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# PROPOSAL FOR THE INCLUSION OF GADFLY PETRELS *(Pterodroma sp.)* ON APPENDIX I AND II OF THE CONVENTION*

Summary:

The Governments of New Zealand, Australia, Brazil, Chile, Cook Islands, Dominican Republic and Fiji have jointly submitted the attached proposal for the inclusion of gadfly petrels (*Pterodroma sp*.) on Appendix I and II of CMS.

Rev.1 contains an Annex 2 which had been omitted by mistake in the first published version of this document.

# PROPOSAL FOR INCLUSION OF GADFLY PETRELS ON THE APPENDIX I and II OF THE CONVENTION

## A. PROPOSAL

Inclusion of 22 gadfly petrel species, subspecies and geographic populations, Genus *Pterodroma* (Bonaparte, 1856) and 4 species of *Pseudobulweria* (Mathews, 1936) on Appendices I and II

## B. PROPONENT

Governments of New Zealand, Australia, Brazil, Chile, Cook Islands, Dominican Republic and Fiji

## C. SUPPORTING STATEMENT

### 1. Taxonomy

1.1 Class: Aves

1.2 Order: Procellariiformes

1.3 Family: Procellariidae

1.4 Species proposed for Appendix I

| **Genus, species or subspecies, including author and year** | **Scientific synonyms** | **Common name(s), in all applicable languages used by the Convention** |
|---|---|---|
| *Pseudobulweria aterrima* (Bonaparte, 1857) | *Pterodroma aterrima* | EN – Mascarene petrel; Mascarene black petrel; Réunion black petrel; Réunion petrel<br>FR – Pétrel de Bourbon<br>ES – Petrel de Reunión |
| *Pseudobulweria becki* (Murphy, 1928) | *Pterodroma becki* | EN – Beck's petrel; Solomon Island petrel<br>FR – Pétrel de Beck<br>ES – Petrel de Beck |
| *Pseudobulweria macgillivrayi* (Gray, 1860) | *Pterodroma macgillivrayi* | EN – Fiji petrel; MacGillivray's petrel<br>FR – Pétrel des Fidji<br>ES – Petrel de las Fiji |
| *Pterodroma baraui* (Jouanin, 1964) | No scientific synonyms | EN – Barau's petrel<br>FR – Pétrel de Barau<br>ES – Petrel de Barau |
| *Pterodroma cervicalis occulta* (Imber & Tennyson, 2001) | *Pterodroma occulta* | EN – Vanuatu petrel; Falla's petrel<br>FR – Pétrel à col blanc<br>ES – Petrel cuelliblanco |
| *Pterodroma hasitata* (Kuhl, 1820) | No scientific synonyms | EN – Black-capped petrel; Diablotin<br>FR – Pétrel diablotin<br>ES – Petrel antillano |
| *Pterodroma incerta* (Schlegel, 1863) | *Procellaria sandaliata*; *Procellaria satalandia* | EN – Atlantic petrel; Hooded petrel; Schlegel's Petrel<br>FR – Pétrel de Schlegel<br>ES – Petrel de Schlegel |
| *Pterodroma madeira* (Mathews, 1934) | Formerly considered subspecies of *Pterodroma mollis* | EN – Zino's petrel; Madeira petrel<br>FR – Pétrel de Madère<br>ES – Petrel freira |
| *Pterodroma magentae* (Giglioli & Salvadori, 1869) | No scientific synonyms | EN – Magenta petrel; Chatham Island Taiko<br>FR – Pétrel de Magenta<br>ES – Petrel taiko |

## 1.5 Species proposed for Appendix II

| **Genus, species or subspecies, including author and year** | **Scientific synonyms** | **Common name(s), in all applicable languages used by the Convention** |
|---|---|---|
| *Pseudobulweria rostrata* (Peale, 1848) | *Pterodroma rostrata.* Includes two subspecies – *Ps. r. rostrata* and *Ps. r. trouessarti* | EN – Tahiti petrel<br>FR – Pétrel de Tahiti<br>ES – Petrel de Tahití |
| *Pterodroma alba* (Gmelin, 1789) | No scientific synonyms | EN – Phoenix petrel<br>FR – Pétrel à poitrine blanche<br>ES – Petrel de las Fénix |
| *Pterodroma arminjoniana* (Giglioli & Salvadori, 1869) | Formerly considered conspecific with *Pterodroma heraldica* and *Pterodroma atrata*. | EN – Trindade petrel; Round Island petrel<br>FR – Pétrel de Trindade<br>ES – Petrel de la Trindade |
| *Pterodroma axillaris* (Salvin, 1893) | No scientific synonyms | EN – Chatham petrel<br>FR – Pétrel des Chatham<br>ES – Petrel de las Chatham |
| *Pterodroma brevipes* (Peale, 1848) | Includes subspecies *Pt. b. magnificens* | EN – Collared petrel<br>FR – Pétrel à collier<br>ES – Petrel acollarado |
| *Pterodroma cervicalis cervicalis* (Salvin, 1891) | Has two subspecies – *Pt. c. cervicalis* and the rare *Pt. c. occulta* | EN – White-necked petrel; White-naped petrel<br>FR – Pétrel à col blanc<br>ES – Petrel cuelliblanco |
| *Pterodroma cookii cookii* (Gray, 1843) | Has two subspecies – *Pt. c. cookii* and *Pt. c. orientalis* | EN – Northern Cook's petrel<br>FR – Pétrel de Cook<br>ES – Petrel de Cook |
| *Pterodroma cookii orientalis* (Murphy, 1929) | *Pterodroma cookii* | EN – Southern Cook's petrel<br>FR – Pétrel de Cook<br>ES – Petrel de Cook |
| *Pterodroma defilippiana* (Giglioli & Salvadori, 1869) | *Pterodroma velificans* | EN – Masatierra petrel; De Filippi's petrel<br>FR – Pétrel de Filippi<br>ES – Petrel Chileno |
| *Pterodroma deserta* (Mathews, 1934) | No scientific synonyms | EN – Desertas petrel; Bugio petrel<br>FR – Pétrel des Desertas<br>ES – Petrel de las Desertas |
| *Pterodroma externa* (Salvin, 1875) | No scientific synonyms | EN – Juan Fernández petrel<br>FR – Pétrel de Juan Fernández<br>ES – Petrel de las Juan Fernández |
| *Pterodroma feae* (Salvadori, 1899) | Formerly considered subspecies of *Pterodroma mollis* | EN – Cape Verde petrel; Fea's petrel<br>FR – Pétrel gongon<br>ES – Petrel gongón |
| *Pterodroma leucoptera* (Gould, 1844) (Australian population) | *Pterodroma leucoptera leucoptera* | EN – Gould's petrel; White-winged petrel<br>FR – Pétrel de Gould<br>ES – Petrel aliblanco |
| *Pterodroma leucoptera* (Gould, 1844) (New Caledonian population) | *Pterodroma leucoptera caledonica* (Imber & Jenkins, 1981) | EN – Gould's petrel: New Caledonian petrel, White-winged petrel<br>FR – Pétrel de Gould<br>ES – Petrel aliblanco |
| *Pterodroma longirostris* (Stejneger, 1893) | *Pterodroma cookii masafuerae* | EN – Stejneger's petrel<br>FR – Pétrel de Stejneger<br>ES – Petrel de Más Afuera |
| *Pterodroma neglecta juana* (Mathews, 1935) | No scientific synonyms | EN – Chilean Kermadec petrel<br>FR – Pétrel des Kermadec (juana)<br>ES – Fardela negra de Juan Fernández |
| *Pterodroma pycrofti* (Falla, 1933) | No scientific synonyms | EN – Pycroft's petrel<br>FR – Pétrel de Pycroft<br>ES – Petrel de Pycroft |

## 2. Overview

Gadfly petrel is an informal name given to a group of 39 small highly pelagic migratory seabird taxa found in tropical and temperate regions of all ocean basins, originally placed together in the genus *Pterodroma (*Warham, 1990*)*. However, anatomical and genetic studies suggested that some species were more closely linked taxonomically to other seabird groups including *Bulweria* and several genera of shearwaters and these were split off into the genus *Pseudobulweria* (Bretagnolle et al., 1998; Imber et al., 2005; Gangloff et al., 2012). Because the species in *Pterodroma* and *Pseudobulweria* share convergent evolution with similarity in overall body appearance and ecological niches as well as sharing very similar threats, we consider it appropriate to include them together in a multispecies proposal under the term "gadfly petrel".

As a group, gadfly petrels include some of the rarest, most endangered and poorly understood seabirds in the world. This listing proposal includes the 26 species, subspecies and geographic populations that are listed as Threatened (Critically Endangered, Endangered or Vulnerable) or Near Threatened by the International Union for Conservation of Nature (IUCN). All the gadfly petrel taxa proposed for inclusion on Appendix I are Endangered or Critically Endangered. Many have held this status for numerous years and have declining global population trends. All taxa proposed for Appendix II have "an unfavourable conservation status" as recognised in their conservation status as Vulnerable or Near Threatened on the global IUCN Red List. The available evidence documents that gadfly petrels are the most threatened group of seabirds after the albatrosses (Croxall et al., 2012; BirdLife International, 2025).

Gadfly petrels often breed in very remote and inaccessible areas, making the accurate estimation of species abundance and breeding population trends challenging. For two species proposed for listing, the breeding sites are still to be located, while other species are still being discovered breeding in new locations. Some species nest on low-lying atolls that are at risk of being inundated by rising sea-levels. Breeding endemism is a strong feature of this group of seabirds with 14 taxa confined to a single breeding location and a further five taxa found breeding in just one country.

Many of these taxa have large geographical ranges at-sea and travel vast distances both within national jurisdictions and on the high seas. Gadfly petrels use oceanic habitats for foraging, travelling extensively in search of highly dispersed prey. All species that have been studied undertake significant amounts of nocturnal foraging as well as feeding by day, and most also return to colonies after dark.

Although poorly understood, gadfly petrels are at risk from multiple different threats on land and at-sea (Ramos et al., 2016, 2017). A recent, comprehensive review of threats to seabirds (Dias et al., 2019) identified invasive alien species at breeding colonies as the single most severe threat to gadfly petrels. This has led to the extirpation of many former colonies. Domestic dogs and cats can also create problems for petrels on some inhabited islands. Light pollution is a significant threat to some species at colonies (Rodríguez et al., 2017). Other land-based threats include collisions with infrastructure such as powerlines and transmission towers; sea level rise and coastal inundation; extreme storm events; fires; trampling of nests or nest competition by browsing mammals; potential health threats such as avian influenza and other diseases; volcanic eruptions; and energy production and mining for minerals. At sea, potential threats include fisheries bycatch for some of the larger species; competition with fisheries for marine resources; collisions with vessels at-sea (light attraction at night); energy production projects such as offshore windfarms; deep-sea mining; marine pollution (plastic ingestion, pesticide bioaccumulation); and indirect threats such as climate change which may lead to changes in prey distribution and abundance. Without concerted conservation action to

address these land- and sea-based threats, it is likely that these species will face further population declines or extinction.

To date, conservation actions have tended to be undertaken on a species-by-species basis. While many Convention on the Conservation of Migratory Species of Wild Animals (CMS) Parties are undertaking comprehensive conservation actions, gadfly petrels of conservation concern are not specifically covered by any international legal mechanism and would benefit from being added to the Appendices of the Convention. Many species breed on Small Island Developing States (SIDS) which usually have limited resources and sometimes limited technical expertise. The 14th Conference of Parties adopted Resolution *14.20 - Potential Avian Taxa for Listing* which invited Parties, non-governmental organisations, intergovernmental organisations and other stakeholders to consider working collaboratively to develop listing proposals for migratory species with unfavourable conservation status that would likely benefit from being listed in the Appendices. All species in this current listing proposal are referred to in Resolution 14.20 except the Critically Endangered Mascarene petrel (*Pseudobulweria aterrima*) which appears to have been an oversight and the rare subspecies of Kermadec petrel (*Pterodroma neglecta juana*).

The gadfly petrel taxa included in this current listing proposal would benefit significantly from international cooperation generated through a listing on the CMS Appendices. As well as serving to increase global awareness of these taxa, a CMS listing would promote cooperation to address the current shared threats these taxa face on land. In particular, there is a need to enhance cooperation on species research, sharing of expertise and conservation actions to protect breeding sites. Cooperation between countries is also needed to address the growing threats to seabirds at-sea. For Appendix I listed taxa, strict protection measures would be required. A CMS listing would form the basis for a CMS Concerted Action in the future, which would set out conservation actions for range states. The 26 gadfly petrel taxa occur within the jurisdiction of 39 CMS Parties and 24 non-Party range states which clearly demonstrates why international cooperation is necessary to protect these highly mobile taxa.

2.1. Inclusion of subspecies and geographic populations

Applying the taxonomy agreed at the 12th Conference of Parties (Handbook of Birds of the World and Birdlife International Checklist of the Birds of the World), this proposal lists three subspecies and two geographic populations separately. The Vanuatu petrel (*Pterodroma cervicalis occulta*) is considered a subspecies by Birdlife/IUCN and has the same threat status as the white-necked petrel (*Pt. c. cervicalis)*. However, with only 500-2500 breeding pairs (Harrison et al. 2021, Vaughan et al. 2024) confined to a small area of one volcanic island, we consider that Vanuatu petrels should be listed separately as they have different land-based threats to the nominate subspecies. Southern Cook's petrel (*Pterodroma cookii orientalis*) is also listed here as a subspecies because the migration paths and foraging zones do not overlap with those of the Northern Cook's petrel (*Pterodroma cookii cookii*) (Rayner et al., 2008, 2011), plus there are genetic and morphological differences and different breeding timetables (Rayner et al., 2010, 2020). The Chilean subspecies of Kermadec petrel (*Pterodroma neglecta juana*) is a larger and darker form of this widespread subtropical species and breeding is confined to two small island groups west of Chile. Introduced mammals have altered the breeding habitats and severely restricted nest site options at the Juan Fernández group.

The geographically isolated populations of Gould's petrel (also called White-winged Petrel by some agencies) (*Pterodroma leucoptera*) are morphologically (Portelli 2016) and genetically similar (Iglesias-Vasquez et al. 2017). However, the two populations have ecological distinctiveness in summer foraging distribution, breeding phenology and breeding habitat (Priddel et al., 2014, Iglesias-Vasquez et al., 2017). The two breeding populations have different migration behaviour, over-wintering in separate regions in the central and eastern

Pacific Ocean. (Rayner et al., 2016). The Gould's petrel population breeding on New Caledonia (previously referred to as *Pterodroma leucoptera caledonica*) has multiple land-based threats (introduced predators, mining, light attraction etc) (Bretagnolle et al., 2021; Borsa et al., 2024). The Gould's petrel populations breeding in Australia occur on small islands close to the Australian mainland but have threats from native avian species. The behavioural and ecological differences between Australian and New Caledonian populations, coupled with differing conservation challenges facing the two main populations, supports their treatment as independent conservation management units (Portelli 2016, Iglesias-Vasquez et al. 2017).

2.2. Exclusions from this listing proposal

*Pterodroma* petrels have 35 species listed by the Birdlife International Datazone (Birdlife 2025). Of these 35 species, one is Extinct, three are Critically Endangered, seven are Endangered, 12 are Vulnerable, two are Near Threatened and 10 are Least Concern. Four of these *Pterodroma* species have been listed already on the CMS Appendices (all on Appendix I): Henderson petrel *(Pterodroma atrata*; Endangered), Hawaiian petrel *(Pterodroma sandwichensis*; Endangered), Galapagos petrel *(Pterodroma phaeopygia*; Critically Endangered) and Bermuda petrel *(Pterodroma cahow*; Endangered). The Birdlife species list includes the extinct large St Helena petrel (*Pterodroma rupinarum*) and the critically endangered Jamaican petrel (*Pterodroma caribbaea*), which is considered extinct by many agencies. The last confirmed sightings were made when 22 birds were collected in 1879 (Shirihai et al., 2010). Proponents have also omitted the Near Threatened mottled petrel (*Pterodroma inexpectata*) as its status is improving rapidly following various pest eradication programmes in New Zealand since 1998 (Scott et al., 2009; Miskelly et al., 2020). A regional assessment following IUCN Red List guidelines assessed mottled petrel as Least Concern in 2020 (Taylor et al., 2021). The species no longer meets any IUCN Red List threat criteria as the species breeds on over 30 islands (Miskelly et al., 2019, 2020) and the large population (415,000 mature individuals) is increasing.

2.3. Pacific traditional knowledge and culture

Pacific Ocean seabirds are the subjects of a rich body of traditional knowledge, which may hold vital perspectives for protection and study of this highly threatened group. Traditional knowledge often contains information relevant to the conservation of wildlife, especially in remote areas where academic research has been historically limited. Traditional knowledge offers insights that may not be readily accessible through conventional scientific methods, especially by capturing long-term, historical information about seabird occurrence and abundance, while also ensuring that conservation efforts respect and strengthen cultural ties to these important species. Community members should be engaged in research and conservation work to affect long-term, sustainable management that provides outcomes for Pacific Ocean seabirds while maintaining local livelihoods and cultural practices (further information is available in Review of Traditional Knowledge of Seabirds in the Pacific Ocean, John Lamaris, Peter Allen, Rohan Clarke - SPREP 2025).

2.4. Importance of gadfly petrels to New Zealand's indigenous Māori people

The six taxa of gadfly petrels that breed in New Zealand are regarded as taonga tuku iho (treasures handed down from ancestors), holding deep cultural, spiritual, and ecological significance to Māori, New Zealand's indigenous people, particularly those hapū (subtribes or groupings of whanau or families) or iwi (tribes) connected to the offshore islands on which the birds breed. Though all New Zealand taxa proposed for listing are fully protected under the New Zealand Wildlife Act (1953), traditionally, these seabirds were harvested seasonally as a food source, with careful sustainability practices ensuring populations were not depleted. When the birds' kai (food) was plentiful, the people also flourished. Should the birds or their

kai (food) not be healthy or plentiful, then the taiao (environment) was out of balance and needed to be attended to in order to recover the balance. Other purposes for the birds included ceremonial practices and decorations, e.g. their feathers were used for cloaks and adornment. Nothing was wasted. Their migratory patterns helped guide ocean voyaging in the Pacific and mark seasonal changes. For some of the breeding sites, iwi and hapū are actively involved in conservation efforts. Conservation efforts are closely tied to kaitiakitanga—the Māori responsibility of guardianship—reflecting a commitment to protecting these birds not just as wildlife, but as living symbols of heritage and connection to the moana (ocean).

## 3 Migrations

### 3.1 Kinds of movement, distance, the cyclical and predicable nature of the migration

Gadfly petrels are highly pelagic species that spend most of their lives at-sea. The breeding distributions are far more restricted, usually confined to oceanic islands. When at-sea, gadfly petrels have a wide distribution with some species undertaking long-distance (trans-equatorial) migrations during the non-breeding season, and others travelling between ocean basins. Recent studies using tracking devices have revealed expansive journeys, shown in Annex 2, for individual taxa. Even the least migratory species travel out into the high seas into areas beyond national jurisdiction near their breeding sites, while others cross the jurisdictions of multiple range states as they forage or migrate to favoured areas in the non-breeding season. Like other seabirds, gadfly petrels need to moult and replace their flight and body feathers annually. This happens between the breeding seasons as birds return to their colonies in fresh plumage or just completing moult (Warham, 1996). During these times of reduced flight capability, they need to migrate to more productive seas to be able to feed sufficiently to regrow new feathers. The movements between the breeding areas and the non-breeding areas to moult, produces cyclical and predictable migration patterns for gadfly petrels observed using tracking devices, for example white-headed petrels (*Pterodroma lessonii*) (Taylor et al., 2020).

Approximately 70% of gadfly petrel taxa (27) have been studied with tracking devices to learn more about their migrations. Obvious gaps remain for some Critically Endangered species (e.g., Fiji petrel *Pseudobulweria macgillivrayi*). There appear to be similarities in the migratory patterns as individuals make cyclical migrations away from their annually occupied island breeding grounds out to pelagic waters, sometimes with long distance vagrancy (Bourne, 1967; Ramos et al., 2016; 2017; Franklin et al., 2022;). Gadfly petrels frequently cross international borders by crossing the jurisdictions of various range states. For the 26 taxa being proposed for listing, their migrations cross into the jurisdictions of 64 different countries and their overseas territories (see Annex 1).

On average, each gadfly petrel species depends on the marine resources of multiple different jurisdictions - 11 species cross the borders of at least 10 countries including their overseas territories, and three species visit at least 20 countries including their overseas territories. The most mobile of the gadfly petrel species proposed for listing is the Trindade petrel (*Pterodroma arminjoniana*) which crosses the jurisdictions of 26 different countries or their territories (migrating across the Indian Ocean as well as the North and South Atlantic Oceans and some reach the South West Pacific Ocean).The countries that are range states for the highest number of gadfly petrel species (all have 10 or more species known to occur in their waters) are Australia, Chile, France, New Zealand, United Kingdom, and the United States of America.

### 3.2 Proportion of the population migrating, and why that is a significant proportion

For pelagic seabirds, the behaviour of individuals and different age classes is difficult to observe without the use of tracking devices. Gadfly petrels occupy some of the most remote

areas on the planet. For example, Pycroft's petrels (*Pterodroma pycrofti*) forage in the north equatorial Pacific Ocean thousands of kilometres from land during the winter migration (Rayner et al., 2016). Identification of petrels from ships is difficult to verify as most gadfly petrel taxa don't follow ships by day (although some Least Concern species do so, e.g., soft-plumaged petrel *Pt. mollis* and grey-faced petrel *Pt. gouldi*). Therefore, most sightings of gadfly petrels are fleeting and distant. The best information is provided using tracking tags attached to birds. Where reasonable sample sizes (>10 birds per species) have been used, all individuals have migrated outside the Exclusive Economic Zones (EEZ) of their breeding colonies to the high seas, with most birds moving hundreds or thousands of kilometres from land. The proportion migrating is therefore 100% of observed bird movements which is a significant proportion.

## 4 Biological data (other than migration)

### 4.1 Distribution (current and historical)

The 26 taxa included in this proposal breed in widely distributed sites in the Pacific, Indian, and North and South Atlantic oceans (see Annex 1). Most have highly restricted breeding distributions but have widespread oceanic distributions. Thirteen taxa only breed on a single island (island breeding endemics), and a further seven only breed in one country (country breeding endemics). Of the remaining six taxa shared between countries, four are confined to fewer than five breeding locations. The two remaining taxa are spread across remote island archipelagos in the Pacific Ocean.

The distribution patterns of the 26 gadfly petrels being proposed for Appendix I and Appendix II listing are provided in more detail in Annex 2.

### 4.2 Population (estimates and trends)

The population trends of many of the gadfly petrel taxa proposed for listing are quite poorly known. This is due to the remoteness of their breeding sites and the difficulty of carrying out counts of birds that nest underground with covering of dense vegetation or on steep slopes, especially where nests are highly dispersed rather than in colonies. In addition, many SIDS do not have resources or technical capacity to undertake this work. For some species, counts have never been attempted or lack regular and repetitive assessments. There are a few exceptions. The Magenta petrel (*Pterodroma magentae*), for example, has been closely monitored for decades with all birds individually marked with leg bands as well as Passive Integrated Transponders (microchips). This species has increased from a few known pairs after rediscovery to a breeding population currently of around 50 pairs. Other species are known to be expanding in range and numbers following successful eradication of invasive species. Population estimates for each species are summarised in Table 1.

**Table 1:** Current population size estimates for 26 species, subspecies and populations of gadfly petrels

| Common name | Scientific name | Population estimates (mature individuals) | Confidence | Year | Population Trend |
|---|---|---|---|---|---|
| Fiji petrel | *Pseudobulweria macgillivrayi* | 1-49 | Very low | 2009 | Unknown |
| Magenta petrel | *Pterodroma magentae* | 100-150 | High | 2025 | Increasing |
| Beck's petrel | *Pseudobulweria becki* | 50-249 | Low | 2008 | Unknown |
| Mascarene petrel | *Pseudobulweria aterrima* | 100-200 | Medium | 2004 | Decreasing |
| Zino's petrel | *Pterodroma madeira* | 160 | High | 2004 | Stable |
| Desertas petrel | *Pterodroma deserta* | 250 - 999 | High | 2012 | Stable |
| Vanuatu petrel | *Pterodroma cervicalis occulta* | –500-2000 | Low-Medium | 2025 | Unknown (likely Decreasing) |
| Collared petrel | *Pterodroma brevipes* | 670 – 6,700 | Low | 2005 | Decreasing |
| Cape Verde petrel | *Pterodroma feae* | 1000 - 2000 | Low | 2000 | Unknown (likely Decreasing) |
| Black-capped petrel | *Pterodroma hasitata* | 1000 - 2000 | Medium | 2004 | Decreasing |
| Chatham petrel | *Pterodroma axillaris* | 1100 | Medium | 2010 | Increasing |
| Gould's petrel | *Pterodroma leucoptera (*Australian population*)* | 2000 | Low | 2010 | Decreasing |
| Trindade petrel | *Pterodroma arminjoniana* | 2260 | Low-medium | 2008 | Stable |
| Masatierra petrel | *Pterodroma defilippiana* | 5554 | Low-medium | 2004 | Stable |
| Gould's petrel | *Pterodroma leucoptera (*New Caledonia *population)* | 4000-10,000 | Low | 2021 | Decreasing |
| Tahiti petrel | *Pseudobulweria rostrata* | 10,000 – 20,000 | Low | 2004 | Decreasing |
| Pycroft's petrel | *Pterodroma pycrofti* | 12,000 – 22,000 | Low | 2012 | Increasing |
| Southern Cook's petrel | *Pterodroma cookii orientalis* | 15,000 | High | 2008 | Increasing |
| Phoenix petrel | *Pterodroma alba* | 20,000 – 30,000 | Medium | 2020 | Decreasing |
| Chilean kermadec petrel | *Pterodroma neglecta juana* | 22,000-30,000 | Medium | 2020 | Stable |
| Barau's petrel | *Pterodroma baraui* | 30,000 – 40,000 | Medium | 2016 | Decreasing |
| White-necked petrel | *Pterodroma cervicalis cervicalis* | 50,000 | Low | 1988 | Increasing |
| Stejneger's petrel | *Pterodroma longirostris* | 262,000 | Low | 1986 | Decreasing |
| Northern Cook's petrel | *Pterodroma cookii cookii* | 650,000 | High | 2007 | Increasing |
| Atlantic petrel | *Pterodroma incerta* | 1,800,000 | Medium | 2001 | Decreasing |
| Juan Fernández petrel | *Pterodroma externa* | 2,000,000 | Medium | 1986 | Stable |

The breeding grounds of Fiji petrel and Beck's petrel (*Pseudobulweria becki*) are yet to be discovered although the islands where breeding is most likely are known from both sightings of fledglings and tracking studies. Most of the main breeding sites are known for the remaining taxa but some new discoveries are still being made. For example, for Tahiti petrel *(Pseudobulweria rostrata*), which have been located nesting on the main islands of Samoa, and also new collared petrel colonies (Karen Baird pers.comm.).

The following is a summary of the population trends for all 26 species and subspecies:

- Six gadfly petrel taxa are considered to be increasing (Chatham petrel *Pt. axillaris;* white-necked petrel *Pt. c. cervicalis;* Northern Cook's petrel *Pt. c. cookii;* Southern Cook's petrel *Pt. c. orientalis;* Magenta petrel *Pt. magentae*, and Pycroft's petrel *Pt. pycrofti)*. These improved population trends are largely due to intensive management of invasive species or translocations to new sites.
- Six taxa are considered to have stable populations (Trindade petrel *Pt. arminjoniana*; Masatierra petrel *Pt. defilippiana*; Desertas petrel *Pt. deserta*, Juan Fernández petrel *Pt. externa*; *Chilean Kermadec Petrel Pt. neglecta juana and* Zino's petrel *Pt. madeira*).
- Ten taxa/populations are in decline *(*Mascarene petrel *Ps. aterrima;* Tahiti petrel *Ps. rostrata;* Phoenix petrel *P. alba;* Barau's petrel *Pt. baraui;* collared petrel *Pt. brevipes;* black-capped petrel *Pt. hasitata;* Atlantic petrel *Pt. incerta;* Gould's petrel *Pt. leucoptera* (Australian population); Gould's petrel *Pt. leucoptera* (New Caledonia population)*, and* Stejneger's petrel *Pt. longirostris*)*.*
- For two taxa the status is unknown but is most likely to be in decline (Vanuatu petrel *Pt. cervicalis occulta* and Cape Verde petrel *Pt. feae*)*.*
- The two remaining species have an unknown status as the breeding grounds are yet to be discovered (Beck's petrel *Ps. becki* and Fiji petrel *Ps. macgillivrayi*).

### 4.3 Habitat (short description and trends)

Gadfly petrels breed across a variety of habitat types, mostly close to the sea. However, in the past, some species such as Cook's petrels nested well inland, up to 40 km from the coast on inland mountain ranges (Imber et al., 2003) and today New Caledonian petrels still nest well inland on mountain ranges (Bretagnolle et al., 2021). All gadfly petrel species are ground nesters and not able to take off quickly due to their long narrow wings. This makes them very vulnerable to attack by mammalian predators and avian species such as skuas, gulls, raptors and owls. This is a vulnerability by which gadfly petrels have adapted through living on island ecosystems lacking ground-based mammalian predators. To avoid avian predators, they developed defence mechanisms such as being active over colonies at night, nesting on cliff ledges, and occupying burrows or natural crevices under rocks to keep predatory birds out of their nests. The birds can breed in open habitat under grass cover or in exposed bare soils, amongst boulders or rocks, under ferns, shrubs and trees. They prefer well drained soils that do not flood easily but will use clay soils, sandy ground, peaty soils or friable silty soils. The birds dig out burrows under trees amongst tree roots, breaking through smaller roots with their sharp-edged bills. Due to the risk of entanglement, they often avoid forest monocultures with densely branched canopies or ground types with dense root cover, thickets of vines, or abundant rocks which are hard to penetrate. Some species nest on low lying atolls on sand or under low shrubs at sea level. Others nest on or above coastal cliffs in burrows or on cliff ledges, usually under a cover of trees or shrubs. Species that nest on mountaintops often nest in rocky areas where they can use natural crevices.

There are species that range inland on oceanic islands and nest under taller forest and amongst ferns along river courses and on inland ridges. These species have learnt to climb trees to reach outer branches or climb up into the canopy to depart. Other species locate large emergent trees in canopy gaps or around open rocky bluffs to nest very close to easy places to take off. Birds will also nest inland on mountainous terrain on cliffs, very steep slopes or amongst volcanic boulder fields. The choice of nest sites is quite broad and is about giving their chick protection while the adult is out at sea. Chicks of most species can thermoregulate within 24 hours of hatching and have a dense covering of downy feathers (Warham, 1996). After an initial parental guard phase which can last anywhere from 12 hours to several days, the chicks then sit quietly ashore awaiting occasional visits by parents which can vary from nightly to every 1 – 2 weeks. Most species take at least 2.5 – 4 months to raise their single

chick. Being left alone at the colony is the period of highest vulnerability for gadfly petrels, a by-product from nesting in remote mammal-free locations.

All gadfly petrels are highly pelagic, spending most of their time at sea throughout the year. Birds may forage closer to colonies during the incubation and chick feeding stages but typically feed hundreds of kilometres away from the nest. Some species form rafts close to colonies before flying ashore at night (e.g. black-capped petrels, Stejneger's petrel; Shirihai et al., 2010, 2015). When at-sea, gadfly petrels use prevailing wind patterns to optimise flight performance by flying with tail winds or crosswinds to gain airspeed and cover immense distances (Clay et al., 2023; Ventura et al., 2020). Many gadfly petrels rely on nocturnal foraging in their deep-water habitats, preying on vertically migrating deep-water prey (Rayner et al., 2016). Cephalopods tend to be the most foraged prey item, followed by smaller mesopelagic fish. Krill and other zooplankton are also present in the diet (Imber & Brooke, 1995; Imber, 1996).

### 4.4 Biological characteristics

Gadfly petrels are so-named because of their agile flight at sea. They are adapted to make efficient use of wind energy in dynamic soaring flight (Ventura et al., 2020). Typically, gadfly petrels are coloured in variations of white, grey, black and brown, and can be notoriously hard to identify due to similarities amongst species and occurrence of both dark and light colour morphs. The body mass of gadfly petrels is highly variable. Both Juan Fernández petrel (*Pterodroma externa*) and Stejneger's petrel (*Pterodroma longirostris*) breed on Alejandro Selkirk Island, the former species weighing around 440g and the latter only around 160g (Reyes-Arriagada et al., 2012). Gadfly petrels' short and sturdy bills are adapted for seizing and chopping up soft prey items, normally caught on the sea surface. Birds in the *Pterodroma* genus often have unique twisted intestines that are used to digest specific prey items and maximise the nutritional value of highly dispersed prey (Imber, 1985). When they are not at their colonies, these birds are strictly oceanic, rarely being seen near or over land. *Pseudobulweria* are more closely related to the genera *Puffinus*, *Calonectris* and *Bulweria* than to *Pterodroma* (Gangloff et al., 2012). However, their biology and ecology closely resemble that of *Pterodroma (*Warham, 1990).

The breeding biology of all gadfly petrels is quite similar. Once per year the birds lay a single egg which is relatively large (up to 20% of the female body weight). Replacement of an early lost egg is either rare or unknown. All species mature late; none breed before the age of 3-years, and some individuals do not start breeding until 8 – 10-years of age (Warham, 1990). Delayed maturity is most common in the larger species and those that need to dig out a new breeding burrow, which can take up to 5-years depending on soil structure. Some tropical species at sites without avian predators nest on the surface, but generally under the cover of vegetation or overhanging rocks. Some species can also breed within natural cavities under rocks or in shallow caves (Priddel & Carlile, 1997). Pair bonds are often maintained for many years or even decades. Breeding birds typically use the same nest sites year after year but will also occupy old nest sites used by other breeding pairs or species (G. Taylor unpubl.). Survival rates can be very high on islands without introduced predators and adult survival rates over 95% per annum are not uncommon. Longevity is also a feature of these seabirds, with some individuals known to live for over 40 years (e.g., Magenta petrel). Juvenile birds in the first 1 – 2-years of life remain entirely at sea. Gadfly petrels, like all other tubenose species, excrete excess salt through their nostrils so can survive at sea by only drinking seawater. The birds have well developed olfactory senses and use these to locate food sources at-sea as well as identify their own nest at the colony (Warham, 1996, Creece et al. 2025).

### 4.5 Role of the taxon in its ecosystem

Like most ground nesting seabirds, gadfly petrels play an important ecological role on the islands where they breed. These seabirds transfer marine nutrients (phosphates, nitrogen and

calcium) from the oceans to the island, via their guano, feathers, bones, eggshells, corpses and spilt food. The resulting soil fertilisation promotes plant growth and enhances terrestrial biodiversity (Mulder et al., 2011). Seabird burrows provide safe and humid refuges within which reptiles and invertebrates sometimes shelter and these species in turn can provide a resource for land birds. The burrowing habits of seabirds help to create new niches in areas of low biodiversity, especially for invertebrates. Digging out of the substrate can turn over the soil layers, softening hard ground and creating bare fertile soil for the germination of more diverse plant life. This mixing of the marine nutrients into the soils can be beneficial for guano-loving plants but can also promote weed growth in sites close to habitation.

At-sea, gadfly petrels forage on prey items unavailable to diurnal feeding species. They consume diurnally vertically migrating mesopelagic fish such as myctophids that rise to the sea surface at night to forage on zooplankton. The nutrients captured from these deepwater fish species are spread across oligotrophic areas of the ocean by the guano of gadfly petrels, providing nutrient recycling for surface dwelling phytoplankton species.

Climate change is now causally associated with increases in cephalopod numbers in the ocean (Stewart et al., 2014; Van der Kooij et al., 2016). However, these are regional or short-term trends that do not imply a universal or sustained increase. More importantly, climate change is widely expected to cause shifts in the distribution, timing and availability of many marine prey species, including cephalopods, due to changes in ocean temperature, productivity and oxygen levels (Pörtner et al., 2014; Robinson et al., 2020). These changes may lead to spatial mismatches between breeding colonies and productive foraging areas, increasing energetic costs and impacting reproductive success (Durant et al., 2007; Sydeman et al., 2015).

## 5. Conservation status and threats

### 5.1 IUCN Red List Assessment (if available)

The following lists the latest IUCN assessment of extinction risk for each full species (**Tables 2 and 3**).

**Table 2: Appendix I species**

| Gadfly Species | Scientific Name | IUCN Category | Year Assessed |
|---|---|---|---|
| Mascarene petrel | *Pseudobulweria aterrima* | CR | 2018 |
| Beck's petrel | *Pseudobulweria becki* | CR | 2018 |
| Fiji petrel | *Pseudobulweria macgillivrayi* | CR | 2018 |
| Magenta petrel | *Pterodroma magentae* | CR | 2018 |
| Barau's petrel | *Pterodroma baraui* | EN | 2018 |
| Black-capped petrel | *Pterodroma hasitata* | EN | 2018 |
| Atlantic petrel | *Pterodroma incerta* | EN | 2019 |
| Zino's petrel | *Pterodroma madeira* | EN | 2018 |

| Table 3: Appendix II species | | | |
|---|---|---|---|
| **Gadfly Species** | **Scientific Name** | **IUCN Category** | **Year Assessed** |
| Phoenix petrel | *Pterodroma alba* | VU | 2020 |
| Trindade petrel | *Pterodroma arminjoniana* | VU | 2018 |
| Chatham petrel | *Pterodroma axillaris* | VU | 2018 |
| White-necked petrel | *Pterodroma cervicalis* | VU | 2018 |
| Cook's petrel | *Pterodroma cookii* | VU | 2018 |
| Masatierra petrel | *Pterodroma defilippiana* | VU | 2018 |
| Desertas petrel | *Pterodroma deserta* | VU | 2018 |
| Juan Fernández petrel | *Pterodroma externa* | VU | 2018 |
| Gould's petrel | *Pterodroma leucoptera* | VU | 2018 |
| Stejneger's petrel | *Pterodroma longirostris* | VU | 2019 |
| Pycroft's petrel | *Pterodroma pycrofti* | VU | 2018 |
| Tahiti petrel | *Pseudobulweria rostrata* | NT | 2018 |
| Cape Verde petrel | *Pterodroma feae* | NT | 2018 |
| Kermadec petrel | *Pterodroma neglecta* | LC | 2018 |

Key: CR, Critically Endangered; EN, Endangered; VU, Vulnerable; NT, Near Threatened; LC Least Concern

5.2 Equivalent information relevant to conservation status assessment

For gadfly petrel species where five subspecies and two geographic populations are proposed for listing, the IUCN Red List status for the nominate species has been shown in Tables 2 and 3 (Birdlife International, 2025). For the subspecies separated here, the extinction risk has been assessed using IUCN criteria based on the number of populations, population size and trends, and current key threats that will influence future survival. The same procedure was followed for the two geographically discrete populations of white-winged petrel *(Pterodroma leucoptera)*.

The Vanuatu petrel *(Pt. cervicalis occulta*) is only known to breed on Vanua Lava, a remote inhabited island in the north of the Vanuatu group. The inland breeding colony is confined to steep bluffs and fern patches around steaming fumaroles on an active volcanic peak. The rugged nature of this breeding habitat has made estimating numbers difficult. 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). The habitat has invasive species present impacting breeding birds and a population decline seems inevitable. The threat status is assessed as **Critically Endangered** (B2): Area of occupancy estimated to be less than 10 $km^2$, and an estimate indicating at least two of a-c: a. Severely fragmented or known to exist at only a single location. b. Continuing decline, observed, inferred or projected, in any of the following: (v) number of mature individuals.

For Southern Cook's petrel (*Pt. cookii orientalis*), there is just a single known breeding site on Whenua Hou Island (1300 ha). The population size is relatively small (15,000 mature individuals) but increasing following successful pest eradication operations undertaken in 1998 (Taylor, 2000). The threat status is assessed as **Vulnerable** D2: Population with a very restricted area of occupancy (typically less than 20 $km^2$) or number of locations (typically five or fewer) such that it is prone to the effects of human activities or stochastic events within a very short period in an uncertain future.

The Chilean Kermadec petrel (*Pterodroma neglecta juana*) breeds on Robinson Crusoe and Santa Clara Islands on the Juan Fernández Archipelago and on San Ambrosio Island on the Islas Desventuradas Archipelago. The population on the Juan Fernández Islands is very small (<200 pairs) but recent surveys have found a substantially larger colony of >22,000 pairs on San Ambrosio Island (Marin et al. 2020). Invasive species restrict the species on Robinson Crusoe Island but the colony on San Ambrosio Island has been impacted by browsing mammals removing vegetation cover exposing the nests of this surface breeding species. The threat status is assessed as **Vulnerable** D2: Population with a very restricted area of occupancy (typically less than 20 $km^2$) or number of locations (typically five or fewer) such that it is prone to the effects of human activities or stochastic events within a very short period in an uncertain future.

The Gould's petrel *(Pterodroma leucoptera* - New Caledonia population*)* breeds in the mountainous interior of New Caledonia (Carlile et al., 2021a, Bretagnolle et al., 2021). There is also a very small but isolated population on Raivavae (French Polynesia) but the taxonomic status of those birds is still to be determined. It seems closest to the New Caledonian birds (Bretagnolle et al., 2025). The inland breeding sites on New Caledonia are scattered and are vulnerable to invasive species, mining operations and light attraction (Bretagnolle et al., 2021). There are still thousands of birds present but declines are confirmed or suspected at known breeding sites. The threat status of this subspecies is listed here as **Vulnerable** B2: Area of occupancy estimated to be less than 2,000 $km^2$, and estimates indicating at least two of a-c: a. Severely fragmented or known to exist at no more than 10 locations. b. Continuing decline, observed, inferred or projected, in any of the following: (ii) area of occupancy (iii) area, extent and/or quality of habitat (iv) number of locations or subpopulations (v) number of mature individuals. Also C. Population size estimated to number fewer than 10,000 mature individuals and either: 1. An estimated continuing decline of at least 10% within 10 years or three generations, whichever is longer, (up to a maximum of 100 years in the future) OR 2. A continuing decline, observed, projected, or inferred, in numbers of mature individuals AND at least one of the following (a-b): a. Population structure in the form of one of the following: (i) no subpopulation estimated to contain more than 1,000 mature individuals. Once more information is collected about this population, the threat status may need to be upgraded to Endangered.

## 5.3 Land-based threats to populations (factors, intensity)

Gadfly petrel species are exposed to a wide range of threats on land. The sections below describe the main threats.

### 5.3.1 Invasive alien species

Invasive alien species are non-native organisms that may impact native species through predation, resource competition, habitat modification or introduction of disease. For gadfly petrels the invasive species of most concern are feral cats (*Felis catus*), rats (*Rattus* spp.), mice (*Mus musculus*), feral pigs (*Sus scrofa*), mustelids, and mongoose (*Herpestes* sp.). Predation by invasive mammals can cause adult mortality that can lead to rapid population declines, colony extirpations and ultimately a higher risk of overall extinction. Feral cats and pigs, as well as mustelids and mongoose are responsible for most adult predation. Rats take both eggs and chicks and can reduce petrel breeding success to near-zero (Brooke et al., 2010). But other predator species can also take eggs or chicks when accessible. Dogs may be a threat to some Pacific island colonies. Across all gadfly petrel colonies, feral cats and rats are the invasive predators affecting the largest number of species and impact most of the taxa proposed for listing, at least at some colonies. Invasive mice have a direct impact on gadfly petrel species less frequently than cats and rats, but at some sites the impacts tend to be severe such as for Atlantic petrel (*Pterodroma incerta*) on Gough Island (Caravaggi et al., 2019). Predation of the

chicks of gadfly petrels may take many years to reduce breeding populations due to petrel longevity and the high levels of non-breeders present in populations (Warham, 1990).

In addition to the direct impact of invasive alien species in reducing adult survival and population growth, evidence suggests that invasive alien species predation can also induce indirect threats on petrels by affecting island ecosystems, including changes in community composition (e.g., vegetation types and structure), or trophic interactions among introduced and native species (Russell, 2011).

#### 5.3.2 Impact of browsing of mammals

The decline of Gould's petrels on Cabbage Tree Island was triggered by the introduction of invasive rabbits which created new pressures on native species. European rabbits (*Oryctolagus cuniculus*) browsing in the understorey exposed nesting petrels to predation by the native pied currawong (*Strepera graculina*) and increased petrel vulnerability to entanglement in the sticky fruits of the bird-lime tree (*Pisonia umbellifera*) (Priddel et al., 1997; Carlile et al., 2021b).

Gadfly petrels can also be impacted by invasive mammals through direct competition for nest sites and the eviction of eggs, chicks and adults from the nest. Examples include feral rabbits occupying nests of breeding seabirds and introduced brush-tailed possums (*Trichosurus vulpecula*) nesting or sheltering in the burrows of Magenta petrels. Possums can also prey on adult seabirds (Scoleri et al., 2020).

#### 5.3.3 Problematic native species

Under natural conditions, interactions between native species and gadfly petrels should not pose a threat, but anthropogenic impacts can alter native species populations leading to impacts of conservation concern. The best documented interactions are predation on, competition with, or modification of, the nesting habitat of petrels (Rodriguez et al., 2019). The largest colony of Chatham petrels (*Pterodroma axillaris*) is on a predator-free island, but the species had substantially declined in the past, prior to active management (Gummer et al., 2015). This was due to direct competition for nests and resulting mortality of eggs and chicks from the more aggressive and abundant native broad-billed prion (*Pachyptila vittata*), another burrowing seabird. Past human disturbance including introductions of mammalian predators, had reduced the breeding habitat available for both species.

However, compared to the impacts of predation by invasive alien species, the population impacts from problematic native species are considered minor for most gadfly petrel species.

#### 5.3.4 Attraction to artificial lights at-night

Light attraction and disorientation is a very well-documented behaviour of petrels and shearwaters across the world, including coastal and insular communities (Troy et al., 2013; Rodríguez et al., 2019). Most petrel species have physiological and behavioural adaptations to low-light conditions, including underground nesting, nocturnal flight around the colony, and diving. Artificial lights can confuse them, resulting in injury or mortality via collision with structures or the ground, or becoming "grounded". Grounded birds are unlikely to be able to regain flight, and unless rescued, typically die from dehydration or starvation, are killed by predators or run over by cars (Deppe et al., 2017; Rodriguez et al., 2019). Light pollution is a key threat to the Appendix I listed Hawaiian petrel (*Pterodroma sandwichensis*) and is also a significant threat to the Mascarene petrel (Chevillon et al., 2022). Attraction to artificial lights is considered a growing threat for many gadfly petrel species (see Annex 2) which breed on inhabited islands with light sources near colonies (e.g. Gould's petrels on New Caledonia) (Borsa et al., 2024). There is some evidence that light pollution has contributed to slow but

significant population declines for black-capped petrel and Mascarene petrel (e.g. Le Corre et al. 2003, Chevillon et al. 2022)

5.3.5 Collisions with infrastructure such as powerlines and communication towers

Gadfly petrels that nest inland on inhabited islands are at risk from collisions with powerlines and other energy infrastructure such as wind turbines, especially on dark nights with fog or rainfall when visibility is reduced (Travers et al., 2021). While the birds have good night vision, seeing thin powerlines is a challenge for birds flying at speed. When human infrastructure is combined with bright light sources, the impact can be severe as birds attracted to the lights then collide with overhead lines, leading to injury or mortality (Travers 2023; Travers et al. 2023). Communication towers (with associated lighting) have caused mortality of black-capped petrels (Pterodroma hasitata) on Hispaniola (Simons et al., 2013). Mitigation through collaborative work with the tower operator appears to have greatly reduced the impact, but any further towers would require investigation and potential modification.

5.3.6 Sea-level rise and coastal inundation

For species of gadfly petrel nesting on low-lying atolls in the Pacific Ocean, there is a high risk that some low-lying colonies will be lost in the current century due to sea-level rise (Reynolds et al., 2013), as well as from coastal inundation and erosion during storm surges. This has already been observed at the French Frigate Shoals in Hawaii where Bonin petrel (*Pterodroma hypoleuca*) nests were flooded or eroded away by severe storm surges and wave action. For many seabird species, consideration will have to be given to finding suitable habitats on higher ground given projected climate change impacts. This is especially a risk for gadfly petrels in the tropical Pacific that nest on low-lying atolls (e.g. Phoenix petrel) (Pierce et al., 2020).

5.3.7. Flooding of nests by rainfall events

Most gadfly petrel species nest in underground burrows or in rock crevices, although some tropical species nest on the surface where avian predators are absent. Nesting underground is mainly a defence against birds of prey (raptors, owls, gulls and skuas), herons and rails. The cost of nesting underground is that in periods of severe weather with heavy rainfall, the burrows can be flooded, drowning the eggs and chicks. This can reduce productivity for the season. In the worst rainfall events, adults have been trapped underground by debris covering the burrow entrance and have drowned (e.g., Cook's petrel, *Pterodroma cookii*), or the burrow collapses with saturated soil and entombs the birds inside. This threat can impede species recovery and while it is a low intensity risk to most species, heavy rainfall events are likely to increase in some areas with ongoing warming of the oceans under current climate change predictions.

5.3.8 Extreme storm events and landslides

Landslides and erosion of colony areas often occur during storm events. The soil becomes saturated and on steep ground will slide away, taking out nesting habitat and leaving behind exposed bedrock or shallow soils. During the breeding season, breeding birds can be swept away in these types of landslide events and perish. A major event reported on Antipodes Island (New Zealand) in 2014 resulted in the deaths of thousands of incubating white-headed petrels and soft-plumaged petrels (*Pterodroma mollis*). Such events, while relatively uncommon today, are likely to increase in frequency with ongoing warming of the oceans under the current climate change predictions.

#### 5.3.9 Fires

Fires are a major risk factor where birds nest in restricted areas on islands with arid conditions. For example, a forest fire in August 2010 at the only known breeding colony of the critically endangered Zino's petrel (*Pterodroma madeira*) on Madeira killed several breeding adults and 65% of the year's chicks. Only 13 young fledglings were found alive in their underground chambers (Birdlife International, 2025). The fire also impacted the species' habitat by exacerbating soil erosion, with several nesting burrows disappearing. Fires on Raivavae in 1992 also contributed to losses of collared petrel fledglings (*Pterodroma brevipes*) (Bretagnolle et al. 2025). While fires are uncommon events, they can have significant impacts on breeding seabirds. With droughts predicted to increase in frequency and intensity with climate change, fire risk is likely to increase in the future.

#### 5.3.10 Trampling or damage to nests

Burrows can be quite fragile in certain types of uncompacted soils or in habitats where they lack sufficient structural protection from tree roots, fallen logs or rocks. Where the tunnels and chambers are shallow, the weight of large animals or humans walking over the nest can cause damage to the tunnels or chamber through collapses, exposing adults or nest contents to predators or even entombing birds. Large ungulates such as feral goats, cattle and sheep have damaged breeding habitat for many seabird species through trampling and overgrazing, leading to erosion. Unsustainable management of livestock farming can also lead to damage to breeding habitats at some locations where petrels breed on inhabited islands.

Off-road vehicles present a minor risk at some breeding sites. Driving vehicles into seabird colonies can risk damaging nests directly. Off-road driving also allows people and companion dogs to get into remoter areas, bringing other risks to colonial seabirds.

#### 5.3.11 Avian diseases

The spread of new strains of Highly Pathogenic Avian Influenza (HPAI) to many species of seabirds and marine mammals has shown that breeding in remote areas is not a safeguard from the impacts of new and exotic diseases. Burrowing seabirds seem to be less exposed to the virus based on evidence from seabird colonies in the Northern Hemisphere. Gadfly petrels breeding in isolated nests may be less at risk from this virus. Surface nesting gadfly petrels breeding in dense mixed colonies or with other surface nesting seabirds such as terns are potentially more at-risk.

#### 5.3.12 Volcanic eruptions

Some of the species included in this proposal breed on or very close to active volcanoes and are at risk from future eruptions destroying breeding grounds. The Vanuatu petrel, in particular, is vulnerable to any increase in volcanic activity including new steam fissures and vents forming, rapid warming of the substrate, earthquakes, toxic volcanic gases (e.g., hydrogen sulphide) and potentially an eruption of lava or ash. Raoul Island in the Kermadec Island group of New Zealand is also an active volcano and a major eruption could threaten newly established seabird colonies including white-necked petrel in the future.

In the Pacific region, underwater volcanoes have erupted, spilling large volumes of pumice onto the ocean surface. Small fragments of pumice might be mistaken as food sources (krill or salps) by seabirds, creating blockages in their gut systems. Consuming these non-food items may be a consequence of poor bird condition and lack of natural prey (Roman et al., 2021). Although volcanic eruptions are infrequent events, these could have significant consequences for a few of the species proposed for listing that breed in areas of ongoing volcanic activity.

#### 5.3.13 Energy production and mining for minerals

Threats are associated with exploration, development and production of resources, including oil and gas drilling, mining and quarrying, and renewable energy (geothermal, solar, wind, tidal). Mining is predicted to be of serious concern for both Beck's petrel and Tahiti petrel (Le Breton, 2008; Bird et al. 2014; Pagenaud et al. 2022). However, understanding of impacts on species is limited by sparse data on the breeding colony locations. For example, some translocations of Tahiti petrel chicks are planned as part of a mining mitigation strategy on New Caledonia though the efficacy of this is likely to be low (Pagenaud et al. 2022). Land-based wind farms are proposed on high ridges above Pagopago in American Samoa where petrels are known to traverse.

### 5.4 Threats at sea connected especially with migrations

When gadfly petrels are foraging at-sea or migrating, they are at risk of various marine-based threats, but in general the impacts from these threats are poorly documented and remain an important research need for all gadfly petrel species.

#### 5.4.1 Fisheries bycatch (incidental mortality of non-target organisms in fishing gear)

There is limited evidence regarding the impacts of fisheries bycatch on gadfly petrels. Some larger species have been caught by surface long-line fisheries, e.g., Tahiti petrel, Kermadec petrel (Pterodroma neglecta) and grey-faced petrel (*Pterodroma gouldi*). There is also some evidence of bycatch of the Juan Fernández petrel and the Masatierra petrel in artisanal purse seine fisheries (Instituto de Fomento Pesquero, 2023). Any gadfly petrel species that follows ships is potentially exposed to fisheries bycatch risk in some jurisdictions. The behaviour of some gadfly petrel species also puts them at higher risk of bycatch. For example, the Mascarene petrel readily scavenges floating offal behind fishing boats and is assumed to be at risk of bycatch from taking baited hooks (Shirahai et al., 2014), although no bycaught individuals have been reported. For most gadfly petrel species, the lack of bycatch reports may reflect their solitary feeding behaviour and lack of interest in ships. Other factors such as the limited reporting in pelagic fisheries in general, inability to identify these species and/or the small population sizes may also underrepresent the risk. However, there is a moderate risk of bycatch in the species that are attracted to fishing boats.

#### 5.4.2 Collisions with vessels at sea (light attraction)

Light attraction and disorientation can also occur due to ships at sea (Montevecchi, 2006; Glass & Ryan, 2013). Fog and rainy conditions exacerbate these impacts (Rodriguez et al., 2019). Gadfly petrels fly more actively at night than most other seabird species (Rayner et al., 2016) and this could make them more susceptible to collisions or grounding on vessels that are brightly lit at night (Brothers et al., 1999; Ramos et al., 2016). The impact of light pollution from ships at sea on gadfly petrels is currently poorly understood and is a research priority.

#### 5.4.3 Energy production and mining at-sea

The impacts of offshore hydrocarbon development (oil and gas platforms) on seabirds is a knowledge gap, particularly for gadfly petrels for which information is extremely sparse (Ronconi et al., 2015). Impacts may include mortality associated with attraction to, and collisions with, platforms, lights and flares (Wiese et al., 2001; Montevecchi, 2006), increased exposure to oil spills or discharges (Fraser et al., 2006; Wilhelm et al., 2007), and potential changes to at-sea distribution of birds using habitats around platforms and drilling rigs (Baird, 1990; Burke et al., 2012). Attraction to artificial night-lighting associated with offshore hydrocarbon platforms and service ships is a potential risk for petrels (see Section 5.3.4 on **Light Pollution,** above).

Marine and coastal renewable energy developments may also represent threats to petrels (Rodriguez et al., 2019). Overall, the potential impacts of current renewable energy installations (e.g., offshore wind farms) on gadfly petrels are poorly understood and are a research priority. Global Positioning System (GPS) or satellite tracking studies of individual species will help to quantify the potential overlap risk.

#### 5.4.4 Oil spills

Oil spills are very infrequent events but when they do occur the impact on seabirds can be severe. Gadfly petrels are primarily surface foraging species and are more aerial fliers than most seabirds. They generally land when they see a prey item on the surface. This behaviour would reduce the risk of settling on or attempting to dive through oil spills. However, near colonies the birds may raft up by day, e.g., Beck's petrel (Bird 2012), or in the evening before flying ashore, as happens with Northern Cook's petrels, making them vulnerable to oil spills and getting plumage coated in oil, resulting in loss of feather waterproofing and death.

#### 5.4.5 Marine pollution

Marine pollutants, especially plastics, are increasingly being reported in oceanic seabirds (Spear et al. 1995; Lavers & Bond 2016), Many gadfly petrel taxa forage in ocean gyres (Clay et al., 2017; Clark et al., 2023), and there is increasing evidence that these areas are becoming less productive (Polovina et al., 2008). Ocean gyres are known to be accumulating large quantities of plastics in some regions (Cozar et al., 2014), and while no population-level impacts from plastic have yet been recorded on gadfly petrels, this remains an important research area. Plastic ingestion can lead to accumulation of marine debris in a chick's proventriculus (top part of the stomach) which reduces the stomach volume available for nutritious food being fed by adults and may result in scarring to tissue (Charlton-Howard et al., 2023). In hot dry climates, chicks might be at risk from heat stress and dehydration due to less space being available to store fluids (stomach oil and seawater) from parents.

High loadings of heavy metals, especially mercury (Hg), are also reported in gadfly petrels (Satgé et al., 2024). Species with diets of mesopelagic fish seem to be more likely to accumulate heavy metals. Sampling has shown levels in gadfly petrels that would be considered sufficient to impact breeding success in other birds (Thébault et al., 2021). However, studies of gadfly petrel species with high mercury content in body feathers have not shown any consequent impact on breeding success, nor has the mercury content accumulated with age (Rewi et al, 2024). In addition to threats from heavy metals, studies have examined the effects of other contaminants such as organic toxicants on reproductive parameters (Campioni et al. 2024). The authors found bioaccumulation with age and reduced hatching success with females that had higher levels of pollutants.

#### 5.4.6 Indirect threats

The main indirect threat to gadfly petrels will come from climate change and how it might impact ocean food supplies through warming seas and changing currents. Gadfly petrels are adaptable species, covering substantial distances at sea and are flexible around their latitudinal range in the oceans. This may give them an advantage over sedentary species in terms of seeking out and finding alternative food supplies. However, if overall ocean productivity declines across the full range of a species, declines may occur in breeding success rates at colonies and adult survival during the moult period when birds have reduced powers of flight. For Gould's petrels, recent declines in both the breeding population and fledgling production, compared to earlier monitoring periods, has been linked to climate change predictions associated with declining regional ocean productivity (Carlile et al. 2021b). Changes to oceanic

circulation patterns (prevailing wind directions and intensity) due to warming ocean temperatures might impact on the ability of gadfly petrels to reach remote foraging locations, especially for species that breed in tropical regions (Clay et al., 2023).

#### 5.4.7 Future risks to gadfly petrels

*Expansion of offshore windfarms* - Offshore wind energy installations are seen as an emerging threat to gadfly petrel species as few, if any, currently occur within the range of the species being proposed for inclusion in the Appendices. Wind turbines at-sea are expected to be larger than those placed on land. The height of the turbines and the length of the blades will have a direct impact on seabirds if collisions occur at sea. China is leading development of offshore wind energy with the latest turbines being designed exceeding published expectations for overall size and energy capacity (Zhang and Wang, 2022). For example, the turbines under development in 2025 have an operating capacity of 26 Megawatts, blades up to 150 metres long and an overall diameter spanning 310 metres. Even with currently available smaller offshore wind turbines, it will become hard for birds to navigate safely through these structures if they are placed near breeding colonies where they interfere with access routes, in favoured foraging areas or along migration routes. The Australian Gould's petrels arrival behaviour at its main colony has been specifically highlighted for this risk (Przeslawski et al., in press). Whether gadfly petrels will learn to avoid the farms and therefore be displaced from foraging habitat or will pass through and risk collision, is currently unknown. Research is urgently needed on flight heights of different species as well as more detailed information on preferred colony access routes, foraging zones and migration paths across multiple colonies and species (Reid et al. 2022, Reid & Baker 2025).

*Development of nesting areas for infrastructure* - Habitat protection, especially of colony sites, is key to preventing inappropriate use of seabird breeding habitat. Where nests are poorly mapped or unknown, building of new infrastructure may inadvertently destroy nesting sites. In most remote colonies this is not seen as a major risk, but in some species, the expansion of tourist facilities into more remote places may put pressure on habitat space for breeding seabirds.

### 5.5 National and international utilization

Hunting and trapping of gadfly petrels is noted as a minor threat to five of the species proposed for Appendix II listing.

#### 5.5.1 Egg, chick and adult harvests at colonies

There is some anecdotal evidence that occasional harvests of petrel chicks still occurs in some Pacific countries (Bretagnolle et al. 2025). In the past it was an important source of wild meat for many communities who practised a subsistence lifestyle. Today the species covered in this listing proposal are so rare and dispersed that there is little evidence that ongoing chick harvests still occur. Eggs of gadfly petrels are also taken if the nests are accessible, but egg harvests are reported much less frequently than chick harvests.

In some cultures, chicks of seabirds including gadfly petrels have been traditionally harvested for generations, for example, collared petrel in Vanuatu. Some Pacific governments are concerned to ensure harvesting is sustainable and that seabird resources may be available particularly when other food sources are scarce, such as during the COVID pandemic. Seabirds can provide an important food supplement. The extent to which this happens with the gadfly petrels covered in this listing proposal requires further investigation (Vaughan et al.. 2024). Many communities may have harvested petrels in the past but with increasing access to non-traditional foods and conveniences, the extent of harvesting is likely to be much diminished.

There is currently no evidence that adult gadfly petrels are taken for food at their breeding sites (Karen Baird pers. comm.). Impacts of harvests by humans are unlikely to put species at more risk than other key threats such as invasive species and light attraction, but may prevent species colonising small, inhabited islands.

#### 5.5.2 Human harvests or hunting of birds at sea

There are limited reports by fisheries observers that larger seabird species are deliberately captured at sea and consumed as food by some fishers (Phillips et al., 2016). Whether or not the smaller species including gadfly petrels are targeted as a food source is currently unknown. As most gadfly petrel species don't follow ships, it is unlikely to be a major threat to these species. However, any direct targeting of birds as a food resource would likely be done by attracting birds to vessels using lights.

## 6. Protection status and species management

### 6.1 National protection status

Some CMS Parties provide protection status to breeding populations of gadfly petrels under their jurisdiction, and some also fully protect gadfly petrels within the jurisdictions.

See Annex 2 for details on regional and national protection measures for each gadfly petrel taxa proposed for listing.

### 6.2 International protection status

No taxa covered in this listing proposal have international protection beyond national jurisdictions. There could be merit in considering listing some of these taxa on Annex 1 of the Agreement on the Conservation of Albatrosses and Petrels (ACAP) in the future.

### 6.3 Management measures

The following are management actions that are beneficial to most gadfly petrel species.

#### 6.3.1 Control or eradication of invasive vertebrate species

One of the most effective conservation actions has been the eradication of invasive vertebrate species from breeding islands. These invasive species can prey directly on adult petrels, kill eggs/chicks, or can disrupt ecological processes through grazing of vegetation leading to declines in the quality of habitat and trampling of nests. Gadfly petrel species are ground nesters and are highly vulnerable to direct predation, most commonly by cats, pigs and rats. Removing invasive species from breeding colonies has immediate benefits to gadfly petrels by preventing losses of adult birds and allowing productivity rates to recover. These actions need to be coupled with improved biosecurity measures for pest-free islands to ensure new invasive species do not establish at breeding sites and do not recolonise sites already cleared (Spatz et al., 2014).

#### 6.3.2 Prevention or reduction of light pollution (artificial light at night)

Light at night on or near breeding colonies is a key threat to gadfly petrels as the species are nocturnal feeders, lured into bioluminescence of their preferred prey (lanternfish and squid) (Imber, 1996). Many species seem to be especially attracted to bright white or blue lights (UNEP/CMS/COP13/Inf.5/ Rev.1). All age classes are vulnerable on dark misty nights, but fledglings seem to be especially at risk on their first flights.

The impacts of light pollution can be mitigated through:

- Avoidance - turn off all unnecessary night lighting.
- Minimisation - limit the number of outside lights, and shield lights so they shine downwards preventing skyward light spill.
- Additional mitigation measures can be found in UNEP/CMS/COP13/Inf.5/ Rev.1 National Light Pollution Guidelines for Wildlife.

These measures are especially useful during the fledging periods for gadfly petrels in high-risk areas (Telfer et al., 1987; Chevillon et al., 2022). Rescue campaigns recover a proportion of affected fledglings each year, though there are few data on post-release survivorship.

Priority actions for future research include:

- Testing avoidance and minimization measures at affected sites via education, light ordinance and enforcement;
- Investigating light characteristics (e.g., spectra and intensity) to reduce threat (Reed, 1986; Rodríguez et al., 2017; Longcore et al., 2018); and
- Documenting the fate of rescued birds to assess the merit and effectiveness of rescue programs (Rodriguez et al., 2019).

#### 6.3.3 Prevention of fisheries bycatch and negative interactions with vessels

Seabird bycatch is possibly an under-recognised threat to some gadfly petrel species. While current data suggest few documented interactions, this could be due to limited observer coverage or electronic monitoring on some fleets, low reporting rate and poor species-level identification in many fisheries. Some countries' vessels e.g. Australia and New Zealand, are subject to electronic monitoring which has improved the confidence in reporting of seabird interactions. However, there are still very low levels of independent monitoring of international fleets operating on the high seas and monitoring needs to be improved to better understand the impact of these fisheries and the effectiveness of bycatch mitigation. As small seabirds, gadfly petrels are inherently difficult to identify and monitor during fishing operations, especially if interaction occurs at night. Even well-trained observers would struggle and likely just provide a generic identification, e.g., petrel. Strengthening seabird training for fishers, fishery observers and electronic monitoring analysts, and making better identification tools available, would all help to improve seabird bycatch reporting.

For larger procellarids, bycatch can be significantly reduced by applying operational and/or technical mitigation measures, some of which can be applied to multiple gear types (Phillips et al., 2016). A widely used operational measure for larger procellarid attraction is avoiding offal discharge or any discards during setting and hauling operations to avoid attracting these scavenging seabirds. For long-line fisheries, the use of tori lines (bird-scaring lines attached to a float and with brightly coloured streamers) should be used by all fishing fleets to keep birds away from the setting and hauling zones. It is unclear whether night-setting would deter gadfly petrels as this seabird group is active foraging at night.

Fishing vessels at sea in remote oceanic waters are often the only source of bright lights at night in an otherwise dark region of the planet's surface. Gadfly petrels that are attracted to these vessels by bright light could be injured or killed by hitting vessel superstructures and wires, or get oil and grease on their plumage, impacting their water-proofing. Following vessel lighting guidelines will reduce the risk of injury to gadfly petrels (see UNEP/CMS/ScC-SC6/Inf.12.4.4.2b).

The foraging range of gadfly petrels overlaps with most of the world's Regional Fisheries Management Organisations (RFMOs). While most RFMOs have conservation and management measures in place regarding seabird bycatch, the measures vary in their mitigation requirements, specifications and spatial extent. Most RFMO measures do not reflect best-practice mitigation advice developed by ACAP and could be improved. Observer coverage and data collection also vary between RFMOs, and in general are too poor to make robust estimates of the bycatch of gadfly petrels. These could also be improved.

Range states have implemented seabird bycatch mitigation requirements to varying degrees of effectiveness. Below are some examples.

New Zealand has established a range of regulatory requirements and non-regulatory standards for the use of seabird bycatch mitigation measures in all domestic commercial longline and trawl fisheries. These align with ACAP best-practice mitigation advice and are laid out in a National Plan of Action – Seabirds 2020, which sets a vision of working towards zero fishing-related seabird mortalities. New Zealand has only modest levels of fishing activity in the high seas, where seabird bycatch mitigation use is required by permit in full compliance with relevant RFMO measures.

Australia implements seabird specific bycatch mitigation requirements in its Commonwealth Fisheries through domestic legislation which meet international obligations under a range of RFMOs and the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR). Longline fishing has been listed as a key threatening process under Australia's national environmental law, the Environment Protection and Biodiversity Conservation Act, since 1995. As a result, the Australian Government has in place a threat abatement plan titled the Threat Abatement Plan for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations (2018) (seabird TAP). The ultimate aim of the seabird TAP is to achieve a zero bycatch of seabirds, especially threatened albatross and petrel species, in all longline fisheries. Recognising the availability of current mitigation methods, the objective of the current TAP is to further reduce the seabird bycatch and bycatch rate during oceanic long-line fishing operations in the Australian Fishing Zone. The seabird TAP specifies a range of actions to implement. These include: i) requiring the adoption of proven mitigation measures that ensure the performance criteria for each Commonwealth-managed longline fishery are achieved in all areas and seasons; ii) minimum independent monitoring; and iii) adaptive management if performance criterion are exceeded. In Australian Commonwealth-managed trawl fisheries, all trawl boats must have bird bafflers and are subject to offal management rules. Best-practice mitigation, monitoring and reporting guidance is also provided through the National Plan of Action for minimising the incidental catch of seabirds in Australian capture fisheries, which is administered by the Department of Agriculture, Fisheries and Forestry.

#### 6.3.4 Prevention and monitoring for avian diseases

Monitoring and screening for avian diseases is needed to understand whether gadfly petrel species have been exposed to past avian diseases (presence of antibodies) and to beware of the susceptibility to new outbreaks. Biosecurity and quarantine procedures need to be instigated to prevent transferring avian diseases through human equipment and clothing.

#### 6.3.5 Research on potential impacts of offshore windfarms

Research is needed to enhance our understanding of gadfly petrel behaviour in relation to risks from offshore windfarm development (e.g., species flight heights, spatial densities and foraging behaviour by different species, habitat utilisation). This will inform understanding of the potential impacts on gadfly petrels from offshore wind (spatial factors such as location risks, turbine placement and layout etc,). There is a need for research and development into technology that could mitigate the risks of turbine collisions by seabirds (e.g., near real time curtailment mitigations).

### 6.4 Habitat conservation

Protection of breeding habitats of nesting seabirds is essential for long-term persistence of species. Because gadfly petrels are ground nesters, they are vulnerable to direct and indirect disturbance from introduced species and in habitat-restricted species, human trampling. At some locations formal legal protection of nesting sites within Nature Reserves or similar legal frameworks will be the best solution. In areas where the land is in private ownership or part of a tribal authority, discussions are needed with the landowners to garner their support to put in place rules or agreements around how the habitat for the seabirds can be maintained and protected. Ideally that would include minimal utilisation of forest resources near the breeding colonies, and avoiding trampling of nests and any harvesting of birds while the population is at risk of extinction or in decline. In some situations, fencing will help protect the nesting area from domestic or wild animals but is only successful with significant and sustained management post-installation. In other places, management of non-native species will need to be applied to prevent losses of both the birds and their breeding habitat. Monitoring of nests and population trends will help guide the level of habitat conservation required for each species.

### 6.5 Population monitoring

Gadfly petrels are oceanic feeders and disperse widely across ocean basins. Counts at sea of individual seabirds is usually not an effective monitoring method for assessing population changes as birds will vary their foraging range depending on stages of the breeding season. However, for the rarest seabirds, such as Fiji petrel and Beck's petrel, whose breeding sites are still unknown, at-sea counts and locations observed still provide the only index of population size and distribution. Boat-based surveys can be very helpful for getting information on the months of the year the birds are present near likely breeding sites. Along with information on the minimum numbers observed per unit of time and direct observations of moulting birds or those in fresh plumage, the annual breeding cycle of these species can be ascertained.

Another method of population monitoring used for very rare species is to capture birds using hand-held spotlights to band/ring individuals and to apply tracking devices to locate nesting colonies (Imber et al.,1994). Numbers seen and/or caught per unit of time becomes a valuable index of population changes as well as determining seasonal patterns of activity ashore. Thermal imaging scopes are also used at some locations to count birds moving between the sea and colonies. Similarly, mobile radar on vehicles has been used to count birds passing overhead between inland colonies and the sea. Automated acoustic recording devices also provide a valuable tool for assessing presence of species in different habitat types and call frequency can be used to assess numbers present.

For most seabirds, including many gadfly petrel species, the most effective monitoring is done at colonies if their locations are known. This involves counts of nest sites within a defined area/colony, then determining nest occupancy rates (birds sitting on an egg or chicks present). Tools such as "burrow scopes" (video camera placed on a long tube) can be used to probe into nest chambers and observe birds on screens, or study access holes (with protective covers) can be used to identify active nests. For species with deep burrows or smaller species, study access holes also allow longer term marking of individuals to get more accurate monitoring trends in the colony (annual survival rates, numbers of breeding pairs and nest fidelity, active nests per season and annual productivity rates).

For more details around seabird monitoring techniques, the South Pacific Regional Environmental Programme (SPREP) has published the following guidelines https://library.sprep.org/content/pacific-seabirds-survey-and-monitoring-manual-tools-support-seabird-conservation-across

## 7. Effects of the proposed amendment

7.1 Anticipated benefits of the amendment

The listing of gadfly petrel taxa of conservation concern on the CMS Appendices will provide greater global recognition to a group of highly migratory species that are not explicitly covered by any international agreements. Gadfly petrels receive very little attention from local and international media, or the wider communities associated with range states. Inclusion on the CMS Appendices will bring greater international awareness to these species of conservation concern and the threats they face, including the critical nature of some species that occur on remote islands with very limited financial resources to protect the birds in situ.

If listed, CMS Parties would be legally bound to impose protection measures for Appendix I-listed gadfly petrel taxa and their habitats, and to cooperate to improve the conservation status of Appendix II-listed taxa, including through international agreements such as ACAP.

Inclusion on the Appendices of the Convention would promote increased research and knowledge sharing on gadfly petrels and the threats they face, including emerging and future threats. It could also provide a catalyst for multilateral bodies such as RFMOs and the International Maritime Organisation to enhance international measures to address threats at sea, e.g., vessel lighting rules on the high seas.

Including these taxa on the Appendices of the Convention may also provide an avenue for capacity-building opportunities for developing country range states. For Appendix I taxa, this could help to raise the profile of the very poor conservation status of the taxa and the need for urgent attention and financial support (i.e. for safe breeding sites) to bring them back from the brink of extinction. International agencies and funders are more likely to help provide resource to protect species that are included within a major international convention such as the CMS.

7.2 Potential risks of the amendment

None identified.

7.3 Intention of the proponent concerning development of an Agreement or Concerted Action

Pending successful inclusion of 26 taxa (including 2 populations) of gadfly petrels on the Appendices, a Concerted Action document will be prepared in the triennium 2026-29. The Concerted Action will focus on key actions to mitigate land and sea-based threats to petrel species and to promote research and knowledge sharing. It may either cover all species at a generic level to tackle similar threats/pressures or provide greater detail species by species. The preferred approach will be discussed with range state stakeholders to determine the optimal approach for the conservation of their taxa.

## 8. Range States

Range states are listed here alphabetically. The number of species present in these states are in parentheses. There are 13 CMS Parties responsible for breeding populations and 26 additional CMS Parties where the species are known to occur during foraging trips or on migration. Future research may reveal additional range states.

8.1 CMS Party Range States

8.1.1 Breeding colonies present

Australia (2); Brazil (1); Cabo Verde (1); Chile (5); Cook Islands (2); Dominican Republic (1); Fiji (3); France (5); Mauritius (1); New Zealand (6); Portugal (2); Samoa (1); United Kingdom (2).

8.1.2 Migration and breeding foraging range

Argentina (1); Australia (12); Brazil (3); Cabo Verde (2); Chile (5); Cook Islands (6); Costa Rica (3); Côte d'Ivoire (1); Cuba (2); Ecuador (6); Fiji (6); France (10); Gambia (1); Guinea-Bissau (1); India (2); Ireland (1); Madagascar (3); Mauritania (2); Mauritius (2); Morocco (1); Mozambique (1); Netherlands (Kingdom of the) (1); New Zealand (7); Pakistan (2); Panama (2); Peru (6); Portugal (2); Republic of Maldives (1); Samoa (1); Senegal (3); Seychelles (2); Somalia (2); South Africa (3); Spain (3); Sri Lanka (2); United Kingdom (12); Uruguay (1); Yemen (1).

8.2 CMS Non-Party Range States

8.2.1 Breeding colonies present

American Samoa (USA) (2); Haiti (1); Kiribati (1); Papua New Guinea (1); Solomon Islands (1); Vanuatu (2).

8.2.2 Migration and breeding foraging range

Canada (2); Colombia (3); Dominica (1); El Salvador (1); Federated States of Micronesia (3); Guatemala (1); Indonesia (3); Jamaica (1); Japan (3); Kiribati (2); Mexico (5); Namibia (1); Nicaragua (1); Niue (5); Oman (1); Papua New Guinea (3); Republic of the Marshall Islands (2); Solomon Islands (3); Bahamas (2); Tonga (4); United States of America (9); Vanuatu (5); Venezuela (1); Western Sahara (3).

The breeding distribution and known at-sea range states for each species, subspecies and geographic population is shown in more detail in Annex 1. This list includes the Overseas Territories where the various gadfly petrels are known to occur. Note that we have not listed range states with flagged vessels that fish within the range of the species beyond national jurisdictions because fisheries bycatch is not a major threat for this group.

## 9. Consultations

This listing proposal was circulated to all CMS range states and the European Union for their contributions and comments. Birdlife International, the South Pacific Regional Environmental Programme (SPREP) and COP-appointed Councillors for birds and bycatch were also consulted.

## 10. Additional remarks

## 11. References


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## ANNEX 1: Distribution table – range states (including overseas territories)

Range states listed are those for which there is **breeding** information (**B)** or regular observations of the species at sea (X). For tracking datasets, especially Global Location Sensing (GLS) data with positional errors >200km at times, a range state is only included if the records occurred outside the equinox periods (+/- 2 weeks), and at least 5 positions were recorded within the EEZ by various birds. Note that all species forage in the High Seas so this is not included.

| **New Zealand Breeding Species** | | | | | | |
|---|---|---|---|---|---|---|
| **Range States/ Species** | Magenta petrel *Pt. magentae* | Chatham petrel *Pt. axillaris* | Northern Cook's petrel *Pt. c. cookii* | Southern Cook's Petrel *Pt. c. orientalis* | Pycroft's petrel *Pt. pycrofti* | White-necked petrel *Pt. c. cervicalis* |
| **New Zealand** | **B** | **B** | **B** | **B** | **B** | **B** |
| **Norfolk Island (Australia)** | X | | X | | | **B** |
| American Samoa (USA) | | | X | | | X |
| Australia | X | | X | X | X | X |
| Chile | X | X | | X | | |
| Colombia | | | | X | | |
| Cook Islands | X | | X | | X | X |
| Costa Rica | | X | | | | |
| Easter Island (Chile) | X | | X | X | | |
| Ecuador | | X | X | X | X | |
| Federated States of Micronesia | | | | | | X |
| Fiji | X | | | | | X |
| French Polynesia (France) | X | | X | | X | X |
| Guam (USA) | | | | | | X |
| Japan | | | | | | X |
| Mexico | | | X | | | X |
| New Caledonia (France) | X | | | | | X |
| Niue (New Zealand) | X | | X | | | X |
| Northern Mariana Islands (USA) | | | | | | X |
| Peru | X | X | | X | | |
| Pitcairn Islands (UK) | X | | | | | |
| Tonga | X | | | | | |
| USA | | | X | | | X |
| United States Minor Outlying Islands (USA) | | | X | | X | X |
| Vanuatu | | | | | | X |
| Wallis and Futuna Islands (France) | | | X | | X | X |

| **Australia and Western Pacific Tropical Species** | | | | | | |
|---|---|---|---|---|---|---|
| **Range States/ Species** | Gould's petrel *Pt. leucoptera* (Australian population) | Gould's petrel *Pt. leucoptera* (New Caledonian population) | Collared petrel *Pt. brevipes* | Beck's petrel *Ps. becki* | Fiji petrel *Ps. macgillivrayi* | Vanuatu petrel *Pt. c. occulta* |
| **American Samoa (USA)** | **X** | X | **B** | | | |
| **Australia** | **B** | X | X | | | X |
| **Cook Islands** | X | X | **B** | | | |
| **Fiji** | X | X | **B** | | **B** | X |
| **New Caledonia (France)** | X | **B** | | | | |
| **Papua New Guinea** | X | | | **B** | | |
| **Solomon Islands** | X | | **B** | X | | |
| **Vanuatu** | X | X | **B** | X | | **B** |
| Easter Island (Chile) | | X | | | | |
| French Polynesia (France) | X | X | | | | |
| Indonesia | | | | X | | |
| Japan | | | | | | X |
| Kiribati | X | | | | | X |
| Marshall Islands | X | | | | | |
| New Zealand | X | X | X | | | |
| Niue (New Zealand) | X | X | | | | |
| Norfolk Island (Australia) | X | X | | | | |
| Pitcairn Islands (UK) | X | X | | | | |
| Samoa | X | | | | | |
| Tokelau Islands (New Zealand) | X | | | | | |
| Tonga | X | X | | | X | |
| USA | X | | | | | |
| United States Minor Outlying Islands (USA) | X | X | | | | |
| Wallis and Futuna Islands (France) | X | | | | | |

| **Central and Eastern Pacific Ocean species** | | | | | | |
|---|---|---|---|---|---|---|
| **Range States/ Species** | Phoenix petrel *Pt. alba* | Tahiti petrel *Ps. rostrata* | Stejneger's petrel *Pt. longirostris* | Masatierra petrel *Pt. defilippiana* | Juan Fernández petrel *Pt. externa* | Chilean Kermadec petrel *Pt. neglecta juana* |
| **American Samoa (USA)** | | **B** | | | | |
| **Chile** | **B** | | **B** | **B** | **B** | **B** |
| **Cook Islands** | | **B** | | | | |
| **Fiji** | X | **B** | | | | |
| **French Polynesia (France)** | **B** | **B** | X | | X | |
| **Kiribati** | **B** | | | | | |
| **New Caledonia (France)** | | **B** | | | | |
| **Pitcairn Islands (UK)** | **B** | | | X | X | |
| **Samoa** | | B | | | | |
| Australia | | X | | | X | |
| Colombia | | X | | | | |
| Costa Rica | | X | | | | |
| Ecuador | | X | | | X | |
| El Salvador | | X | | | | |
| Federated States of Micronesia | | X | X | | | |
| French Indian Ocean territories (France) | | | | | B? | |
| Guam (USA) | | X | X | | X | |
| Guatemala | | X | | | | |
| Japan | | | X | | | |
| Marshall Islands | | | X | | | |
| Mexico | | X | | | X | X |
| New Zealand | X | X | X | | X | |
| Nicaragua | | X | | | | |
| Norfolk Island (Australia) | | X | | | X | |
| Northern Mariana Islands (USA) | | | X | | | |
| Panama | | X | | | | |
| Papua New Guinea | | X | | | | |
| Peru | | X | | X | | X |
| Solomon Islands | | X | | | | |
| Tonga | X | | | | | |
| USA | | | X | | X | |
| United States Minor Outlying Islands (USA) | | | X | | | |
| Vanuatu | | X | | | | |

| **Indian and South Atlantic Ocean breeding species** | | | | |
|---|---|---|---|---|
| **Range States/ Species** | Barau's petrel *Pt. baraui* | Mascarene petrel *Ps. aterrima* | Trindade petrel *Pt. arminjoniana* | Atlantic petrel *Pt. incerta* |
| **Brazil** | | | **B** | X |
| **Mauritius (including Rodrigues)** | X | X | **B** | |
| **Réunion (France)** | **B** | **B** | X | |
| **Tristan da Cunha (UK)** | | | | **B** |
| Argentina | | | | X |
| Ascension Island (UK) | | | X | |
| Australia | X | X | X | |
| Azores (Portugal) | | | X | |
| Bermuda (UK) | | | X | |
| British Indian Ocean Territory (UK) | X | X | X | |
| Canada | | | X | |
| Christmas Island (Australia) | X | X | | |
| Cocos (Keeling) Islands (Australia) | X | X | | |
| French Indian Ocean Territories (including Amsterdam and Kerguelen Islands) | X | X | | |
| India | | X | X | |
| Indonesia | | X | X | |
| Madagascar | X | X | X | |
| Mozambique | | X | | |
| Namibia | | | | X |
| Oman | | | X | |
| Pakistan | | X | X | |
| Papua New Guinea | | | X | |
| Republic of Maldives | | | X | |
| Saint Helena (UK) | | | X | X |
| Seychelles | | X | X | |
| Somalia | | X | X | |
| South Africa | X | | X | X |
| Sri Lanka | | X | X | |
| Uruguay | | | | X |
| USA | | | X | |
| Yemen | | | X | |

| North Atlantic Ocean breeding species | | | | |
|---|---|---|---|---|
| **Range States/ Species** | Zino's petrel *Pt. madeira* | Desertas petrel *Pt. deserta* | Cape Verde petrel *Pt. feae* | Black-capped petrel *Pt. hasitata* |
| **Cabo Verde** | X | X | **B** | |
| **Dominican Republic** | | | | **B** |
| **Haiti** | | | | **B** |
| **Madeira (Portugal)** | **B** | **B** | X | |
| Aruba (Netherlands) | | | | X |
| Azores (Portugal) | X | | X | |
| Bermuda (UK) | | X | | X |
| Bonaire (Netherlands) | | | | X |
| Brazil | X | X | | |
| Canada | | | | X |
| Cayman Islands (UK) | | | | X |
| Colombia | | | | X |
| Costa Rica | | | | X |
| Côte d'Ivoire | X | | | |
| Cuba | | X | | X |
| Curaçao (Netherlands) | | | | X |
| Dominica | | | | X |
| French Guiana (France) | | X | | |
| Gambia | | X | | |
| Guadeloupe (France) | | | | X |
| Guinea-Bissau | | X | | |
| Ireland | | X | | |
| Islas Canarias (Spain) | X | | X | |
| Jamaica | | | | X |
| Martinique (France) | | | | X |
| Mauritania | X | X | | |
| Morocco | | X | | |
| Panama | | | | X |
| Portugal | X | | | |
| Saint Helena (UK) | X | | | |
| Senegal | X | X | X | |
| Spain | | X | | |
| The Bahamas | | X | | X |
| Turks and Caicos Islands (UK) | | | | X |
| USA | | X | | X |
| Venezuela | | | | X |
| Western Sahara | X | X | X | |

**ANNEX 2**

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

### Species Proposed for Listing on Appendix II

| Genus, species or subspecies, including author and year | Scientific synonyms | Common name(s), in all applicable languages used by the Convention | Page No. |
|---|---|---|---|
| *Pseudobulweria rostrata* (Peale, 1848) | *Pterodroma rostrata.* Includes two subspecies – *P. r. rostrata* and *P. r. trouessarti* | EN – Tahiti Petrel<br>FR – Pétrel de Tahiti<br>ES – Petrel de Tahití | 25 |
| *Pterodroma alba* (Gmelin, 1789) | No scientific synonyms | EN – Phoenix Petrel<br>FR – Pétrel à poitrine blanche | 27 |

| | | | |
|---|---|---|---|
| | | ES – Petrel de las Fénix | |
| *Pterodroma arminjoniana* (Giglioli & Salvadori, 1869) | Formerly considered conspecific with *Pterodroma heraldica* and *Pterodroma atrata*. | EN – Trindade Petrel; Round Island Petrel<br>FR – Pétrel de Trindade<br>ES – Petrel de Trindad | 29 |
| *Pterodroma axillaris* (Salvin, 1893) | No scientific synonyms | EN – Chatham Petrel<br>FR – Pétrel des Chatham<br>ES – Petrel de las Chatham | 32 |
| *Pterodroma brevipes* (Peale, 1848) | Includes subspecies *P. b. magnificens* | EN – Collared Petrel<br>FR – Pétrel à collier<br>ES – Petrel Acollarado | 35 |
| *Pterodroma cervicalis cervicalis* (Salvin, 1891) | Includes rare subspecies *P. c. occulta* | EN – White-necked Petrel; White-naped Petrel<br>FR – Pétrel à col blanc<br>ES – Petrel Cuelliblanco | 37 |
| *Pterodroma cookii cookii* (Gray, 1843) | No scientific synonyms | EN – Northern Cook's Petrel<br>FR – Pétrel de Cook<br>ES – Petrel de Cook | 40 |
| *Pterodroma cookii orientalis* (Murphy, 1929) | No scientific synonyms | EN – Southern Cook's Petrel<br>FR – Pétrel de Cook<br>ES – Petrel de Cook | 43 |
| *Pterodroma defilippiana* (Giglioli & Salvadori, 1869) | *Pterodroma velificans* | EN – Masatierra petrel; De Filippi's Petrel<br>FR – Pétrel de Filippi<br>ES – Petrel Chileno | 45 |
| *Pterodroma deserta* (Mathews, 1934) | No scientific synonyms | EN – Desertas Petrel; Bugio Petrel<br>FR – Pétrel des Desertas<br>ES – Petrel de las Desertas | 47 |
| *Pterodroma externa* (Salvin, 1875) | No scientific synonyms | EN – Juan Fernandez Petrel<br>FR – Pétrel de Juan Fernandez<br>ES – Petrel de Las Juan Fernández | 49 |
| *Pterodroma feae* (Salvadori, 1899) | Formerly considered subspecies of *Pterodroma mollis* | EN – Cape Verde Petrel; Fea's petrel<br>FR – Pétrel gongon<br>ES – Petrel gongón | 51 |
| *Pterodroma leucoptera* (Gould, 1844) (Australian population) | *Pterodroma leucoptera leucoptera* | EN – Gould’s Petrel; White-winged Petrel<br>FR – Pétrel de Gould<br>ES – Petrel Aliblanco | 53 |
| (New Caledonian population) | *Pterodroma leucoptera caledonica* (Imber & Jenkins, 1981) | EN –Gould’s Petrel, White-winged Petrel, New Caledonian Petrel,<br>FR – Pétrel de Gould<br>ES – Petrel Aliblanco | 56 |
| *Pterodroma longirostris* (Stejneger, 1893) | *Pterodroma cookii masafuerae* | EN – Stejneger's Petrel<br>FR – Pétrel de Stejneger<br>ES – Petrel de Más Afuera | 59 |
| *Pterodroma neglecta juana* (Mathews, 1935) | No scientific synonyms | EN – Chilean Kermadec Petrel<br>FR – Pétrel des Kermadec (juana)<br>ES – Fardela negra de Juan Fernández | 61 |
| *Pterodroma pycrofti* (Falla, 1933) | No scientific synonyms | EN – Pycroft's Petrel<br>FR – Pétrel de Pycroft<br>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 km² | Protected area overlaps with site | 60.1% |
| Bras de la Plaine | Arrêté de protection de biotope | 1,111 km² | Protected area overlaps with site | 22.6% |
| Bebour | Réserve biologique | 5,146 km² | 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.

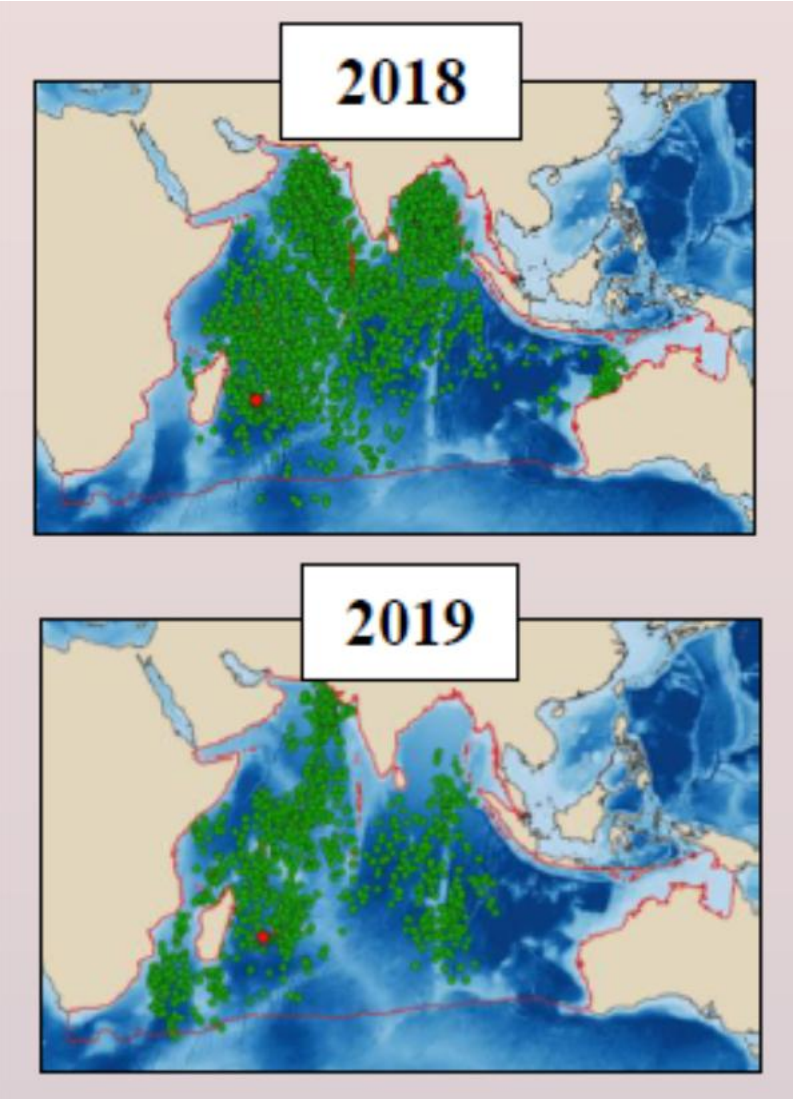


*Figure 1 This map shows two years of migration data collect by attaching light-level Geolocation loggers to Mascarene Petrels from the breeding colony on La Réunion. Data was collected in the non-breeding seasons of 2018 and 2019. Data owned by Matthieu Le Corre and Audrey Jaeger and mapped by Romain 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 Marin 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 birdwatching 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 in the 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.

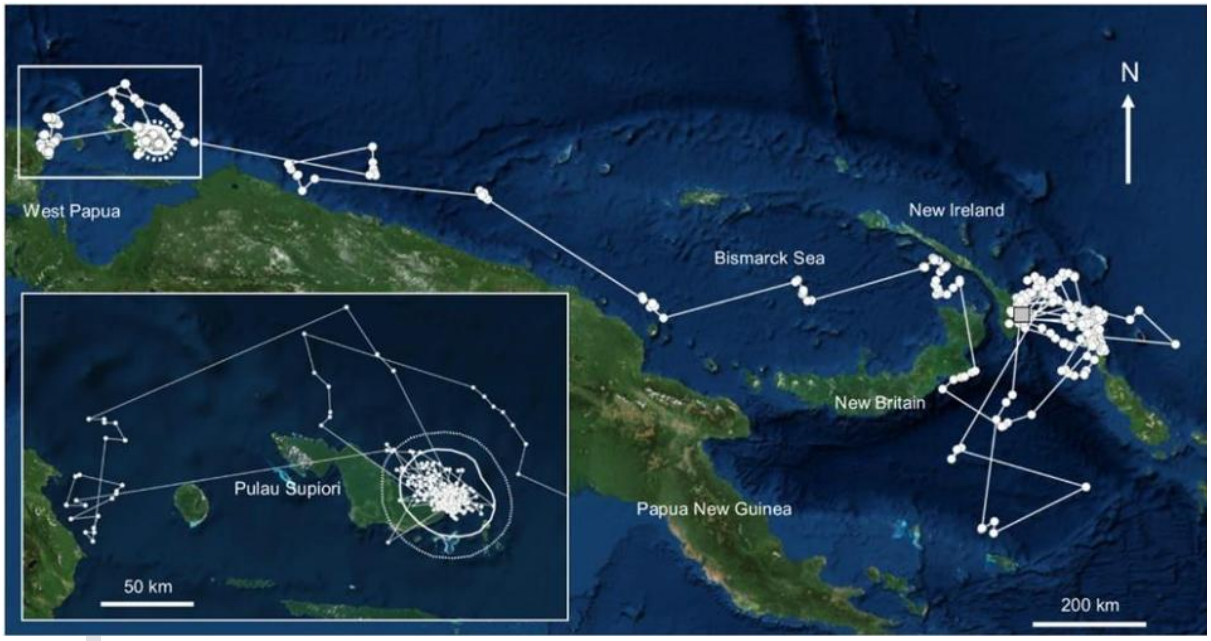


*Figure 2 The movements of Beck's Petrel caught in 2017 during the breeding season in the Bismarck Sea westwards from New Ireland (most likely colony location) and the Bismarck archipelago over to West Papua (Indonesia). Data is from August to November. Figure taken from Rayner et al. (2020a).*

*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 baraui* (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).

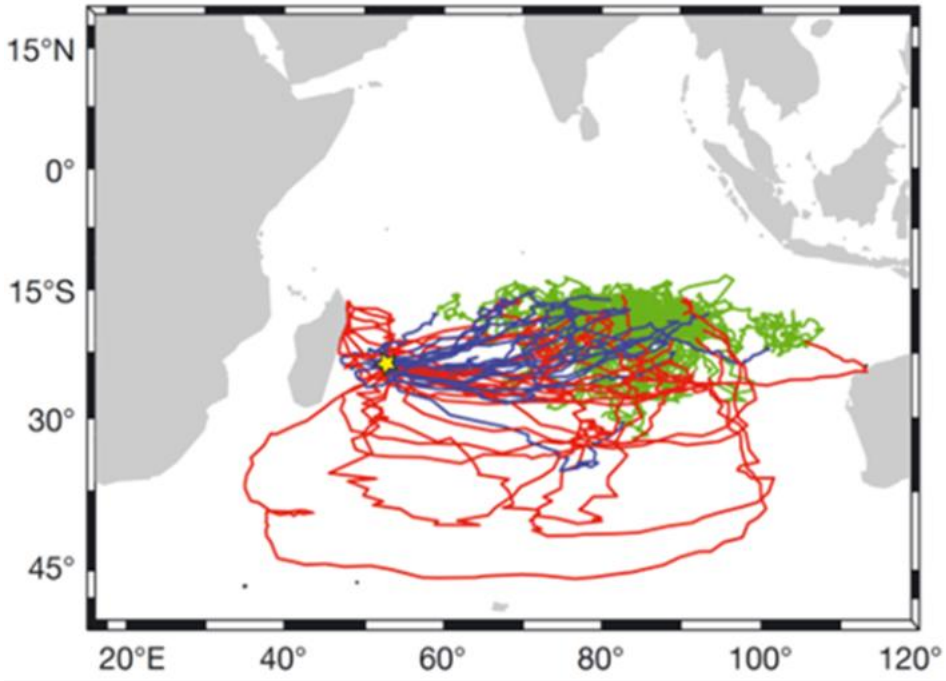


*Figure 3 Distribution of Barau's Petrel (n=23) in the Indian Ocean migrating from Réunion to wintering grounds and back. Red = outward migration; green = wintering location; blue = returning migration; ★ = breeding colony. Figure from Pinet et al. (2011).*

*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 baraui*, 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.

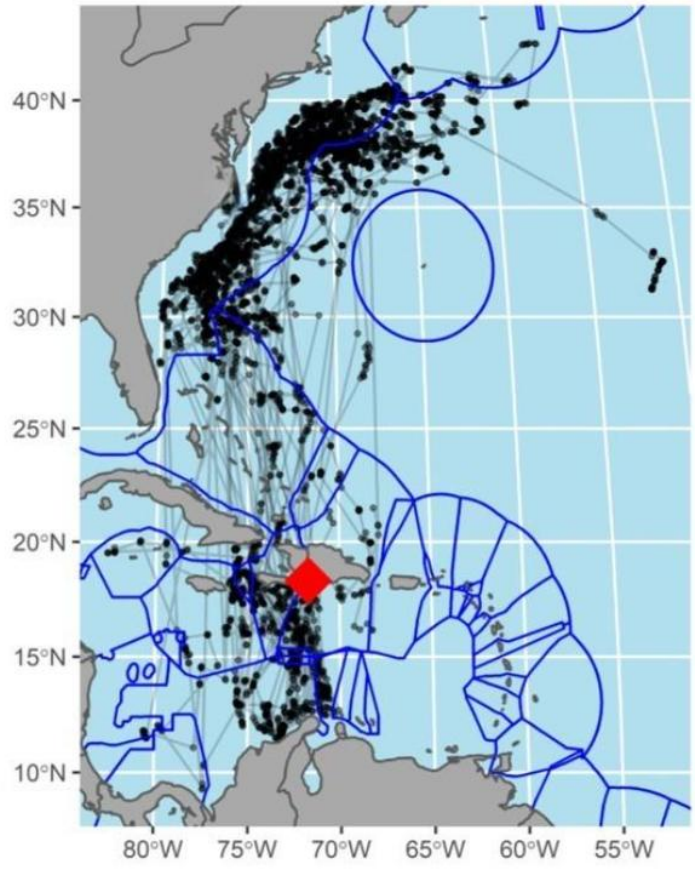


*Figure 4 Migration data of Black-capped Petrels during the non-breeding season in the Caribbean Sea and western North Atlantic Ocean. Location data is overlapped. Also includes EEZ boundaries as blue borders. ◆ breeding site at the Sierra de Bahoruco ridge in Hispaniola*

*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 diablotin 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.

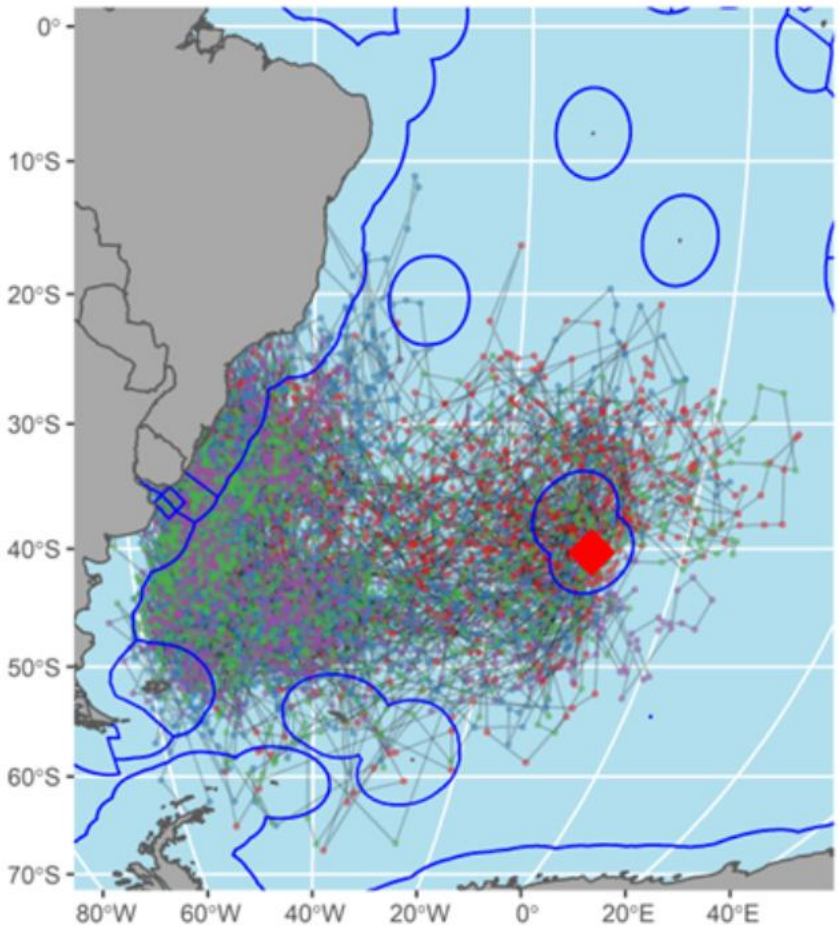


*Figure 5 This map shows multiple years of migrations of the Atlantic Petrel over the South Atlantic, with the breeding colony on Gough Island (United Kingdom). Data collection is from August 2010 to August 2013, each year is represented by a different colour. Data owned by Peter Ryan and Jacob González-Solís.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

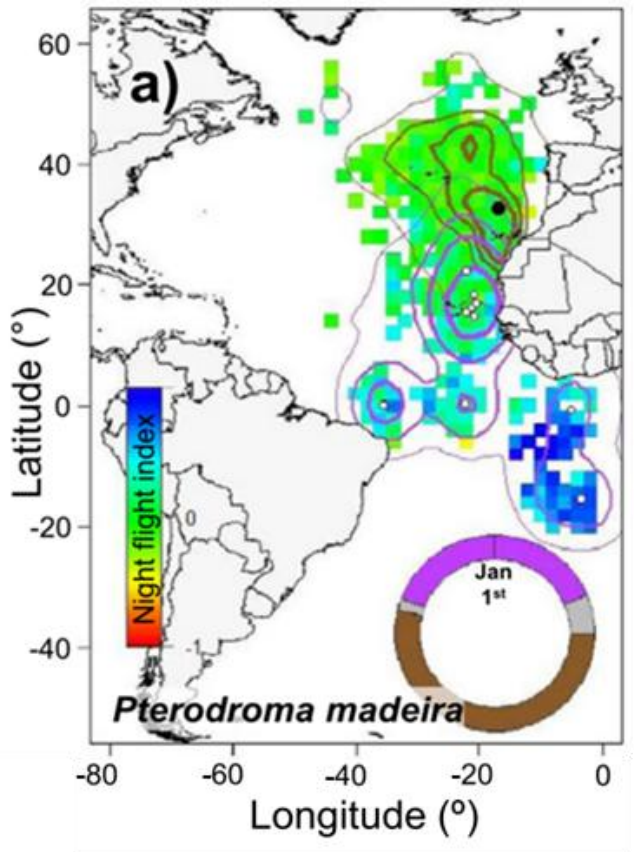


*Figure 6 Kernel density distribution (25, 50, 75 and 95%, from thicker to lighter line contours, respectively) of Zino's Petrel over the Atlantic Ocean, specifically looking at spatial-temporal variation in circadian flight activity. This figure provides an indication of the extent to which the species 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 ho-kopapa/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).

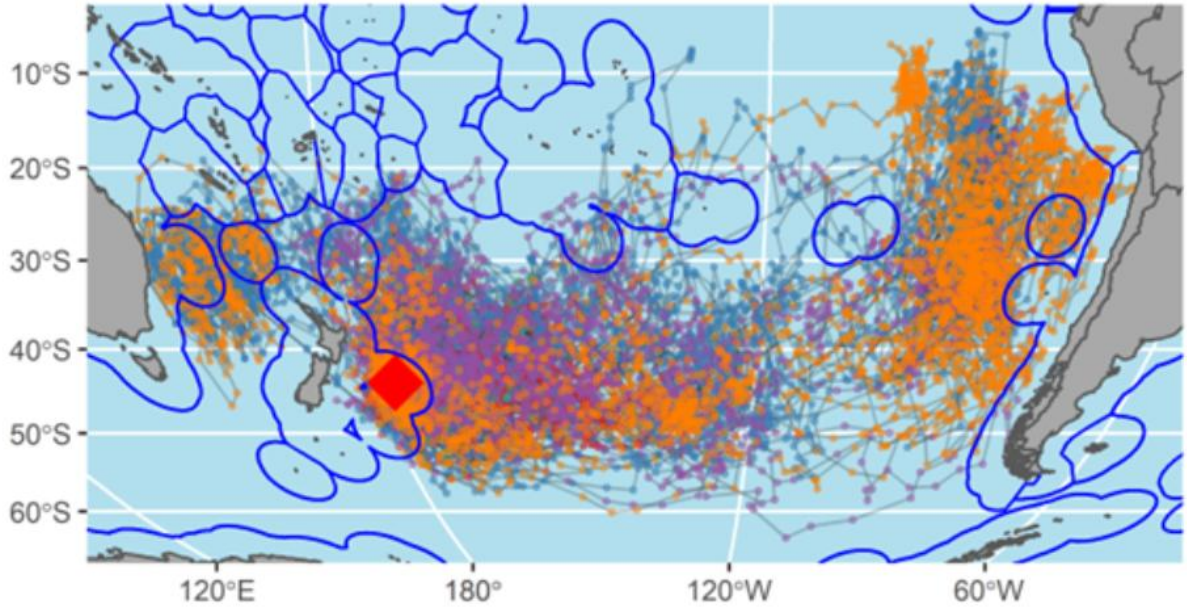


*Figure 7 This map is showing multiple years of migrations of the Magenta Petrel over the South Pacific, with the breeding colony on the main Chatham Island / Rēkohu / Wharekauri (New Zealand). Data collection is from October 2008 to October 2012, each year is represented by a different colour. Data 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*

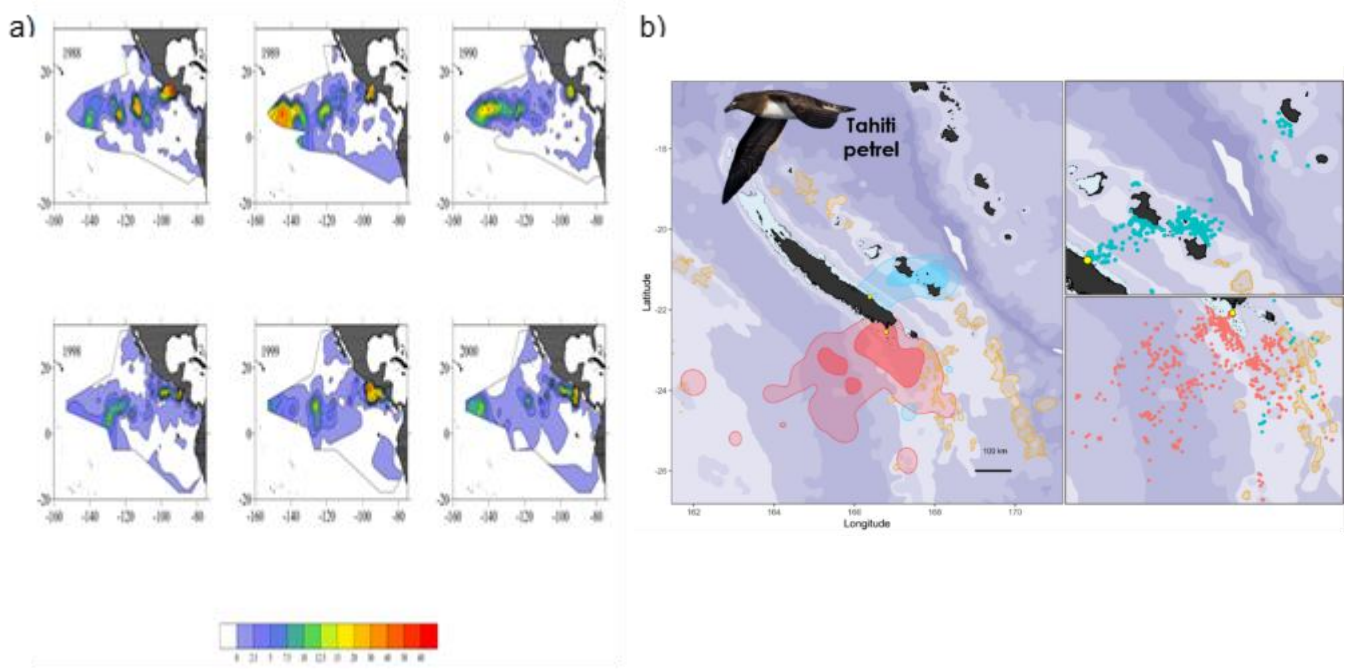


*Figure 8 a) Distribution map of the Tahiti Petrel in the eastern Pacific only based on sightings collected at sea. The colour contours represent birds per 100 km² per day. This species breeds in the western South Pacific Ocean and so by frequently occurring in this location shows the extent of its migration. 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 polyogons 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 alb*a (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).

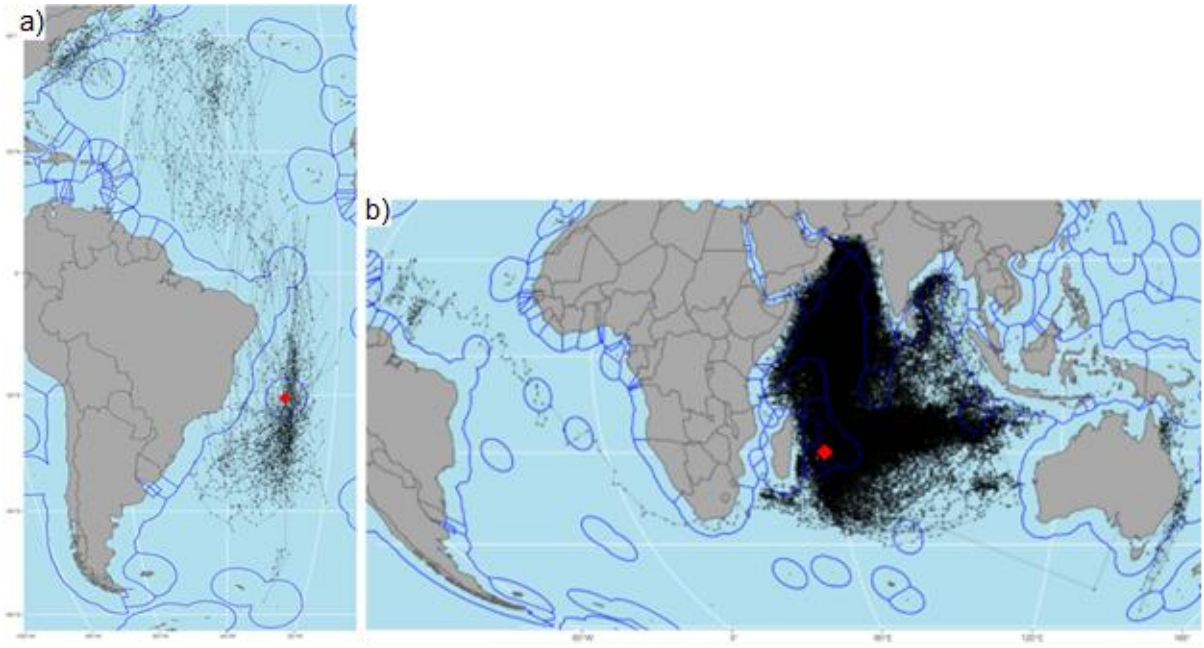


*Figure 9 a) This map shows the migration and distributions in the Atlantic of the Trindade Island (Brazil) breeding Trindade Petrels. The data shows 1 migration from/to the breeding colony. Data owned by Leandro Bugoni & Lucas Krüger. b) The migration and distribution over the Indian Ocean of Round 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.*

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 predating eggs from seabird nests. On Round Island hybridisation occurs among the Trindade Petrel and at least two other

*Pterodroma* confirmed breeding on the 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 (Rangatira/Hokorereoro) 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 (Rangihaute/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/Hokorereoro) 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/ Hokorereoro). 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.

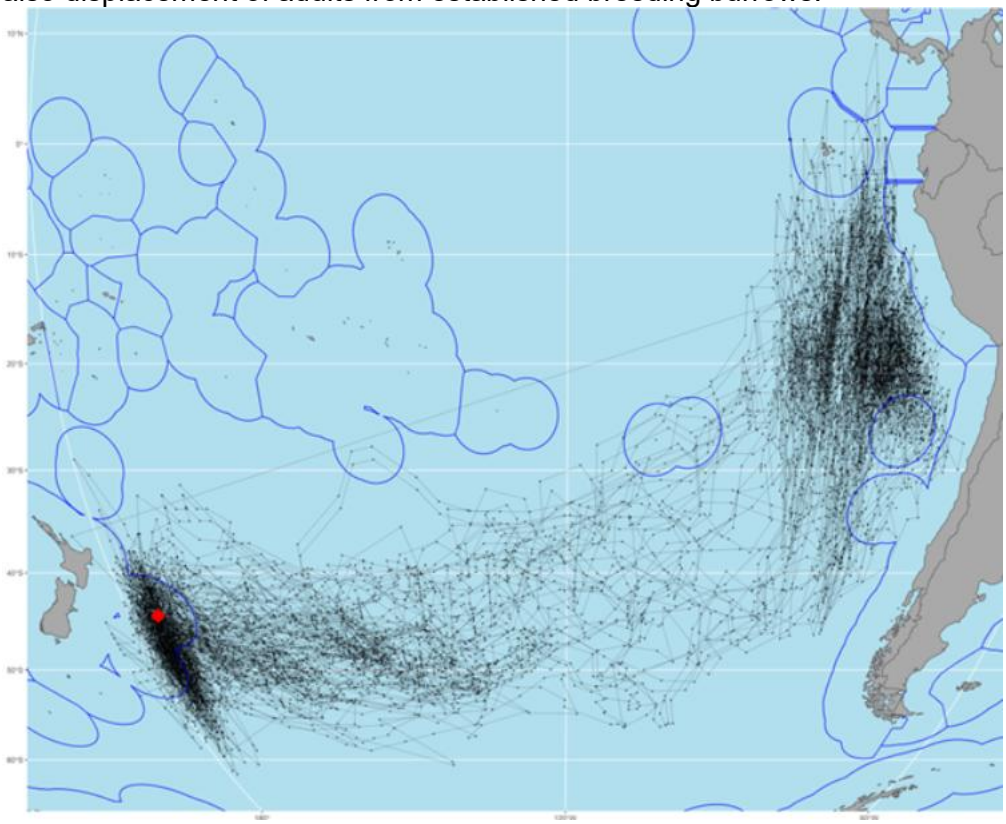

*Figure 10 Migration path and distribution over the Pacific of Chatham Petrels breeding on South-East Island/Hokorereoro/Rangatira in the Chatham Islands (New Zealand). The data shows 1 migration from/to the breeding colony. Data owned by Graeme A. Taylor. Blue zones are EEZs; ◆ red diamond represents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

*Conservation Actions*

On South-East Island (Rangatira/Hokorereoro) 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.

M*ovements 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.

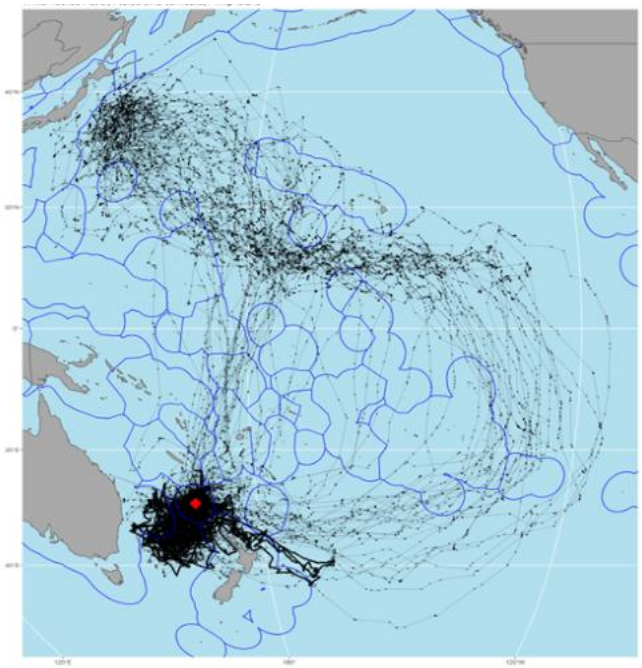

*Figure 11 This map displays the migration and distributions over the Pacific Ocean of White-necked Petrels that breed on Phillip Island off Norfolk Island (Australia). The data shows migration from/to the breeding colony and breeding season foraging locations. Data owned by Nicholas Carlile, Terence*

*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*

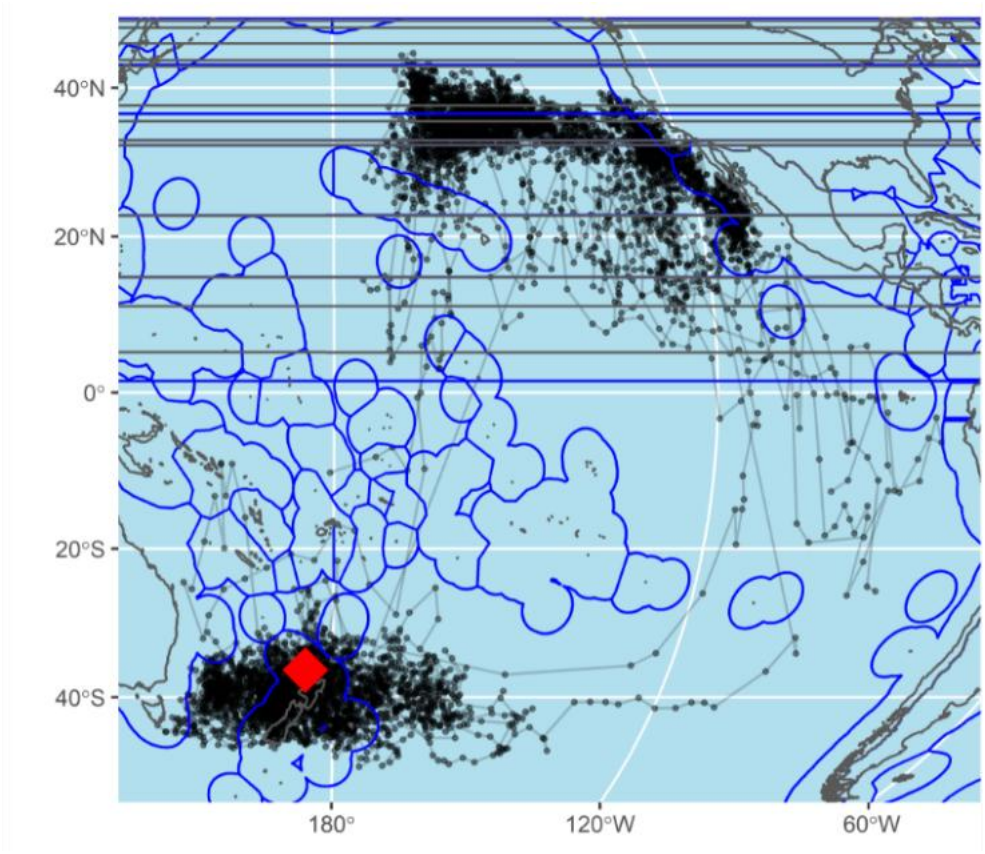


*Figure 12 Migration and distributions over the Pacific of the Northern Cook's Petrel breeding on Te Hauturu-o-Toi/ Little Barrier Island. Blue zones are EEZs; ◆ red diamond represents the colony.*

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 it's 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 tu-rangawaewae (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 gene-alogical 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 pro-tection to the species.

*Main Threats*

Historically the main threats to the Southern Cook's Petrel would have been predation by in-troduced 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.

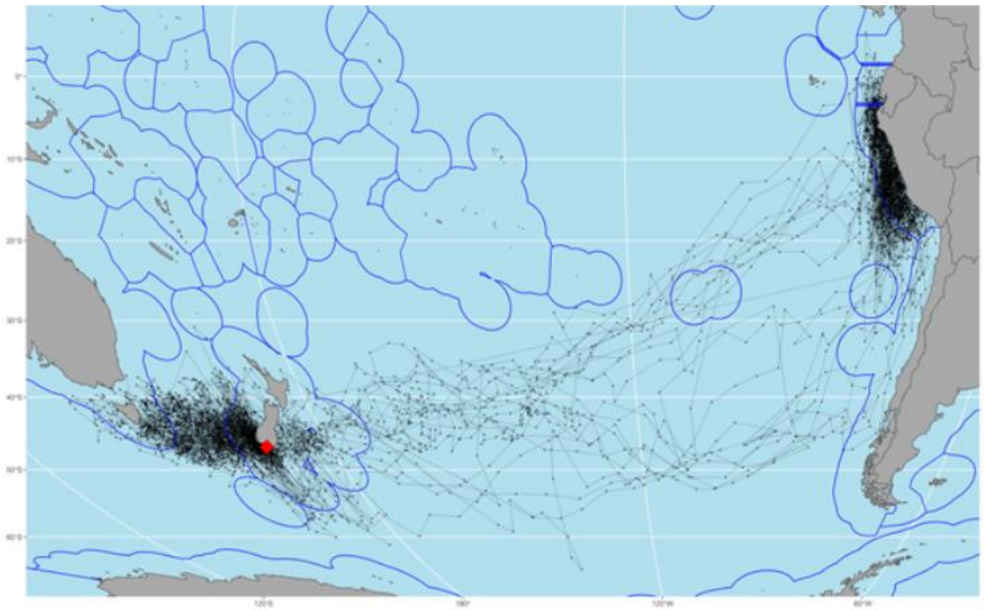

*Figure 13 The migration and distribution over the Pacific of Southern Cook's Petrel breeding on Codfish Island / Whenua Hou (New Zealand). The data shows 1 migration from/to the breeding colony. Data owned by Matt J. Rayner. Blue zones are EEZs; ◆ red diamond represents the colony.*

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.

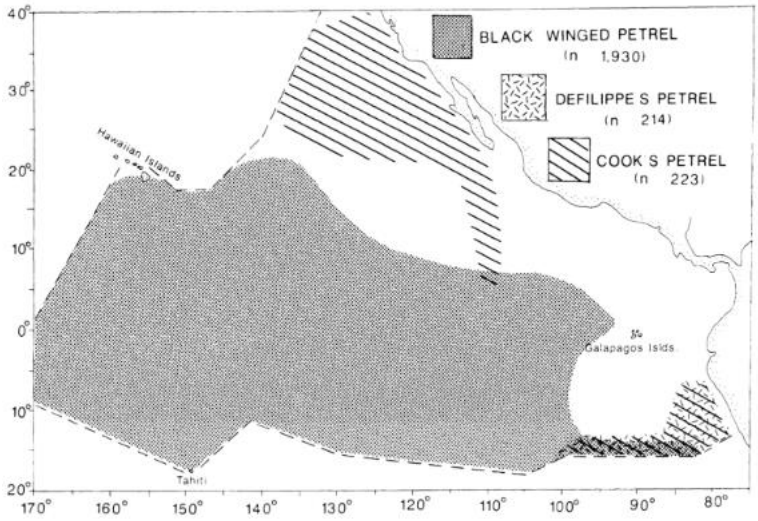


*Figure 14 This map shows the limited range data for the Masatierra Petrel (Defilippe's) in the eastern Pacific Ocean. There are very few at-sea data for this species. The few recorded sightings show a specific range in the eastern equatorial Pacific off Peru– denoted by the speckled area. From Spear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

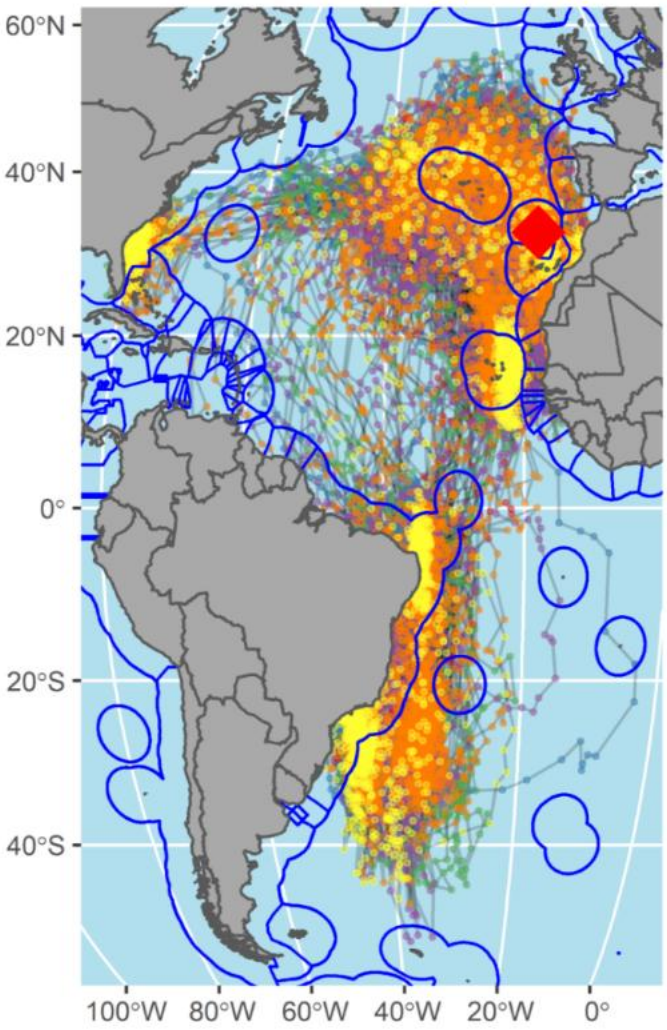


*Figure 15 This map shows multiple years of migrations of the Desertas Petrel over much of the Atlantic Ocean from the breeding colony on Bugio Island in the Desertas (Portugal). The species winters in 5 core areas: Gulf Stream Current; North Equatorial Current; North Brazil Current; South Brazil Current; 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.

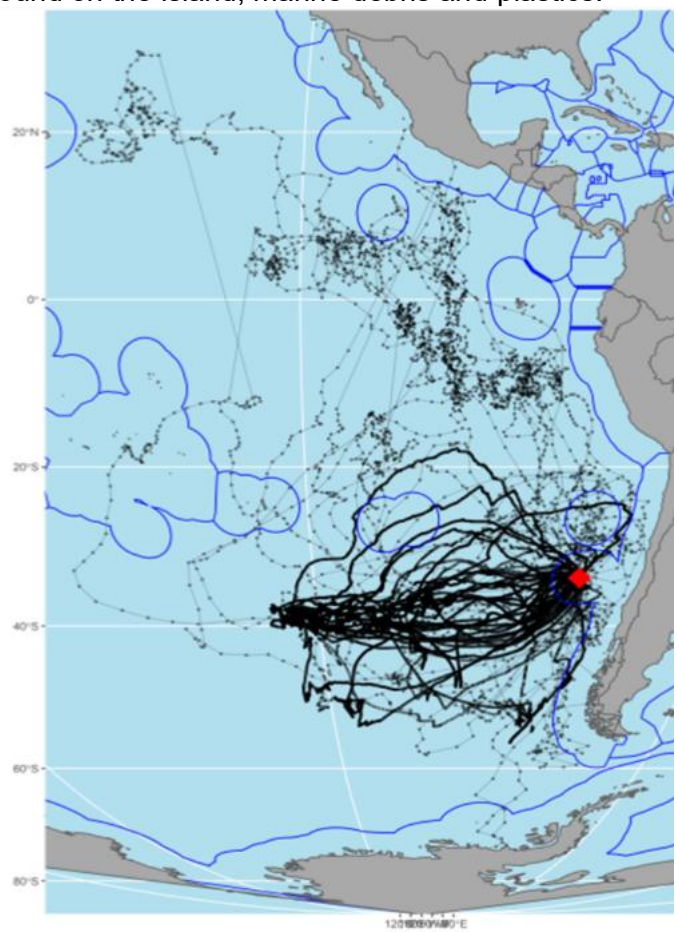


*Figure 16 The breeding distribution out to the Pacific Ocean of Juan Fernandez Petrels that breed on Alejandro Selkirk Island (Chile). The data shows 1 breeding season and some migration locations. Data owned by Michael de L. Brooke & Thomas A. Clay. Blue zones are EEZs; ◆ red diamond represents the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

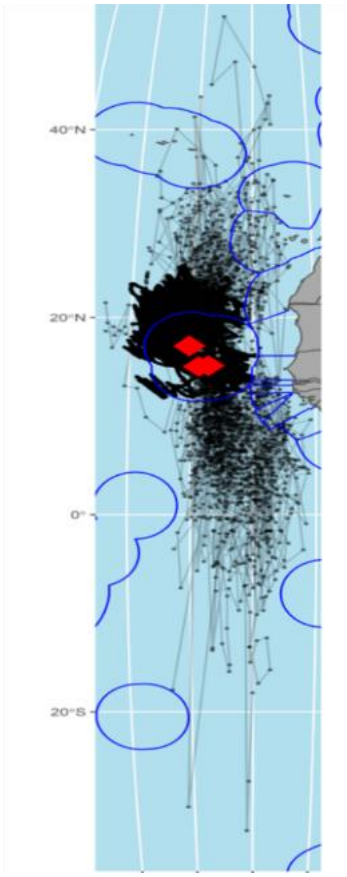


*Figure 17 Map showing breeding season foraging trips and migrations of the Cape Verde Petrel breeding on Fogo, Santiago and Santo Antão in the North Atlantic Ocean. Data collection is from February 2009 to February 2012, each year is represented by a different colour. Data owned by Jacob González-Solís.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

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.

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 Americas (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.

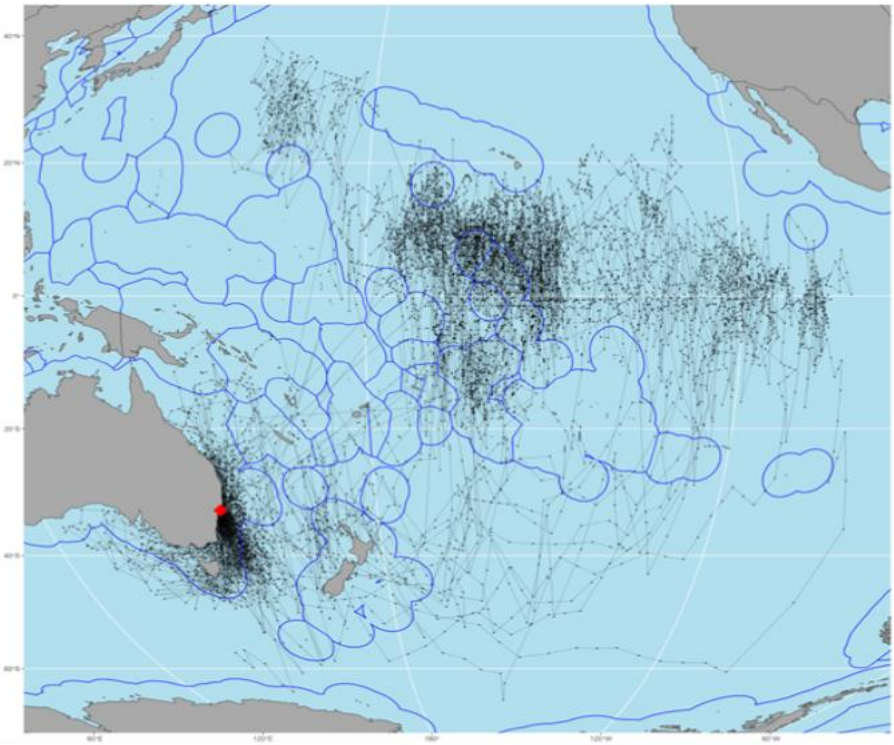

*Figure 18 The migration and distribution over the Pacific of Australian Gould's Petrels (P. leucoptera) breeding on Cabbage Tree Island (Australia). Data owned by Yuna Kim. The data represents one migration to/from the colony. Blue zones are EEZs; red diamond represents the colony.*

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:
" *I.– 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 firecrackers 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).

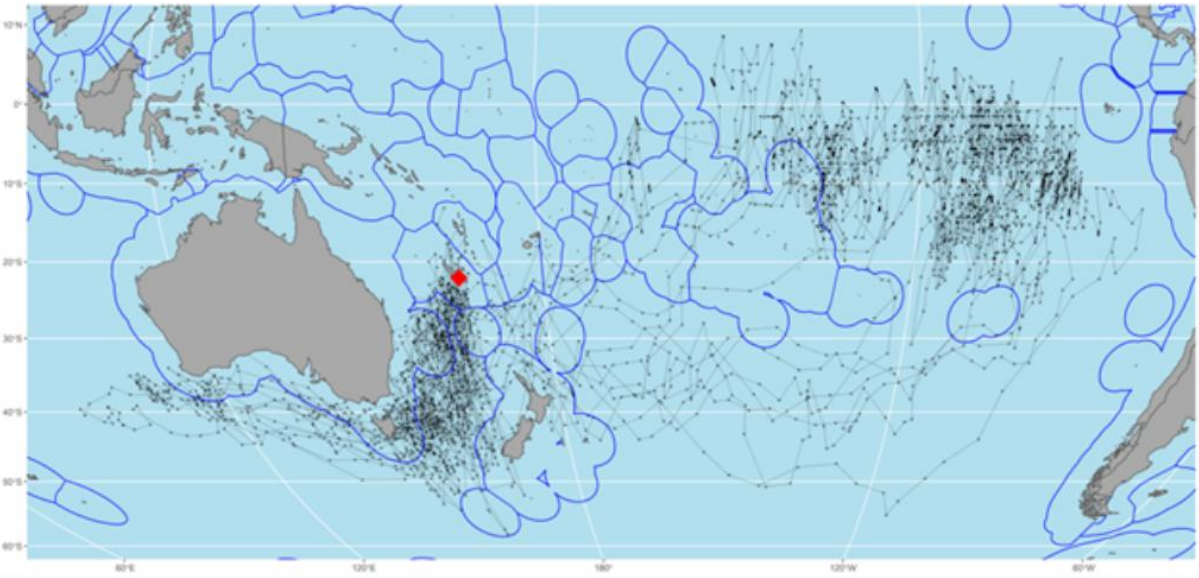

*Figure 19 The migration and distribution over the Pacific of Gould's Petrels (Pterodroma leucoptera) breeding on New Caledonia (to France). Data owned by Matt J. Rayner. The data represents one migration to/from the colony. Blue zones are EEZs; ◆ red diamond represents the colony.*

*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 over-lapping 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 grass-lands 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.

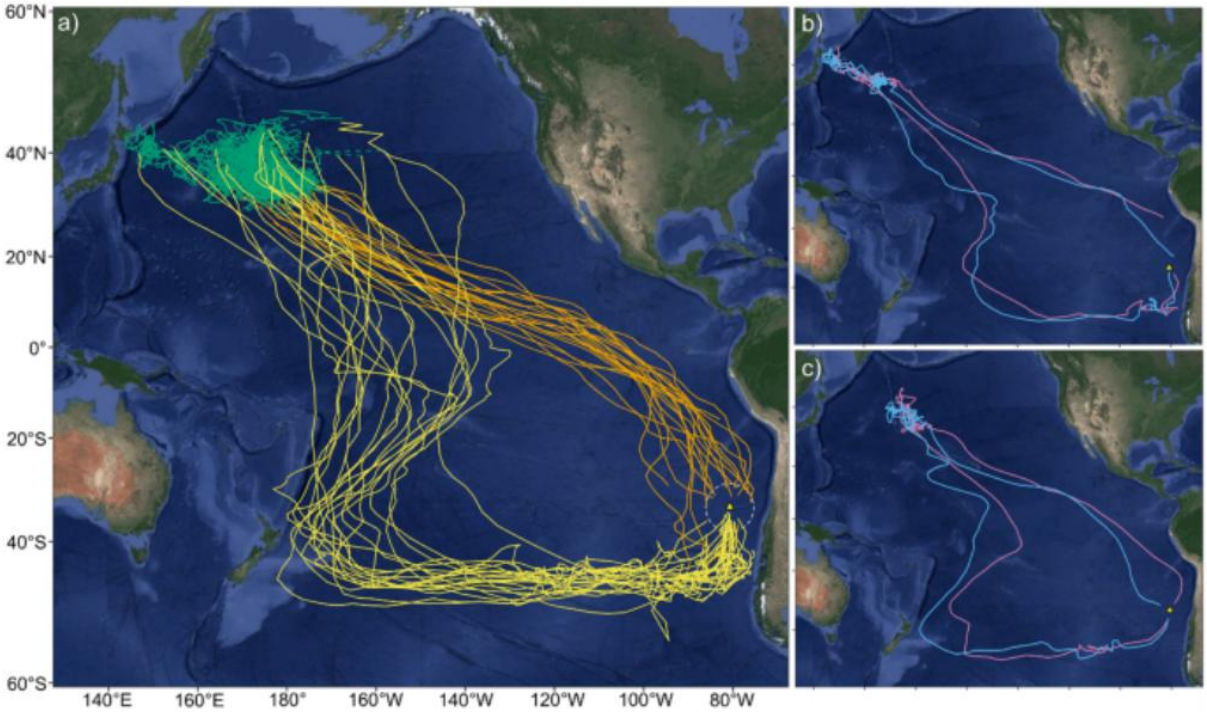


*Figure 20 From Clay and Brooke, 2024* ***a)*** *Migration routes and non-breeding areas of Stejneger's petrels tracked with geolocators over two years from Isla Alejandro Selkirk, Juan Fernández Islands (yellow triangle). The outbound and return migrations and non-breeding movements are shown as orange, 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). Further-

more, 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.

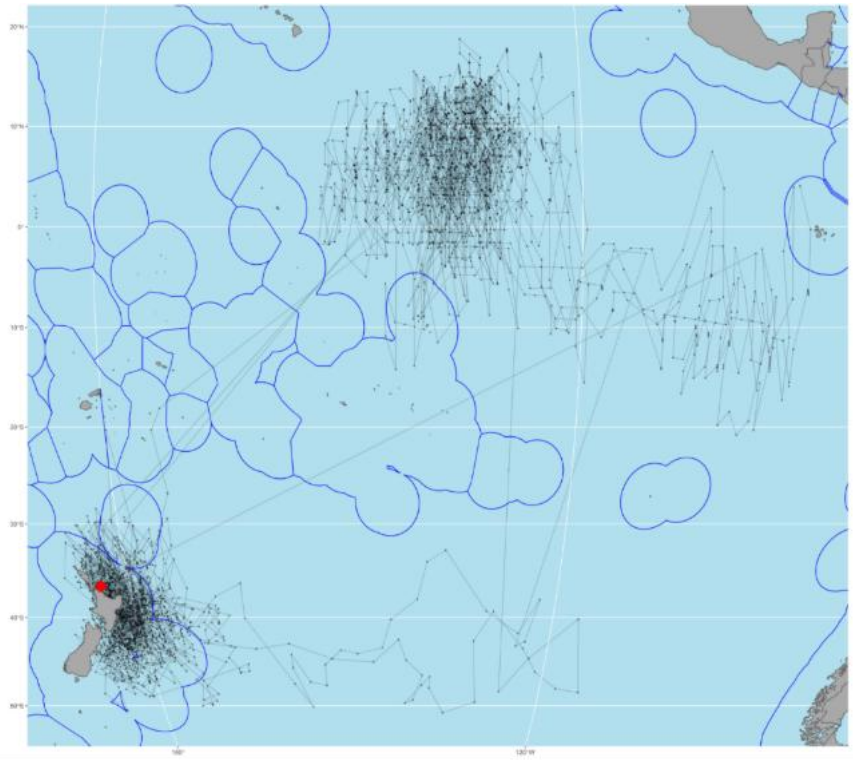

*Figure 21 Migration and distribution over the Pacific Ocean of Pycroft's Petrel that breed on Red Mercury Island/Whakau (New Zealand). The data shows one breeding season. Data owned by Matt J. Rayner. Blue zones are EEZs; red diamond represents the colony.*

*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*

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