

 <p>Agreement on the Conservation of Albatrosses and Petrels</p>	<p style="text-align: center;">Twelfth Meeting of the Advisory Committee <i>Virtual meeting, 31 August – 2 September 2021 (UTC +10)</i></p> <p style="text-align: center;">Report of the Population and Conservation Status Working Group</p> <p style="text-align: center;"><i>Population and Conservation Status Working Group</i></p>
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Report of the Sixth Population and Conservation Status Working Group Meeting

Virtual meeting, 24 – 25 August 2021 (UTC+10)

This report outlines progress during the intersessional period against the Work Programme of the Population and Conservation Status Working Group (hereafter PaCSWG or WG), approved by the Sixth Session of the Meeting of the Parties (MoP6) in 2018 and updated at the 11th ACAP Advisory Committee (AC) meeting in 2019 (AC11). The report also reflects discussions and advice resulting from the Sixth Meeting of the Population and Conservation Status Working Group (PaCSWG6) held online from 24 to 25 August 2021.

1. WELCOME AND OPENING REMARKS

PaCSWG Co-convenor Patricia Serafini (Brazil), together with Co-convenor Marco Favero (Argentina) and Vice-convenor Richard Phillips (UK) welcomed all PaCSWG members and observers (**ANNEX 1**) to the virtual Sixth Meeting of the PaCS Working Group. Regretting that it had not been possible for the group to meet in person in Ecuador, as originally planned, she outlined the logistical arrangements for the virtual meeting. The reduced time available for the virtual meeting meant that only Working Documents would be presented by their authors. All Information Papers would be briefly presented by the convenors and taken as read. Time would be given to the participants to ask questions and for brief discussion.

2. WORKING GROUP MEMBERSHIP AND INTRODUCTION

The Convenors of the PaCSWG welcomed two new members to the Working Group since the last meeting, Marcela Uhart of the University of California, Davis, and Ana Bertoldi Carneiro of BirdLife International, who replaces Maria Dias. The WG thanked Maria, who has taken up a post at Lisbon University, for her contribution. Co-convenor Patricia Serafini stressed the importance of keeping the list of Working Group members current with those who are able to be active in the Group's work, noting that Parties can nominate and change Working Group members at any time.

3. ADOPTION OF THE AGENDA

Co-convenor Patricia Serafini introduced the proposed Agenda and related documents (**PaCSWG6 Doc 01** and **PaCSWG6 Doc 02**). PaCSWG adopted the Agenda.

4. PROGRESS REPORTS

4.1. Database updates

The Science Officer thanked all data contributors for their commitment to keeping the ACAP database up to date and noted its fundamental importance for generating reports on populations, breeding sites, terrestrial threats and management of ACAP species to track progress within the PaCSWG, and as a wider reporting mechanism for the Agreement. WG members and other users of the database were encouraged to provide feedback to the Secretariat on their experience with the data portal or suggestions for enhancements at any time.

4.2. Updates and Reviews of ACAP Species Assessments

The species assessments summarise current knowledge of biology and conservation of ACAP species, including population trends, distribution, and threats. Noting that this task has been pending for some time, the Science Officer advised that progress with updating the documents has been slow due to limited capacity within the Secretariat. However, with extra support allocated at AC11 to address some of the competing tasks, the documents will be shared for review with experts in the coming weeks. This timeframe will also allow up to date documents to be provided to BLI for the review of the status of ACAP species in the IUCN Red List of Threatened Species later this year. The WG reflected that the assessments are a valuable resource for the Agreement and WG members reiterated their offer to assist with the revisions.

5. POPULATION STATUS AND TRENDS

5.1. Population trends of ACAP species

The WG reviewed changes to the current population trends (2001 to 2020) of ACAP species, and the level of confidence in the trend according to the accuracy and availability of data for the different populations (**Table 1**). The current trend of 28 species remained unchanged due to either lack of new data since the last review in 2017, or new data being available only for sites with a relatively small proportion of the global breeding population. However, information was updated for several species endemic to New Zealand, based on most recent data submitted to the ACAP database and published literature where available.

The trend for Northern Royal Albatross *Diomedea sanfordi* was changed from unknown to declining, following an aerial census of >99% of the global breeding population, and an apparent decline in adult survival rate. However, the low level of confidence for this trend reflects the uncertainties around estimates of breeding pairs obtained in the previous decade. WG member Igor Debski noted that undertaking more research to better determine the population trend of this species is a priority for New Zealand.

The level of confidence for a stable trend in the Southern Royal Albatross *Diomedea epomophora* was changed from medium to low, given that reliable counts of almost the entire breeding population (>99%) are now over 10 years old.

The trend for the Westland Petrel *Procellaria westlandica* was reclassified as increasing, given new data in recent literature. PaCSWG noted the species nests in very thick forest on rugged hills that restricts access to some areas, and there has been an increase in landslides in recent years. As such, there is contrasting trend information from different studies. Research is underway, including trialling new methods, to obtain better estimates of demographic parameters for this species.

The trend for the Black Petrel *Procellaria parkinsoni* was cautiously reclassified as stable. PaCSWG noted that although trends have been monitored in a study area on Great Barrier Island for over 20 years, it might not be representative of the entire site, and recent population modelling yielded mixed results. Efforts to better estimate potential immigration and emigration from the study site, and juvenile survival, are underway, to improve modelling of the population trajectory. A whole-island census for the main breeding site (Great Barrier Island, which holds >90% of the global population) was recently completed for the first time.

New census data allows increased confidence in the stable trend assigned to Campbell Albatross *Thalassarche impavida*, which breeds entirely on Campbell Island. Accordingly, trend confidence for this species was revised from Low to Medium.

Similarly, recent census data for Buller's Albatross *Thalassarche bulleri* from the Chatham Islands group, where more than 50% of the global population breeds, allows confidence about a stable trend for this species to be increased to Medium.

For two species, Light-mantled Albatross *Phoebastria palpebrata* and White-capped Albatross *Thalassarche steadi*, the trend remains unknown. *P. palpebrata* is a challenging species to census, and there is very high annual variability in breeding numbers at different sites. Although counts of the entire *T. steadi* population have been undertaken by aerial survey over several years, appropriate correction factors still need to be determined to account for the presence of non-breeding birds. This is currently being addressed.

PaCSWG agreed that categorising some population trends as unknown or uncertain was appropriate given the nature of the data but recognised that conveying a complex scenario in simplified terms may create difficulties in highlighting the conservation crisis - which ACAP declared at the last Advisory Committee meeting in 2019 - in policy fora such as RFMOs where there is a desire for greater certainty. PaCSWG highlighted the importance of adequate monitoring as a key source of robust data about population trends that helps to underpin advocacy about the conservation crisis affecting albatrosses and petrels.

PaCSWG agreed on the importance of Table 1 and the desire for a simple table that summarises the population trends for ACAP species and which also contains sufficient explanatory notes and caveats for appropriate interpretation. PaCSWG noted that as more data become available for a number of ACAP species at different sites it may be timely to revisit the rules for assigning trends and the hierarchy with which those are applied.

Table 1. 2021 Summary of global IUCN status and current trends of ACAP species.

IUCN Status 2021 ¹	Species	Number of sites (ACAP) ²	Single Country Endemic	Annual breeding pairs (last census) ³	Current Population Trend 2001 - 2020 ⁴	Trend Confidence
CR	<i>Diomedea dabbenena</i>	1	UK	1,456 (2015-2017)	↓	High
CR	<i>Phoebastria irrorata</i>	2	Ecuador	9,615 (2001)	↓	Medium
CR	<i>Puffinus mauretanicus</i>	5	Spain	3,184 (2008-2013)	↓	High
EN	<i>Diomedea amsterdamensis</i>	1	France	51 (2020)	↑	High
EN	<i>Diomedea antipodensis</i>	6	NZ	7,107 (1995-2020)	↓	High
EN	<i>Diomedea sanfordi</i>	5	NZ	4,080 (2018)	↓	Low
EN	<i>Thalassarche carteri</i>	6		33,974 (1984-2016)	↓	High
EN	<i>Thalassarche chlororhynchos</i>	6	UK	33,650 (1974-2011)	↔	Low
EN	<i>Thalassarche chrysostoma</i>	29		80,863 (1982-2020)	↓	Medium
EN	<i>Phoebetria fusca</i>	15		12,074 (1974-2021)	↓	Very Low
EN	<i>Procellaria westlandica</i>	1	NZ	6,223 (2019)	↑	Low
VU	<i>Ardenna creatopus</i>	3	Chile	33,520 (2009-2016)	↔	Low
VU	<i>Diomedea epomophora</i>	4	NZ	7,921 (1989-2018)	↔	Low
VU	<i>Diomedea exulans</i>	28		9,400 (1981-2021)	↓	High
VU	<i>Phoebastria albatrus</i>	2		889 (2002-2017)	↑	High
VU	<i>Procellaria aequinoctialis</i>	73		1,118,033 (1984-2019)	↓	Very Low
VU	<i>Procellaria conspicillata</i>	1	UK	34,000–50,000 (2018)	↑	High
VU	<i>Procellaria parkinsoni</i>	2	NZ	6,970 (2016-2021)	↔	Low
VU	<i>Thalassarche eremita</i>	1	NZ	5,296 (2017)	↔	High
VU	<i>Thalassarche impavida</i>	2	NZ	24,338 (2020)	↔	Medium
VU	<i>Thalassarche salvini</i>	12	NZ	26,496 (1986-2019)	↓	Low
NT	<i>Phoebastria immutabilis</i>	17		806,693 (1982-2019)	↔	High
NT	<i>Phoebastria nigripes</i>	13		70,524 (1995-2019)	↑	Medium
NT	<i>Phoebetria palpebrata</i>	71		15,975* (1954-2021)	?	-
NT	<i>Procellaria cinerea</i>	17		86,959# (1981-2018)	↓	Very Low
NT	<i>Thalassarche bulleri</i>	10	NZ	33,268 (1984-2019)	↔	Medium
NT	<i>Thalassarche cauta</i>	3	Australia	15,019 (2015-2021)	↓	Low

IUCN Status 2021 ¹	Species	Number of sites (ACAP) ²	Single Country Endemic	Annual breeding pairs (last census) ³	Current Population Trend 2001 - 2020 ⁴	Trend Confidence
NT	<i>Thalassarche steadi</i>	5	NZ	62,922 (2009-2017)	?	-
LC	<i>Macronectes giganteus</i>	119		46,127 (1958-2021)	↑	Medium
LC	<i>Macronectes halli</i>	50		11,551 (1973-2021)	↑	Medium
LC	<i>Thalassarche melanophris</i>	65		689,468 (1982-2020)	↑	High

* excluding Auckland estimates of 5,000 pairs – not reliable/supported

Incomplete global estimate - Prince Edward Islands numbers unknown

¹ **CR** = Critically Endangered, **EN** = Endangered, **VU** = Vulnerable, **NT** = Near Threatened, **LC** = Least Concern. The IUCN Red List of Threatened Species. Version 2021-1. <www.iucnredlist.org>.

² **Site**: usually an entire, distinct island or islet, or section of a large island

³ ACAP database. <data.acap.aq>. 27 August 2021.

⁴ **ACAP Trend**: ↑ increasing, ↓ declining, ↔ stable, ? unknown. **n.b. the overall trend for the species may not reflect particular regional or site trends.**

PaCSWG6 Inf 03 described population trends in two colonies of Wandering Albatross *Diomedea exulans*. At Bird Island, the colony declined at 3.01% per annum, while on Prion and Albatross Islands, the decline was 1.44% per annum between 1999 and 2018. Population modelling indicated that the differences in breeding success do not fully explain the observed differences in population trends. Rates of breeding success are comparable with those of other great albatross studies, suggesting higher survival in the Prion Island colonies. Further work is planned to track birds from these colonies to examine the potential role of differences in foraging environment.

PaCSWG6 Inf 05 reported on the first complete South Georgia (Islas Georgias del Sur)¹ archipelago-wide survey of giant petrels, *Macronectes giganteus* and *M. halli*, in 2005, 2006 and 2007 that produced estimates of 15,000 pairs of *M. halli*, and 8,803 pairs of *M. giganteus*. Comparisons of counts over 18-20 years indicated an increase of 74% and 27% in *M. halli* and *M. giganteus*, respectively, which were attributed to increased availability of carrion during the breeding season.

PaCSWG considered the potential for predation of albatross chicks by giant petrels and noted that:

- (i) as albatross colony size declines, there is a relative increase in the proportion of birds at the edge of the colony that may be at a greater risk of predation by giant petrels and skuas; and
- (ii) there are observations of giant petrels depredating black-browed *Thalassarche melanophris* and grey-headed *Thalassarche chrysostoma* albatrosses in late chick-rearing and as they fledged, but the extent and impact of the latter in particular is hard to quantify.

¹ A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Islas Malvinas), South Georgia and the South Sandwich Islands (Islas Georgias del Sur e Islas Sandwich del Sur) and the surrounding maritime areas

PaCSWG6 Inf 10 described the use of a high-resolution satellite image to count nesting Short-tailed Albatross *Phoebastria albatrus* on two islands in the Senkaku Island group, where conventional population monitoring has not occurred for 19 years due to a territorial dispute restricting access to the breeding sites. Analysis of the highest-resolution image resulted in an estimate of 122 nesting pairs in the 2021 breeding season, compared to 52 when last counted in 2002. One chick was counted in 2002 and 0 in 2021 in images of Kita-kojima. If accurate, these counts contrast with the trend at the main breeding site. The authors noted that the study was initiated in response to a known data gap that was not yet filled, and encouraged further work.

PaCSWG6 Inf 11 presented an update on Salvin's Albatross *Thalassarche salvini* at the Bounty Islands, and described the use of drones to conduct aerial surveys, and the use of fixed cameras to monitor timing and outcome of breeding events. The fixed camera data revealed a low estimated breeding success of only 28% for the first year, which is of concern. A full population census is being planned and will require drone overflight of eight islands in the group and ground-truthing to estimate detectability and nest status.

PaCSWG noted that aerial photographs and satellite-based monitoring have the potential to supplement conventional monitoring and suggested that the current ACAP guidelines on census methodologies be reviewed to include these techniques. Such a review should include methods for ground-truthing, the correction of counts of total birds to breeding pairs and how such approaches can be generalised across sites to facilitate use of remote-sensing/satellite images at sites than cannot be easily accessed. The use of AI can improve detection of animals, and citizen science can help validate images. PaCSWG noted that remote sensing and satellite imagery continues to rapidly evolve and any ACAP guidelines would need to be kept under review.

6. THREATS AND PRIORITISATION

6.1. Updates on management of land-based threats

Information on management responses to the threats listed in the ACAP database is summarised in **ANNEX 2**. Progress was reported on the Gough Island Restoration Programme, drafting of Biosecurity guidelines for western Ibiza islets, and feasibility investigations and project planning for the eradication of pigs, cats, and mice from Auckland Island.

PaCSWG6 Inf 02 provided an assessment of the threats to all 359 species of seabirds, identifying the main challenges to their mitigation, and outlining priority actions for conservation. The top three threats to seabirds are common to ACAP species and include invasive alien species, bycatch in fisheries and climate change/severe weather. The study concluded that for albatrosses, petrels and penguins in particular, it is essential to tackle both terrestrial and marine threats to reverse declines.

PaCSWG welcomed this very comprehensive review including the identification of disease as a threat for five ACAP species. PaCSWG noted the Scientific Committee of the Convention

on the Conservation of Migratory Species of Wild Animals (CMS) had created a group for discussing diseases in migratory species, and this may provide an opportunity for ACAP to engage further on the topic, including on disease monitoring and the importance of biosecurity.

Co-convenor of PaCSWG Patricia Serafini noted that many of the conclusions of **PaCSWG Inf 02** are of interest for both Seabird Bycatch Working Group (SBWG) and PaCSWG, and support the proposal for holding joint meetings between these Working Groups to improve coordination and integration, particularly on conservation of ACAP Priority Populations.

PaCSWG6 Inf 13 described new threats to Pink-footed Shearwater *Ardenna creatopus* at two of the three breeding sites in Chile. On one island (which holds 70% of the global population), goats were introduced in 2019 as livestock and it has not been possible to implement measures to manage this invasive species. As well, construction of new coastal infrastructure has increased light pollution on an adjacent island with a resulting increase in post-fledging chick mortality.

PaCSWG6 recalled that the Agreement urges Parties to take all feasible action to protect the breeding sites of ACAP species.

6.2. Overlap of birds and at-sea threats, including fisheries

PaCSWG6 Doc 04 reported on total mercury (THg) concentrations in body feathers from adult Grey-headed Albatrosses *T. chrysostoma*. A threefold increase was detected over the past 25 years, and is the highest recorded in the *Thalassarche* genus. Foraging habitat inferred from stable isotope ratios of carbon showed that feathers moulted in Antarctic waters had far lower THg concentrations than those moulted in subantarctic or subtropical waters. In males, birds that failed to raise a chick had significantly higher feather THg concentrations than successful birds.

PaCSWG noted that it was not clear whether the increase in THg was due to changes in diet or foraging area, ocean warming or increased anthropogenic pollution. The correlation between breeding success and THg concentrations in male birds underlined the potentially important role of seabirds as bioindicators of wider marine processes that have implications not just for wildlife but also for humans. PaCSWG noted that ACAP could play a role in conveying this message to other relevant bodies.

PaCSWG6 Inf 01 reviewed the global political responsibility for the conservation of albatrosses and large petrels using data on at-sea distributions and breeding population size to estimate the relative importance, year-round, of areas within national jurisdictions and the high seas for 39 species. The paper outlines the stake each country and regional fisheries management organisations (RFMOs) have in the management of biodiversity in international waters. The paper is accompanied by a [Shiny app](#). This tool can be used to generate a bespoke report by country on where all the populations breeding within their jurisdiction spend different proportions of time, including during the nonbreeding season (EEZs and RFMO), or by a country or RFMO to determine the breeding-range state of all populations that spend part of the year in waters within their jurisdictions. This should help promote collaboration on populations of common interest.

PaCSWG welcomed this paper and the associated app, and the clarification that the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) was not included in the study to avoid duplication arising from the overlapping jurisdictions of CCSBT and other tRFMOs. PaCSWG noted that, given the importance of CCSBT fisheries to ACAP species, that it would be useful to have the equivalent information for CCSBT available from the app.

PaCSWG6 Inf 04 combined individual tracking data and a movement model including chlorophyll-a concentrations and ocean surface winds as proxies to investigate the environmental drivers and the relative overlap of adult and juvenile White-chinned Petrels *Procellaria aequinoctialis* with fisheries, as proxies for bycatch risk. The authors found that juvenile movements are best predicted by prevailing wind patterns, whereas adults are attracted to food resources on the Patagonian Shelf. Initially the juveniles dispersed to less productive oceanic waters than those used by adults, thus overlapping less with fishing activity. The paper provided insights into the ontogeny of movement strategies within the context of learned versus innate behaviour and demonstrated that divergent movement patterns of adults and juveniles can have important implications for conservation.

PaCSWG6 Inf 06 combined data from loggers that record GPS position and detect the presence of radar transmissions from vessels, along with the positions of fishing vessels obtained from the automatic identification system (AIS), to define areas and times when bycatch risk is greatest for Wandering Albatrosses *D. exulans*. Overlap between *D. exulans* and fishing vessels occurred during incubation and chick-rearing periods when wandering albatrosses encountered many different vessels, but interaction occurred mostly with set longliners, and particularly with Korean vessels.

PaCSWG welcomed the findings in **PaCSWG6 Inf 06**, noting the usefulness of this fine-scale approach, particularly in providing new information on overlap of this ACAP Priority Population with Korean vessels and the potential bycatch risk. The WG also noted the intention to further refine the analysis and to present the findings to SBWG.

PaCSWG6 Inf 07 described how the integration of immersion with GPS data improves behavioural classification of Wandering Albatrosses *D. exulans* and shows scavenging behind fishing vessels mirrors natural foraging. The authors provide a current and generalised framework, and refine the classification of foraging strategies of seabirds. Birds show the same behavioural states whether or not they are foraging behind vessels.

PaCSWG6 Inf 08 used DNA extracted from scats to identify prey remains to inform sustainable fisheries management and ecological risk assessments for Shy Albatross *Thalassarche cauta*. The study documented within and between-year variability in diet and showed that >30% of the *T. cauta* population included fishery-related items in their diet, highlighting that fisheries still pose a potential risk to the conservation of this species in Australian waters.

PaCSWG6 Inf 14 examined sexual segregation in habitat selection by Black-browed Albatrosses *T. melanophris* wintering in the south-west Atlantic by tracking seven males and 14 females and using habitat selection models. Variables with the highest importance in habitat selection models across all groups were depth and sea-surface temperature, and no evidence of sexual segregation was found.

PaCSWG welcomed this paper and the offer from the authors to provide the tracking data to the seabird tracking database managed by BirdLife International.

PaCSWG6 Inf 15 reported plastic ingestion in seven albatross species in Argentina and Brazil. Plastic items were found in 33.1% of 133 carcasses examined, with White-chinned Petrel *P. aequinoctialis*, Southern Giant Petrel *M. giganteus* and Atlantic Yellow-nosed Albatross *Thalassarche chlororhynchos* showing the highest frequency of occurrence of plastic. The use of ACAP standardised protocols for analysis allowed comparisons between carcasses from different sources, as well as analyses of spatio-temporal patterns in incidence.

PaCSWG noted the plans for continuation of this study on the health impacts to ACAP species and encouraged further examination of the influence of the source of the dead birds (e.g. bycatch or beach/colony cast) and bird age, as well as further investigation of evidence of trophic transfer.

PaCSWG6 Inf 17 and **PaCSWG6 Inf 18** described respectively the spatial, seasonal and age group distribution of Buller's *T. bulleri* and Salvin's *T. salvini* albatrosses off the Peruvian coast. *T. bulleri* were more abundant during spring and overlapped with small-scale longline fisheries. *T. salvini* were abundant in northern areas in autumn where squid jigging takes place and moved southwards in spring.

PaCSWG6 Inf 22 described the presence of 47 Black Petrels *P. parkinsoni* reported on the continental slope area in the north coast of Peru in February when these birds are breeding in New Zealand.

PaCSWG noted the contribution of **PaCSWG6 Inf 17, 18** and **22** to our understanding the non-breeding distribution of ACAP species and welcomed news of the collaboration between scientists from Peru and New Zealand to integrate tracking-derived distribution data with the at-sea observational data to create improved distribution maps to assess overlap with fishing effort.

6.3. Review terrestrial threat prioritisation

The Science Officer presented the outcome of the land-based threats prioritisation exercise carried out every three years prior to the Meeting of the Parties (MoP). This was an update to the table in **MoP6 Doc 20 Rev 1**. The prioritisation of conservation actions addressing terrestrial threats to ACAP species is based on the vulnerability of each population, the magnitude of the threat and the likelihood of success of management for each breeding site.

PaCSWG6 welcomed the removal of Brown (Norwegian) Rat *Rattus norvegicus* at South Georgia (Islas Georgias del Sur)¹ from the prioritisation table following the successful eradication programme. Other threats remain unchanged. The updated table will be presented to the next Meeting of the Parties (MoP7), currently scheduled for May 2022.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

PaCSWG recommends that the Advisory Committee:

1. Reiterate the importance of ACAP Parties taking all feasible action to protect breeding sites, in particular by preventing the introduction of, or, if already present, ensuring the control or eradication of introduced alien species that may be detrimental to populations of albatrosses and petrels;
2. Encourage more research on sub-lethal effects of pollutants, and the incorporation of these impacts when modelling population trends.

7. DATA GAPS

7.1. Review of key gaps in population data

PaCSWG reviewed tables that summarise data availability and a variety of data gaps. The Science Officer thanked all Parties and site custodians for submission of updated information into the ACAP database from which **Tables 2, 3 and 4** are directly derived.

There was no monitoring of 10 important populations at island group level (>5% of global breeding pairs) in the past ten years. Three populations have been added since PaCSWG5 to the list of populations for which updated information is required: *Ardenna creatopus* on Isla Mocha, *Procellaria cinerea* in Antipodes Islands, and *Thalassarche carteri* in Prince Edward Islands (**Table 2**).

Recent information is lacking for 20 populations at breeding sites holding more than >10% of the global population for that species (**Table 3**). There are seven additional populations in this iteration compared to 2019: *A. creatopus* on Isla Mocha, *P. cinerea* on Antipodes Island, *T. carteri*, *D. exulans* and *Phoebetria fusca* on Prince Edward Island, and *Puffinus mauretanicus* on Mallorca and Menorca.

Data gaps remain largely for island groups or breeding sites that are logistically difficult to access, and for species that are very challenging to census, as noted previously.

New sites for adult survival data include Disappointment Island for *T. steadi*, Antipodes Island for *P. aequinoctialis*, and Proclamation Island for *T. salvini*, while breeding success data has now also been collected from Grave Cove, Dunbar for *T. melanophris*. Data on breeding success and both adult and juvenile survival continue to be missing for Spectacled Petrel *Procellaria conspicillata* and Pink-footed Shearwater *A. creatopus*.

Table 2. Island groups that comprise at least 5% of the species' total global breeding pairs, which have not been monitored at any site within the given island group in at least the last 10 years (since 2010), or the data are not yet available. Island groups added since PaCSWG5 are highlighted.

Jurisdiction	Island Group	Species	Population estimate for Island Group (annual breeding pairs)	% of known global population	Latest year of data at any site within Island Group
Australia	Heard and McDonald Islands	<i>Macronectes giganteus</i>	3,500	8	2004
Chile	Isla Mocha	<i>Ardenna creatopus</i>	19,440	58	2008
Disputed	Senkaku Retto of southern Ryukyu Islands	<i>Phoebastria albatrus</i>	52	6	2002
Disputed	South Georgia (Islas Georgias del Sur) ¹	<i>Procellaria aequinoctialis</i>	669,443*	49	2007
France	Kerguelen	<i>Phoebetria palpebrata</i>	4,000	26	1987
France	Crozet	<i>Procellaria cinerea</i>	5,500	7	2005
New Zealand	Campbell Islands	<i>Phoebetria palpebrata</i>	1,658	11	1996
New Zealand	Antipodes Islands	<i>Procellaria cinerea</i>	60,147	80	2010
South Africa	Prince Edward Islands	<i>Thalassarche carteri</i>	7,000	21	2009
United Kingdom	Gough	<i>Procellaria cinerea</i>	10,000-25,000	23	2001

* Including 4 regions; north, south, west and north-east mainland:

¹A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty of the Falkland Islands (Islas Malvinas), South Georgia and the South Sandwich Islands (Islas Georgias del Sur e Islas Sandwich del Sur) and the surrounding maritime areas.

Table 3. Sites with >10% of species' global breeding pairs where a population estimate has not been produced in at least the last 10 years, or the data are not yet available (i.e. no survey after 2010) (excludes sites where part-site/study colony counts have been conducted). Sites added since PaCSWG5 are highlighted.

Jurisdiction	Island Group	Breeding Site	Species	Population Estimate at breeding site (annual breeding pairs)	% of total known global population	Survey Accuracy	Latest year of population data for site or part-site
Chile	Isla Mocha	Isla Mocha	<i>Ardenna creatopus</i>	19,440	58		2009
Chile	Islas Diego Ramirez	Isla Bartolome	<i>Thalassarche chrysostoma</i>	10,880	13	High	2003
Disputed	South Georgia (Islas Georgias del Sur)	Bird Island (SGSSI (IGSISS))	<i>Macronectes halli</i>	2,281	21	High	2007
Disputed	South Georgia (Islas Georgias del Sur)	Northwest	<i>Procellaria aequinoctialis</i>	146,545	12	Medium	2007
Disputed	South Georgia (Islas Georgias del Sur)	Nunez	<i>Procellaria aequinoctialis</i>	193,838	16	Medium	2007
France	Crozet	Ile de l'Est	<i>Phoebetria fusca</i>	1,300	11	Unknown	1984
France	Kerguelen	Golfe du Morbihan	<i>Phoebetria palpebrata</i>	4,000 [#]	26-36		1987
New Zealand	Antipodes Islands	Antipodes Island	<i>Procellaria cinerea</i>	60,147	80	Medium	2010
New Zealand	Campbell Islands	Campbell Island	<i>Diomedea epomophora</i>	7,855	99	High	2008
New Zealand	Campbell Islands	Campbell Island	<i>Phoebetria palpebrata</i>	1,600	10	Low	1996
South Africa	Prince Edward Islands	Prince Edward Island	<i>Thalassarche carteri</i>	7,000	21	High	2009
South Africa	Prince Edward Islands	Prince Edward Island	<i>Diomedea exulans</i>	1,800	19	High	2009
South Africa	Prince Edward Islands	Prince Edward Island	<i>Phoebetria fusca</i>	1,210	10	High	2009
Spain	Balearic Archipelago	Cabrera	<i>Puffinus mauretanicus</i>	449	14	Low	2008
Spain	Balearic Archipelago	Mallorca	<i>Puffinus mauretanicus</i>	900	28	Low	2009
Spain	Balearic Archipelago	Menorca	<i>Puffinus mauretanicus</i>	405	13	Low	2009
United Kingdom	Gough	Gough Island	<i>Procellaria cinerea</i>	10,000-25,000	13-31	Unknown	2001
United Kingdom	Tristan da Cunha	Nightingale	<i>Thalassarche chlororhynchos</i>	4000	12	Low	2007
United Kingdom	Tristan da Cunha	Tristan da Cunha	<i>Thalassarche chlororhynchos</i>	16,000-30,000	48-89	Low	1974
United Kingdom	Tristan da Cunha	Tristan da Cunha	<i>Phoebetria fusca</i>	2,000-3,000	16-25	Unknown	1974

figure is for all Kerguelen

¹A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty of the Falkland Islands (Islas Malvinas), South Georgia and the South Sandwich Islands (Islas Georgias del Sur e Islas Sandwich del Sur) and the surrounding maritime areas.

Table 4: Availability of **demographic information** for all ACAP species (including data collected but not yet analysed).

Species	Number of sites	Number of Island Groups	Adult survival data Sites	Juvenile survival data Sites	Breeding success data sites
<i>Diomedea amsterdamensis</i>	1	1	Plateau des Tourbieres	Plateau des Tourbieres	Plateau des Tourbieres
<i>Diomedea antipodensis</i>	6	4	Antipodes Island Adams Island	Antipodes Island Adams Island	Antipodes Island Adams Island
<i>Diomedea dabbenena</i>	2	2	Gough Island	Gough Island	Gough Island
<i>Diomedea epomophora</i>	4	2	Enderby Island Campbell Island	Campbell Island	Enderby Island Campbell Island
<i>Diomedea exulans</i>	39	5	Macquarie Island Ile de la Possession Bird Island (SGSSI (IGSISS)) ¹ Marion Island Courbet Peninsula	Macquarie Island Ile de la Possession Courbet Peninsula Marion Island Bird Island (SGSSI (IGSISS)) ¹	Macquarie Island Ile de la Possession Bird Island (SGSSI (IGSISS)) ¹ Marion Island Albatross Island (SGSSI (IGSISS)) ¹ Prion Island (SGSSI (IGSISS)) ¹ Courbet Peninsula
<i>Diomedea sanfordi</i>	5	3	The Forty-fours Taiaroa Head	Taiaroa Head	The Big Sister The Forty-fours The Little (Middle) Sister Taiaroa Head
<i>Phoebastria albatrus</i>	2	2	Torishima Mukojima*	Mukojima*	Torishima Mukojima*
<i>Phoebastria immutabilis</i>	17	5	Midway Atoll Laysan Island French Frigate Shoals Kaua'i O'ahu	Midway Atoll Laysan Island French Frigate Shoals Kaua'i O'ahu	Midway Laysan French Frigate Shoals O'ahu
<i>Phoebastria irrorata</i>	2	2	Isla Espanola	Isla Espanola	Isla Espanola

Species	Number of sites	Number of Island Groups	Adult survival data Sites	Juvenile survival data Sites	Breeding success data sites
<i>Phoebastria nigripes</i>	15	4	Midway Atoll	Midway Atoll	Midway
			French Frigate Shoals	French Frigate Shoals	Laysan
			Laysan Island	Laysan Island	French Frigate Shoals
<i>Phoebetria fusca</i>	15	6	Ile de la Possession	Ile de la Possession	Ile de la Possession
					Marion Island
					Gough Island
<i>Phoebetria palpebrata</i>	73	9	Ile de la Possession	Macquarie Island	Macquarie Island
			Jeanne d'Arc Peninsula	Jeanne d'Arc Peninsula	Ile de la Possession
					Campbell Island
					Marion Island
					Bird Island (SGSSI (IGSISS)) ¹
					Jeanne d'Arc Peninsula
<i>Thalassarche bulleri</i>	10	4	North-East Island	North-East Island	North-East Island
			The Little (Middle) Sister		Great Solander Island
<i>Thalassarche carteri</i>	6	5	Falaise d'Entrecasteaux	Falaise d'Entrecasteaux	Falaise d'Entrecasteaux
<i>Thalassarche cauta</i>	3	1	Albatross Island (AU)	Albatross Island (AU)	Albatross Island (AU)
<i>Thalassarche chlororhynchos</i>	6	2	Gough Island	Gough Island	Gough Island
			Tristan da Cunha		Inaccessible Island
					Tristan da Cunha
<i>Thalassarche chrysostoma</i>	29	8	Macquarie Island	Macquarie Island	Macquarie Island
			Campbell Island	Campbell Island	Campbell Island
			Bird Island (SGSSI (IGSISS)) ¹	Bird Island (SGSSI (IGSISS)) ¹	Bird Island (SGSSI (IGSISS)) ¹
			Marion Island		Marion Island
<i>Thalassarche eremita</i>	1	1	The Pyramid	No data	No data
<i>Thalassarche impavida</i>	2	1	Campbell Island	Campbell Island	Campbell Island

Species	Number of sites	Number of Island Groups	Adult survival data Sites	Juvenile survival data Sites	Breeding success data sites
<i>Thalassarche melanophris</i>	65	14	Macquarie Island	Macquarie Island	Macquarie Island
			Jeanne d'Arc Peninsula	Jeanne d'Arc Peninsula	Jeanne d'Arc Peninsula
			Bird Island (SGSSI (IGSISS)) ¹		Bird Island (SGSSI (IGSISS)) ¹
			New Island		Saunders Island New Island Steeple Jason West Point Island Grave Cove, Dunbar
<i>Thalassarche salvini</i>	12	4	Toru Islet	No data	No data
			Proclamation Island		
<i>Thalassarche steadi</i>	5	3	Auckland Island		Auckland Island
			Disappointment Island		
<i>Ardenna creatopus</i>	3	2	No data	No data	No data
<i>Macronectes giganteus</i>	123	26	Bird Island (SGSSI (IGSISS)) ¹	Bird Island (SGSSI (IGSISS)) ¹	Isla Arce
			Marion Island		Isla Gran Robredo
			Ile de la Possession		Macquarie Island
					Ile de la Possession
					Laurie Island
					Nelson Island
					Marion Island
					Bird Island (SGSSI (IGSISS)) ¹
					Gough Island
					Golden Knob (Elephant Cays) Sandy Cay (Elephant Cays) Steeple Jason Anvers Island

Species	Number of sites	Number of Island Groups	Adult survival data Sites	Juvenile survival data Sites	Breeding success data sites
<i>Macronectes halli</i>	52	11	Bird Island (SGSSI (IGSISS)) ¹ Marion Island Ile de la Possession	Bird Island (SGSSI (IGSISS)) ¹	Bird Island (SGSSI (IGSISS)) ¹ Macquarie Island Ile de la Possession Marion Island Courbet Peninsula
<i>Procellaria aequinoctialis</i>	78	8	Ile de la Possession Ile Haute Antipodes Island	Ile de la Possession Ile Haute	Ile de la Possession Marion Island Bird Island (SGSSI (IGSISS)) ¹ Ile Haute
<i>Procellaria cinerea</i>	16	9	Golfe du Morbihan	Golfe du Morbihan	Macquarie Island Marion Island Gough Island Golfe du Morbihan
<i>Procellaria conspicillata</i>	1	1	No data	No data	No data
<i>Procellaria parkinsoni</i>	2	1	Great Barrier Island	Little Barrier Island Great Barrier Island	Little Barrier Island Great Barrier Island
<i>Procellaria westlandica</i>	1	1	Punakaiki	Punakaiki	Punakaiki
<i>Puffinus mauretanicus</i>	5	1	Mallorca Ibiza	Mallorca Ibiza	Mallorca Cabrera Menorca Ibiza

* Translocated population

¹A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty of the Falkland Islands (Islas Malvinas), South Georgia and the South Sandwich Islands (Islas Georgias del Sur e Islas Sandwich del Sur) and the surrounding maritime areas.

The WG reviewed priority monitoring programmes identified for each ACAP species by region. Recent progress against these priorities is summarised in **Table 5**.

Table 5. Summary of progress on regional monitoring priority programmes.

Priority programmes	Progress since AC11 (May 2019)
ANTARCTICA	
two species; 50 sites, two of unknown size	
(i) Resurvey Southern Giant Petrel at King George and Nelson Islands, South Shetland Islands	<i>None reported</i>
(ii) Maintain long-term population and productivity monitoring of Southern Giant Petrels at Signy Island, South Orkney Islands.	<i>Maintained all programmes</i>
ARGENTINA: one species (Southern Giant Petrel) at four sites, population size known for all sites but no recent breeding pairs trend data; no survival data; potential impact of introduced species at Isla de los Estados	
(i) Maintain population and productivity monitoring at Isla Arce and Isla Gran Robredo.	<i>Maintained programme</i>
(ii) Resurvey the two sites at Isla de los Estados.	<i>No progress</i>
AUSTRALIA: eight species at 17 sites in three island groups; 18% of populations of unknown size.	
(i) Maintain long-term demographic, productivity or population monitoring at Macquarie Island (seven ACAP species) and Tasmania (Shy Albatross).	<i>Maintained programmes, although monitoring at Macquarie Island affected by the COVID 19 pandemic in 2020–21</i>
(ii) Resurvey Shy Albatross at Mewstone	<i>None reported</i>
(iii) Resurvey Black-browed and Light-mantled Albatrosses at Heard Island.	<i>None reported</i>
(iv) Resurvey Black-browed Albatrosses at Bishop and Clerk Islands.	<i>None reported</i>
CHILE: four species at 36 sites in nine island groups; no demographic data.	
(i) Begin long-term demographic monitoring of Black-browed and Grey-headed Albatrosses at minimum of one island group.	<i>None reported</i>
(ii) Resurvey all island groups.	<i>None reported</i>
(iii) Re-survey Southern Giant Petrel at Isla Noir.	<i>None reported</i>
(iv) Survey Pink-footed Shearwater on Isla Mocha and on at least one of the islands in Juan Fernández archipelago	<i>Censuses of Isla Mocha and Juan Fernández completed, expected publications in 2022 (ACAP grants)</i>
(v) Initiate a long-term demographic monitoring programme for Pink-footed Shearwater in at least one the island groups where it breeds	<i>None reported</i>

Priority programmes	Progress since AC11 (May 2019)
DISPUTED – NORTH PACIFIC: two species at two sites; current population trends unknown; no survival data.	
(i) Confirm breeding and begin long-term population monitoring of Short-tailed Albatross at Minami-Kojima in the Senkaku Islands.	<i>High-resolution satellite image was used to count nesting P. albatrus: 122 nesting pairs were estimated in the 2021 breeding season (PaCSWG6 Inf 10)</i>
DISPUTED – SOUTH ATLANTIC: seven species at 232 sites; 34% of populations of unknown size; steep declines in Wandering, Black-browed and Grey-headed Albatrosses, and White-chinned Petrel; possible decline in Light-mantled Albatross.	
(i) Maintain long-term demographic or productivity monitoring at Bird Island, South Georgia (Islas Georgias del Sur) ¹ (six ACAP species).	<i>Maintained all programmes</i>
(ii) Maintain long-term population (3 species) and productivity monitoring (1 species) at Bay of Isles (Albatross or Prion island) at South Georgia (Islas Georgias del Sur) ¹ (three ACAP species).	<i>Maintained all programmes at Prion Island. Annual monitoring of population size and productivity of 2 giant petrel species commenced at Maiviken, Greene Peninsula, Discovery Point and Harpon Bay.</i>
(iii) Maintain White-chinned Petrel population monitoring at six sites at South Georgia (Islas Georgias del Sur) ¹ .	<i>Maintained at five sites. Demographic monitoring to start at Bird Island in 2022/23.</i>
(iv) Maintain long-term demographic monitoring of Black-browed Albatross at two sites in the Falkland Islands (Islas Malvinas) ¹ .	<i>Maintained all programmes</i>
(v) Maintain long-term population monitoring of Black-browed Albatrosses elsewhere in the Falkland Islands (Islas Malvinas) ¹ .	<i>10-year island-group-wide aerial census conducted in 2017. Results expected in 2021. Annual monitoring continued at Dunbar and demographic studies continued at New Island.</i>
(vi) Resurvey Southern Giant Petrels at the Falkland Islands (Islas Malvinas) ¹ .	<i>Annual monitoring at selected sites maintained.</i>
(vii) Resurvey all Wandering Albatross, Black-headed Albatross, Grey-headed Albatross breeding sites at South Georgia (Islas Georgias del Sur) ¹ every 10 years	<i>No further action required since AC9.</i>
ECUADOR: single endemic species (Waved Albatross) at two sites, declining; no juvenile survival data.	
(i) Survey all of Española, Galapagos Islands.	<i>ACAP Small Grant</i>
(ii) Establish demographic monitoring in the interior colonies ('Colonia Central') on Española.	<i>None reported</i>
(iii) Establish long-term population and productivity monitoring at Isla de la Plata.	<i>None reported</i>
FRANCE: 12 species at 99 sites in three island groups; 20% of populations of unknown size; steep declines in Sooty Albatross and Indian Yellow-nosed Albatross.	
(i) Maintain long-term demographic or population monitoring at Kerguelen (5 species).	<i>Maintained all programmes</i>

Priority programmes	Progress since AC11 (May 2019)
(ii) Maintain long-term demographic or population monitoring at Crozet (6 species).	<i>Maintained all programmes</i>
(iii) Maintain long-term demographic or population monitoring at Amsterdam Island (3 species).	<i>Maintained all programmes</i>
(iv) Resurvey; Sooty and Light-mantled Albatross at Ile de l'Est, Crozet and at Kerguelen; Northern and Southern Giant Petrels at Cochons and Ile de l'Est, Crozet; White-chinned Petrel at Possession Island, Crozet, and; Grey Petrel at Kerguelen	
JAPAN: three species; current trend, adult survival and productivity unknown for four populations.	
(i) Establish long-term demographic monitoring at all sites.	<i>None reported</i>
MEXICO: one species (Laysan Albatross) at four sites; no trend or demographic data.	
(i) Establish demographic monitoring at all sites	<i>None reported</i>
NEW ZEALAND: 16 species (10 endemic) including 98 populations; 27% of populations of unknown size.	
(i) Resurvey Campbell Albatross at Campbell Island.	<i>Photo counts and ground-truthing complete and entered into ACAP database. Remove from list.</i>
(ii) Survey Salvin's Albatross at Bounty Islands.	<i>Further research was undertaken using drones, time-lapse cameras and ground truthing with a view to establishing longer-term monitoring methods (PaCSWG6 Inf 11).</i>
(iii) Maintain long-term demographic monitoring of Black Petrel at Great Barrier Island.	<i>Programme maintained</i>
(iv) Maintain long-term demographic monitoring of Antipodean Albatross at Adams Island, Auckland Islands.	<i>Field research planned for 2020-21 was cancelled due to Covid-19.</i>
(v) Maintain long-term demographic monitoring of Buller's Albatross at the Snares, and resurvey Solander Islands.	<i>Field research planned for 2020-21 was cancelled due to Covid-19.</i>
(vi) Maintain population monitoring of White-capped Albatross at all sites in the Auckland Islands.	<i>Field research planned for 2020-21 was cancelled due to Covid-19.</i>
(viii) Collate existing data on Light-mantled Albatross populations and survey at major breeding sites.	<i>Field research planned for 2020-21 was cancelled due to Covid-19.</i>
NEW Maintain long-term demographic monitoring of Antipodean Albatross at Antipodes Island	<i>Programme maintained</i>

Priority programmes	Progress since AC11 (May 2019)
<p>NEW Survey southern royal albatross at Campbell Island.</p>	<p><i>Field research planned for 2020-21 was cancelled due to Covid-19. Research to investigate the use of satellite monitoring has been initiated.</i></p>
<p>SOUTH AFRICA: 9 species including 17 populations; 18% of populations of unknown size; no survival data for 13 populations.</p>	
<p>(i) Maintain long-term population monitoring of Sooty and Light-mantled Albatrosses at Marion Island.</p>	<p><i>None reported</i></p>
<p>(ii) Survey White-chinned and Grey Petrels at Marion and Prince Edward Islands.</p>	<p><i>None reported</i></p>
<p>(iii) Maintain long-term demographic monitoring of Wandering and Grey-headed Albatrosses at Marion Island.</p>	<p><i>None reported</i></p>
<p>(iv) Maintain intermittent population monitoring</p>	<p><i>None reported</i></p>
<p>SPAIN: 1 species in one archipelago (Balearics), five island groups within a main archipelago (Balearics).</p>	
<p>(i) Establish and maintain long term monitoring programmes in all the major island groups, including ongoing initiatives in Dragonera/Sa Cella (Mallorca group) and Conillera/Bosc (Ibiza). Ensure that these ongoing programmes collect the relevant information necessary to assess demographic trends.</p>	<p><i>New monitoring site in Mola de Maó (Menorca) since 2017. Colony with most nests inaccessible and in dangerous terrain, but about 15-20 nests monitored yearly for breeding success and adult occupancy, including ringing of adults and chicks; 20 nest boxes installed in 2020 to facilitate monitoring in the future, 1 occupied in 2021 and several more prospected.</i></p> <p><i>Also irregular monitoring in Malgrats (Mallorca) since 2018, not secured. Current proposal to the Spanish Government to support monitoring of all ongoing sites plus also Caberera.</i></p> <p><i>First demographic analysis for W Ibiza islets conducted in 2019 thanks to ACAP small grant. Results mirror those of the previous demographic analysis from Sa Cella (Mallorca), with a population decline estimated at -14% per year.</i></p>
<p>(ii) Recover the available information collected in the last 12 years on behalf of the local administration</p>	<p><i>No progress, seems unlikely that we'll find old information covering known gaps (mainly demographic info from Sa Cella between 2003 and 2009 is missing, although monitoring work was supposedly conducted)</i></p>
<p>NEW Update population information for the whole archipelago, and investigate the potential existence of unknown/not confirmed breeding sites</p>	<p><i>Regarding the confirmation of sites, this year there was a prospection of 2 islets with old information in W Ibiza, Es Vedrà (where presence confirmed through indirect evidence of occupied nests) and Es Vedranell (estimated minimum 10 nests occupied).</i></p> <p><i>In a tracking study of birds captured at sea off Barcelona, of 7 birds captured and properly transmitting, all visited colonies at known sites on Menorca, Mallorca, Cabrera and Ibiza.</i></p>

Priority programmes	Progress since AC11 (May 2019)
UNITED KINGDOM: 6 species including 16 populations on two island groups	
(i) Maintain long-term demographic monitoring of Tristan and Atlantic Yellow-nosed Albatrosses and Southern Giant Petrels at Gough Island.	<i>Maintained all programmes, but ringing will be discontinued at the end of 2021 due to licencing conditions.</i>
(ii) Maintain long-term demographic monitoring of Atlantic Yellow-nosed Albatross at Tristan and Nightingale islands.	<i>None reported</i>
(iii) Maintain intermittent population monitoring of Sooty Albatross at Gough Island.	<i>Nest monitoring and counts of coastal cliffs maintained.</i>
(iv) Maintain intermittent population monitoring of Spectacled Petrel at Inaccessible Island.	<i>None reported</i>
(v) Establish intermittent population monitoring of Sooty Albatross at Tristan Island.	<i>None reported</i>
(vi) Survey Atlantic Yellow-nosed Albatross at Tristan Island.	<i>None reported</i>
(vii) Survey all island and establish intermittent population monitoring in study plots of Grey Petrel at Gough Island.	<i>Study plot monitoring continued – breeding success only.</i>
(viii) Confirm breeding of Grey Petrel at Inaccessible and Tristan islands.	<i>None reported</i>
UNITED STATES: two species, 25 populations, all of known size; few demographic data.	
(i) Maintain long-term demographic monitoring at several sites.	<i>None reported</i>
(ii) Survey the five breeding sites where not currently monitored, and at all sites at five-year intervals.	<i>None reported</i>

¹A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty of the Falkland Islands (Islas Malvinas), South Georgia and the South Sandwich Islands (Islas Georgias del Sur e Islas Sandwich del Sur) and the surrounding maritime areas.

7.2. Review of key gaps in tracking data

The WG reviewed recent progress in the priority tracking programmes identified for each ACAP species by region (**Table 6**).

Table 6. Summary of progress on regional tracking priorities.

Priorities	Progress since AC11 (May 2019)
ARGENTINA –Southern Giant Petrels (non-breeding adults and juveniles) at Isla Arce and Isla Gran Robredo.	<i>GPS Solar Powered loggers deployed in 2017 and 2019 breeding seasons on adults from Isla Arce. Tracking included the last and the first months of the breeding and non-breeding periods, respectively.</i>

Priorities	Progress since AC11 (May 2019)
<p>NEW Southern Giant Petrels (breeding and non-breeding adults) at Isla Arce and/or Isla Gran Robredo.</p>	
<p>AUSTRALIA - Shy Albatross (juveniles) in Tasmania; juveniles of all albatross species at Macquarie Island.</p>	
<p>CHILE</p>	
<p>i) Juvenile and nonbreeding Black-browed and Grey-headed Albatrosses at all island groups, and particularly at Diego Ramirez; tracking of adults during all breeding stages from Islands Groups other than Diego Ramirez;</p>	
<p>ii) tracking of Southern Giant Petrels at Isla Noir.</p>	
<p>DISPUTED</p>	
<p>i) Black-browed and Grey-headed Albatrosses (juveniles) at South Georgia (Islas Georgias del Sur)¹</p>	<p><i>PTTs deployed on juvenile Grey-headed and Black-browed Albatrosses in May-June 2019 and 2021, respectively.</i></p>
<p>ii) White-chinned Petrel (adults and juveniles) at South Georgia (Islas Georgias del Sur)¹</p>	<p><i>Paper published (PaCSWG6 Inf 4) - Remove from list</i></p>
<p>iv) Wandering Albatross pre-breeders and deferring adults during the breeding season at South Georgia (Islas Georgias del Sur)¹. (High-resolution data reqd. to map overlap with fleets in SW Atlantic)</p>	<p><i>GPS-radar devices deployed on juveniles, immatures, breeders and deferring breeders (PaCSWG6 Inf 06 and Inf 07).</i></p>
<p>NEW All ACAP species at South Georgia (Islas Georgias del Sur)¹ at a site other than Bird Island, including <i>D. exulans</i> at Prion or Albatross Island.</p>	
<p>ECUADOR</p>	
<p>i) Waved Albatross (juveniles) at Galapagos.</p>	
<p>NEW Waved albatross (breeding adults during the non-breeding season) at Galapagos.</p>	

Priorities	Progress since AC11 (May 2019)
FRANCE - Grey-headed and Indian Yellow-nosed Albatrosses at Crozet Islands, Grey-headed Albatross at Kerguelen	
JAPAN - Black-footed Albatross at Ogasawara Islands.	
NEW ZEALAND i) Salvin's Albatross at Bounty Islands;	<i>Data collected and further analyses underway. Remove from list.</i>
iii) Light-mantled Albatross at key sites.	<i>Planned tracking of birds at Adams Island in 2020-21 cancelled due to Covid-19.</i>
SOUTH AFRICA - Juveniles of all species at Prince Edward Islands (<i>Phoebetria</i> species higher priority).	
SPAIN (i) Balearic Shearwater juveniles (only pilot study with five birds) and adults in early stages of breeding period. Major effort required in Menorca, where taxonomic status uncertain, influenced by Yelkouan Shearwater <i>Puffinus yelkouan</i> (could affect bird movements).	<i>Tracking conducted in Menorca 2020 & 2021. In 2020, 5 juveniles were fitted with PTTs, though only 3 transmitted. Of these, none left the Mediterranean, moving to the Gulf of Lyon and Sardinia. In 2021, 10 adults were fitted with GPS/GSM in May (early chick-rearing), moving to the Catalan and French coast, plus one bird visiting Sardinia. Again in early July 3 adults and 4 juveniles were fitted with GPS/GSMs, all remaining in the Mediterranean between the eastern Spanish Coast, the Gulf of Lyon and Corsica/Sardinia.</i>
(ii) Tracking of birds captured at sea during breeding season, to assess connectivity with colonies and explore the possible existence of unknown colonies	<i>1 bird fitted in June 2020 with PTT and 9 birds in May-June 2021 (only 7 working properly) after capturing off Barcelona. All birds in 2021 visited colony sites covering almost the whole breeding range (Menorca, Mallorca, Cabrera, Ibiza; only Formentera was not visited).</i>
(iii) Tracking of birds bycaught alive by fishing vessels.	<i>5 birds tracked with PTT in 2020 after receiving proper veterinary attention, showing an unexpectedly high survival probability (4 out of 5 kept transmitting for 1-3 weeks, while one was found dead a day after being released). This opens a promising opportunity to work with fishermen to train them to release the birds captured alive.</i>
UNITED KINGDOM - Grey Petrel at Gough Island; juveniles of most species at Gough and Tristan da Cunha.	<i>PTTs deployed on 10 juvenile Tristan Albatrosses in October/November 2018 and 2019 but due to malfunction of Northstar tags, few data obtained.</i>
USA - Black-footed Albatross at Laysan Island.	

¹A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty of the Falkland Islands (Islas Malvinas), South Georgia and the South Sandwich Islands (Islas Georgias del Sur e Islas Sandwich del Sur) and the surrounding maritime areas.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

PaCSWG recommends that the Advisory Committee:

1. Encourage ACAP Parties and Range States responsible for breeding populations of ACAP species to implement the priority monitoring programmes to increase current knowledge of their population size, trends and demography;
2. Encourage ACAP Parties and others to undertake further identified priority tracking studies, including those applicable to the bycatch-aggravating, more proficient diving and most nocturnally active species.

8. ACAP PRIORITY POPULATIONS

8.1 Review key research and management actions for ACAP Priority Populations

PaCSWG Co-convenor Marco Favero reminded the meeting that ACAP has nine Priority Populations, of which four were adopted in 2011, four in 2016 and one in 2017 (**Table 7**).

Several of the documents and Information papers for this item had already been discussed under previous agenda items. These include: **PaCSWG6 Doc 04**, **PaCSWG6 Inf 01**, **PaCSWG6 Inf 03**, **PaCSWG6 Inf 06**, and **PaCSWG6 Inf 07**.

PaCSWG6 Inf 12 reported on the Australia/Chile/New Zealand concerted Action Plan for the Antipodean Albatross *Diomedea antipodensis*. The SBWG Convenor, Igor Debski, commented that SBWG10 had discussed the promotion of the Antipodean Albatross Action Plan in ACAP's RFMO Engagement Strategy, and had added this to **SBWG10 Doc 07 Rev 1**. As a WG member from New Zealand, Igor Debski also referred to activities during New Zealand's hosting of APEC to engage with various range states with fleets operating in the foraging range of the Antipodean Albatross.

A suggestion was made that ACAP might present a paper to the Western and Central Pacific Fisheries Commission (WCPFC) Technical Compliance Committee highlighting the plight of the Antipodean Albatross and promoting the desirability of compliance-related mitigation, especially night setting, for which compliance monitoring may be more effective.

The PaCSWG Co-convenor noted that this was the type of proposal that could be considered in a joint SBWG/PaCSWG meeting, and highlighted the merit of organising such joint meeting in 2023.

Jonathon Barrington, a WG member from Australia reported that genetic analyses indicated two female Antipodean Albatrosses were breeding on Macquarie Island.

There was some discussion of bilateral (or regional) action plans for ACAP Priority Populations. PaCSWG was advised that Argentina and Uruguay had reported to SBWG10

about their development of a regional Action Plan (that should help some of the nine priority populations).

PaCSWG6 Inf 16 reported the recent initiation of tourism at the Punta Cevallos long-term monitoring site for the Waved Albatross *P. irrorata*. PaCSWG6 noted that this issue was not covered in the existing Binational Plan of Action for this Priority Population. Elisa Goya from Peru confirmed that was the case, and indicated the value of including this activity in the ongoing update of the Plan of Action (POA). Peru and Ecuador have not been able to progress the Action Plan sufficiently over the past year to prepare a final version to be submitted to the Advisory Committee. PaCSWG agreed to recommend that the Advisory Committee highlight the need to complete the revision of the plan, to include tourism and other associated issues, as well as continued demographic monitoring at the impacted sites (section 2.3 of Waved Albatross POA).

PaCSWG6 Inf 20 reported on observations at sea of the Waved Albatross by the Instituto del Mar del Peru (IMARPE) – the Peruvian Maritime Institute. Co-convenor Marco Favero reiterated comments made by the SBWG Convenor during SBWG10, that such reports were an extremely useful complement to tracking studies.

Although it is not a priority population, there was also some discussion about uncertainties relating to the Short-tailed Albatross *P. albatrus* population in the Senkaku Islands (an area known under several different names) and whether, and by what means, it would be possible for ACAP to engage with authorities in the various countries and entities, given the territorial dispute. PaCSWG noted that this topic was best discussed at the Meeting of the Parties.

PaCSWG6 recalled that the aim of identifying the highest priority ACAP populations is that in a situation where resources are scarce, focus is given to the most threatened populations in terms of enhancing collaborative efforts and outcomes. The Priority Populations could also be used by ACAP as flagships to help communicate the conservation imperatives for the Agreement as a whole.

Table 7. Populations that have been identified as meeting the criteria for **ACAP High Priority Populations** (declining at more than 3% per year, held more than 10% of the global population, and were at risk from fisheries).

Year Added	Species	Breeding Site or Island Group	Action Plan
2011	1 Wandering Albatross	South Georgia (Islas Georgias del Sur) ¹	http://www.gov.gs/albatross-action-plans/
	2 Black-browed Albatross	South Georgia (Islas Georgias del Sur) ¹	http://www.gov.gs/albatross-action-plans/
	3 Tristan Albatross	Gough Island	Required Generic Tristan da Cunha Plan: http://jncc.defra.gov.uk/pdf/pub10_TristandaCunhaACAPplan.pdf
	4 Sooty Albatross	Crozet Island	Required

Year Added	Species	Breeding Site or Island Group	Action Plan
2016	5 Grey-headed Albatross	South Georgia (Islas Georgias del Sur) ¹	http://www.gov.gs/albatross-action-plans/
	6 Indian Yellow-nosed Albatross	Amsterdam Island	Required Second National Plan of Action for the Amsterdam Albatross 2018-2027 includes some actions relevant to this population: https://reserve-australes.taaf.fr/en/protection/national-action-plan-for-the-amsterdam-albatross/
	7 Balearic Shearwater	Balearic Islands	International Species Action Plan for the Balearic shearwater, <i>Puffinus mauretanicus</i> 2011 (currently being updated)
	8 Waved Albatross	Espanola Island	AC4 Doc 50 Rev 4 and AC6 Doc 29 (currently being updated, see PaCSWG5 Inf 21)
2017	9 Antipodean Albatross	Antipodes Islands	CMS Concerted Action Plan (New Zealand, Chile, Australia)

¹A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty of the Falkland Islands (Islas Malvinas), South Georgia and the South Sandwich Islands (Islas Georgias del Sur e Islas Sandwich del Sur) and the surrounding maritime areas.

8.2 Development of an ACAP strategy for Priority Populations

There were no papers submitted on this agenda item. PaCSWG6 recalled that a draft template for reporting on Priority Populations was developed and presented to PaCSWG5, but there was no agreement on the proposed document or reporting responsibilities. The Secretariat clarified that work was continuing on this template, which would also need to be discussed with SBWG in a planned joint meeting of the Working Groups in 2023. If endorsed by AC13, it would then become part of the regular reporting cycle via the ACAP database.

8.3. Proposals for high priority species or populations

There were no proposals for any additional high priority species or populations.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

PaCSWG recommends that the Advisory Committee:

1. Highlight the need to complete the revision and updating of the Binational Action Plan on the Waved Albatross, including a more concrete reference to tourism and related issues.

9. ACAP PERFORMANCE INDICATORS

9.1 Review the agreed indicators for population status, breeding site condition and tracking data availability

The Secretariat presented an update on breeding sites, populations, and tracking data indicators for ACAP species noting that these will be finalised early next year and reported to MoP7. The indicators analyse separately the original 26 species listed on Annex 1 of the Agreement in 2004, the 29 species listed in 2009, and the current 31 species. The number and percentage of breeding sites continuously monitored over a 10-year period has decreased since the last report, perhaps reflecting challenges experienced in the last 2 years as a result of COVID-19 related access issues.

PaCSWG noted that the information on breeding sites and populations is derived directly from the ACAP database and the tracking data is provided from the BirdLife International Seabird Tracking Database. The WG was encouraged to update these databases to ensure that the data available for the indicator analysis is as comprehensive and current as possible.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

PaCSWG recommends that the Advisory Committee:

1. Encourage data holders to submit their land-based indicators data to the Secretariat to enable the summary indicators to be reported accurately;
2. Encourage data holders to submit their tracking data to the BirdLife International Seabird Tracking Database to enable the summary of indicators to be reported accurately.

10. BEST-PRACTICE GUIDELINES AND OTHER ONLINE RESOURCES

10.1 Updates to existing guidelines

PaCSWG Co-convenor Marco Favero noted that the range of guidelines and links to external resources that are currently available on the ACAP website (<http://www.acap.ac/en/resources/acap-conservation-guidelines>) is increasing in scope. Recent additions concern rehabilitation of Procellariiformes, sampling seabirds for macro and micro plastics, and light pollution. Importantly, the ACAP guidelines can easily be updated as new information becomes available.

Working Group member Marcela Uhart advised that funds have been obtained recently to translate the rehabilitation guidelines from Portuguese into English and Spanish. She noted that guidelines on sampling bycaught and beached birds which were discussed at PaCSWG4 should also be available soon.

The Secretariat advised that the planned website redesign will help improve the visibility of the guidelines.

10.2 Guidelines on mitigating bird strikes from artificial light

PaCSWG6 Doc 03 presented National Light Pollution Guidelines for Wildlife, including Marine Turtles, Seabirds and Migratory Shorebirds developed by Australia. The guidelines provide detail about how to manage the effects of artificial light while ensuring human activities may be carried out safely at night. Appendix G outlines the various steps required to carry out an environmental impact assessment of artificial light on seabirds, including the development of a Light Management Plan. The plan provides a seabird mitigation toolbox that offers light management options for seabirds, both for land-based facilities and at-sea operations. In early 2020, CMS endorsed and adopted these guidelines. PaCSWG agreed to recommend that the Advisory Committee endorse the guidelines and encouraged Parties to circulate them within their environment agencies, given their relevance to marine turtles and shorebirds.

PaCSWG6 Inf 09 illustrated how the above guidelines were used by the Tasmanian Ports Corporation in the development of environmental standards for light pollution.

PaCSWG6 discussed light pollution specifically affecting ACAP species that breed in high latitudes, such as searchlights on vessels sailing in ice-bound areas.

Tatiana Neves informed the meeting that a new three-year project is commencing in Brazil looking at the impact of offshore oil and gas exploration structures on seabirds, including light attraction.

10.3 New guidelines

PaCSWG6 reflected on the need for guidelines which address potential threats to colonies, so that breeding sites can be appropriately managed to pre-empt problems. PaCSWG6 recalled that **PaCSWG2 Inf 01** on managing Southern Giant Petrel breeding sites in Argentina considers diverse risks from human activities and encouraged similar papers to be submitted to PaCSWG7.

PaCSWG6 noted that in light of **PaCSWG6 Inf 10**, the next meeting of PaCSWG could also consider the progress made in remote sensing methodologies, given this is a rapidly developing area, to gauge the need for new ACAP guidelines on this topic, or for updating the existing Census Methodology guidelines. Similarly, papers on acoustic monitoring would also be welcome.

Some concern was expressed regarding the ongoing expansion of offshore wind energy projects which overlap with foraging areas of ACAP species. PaCSWG6 noted the impacts and mitigation of such developments are articulated in the specific Environmental Impact Assessments conducted by the relevant jurisdictions.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

PaCSWG recommends that the Advisory Committee:

1. Endorse the light pollution guidelines for wildlife as an aid for assessing and managing the impact of artificial light on seabirds including albatrosses and petrels, noting the relevance of the guidelines to other susceptible wildlife.

11. ACAP FUNDED PROGRAMMES

11.1 Small Grants and Secondments 2019 and 2020

AC12 Inf 01 provided a summary of the conservation projects supported by ACAP small grants in the 2018, 2019 and 2020 rounds, and secondments awarded in the 2019 round. Several of the projects were delayed due to the COVID-19 pandemic. The 2019 secondments are still on hold. There were no applications for secondments in the 2020 round, despite new ad hoc criteria having been developed to allow for travel-free secondments. There was, however, considerable interest in the ACAP Small Grants scheme in the 2020 round.

The Secretariat reported that the ACAP website would be updated over the coming months, to give greater prominence to the small grants and secondments. The Working Group expressed its thanks to the Secretariat and the Grants Sub-committee for their work on the grants and secondments.

PaCSWG6 Inf 21 reported on a project undertaken with a 2020 ACAP grant, of which the first phase has already been completed. The project integrates an onboard observer programme with satellite-tracking data to assess overlap of adult Chatham Albatross *T. eremita* (and subsequently Buller's Albatross *T. bulleri*) with small-scale longline fisheries in wintering areas in Peru.

PaCSWG6 welcomed news of the projects completed and those still underway.

11.2 Funding priorities for 2023 – 2025

PaCSWG agreed that several of the potential guidelines that had been discussed under agenda item 10 (including on acoustic and remote sensing, and on colony management) could be flagged as priorities for secondments or small grants.

In addition, potential threats to albatrosses and petrels from contaminants, persistent organic pollutants and other anthropogenic sources were discussed.

It was agreed that these priorities would be noted in the draft AC Work Programme for 2023-2025, to be recommended to the Advisory Committee (see Agenda Item 14.2)

12. LISTING OF SPECIES ON ANNEX 1

12.1 Proposals to list new species on Annex 1

There were no new proposals to list additional species on Annex 1. Nevertheless, PaCSWG noted the benefits of ensuring any future proposals are presented to the Advisory Committee immediately after a Meeting of the Parties to allow sufficient time for consideration ahead of the following MoP.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

PaCSWG recommends that the Advisory Committee:

1. Reiterate to Parties the benefits of presenting any proposals to list new species on Annex 1 at the Advisory Committee meeting immediately following a Meeting of the Parties so that they can be considered in detail before the next MoP.

13. REVIEWS AND INFORMATION

PaCSWG6 Inf 19 reported on research into stranded procellariforms on the northern coast of Peru. PaCSWG6 welcomed this research and provided feedback to the authors on topics that would merit further investigation. The authors confirmed that they had many samples and photographs and planned to carry out further detailed analysis, particularly on ingested plastics.

14. FUTURE WORK PROGRAMME

14.1. Work Programme 2019 - 2022

The work programme for 2019 - 2022 (**AC12 Doc 15**) was updated based on discussions during the meeting for the consideration of the Advisory Committee.

14.2. Work Programme 2023 - 2025

The work programme for 2023 - 2025 (**AC12 Doc 16**) was reviewed based on discussions during the meeting for the consideration of the Advisory Committee.

15. ANY OTHER BUSINESS

There were no items raised under this agenda item.

16. REPORTING TO AC12

This report was prepared for consideration by the Advisory Committee.

17. CLOSING REMARKS

The Convenors and Vice-convenor thanked meeting participants and the authors of papers for their valuable contributions to the meeting. ACAP Secretariat was thanked for organising the meeting and progressing the work of the PaCSWG during the intersessional period. The Congress Rental team and interpreters were also gratefully acknowledged for their technical and interpretation services. The WG thanked the Convenors and Vice-convenor for chairing a successful and productive meeting.

ANNEX 1. LIST OF MEETING PARTICIPANTS AND NON-ATTENDING PaCSWG MEMBERS

PaCSWG6 MEETING PARTICIPANTS

PaCSWG Members	
Marco Favero (Co-convenor)	Instituto de Investigaciones Marinas y Costeras, National Research Council (CONICET), Argentina
Patricia Pereira Serafini (Co-convenor)	National Center for Bird Conservation and Research/ICMBio Instituto Chico Mendes de Conservação da Biodiversidade, Brazil
Richard Phillips (Vice-convenor)	British Antarctic Survey, United Kingdom & Scientific Committee on Antarctic Research (SCAR)
Pep (José Manuel) Arcos	SEO/BirdLife
Jonathon Barrington	Department of Agriculture, Water and the Environment, Australian Antarctic Division, Australia
Ana Bertoldi Carneiro	BirdLife International
Igor Debski	Department of Conservation, New Zealand
Elizabeth Flint	U.S. Fish and Wildlife Service, United States of America
Kathryn (Kate) Huyvaert	Colorado State University, USA
Verónica López	Oikonos Ecosystem Knowledge, Chile
Azwianewi Makhado	Department of Environmental Affairs, South Africa
Ken Morgan	Canadian Wildlife Service, Environment and Climate Change Canada
Megan Tierney	Joint Nature Conservation Committee (JNCC), UK
Marcela Uhart	Karen C. Drayer Wildlife Health Center, School of Veterinary Medicine, University of California, Davis, USA
Barbara Wienecke	Department of Agriculture, Water and the Environment, Australian Antarctic Division, Australia
Advisory Committee Members, Advisors, and Officials	
Luis Adasme	Advisor, Chile
Regina Aguilar (L)	Advisor, Peru
Verônica Alberto Barros	AC Member, Brazil
Rubén Alemán (L)	Advisor, Ecuador
Sebastián Alvarado	Advisor, Ecuador
Lady Amaro	Advisor, Peru
Krishna Barros Bonavides (L)	Advisor, Brazil
Jennifer Chauca	Advisor, Peru
Victor Chocho	Alternate, Ecuador

Katie Clemens-Seely	Alternate, New Zealand
Luis Cocas	Alternate, Chile
Mike Double (L)	Advisor, Australia, and TWG Vice-convenor
Jessica Gálvez-Durand	Advisor, Peru
William Gibson	Advisor, New Zealand
Elisa Goya	AC member, Peru
Danny Guarderas	AC Member, Ecuador
Marco Herrera	Advisor, Ecuador
Sebastián Jiménez	SBWG Vice-convenor, Uruguay
Lachlan John (L)	Advisor, Australia
Mandi Livesey (L)	Alternate, Australia
Anna MacDonald (L)	Advisor, Australia
Stephanie Martin (L)	Advisor, United Kingdom
Anne Martinussen (L)	AC Member, Norway
Makhudu Masothla (L)	Advisor, South Africa
Julie McInnes (L)	Advisor, Australia
María Andrea Meza	Advisor, Peru
Geanella Ochoa	Advisor, Ecuador
Andrea Polanowski	Advisor, Australia
Javier Antonio Quiñones Davila	Advisor, Peru
Sofia Rivadeneira (L)	Advisor, Peru
Doris Rodriguez	Advisor, Peru
Frida Rodriguez (L)	Advisor, Peru
Aixa Rodriguez Avendaño (L)	Advisor, Argentina
Cynthia Romero	Advisor, Peru
Leonor Rosero Narváez	Advisor, Ecuador
Cristián Suazo (L)	Advisor, Chile
Tatiana Neves	AC Vice-chair
Mark Tasker	AC Member, United Kingdom, and TWG Convenor
Observers	
Yuliana Bedolla Guzmán (L)	Grupo de Ecología y Conservación de Islas, A.C., Mexico
Stephanie Borrelle	BirdLife International
Nigel Brothers	Humane Society International
Chun-Ching Cheng (L)	Chinese Taipei

Rory Crawford (L)	BirdLife International
Esteban Frere (L)	BirdLife International
Dimas Gianuca	BirdLife International
Eric Kershner (L)	USA
Mi Ae Kim (L)	USA
Ting-Yu Kuo (L)	Chinese Taipei
Federico Méndez Sánchez (L)	Grupo de Ecología y Conservación de Islas, A.C., Mexico
Daisuke Ochi	Fisheries Resource Institute, Japan
Alice Pereira (L)	Projeto Albatroz, Brazil
Roberta Swift (L)	USA
Yonat Swimmer (L)	USA
Desmond Tom (L)	Namibia
SachikoTsuji	Fisheries Resource Institute, Japan
Alexia Wellbelove (L)	Humane Society International
Richard Wells (L)	Seafood New Zealand
Yu-Min Yeh	Chinese Taipei

Secretariat

Christine Bogle	Executive Secretary
John Cooper (L)	Information Officer
Wiesława Misiak	Science Officer
Keith Reid	Meeting support

Interpreters

Cecilia Alal
Joelle Coussaert
Claire Garteiser
Sandra Hale

(L) Listening only attendees

PaCSWG MEMBERS NOT ATTENDING PaCSWG6

Javier Arata	Chile
Barry Baker	Institute of Marine and Antarctic Studies, University of Tasmania, Australia
Leandro Bugoni	Universidade Federal do Rio Grande (FURG), Brazil
Karine Delord	Centre national de la recherche scientifique (CNRS), France
Sebastien Descamps	Norwegian Polar Institute, Norway
Rosemary Gales	Australia

Gustavo Jiménez-Uzcátegui	Charles Darwin Foundation, Ecuador
Marcela Mónica Libertelli	Instituto Antártico Argentino, Argentina
Daniel Oro	Grupo d'Ecología de Poblacions, IMEDEA (CSIC-UIB), Spain
Flavio Quintana	National Research Council of Argentina (CONICET), Argentina
Paul Sagar	NIWA, New Zealand
Henri Weimerskirch	Centre national de la recherche scientifique (CNRS), France
Carlos Zavalaga	University of Nagoya, Japan

ANNEX 2. ONGOING MANAGEMENT ACTIONS ASSOCIATED WITH THREATS AT BREEDING SITES OF ACAP-LISTED SPECIES

Island Group	Breeding site	Species	Threat species	Nature of threat	Current Threat Magnitude	ongoing management actions or why no management response in place	why management response was or was not effective	Additional comments
Tasmania	Albatross Island (AU)	<i>Thalassarche cauta</i>	(Avian pox virus)	Parasite or pathogen - Pathogen	Low	DPIPWE conducting pilot investigation for management of disease and investigating methods to more robustly quantify the impact of the disease on the population.		Nature of disease that affects chicks is poorly understood. Avian pox virus has been detected - mortality of chicks is due to a combination of factors.
	Pedra Branca	<i>Thalassarche cauta</i>	<i>Morus serrator</i> (Australasian gannet)	Habitat loss or destruction - Increased competition with native species	High	None.		Level of threat to be confirmed. Gannets are increasing throughout their range, and this is evident at Pedra Branca. Number of albatross chicks produced annually has declined & inter-specific interactions observed. Cause & effect needs confirmation.
Isote Albatros	Isote Albatros	<i>Thalassarche melanophris</i>	<i>Neovison vison</i> (American mink)	Predation by alien species - Predation by alien species	Low	Traps for removing all american minks have being implemented in the islet during breeding season 2015/16.		

Island Group	Breeding site	Species	Threat species	Nature of threat	Current Threat Magnitude	ongoing management actions or why no management response in place	why management response was or was not effective	Additional comments
Falkland Islands (Islas Malvinas) ¹	New Island	<i>Procellaria aequinoctialis</i>	<i>Felis catus</i> (Cat)	Predation by alien species - Predation by alien species	Low	Some control of cats was initiated in 2014, and a number of individuals have been shot since then.		Feral cats on New Island feed predominantly on Cottontail Rabbits, Black Rats and Thin-billed Prions (Quillfeldt et al. 2008). There is some evidence that Feral Cats prey on the chicks of White-chinned Petrels, but in spite of this, the relatively small colony of White-chinned Petrels at New Island has remained stable since 1972 (Reid et al. 2007). The current policy at New Island, as expressed in Strange (2007), is to continue to monitor the impact of all invasive mammals to understand better the interactions between the suite of alien species present on the island, and prepare and implement plans, as far as is practicable to control their populations or, where possible, to eradicate them.
Galapagos	Isla Espanola	<i>Phoebastria irrorata</i>	(Mosquito)	Parasite or pathogen - Parasite	Low	Se continua con los monitoreos de enfermedades en los cuadrantes. (Continued monitoring of vectors and affected individuals).		Mosquito biting is a known cause of egg abandonment.
Isla de La Plata	Isla de La Plata	<i>Phoebastria irrorata</i>		Human disturbance - Recreation/tourism	High	Durante la temporada de anidación se cierra el Sendero "Machete" para evitar el stress a los albatros. (During nesting, the tourist trail "Machete" is closed to tourists to avoid stressing birds).	Aumento del éxito reproductivo. (Reproductive success improved).	Visitantes en el sendero "Machete" causa stress a los padres que pueden abandonar al nido, reduciendo su éxito reproductivo.

Island Group	Breeding site	Species	Threat species	Nature of threat	Current Threat Magnitude	ongoing management actions or why no management response in place	why management response was or was not effective	Additional comments
	Isla de La Plata	<i>Phoebastria irrorata</i>		Stress by alien species - Nest desertion	High	Control de la población mediante veneno (anticoagulante) en sitios sensibles	Se mantiene controlada la población lo que se manifiesta en el aumento del éxito reproductivo.	La rata produce stress a los padres que abandonan al huevo / polluelo y depreda a los huevos.
Amsterdam and St Paul	Falaise d'Entrecasteaux	<i>Procellaria cinerea</i>	<i>Felis catus</i> (Cat)	Predation by alien species - Predation by alien species	Low			
	Falaise d'Entrecasteaux	<i>Procellaria cinerea</i>	<i>Rattus rattus</i> (Black (ship) rat)	Predation by alien species - Predation by alien species	Low			
	Falaise d'Entrecasteaux	<i>Thalassarche carteri</i>	<i>Pasteurella multocida</i> (Avian cholera)	Parasite or pathogen - Pathogen	High			Principally linked to chickens
	Ile Amsterdam	<i>Phoebetria fusca</i>	<i>Pasteurella multocida</i> (Avian cholera)	Parasite or pathogen - Pathogen	High			Principally linked to chickens
Crozet	Ile de la Possession	<i>Procellaria aequinoctialis</i>	<i>Rattus rattus</i> (Black (ship) rat)	Predation by alien species - Predation by alien species	Low	rodenticide used annually on study colonies		
Kerguelen	Baie Larose	<i>Procellaria aequinoctialis</i>	<i>Felis catus</i> (Cat)	Predation by alien species - Predation by alien species	Low			

Island Group	Breeding site	Species	Threat species	Nature of threat	Current Threat Magnitude	ongoing management actions or why no management response in place	why management response was or was not effective	Additional comments
Kerguelen	Baie Larose	<i>Procellaria aequinoctialis</i>	<i>Rattus rattus</i> (Black (ship) rat)	Predation by alien species - Predation by alien species	Low			
	Baie Larose	<i>Procellaria aequinoctialis</i>	<i>Rangifer tarandus</i> (Reindeer)	Habitat loss or destruction - Habitat destruction by alien species	Low			
	Courbet Peninsula	<i>Procellaria aequinoctialis</i>	<i>Felis catus</i> (Cat)	Predation by alien species - Predation by alien species	Low	managed locally		
	Courbet Peninsula	<i>Diomedea exulans</i>	<i>Felis catus</i> (Cat)	Predation by alien species - Predation by alien species	Low	managed locally		Research carried out at Kerguelen has shown that feral cats on Péninsule Courbet affects breeding success and rate of population growth rate of wandering albatross (Barbraud et al. 2021)
	Courbet Peninsula	<i>Procellaria aequinoctialis</i>	<i>Rattus rattus</i> (Black (ship) rat)	Predation by alien species - Predation by alien species	Low			
	Golfe du Morbihan	<i>Procellaria cinerea</i>	<i>Rattus rattus</i> (Black (ship) rat)	Predation by alien species - Predation by alien species	Low			eradicated on Chateau Island (2002) and on Australia Island (2005).
	Golfe du Morbihan	<i>Procellaria aequinoctialis</i>	<i>Rattus rattus</i> (Black (ship) rat)	Predation by alien species - Predation by alien species	Low			eradicated on Chateau Island (2002) and on Australia Island (2005).
	Golfe du Morbihan	<i>Procellaria cinerea</i>	<i>Felis catus</i> (Cat)	Predation by alien species - Predation by alien species	Low			

Island Group	Breeding site	Species	Threat species	Nature of threat	Current Threat Magnitude	ongoing management actions or why no management response in place	why management response was or was not effective	Additional comments
Kerguelen	Golfe du Morbihan	<i>Procellaria aequinoctialis</i>	<i>Felis catus</i> (Cat)	Predation by alien species - Predation by alien species	Low			
	Golfe du Morbihan	<i>Procellaria cinerea</i>	<i>Rangifer tarandus</i> (Reindeer)	Habitat loss or destruction - Habitat destruction by alien species	Low			
	Golfe du Morbihan	<i>Procellaria aequinoctialis</i>	<i>Rangifer tarandus</i> (Reindeer)	Habitat loss or destruction - Habitat destruction by alien species	Low			
	Ile Saint Lanne Gramont	<i>Procellaria aequinoctialis</i>	<i>Rattus rattus</i> (Black (ship) rat)	Predation by alien species - Predation by alien species	Low			
	Ile Saint Lanne Gramont	<i>Procellaria aequinoctialis</i>	<i>Felis catus</i> (Cat)	Predation by alien species - Predation by alien species	Low			
	Joffre Peninsula	<i>Procellaria aequinoctialis</i>	<i>Felis catus</i> (Cat)	Predation by alien species - Predation by alien species	Low			
	Joffre Peninsula	<i>Procellaria aequinoctialis</i>	<i>Rattus rattus</i> (Black (ship) rat)	Predation by alien species - Predation by alien species	Low			
	Joffre Peninsula	<i>Procellaria cinerea</i>	<i>Rangifer tarandus</i> (Reindeer)	Habitat loss or destruction - Habitat destruction by alien species	Low			

Island Group	Breeding site	Species	Threat species	Nature of threat	Current Threat Magnitude	ongoing management actions or why no management response in place	why management response was or was not effective	Additional comments
Kerguelen	Joffre Peninsula	<i>Procellaria cinerea</i>	<i>Felis catus</i> (Cat)	Predation by alien species - Predation by alien species	Low			
	Joffre Peninsula	<i>Procellaria cinerea</i>	<i>Rattus rattus</i> (Black (ship) rat)	Predation by alien species - Predation by alien species	Low			
Auckland Islands	Auckland Island	<i>Diomedea epomophora</i>	<i>Sus scrofa</i> (Pig)	Predation by alien species - Predation by alien species	Low	Feasibility investigations and project planning for eradication of pigs, cats and mice from Auckland Island, totalling NZD 2 million investment to date, have been completed. A number of challenges and uncertainties remain to be overcome, including securing funding and support for the duration of an eradication programme. The project was paused in April 2020 due to the financial impacts of Covid-19		
	Auckland Island	<i>Thalassarche steadi</i>	<i>Sus scrofa</i> (Pig)	Predation by alien species - Predation by alien species	Low			
	Auckland Island	<i>Thalassarche steadi</i>	<i>Felis catus</i> (Cat)	Predation by alien species - Predation by alien species	Low			
	Auckland Island	<i>Diomedea antipodensis</i>	<i>Sus scrofa</i> (Pig)	Predation by alien species - Predation by alien species	Low			
Balearic Archipelago	Cabrera	<i>Puffinus mauretanicus</i>	<i>Felis catus</i> (Cat)	Predation by alien species - Predation by alien species	Low	No measures taken. Local government not prone to address actions to control cats, fear of social opposition.		Detected in Picamosques islet, along with Genet. Cat reported in one out of 6 breeding islets in Cabrera, affecting about 10% of the local population. No detailed information.

Island Group	Breeding site	Species	Threat species	Nature of threat	Current Threat Magnitude	ongoing management actions or why no management response in place	why management response was or was not effective	Additional comments
Balearic Archipelago	Formentera	<i>Puffinus mauretanicus</i>	<i>Felis catus</i> (Cat)	Predation by alien species - Predation by alien species	High	No detailed information, nor measures taken (except old eradication in a small islet, Espalmador). Local government not prone to address actions to control cats, fear of social opposition.		Present in 3 out of 5 colonies (plus eradicated in another) including the historically largest one of the species, which has apparently declined severely in recent years, affecting 89.5% of the current population in Formentera. Predation known, not quantified.
	Formentera	<i>Puffinus mauretanicus</i>	<i>Rattus rattus</i> (Black (ship) rat)	Predation by alien species - Predation by alien species	Low	No measures taken (old eradication, incomplete, in Espalmador)		Present in 4 out of 5 sites, which hold about 94% of the Formentera population. No effect quantified, apparently far less impacting than cats.
	Ibiza	<i>Puffinus mauretanicus</i>	<i>Rattus rattus</i> (Black (ship) rat)	Predation by alien species - Predation by alien species	Low	Attempts of eradication, but not systematic (dependent on low budget, no specific project)		Most islets have rat presence in varying densities, affecting 93% of the estimated population. There have been trials of eradication, apparently not completed - and/or no monitoring programme afterwards. Impact on breeding success, apparently not severe, at least for some islets (e.g. Conillera; higher impact in Bosc). Biosecurity guidelines being prepared for the W Ibiza islets (ongoing work under LIFE project PanPuffinus)
	Mallorca	<i>Puffinus mauretanicus</i>	<i>Rattus rattus</i> (Black (ship) rat)	Predation by alien species - Predation by alien species	Low	Action recently taken in Dragonera by local administration. Eradication in 2011, and follow-up work ongoing.		Formerly present in 3 out of 4 colonies, recently eradicated in Dragonera (2012), with current monitoring. Also eradication projects in Conills and Malgrat, but not post-monitoring, probably present (?). Apparently low impact, no severe effects on breeding success.

Island Group	Breeding site	Species	Threat species	Nature of threat	Current Threat Magnitude	ongoing management actions or why no management response in place	why management response was or was not effective	Additional comments
Balearic Archipelago	Menorca	<i>Puffinus mauretanicus</i>	<i>Felis catus</i> (Cat)	Predation by alien species - Predation by alien species	High	Local government not prone to address actions to control cats, fear of social opposition.		Present in Mola de MaÃ³, where the major colony of Menorca is located (>75% of the local population). Predation is severe, on chicks and adults in the past (up to >20 adult corpses found in a single visit), but currently there does not seem to be predation (cats confirmed in the neighbourhood with camera traps, but none in the colony since installation of cameras in 2018). Also presence of marten (<i>Martes martes</i>), weasel (<i>Mustela nivalis</i>), with no evidence of predation.
	Menorca	<i>Puffinus mauretanicus</i>	<i>Rattus rattus</i> (Black (ship) rat)	Predation by alien species - Predation by alien species	Low	Some eradication trials in Mola de Mao (no success).		Present in almost all colonies (except Illa de l'Aire). Events of predation on eggs, but no apparent severe impact on breeding performance. Current work of monitoring with cameras.

Island Group	Breeding site	Species	Threat species	Nature of threat	Current Threat Magnitude	ongoing management actions or why no management response in place	why management response was or was not effective	Additional comments
Gough	Gough Island	<i>Diomedea dabbenena</i>	<i>Mus musculus</i> (House mouse)	Predation by alien species - Predation by alien species	High	The Gough Island Restoration Programme led by RSPB and Tristan da Cunha Island Council has now completed two all island		
Gough	Gough Island	<i>Procellaria cinerea</i>	<i>Mus musculus</i> (House mouse)	Predation by alien species - Predation by alien species	Low	bait drops to eradicate the mice. The UK Government, charitable foundations and private individuals have supported this £10.5 million programme though further fundraising is still needed. The success of the eradication will be evaluated in two year's time.		An impact on this species has been assumed because House Mice are affecting Tristan Albatross and burrow-nesting, summer-breeding petrels. 60% of chicks failed (n=35 hatchlings) reported by Dilley et al 2015.
Hawaii	Kaula	<i>Phoebastria nigripes</i>		Human disturbance - Military action	High	The island is managed by the U.S. military and is used as a bombing target during military training.		The island is used as a bombing range for non-exploding ordnance.
	Kaula	<i>Phoebastria immutabilis</i>		Human disturbance - Military action	High	The island is still used as a bombing range for military training.		The island is used by the U.S. Navy as a bombing range for non-exploding ordnance.
	Kure Atoll	<i>Phoebastria nigripes</i>		Habitat loss or destruction - Vegetation encroachment	Low	Ongoing eradication program using herbicide and manual control		

Island Group	Breeding site	Species	Threat species	Nature of threat	Current Threat Magnitude	ongoing management actions or why no management response in place	why management response was or was not effective	Additional comments	
Hawaii	Kure Atoll	<i>Phoebastria immutabilis</i>		Natural disaster - Sea-level rise	High	Propagation and planting of <i>Scaevola sericea</i> that encourages dune growth and stabilization		Loss of nests by periodic inundation due to tidal surges, storms and tsunamis.	
	Kure Atoll	<i>Phoebastria nigripes</i>		Natural disaster - Sea-level rise	High				
	Laysan Island	<i>Phoebastria nigripes</i>		Natural disaster - Sea-level rise	High	Continue protection of the low Northwestern Hawaiian Islands to maintain healthy populations while initiating new colonies in the main Hawaiian islands.		Loss of nests by periodic inundation due to tidal surges, storms and tsunamis, especially in low-lying areas.	
	Laysan Island	<i>Phoebastria immutabilis</i>		Natural disaster - Sea-level rise	High				
	Lisianski Island	<i>Phoebastria immutabilis</i>		Natural disaster - Sea-level rise	High				Loss of nests by periodic inundation due to tidal surges, storms and tsunamis.
	Lisianski Island	<i>Phoebastria nigripes</i>		Natural disaster - Sea-level rise	High				
Midway Atoll	<i>Phoebastria immutabilis</i>	<i>Mus musculus</i> (House mouse)	Predation by alien species - Predation by alien species	Low	Mouse population suppression in the affected areas using trapping and rodenticide. Eradication feasibility study completed in summer 2017. Bait uptake trials completed and implementation planning underway.		However, population increasing, so flagged as "not a real threat". but recent increases in mouse predation rates and potential exposure of ~ 50% of world breeding population warrants revisiting threat status.		
Hawaii	Pearl and Hermes Reef	<i>Phoebastria nigripes</i>		Natural disaster - Sea-level rise	High			Loss of nests, especially those in low-lying areas, by periodic inundation due to tidal surges, storms and tsunamis.	

Island Group	Breeding site	Species	Threat species	Nature of threat	Current Threat Magnitude	ongoing management actions or why no management response in place	why management response was or was not effective	Additional comments
	Pearl and Hermes Reef	<i>Phoebastria immutabilis</i>		Natural disaster - Sea-level rise	High			Loss of nests by periodic inundation due to tidal surges, storms and tsunamis, especially in low lying areas.

¹A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Islas Malvinas), South Georgia and the South Sandwich Islands (Islas Georgias del Sur e Islas Sandwich del Sur) and the surrounding maritime areas