2003). A review of four successful recovery programmes for threatened sub-tropical petrels. *Marine Ornithology*, 31, 185-192.
- Carlile, N., Priddel, D., & Callaghan, S. (2012). Seabird islands No. 18 (1): Broughton Island, New South Wales. *Corella*, 36 (4), 97-100.
- Carlile, N., Priddel, D., & Callaghan, S. (2013). Seabird islands No. 19/1: Little Broughton Island, New South Wales. *Corella*, 37 (2), 41-43
- Carlile, N., Harris, A. & Lloyd, C. (2020). Seabird islands No. 2/1: Montague Island, New South Wales - Additional Breeding Seabirds. *Corella*, 44, 71–73.
- Carlile, N., Baker, G.B. & Garnett, S.T. (2021). Australian Gould's Petrel *Pterodroma leucoptera leucoptera*. In: Garnett, S.T. and Baker, G.B. (eds.) *The Action Plan for Australian Birds 2020*. CSIRO Publishing, Melbourne. Pp 164-166
- Clay, T. A., Hodum, P., Hagen, E., & Brooke, M. D. L. (2023). Adjustment of foraging trips and flight behaviour to own and partner mass and wind conditions by a far-ranging seabird. *Animal Behaviour*, 198, 165-179.
- Clay, T. A., & Brooke, M. D. L. (2024). Trans-equatorial migration links oceanic frontal habitats across the Pacific Ocean: year-round movements and foraging activity of a small gadfly petrel. *Marine Biology*, 171(2), 60.
- Coates, B. J. & Swainson, G. W. (1978). Notes on the birds of Wuvulu island. *Papua New Guinea Bird Society Newsletter*, 145, 8-10.
- Coates, B. J. (1985). *The birds of Papua New Guinea, 1: non-passerines*. Dove, Alderley, Australia.
- CONAF. (2002). Management Plan for Juan Fernández Archipelago National Park. National Forestry Corporation, Santiago, Chile.
- Convention on Migratory Species (CMS). (2020). Guidelines on Ecological Light Pollution. UNEP/CMS Secretariat, Bonn, Germany.
- Crockett, D. E. (1994). Rediscovery of Chatham Island Taiko *Pterodroma magentae*. *Notornis*, 41 (supplement), 49-60.
- Cuthbert, R. (2004). Breeding biology of the Atlantic Petrel, *Pterodroma incerta*, and a population estimate of this and other burrowing petrels on Gough Island, South Atlantic Ocean. *Emu*, 104(3), 221-228.
- De Lima Martins G. S., Rodrigues E. M., Costa M.D., Rocha Campos A.N. & Tótolá M. R. (2021). A not so cool Harley's legacy: The catastrophic human-made Trindade Island devastation and its recovery. *Applied Soil Ecology* <https://doi.org/10.1016/j.apsoil.2021.104105>.
- Delelis, N., Chartendrault, V., & Barré, N. (2007). Oiseaux menacés du massif de Koniombo. Etat des populations, recommandation d'atténuation et de compensation. IAC/SCO report for KNS.
- Department of Environment and Conservation (NSW) (2006). Gould's Petrel (*Pterodroma leucoptera leucoptera*) Recovery Plan. Department of Environment and Conservation (NSW), Hurstville, NSW.
- Dilley, B. J., Davies, D., Bond, A. L., & Ryan, P. G. (2015). Effects of mouse predation on burrowing petrel chicks at Gough Island. *Antarctic Science*, 27(6), 543-553.
- Enticott, J. W. (1991). Distribution of the Atlantic Petrel *Pterodroma incerta* at sea. *Marine Ornithology*, 19, 49-60.
- Fernandez, R. (2021). Modélisation de la distribution océanique du pétrel noir de Bourbon (*Pseudobulweria aterrima*) dans l'océan Indien pendant sa période internuptiale. Université de La Réunion, Saint-Denis, La Réunion, France
- Fernandez, R., Saunier, M., Solaimana-Mattoir, Y., Dubos, J., Pinet, P., Guilhaumon, F., Le Corre, M., & Jaeger, A. (2022). Non-breeding at-sea distribution and spatial distribution modelling of the Mascarene petrel, an endemic seabird species of Reunion Island. Western Indian Ocean Marine Science Association 12th Scientific Symposium. <https://symposium.wiomsa.org/wp-content/uploads/2022/Oral-Presentations-2022/10October/Fernandez-Saunier-Soulaimana-Mattoir-Dubos-Pinet-Francois-Guilhaumon-Le-Corre-and-Jaeger.pdf>
- Flood, B. (2010). More Trindade Petrels around the Atlantic. *Birding World*, 23(7), 305-306.
- Flood, B. & Danzenbaker, M. 2009. Identification of Trindade Petrel and its status in the North Atlantic. *Birding World*, 22 (4), 162-166.
- Flood, R. L., Wilson, A. C., & Zufelt, K. (2017). Observations of five little-known tubenoses from Melanesia in January 2017. *Bulletin of the British Ornithologists' Club*, 137(3), 226-236.

- Fonseca-Neto, F. P. (2004) Aves marinhas da ilha Trindade. Pp. 119–146 in Branco, J. O., ed. Aves marinhas insulares brasileiras: bioecologia e conservação. Itajaí, BR: UNIVALI. [Google Scholar](#)
- Franklin, K. A., Norris, K., Gill, J. A., Ratcliffe, N., Bonnet-Lebrun, A-S., Butler, S., Cole, N. C., Jones, C. G., Lisovski, S., Ruhomaun, K., Tatayah, V. & Nicoll, M. A. C. (2022). Individual consistency in migration strategies of a tropical seabird, the Round Island petrel. *Movement Ecology*, 10 (13).
- Gangloff, B., Raust, P., Thibault, J. C., & Bretagnolle, V. (2009). Notes on the Phoenix Petrel (*Pterodroma alba*) from Hatuta'a Island, Marquesas. *Waterbirds*, 32(3), 453-458.
- Gardner, A. S., Duck, C. D., & Greig, S. (1985). Breeding of the Trindade petrel *Pterodroma arminjoniana* on Round Island, Mauritius. *Ibis*, 127(4), 517-522.
- Gaskin, C. P. (2011). Seabirds of the Kermadec region. *Science for Conservation*, 316. Department of Conservation, Wellington. 71 p.
- Goetz, J.E., Norris, J. H., & Wheeler, J.A. (2012). Conservation Action Plan for the Black-capped Petrel (*Pterodroma hasitata*). International Black-capped Petrel Conservation Group.
- Gummer, H., Taylor, G., & Collen, R. (2014). Best practice techniques for the translocation of Chatham petrels (*Pterodroma axillaris*), Cook's petrels (*P. cookii*) and Pycroft's petrels (*P. pycrofti*). Department of Conservation, Wellington. 83 p.
- Gummer, H., Taylor, G., Wilson, K.-J., & Rayner, M. J. (2015). Recovery of the endangered Chatham petrel (*Pterodroma axillaris*): A review of conservation management techniques from 1990-2010. *Global Ecology and Conservation* 3(2015), 310-323.
- Hahn, I., & Römer, U. (2002). Threatened avifauna of the Juan Fernández Archipelago, Chile: the impact of introduced mammals and conservation priorities. *Cotinga*, 17, 66–72.
- Halpin, L.R., Carlile, N., Baker, G.B. & Garnett, S.T. (2021). White-necked Petrel *Pterodroma cervicalis* cervicalis. In The Action Plan for Australian Birds 2020. (Eds ST Garnett and GB Baker) pp. 177–179. CSIRO Publishing, Melbourne.
- Halpin, L.R., Mott, R., Clay, T.A., Humphries, G.R.W., Chatwin, T.A., Carlile, N. & Clarke R.H. (2022). Predicting the foraging habitats of sympatrically breeding gadfly petrels in the South Pacific Ocean. *Frontiers in Marine Science*, 9, 853104. <http://doi:10.3389/fmars.2022.853104>
- Haney, J. C. (1987). Aspects of the pelagic ecology and behaviour of the black-capped petrel (*Pterodroma hasitata*). *Wilson Bulletin*, 99(2), 153-312.
- Harrison, P., Perrow, M. R., & Larsson, H. (2021). *Seabirds: the new identification guide*.
- Hodum, P. (2010). Estimación poblacional y evaluación de la clasificación de la Fardela Blanca de Masatierra (*Pterodroma defilippiana*). Technical report prepared for the *Corporación Nacional Forestal CONAF*.
- Hodum, P., & Wainstein, M. (2003). Biology and conservation of the Juan Fernández Archipelago seabird community. *Unpublished report to Corporación Nacional Forestal (CONAF). Juan Fernández Islands Conservancy, Long Beach, CA, USA*.
- Hodum, P. J., & Wainstein, M. (2004). Biology and conservation of the Juan Fernández Archipelago seabird community. *Wildlife Conservation Society / CONAF*.
- Howell, N. G. (2012). *Petrels, Albatrosses, and Storm-Petrels of North America: A Photographic Guide*. Princeton University Press, Princeton, New Jersey, USA.
- ICMBio (2018a). Monumento Natural das Ilhas de Trindade e Martim Vaz e do Monte Columbia. In <https://www.gov.br/icmbio/pt-br/assuntos/biodiversidade/unidade-de-conservacao>; accessed 07 Jan 2025.
- ICMBio (2018b). Área de Proteção Ambiental do Arquipélago de Trindade e Martim Vaz. In <https://www.gov.br/icmbio/pt-br/assuntos/biodiversidade/unidade-de-conservacao>; accessed 07 Jan 2025.
- Iglesias-Vasquez, A., Gangloff, B., Ruault, S., Ribout, C., Priddel, D., Carlile, N., ... & Bretagnolle, V. (2017). Population expansion, current and past gene flow in Gould's petrel: implications for conservation. *Conservation Genetics*, 18, 105-115.
- Imber, M.J. & Jenkins, J.A.F. (1981). The New Caledonian petrel. *Notornis* 28: 149–160.
- Imber, M. J., Merton, D. V., West, J. A., & Tennyson, A. J. D. (1991). Juan Fernandez petrels prospecting at the Chatham Islands. *Notornis*, 38(1), 60-62.
- Imber, M. J. (1996). The food of Cook's Petrel *Pterodroma cookii* during its breeding season on Little Barrier Island, New Zealand. *Emu*, 96(3), 189-194.
- Imber, M. J., & Tennyson, A. J. D. (2001). A new petrel species (Procellariidae) from the south-west Pacific. *Emu*, 101(2), 123-127.

- Imber, M.J., Taylor, G. A., Tennyson, A.J.D., Aikman, H. A., Scofield, R. P., Ballantyne, J., & Crockett, D.E. (2005). Non-breeding behaviour of Magenta Petrels *Pterodroma magentae* at Chatham Island, New Zealand. *Ibis*, 147, 758-763.
- Jaramillo, A. (2009). Humboldt Current seabirding in Chile. *Neotropical Birding*, 4, 27-39.
- Jehl, J. R. Jr. (1973). The distribution of marine birds in Chilean waters in winter. *The Auk*, 90(1), 114–135.
- Jesus, J.; Menezes, D.; Gomes, S.; Oliveira, P.; Nogales, M.; Brehm, A. (2009). Phylogenetic relationships of gadfly petrels *Pterodroma* spp. from the Northeastern Atlantic Ocean: molecular evidence for specific status of Bugio and Cape Verde petrels and implications for conservation. *Bird Conservation International*, 19, 199–214.
- Jodice, P.G.R., Ronconi, R.A., Rupp, E., Wallace, G.E., & Satgé, Y. (2015). First satellite tracks of the Endangered black-capped petrel. *Endangered Species Research*, 29, 23–33.
- Juhasz, C.-C., Dubos, J., Pinet, P., Soullaimana Mattoir, Y., Souharce, P., Caumes, C., Riethmuller, M., Jan, F., & Le Corre, M. (2022). Discovery of the breeding colonies of a critically endangered and elusive seabird, the Mascarene Petrel (*Pseudobulweria aterrima*). *Journal of Field Ornithology*, 93(4), 11. [online] URL: <https://doi.org/10.5751/JFO-00160-930411>
- Klages, N. T. W., & Cooper, J. (1997). Diet of the Atlantic petrel *Pterodroma incerta* during breeding at South Atlantic Gough Island. *Marine Ornithology*, 25, 13-16.
- Krüger, L., Paiva, V. H., Colabuono, F. L., Petry, M. V., Montone, R. C. & Ramos, J. A. (2016). Year-round spatial movements and trophic ecology of Trindade petrels (*Pterodroma arminjoniana*). *Journal of Field Ornithology*, 87, 404-416.
- Krüger, L., Paiva, V. H., Petry, M. V., Montone, R. C., & Ramos, J. A. (2018). Population estimate of Trindade Petrel *Pterodroma arminjoniana* by the use of predictive nest habitat modelling. *Bird Conservation International*, 28(2), 197-207.
- Lambert, K. (2004). Does the Tahiti Petrel *Pseudobulweria rostrata* visit the Western Indian Ocean? *Marine Ornithology*, 32, 183-184.
- Lawrence, H. A., Millar, C. D., Taylor, G. A., Macdonald, L. D., & Lambert, D. M. (2008). Excess of unpaired males in one of the world's most endangered seabirds, the Chatham Island Taiko *Pterodroma magentae*. *Journal of Avian Biology*, 39(3), 359-363.
- Le Corre, M., Ollivier, A., Ribes, S., & Jouventin, P. (2002). Light-induced mortality of petrels: a 4-year study from Réunion Island (Indian Ocean). *Biological Conservation*, 105(1), 93-102.
- Leal, G. R., Furness, R. W., McGill, R. A., Santos, R. A., & Bugoni, L. (2017). Feeding and foraging ecology of Trindade petrels *Pterodroma arminjoniana* during the breeding period in the South Atlantic Ocean. *Marine Biology*, 164, 1-17.
- Leal, G. R., & Bugoni, L. (2021). Individual variability in habitat, migration routes and niche used by Trindade petrels, *Pterodroma arminjoniana*. *Marine Biology*, 168(8), 134.
- Lee, D. S. (2000). Status and conservation priorities for Black-capped Petrels in the West Indies. *Status and conservation of West Indian seabirds*, 11-18.
- Legrand, B., Benneveau, A., Jaeger, A., Pinet, P., Potin, G., Jaquemet, S., & Le Corre, M. (2016). Current wintering habitat of an endemic seabird of Réunion Island, Barau's petrel *Pterodroma baraui*, and predicted changes induced by global warming. *Marine Ecology Progress Series*, 550, 235-248.
- Leopold, M. F., Geelhoed, S. C., Scheidat, M., Cremer, J., Debrot, A. O., & Van Halewijn, R. (2019). A review of records of the Black-capped Petrel *Pterodroma hasitata* in the Caribbean Sea. *Marine Ornithology*, 47, 235-241.
- Lesage, C., Cherel, Y., Delord, K., D'orchymont, Q., Fretin, M., Levy, M., ... & Barbraud, C. (2024). Pre-eradication updated seabird survey including new records on Amsterdam Island, southern Indian Ocean. *Polar Biology*, 47(10), 1093-1105.
- Luigi, G., Bugoni, L., Fonseca-Neto, F. P., & Teixeira, D. M. (2009). Biologia e conservação do petrel-de-trindade, *Pterodroma arminjoniana*, na ilha da Trindade, Atlântico sul. In: Mohr, L. V.; Castro, J. W. A.; Costa, P. M. S.; Alves, R. J. V. (ed.), *Ilhas oceânicas brasileiras: da pesquisa ao manejo*. Volume 2, 223-263 Ministério do Meio Ambiente, Brasília.
- Manly, B., Arbogast, B.S, Lee, D.S. & Tuinen, M.V. (2013). Mitochondrial DNA analysis reveals substantial population structure within the endangered Black-capped Petrel (*Pterodroma hasitata*). *Waterbirds*, 36, 228–233
- Marín, M., González, R. & Trucco, S. (2020). Population status of the Kermadec Petrel (*Pterodroma neglecta juana*) at San Ambrosio Island, Chile. *Marine Ornithology*, 48, 209–214.

- Menezes, D., Oliveira, P., & Ramírez, I. (2010). Pterodromas do arquipélago da Madeira. Duas espécies em recuperação. Serviço do Parque Natural da Madeira, Funchal, Madeira, Portugal.
- Militao, T., Dinis, H. A., Zango, L., Calabuig, P., Stefan, L. M., & González-Solís, J. (2017). Population size, breeding biology and on-land threats of Cape Verde petrel (*Pterodroma feae*) in Fogo Island, Cape Verde. *PLoS one*, 12(4), e0174803.
- Miskelly, C.M., Taylor, G.A., Gummer, H., & Williams, R. (2009). Translocations of eight species of burrow-nesting seabirds (genera *Pterodroma*, *Pelecanoides*, *Pachyptila* and *Puffinus*: Family Procellariidae). *Biological Conservation*, 142, 1965-1980.
- Miskelly, C. M., Gilad, D., Taylor, G. A., Tennyson, A., & Waugh, S. M. (2019). A review of the distribution and size of gadfly petrel (*Pterodroma* spp.) colonies throughout New Zealand. *Tuhinga*, 30, 99-177.
- MMA (Chilean Ministry of the Environment). (2008). *Pterodroma neglecta*. Classified Species Fact Sheet. Santiago, Chile.
- MMA (Chilean Ministry of the Environment). (2018). Creation of the Juan Fernández Marine Park. Government of Chile.
- Murphy, R. C., & Pennoyer, J. M. (1952). Larger petrels of the genus *Pterodroma*. *American Museum Novitates*, 1580, 1-42.
- Neves T., Vooren C.M., Bugoni L., Olmos F. & Nascimento L. (2006). Distribuição e abundância de aves marinhas no sudeste-sul do Brasil. Pp. 11–35, In: Aves oceânicas e suas interações com a pesca na região Sudeste-Sul do Brasil. Neves T., Bugoni L., Rossi-Wongtschowski C.L.B. (eds.). São Paulo – USP. (Série Documentos Revizee: Score Sul).
- Nicoll, M. A., Nevoux, M., Jones, C. G., Ratcliffe, N., Ruhomaun, K., Tatayah, V., & Norris, K. (2017). Contrasting effects of tropical cyclones on the annual survival of a pelagic seabird in the Indian Ocean. *Global Change Biology*, 23(2), 550-565.
- O'Brien, M., Bird, J. P., O'Connor, E., Qalo, P., Fraser, M., & Watling, D. (2016). New distribution records of collared petrel (*Pterodroma brevipes*) in Fiji and development of a rapid assessment monitoring method. *Notornis*, 63(1), 18. Pagenaud, A., Bourgeois, K., Dromzee, S., Thibault, M., Chagneau, G., Barre, N., ... & Vidal, E. (2022a). Tahiti Petrel *Pseudobulweria rostrata* population decline at a nickel-mining site: A critical need for adapted conservation strategies. *Bird Conservation International*, 32(2), 246-258.
- Pagenaud, A., Ravache, A., Bourgeois, K., Mathivet, M., Bourguet, É., Vidal, E., & Thibault, M. (2022b). Nest-site selection and its influence on breeding success in a poorly-known and declining seabird: The Tahiti petrel *Pseudobulweria rostrata*. *PLoS one*, 17(4), e0267408.
- Pagenaud, A., Bourgeois, K., Payandi, L., Weiss, W., Vidal, E., & Ravache, A. (2025). Decrypting the breeding biology of the elusive and declining Tahiti Petrel *Pseudobulweria rostrata*. *Marine Ornithology*, 53(1), 1-11.
- Pastor-Prieto, M., Ramos, R., Zajková, Z., Reyes-González J.M., Rivas, M.L., Ryan, P.G., & González-Solís, J. (2019). Spatial ecology, phenological variability and moulting pattern of the endangered Atlantic petrel *Pterodroma incerta*. *Endangered Species Research*, 40, 189-206. [Endangered Species Research 40:189](#)
- Patterson, R. M. (1996). RAOU records appraisal committee: opinions and case summaries 1992-1995. Submission no. 168. *RAOU Report* 101.
- Pierce, R. (2009). A Pycroft's petrel (*Pterodroma pycrofti*) in Papua New Guinea. *Notornis*, 56, 223-224.
- Pierce, R., VanderWerf, E., Cranwell, S., Taabu, K., Ghestemme, T. & Withers, T. (2020). A conservation action plan for two endangered seabirds – Phoenix Petrel (*Pterodroma alba*) and Polynesian Storm-petrel (*Nesofregetta fuliginosa*) 2020-2025.
- Pinet, P., Salamolard, M., Probst, J. M., Russell, J. C., Jaquemet, S., & Le Corre, M. (2009). Barau's Petrel *Pterodroma baraui*: history, biology and conservation of an endangered endemic petrel. *Marine Ornithology*, 37(2), 107-113.
- Pinet, P., Jaquemet, S., Phillips, R. A., & Le Corre, M. (2012). Sex-specific foraging strategies throughout the breeding season in a tropical, sexually monomorphic small petrel. *Animal Behaviour*, 83(4), 979-989.
- Pinet, P., Jaquemet, S., Pinaud, D., Weimerskirch, H., Phillips, R. A., & Le Corre, M. (2011). Migration, wintering distribution and habitat use of an endangered tropical seabird, Barau's petrel *Pterodroma baraui*. *Marine Ecology Progress Series*, 423, 291-302.
- Pinheiro de Faria L. A., Martins A. S. & Pereira J. A. (2022). Green turtles nest survival: quantifying the hidden predation. *Marine Environmental Research*. <https://doi.org/10.1016/j.marenvres.2022.105666>

- Portelli, D.J. (2016). Plumage variation in Gould's petrel (*Pterodroma leucoptera*): an evaluation of the taxonomic validity of *P. l. caledonica* (Imber & Jenkins 1981). *Notornis*, 63 (3-4), 130-141.
- Priddel, D., & Carlile, N. (1997). Boondelbah Island confirmed as a second breeding locality for Gould's petrel *Pterodroma leucoptera leucoptera*. *Emu*, 97, 245-8.
- Priddel, C. & Carlile, N. (2004). South Pacific: spotlight on the Fiji Petrel, a rare bird indeed! *Wildlife Conservation*, 107, 6-7.
- Priddel, D., Carlile, N., & Wheeler, R. (2006). Establishment of a new breeding colony of Gould's Petrel *Pterodroma leucoptera* through the creation of artificial nesting habitat and the translocation of nestlings. *Biological Conservation*, 128, 553-63.
- Priddel, D., Carlile, N., Moce, K. & Watling, D. (2008). A review of records and recovery actions for the 'Critically endangered' Fiji Petrel, *Pseudobulweria macgillivrayi*. *Bird Conservation International* 18(4), 381-393. [A review of records and recovery actions for the 'Critically Endangered' Fiji Petrel *Pseudobulweria macgillivrayi* | Bird Conservation International | Cambridge Core](#)
- Priddel, D., & Carlile, N. (2009). Key elements in achieving a successful recovery programme: A discussion illustrated by the Gould's Petrel case study. *Ecological Management & Restoration*, 10, S97-S102.
- Priddel, D., Carlile, N., Moce, K. & Watling, D. (2008). A review of records and recovery actions for the 'Critically endangered' Fiji Petrel, *Pseudobulweria macgillivrayi*. *Bird Conservation International* 18(4), 381-393. [A review of records and recovery actions for the 'Critically Endangered' Fiji Petrel *Pseudobulweria macgillivrayi* | Bird Conservation International | Cambridge Core](#)
- Priddel, D., Carlile, N., Evans, O., Evans, B., & McCoy, H. (2010). A review of the seabirds of Phillip Island in the Norfolk Island Group. *Notornis*, 57, 113-127.
- Priddel, D., Carlile, N., Portelli, D., Kim, Y., O'Neill, L., Bretagnolle, V., Ballance, L. T., Phillips, R.A., Pittman, R. L., & Rayner, M. J. (2014). Pelagic distribution of Gould's Petrel (*Pterodroma leucoptera*): linking shipboard and onshore observations with remote-tracking data. *Emu*, 114, 360-370.
- Probst, J. M., Le Corre, M., & Thébaud, C. (2000). Breeding habitat and conservation priorities in *Pterodroma baraui*, an endangered gadfly petrel of the Mascarene archipelago. *Biological Conservation*, 93(1), 135-138.
- Ramírez, I., Paiva, V. H., Menezes, D., Silva, I., Phillips, R. A., Ramos, J. A., & Garthe, S. (2013). Year-round distribution and habitat preferences of the Bugio petrel. *Marine Ecology Progress Series*, 476, 269-284.
- Ramos, R., Ramírez, I., Paiva, V.H., Militão, T., Biscoito, T., Menezes, D., Phillips, R.A., Zino, F., & González-Solís, J. (2016). Global spatial ecology of three closely related gadfly petrels. *Scientific Reports*, 6, 23447.
- Ramos, R., Carlile, N., Madeiros, J., Ramírez, I., Paiva, V. H., Dinis, H. A., ... & González-Solís, J. (2017). It is the time for oceanic seabirds: Tracking year-round distribution of gadfly petrels across the Atlantic Ocean. *Diversity and Distributions*, 23(7), 794-805.
- Ratcliffe, N., Zino, F. J., Oliveira, P., Vasconcelos, A., Hazevoet, C. J., Costa Neves, H., ... & Zino, E. A. (2000). The status and distribution of Fea's Petrel *Pterodroma feae* in the Cape Verde Islands. *Atlantic Seabirds*, 2(2), 73-86.
- Ravache, A., Bourgeois, K., Weimerskirch, H., Pagenaud, A., de Grissac, S., Miller, M., Dromzée, S., Lorrain, A., Allain, V., Bustamante, P., Bylemans, J., Gleeson, D., Lettourneur, Y., & Vidal, É. (2020). Behavioural and trophic segregations help the Tahiti petrel to cope with abundance of wedge-tailed shearwater when foraging in oligotrophic tropical waters. *Scientific Reports*, 10, 15129.
- Rayner M. J., Hauber M. E., Clout, M. N., Seldon, D. S., Van Dijken, S., Bury, S. & Phillips, R. A. (2008). Foraging ecology of the Cook's petrel *Pterodroma cookii* during the austral breeding season: a comparison of its two populations. *Marine Ecology Progress Series*, 370 (271), 271-284.
- Rayner M. J., Hauber M. E., Steeves, T. E., Lawrence, H. A., Thompson, D. R., Sagar, P. M., Bury, S. J., Landers, T. J., Phillips, R. A., Ranjard, L. & Shaffer, S. A. (2011). Contemporary and historic separation of transhemispheric migration between two genetically distinct seabird populations. *Nature Communications* 2.
- Rayner, M. J., Taylor, G. A., Gummer, H. D., Phillips, R. A., Sagar, P. M., Shaffer, S. A. & Thompson, D. A. (2012). The breeding cycle, year-round distribution, and activity patterns of the endangered Chatham petrel (*Pterodroma axillaris*). *Emu – Austral Ornithology* 112(2), 107-116.
- Rayner, M.J., Carlile, N., Priddel, D., Bretagnolle, V., Miller, M.G.R., Phillips, R.A., Ranjard, L., Bury, S.J., & Torres, L.G. (2016). Niche partitioning by three *Pterodroma* petrel species during non-breeding in the equatorial Pacific Ocean. *Marine Ecology Progress Series*, 549, 217-229.

- Rayner, M. J., Baird, K. A., Bird, J., Cranwell, S., Raine, A. F., Maul, B., Kuri, J., Zhang, J., & Gaskin, C. P. (2020a). Land and sea-based observations and first satellite tracking results support a New Ireland breeding site for the Critically Endangered Beck's Petrel *Pseudobulweria becki*. *Bird Conservation International*, 30(1), 58-74. <https://doi.org/10.1017/S0959270919000145>
- Rayner, M. J., Van Loenen, A. L., Shepherd, L. D., Cubrinovska, I., Scofield, R. P., Tennyson, A. J., ... & Steeves, T. E. (2020b). Comprehensive evidence for subspecies designations in Cook's Petrel *Pterodroma cookii* with implications for conservation management. *Bird Conservation International*, 31(1), 1-13.
- Rexer-Huber, K., Parker, G. C., Ryan, P. G., & Cuthbert, R. J. (2014). Burrow occupancy and population size in the Atlantic Petrel *Pterodroma incerta*: a comparison of methods. *Marine Ornithology*, 42, 137-141.
- Reyes-Arriagada, R., Hodum, P. J., & Schlatter, R. P. (2012). Nest site use in sympatric petrels of the Juan Fernández Archipelago, Chile: Juan Fernández petrel (*Pterodroma externa*) and Stejneger's petrel (*Pterodroma longirostris*). *Ornitología Neotropical*, 23(1), 73-82.
- Roberson, D., Bailey, S. F. (1991). *Cookilaria* Petrels in the eastern Pacific Ocean. *American Birds*, 45, 1067-1081
- Rodríguez, A., Holmes, N. D., Ryan, P. G., Wilson, K. J., Faulquier, L., Murillo, Y., ... & Dann, P. (2017). Seabird mortality induced by land-based artificial lights. *Conservation Biology*, 31(5), 986–1001. <https://doi.org/10.1111/cobi.12900>
- Russell, J.C., Lecomte, V., Dumont, Y., & Corre, M. (2009). Intraguild predation and mesopredator release effect on long-lived prey. *Ecological Modelling*, 220, 1098-1104.
- Satgé, Y. G., Rupp, E., Brown, A., & Jodice, P. G. (2021). Habitat modelling locates nesting areas of the Endangered Black-capped Petrel *Pterodroma hasitata* on Hispaniola and identifies habitat loss. *Bird Conservation International*, 31(4), 573-590.
- Satgé, Y.G., Keitt, B.S., Gaskin, C.P., Patteson, J.B. & Jodice, P.G.R. (2023). Spatial segregation between phenotypes of the diabolotin Black-capped Petrel *Pterodroma hasitata* during the breeding and non-breeding period. *Endangered Species Research*, 51, 183–201. <https://doi.org/10.3354/esr01254>
- SECIRM (2018). Protrindade. In <https://www.marinha.mil.br/secirm/pt-br/psrm/protrindade>; accessed 07 Jan 2025.
- Shirihai, H. (2008). Rediscovery of Beck's Petrel *Pseudobulweria becki*, and other observations of Tubenoses from the Bismarck Archipelago, Papua New Guinea. *Bulletin of the British Ornithologists' Club*, 128, 3-16. <https://www.biodiversitylibrary.org/part/151178>
- Shirihai, H., Pym, T., Kretzschmar, J., Moce, K., Taukei, A. & Watling, D. (2009). First observations of Fiji Petrel *Pseudobulweria macgillivrayi* at sea: off Gau Island, Fiji, in May 2009. *Bulletin of the British Ornithologists' Club*, 129(3), 129-148. [boc1293-090805:BOC Bulletin.qxd](https://doi.org/10.1017/S0007451809000124)
- Shirihai, H., Pym, T., San Román, M., & Bretagnolle, V. (2014). The Critically Endangered Mascarene Petrel *Pseudobulweria aterrima*: identification and behaviour at sea, historical discovery of breeding sites, and breeding ecology on Réunion, Indian Ocean. *Bulletin of the British Ornithologists' Club*, 134(3), 194-223.
- Simons, T. R., Lee, D. S., & Haney, J. C. (2013). Diabolotin *Pterodroma hasitata*: a biography of the endangered Black-capped Petrel. *Marine Ornithology*, 41, 1-43.
- Soto, J. M. R. 2009. Ações Antrópicas Negativas nas Ilhas Oceânicas Brasileiras. In: *Ilhas Oceânicas Brasileiras: da pesquisa ao manejo* (L. V. Mohr, J. W. A. Castro, P. M. S. Costa, and R. J. V. Alves, eds.), pp. 329–350. Brasília, Brasil, Ministério do Meio Ambiente e Instituto Chico Mendes de Conservação da Biodiversidade.
- Spear, L., & Ainley, D. G. (1993). Kleptoparasitism by Kermadec petrels, Jaegers, and skuas in the Eastern Tropical Pacific: evidence of mimicry by two species of *Pterodroma*. *The Auk*, 110(2), 222-233. <https://doi.org/10.2307/4088576>
- Spear, L. B., Howell, S. N., & Ainley, D. G. (1992). Notes on the at-sea identification of some Pacific gadfly petrels (Genus: *Pterodroma*). *Colonial Waterbirds*, 202-218.
- Stahl, J., & Bartle, J. A. (1991). Distribution, abundance and aspects of the pelagic ecology of Barau's Petrel (*Pterodroma barau*) in the south-west Indian Ocean. *Notornis*, 38(3), 211-225.
- Tatayah, R. V., Jones, C. G., Birch, D., & Salamolard, M. (2011). First record of Réunion Black Petrel *Pseudobulweria aterrima* on Mauritius. *Bulletin of the British Ornithologists' Club*, 131(1), 64-66.
- Taylor, G., Cockburn, S., Palmer, D., & Liddy, P. (2012). Breeding activity of Chatham Island taiko (*Pterodroma magnetae*) monitored using PIT tag recorders. *New Zealand Journal of Ecology*, 36(3), 1.

- Taylor, G.A. 2013. Pycroft's petrel. In Miskelly, C.M. (ed.) *New Zealand Birds Online*. www.nzbirdsonline.org.nz
- Tennyson, A.J., Miskelly, C.M., & Totterman, S.L. (2012). Observations of collared petrels (*Pterodroma brevipes*) on Vanua Lava, Vanuatu, and a review of the species' breeding distribution. *Notornis*, 59, 39-48.
- Thibault, J. C., & Bretagnolle, V. (1999). Breeding seabirds of Gambier Islands, eastern Polynesia: numbers and changes during the 20th century. *Emu*, 99(2), 100-107.
- Thibault, J. C., Cibois, A., Butaud, J. F., Jacq, F. A., Poroi, E., & Meyer, J. Y. (2013). Breeding birds of Hatuta'a, Marquesas Islands: species inventory and influence of drought on their abundance. *Bulletin of the British Ornithologists Club*, 133, 168-177.
- Tomasevic, J. A. (2008). *Pterodroma neglecta*. Classified Species File. Ministry of the Environment, Chile.
- Totterman, S. (2009). Vanuatu petrel (*Pterodroma occulta*) discovered breeding on Vanua Lava, Banks Islands, Vanuatu. *Notornis*, 56(2), 57-62.
- UNESCO. (n.d.). Juan Fernández Archipelago - Man and the Biosphere Programme (MAB). Retrieved from <https://www.unesco.org/en/mab/archipelago-de-juan-fernandez>
- Vaughan, P. M., Bird, J. P., Bretagnolle, V., Shirihai, H., Tennyson, A. J. D., Miskelly, C. M., & Clarke, R. H. (2024). A review of records and research actions for the poorly known Vanuatu Petrel *Pterodroma [cervicalis] occulta*. *Bird Conservation International*, 34, e9.
- Veitch, C.R.; Miskelly, C.M.; Harper, G.A.; Taylor, G.A.; Tennyson, A.J.D. (2004). Birds of the Kermadec Islands, south-west Pacific. *Notornis*, 51(2), 61-90
- Wanless, R. M., Ratcliffe, N., Angel, A., Bowie, B. C., Cita, K., Hilton, G. M., ... & Slabber, M. (2012). Predation of Atlantic Petrel chicks by house mice on Gough Island. *Animal Conservation*, 15(5), 472-479.
- Watling, D., & Lewanavanua, R. F. (1985). A note to record the continuing survival of the Fiji (MacGillivray's) Petrel *Pseudobulweria macgillivrayi*. *Ibis*, 127(2), 230-233.
- Worthy, T. H. & Holdaway, R. N. (2002) *The lost world of the moa: Prehistoric life of New Zealand*. Christchurch: Canterbury University Press.
- Zino, F., Oliveira, P., King, S., Buckle, A., Biscoito, M., Neves, H. C., & Vasconcelos, A. (2001). Conservation of Zino's Petrel *Pterodroma madeira* in the archipelago of Madeira. *Oryx*, 35, 128-136.
- Zino, F., Phillips, R. A., & Biscoito, M. (2011). Zino's petrel movements at sea-a preliminary analysis of datalogger results. *Birding World*, 24(5), 216-219.