

 <p>Agreement on the Conservation of Albatrosses and Petrels</p>	<p>Tenth Meeting of the Advisory Committee <i>Wellington, New Zealand, 11 – 15 September 2017</i></p> <p>Report of the Population and Conservation Status Working Group</p> <p><i>Population and Conservation Status Working Group</i></p>
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Fourth Population and Conservation Status Working Group Meeting

Wellington, New Zealand, 7 – 8 September 2017

1. WELCOME AND OPENING REMARKS

This report outlines progress during the intersessional period against the Work Programme of the Population and Conservation Status Working Group (hereafter PaCSWG or WG), agreed at the ACAP Advisory Committee (AC) meeting in 2016 (AC9). The report also reflects discussions and advice resulting from the Fourth Meeting of the Population and Conservation Status Working Group (PaCSWG4) held from 7 to 8 September 2017 in Wellington, New Zealand.

2. MEMBERSHIP AND INTRODUCTION

The Convenors of the PaCSWG, Richard Phillips, and Rosemary Gales, and Vice-convenor Patricia Pereira Serafini, thanked WG members and observers for attending the meeting, and presented apologies from Flavio Quintana (Vice-convenor). They also welcomed a new member to the WG, Verónica López from Oikonos, Chile. Current PaCSWG membership and PaCSWG4 meeting participants are listed in **ANNEX 1**.

The Convenors of the Working Group brought guidance concerning potential conflicts of interest to the attention of participants for their consideration and action. There were no conflicts of interest disclosed by any participants.

3. ADOPTION OF THE AGENDA

The WG accepted the proposed agenda and meeting documents (**PaCSWG4 Doc 01 Rev 1** and **PaCSWG4 Doc 02 Rev 1**).

In relation to document **PaCSWG4 Doc 02 Rev 1**, the Argentine Republic expressed objections, in the terms indicated in **ANNEX 3** of this report.

The United Kingdom replied to this as indicated in **ANNEX 4** of this report.

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 advised that there have been no major developments of its underlying structure since PaCSWG3. The interface and functionality of the existing model

continue to be improved to meet the needs of the WG. 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, and are published electronically on the ACAP website. However, the original documents are now out of date and require review. The Science Officer advised that although progress has been made with the updates for several species, given the competing priorities in the Secretariat Work Programme, the revised versions are not yet available. The assistance of WG members was therefore sought with completing this important task by May 2018. The WG reflected that the assessments are a valuable resource for the Agreement and other fora, and several members and observers offered their support in making swift progress with revisions as soon as possible.

4.3. List of researchers with access to tissues from bycaught birds

Marcela Uhart presented a summary report about intersessional work compiling a list of research groups, individuals and institutions that have samples from ACAP species in their collections or custody. The preliminary list included the type and number of samples, and relevant information such as sample origin (i.e. bycatch, beach surveys), date of collection, etc. In total, the survey was sent to 56 individuals/groups from 15 countries, and responses with information on samples were received from 41 groups/individuals from 13 countries. The most common source of samples was the breeding colony (45%), followed by bycatch (36%) and the remaining samples were obtained from stranded/beached birds or individuals in rehabilitation centres. Black-browed Albatross *Thalassarche melanophris* was the species most commonly represented, followed by White-chinned Petrel *Procellaria aequinoctialis* and Southern Giant Petrel *Macronectes giganteus*.

The WG thanked the authors of the report for such a detailed and comprehensive work and discussed the next steps in making this information available through the ACAP website. The WG suggested that Marcela Uhart contact the respondents again to confirm their willingness to have their details listed in a publicly available document, and that the survey be modified to solicit information on the year that samples were collected. Marcela Uhart offered to lead on this additional work and liaise with the Secretariat so that the list could be made available on the ACAP website during the intersessional period.

5. POPULATION STATUS AND TRENDS

5.1. Current population trends of ACAP species

The WG reviewed changes to the population trends of ACAP species, which were updated by the Science Officer to cover the 20 years from 1996 to 2016, and the level of confidence

in the trend according to the accuracy and availability of data for the different populations (Table 1). Changes were made to the table to better reflect the level of confidence, which had increased for several species in the current iteration. The trend for Light-mantled Albatross was changed to unknown, given the difficulties with counting this species and resultant lack of data, as well as the very high annual variability in breeding numbers at different sites. The trend for the Pink-footed Shearwater *Ardenna creatopus* syn. *Puffinus creatopus* was cautiously classified as stable. The WG suggested that the heading of the table be modified to make it clear that the trends may differ greatly among island groups, and that some populations may be in steep decline even though the overall trend for the species is positive.

Table 1. 2017 Summary of global status and current trends of ACAP species.

IUCN Status 2017 ¹	Common name	Number of sites (ACAP) ²	Single Country Endemic	Annual breeding pairs ³ (last census)	Current Population Trend 1996-2016 ⁴	Trend Confidence
CR	Amsterdam Albatross	1	France	39 (2016)	↑	High
CR	Balearic Shearwater	5	Spain	>2,907 (2008-2016)	↓	High
CR	Tristan Albatross	1	UK	1,108 (2015-2016)	↓	High
CR	Waved Albatross	2	Ecuador	9,615 (2001)	↓	Medium
EN	Atlantic Yellow-nosed Albatross	6	UK	33,650 (1974-2011)	↔	Low
EN	Grey-headed Albatross	29		83,999 (1982-2017)	↓	Medium
EN	Indian Yellow-nosed Albatross	6		35,073 (1984-2015)	↓	High
EN	Northern Royal Albatross	5	NZ	5,135 (2017)	?	-
EN	Sooty Albatross	15		12,096 (1974-2017)	↓	Very Low
VU	Antipodean Albatross	6	NZ	6,709 (1995-2017)	↓	High
VU	Black Petrel	2	NZ	1,500 (2016)	↓	Medium
VU	Campbell Albatross	2	NZ	21,648 (2012)	↔	Low
VU	Chatham Albatross	1	NZ	5,296 (2017)	↔	High
VU	Pink-footed Shearwater	3	Chile	33,520 (2009-2016)	↔	Low
VU	Salvin's Albatross	12	NZ	41,214 (1986-2014)	↓	Low
VU	Short-tailed Albatross	2		893 (2002-2017)	↑	High
VU	Southern Royal Albatross	4	NZ	7,924 (1989-2017)	↔	Medium
VU	Spectacled Petrel	1	UK	14,400 (2010)	↑	High

IUCN Status 2017 ¹	Common name	Number of sites (ACAP) ²	Single Country Endemic	Annual breeding pairs ³ (last census)	Current Population Trend 1996-2016 ⁴	Trend Confidence
VU	Wandering Albatross	28		8,149 (1981-2017)	↓	High
VU	Westland Petrel	1	NZ	2,827 (2011)	↔	Low
VU	White-chinned Petrel	73		1,257,568 (1984-2015)	↓	Very Low
NT	Black-browed Albatross	65		688,230 (1982-2017)	↑	High
NT	Black-footed Albatross	13		69,969 (1995-2017)	↑	Medium
NT	Buller's Albatross	10	NZ	32,701 (1984-2017)	↔	Low
NT	Grey Petrel	17		75,565 (1979-2017)	↓	Very Low
NT	Laysan Albatross	17		666,658 (1982-2017)	↔	High
NT	Light-mantled Albatross	71		10,637* (1954-2017)	?	-
NT	Shy Albatross	3	Australia	14,683 (2015-2017)	↓	Low
NT	White-capped Albatross	5	NZ	95,917 (2009-2015)	?	-
LC	Northern Giant Petrel	50		10,691 (1973-2017)	↑	Medium
LC	Southern Giant Petrel	119		47,716 (1958-2017)	↑	Medium

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

¹ CR = Critically Endangered, EN = Endangered, VU = Vulnerable, NT = Near Threatened, LC = Least Concern. The IUCN Red List of Threatened Species. Version 2017-1. <www.iucnredlist.org>.

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

³ ACAP database. <data.acap.aq>. 3 September 2017.

⁴ ACAP Trend: ↑ increasing, ↓ declining, ↔ stable, ? unknown. **The overall trend for the species may not reflect trends at individual sites.**

PaCSWG4 Doc 08 reported on issues recently identified when the criteria established by the IUCN Red List System were used to re-assess the conservation status of albatross species, and which may have applied to many previous assessments of ACAP-listed species. In clarifying the guidelines with the Species Survival Commission, the authors formed the view that for some species the IUCN Criteria may have been applied incorrectly because the detail provided in the Guidelines for using the IUCN Categories and Criteria (IUCN 2017) had not been considered fully. Examples were provided that related to the application of Criterion B Restricted Geographic Range, and applying the criteria under climate change. The paper suggested that resolution of the conservation status for all ACAP species would be best achieved by a comprehensive review of all listed albatrosses and petrels by ACAP, and made a number of recommendations to the PaCSWG.

PaCSWG4 Doc 07 related to a review of the status of the Shy Albatross *Thalassarche cauta*, which is endemic to Australia, and whether the WG was inclined to comment on a proposal to uplist the species from Near Threatened to Vulnerable. This followed the

invitation by Birdlife International for contributions to the globally threatened bird forum process to discuss proposed revisions of global threat status for several species. The consultation period for this process had closed ahead of the PaCSWG4 meeting, and BirdLife International has indicated an intention to hold over any decision on Shy Albatross until 2018.

These two papers generated considerable discussion, including on the extent to which the IUCN Red List categories for ACAP species would be affected by revisiting the application of the restricted range criteria, particularly as they apply to long-distance migratory species, and of the extent to which IUCN listing considers climate-change effects for seabirds compared with land birds (where projected reductions in habitat might be more readily apparent). The WG agreed that ACAP would benefit from a better understanding of how these criteria should be applied, which led to several recommendations to the AC. There was also discussion on whether the WG should provide recommendations to BirdLife International on the appropriate IUCN Red List for particular species as a collective group, noting that individual experts were free to express their views. The WG agreed to defer any decision on this matter for the WG until after the proposed review of ACAP species against the IUCN criteria.

PaCSWG4 Inf 16 reported on a range of monitoring studies aimed to better estimate the total population size of Black Petrel *Procellaria parkinsoni*, a New Zealand endemic known only to breed on Great Barrier and Little Barrier islands. An estimate of 1,947 – 2,197 breeding birds was obtained for the 2015/16 breeding season in the core breeding area on Great Barrier Island, but further work is required to obtain an island-wide population estimate. A total population estimate of 620 breeding pairs was obtained for Little Barrier Island, which represents the first comprehensive estimate for this site. Breeding success is high (66% and 85% on Great Barrier and Little Barrier islands, respectively). No Black Petrels were detected at Moehau Range, Coromandel, where the species has previously been observed.

PaCSWG4 Inf 17 provided recent population estimates for Northern Giant Petrels *Macronectes halli* of 1,935 pairs at the Forty Fours (Chatham Islands), and an estimated 340 pairs at the Auckland Islands extrapolated from an incomplete survey. The population at Enderby Island (Auckland Islands) has increased since 1988. The most recent population estimate for Northern Giant Petrels for Campbell and Antipodes islands are 234 and 230 breeding pairs, in 2000 and 2003, respectively.

PaCSWG4 Inf 18 provided a summary of monitoring of Buller's Albatross *Thalassarche bulleri* at the Snares in April 2017. The estimated number of breeding pairs had increased since 2016, with a longer-term analysis indicating that the population size probably peaked in 2005/06 and has subsequently exhibited marked inter-annual variation. The study suggested that anticipated population impacts of a decline in adult survival from 0.95 (1992-2004) to 0.91 (2005-2016) was offset by an increase in juvenile recruitment observed since 2012.

PaCSWG4 Inf 21 provided recent (2016/17) population estimates for three species of albatrosses breeding at the Chatham Islands, New Zealand. A suite of different methods was used: a ground count of Chatham Albatross *Thalassarche eremita* undertaken at The Pyramid; ground, aerial and satellite counts of Northern Royal Albatrosses *Diomedea*

sanfordi at The Forty-Fours and The Sisters; ground and aerial counts of Buller's Albatross at the Forty-Fours, and; aerial counts of Buller's Albatross at The Sisters. A comparison of data from the different methods yielded mixed results, indicating that, at this stage, aerial surveys or on-ground counts remain the preferred methods for estimating population size of albatrosses at the Chatham Islands.

PaCSWG4 Inf 22 provided an updated breeding population estimate for Pink-footed Shearwater at the Juan Fernandez Islands, Chile. Pink-footed Shearwater is endemic to Chile and has a global population of c. 56,000 breeding individuals, of which 30% breed at the Juan Fernandez Islands and 70% at Isla Mocha. At Juan Fernandez Islands, the survey provided an estimate of 10,194 breeding pairs, which is considerably higher (14.5%) than the estimate in 2002-03, with the difference attributable to the considerably higher burrow occupancy rate on Santa Clara following the eradication of European Rabbits *Oryctolagus cuniculus* prior to the 2004 breeding season. Analyses of the census data for Isla Mocha are ongoing.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

The Working Group recommends that the Advisory Committee:

1. supports the review by PaCSWG of information concerning the global threat status (IUCN Red List Category of Extinction Risk) for all ACAP species to ensure consistency and strict adherence to the IUCN Categories and Criteria (IUCN 2012) and to the Guidelines for using the IUCN Categories and Criteria (IUCN 2017);
2. endorses PaCSWG conveying the outcomes of the review to BirdLife International with recommendations for revisions, if necessary, to the global threat status of ACAP species (IUCN Red List Category of Extinction Risk), before PaCSWG5.

6. THREATS AND PRIORITISATION

Richard Phillips reminded the WG about the threats classification framework used by ACAP, highlighting that the approach differs from that used by Birdlife International. Birdlife International is reviewing their approach, and is already engaged in dialogue with the Secretariat and WG members (see below under Agenda Item 17).

6.1. Updates on management of land-based threats

Information on management responses to the threats listed in the ACAP database were provided by Parties prior to PaCSWG4 and are summarised in **ANNEX 2**.

PaCSWG4 Doc 05 recounts recent efforts to determine the status of the Waved Albatross *Phoebastria irrorata* colony at Isla de la Plata, Ecuador. The authors documented human disturbance within the nesting area affecting all three nests, and overgrowth of non-native vegetation resulting in the mortality of 1 chick (2016: 3 nests, 1 fledged chick). The authors

recommend conservation actions, including vegetation control, nest monitoring for rodent impacts, and reduced visitor numbers in the nesting area.

The WG agreed that it was important to compile and apply the set of recommendations considered to minimize the impacts and threats on the Waved Albatross at Isla de la Plata.

PaCSWG4 Inf 01 evaluated the role of rabbit haemorrhagic disease (RHD) during the Macquarie Island Pest Eradication Project (MIPEP). Heavy rabbit mortality following release of RHD virus on subantarctic Macquarie Island complemented the rabbit eradication operations, by reducing secondary poisoning of seabirds (including two giant petrel species listed by ACAP) from aerial Brodifacoum baiting, and also ruled out cool or humid climate as a major limiting factor affecting the spread of RHD in rabbit populations.

The WG welcomed the information shared in the paper and pointed out the importance of learning from experiences and lessons gained in eradication campaigns.

PaCSWG4 Inf 02 highlighted that mitigation of non-target species impacts was a major challenge for MIPEP. Following limited baiting due to bad weather in 2010 (10% of the island), non-target mortality of 960 individuals of six bird species was recorded (primarily Kelp Gull *Larus dominicanus*, Northern Giant Petrel and Brown Skua *Stercorarius antarcticus*). The project was then reviewed and enhanced mitigation measures were implemented to minimise non-target species impacts. Two principal measures included releasing RHD virus to reduce the rabbit population prior to baiting, and increasing effort of field teams during and after baiting to remove carcasses to reduce exposure of scavengers to toxic residues. Aerial baiting was completed in 2011 and seabird mortality was monitored, with over 1,460 dead birds identified. No species was considered to have sustained impacts that threatened the viability of the local population.

The WG noted the value of documenting the impacts of the Macquarie Island rodent and rabbit eradication campaign on ACAP species. Information on burrowing petrels and giant petrels shows that numbers of several species have increased since the eradication campaign was completed.

PaCSWG4 Inf 19 reviewed data about the Westland Petrel *Procellaria westlandica* and provided information to assist future threat assessment reviews. The observed threats include: landslips and extreme climate events degrading nesting habitat; bycatch mortality in commercial, recreational, and high-seas fisheries; attraction of fledglings to lights; and the potential encroachment of pigs *Sus scrofa* and dogs *Canis familiaris* into breeding areas. Population size estimation, demographic modelling, and trend information indicate that the population is small (~2,800 breeding pairs) with very low productivity and therefore potential vulnerability to stochastic events. The authors recommended immediate review of the threat status of the species, and mitigation to reduce the severity of threats. They also suggested uplisting by IUCN to Endangered and that the ACAP threat assessments should be revised to include two potentially important threats: pig predation and dog predation.

The WG noted that there is a new task in the work program to review the application of IUCN criteria to ACAP species by AC11.

PaCSWG4 Inf 27 acknowledged that most of the susceptible birds that bred on the mainland of South Georgia (Islas Georgias del Sur)¹ were lost to predation by rodents. In 2011, a small UK charity began to clear Brown Rats *Rattus norvegicus* and House Mice *Mus musculus* using helicopters to spread Brodifacoum bait. Larger glaciers were barriers to rodent movement, creating numerous independent populations and allowing the eradication to proceed over multiple seasons. By January 2017, 22 months after baiting was concluded, no rodent sign was observed, other than one rat apparently newly introduced by ship in October 2014. Seven (of 30) species of breeding birds suffered losses from poisoning, but all populations appear to have recovered within five years. Cavity-nesting seabirds were exploring scree habitat in newly rat-free areas. Enhanced biosecurity measures are urgently needed to prevent rodents being re-introduced.

In relation to document **PaCSWG4 Inf 27**, the Argentine Republic expressed objections, in the terms indicated in the **ANNEX 3** of this report.

The United Kingdom replied to this as indicated in **ANNEX 4** of this report.

The WG noted that this paper described the first scientific report of rodent eradication at this site and reiterated the recommendation at PaCSWG3 that effective biosecurity measures, especially regarding vessels and ships, must be maintained to prevent any future introductions of feral species.

As briefly mentioned in South Africa's Implementation Report to MoP6 (**AC10 Inf 10**), the WG was advised that South Africa has recently commenced planning of the eradication of Marion Island's house mice. An eradication attempt would follow on from the eradication of mice on Gough Island (planned for 2019). South Africa's Implementation Report contains references to a suite of research papers and reports on the impacts of mice on seabirds on Marion Island published in the last decade, including a feasibility study undertaken by New Zealand island invasive mammal eradication expert, John Parkes. The WG noted that once more information becomes available it will be shared via ACAP's website news section, and also that a recent news item on the ACAP website graphically illustrates the damage Marion's mice are causing to the island's ACAP-listed albatrosses.

Beth Flint alerted the WG to another emerging threat, related to heat stress to birds. She described this newly observed phenomenon which has occurred in the pre-laying period and near-fledging period on Midway Atoll, leading to adult mortalities of Laysan Albatross (*Phoebastria immutabilis*) at the colony. It was most commonly observed on low wind days, and in one instance 43 birds died, likely from hyperthermia, in one small section of the colony (0.25 ha). This may be a growing problem due to global warming. This potential threat should be further evaluated.

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

PaCSWG4 Doc 10 mapped the overlap with fishing effort (pelagic and demersal longline, and trawl fisheries, in the Southern Ocean for the period 1990-2009) of four ACAP species breeding at South Georgia (Islas Georgias del Sur)¹, including Grey-headed Albatross

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.

Thalassarche chrysostoma, Black-browed Albatross, Wandering Albatross *Diomedea exulans*, and White-chinned Petrel. The authors used a comprehensive tracking dataset from all major life-history stages weighted according to the proportion of the population they represented (based on demographic models), to generate population-level distributions by month. The paper emphasized the need for continued use of bycatch mitigation measures and the need for more comprehensive tracking coverage.

Regarding document **PaCSWG4 Doc 10**, the Argentine delegation took note of the use of the double nomenclature and the footnote, in line with ACAP Resolution 2.9, in parts of the presented document. On the other hand, Argentina expressed objections regarding part of the information presented in the terms indicated in the **ANNEX 3** of this report.

The United Kingdom replied to this as indicated in **ANNEX 4** of this report.

The WG recognized the importance of this work and was reminded that the demersal longline fisheries from Argentina are not operating at the present date. The WG noted a suggestion that the authors re-analyse the data and map overlap (and hence bycatch risk) that accounts for the use of bird bycatch mitigation by some fleets. Richard Phillips explained that a re-analysis was possible but would be time-consuming.

PaCSWG4 Inf 11 presented the use of DNA metabarcoding as a marine conservation and management tool, and its application to a circumpolar examination of the relative importance of fishery discards in the diet of Black-browed Albatross. The approach was used to investigate fish prey during the breeding season at six sites across their range, over two seasons, showed the spatial and temporal diversity of fish in their diets and overlap with fisheries operating in adjacent waters. This study indicated ongoing interactions with fisheries through consumption of fishery discards, increasing the risk of seabird mortality.

In relation to document **PaCSWG4 Inf 11**, the Argentine Republic expressed objections, in the terms indicated in the **ANNEX 3** of this report.

The United Kingdom replied to this as indicated in **ANNEX 4** of this report.

The WG noted that breeding success of albatrosses may be affected by the availability of fish discards, and that further studies on the implications were needed.

PaCSWG4 Inf 24 used tracking data from globally threatened pelagic seabirds, including ACAP species, to identify priority sites for marine conservation in the South Atlantic Ocean, with emphasis on development of a Marine Protected Area network in the high seas. The authors combined year-round tracking data from six species, and used the systematic conservation-planning tool, 'Zonation', to delineate areas that would protect the largest proportion of each population. The most important areas for these species were located south of South Africa, around the central South Atlantic between 30°S and 55°S, and near South America. The authors highlighted the need for improved monitoring of seabird bycatch rates and the enforcement of compliance with bird bycatch mitigation requirements by fisheries within those areas. An important result was the finding that there was no overlap between the identified areas and any of the existing MPAs in the South Atlantic.

The WG reflected on the importance of mapping areas of greatest bycatch risk and interactions with seabird populations, which could be used for targeting of observer programs for monitoring bycatch rates and levels of compliance with bycatch mitigation.

SBWG8 Doc 17 showed global patterns of sex- and age-specific variation in seabird bycatch. Bycatch of adults and males was higher in subpolar regions, whereas there was a tendency for more immatures and females to be killed in subtropical waters. Fishing method influenced sex- and age-ratios only in subpolar regions. The document presented recommendations including: (1) tracking individuals of different sex and age classes to improve knowledge of their relative overlap with vessels, and hence susceptibility to bycatch; (2) collecting data on sex, age and provenance of bycaught birds by fisheries observers in order to identify regions and fleets where bycatch is more likely to result in population-level impacts, and to improve targeting of bycatch mitigation and monitoring of compliance, and; (3) including sex-specific effects when investigating the influence of fisheries on life history traits of albatrosses and petrels to improve our understanding on the impact of fisheries on their population dynamics.

The WG recognized the importance of these conclusions and agreed that the recommendations were appropriate. The WG also noted the higher bycatch of females in subtropical locations was of interest to the RFMOs. The WG was made aware that in the North Pacific basin, mitigation efforts were focused particularly on fleets fishing at high latitude, but that more attention was required in subtropical areas which are used to a greater extent by female albatrosses.

The SBWG Convenor noted the importance of incorporating sex and age biases in bycatch rates in risk assessments.

SBWG8 Inf 05 presented information on sex-related variation in the vulnerability of the Wandering Albatross to pelagic longline fleets. Authors used extensive tracking data (1990–2012) from breeding birds at South Georgia (Islas Georgias del Sur)¹ to investigate overlap with longline fishing effort reported to the International Commission for the Conservation of Atlantic Tunas (ICCAT). Using data from multiple years, it was concluded that breeding females are at higher risk than males from all the main pelagic longline fleets in the south-west Atlantic. The consistent sex bias in overlap across years, and the likely resulting sex-biased mortality, could account for lower adult female survival rate at the colony.

SBWG Inf 06 presented information on sexual size dimorphism, spatial segregation and sex-biased bycatch of Southern Royal Albatross *Diomedea epomophora* and Northern Royal Albatross in pelagic longline fisheries. The authors examined the degree of sexual size dimorphism and developed discriminant functions to determine species and sex. Based on a large sample of albatrosses bycaught off Uruguay, both species showed substantial sexual size dimorphism. Results showed that albatross bycatch in the pelagic longline fishery was female-biased, indicating sexual segregation at sea. The discriminant functions enable species and sex to be identified, providing critical data for future bycatch assessments.

6.3. Effects of climate change and mitigation

PaCSWG4 Inf 03 assessed the development of a climate adaption strategy for vulnerable seabirds based on prioritisation of intervention options using semi-quantitative cost–benefit–risk tool, leading to a relative ranking of actions. Increasing chick survival via reduction of disease prevalence through control of vectors was selected for field trials. Avian insecticide was applied to chicks mid-way through their development. Survival of treated chicks after six weeks was significantly higher than those in control areas. This approach showed that

options to enhance albatross populations exist and that testing interventions prior to serious impacts can formalise institutional processes and allow refinement of actions that offer some chance of mitigating the impacts of climate change on marine species.

The WG shared its concerns regarding the practicalities of developing long-term climate mitigation strategies at colonies, and noted there was considerable inter-annual variation in the effects of disease and parasites.

PaCSWG4 Inf 04 described the World Wildlife Fund (WWF) tool for assessing the vulnerability or resilience of species to climate change based on four factors: sensitivity, adaptive capacity, exposure, and other threats, on a scale from low vulnerability to high vulnerability. Application of the tool could provide policy makers with information about areas of medium to high vulnerability, and information gaps that may be considered in implementing climate-adaption strategies, and in conducting further research in support of species management planning. The authors highlighted that submission of completed vulnerability assessments for albatross and petrel species would be considered for inclusion in future WWF publications.

PaCSWG4 Inf 05 provided an assessment on the effects of climate change and fisheries bycatch on the Shy Albatross by the use of an age-, stage- and sex-structured population model to explore potential relationships between local environmental factors and breeding success while accounting for fisheries bycatch by trawl and longline fisheries. The model showed that mitigation of at least 50% of present bycatch is required to offset losses due to future temperature changes, even if upwelling increases substantially. The authors highlighted the benefits of using an integrated modelling approach, which uses available demographic as well as environmental data within a single estimation framework, to provide future predictions that might inform the development of management options in the face of climate change.

6.4. Review terrestrial threat prioritisation

The Science Officer presented the outcome of a land threats prioritisation exercise carried out every three years prior to the MoP. This was an update to the table in **MoP5 Doc 15 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 in the ACAP database. The current analysis took account of the refined threat criteria discussed at PaCSWG2 and a more rigorous threat reporting in the database.

The WG noted that House Mice on Marion Island were not listed in the current iteration. The Science Officer explained that this is because the population of Wandering Albatrosses on Marion Island is currently increasing and thus the threat is apparently not yet causing a population decline (as per the agreed criteria). John Cooper offered to work with the Science Officer to determine whether the threat from House Mice to any of the ACAP species on Marion Island is at a level that would qualify for listing using the ACAP threat criteria.

6.5. Review of high priority species or populations based on trends and threats

PaCSW4 Doc 03 presented population assessments aiming to propose the inclusion of Antipodean Albatrosses breeding on Antipodes Island *Diomedea a. antipodensis* as an ACAP priority population for conservation management. This subspecies breeds almost exclusively on Antipodes Island, and following a dramatic population crash in 2005, adult males have been declining at 6% per annum and females at 12% per annum. The decline appears to be driven in large part by very high female mortality, exacerbated by reduced breeding success and increased recruitment age. Since 2005, most females when not breeding have been regularly visiting the coast of Chile, waters which they rarely visited in the past. Considering the absence of land-based threats, the main cause of high female mortality appears to be fisheries bycatch north of New Zealand and in the central and eastern Pacific between 20-30° S. If this steep and rapid decline continues at the current rate, it has been predicted that the subspecies will be functionally extinct in 20 years.

The WG agreed that listing the population of Antipodean Albatross on Antipodes Island as a High Priority Population might help in ensuring conservation actions for this species. The WG also highlighted that international action was required. The WG were concerned about the lack of robust data on bycatch rates for this subspecies, partly because of difficulties in species identification by observers. The WG agreed that more vessel-based studies were needed, and noted the need for involvement of the SBWG in supporting improvement of methods used to identify birds within the Wandering Albatross species complex to better understand bycatch rates and population-level impacts.

Kath Walker advised of the plan to use satellite-transmitters to better understand the interaction with fisheries at fine scales in the east Pacific. The WG recognised the need for a better understanding of fisheries and fleets that might be affecting the Antipodean Albatross in different regions, and the potential benefits of conservation advocacy that was focused particularly on the ACAP High Priority Populations. The WG agreed with the recommendation presented in this paper and that, in addition, PaCSWG should recommend to the AC that the relevant RFMOs (i.e. IATTC) consider this population and take steps to understand their bycatch rates as a high priority. New Zealand can also bring this information on overlapping distribution of this endemic species to Chile, Ecuador and Peru.

The WG also noted the importance of developing an Action Plan for this priority population, to be presented at the next AC.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

It is recommended that the Advisory Committee:

1. recognises the threats to the Waved Albatross, and that actions are required to minimize their impact on the population;
2. commends the advances that are being achieved in planning and implementing large-scale eradication programs for non-native species that will ultimately benefit the conservation status of ACAP species;
3. recognises the importance of mapping areas of greatest overlap and potential

- bycatch risk, including for albatrosses and petrels of different age and sex in order to identify higher risk regions where increased enforcement of compliance with seabird bycatch mitigation requirements and improved bycatch monitoring are required;
4. endorses the inclusion of Antipodean Albatrosses breeding on Antipodes Island as an ACAP Priority Population for conservation management, and;
 5. ensures that actions in the work plan for engagement with RFMOs and other fisheries management bodies include a focus on advancing the conservation of the priority populations.

7. DATA GAPS

7.1. Review of key gaps in population data

WG members and meeting participants were asked to review tables that summarise data availability and a variety of data gaps, the final versions of which are provided below (**Tables 2 - 6**).

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 2006). Island groups not monitored for more than 20 years (since 1996) are highlighted in pink.

Island Group		ACAP Common name	Population estimate for island group	% global population at island group	Latest year of data at any site within island group
Australia	Heard and McDonald Islands	Southern Giant Petrel	3,500	7	2004
Disputed – North Pacific	Senkaku Retto of southern Ryukyu Islands	Short-tailed Albatross	52	8	2002
France	Crozet	Grey Petrel	5,500	7	2005
	Kerguelen	Light-mantled Albatross	4,000	26-36*	1987
New Zealand	Campbell Islands	Light-mantled Albatross	1,658	10-15*	1996
United Kingdom	Gough	Grey Petrel	17,500	13-31	2001

* Upper range excludes 1972/73 estimates of 5,000 pairs at the Auckland Islands, which is unreliable

France made important progress in 2014-2017 to fill long-standing monitoring gaps at several sites. Counts of all major breeding colonies during the early incubation period were

conducted. Helicopter flights were carried out over Iles Nuageuses off northwest Kerguelen, and over the southwestern coast of Kerguelen, as well as Ile des Apôtres, Ile des Pingouins, and Ile aux Cochons in the Crozet archipelago. In addition, high-resolution satellite images from the WorldView-3 VHR satellite were used to count Wandering Albatrosses at Ile des Apôtres in February 2017 and southwest Kerguelen in March 2017. These new data resulted in the removal of three gaps previously listed in **Table 2**: Indian Yellow-nosed Albatross *Thalassarche carteria* and Grey-headed Albatross in Crozet, and Grey-headed Albatross in Kerguelen, none of which had been monitored for over 20 years. Data gaps remain only for island groups which are logistically difficult to access, and for species which are very challenging to census.

Five sites where a population estimate has not been conducted in at least the last 10 years (for a population with >10% of that species' global breeding pairs) have been removed from the gap analyses since PaCSWG3 (**Table 3**). These were: Southern Giant Petrel at Sandy Cay (Elephant Cays); Grey-headed Albatross at Paryadin Peninsula south; Wandering Albatross at Ile aux Cochons; Indian Yellow-nosed Albatross at Ile des Pingouins; and Buller's Albatross at Great Solander Island.

No new population monitoring data gaps have been identified.

Several gaps in demographic monitoring have been filled since PaCSWG3. The database has been updated to include monitoring of breeding success of Northern Giant Petrel at Bird Island (SGSSI (IGSISS))¹, and of breeding success, juvenile and adult survival of translocated Short-tailed Albatross *Phoebastria albatrus* at Mukojima (**Table 4**). Data on breeding success and survival are lacking for Spectacled Petrel *Procellaria conspicillata* and Pink-footed Shearwater.

Table 3. Sites with >10% of species' global breeding pairs where population estimate has not been conducted in at least the last 10 years, or the data are not yet available (i.e. latest estimate is pre: 2007) (excludes sites where part-site/study colony counts have been conducted). Sites already included in Table 2 are highlighted.

Island Group	Breeding site	Common name	Population estimate (annual breeding pairs)	% of total known global population	Survey Accuracy	Latest year of population estimate	
Chile	Islas Diego Ramirez	Isla Bartolome	Grey-headed Albatross	10880	11	High	2003
Disputed – South Atlantic	South Georgia (Islas Georgias del Sur) ¹	Bird Island (SGSSI (IGSISS)) ¹	Northern Giant Petrel	2062	19	High	1996
France	Crozet	Ile de l'Est	Sooty Albatross	1300	11	Unknown	1984
	Kerguelen	Golfe du Morbihan#	Light-mantled Albatross	4000	26-36*		1987
New Zealand	Campbell Islands	Campbell Island	Light-mantled Albatross	1600	10-15*	Low	1996
	Auckland Islands	Adams Island^	Light-mantled Albatross	5,000	31-45*	Unknown	1973
United Kingdom	Gough	Gough Island	Grey Petrel	10000-25000	13-31	Unknown	2001
	Tristan da Cunha	Tristan da Cunha	Sooty Albatross	2000-3000	14-23	Unknown	1974
		Tristan da Cunha	Atlantic Yellow-nosed Albatross	16000-30000	48-89	Low	1974

Count is for all Kerguelen

^ Count is for all of the Auckland Island group

* Upper range excludes 1972/73 estimates of 5,000 pairs in Aucklands which is unreliable

Table 4: Demographic information for all ACAP species

Common name	Number of sites	Number of island groups	Adult survival data sites	Juvenile survival data sites	Breeding success data sites
Amsterdam Albatross	1	1	Plateau des tourbieres	Plateau des tourbieres	Plateau des tourbieres
Antipodean Albatross	6	4	Antipodes Island Adams Island	Antipodes Island Adams Island	Antipodes Island Adams Island
Tristan Albatross	1	2	Gough Island	Gough Island	Gough Island
Wandering Albatross	36	5	Macquarie Island Ile de la Possession Bird Island (SGSSI (IGSISS)) ¹ Marion Island Péninsule Courbet	Macquarie Island Ile de la Possession Bird Island (SGSSI (IGSISS)) ¹ Marion Island Péninsule Courbet	Macquarie Island Ile de la Possession Bird Island (SGSSI (IGSISS)) ¹ Marion Island Albatross Island (SGSSI (IGSISS)) ¹ Prion Island Péninsule Courbet
Southern Royal Albatross	4	2	Enderby Island Campbell Island	Campbell Island	Enderby Island Campbell Island
Northern Royal Albatross	5	3	The Forty-fours Taiaroa Head	Taiaroa Head	The Big Sister The Forty-fours The Little (Middle) Sister Taiaroa Head
Short-tailed Albatross	2	2	Torishima Mukojima	Mukojima	Torishima Mukojima
Laysan Albatross	17	9	O'ahu Midway Laysan Island Tern Island, French Frigate Shoals Kauai	O'ahu Midway Laysan Island Tern Island, French Frigate Shoals Kauai	O'ahu Midway Laysan Island Tern Island, French Frigate Shoals Kauai
Waved Albatross	2	2	Isla Espanola	Isla Espanola	Isla Espanola

Common name	Number of sites	Number of island groups	Adult survival data sites	Juvenile survival data sites	Breeding success data sites
Black-footed Albatross	15	11	Tern Island, French Frigate Shoals Laysan Island Midway Atoll	Tern Island, French Frigate Shoals Laysan Island Midway Atoll	Tern Island French Frigate Shoals Laysan Midway Atoll
Sooty Albatross	15	6	Ile de la Possession Falaise d'Entrecasteaux	Ile de la Possession Falaise d'Entrecasteaux	Ile de la Possession Marion Island Gough Island Falaise d'Entrecasteaux
Light-mantled Albatross	71	9	Macquarie Island Ile de la Possession Jeanne d'Arc Peninsula	Ile de la Possession Jeanne d'Arc Peninsula Macquarie Island	Macquarie Island Ile de la Possession Campbell Island Marion Island Bird Island (SGSSI (IGSISS)) ¹ Jeanne d'Arc Peninsula
Buller's Albatross	10	4	North-East Island The Little (Middle) Sister	North-East Island	North-East Island Great Solander Island
Indian Yellow-nosed Albatross	6	5	Falaise d'Entrecasteaux	Falaise d'Entrecasteaux	Falaise d'Entrecasteaux
Shy Albatross	3	1	Albatross Island (AU)	Albatross Island (AU)	Albatross Island (AU) Pedra Branca
Atlantic Yellow-nosed Albatross	6	2	Gough Island Tristan da Cunha	Gough Island	Gough Island Inaccessible Island Tristan da Cunha
Grey-headed Albatross	29	8	Macquarie Island Campbell Island Bird Island (SGSSI (IGSISS)) ¹ Marion Island	Macquarie Island Campbell Island Bird Island (SGSSI (IGSISS)) ¹	Macquarie Island Campbell Island Bird Island (SGSSI (IGSISS)) ¹ Marion Island
Chatham Albatross	1	1	The Pyramid	No data	No data
Campbell Albatross	2	1	Campbell Island	Campbell Island	Campbell Island

Common name	Number of sites	Number of island groups	Adult survival data sites	Juvenile survival data sites	Breeding success data sites
Black-browed Albatross	65	14	Macquarie Island Jeanne d'Arc Peninsula Bird Island (SGSSI (IGSISS)) ¹ New Island	Macquarie Island Jeanne d'Arc Peninsula Bird Island (SGSSI (IGSISS)) ¹	Macquarie Island Jeanne d'Arc Peninsula Bird Island (SGSSI (IGSISS)) ¹ Saunders Island New Island Steeple Jason West Point Island
Salvin's Albatross	12	4	Toru Islet	No data	No data
White-capped Albatross	5	3	Auckland Island	No data	Auckland Island
Southern Giant Petrel	123	26	Marion Island Bird Island (SGSSI (IGSISS)) ¹	Bird Island (SGSSI (IGSISS)) ¹	Isla Arce Isla Gran Robredo Macquarie Island Ile de la Possession Laurie Island Nelson Island Marion Island Bird Island (SGSSI (IGSISS)) ¹ Gough Island King George Island Golden Knob (Elephant Cays) Sandy Cay (Elephant Cays) Steeple Jason Anvers Island Signy Island
Northern Giant Petrel	50	11	Ile de la Possession Marion Island Bird Island (SGSSI (IGSISS)) ¹ Macquarie Island	Bird Island (SGSSI (IGSISS)) ¹	Macquarie Island Ile de la Possession Marion Island Bird Island (SGSSI (IGSISS)) ¹
White-chinned Petrel	76	8	Ile de la Possession Golfe du Morbihan	Ile de la Possession Golfe du Morbihan	Ile de la Possession Marion Island Bird Island (SGSSI (IGSISS)) ¹ Golfe du Morbihan

Common name	Number of sites	Number of island groups	Adult survival data sites	Juvenile survival data sites	Breeding success data sites
Grey Petrel	17	9	Golfe du Morbihan	Golfe du Morbihan	Macquarie Island Marion Island Gough Island Golfe du Morbihan
Spectacled Petrel	1	1	No data	No data	No data
Black Petrel	2	1	Great Barrier Island	Little Barrier Island Great Barrier Island	Little Barrier Island Great Barrier Island
Westland Petrel	1	1	Punakaiki	Punakaiki	Punakaiki
Pink-footed Shearwater	3	2	No data	No data	No data
Balearic Shearwater	5	1	Mallorca Ibiza	Mallorca Ibiza	Mallorca Cabrera Menorca Ibiza

The WG also reviewed the priority programmes identified for each ACAP species by region. Progress against these priorities since AC9 (2016) is summarised in **Table 5**.

Table 5. Summary of progress on regional priority programmes.

Priority programmes	Progress since AC9 (May 2016)
ANTARCTICA two species; 50 sites, two of unknown size	
(i) Resurvey Southern Giant Petrel at King George and Nelson Islands, South Shetland Islands	<i>Brazil maintained both programmes</i>
(ii) Maintain long-term population and productivity monitoring of Southern Giant Petrels at Signy Island, South Orkney Islands.	<i>Maintained programme</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>None reported</i>
(ii) Resurvey the two sites at Isla de los Estados.	<i>None reported</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 programme</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>
New (iv) Survey Pink-footed Shearwater on Isla Mocha and on at least one of the islands in Juan Fernández archipelago	<i>None reported</i>
New (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 AC9 (May 2016)
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 (Diaoyu) Islands.	<i>Maintained research program, added Oahu as a calibration site.</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 Albatross and Prion islands at South Georgia (Islas Georgias del Sur) ¹ (three ACAP species).	<i>Maintained all programmes</i>
(iii) Maintain White-chinned Petrel population monitoring at six sites at South Georgia (Islas Georgias del Sur) ¹ .	<i>Five plots resurveyed; 4 on mainland and one on Bird Island (2015/16). Bird Island census carried out in 2016/17; data are currently being analysed. Feasibility of low-disturbance demographic monitoring being considered for Bird Island.</i>
(iv) Maintain long-term demographic monitoring of Black-browed Albatross at two sites in the Falkland Islands (Islas Malvinas) ¹ .	<i>Both programmes maintained</i>
(v) Maintain long-term population monitoring of Black-browed Albatrosses elsewhere in the Falkland Islands (Islas Malvinas) ¹ .	<i>Full island aerial census planned for austral summer 2017/18</i>
(vi) Resurvey Southern Giant Petrels at the Falkland Islands (Islas Malvinas) ¹ .	<i>Aerial island-wide census conducted during summer 2015/16. Photographs have been analysed and report has been completed.</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>A selection of Black-browed and Grey-headed Albatross, and majority of Wandering Albatross sites re-surveyed in 2014/15. Trends paper published in 2017.</i>
ECUADOR: single endemic species (Waved Albatross) at two sites, declining; no juvenile survival data.	
(i) Survey all of Española, Galapagos Islands.	<i>Sampling design exists. No additional progress.</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>Data in hand, report in progress.</i>

Priority programmes	Progress since AC9 (May 2016)
FRANCE: 12 species at 99 sites in three island groups; 20% of populations of unknown size; steep declines in Sooty Albatross.	
(i) Maintain long-term demographic or population monitoring at Kerguelen (5 species).	<i>Maintained all programmes</i>
(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 Wandering Albatross at Cochons and Ile de l'Est, Crozet, and western colonies, Kerguelen; Indian Yellow-nosed Albatross at Pingouins and Apotres, Crozet; Grey-headed Albatross at Pingouins, Crozet and Iles Nuageuses, Kerguelen; Sooty and Light-mantled Albatross at Ile de l'Est, Crozet; 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	<i>Some colonies resurveyed</i>
JAPAN: three species; current trend, adult survival and productivity unknown for four populations.	
(i) Establish long-term demographic monitoring at all sites.	<i>Preliminary data available for adult and juvenile survival and breeding success at Mukojima translocation site.</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>No further progress.</i>
(ii) Survey Salvin's Albatross at Bounty Islands.	<i>A two-year research project has been planned. Implementation has been postponed until 2018 due to logistical difficulties.</i>
(iii) Maintain long-term demographic monitoring of Black Petrel at Great Barrier Island.	<i>Programmed maintained.</i>
(iv) Maintain long-term demographic monitoring of Antipodean Albatross at Adams Island, Auckland Islands.	<i>Programme maintained.</i>
(v) Maintain long-term demographic monitoring of Buller's Albatross at the Snares, and resurvey Snares and Solander Islands.	<i>Monitoring at the Snares continued in 2016/17. Population estimate from the Solander Islands reported.</i>
(vi) Maintain population monitoring of White-capped Albatross at all sites in the Auckland Islands.	<i>Population estimates and demographic study at Disappointment Island were both continued in 2016/17.</i>

Priority programmes	Progress since AC9 (May 2016)
(vii) Survey White-chinned Petrel at the Auckland Islands.	<i>Further demographic and tracking data was collected at Adams Island in 2016/17.</i>
(viii) Collate existing data on Light-mantled Albatross populations and survey at major breeding sites.	<i>A range of methods were investigated to allow future population estimates on this difficult to study species, and are reported to PaCSWG4.</i>
SOUTH AFRICA: 9 species including 17 populations; 18% of populations of unknown size; no survival data for 13 populations.	
(i) Maintain long-term population monitoring of Sooty and Light-mantled Albatrosses at Marion Island.	<i>Continued to maintain long-term population monitoring of Sooty and Light-mantled Albatrosses at Marion Island.</i>
(ii) Survey White-chinned and Grey Petrels at Marion and Prince Edward Islands.	<i>None reported</i>
(iii) Maintain long-term demographic monitoring of Wandering and Grey-headed Albatrosses at Marion Island.	<i>Annual estimates of chicks fledged at Marion Island continue to be made for Wandering Albatross and Grey-headed Albatross. Annual estimates of breeding success are made for these species and the two giant petrels.</i>
(iv) Maintain intermittent population monitoring	<i>Annual estimates of numbers of pairs breeding at Marion Island continue to be made for Wandering, Grey-headed, Light-mantled and Sooty Albatrosses and the two giant petrels.</i>
SPAIN: 1 species in one archipelago (Balearics), five island groups within a main archipelago (Balearics).	
(i) Establish 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.	<i>None reported</i>
(ii) Recover the available information collected in the last 12 years on behalf of the local administration	<i>None reported</i>
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</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>Maintained programme</i>
(iv) Maintain intermittent population monitoring of Spectacled Petrel at Inaccessible Island.	<i>None reported</i>

Priority programmes	Progress since AC9 (May 2016)
(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>Aerial survey completed and report due late 2017.</i>
(vii) Survey all island and establish intermittent population monitoring in study plots of Grey Petrel at Gough Island.	<i>Study plot monitoring continued</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>Analyses in progress for Midway, Tern Island, Laysan, and Kauai.</i>
(ii) Survey the five breeding sites where not currently monitored, and at all sites at five-year intervals population monitoring.	<i>None reported but exploring remote sensing technology for that task</i>

7.2. Review of key gaps in tracking data

The WG also reviewed the priority programmes identified for each ACAP species by region, and progress against these priorities since AC9 (2016) is summarised in **Table 6**.

Table 6. Regional tracking priorities.

Priorities	Progress since AC9 (May 2016)
ARGENTINA – Southern Giant Petrels (non-breeding adults and juveniles) at Isla Arce and Isla Gran Robredo.	<i>None reported</i>
AUSTRALIA - Shy Albatross (juveniles) in Tasmania; juveniles of all albatross species at Macquarie Island.	<i>Tracking studies (PTT) include: Shy Albatross - two juveniles at Albatross Island in April 2016, four juveniles at Albatross Island in April 2017, and four juveniles at the Mewstone in April 2017; and Light-mantled Albatross - two juveniles at Macquarie Island in April 2017</i>
CHILE 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;	<i>None reported</i>

Priorities	Progress since AC9 (May 2016)
ii) tracking of Southern Giant Petrels at Isla Noir.	<i>None reported</i>
DISPUTED i) Black-browed and Grey-headed Albatrosses (juveniles) at South Georgia (Islas Georgias del Sur) ¹	<i>GLS loggers were deployed at Bird Island on juvenile Grey-headed Albatrosses in June 2014, 2015 and 2017, and on juvenile Black-browed Albatrosses in April 2016</i>
ii) White-chinned Petrel (adults and juveniles) at South Georgia (Islas Georgias del Sur) ¹	<i>Data from 2015/16 season being analysed</i>
iii) Light mantled Albatross (adults in incubation and brood) at Bird Island, South Georgia (Islas Georgias del Sur) ¹ .	<i>Data analysis to start in 2018</i>
New iv) Wandering Albatross pre-breeders and deferring adults during the breeding season (high-resolution data reqd. to map overlap with fleets in SW Atlantic)	
ECUADOR - Waved Albatross (juveniles) at Galapagos.	<i>None reported</i>
FRANCE - Grey-headed and Indian Yellow-nosed Albatrosses at Crozet Islands, Grey-headed Albatross at Kerguelen	<i>None reported</i>
JAPAN - Black-footed Albatross at Ogasawara Islands.	<i>None reported</i>
NEW ZEALAND i) Salvin's Albatross at Bounty Islands;	<i>A two year tracking programme has been planned, but implementation has been delayed until 2018 due to logistical issues</i>
ii) White-chinned Petrel at Auckland Islands	<i>Adams Island was visited again in 2016/17 and analysis of tracking data collected to date is underway</i>
iii) Light-mantled Albatross at key sites.	<i>None reported</i>
SOUTH AFRICA - Juveniles of all species at Prince Edward Islands (<i>Phoebastria</i> species higher priority).	<i>PTT were deployed on juvenile sooty albatross in 2015. Analysis have not been completed. Paper has been submitted for publication on foraging distribution and habitat use of Indian Yellow-nosed Albatross</i>

Priorities	Progress since AC9 (May 2016)
SPAIN – 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>None reported</i>
UNITED KINGDOM - Grey Petrel at Gough Island; juveniles of most species at Gough and Tristan da Cunha.	<i>None reported</i>
USA - Black-footed Albatross at Laysan Island.	No progress since AC9

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

The Working Group recommends that the Advisory Committee:

1. encourages 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. encourages Parties and Range States responsible for breeding populations of ACAP species to implement the listed priority population and demographic monitoring programmes, and;
3. encourages Parties and others to undertake the identified priority tracking studies.

8. ACAP PRIORITY POPULATIONS

8.1 Review key research and management actions for ACAP Priority Populations

At AC6 and AC9, some high priority populations (at the island group level) were identified that were declining at more than 3% per year, held more than 10% of the global population, and were at risk from fisheries. 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. Five such populations were identified at AC6, and a further four priority populations were identified at AC9 as meeting the criteria, while one population was removed from the list (**Table 7**). An additional candidate population was identified at PaCSWG4, and has been recommended to the AC10 for inclusion as an ACAP High Priority Population (see Agenda Item 6.5).

Table 7. Populations that have been identified as meeting the criteria as ACAP High Priority Populations.

Added	Species	Site	Action Plan
AC6 (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 link: http://jncc.defra.gov.uk/pdf/pub10_TristandaCunhaACAPplan.pdf
	4 Sooty Albatross	Crozet Island	Required
	Sooty Albatross	Prince Edward Islands	Removed at AC9 as increases in population size observed at Marion and Prince Edward islands
AC9 (2016)	5 Grey-headed Abatross	South Georgia (Islas Georgias del Sur) ¹	http://www.gov.gs/albatross-action-plans/
	6 Indian Yellow-nosed Albatross	Amsterdam Island	Required
	7 Balearic Shearwater	Balearic Islands	Yes
	8 Waved Albatross	Espanola Island	Yes
AC10 (2017)*	9 Antipodean Albatross	Antipodes Islands	Required

*Nominated at PaCSWG4 for inclusion as a Priority Population.

PaCSWG3 had recognised the importance of identifying priority actions and monitoring progress for each of the Priority Populations. The mechanism suggested was that Parties be asked to develop a list of priority research and management actions for each High Priority Population, and report on progress to each PaCSWG meeting. Of the eight current Priority Populations, five have action plans, but the requirement for an action plan for three populations (Tristan Albatross *Diomedea dabbenena* at Gough Island, Sooty Albatross *Phoebetria fusca* at Crozet Island, Indian Yellow-nosed Albatross at Amsterdam Island) remain outstanding. An action plan for the Antipodean Albatross will also be required if the recommendation from the PaCSWG4 to AC10 is accepted.

Specific updates were provided on four of the currently listed eight High Priority Populations.

PaCSWG4 Inf 25 provides an update on the monitoring and conservation actions for the **Balearic Shearwater in Spain**. Population estimates remain uncertain, with contrasting figures derived from colony estimates (ca. 3,000 breeding pairs) compared to counts at sea (over 25,000 individuals equivalent to ca. 7,000 pairs). Regardless, the estimated population

trend is a decline of 14% per year, largely driven by low adult survival (0.81). The main threats reducing adult survival are fisheries bycatch at sea and predation by introduced species on land. In recent years, national and international agreements, including ACAP's designation of the species as a priority population, that reinforce the urgent need to improve the conservation status of the Balearic Shearwater, have assisted in leveraging actions to implement monitoring and management actions.

PaCSWG4 Inf 29 provided updates on recent trends in numbers for the three high priority populations, **Wandering, Black-browed and Grey-headed Albatrosses, breeding at South Georgia (Islas Georgias del Sur)**¹: Surveys of these populations were conducted in the 2014/15 season, repeating previous surveys conducted in the 2003/04 season. Numbers of Wandering Albatrosses decreased by 18%. Over the same period, Black-browed and Grey-headed albatrosses decreased by 19% and 43%, respectively. These represent a continuation of negative trends at this site since the 1970s compared to some populations elsewhere, which have shown signs of recent recovery. The ongoing population declines, and in the case of the Grey-headed Albatross, an acceleration of the decline is of major conservation concern.

Species-specific Conservation Action Plans, have been developed, and are in the process of being implemented, to strengthen and coordinate efforts to improve the conservation status of these populations (**PaCSWG4 Inf 30**). These plans recognise that due to their wide-ranging nature, the conservation status of the affected species and populations will only be achieved through a coordinated international approach to mitigate the threats.

The Argentine Republic objected to the presentation of documents **PaCSWG4 Inf 29** and **PaCSWG4 Inf 30**, in the terms indicated in the **ANNEX 3** of this report.

The United Kingdom replied to this as indicated in **ANNEX 4** of this report.

No updates were specifically provided for the other four high priority populations. The WG noted that some information can be obtained from data provided to ACAP. On Amsterdam Island, the number of Indian Yellow-nosed Albatrosses in the main breeding colonies decreased steadily between the early 1980s and the 2010s at a rate of 1.1% per year, resulting in an estimated 38.6% decline between 1983 and 2013. The rate of decrease has been faster (5.7% per year) in the sub-colonies monitored annually, which reduced from 332 pairs in 1983 to 13 pairs in 2017.

8.2 Development of an ACAP strategy for Priority Populations

The WG welcomed the detailed updates for four of the priority species and the recent development and implementation of the action plans for the three priority populations breeding at South Georgia (Islas Georgias del Sur)¹. Noting the importance of the action plans, the WG recommended that the AC requests that ACAP Parties develop a list of the most important actions that identify priority research and conservation activities for each of the high priority populations where they are currently lacking, and report to each AC meeting on progress in implementing those activities. To assist with this reporting, the WG recommended that PaCSWG, with the assistance of SBWG, develop a reporting template to assist reporting on progress of key actions for each of the high priority populations, prior to

the next PaCSWG meeting, with a requirement for reporting for each high priority population at each meeting of the PaCSWG.

The WG noted the importance of the action plans for the high priority populations, and that effective management strategies for these wide ranging marine species will only be achieved through a coordinated international approach. The WG noted the importance of Range States responsible for both breeding and foraging sites to cooperate in the development and implementation of effective management actions on land and at sea.

The WG discussed the importance of wide public and political awareness of the seriousness of the poor conservation status and plights facing ACAP species, particularly the populations that have been identified as high priorities. The WG recognised the efforts of members of national groups and Parties to raise awareness of conservation of ACAP species and mitigation strategies to assist their conservation. The WG explored options for sharing these outreach resources and suggested an option for the ACAP website to serve as a repository for outreach resources for ACAP species that may facilitate in sharing and extending their application.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

The Working Group recommends that the Advisory Committee:

1. requests that Parties develop a list of actions that identify priority research and conservation activities for each of the High Priority Populations where they are currently lacking, and report to each AC meeting on progress in implementing those activities;
2. requests that PaCSWG, with the assistance of SBWG, develop a template to assist reporting on progress of key actions for each of the High Priority Populations, prior to the next PaCSWG meeting, with a requirement for reporting for each High Priority Population at each meeting of the PaCSWG;
3. encourages responsibility for priority conservation and management actions be shared between Range States responsible for both the breeding and foraging grounds for each of the high priority populations;
4. encourages the Secretariat to ensure that their engagement with the RFMOs is both strategic and focussed to ensure the attention to mitigation strategies focusses on the high priority populations, where appropriate;and
5. endorses the facilitating of sharing of outreach tools and products on the ACAP website.

9. ACAP PERFORMANCE INDICATORS

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

The Science Officer presented the agreed indicators for breeding sites, populations and tracking data for the original 26 species listed on Annex 1 of the Agreement in 2004. Trends and progress since 2004 were noted for each indicator. These will be finalised in early 2018, prior to MoP6. Tracking indicators will be populated based on data available in the Seabird Tracking Database curated by Birdlife International.

The WG reflected that it would also be helpful to incorporate the species listed by ACAP since 2004 within the analysis of indicators. The Science Officer advised that in addition to the current table, the three northern albatross species listed in 2009 will be incorporated into a shorter time-series analysis in the document presented to MoP6 next year. The WG was encouraged to update the database to ensure that the data available for the indicator analysis would be as comprehensive and current as possible.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

The Working Group recommends that the Advisory Committee:

1. encourages data-holders to submit their tracking data to the BirdLife International Seabird Tracking Database to enable the indicator relating to tracking data availability to be determined accurately.

10. BEST-PRACTICE GUIDELINES AND OTHER ONLINE RESOURCES

10.1 Updates to existing guidelines

The range of existing best practice guidelines that are currently available on the ACAP website (<http://www.acap.aq/en/resources/acap-conservation-guidelines>) is increasing in scope, and these guidelines are viewed as an increasingly valuable conservation management resource applicable to ACAP species and more broadly. Importantly, these guidelines can easily be updated as new information becomes available.

Revision of the biosecurity protocols was recommended at AC9 to ensure that they included protocols to reduce the transmission of pathogens, such as those in place at Amsterdam Island. Following further consultation with French researchers and consideration of the extensive biosecurity practices that are required following outbreaks of disease, the WG decided that a separate suite of guidelines would be more appropriate. Anton Wolfaardt and Marcela Uhart offered to lead the development of such guidelines, in consultation with other members of the WG, noting that some existing material for the Southern Giant Petrel in Argentina may be used as a basis (PaCSWG2 Inf 01 Rev 1).

As noted in **SBWG8 Doc 09**, a Seabird Bycatch Identification Guide, available in English, French, Spanish, Portuguese, Traditional Chinese and Simplified Chinese has been completed, and Korean and Japanese versions are currently being edited. The ID guide has been very well received in the RFMO and seabird conservation communities. For the guide to remain relevant and effective, it needs to be updated. This review process was originally proposed to be undertaken as a secondment project, but the current suspension of that option meant that an alternative approach was required. Given the importance of this resource, the WG recommended that the update be achieved before the next meeting of the AC.

The WG also noted the recommendation to AC9 encouraging the development of guidelines and best-practice advice for removing entangled seabirds from nets. Recognising that there had been no progress during the intersessional period, the WG continues to support the development of these guidelines.

PaCSWG4 Inf 23 provided detailed guidelines for sampling tissues from by-caught dead birds, with applicability for fresh beach carcasses. This document provides comprehensive guidance for the collection of important information on body condition and health status, pollution loads, disease exposure, and allied information on demography, genetics and feeding habits. A template for data recording and a detailed illustrated guide are also valuable elements of these guidelines. The WG noted the availability of ACAP guidelines for the [optimal protocols](#) for collection of seabird faecal material for DNA dietary analyses and suggested that this link be included in a revised document. The WG commended the authors on the development of this important document and encouraged WG members to provide feedback prior to the publication of the document on the ACAP website. The WG also noted the recently signed cooperation agreement between ACAP and University of California, Davis, and thanked Marcela Uhart for her contribution.

Argentina requested that the Secretariat carry out a review of all the ACAP Guidelines, to ensure the implementation of Resolution 2.9 in the aforementioned documents. The Argentine delegation indicated that the Resolution has not been applied in some of the ACAP Guidelines that are published on the website of the Agreement, and that they should be amended where necessary.

10.2 New guidelines on mitigating bird strikes from artificial light

Following enquiries to the ACAP Secretariat regarding information on mitigating bird strike from artificial light, **PaCSWG4 Inf 26** summarised existing material available elsewhere. The document provided options for providing links to existing guidelines on the ACAP website, or developing ACAP best-practice guidelines. The WG had extensive discussion about bird strikes resulting from artificial lights and noted the relevance to a broad suite of bird species, particularly the nocturnally active petrel species. The issue was recognised as complex, particularly in relation to response by Procellariiformes to different light sources (e.g. LED, neon) and colours. Hannah Nevins offered to lead the development of ACAP best-practice guidelines and several WG members and observers offered to assist in this task. The WG welcomed these offers, and suggested that the comprehensive guidelines also include a

single-page factsheet / infographic suitable for display as an Annex to the guidelines, which may be useful for display on ships and buildings.

10.3 New guidelines on microplastic assessment tools

There was a recommendation for the development of guidelines to assist in quantifying the ingestion of plastic (including microplastics) by albatrosses and petrels at AC9. **PaCSWG4 Doc 09** provides sampling protocols for plastic and microplastic exposure assessment in ACAP species. The sampling protocols include options for collection of data from both live and dead birds, and faeces and pellets (boluses) at colonies and roosting sites. The WG noted that sampling is potentially complex given the risks of contamination and that the guidelines are restricted to sample acquisition and storage and do not include details on analyses, which are both complicated and expensive. The WG also provided feedback to the authors suggesting that it would be useful to separate the guidelines into macro and micro plastic sample acquisition, reflecting the differing complexities in the tasks.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

The Working Group recommends that the Advisory Committee:

1. encourages the development of guidelines to minimise the transmission of pathogens following outbreak of disease, to complement the more broadly applicable biosecurity guidelines;
2. endorses the allocation of resources to facilitate the revision of the Seabird Bycatch Identification Guide as a joint initiative between PaCSWG and SBWG before AC11;
3. encourages the development of guidelines and best practice advice to mitigate bird strikes in relation to artificial light, with a simple factsheet suitable for display being included as an Annex to the guidelines.

11. ACAP FUNDED PROGRAMMES

11.1 Funding priorities for 2019 – 2021

The small grants and secondments programmes are currently suspended, with no new projects funded since 2015.

12. LISTING OF SPECIES ON ANNEX 1

12.1 Criteria for listing and delisting of candidate species

Mark Tasker (Convenor Taxonomy Working Group, TWG), summarised **AC10 Doc 22**, the purpose of which related to the listing of new species; the document does not propose changing the taxonomy of species already listed on Annex 1. The TWG assessed four main taxonomic lists against criteria of scientific rigour and favoured that used by the International Ornithological Congress (IOC). In addition, a response was made to criticisms by Birdlife regarding the selection of the IOC taxonomy.

Karen Baird, Birdlife International, summarised **AC10 Inf 15**. Birdlife recommends that ACAP maintain the *status quo* and if this is not acceptable then the topic should be considered further by the TWG and consultations be made with experts from CMS and IUCN.

Barry Baker informed the WG that CMS also follows Birdlife/ Handbook of Birds of the World (HBW), and had concerns about adopting a different taxonomic list. He concluded that there was no advantage in following anything but the *status quo*.

The WG noted that BirdLife/HBW defers to ACAP for albatrosses and large petrels.

Regarding the choice of a standard taxonomy for ACAP, the Argentine delegation indicated its support for the recommendation of document **AC10 Inf 15**, in the sense of maintaining the current practices of ACAP in relation to taxonomy, without choosing a standard taxonomy until further consideration of the question. On the other hand, the Argentine delegation objected to the inclusion in **Doc 22 Rev 1** of a species that is only mentioned in its English name, which Argentina does not consider acceptable given that its denomination in that language contains a reference to territories that are under a sovereignty dispute between Argentina and the United Kingdom, recognized by the United Nations.

The United Kingdom noted that “Resolution 2.9 applies “in respect of the Falkland Islands, South Georgia and the South Sandwich Islands” – in other words geographic locations. The South Georgia Diving Petrel is a species of bird and not one of these islands, therefore Resolution 2.9 does not apply. The UN General Assembly has not issued any Resolution making reference to any claimed sovereignty dispute over South Georgia and the South Sandwich Islands.”

Mark Tasker stated that the taxonomy adopted by BirdLife/HBW does follow ACAP’s TWG; and that Birdlife has a representative on the TWG, and so in theory was kept fully informed of TWG deliberations and had the opportunity for input; there is no *status quo* list to start from, and; there are no substantive differences in the practicalities arising from the adoption of any one of the four taxonomic lists. The WG noted that the taxonomic list of species in Annex 1 of ACAP is based on scientific rather than common names.

The WG noted that 10 procellariiform species were not yet assessed against the prescribed criteria which assess suitability for listing by ACAP. The WG discussed the extent to which the list is used, particularly as there was a lot of debate over the scores. The WG was informed that some Parties do make use of the list, particularly in assessing the relative scores of species.

12.2 Proposals to list new species in Annex 1

There were no new proposals to list additional species on Annex 1.

13. NEW TECHNOLOGIES

PaCSWG4 Inf 20 reported on a trial of three methods to obtain population estimates of Light-mantled Sooty Albatrosses at Campbell and Auckland islands, New Zealand. Boat-based counts of birds breeding on coastal cliffs proved inaccurate due to vessel movement. Comparison of helicopter aerial surveys and ground counts enabled the assessment of discrepancies resulting from “apparent” breeding birds which were loafing and not on active nests. In areas with challenging terrain, counts derived from aerial photographs, with ground calibration where possible, provided the most cost-effective technique for rapid assessment of population numbers.

PaCSWG4 Inf 31 reported on aerial monitoring techniques to estimate population sizes of great albatrosses. One approach used aerial photographs to produce high-resolution maps to count nesting Antipodean albatross on Adams Island. The second approach involved direct counts of Southern Royal Albatross on Enderby Island using a helicopter as the aerial platform. Both techniques produced results that closely matched ground counts, although aerial counts cannot accurately determine if the birds are breeding, requiring application of correction factors to aerial counts if estimates of breeding pairs are required.

13.1. Satellite remote-sensing of albatrosses

PaCSWG4 Inf 14 presents the results of the first study to utilize 30-cm resolution imagery from the WorldView-3 (WV-3) satellite to count wildlife directly, in this case individual at a well-studied colony of Wandering Albatrosses, and then applying the same approach to Northern Royal Albatrosses at the Chatham Islands. At the Chathams, satellite-based counts in the 2015/16 season were similar to the ground count at the Forty-Fours in 2009/10, but much lower than the count at The Sisters in 2009/2010, which is of major conservation concern. The study concluded that the ground-breaking resolution of the newly available WV-3 satellite has the potential to allow albatrosses and other large birds to be counted directly from space without disturbance, at potentially low cost and with minimal logistical effort.

PaCSWG4 Inf 15 describes the use of the unique spectral signature of guano to identify unknown seabird colonies using freely-available Landsat Enhanced Thematic Mapper (ETM) imagery. This allows colonies of densely-colonial, surface-nesting seabirds to be distinguished from background geology and vegetation in a wide range of natural environments. Although the spatial extent of the guano provided a general guide to the number of individuals present, further work would be required to determine the accuracy of this method for estimating population size.

In relation to document **PaCSWG4 Inf 14**, the Argentine Republic expressed objections, in the terms indicated in the **ANNEX 3** of this report.

The United Kingdom replied to this as indicated in **ANNEX 4** of this report.

Richard Phillips pointed out that Landsat imagery was free and could be used to locate colonies, whereas WorldView-3 imagery was expensive but for great albatrosses (*Diomedea* spp.) allowed individual birds to be counted. He also described a potential collaboration with Digital Globe to set up a citizen-science project to count great albatrosses in WorldView-3 images from multiple sites in the Southern Ocean at reduced costs. This would also provide the opportunity to compare satellite-based estimates with ground counts at well-monitored sites.

13.2. Monitoring using unmanned aerial vehicles (UAVs)

PaCSWG4 Doc 06 presented a summary of the current state of knowledge regarding wildlife responses to Unmanned Aerial Vehicles (UAVs). Responses were not consistent across species, and varied in relation to flight path parameters (e.g. height and approach angle) and the type of UAV. The review concluded that wildlife responses are under-estimated in many cases due to a lack of data on physiological responses. Data on demographic effects (for example, changes in breeding numbers or breeding success) were also lacking. The document also included a paper that provided guidelines for minimising disturbance to wildlife from UAVs.

The WG considered the need for guidelines on the use of UAVs, given issues with permits, potential disturbance of wildlife, health and safety, effects of drone type and size etc. Barbara Wienecke had reviewed the literature and noted that although some studies using UAVs mention disturbance, these relate to monitoring of behaviour rather than physiological effects, such as increased heart-rate. The WG agreed that it would be useful to post web links to relevant review papers and guidelines (including **PaCSWG4 Doc 06**) on the ACAP website.

13.3. Movement ecology tools

PaCSWG4 Inf 06 provided information on magnetometer-based techniques and metrics and presented their potential to enhance the capacity to identify and examine animal behaviour in terms of animal body posture, including heading.

PaCSWG4 Inf 07 summarised principles of triaxial accelerometry and discussed in terms of the commonalities that arise in patterns of acceleration across species that vary in body pattern, life-history strategy, and the medium they inhabit. These data can be combined with positional information to qualify patterns of area-use and map the distribution of target behaviours. In this way, the measurement of tri-axial acceleration can provide insight into individual and population level processes, which may ultimately influence the effectiveness of conservation practice.

PaCSWG4 Inf 08 presented an approach of derivation of body motion via appropriate smoothing of acceleration data to improve studies on animal movement correlated with energy expenditure. The paper showed that the variability of overall dynamic body acceleration across running means appeared to be related to the stroke period and hence body size. The results suggest that the running mean should be taken over a minimum period of three seconds for species with a dominant stroke period of up to this value.

PaCSWG4 Inf 09 presented a spherical-plot solution to linking acceleration metrics with animal performance, state, behaviour and lifestyle. The paper indicated how this approach links behaviour and proxies for energetics and can inform identification and understanding of movement-related processes, highlighting subtle differences in movement and its associated energetics. This approach has ramifications that should expand to areas as disparate as disease identification, lifestyle and wild animal ecology.

13.4. Forensic methods of diet determination

PaCSWG 4 Inf 10 described optimised faeces collection protocols to enable dietary DNA metabarcoding in vertebrates. **PaCSWG4 Inf 11 and PaCSWG4 Inf 12** report on the application of this approach to provide insights into the relative importance of discards in the diet of Black-browed Albatrosses throughout its circumpolar range in the Southern Ocean, and of jellyfish consumption by Black-browed Albatross and Campbell Albatross *Thalassarche impavida*.

PaCSWG 4 Inf 13 provided a systematic review of published albatross diet research papers, which highlighted changes in methodologies and spatial and temporal coverage of monitoring efforts. Studies have shifted away from morphological examination of prey species, to a preference for stable isotopic examination of tissue, with a diminution in availability of detailed taxonomic information about prey species. This hinders the ability to detect changes in prey species, with implications for management of threatened albatrosses and for monitoring broader changes in marine ecosystems including climate change. A number of recommendations and actions were identified in the review that are set out PaCSWG4 Doc 4 for the consideration of the WG.

Regarding document **PaCSWG4 Inf 12**, the Argentine Republic expressed objections, in the terms indicated in the **ANNEX 3** of this report.

The United Kingdom replied to this as indicated in **ANNEX 4** of this report.

The WG noted that there had been a reduction in knowledge of prey species consumed by seabirds because of a shift in research focus to forensic approaches, including stable isotope and fatty acid studies; this reduces the ability to detect overlap with fisheries based on the presence of discards, and of the implications for populations. The WG also recognised that it was desirable to minimise impacts of diet sampling, that analyses of stomach contents and faeces only provides a snapshot of prey consumed in the last few days, and that all methods suffer to some extent from the confounding issue of secondary ingestion. The WG endorsed the recommendations in **PaCSWG4 Doc 04**.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

The Working Group recommends that the Advisory Committee:

1. encourages Parties and others to consider the recommendations and actions for ongoing albatross dietary monitoring arising from the review of published albatross diet research papers.

14. REVIEWS AND INFORMATION

PaCSWG4 Inf 28 presented information on seabirds found dead on beaches in Brazilian coastal areas. A total of 3,641 Procellariiformes were detected during beach surveys during a 14-month period in 2015-2016. Long term surveys of beach-cast birds may provide useful spatial and temporal information on seabird mortality events, including identification of anthropogenic sources of mortality (e.g. fisheries bycatch and pollution).

This report was welcomed by the WG and recognised as providing a useful model for collecting valuable data relating to seabird mortality.

14.1 ACAP Breeding Site accounts

The ACAP Information Officer reported that ca. 90 breeding site accounts had been posted on the ACAP website, the most recent postings relating to breeding sites of Southern Giant Petrels on the Antarctic Peninsula. Approximately 25 breeding site accounts remain outstanding, and are scheduled for completion over the next 12 months. The WG thanked the Information Officer for his efforts and looked forward to the complete suite of breeding site accounts being available. The WG also recommended that the accounts be made more readily accessible on the ACAP website.

15. FUTURE WORK PROGRAMME

15.1. Work Programme 2016 - 2018

The work programme for 2016 - 2018 (**AC10 Doc 16**) was updated based on discussions during the meeting, to be considered by the Advisory Committee.

15.2. Work Programme 2019 - 2021

The work programme for 2019 - 2021 (**AC10 Doc 17**) was reviewed based on discussions during the meeting for consideration by the Advisory Committee.

The WG recognised that there are insufficient resources available within the Secretariat for advancing PaCSWG Work Programme tasks. The WG considered it would be appropriate that additional human resources be allocated to the Secretariat to enable their important work to progress effectively and efficiently.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

The Working Group recommends that the Advisory Committee:

1. Supports the allocation of adequate resources to progress the work of the PaCSWG.

16. REPORTING TO AC10

This report was prepared for consideration by the Advisory Committee.

17. ANY OTHER BUSINESS

Anne Saunders announced that the RSPB had made the decision very recently to proceed with the operation to eradicate House Mice from Gough Island in 2019, assuming that sufficient funding could be raised. The WG were delighted to hear that this key management activity was going ahead.

Karen Baird provided more details on the process by which BirdLife International was seeking to develop a more robust and consistent framework for categorising threats to birds, which should ensure greater harmonisation with the ACAP threat categorisation. The Science Officer, Convenors and WG members offered to assist with this process.

18. CLOSING REMARKS

The Convenors and Vice Convenor thanked those present for their valuable contributions to the meeting, and the authors of papers and rapporteurs. The Science Officer, Wiesława Misiak was thanked for her diligence and commitment to assisting the work of the Working Group during the inter-sessional period and at the meeting. PaCSWG members and observers, the ACAP Secretariat and ACAP officials were thanked for progressing the work of the PaCSWG during the intersessional period. Sandra Hale and Cecilia Alal were also gratefully acknowledged for their interpretation services. The group thanked the Convenors, Vice-convenor and Science Officer for chairing the meeting.

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

PaCSWG4 MEETING PARTICIPANTS

PaCSWG Members	
Pep (José Manuel) Arcos	SEO/BirdLife
Jonathon Barrington	Department of the Environment and Energy, Australian Antarctic Division, Australia
Igor Debski	Department of Conservation, New Zealand
Elizabeth Flint	U.S. Fish and Wildlife Service, United States of America
Rosemary Gales (Convenor)	Australia
Verónica López	Oikonos Ecosystem Knowledge
Richard Phillips (Convenor)	British Antarctic Survey, United Kingdom & Scientific Committee on Antarctic Research (SCAR)
Paul Sagar	NIWA, New Zealand
Patricia Pereira Serafini (Vice-convenor)	Instituto Chico Mendes de Conservação da Biodiversidade, Brazil
Anne Saunders	Joint Nature Conservation Committee (JNCC), UK
Barbara Wienecke	Department of the Environment and Energy, Australian Antarctic Division, Australia
Expert	
Barry Baker	Institute of Marine and Antarctic Studies, University of Tasmania, Australia
Advisory Committee Representatives and Advisors	
Mariana Alvarez Rodriguez	Representative, Argentina
Johannes de Goede	Representative, South Africa
Andrés Domingo	Representative, Uruguay
Elisa Goya	Representative, Peru
Freydís Hjörvarsdóttir	Advisor, New Zealand
Caroline Icaza	Representative, Ecuador
Sebastián Jiménez	SBWG Vice-convenor, Uruguay
Amanda Kuepfer	Advisor, United Kingdom
Colin Miskelly	Advisor, New Zealand
Jennifer Matthews	Advisor, New Zealand

Tatiana Neves	AC Vice-Convenor
Mark Tasker	Representative, United Kingdom and TWG Convenor
Graeme Taylor	Advisor, New Zealand
Kath Walker	Advisor, New Zealand
Nathan Walker	AC Chair
Claire Wallis	Advisor, Australia
Susan Waugh	Advisor, New Zealand
Richard Wells	Advisor, New Zealand
Anton Wolfaardt	Advisor, United Kingdom and SBWG Convenor
Observers	
Karen Baird	BirdLife International
Nigel Brothers	Humane Society International
Hannes Holtzhausen	MFMR, Namibia
Yukiko Inoue	National Institute of Far Seas Fisheries, Japan
Mi Ae Kim	National Marine Fisheries Service, USA
Ed Melvin	Washington Sea Grant, USA
Hannahrose Nevins	American Bird Conservancy, USA
Cristian G. Suazo	BirdLife International
Sachiko Tsuji	National Institute of Far Seas Fisheries, Japan
Marcela Uhart	University of California, Davis, USA
Oliver Yates	BirdLife International
Secretariat	
Marco Favero	Executive Secretary
Wiesława Misiak	Science Officer
John Cooper	Information Officer
Interpreters	
Cecilia Alal	OnCall Latam
Sandra Hale	OnCall Latam

PaCSWG MEMBERS NOT ATTENDING PaCSWG4

Javier Arata	Centro FONDAP de Investigación en Dinámica de Ecosistemas Marinos de Altas Latitudes (IDEAL), Universidad Austral de Chile, Chile
Leandro Bugoni	Universidade Federal do Rio Grande (FURG), Brazil
Karine Delord	Centre national de la recherche scientifique (CNRS), France

Sebastien Descamps	Nowegian Polar Institute, Norway
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Flavio Quintana (Vice-convenor)	National Research Council of Argentina (CONICET), Argentina
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ANNEX 2. ONGOING MANAGEMENT ACTIONS ASSOCIATED WITH THREATS AT BREEDING SITES OF ACAP-LISTED SPECIES

Island Group	Breeding site name	Species	Threat species	Nature of threat	Current Threat Magnitude	Ongoing management actions associated with this threat or why no management response in place	Why management response was or was not effective	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.
Islote Albatros	Islote Albatros	<i>Thalassarche melanophris</i>	<i>Neovison vison</i> (American mink)	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 name	Species	Threat species	Nature of threat	Current Threat Magnitude	Ongoing management actions associated with this threat or why no management response in place	Why management response was or was not effective	Comments
Falkland Islands (Islas Malvinas) ¹	New Island	<i>Procellaria aequinoctialis</i>	<i>Felis catus</i> (Cat)	Predation by alien species	Low	Some control of cats was initiated in 2014, and a number of individuals have been shot since then.		Research has shown that 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 has remained stable since 1972 (Reid et al. 2007). The current policy, 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.
South Georgia (Islas Georgias del Sur) ¹	Barff	<i>Procellaria aequinoctialis</i>	<i>Rattus norvegicus</i> (Brown (Norwegian) rat)	Predation by alien species	Low	An operation was initiated in 2011 to eradicate all rodents at South Georgia, the first phase of which was implemented in March-April 2011. The second phase took place in February-June 2013 covering the area west of	A final survey to confirm eradication is scheduled for 2017-2018 to determine the success of the	
	Harcourt Island	<i>Procellaria aequinoctialis</i>	<i>Rattus norvegicus</i>	Predation by alien species	Low			

Island Group	Breeding site name	Species	Threat species	Nature of threat	Current Threat Magnitude	Ongoing management actions associated with this threat or why no management response in place	Why management response was or was not effective	Comments
			(Brown (Norwegian) rat)			Cumberland bay to the western tip of the island. A yacht-based monitoring trip investigating the success of the previous year's fieldwork was undertaken in March-April 2014, and found no evidence of surviving rats or mice at a subsample of sites searched in the phase 2 areas, and no rat sign has been found during annual checks of selected sites. The final phase was conducted in February-March 2015, baiting the remaining portion of the island from the Barff Peninsula (this site) to Drygalski Fjord. Post-baiting monitoring in 2017/18.	operation. An operational plan is available at http://www.sght.org/newsletters-and-publications/	
South Georgia (Islas Georgias del Sur) ¹	Northwest	<i>Procellaria aequinoctialis</i>	<i>Rattus norvegicus</i> (Brown (Norwegian) rat)	Predation by alien species	Low			

Island Group	Breeding site name	Species	Threat species	Nature of threat	Current Threat Magnitude	Ongoing management actions associated with this threat or why no management response in place	Why management response was or was not effective	Comments
	Saddle Island	<i>Procellaria aequinoctialis</i>	<i>Rattus norvegicus</i> (Brown (Norwegian) rat)	Predation by alien species	Low	A final survey to confirm eradication is scheduled for 2017-2018 to determine the success of the operation. An operational plan is available at http://www.sght.org/newsletters-and-publications/	The baiting operation was successfully implemented. Post-baiting monitoring work on the Thatcher and Greene Peninsulas, which were baited at the same time, has not revealed any signs of rats.	The island was baited in March-April 2011, and is considered now to be free of rats. However, further monitoring will take place to confirm this to be the case.
South Georgia (Islas Georgias del Sur) ¹	Salisbury	<i>Procellaria aequinoctialis</i>	<i>Rattus norvegicus</i> (Brown (Norwegian) rat)	Predation by alien species	Low	an operation in 2011 to eradicate all rodents at South Georgia, the first phase of which was implemented in March-April 2011. The second phase took place in February-June 2013 covering the area west of Cumberland bay to the western tip of the island. A yacht-based monitoring trip investigating the success of the previous year's fieldwork was undertaken in March-April 2014, which found no evidence of surviving rats or mice in the phase 2 areas. The final phase	A final survey to confirm eradication is scheduled for 2017-2018 to determine the success of the operation. An operational plan is available at http://www.sght.org/newsletters-and-publications/	
	Southeast	<i>Procellaria aequinoctialis</i>	<i>Rattus norvegicus</i> (Brown (Norwegian) rat)	Predation by alien species	Low			
	Stromness and Cumberland	<i>Procellaria aequinoctialis</i>	<i>Rattus norvegicus</i> (Brown (Norwegian) rat)	Predation by alien species	Low			

Island Group	Breeding site name	Species	Threat species	Nature of threat	Current Threat Magnitude	Ongoing management actions associated with this threat or why no management response in place	Why management response was or was not effective	Comments
						was conducted in February-March 2015, baiting the remaining portion of the island from the Barff Peninsula to Drygalski Fjord.		
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).		Mosquitoes 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.
	Isla de La Plata	<i>Phoebastria irrorata</i>		Stress by alien species - Nest desertion	High	Control de la población mediante veneno (anticuagulante) 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.
	Ile Amsterdam	<i>Phoebetria fusca</i>	<i>Pasteurella multocida</i> (Avian cholera)	Parasite or pathogen - Pathogen	High			Principally linked to chickens

Island Group	Breeding site name	Species	Threat species	Nature of threat	Current Threat Magnitude	Ongoing management actions associated with this threat or why no management response in place	Why management response was or was not effective	Comments
Amsterdam and St Paul	Falaise d'Entrecasteaux	<i>Procellaria cinerea</i>	<i>Felis catus</i> (Cat)	Predation by alien species	Low			
	Falaise d'Entrecasteaux	<i>Procellaria cinerea</i>	<i>Rattus rattus</i> (Black (ship) rat)	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
Crozet	Ile de la Possession	<i>Procellaria aequinoctialis</i>	<i>Rattus rattus</i> (Black (ship) rat)	Predation by alien species	Low	rodenticide used annually on study colonies		
Kerguelen	Golfe du Morbihan	<i>Procellaria cinerea</i>	<i>Rattus rattus</i> (Black (ship) rat)	Predation by alien species	Low			eradicated on Chateau Island (2002) and on Australia Island (2005).
	Courbet Peninsula	<i>Procellaria aequinoctialis</i>	<i>Felis catus</i> (Cat)	Predation by alien species	Low	managed locally		
	Baie Larose	<i>Procellaria aequinoctialis</i>	<i>Felis catus</i> (Cat)	Predation by alien species	Low			
	Baie Larose	<i>Procellaria aequinoctialis</i>	<i>Rattus rattus</i> (Black (ship) rat)	Predation by alien species	Low			
	Courbet Peninsula	<i>Diomedea exulans</i>	<i>Felis catus</i> (Cat)	Predation by alien species	Low	managed locally		
	Golfe du Morbihan	<i>Procellaria aequinoctialis</i>	<i>Rattus rattus</i> (Black (ship) rat)	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	Low			

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

Island Group	Breeding site name	Species	Threat species	Nature of threat	Current Threat Magnitude	Ongoing management actions associated with this threat or why no management response in place	Why management response was or was not effective	Comments
				species				
Kerguelen	Joffre Peninsula	<i>Procellaria cinerea</i>	<i>Felis catus</i> (Cat)	Predation by alien species	Low			
	Joffre Peninsula	<i>Procellaria cinerea</i>	<i>Rattus rattus</i> (Black (ship) rat)	Predation by alien species	Low			
Auckland Islands	Auckland Island	<i>Diomedea epomophora</i>	<i>Sus scrofa</i> (Pig)	Predation by alien species	Low	Eradication, as opposed to ongoing control is considered to be the only feasible long term option. A planning team is currently being recruited and partners are being sought for a project to eradicate pests from Auckland Island. A funding bid will be made once the plan has identified the strategy and methodologies to be used.		
	Auckland Island	<i>Thalassarche steadi</i>	<i>Sus scrofa</i> (Pig)	Predation by alien species	Low			
	Auckland Island	<i>Diomedea antipodensis</i>	<i>Sus scrofa</i> (Pig)	Predation by alien species	Low			
	Auckland Island	<i>Thalassarche steadi</i>	<i>Felis catus</i> (Cat)	Predation by alien species	Low			
Balearic Archipelago	Ibiza	<i>Puffinus mauretanicus</i>	<i>Rattus rattus</i> (Black (ship) rat)	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)

Island Group	Breeding site name	Species	Threat species	Nature of threat	Current Threat Magnitude	Ongoing management actions associated with this threat or why no management response in place	Why management response was or was not effective	Comments
	Cabrera	<i>Puffinus mauretanicus</i>	<i>Felis catus</i> (Cat)	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.
	Formentera	<i>Puffinus mauretanicus</i>	<i>Felis catus</i> (Cat)	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	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.
	Mallorca	<i>Puffinus mauretanicus</i>	<i>Rattus rattus</i> (Black (ship) rat)	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 name	Species	Threat species	Nature of threat	Current Threat Magnitude	Ongoing management actions associated with this threat or why no management response in place	Why management response was or was not effective	Comments
Balearic Archipelago	Menorca	<i>Puffinus mauretanicus</i>	<i>Felis catus</i> (Cat)	Predation by alien species	High	Local government not prone to address actions to control cats, fear of social opposition.		Present in Mola de Maó, where the major colony of Menorca is located (75% of the local population). Predation is severe, on chicks and adults (up to >20 adult corpses found in a single visit. Also presence of marten (<i>Martes martes</i>).
	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).
Gough	Gough Island	<i>Diomedea dabbenena</i>	<i>Mus musculus</i> (House mouse)	Predation by alien species	High	The RSPB and Tristan da Cunha Island Council are leading on preparations for the eradication of mice through the Gough Island Restoration Programme. The UK Government support this project. The budget is estimated at £7.6 million for the entire programme. The mice eradication operation is planned for the winter of 2019. Some funding is already secured. The RSPB and Tristan da Cunha are working towards securing the remainder of the required budget and identify cost savings through procurement efforts that will not jeopardise the eradication goal.		

Island Group	Breeding site name	Species	Threat species	Nature of threat	Current Threat Magnitude	Ongoing management actions associated with this threat or why no management response in place	Why management response was or was not effective	Comments
	Gough Island	<i>Procellaria cinerea</i>	<i>Mus musculus</i> (House mouse)	Predation by alien species - Predation by alien species	Low			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	Kure Atoll	<i>Phoebastria nigripes</i>		Habitat loss or destruction - Vegetation encroachment	Low	Ongoing eradication program using herbicide and manual control		
	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.
	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.
	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			

Island Group	Breeding site name	Species	Threat species	Nature of threat	Current Threat Magnitude	Ongoing management actions associated with this threat or why no management response in place	Why management response was or was not effective	Comments
Hawaii	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			
	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.
	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 unexploding ordnance.

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

**ANNEX 3. DECLARATION OF THE REPUBLIC OF ARGENTINA
CONCERNING THE QUESTION OF THE MALVINAS
ISLANDS**

“In relation with documents PaCSWG4 Doc 02 Rev 1, PaCSWG4 Inf 27, PaCSWG4 Doc 10, PaCSWG4 Inf 11, PaCSWG4 Inf 29, PaCSWG4 Inf 30, PaCSWG4 Inf 14 y el PaCSWG4 Inf 12, addressed at the Fourth Meeting of the Population and Conservation Status Working Group (PaCSWG4), the Argentine Republic recalled the validity of ACAP Resolution 2.9, which establishes the use of the double nomenclature and a footnote with respect to the sovereignty dispute over the Islas Malvinas, Georgias del Sur y Sándwich del Sur in the documentation issued by the Secretariat or other bodies of the Agreement.

The Argentine Republic also recalled that the Islas Malvinas, Georgias del Sur y Sándwich del Sur and the surrounding maritime areas are an integral part of the Argentine national territory and, illegally occupied by the United Kingdom of Great Britain and Northern Ireland, are the subject of a sovereignty dispute between the two countries, which has been recognized by the United Nations.”

ANNEX 4. UNITED KINGDOM RESPONSE TO NOTE FROM ARGENTINA CONCERNING VARIOUS DOCUMENTS

“The United Kingdom notes that the documents PaCSWG4 Doc 02 Rev 1, PaCSWG4 Inf 27, PaCSWG4 Doc 10, PaCSWG4 Inf 11, PaCSWG4 Inf 29, PaCSWG4 Inf 30, PaCSWG4 Inf 14 and PaCSWG4 Inf 12 are not covered by Resolution 2.9 as that resolution applies solely to “documents authored by the Secretariat or other organs of the Agreement.” None of these documents was authored by the Secretariat or another organ of the Agreement.

The United Kingdom has no doubt about its sovereignty over the Falkland Islands and South Georgia & South Sandwich Islands (SGSSI) and surrounding maritime areas of both territories, nor about the principle and the right of the Falkland Islanders to self-determination as enshrined in the UN Charter and in article one of the two UN Covenants on human rights. The UN General Assembly has not issued any Resolution making reference to any claimed sovereignty dispute over SGSSI.”

**ANNEX 5. DECLARATION OF THE REPUBLIC OF ARGENTINA
CONCERNING THE NOMENCLATURE OF THE ISLAS
MALVINAS Y GEORGIAS DEL SUR, AND THE ANTARCTIC**

“With regard to Section 7 of the report "Data Gaps", in particular Table 3 “Sites”, Table 4 "Demographic information for all ACAP species", Table 6 “Regional tracking priorities”, and Annex 2 “Ongoing management actions associated with threats at breeding sites of ACAP-listed species” of Section 6 of the Report, the Argentine Republic objects to the use of the British toponymy to refer to places and geographical features in the Islas Malvinas and Georgias del Sur, when indicating the breeding sites of the listed ACAP species.

In addition to this, with regard to Table 5 of the same Section of the Report, the Argentine Republic recalls that the provisions of Article IV of the Antarctic Treaty apply to the area south of 60° South Latitude.

The Argentine delegation objects to the use of the British toponymy to refer to places and geographical features in Antarctica”

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**ANNEX 6. RESPONSE OF THE UNITED KINGDOM OF GREAT
BRITAIN AND NORTHERN IRELAND CONCERNING THE
NOMENCLATURE OF THE FALKLAND ISLANDS, SOUTH
GEORGIA AND THE ANTARCTIC**

“The United Kingdom rejects any use, or suggested use, or application of toponymy for the Falkland Islands other than that formally approved by the Government of the Falkland Islands; and for South Georgia and the South Sandwich Islands other than that formally approved and gazetted by the Commissioner for South Georgia and the South Sandwich Islands. In respect of Antarctica, the UK also recalls Article IV of the Antarctic Treaty. British names in Antarctica are formally approved and submitted to the SCAR Composite Gazetteer of Antarctica (CGA), which also holds place-names submitted by other Antarctic Treaty Parties in the four official languages of the Antarctic Treaty. The UK only recognises British approved names for Antarctica, or English place-names in commonly recognised use which have been formally submitted to the SCAR Gazetteer by an official place-naming authority cooperating with the UK through the relevant SCAR procedures.”