



Agreement on the Conservation of Albatrosses and Petrels

Third Meeting of Advisory Committee

Valdivia, Chile, 19 – 22 June 2007

Listing of New Species

Author: South Africa
(John Cooper and Barry Baker)

CHOOSING CANDIDATE SPECIES FOR FUTURE INCLUSION WITHIN THE AGREEMENT ON THE CONSERVATION OF ALBATROSSES AND PETRELS

John Cooper¹ & Barry Baker²

¹*CORE Initiatives, c/o Avian Demography Unit, Department of Statistical Sciences, University of Cape Town, Rondebosch 7701, South Africa
(John.Cooper@uct.ac.za)*

²*Latitude 42, GPO Box 824, Hobart, Tasmania 7001, Australia
(barry.baker@latitude42.com.au)*

SUMMARY

A simple additive scoring system using eight criteria is developed to assess 129 members of the Order Procellariiformes for consideration as candidate species for inclusion within the Agreement on the Conservation of Albatrosses and Petrels. Two groups of birds appear as particularly strong candidates: the three North Pacific albatrosses *Phoebastria* spp. and three Mediterranean shearwaters of the genera *Calonectris* and *Puffinus*. Four mainly southern hemisphere-breeding shearwaters *Puffinus* spp. and the Peruvian Diving Petrel *Pelecanoides garnotii*, all species which scored relatively highly, might also be considered as candidate species for listing.

INTRODUCTION

The Agreement on the Conservation of Albatrosses and Petrels (ACAP) is an international Agreement that aims to achieve and maintain a favourable conservation status for albatrosses and petrels. It was developed because of global concern over the parlous conservation status of albatrosses in particular, and the knowledge that highly migratory species that cross national boundaries require international efforts to conserve them (Cooper *et al.* 2006, www.acap.aq)

ACAP entered into force in February 2004 and applies only to the species of albatrosses and petrels listed in Annex 1 to the Agreement. To date ACAP is essentially a southern agreement, with only species breeding in the southern hemisphere being listed in this Annex. However, the Agreement text does not make any geographical restrictions, allowing for geographical expansion by the relatively simple expedient of adding new species of albatrosses and petrels to those already listed within it.

Theoretically, it appears possible to add any species to Annex 1, based on the definition of an albatross and petrel in Article I 2 a):

“Albatross” and/or “petrel” means one of any species, subspecies or population of the albatrosses and/or, as the case may be, petrels listed in Annex 1 to this Agreement;

However, it is clear from the Agreement’s title, preambular clauses and the scope, definitions and interpretation outlined in Article 1 that it was the intent of those drafting the Agreement to restrict the species covered to seabirds, and more specifically to members of the avian order Procellariiformes. Discussion at the Scientific Meeting that preceded ACAP’s First Session of the Meeting of Parties (ACAP Secretariat, 2004b) discussed possible changes to Annex 1 and noted that:

- Changes to Annex 1 would require the development of appropriate criteria;
- whereas the term “petrel” was not defined in the Agreement and could include shearwaters *Puffinus* spp.;
- Cory’s Shearwater *Calonectris diomedea* was a potential candidate for inclusion on Annex 1; and
- there had been considerable discussion about including North Pacific albatrosses in ACAP Annex 1 during ACAP’s negotiation.

We have assumed that there is agreement amongst ACAP Parties that all members of the avian order Procellariiformes fall within the definition of “albatrosses and petrels” and hence are potential

candidates for Annex 1. This means that storm petrels (family Hydrobatidae) and diving petrels (Pelecanoididae) may also be considered for inclusion, along with all the members of the families Procellariidae (petrels, fulmars, prions and shearwaters) and Diomedidae (albatrosses). This assumption was discussed at the Second Meeting of the ACAP Advisory Committee, held in June 2006, and was not then disputed.

At its First Meeting of Parties, ACAP agreed to consider which new species might be added to Annex 1 in the future, and requested that a discussion paper on the subject be prepared for consideration by its Advisory Committee (Resolution 1.5, Annex 2 Work Programme for the Advisory Committee for 2005 to 2007; Anon. 2004a). Such a discussion paper should attempt to set out an objective procedure for selecting candidate species. At this meeting South Africa offered to take the lead in preparing the paper.

Accordingly, a paper co-drafted by Australia and South Africa was submitted to the Second Meeting of ACAP's Advisory Committee (AC2 Doc 21, www.acap.aq). In consideration of this submission, the committee decided that a new version should be prepared for its 2007 meeting, that would take account of the following points:

- The need to develop independent criteria, noting that the criteria of endemism and population size (rarity) were already taken into account by the IUCN Red List;
- the desirability or not of the inclusion of listing by the Convention on Migratory Species as a criterion; and
- the desirability of weighting at-sea threats, since fishing-related bycatch was already recognized as a key threat to ACAP-listed species (Final Report, Second Meeting of the ACAP Advisory Committee; www.acap.aq).

The current paper takes account of the above advice by revising the original document. Additionally, it takes account of the decision of the Second Session of the Meeting of Parties, held in November 2006, to give specific status to the White-capped Albatross *Thalassarche steadi* (www.acap.aq) and to the most recent revisions to the IUCN Red List by BirdLife International, expected to become official imminently (www.birdlifeforums.org).

It is suggested that the procedure described and implemented below should be used as an aid when considering proposals from Parties to ACAP to list new species. Such proposals would include a detailed justification, possibly covering other issues in addition to the eight criteria outlined below, and would also take account of domestic priorities and reviews of the conservation status of candidate species (e.g. Barnes 2000, Garnett & Crowley 2000, Taylor 2000a,b, Baker *et al.* 2002). The value of the current exercise is therefore seen as identifying from which groups of procellariiforms (in taxonomic, geographical and other terms) new proposals are likely to come, and to propose a way of evaluating such proposals in a comparative manner.

THE PROCELLARIIFORMS

The taxonomy of the procellariiforms is not settled (e.g. Robertson & Nunn 1998, Brooke 2004, Penhallurick & Wink 2004, Rheindt & Austin 2005). Especially for the albatrosses there are conflicting views on the numbers of extant species, and ACAP's Advisory Committee has appointed a working group to consider which taxonomic treatment it should adopt for this family (Cooper *et al.* 2006). In the light of this uncertainty, in this paper we largely follow the taxonomic treatment of Brooke (2004), which accords closely with that of BirdLife International in its consideration of the conservation status of the world's birds (BirdLife International 2004, www.birdlifeforums.org).

Brooke (2004) lists a total of 128 extant species of procellariiforms in four families, made up of 21 albatrosses, 81 petrels (*sensu lato*), 22 storm petrels and four diving petrels. Currently, following Brooke (2004) but with the addition of the White-capped Albatross (see above), 19 species of albatrosses and seven species of petrels are listed within ACAP. The listed albatrosses include all the species within the family other than the three species of the genus *Phoebastria* that breed solely in the Northern Hemisphere. The seven petrels include all the species of the genera *Macronectes* (giant petrels) and *Procellaria* within the family Procellariidae. Thus no storm petrels or diving petrels are included, nor are any members of the several other genera of the family Procellariidae.

CHOOSING CRITERIA FOR SELECTING CANDIDATE ACAP SPECIES

A number of different criteria, other than purely taxonomic as considered above, could be used to select candidate species for inclusion within ACAP. These are considered briefly below.

Global conservation status

All procellariiforms have been assigned a category of threat by BirdLife International, following criteria adopted by the World Conservation Union (IUCN) (BirdLife International 2004, www.birdlifeforums.org). Fifty-nine (46%) of the 129 living species have been classified as threatened, ranging from Critically Endangered (15 species), through Endangered (17 species) to Vulnerable (27 species). A further 16 species are considered to be Near Threatened. A threatened status suggests that the species might well benefit from being listed within an international agreement.

Listing within the Convention on Migratory Species

ACAP is a “daughter” agreement of the Convention on the Conservation of Migratory Species of Wild Animals (the Bonn Convention, or CMS; Cooper *et al.* 2006). The CMS encourages international cooperative action to conserve and manage migratory species, and encourages its Parties to conclude Agreements on wild animals which periodically cross national jurisdictional boundaries. The listing of a species within the CMS is not a prerequisite for its inclusion within ACAP, but it does show that the Parties to the CMS have considered that some form of international action is desirable. Thus the several species of procellariiform seabirds currently listed on one or both of the two Appendices of the CMS that are not currently listed within ACAP warrant consideration as candidate species.

Current population trend

Current population trend is perhaps the most important criterion on which to judge the conservation status of a species. Many procellariiforms have decreasing populations, and as a consequence, are in need of conservation action and may thus warrant being considered as candidate species for ACAP listing. However, the paucity of information on trends for most species (see Brooke 2004) makes accurate scoring this criterion difficult.

Population size

The global populations of procellariiform seabirds vary in size greatly, from millions (e.g. several shearwaters *Puffinus* spp.) to a few tens (e.g. some gadfly petrels *Pterodroma* spp.). IUCN categories of threat are largely based on population trends, but given the huge ranges in population sizes that occur within the order, it is considered this should also be a factor influencing the choice of candidate species for ACAP listing.

Level of endemism

ACAP is an international agreement. Thus it seems reasonable that species should breed within at least two states to be considered as strong candidates. In other words, single-country endemic procellariiforms might be accorded a lower priority for ACAP listing since conservation efforts directed at them will be largely of a domestic, and not of an international nature. Although there are a number of several single-country endemic species already listed within ACAP, all face threats within international waters because of their migratory nature (see below).

Migratory nature

Closely allied to the above criterion, procellariiforms are, in the great main, highly pelagic species, undertaking often long migrations. This suggests most species will travel within the territorial and/or Exclusive Economic Zone (EEZ) waters of more than one individual state and also within international waters. A high level of migratory behaviour might then suggest that inclusion within ACAP is warranted, since any conservation actions required will not be the sole responsibility of any one state.

Land-based threats

Many procellariiform species face land-based threats at their breeding grounds, from such factors as alien species, pollution, disturbance and habitat loss. Such threats have been recognized by ACAP. It seems reasonable to consider that if similar land-based threats are faced by a species in more than one breeding range state, then its listing within ACAP might lead to an improvement in its conservation status, by, e.g., transfer of expertise and by collaborative activities.

At-sea conservation threats

Lastly, the main driving force behind the negotiation and adoption of ACAP was the ongoing threats facing procellariiform seabirds within international waters from fishery interactions, especially with longlining gear (Anon. 2000, Cooper *et al.* 2006). This is because it was realized that such threats could only be addressed through the combined actions of many states, breeding-range and fishing nations alike. Thus a species severely affected by at-sea fishing might well be a good candidate for listing within ACAP.

APPLYING THE SELECTION CRITERIA

The approach that is taken has been to assess all 129 extant species of procellariiform seabirds against the above eight criteria, using a semi-quantified scale (e.g. IUCN status Critically Endangered = 4, Endangered = 3; Vulnerable = 2; Near-threatened = 1; and Not Threatened/Least Concern = 0; see Appendix 1 for details of the scoring method used). The individual scores have then been totalled for each species. The important role ACAP has commenced to take in addressing at-sea threats to procellariiforms which requires international collaboration to be effective (e.g. via interacting with Regional Fishery Management Organizations; Cooper *et al.* 2006) has been recognized by weighting (doubling) the assigned scores for this criterion to result in a list of weighted total scores.

In order to provide a “marker” below which a total weighted score would suggest the species is not a priority candidate for ACAP listing, the same scoring system has been applied to the 26 species already listed within ACAP. An unlisted species scoring noticeably less than the lowest score of the listed species would be unlikely to be a priority candidate for listing. Conversely, those species scoring the same as, or more than, this “marker” could be considered suitable candidates for listing.

In order to allow for the lack of independence of several criteria (e.g. IUCN threatened status takes account of population trend, which is included here as a separate criterion) the total weighted scores have been adjusted in two ways:

- By subtracting the IUCN status criterion; and
- by subtracting both the IUCN and CMS criteria.

CANDIDATE SPECIES BASED ON TOTAL WEIGHTED SCORES

Tables 1a and 1b list the total scores and total weighted scores obtained for all 129 procellariiform species considered. Total weighted scores for the 26 ACAP-listed species (asterisked) ranged from 19 to 29, with a mean of 25. Scores for non-listed species ranged from four to 27. Only eight non-listed species (range 19-27, mean 22) attained total weighted scores equal to or higher than the lowest weighted score attained by a listed species. No unlisted species exceeded the highest weighted score of a listed species, suggesting that the original suite of species selected for ACAP listing was a good one.

These eight species may be regarded as candidate species for consideration for inclusion within ACAP. Notably they include the three remaining unlisted albatrosses (Short-tailed *P. albatrus*, Black-footed *P. nigripes* and Laysan *P. immutabilis*, all endemic to the North Pacific Ocean), as well as the Northern or Arctic Fulmar *Fulmarus glacialis*, three shearwater species that breed mainly within the Mediterranean Sea (Cory’s *Calonectris diomedea*; Yelkouan *Puffinus yelkouan* and Balearic *P. mauretanicus*) and the Peruvian Diving Petrel *Pelecanoides gannotti*.

Species that closely approached the marker (i.e. have a total weighted score of 18) are two gadfly petrels, the Bermuda Petrel or Cahow *Pterodroma cahow* and the Phoenix Petrel *P. alba* (out of 33 *Pterodroma* species), four shearwaters that mainly breed in the southern hemisphere and undergo trans-equatorial migrations (Wedge-tailed *P. pacificus*, Sooty Shearwater *P. griseus*, Pink-footed *P. creatopus* and Flesh-footed *P. carneipes*) and the Polynesian Storm Petrel *Nesofregatta fuliginosa* (Table 1a,b).

CANDIDATES BASED ON ADJUSTED SCORES

Avoiding “double dipping” by leaving out the IUCN status and CMS listing criteria from the total weighted scores results in ACAP-listed species being not so well identified (Table 1a,b). For example, the Critically Endangered and CMS-listed Amsterdam Albatross *D. amsterdamensis* scores noticeably less than does the abundant and non-threatened Northern Fulmar (11 *versus* 19). The lack of complete

independence of criteria notwithstanding, the use of total weighted scores as utilized here seems to be a more practical method of assessing procellariiform species for inclusion within ACAP.

SIGNIFICANCE OF LISTING THE CANDIDATE SPECIES

North Pacific albatrosses

It is fair to say that ACAP, although not restricted geographically, has from its negotiation and inception been concentrated on albatrosses and petrels of the southern hemisphere, at least partially explaining why the North Pacific albatrosses were not included from the outset (Cooper *et al.* 2006). Their inclusion does, however, appear warranted, at least based on the scoring exercise presented here. Inclusion will have far-reaching implications in terms of increasing the number of range states, and thus the potential membership of ACAP. Further, domestic and international efforts are already underway to address the conservation concerns of these species (e.g. COSEWIC 2003, USFWS 2005; and via the multinational North Pacific Albatross Working Group and the Short-tailed Albatross Recovery Team) so a consideration of their inclusion within ACAP should address how ACAP could “add value” to these existing efforts.

Mediterranean shearwaters

As far as it is known, no formal international efforts have as yet commenced to address the conservation of the three Mediterranean-breeding shearwaters as a single group, although a call for international action in relation to longlining mortality has been made (Cooper *et al.* 2003). However, a Species Action Plan for the Critically Endangered Balearic Shearwater has been produced by BirdLife International on behalf of the European Commission (European Union 1999, Gallo-Orsi 2003, see also Oro *et al.* 2004). At its most recent meeting (the Eighth, held in 2005), the CMS called for concerted action to be taken by member states to improve the conservation status of this species, listing it on its Appendix I at the same meeting at the request of Spain (UNEP/CMS/Resolution 8.29; www.cms.int). Listing within ACAP seems to be one way that such action could be progressed, noting also that the species’ single breeding-range state, Spain, is a Party to ACAP.

Southern hemisphere shearwaters

Similar to the Mediterranean shearwaters, the four relatively high-scoring, primarily southern, shearwaters are known or are thought to be deleteriously affected by fishing activities (e.g. Baker & Wise (2005) for the Flesh-footed Shearwater). ACAP activities aimed at reducing at-sea mortality of listed species should also improve the conservation status of this group of largely co-occurring southern shearwaters, suggesting their formal inclusion within ACAP should be considered. It is to be noted that the Pink-footed Shearwater has been listed within Appendix I of the CMS, following a proposal by Chile, and that conservation efforts have been proposed within its northern hemisphere non-breeding range (COSEWIC 2004, CEC 2005). However, these northern efforts are apparently proceeding without the formal involvement of the species’ two breeding range states, Chile and Peru, both who are signatories to ACAP. Although it did not score particularly highly (10; Table 1a) a fifth southern hemisphere trans-equatorial migrant, the Short-tailed Shearwater *P. tenuirostris*, fits well within this group.

Gadfly petrels

The Bermuda and Phoenix Petrels are species whose primary threats are land-based, and there is no evidence of at-sea threats affecting them, unlike all the currently listed ACAP species, as well as most of the other high-scoring species. Their consideration for listing within ACAP might thus be given a low priority.

Remaining candidate species

The remaining candidate species, including those closely approaching the “marker”, do not fall within any coherent group, so they may perhaps be considered as having a lower priority for inclusion within ACAP. For example, the Northern Fulmar might best be treated internationally (if currently necessary at all) through the Program for the Conservation of Arctic Flora and Fauna (CAFF) of the Arctic Council (Cooper *et al.* 2000). However, the Peruvian Diving Petrel, a CMS Appendix I-listed species, breeds only within Chile and Peru (who jointly proposed its CMS listing). As Parties to ACAP these two countries might wish to consider progressing the species’ conservation via the Agreement, and as a consequence propose its inclusion.

ACKNOWLEDGMENTS

We thank P.G. Ryan and ACAP Advisory Committee members for helpful discussions on the scoring system used.

REFERENCES

- ACAP Secretariat 2004a.** Agreement on the Conservation of Albatrosses and Petrels. Report of the First Session of the Meeting of the Parties (Hobart, Australia, 10 to 12 November 2004). Hobart: ACAP Secretariat. www.acap.aq
- ACAP Secretariat 2004b.** Report of the Scientific Meeting. ACAP/MOP1/Doc.15. www.acap.aq
- Anon. 2000.** Report on a Meeting to discuss an Agreement on the Conservation of Southern Hemisphere Albatrosses and Petrels. ACSHAP1 Doc 1.13 Final. Unpublished report available from the ACAP Secretariat.
- Baker, G.B. & Wise, B.S. 2005.** The impact of pelagic longline fishing on the Flesh-footed Shearwater *Puffinus carneipes* in eastern Australia. *Biological Conservation* 126: 305-316.
- Baker, G.B., Gales, R., Hamilton, S. & Wilkinson, V. 2002.** Albatrosses and petrels in Australia: a review of their conservation and management. *Emu* 102: 71-97.
- Barnes, K.N. (Ed.) 2000.** The Eskom Red Data Book of birds of South Africa, Lesotho and Swaziland. Johannesburg: BirdLife South Africa.
- BirdLife International 2004.** Threatened birds of the World 2004. CD-ROM. Cambridge: BirdLife International.
- Brooke, M.[de L.] 2004.** Albatrosses and petrels across the World. Oxford: Oxford University Press.
- CEC 2005.** North American Conservation Action Plan Pink-footed Shearwater *Puffinus creatopus*. Montreal: Commission for Environmental Protection.
- Cooper, J., Baccetti, N., Belda, E.J., Borg, J.J., Oro, D., Papaconstantinou, C. & Sánchez, A. 2003.** Seabird mortality from longline fishing in the Mediterranean Sea and Macaronesian waters: a review and a way forward. In: Mínguez, E., Oro, D., de Juana, E. & Martínez-Abraín, A. (Eds). Mediterranean seabirds and their conservation. *Scientia Marina* 67 (Supplement 2): 57-64.
- Cooper, J., Baker, G.B., Double, M.C., Gales, R., Papworth, W., Tasker, M.L. & Waugh, S.M. 2006.** The Agreement on the Conservation of Albatrosses and Petrels: rationale, history, progress and the way forward. *Marine Ornithology* 34: 1-5.
- Cooper, J., Dunn, E., Kulka, D.W., Morgan, K.H. & Rivera, K.S. 2000.** Addressing the problem: seabird mortality from longline fisheries in the waters of Arctic countries. In: Chardine, J.W., Porter, J.M. & Wohl, K.D. (Eds). Workshop on Seabird Incidental Catch in the Waters of Arctic Countries. *CAFF Technical Report* No. 7: 9, 33-42, 61-65.
- COSEWIC 2003.** COSEWIC assessment and status report on the Short-tailed Albatross *Phoebastria albatrus* in Canada. Ottawa: Committee on the Status of Endangered Wildlife in Canada.
- COSEWIC 2004.** COSEWIC assessment and status report on the Pink-footed Shearwater *Puffinus creatopus* in Canada. Ottawa: Committee on the Status of Endangered Wildlife in Canada.
- European Union 1999.** European Union Species Action Plan Balearic Shearwater (*Puffinus mauretanicus*). BirdLife International & European Commission.
- Gallo-Orsi, U. 2003.** Species Action Plans for the conservation of seabirds in the Mediterranean Sea: Audouin's Gull, Balearic Shearwater and Mediterranean Shag. In: Mínguez, E., Oro, D., de Juana, E. & Martínez-Abraín, A. (Eds). Mediterranean seabirds and their conservation. *Scientia Marina* 67 (Supplement 2): 47-55.
- Garnett, S.T. & Crowley, G.M. 2000.** The action plan for Australian birds. Canberra: Environment Australia.
- Oro, D., Aguilar, J.S., Igual, J.M. & Louzao, M. 2004.** Modelling demography and extinction risk in the endangered Balearic Shearwater. *Biological Conservation* 116: 93-102.
- Penhallurick, J. & Wink, M. 2004.** Analysis of the taxonomy and nomenclature of the Procellariiformes based on complete nucleotide sequences of the mitochondrial cytochrome b gene. *Emu* 104: 125-147.
- Rheindt, F.E. & Austin, J.J. 2005.** Major analytical and conceptual shortcomings in a recent taxonomic revision of the Procellariiformes - a reply to Penhallurick and Wink (2004). *Emu* 105: 181-186.
- Robertson, C.J. & Nunn, G.B. 1998.** Towards a new taxonomy for albatrosses. In: Robertson, G. & Gales, R. (Eds). Albatross biology and conservation. Chipping Norton: Surrey Beatty & Sons. pp. 13-19.
- Taylor, G.A. 2000a.** Action plan for seabird conservation in New Zealand. *Threatened Species Occasional Publication* No. 16: 1-233.

- Taylor, G.A. 2000b.** Action plan for seabird conservation in New Zealand. *Threatened Species Occasional Publication* No. 17: 236-435.
- USFWS 2005.** Short-tailed Albatross (*Phoebastria albatrus*) draft recovery plan. Anchorage: U.S. Fish and Wildlife Service.

APPENDIX ONE

SCORING SYSTEM FOR SELECTION CRITERIA FOR CANDIDATE ACAP SPECIES

Global conservation status

IUCN status of Critically Endangered (extremely high risk of extinction in the wild) = 4; Endangered (very high risk of extinction in the wild) = 3; Vulnerable (high risk of extinction in the wild) = 2; Near-threatened = 1; and Not Threatened/Least Concern/Data Deficient/not classified = 0.

Listing within the Convention on Migratory Species

Listing on either or both Appendices I and II with a subsequent call for concerted and/or collaborative action = 4; listing on both Appendices I and II = 3; Listing on Appendix I = 2, listing on Appendix II = 1; no listing within the CMS = 0.

Current population trend

Global population increasing, stable or insufficient information available to assess trend = 0; at least one population known to or thought to be decreasing = 1; several populations known or thought to be decreasing = 2; all studied populations known or thought to be decreasing = 3; all studied populations known or thought to be decreasing severely = 4.

Population size

Global population less than 1000 annually breeding pairs = 4; global population between 1000 and 10 000 annually breeding pairs = 3; global population between 10 000 and 100 000 annually breeding pairs = 2; global population between 100 000 and one million annually breeding pairs = 1; global population over one million breeding pairs = 0. Global estimates do not exist for many species, for them a “guesstimate” has been made, based on a reading of Brooke (2004).

Level of endemism

Species breeds within more than four states = 4; species breeds within four states = 3; species breeds within three states = 2; species breed within two states = 1; species breeds within one state only = 0.

Migratory nature

Species occurs in territorial/EEZ waters of more than three states = 4; species occurs in territorial/EEZ waters of three states = 3; species occurs in territorial/EEZ waters of two states = 2; species occurs in only one state’s waters but also visits international waters = 1; species does not leave territorial/EEZ waters of a single state = 0.

Land-based threats

Species known to face severe land-based threats in two or more breeding range states = 4; species known to face detectable land-based threats in two or more breeding-range states = 3; species known to face severe land-based threats in at least one breeding-range state = 2; species known to face detectable land-based threats in at least one breeding-range state = 1; no land-based threats have been identified = 0.

At-sea conservation threats

Species known to face severe threats in international waters and/or territorial/EEZ waters of at least two states = 4; species known to face a detectable level of threat in international waters and/or territorial/EEZ waters of at least two states = 3; species known to face a severe level of threat in international waters and/or territorial/EEZ waters of at least one state = 2; species known to face a detectable level of threat in international waters and/or territorial/EEZ waters of at least one state = 1; species not known to face at-sea threats = 0.

Table 1.a. Scores obtained using the scoring system developed in this paper to assess the suitability of 129 procellariiform species for inclusion on ACAP Annex 1, sorted by taxonomic order. Asterisks indicate species already listed on Annex 1.

Common name	Scientific name	IUCN status	CMS listing	Population size	Current population trend	Endemism	Migratory	Land-based threats	At-sea threats	Total	Weighted Total ¹	Weighted Total – IUCN	Weighted Total – IUCN + CMS
Wandering Albatross*	<i>Diomedea exulans</i>	2	4	3	2	3	4	3	4	25	29	27	23
Antipodean Albatross*	<i>D. antipodensis</i>	2	4	2	1	0	3	1	4	17	21	19	15
Amsterdam Albatross*	<i>D. amsterdamensis</i>	4	4	4	0	0	1	2	2	17	19	15	11
Tristan Albatross*	<i>D. dabbenena</i>	3	4	3	4	0	4	2	4	24	28	25	21
Northern Royal Albatross*	<i>D. sanfordi</i>	3	4	3	1	0	4	1	4	20	24	21	17
Southern Royal Albatross*	<i>D. epomophora</i>	3	4	2	0	0	4	1	4	18	22	19	15
Waved Albatross*	<i>Phoebastria irrorata</i>	4	4	2	3	0	2	2	4	21	25	21	17
Short-tailed Albatross	<i>P. albatrus</i>	2	4	4	0	0	4	2	4	20	24	22	18
Black-footed Albatross	<i>P. nigripes</i>	3	4	2	2	1	4	3	4	23	27	24	20
Laysan Albatross	<i>P. immutabilis</i>	2	4	1	2	2	4	3	4	22	26	24	20
Black-browed Albatross*	<i>Thalassarche melanophrys</i>	3	4	1	2	4	4	3	4	25	29	26	22
Campbell Albatross*	<i>T. impavida</i>	3	4	2	0	0	2	1	4	16	20	17	13
Shy Albatross*	<i>T. cauta</i>	1	4	2	0	0	4	2	4	17	21	20	16
White-capped Albatross*	<i>T. steadi</i>	1	4	2	0	0	4	1	4	16	20	19	15
Chatham Albatross*	<i>T. eremita</i>	4	4	3	0	1	4	1	4	21	25	17	13
Salvin's Albatross*	<i>T. salvini</i>	2	4	2	2	2	4	3	4	21	25	23	19
Grey-headed Albatross*	<i>T. chrysostoma</i>	2	4	2	2	4	4	3	4	25	29	27	23
Atlantic Yellow-nosed Albatross*	<i>T. chlororhynchos</i>	3	4	2	3	0	4	1	4	19	23	20	16
Indian Yellow-nosed Albatross*	<i>T. carteri</i>	3	4	2	2	1	4	3	4	23	27	20	16
Buller's Albatross*	<i>T. bulleri</i>	2	4	2	0	0	4	1	4	17	21	19	15
Sooty Albatross*	<i>Phoebastria fusca</i>	3	4	2	2	2	4	3	4	24	28	25	21
Light-mantled Sooty Albatross*	<i>P. palpebrata</i>	1	4	2	2	4	4	3	4	24	28	27	23
Southern Giant Petrel*	<i>Macronectes giganteus</i>	1	4	2	2	4	4	4	4	25	29	28	24
Northern Giant Petrel*	<i>M. halli</i>	1	4	2	0	4	4	3	4	22	26	25	21
Northern Fulmar	<i>Fulmarus glacialis</i>	0	0	0	0	4	4	3	4	15	19	19	19
Southern Fulmar	<i>Fulmarus glacialoides</i>	0	0	0	0	2	4	0	0	6	6	6	6
Antarctic Petrel	<i>Thalassoica antarctica</i>	0	0	0	0	0	4	0	0	4	4	4	4
Cape Petrel	<i>Daption capense</i>	0	0	0	0	4	4	3	1	12	13	13	13
Snow Petrel	<i>Pagodroma nivea</i>	0	0	0	0	3	3	0	0	6	6	6	6
Blue Petrel	<i>Halobaena caerulea</i>	0	0	0	0	4	4	4	0	12	12	12	12

Common name	Scientific name	IUCN status	CMS listing	Population size	Current population trend	Endemism	Migratory	Land-based threats	At-sea threats	Total	Weighted Total ¹	Weighted Total – IUCN	Weighted Total – IUCN + CMS
Broad-billed Prion	<i>Pachyptila vittata</i>	0	0	0	0	2	4	4	0	10	10	10	10
Salvin's Prion	<i>Pachyptila salvini</i>	0	0	0	0	2	4	4	0	10	10	10	10
Antarctic Prion	<i>Pachyptila desolata</i>	0	0	0	0	4	4	4	0	12	12	12	12
Slender-billed Prion	<i>Pachyptila belcheri</i>	0	0	0	0	3	4	4	0	11	11	11	11
Fairy Prion	<i>Pachyptila turtur</i>	0	0	0	0	4	4	4	0	12	12	12	12
Fulmar Prion	<i>Pachyptila crassirostris</i>	0	0	1	0	1	2	2	0	6	6	6	6
Kerguelen Petrel	<i>Lugensa brevirostris</i>	0	0	1	0	2	4	4	0	9	9	9	9
Great-winged Petrel	<i>Pterodroma macroptera</i>	0	0	0	0	4	4	4	0	12	12	12	12
White-headed Petrel	<i>Pterodroma lessonii</i>	0	0	1	0	2	4	4	0	11	11	11	11
Atlantic Petrel	<i>Pterodroma incerta</i>	2	0	0	1	0	4	2	0	9	9	7	7
Providence Petrel	<i>Pterodroma solandri</i>	2	0	2	0	0	4	2	0	10	10	8	8
Magenta Petrel	<i>Pterodroma magentae</i>	4	0	4	0	0	1	2	0	11	11	7	7
Murphy's Petrel	<i>Pterodroma ultima</i>	1	0	1	0	1	4	3	0	10	10	9	9
Soft-plumaged Petrel	<i>Pterodroma mollis</i>	0	0	0	0	4	4	3	0	11	11	11	11
Zino's Petrel	<i>Pterodroma madeira</i>	4	0	4	0	0	1	2	0	11	11	7	7
Fea's Petrel	<i>Pterodroma feae</i>	1	0	4	0	1	4	4	0	14	14	13	13
Jamaica Petrel	<i>Pterodroma caribbaea</i>	4	0	4	0	0	2	2	0	12	12	9	9
Bermuda Petrel	<i>Pterodroma cahow</i>	3	2	4	0	0	3	2	2	16	18	15	13
Black-capped Petrel	<i>Pterodroma hasitata</i>	3	0	3	1	1	4	4	0	16	16	13	13
Juan Fernandez Petrel	<i>Pterodroma externa</i>	2	0	0	0	0	4	2	0	8	8	6	6
Kermadec Petrel	<i>Pterodroma neglecta</i>	0	0	2	1	4	4	4	0	15	15	15	15
Herald Petrel	<i>Pterodroma heraldica</i>	0	0	2	0	4	4	3	0	13	13	13	13
Trindade Petrel	<i>Pterodroma arminjoniana</i>	2	0	3	0	1	3	3	0	12	12	10	10
Henderson Petrel	<i>Pterodroma atrata</i>	3	2	2	3	1	3	2	0	16	16	13	11
Phoenix Petrel	<i>Pterodroma alba</i>	2	0	3	2	3	4	4	0	18	18	16	16
Barau's Petrel	<i>Pterodroma barau</i>	3	0	3	0	0	4	2	0	12	12	9	9
Hawaiian Petrel	<i>Pterodroma sandwichensis</i>	2	2	3	0	0	4	2	0	13	13	11	9
Galapagos Petrel	<i>Pterodroma phaeopygia</i>	4	2	2	4	0	4	2	0	14	14	10	8
Mottled Petrel	<i>Pterodroma inexpectata</i>	1	0	0	0	0	4	2	0	7	7	6	6
White-necked Petrel	<i>Pterodroma cervicalis</i>	2	0	2	0	2	4	4	0	16	16	14	14
Black-winged Petrel	<i>Pterodroma nigripennis</i>	0	0	0	0	3	4	3	0	13	13	13	13
Chatham Island Petrel	<i>Pterodroma axillaris</i>	4	0	4	4	0	1	2	0	11	11	7	7

Common name	Scientific name	IUCN status	CMS listing	Population size	Current population trend	Endemism	Migratory	Land-based threats	At-sea threats	Total	Weighted Total ¹	Weighted Total – IUCN	Weighted Total - IUCN + CMS
White-Necked Petrel	<i>Pterodroma cervicalis</i>	2	0	2		2	4	4	0	14	14	12	12
Bonin Petrel	<i>Pterodroma hypoleuca</i>	0	0	1	0	1	4	3	0	9	9	9	9
Gould's Petrel	<i>Pterodroma leucoptera</i>	2	0	3	0	2	4	4	0	15	15	13	13
Collared Petrel	<i>Pterodroma brevipes</i>	0	0	3	0	3	4	3	0	13	13	13	13
Cook's Petrel	<i>Pterodroma cookii</i>	3	0	2	0	0	4	2	0	11	11	8	8
De Filippi's Petrel	<i>Pterodroma defilippiana</i>	2	0	3	0	0	1	2	0	8	8	6	6
Stejneger's Petrel	<i>Pterodroma longirostris</i>	2	0	1	0	0	4	2	0	9	9	7	7
Pycroft's Petrel	<i>Pterodroma pycrofti</i>	3	0	3	0	0	4	2	0	12	12	9	9
Mascarene Petrel	<i>Pseudobulweria aterrima</i>	4	0	4	4	0	1	2	0	15	15	11	11
Beck's Petrel	<i>Pseudobulweria becki</i>	4	0	4	0	1	2	1	0	12	12	8	8
Tahiti Petrel	<i>Pseudobulweria rostrata</i>	1	0	3	0	4	4	3	0	15	15	14	14
Fiji Petrel	<i>Pseudobulweria macgillivrayi</i>	4	0	4	4	0	1	1	0	14	14	12	12
Grey Petrel*	<i>Procellaria cinerea</i>	1	4	1	0	4	4	4	4	22	26	25	21
White-chinned Petrel*	<i>Procellaria aequinoctialis</i>	2	4	0	3	3	4	4	4	24	28	26	22
Spectacled Petrel*	<i>Procellaria conspicillata</i>	2	4	3	0	0	4	0	4	17	21	19	15
Black Petrel*	<i>Procellaria parkinsoni</i>	2	4	3	0	0	4	2	4	19	23	21	17
Westland Petrel*	<i>Procellaria westlandica</i>	2	4	1	0	0	3	2	4	16	20	18	14
Streaked Shearwater	<i>Calonectris leucomelas</i>	0	0	0	0	3	4	1	0	8	8	8	8
Cory's Shearwater	<i>Calonectris diomedea</i>	0	0	1	1	4	4	4	3	17	20	17	17
Cape Verde Shearwater	<i>Calonectris edwardsii</i>	0	0	3	3	0	3	2	3	14	17	17	17
Christmas Shearwater	<i>Puffinus nativitatis</i>	0	0	2	0	4	4	3	0	13	13	13	13
Wedge-tailed Shearwater	<i>Puffinus pacificus</i>	0	0	0	0	4	4	4	3	15	18	18	18
Buller's Shearwater	<i>Puffinus bulleri</i>	0	0	1	0	0	4	2	0	7	7	7	7
Manx Shearwater	<i>Puffinus puffinus</i>	0	0	1	0	4	4	3	0	12	12	12	12
Yelkouan Shearwater	<i>Puffinus yelkouan</i>	0	0	2	0	4	4	3	3	16	19	16	16
Balearic Shearwater	<i>Puffinus mauretanicus</i>	4	4	3	2	0	4	2	3	22	25	21	17
Black-vented Shearwater	<i>Puffinus opisthomelas</i>	2	0	2	3	0	2	2	0	11	11	9	9
Newell's Shearwater	<i>Puffinus newelli</i>	3	0	2	1	1	3	2	0	12	12	9	9
Townsend's Shearwater	<i>Puffinus auricularis</i>	4	0	3	1	0	1	2	0	11	11	7	7
Fluttering Shearwater	<i>Puffinus gavia</i>	0	0	2	0	0	2	2	0	6	6	6	6
Hutton's Shearwater	<i>Puffinus huttoni</i>	3	0	1	0	0	2	2	1	9	10	7	7
Audubon's Shearwater	<i>Puffinus lherminieri</i>	0	0	1	0	4	4	3	0	12	12	12	12
Heinroth's Shearwater	<i>Puffinus heinrothi</i>	2	0	4	0	1	2	1	0	10	10	8	8

Common name	Scientific name	IUCN status	CMS listing	Population size	Current population trend	Endemism	Migratory	Land-based threats	At-sea threats	Total	Weighted Total ¹	Weighted Total – IUCN	Weighted Total - IUCN + CMS
Little Shearwater	<i>Puffinus assimilis</i>	0	0	1	0	4	4	3	0	12	12	10	10
Sooty Shearwater	<i>Puffinus griseus</i>	0	0	0	0	3	4	3	4	14	18	18	18
Short-tailed Shearwater	<i>Puffinus tenuirostris</i>	0	0	0	0	0	4	2	4	10	14	10	10
Pink-footed Shearwater	<i>Puffinus creatopus</i>	2	2	2	0	0	4	2	3	15	18	16	14
Flesh-footed Shearwater	<i>Puffinus carneipes</i>	0	0	1	0	2	4	3	4	14	18	14	14
Great Shearwater	<i>Puffinus gravis</i>	0	0	0	0	0	4	1	3	8	11	8	8
Bulwer's Petrel	<i>Bulweria bulwerii</i>	0	0	1	0	4	4	3	0	12	12	12	12
Jouanin's Petrel	<i>Bulweria fallax</i>	0	0	2	0	0	4	1	0	7	7	7	7
Wilson's Storm Petrel	<i>Oceanites oceanicus</i>	0	0	0	0	4	4	3	0	11	11	11	11
New Zealand Storm Petrel	<i>Oceanites maorianus</i>	0	0	4	0	0	0	1	0	5	5	5	5
White-vented Storm Petrel	<i>Oceanites gracilis</i>	0	0	2	0	1	4	2	0	9	9	9	9
Grey-backed Storm Petrel	<i>Garrodia nereis</i>	0	0	2	0	4	4	4	0	14	14	14	14
White-faced Storm Petrel	<i>Pelagodroma marina</i>	0	0	0	0	4	4	3	0	11	11	11	11
White-bellied Storm Petrel	<i>Fregetta gallaria</i>	0	0	2	0	4	4	3	0	13	13	13	13
Black-bellied Storm Petrel	<i>Fregetta tropica</i>	0	0	2	0	4	4	3	0	13	13	1	12
Polynesian Storm Petrel	<i>Nesofregetta fuliginosa</i>	2	0	3	1	4	4	4	0	18	18	16	16
European Storm Petrel	<i>Hydrobates pelagicus</i>	0	0	1	0	4	4	3	0	12	12	12	12
Least Storm Petrel	<i>Oceanodroma microsoma</i>	0	0	1	0	0	4	1	0	6	6	6	6
Wedge-rumped Storm Petrel	<i>Oceanodroma tethys</i>	0	0	1	0	1	4	3	0	9	9	9	9
Band-rumped Storm Petrel	<i>Oceanodroma castro</i>	0	0	2	0	4	4	3	0	13	13	13	13
Swinhoe's Storm Petrel	<i>Oceanodroma monorhis</i>	0	0	2	0	3	4	3	0	12	12	12	12
Leach's Storm Petrel	<i>Oceanodroma leucorhoa</i>	0	0	0	0	4	4	3	0	11	11	11	11
Guadalupe Storm Petrel	<i>Oceanodroma macrodactyla</i>	4	0	4	0	0	2	2	0	12	12	8	8
Markham's Storm Petrel	<i>Oceanodroma markhami</i>	0	0	2	0	1	4	3	0	10	10	10	10
Tristram's Storm Petrel	<i>Oceanodroma tristrami</i>	1	0	3	0	1	3	4	0	12	12	11	11
Black Storm Petrel	<i>Oceanodroma melania</i>	0	0	1	0	1	4	3	0	9	9	9	9
Matsudaira's Storm Petrel	<i>Oceanodroma matsudairae</i>	0	0	2	0	0	4	1	0	7	7	7	7
Ashy Storm Petrel	<i>Oceanodroma homochroa</i>	1	0	3	1	1	2	4	0	12	12	11	11
Hornby's Storm Petrel	<i>Oceanodroma hornbyi</i>	0	0	3	0	1	3	1	0	8	8	8	8
Fork-tailed Storm Petrel	<i>Oceanodroma furcata</i>	0	0	0	0	3	4	4	0	11	11	11	11
Peruvian Diving Petrel	<i>Pelecanoides garnotii</i>	3	2	2	4	1	3	4	0	19	19	16	14
Magellanic Diving Petrel	<i>Pelecanoides magellani</i>	0	0	2	0	1	2	3	0	8	8	8	8
South Georgia Diving Petrel	<i>Pelecanoides georgicus</i>	0	0	0	0	4	4	4	0	12	12	12	12

¹The weighted total has been calculated by doubling the score for sea-based threats (see text).

Table 1.b. Scores obtained using the scoring system developed in this paper to assess the suitability of 129 procellariiform species for inclusion on ACAP Annex 1, sorted by descending total weighted score. Asterisks indicate species already listed on Annex 1.

Common name	Scientific name	IUCN status	CMS listing	Population size	Current population trend	Endemism	Migratory	Land-based threats	At-sea threats	Total	Weighted Total ¹	Weighted Total – IUCN	Weighted Total - IUCN + CMS
Wandering Albatross*	<i>Diomedea exulans</i>	2	4	3	2	3	4	3	4	25	29	27	23
Black-browed Albatross*	<i>Thalassarche melanophrys</i>	3	4	1	2	4	4	3	4	25	29	26	22
Grey-headed Albatross*	<i>T. chrysostoma</i>	2	4	2	2	4	4	3	4	25	29	27	23
Southern Giant Petrel*	<i>Macronectes giganteus</i>	1	4	2	2	4	4	4	4	25	29	28	24
Tristan Albatross*	<i>D. dabbenena</i>	3	4	3	4	0	4	2	4	24	28	25	21
Sooty Albatross*	<i>Phoebastria fusca</i>	3	4	2	2	2	4	3	4	24	28	25	21
Light-mantled Sooty Albatross*	<i>P. palpebrata</i>	1	4	2	2	4	4	3	4	24	28	27	23
White-chinned Petrel*	<i>Procellaria aequinoctialis</i>	2	4	0	3	3	4	4	4	24	28	26	22
Black-footed Albatross	<i>P. nigripes</i>	3	4	2	2	1	4	3	4	23	27	24	20
Indian Yellow-nosed Albatross*	<i>T. carteri</i>	3	4	2	2	1	4	3	4	23	27	20	16
Laysan Albatross	<i>P. immutabilis</i>	2	4	1	2	2	4	3	4	22	26	24	20
Northern Giant Petrel*	<i>M. halli</i>	1	4	2	0	4	4	3	4	22	26	25	21
Grey Petrel*	<i>Procellaria cinerea</i>	1	4	1	0	4	4	4	4	22	26	25	21
Waved Albatross*	<i>Phoebastria irrorata</i>	4	4	2	3	0	2	2	4	21	25	21	17
Chatham Albatross*	<i>T. eremita</i>	4	4	3	0	1	4	1	4	21	25	17	13
Salvin's Albatross*	<i>T. salvini</i>	2	4	2	2	2	4	3	4	21	25	23	19
Balearic Shearwater	<i>Puffinus mauretanicus</i>	4	4	3	2	0	4	2	3	22	25	21	17
Northern Royal Albatross*	<i>D. sanfordi</i>	3	4	3	1	0	4	1	4	20	24	21	17
Short-tailed Albatross	<i>P. albatrus</i>	2	4	4	0	0	4	2	4	20	24	22	18
Atlantic Yellow-nosed Albatross*	<i>T. chlororhynchos</i>	3	4	2	3	0	4	1	4	19	23	20	16
Black Petrel*	<i>Procellaria parkinsoni</i>	2	4	3	0	0	4	2	4	19	23	21	17
Southern Royal Albatross*	<i>D. epomophora</i>	3	4	2	0	0	4	1	4	18	22	19	15
Antipodean Albatross*	<i>D. antipodensis</i>	2	4	2	1	0	3	1	4	17	21	19	15
Shy Albatross*	<i>T. cauta</i>	1	4	2	0	0	4	2	4	17	21	20	16
Buller's Albatross*	<i>T. bulleri</i>	2	4	2	0	0	4	1	4	17	21	19	15
Spectacled Petrel*	<i>Procellaria conspicillata</i>	2	4	3	0	0	4	0	4	17	21	19	15
Campbell Albatross*	<i>T. impavida</i>	3	4	2	0	0	2	1	4	16	20	17	13
White-capped Albatross*	<i>T. steadi</i>	1	4	2	0	0	4	1	4	16	20	19	15
Westland Petrel*	<i>Procellaria westlandica</i>	2	4	1	0	0	3	2	4	16	20	18	14
Cory's Shearwater	<i>Calonectris diomedea</i>	0	0	1	1	4	4	4	3	17	20	17	17

Common name	Scientific name	IUCN status	CMS listing	Population size	Current population trend	Endemism	Migratory	Land-based threats	At-sea threats	Total	Weighted Total ¹	Weighted Total – IUCN	Weighted Total - IUCN + CMS
Amsterdam Albatross*	<i>D. amsterdamensis</i>	4	4	4	0	0	1	2	2	17	19	15	11
Northern Fulmar	<i>Fulmarus glacialis</i>	0	0	0	0	4	4	3	4	15	19	19	19
Peruvian Diving Petrel	<i>Pelecanoides gantotii</i>	3	2	2	4	1	3	4	0	19	19	16	14
Yelkouan Shearwater	<i>Puffinus yelkouan</i>	0	0	2	0	4	4	3	3	16	19	16	16
Bermuda Petrel	<i>Pterodroma cahow</i>	3	2	4	0	0	3	2	2	16	18	15	13
Phoenix Petrel	<i>Pterodroma alba</i>	2	0	3	2	3	4	4	0	18	18	16	16
Wedge-tailed Shearwater	<i>Puffinus pacificus</i>	0	0	0	0	4	4	4	3	15	18	18	18
Sooty Shearwater	<i>Puffinus griseus</i>	0	0	0	0	3	4	3	4	14	18	18	18
Pink-footed Shearwater	<i>Puffinus creatopus</i>	2	2	2	0	0	4	2	3	15	18	16	14
Flesh-footed Shearwater	<i>Puffinus carneipes</i>	0	0	1	0	2	4	3	4	14	18	14	14
Polynesian Storm Petrel	<i>Nesofregatta fuliginosa</i>	2	0	3	1	4	4	4	0	18	18	16	16
Cape Verde Shearwater	<i>Calonectris edwardsii</i>	0	0	3	3	0	3	2	3	14	17	17	17
Black-capped Petrel	<i>Pterodroma hasitata</i>	3	0	3	1	1	4	4	0	16	16	13	13
Henderson Petrel	<i>Pterodroma atrata</i>	3	2	2	3	1	3	2	0	16	16	13	11
White-necked Petrel	<i>Pterodroma cervicalis</i>	2	0	2	0	2	4	4	0	16	16	14	14
Kermadec Petrel	<i>Pterodroma neglecta</i>	0	0	2	1	4	4	4	0	15	15	15	15
Tahiti Petrel	<i>Pseudobulweria rostrata</i>	1	0	3	0	4	4	3	0	15	15	14	14
Mascarene Petrel	<i>Pseudobulweria aterrima</i>	4	0	4	4	0	1	2	0	15	15	11	11
Gould's Petrel	<i>Pterodroma leucoptera</i>	2	0	3	0	2	4	4	0	15	15	13	13
Galapagos Petrel	<i>Pterodroma phaeopygia</i>	4	2	2	4	0	4	2	0	14	14	10	8
Fea's Petrel	<i>Pterodroma feae</i>	1	0	4	0	1	4	4	0	14	14	13	13
	<i>Pseudobulweria</i>				4						14	12	12
Fiji Petrel	<i>macgillivrayi</i>	4	0	4		0	1	1	0	14			
White-Necked Petrel	<i>Pterodroma cervicalis</i>	2	0	2		2	4	4	0	14	14	12	12
Short-tailed Shearwater	<i>Puffinus tenuirostris</i>	0	0	0	0	0	4	2	4	10	14	10	10
Grey-backed Storm Petrel	<i>Garrodia nereis</i>	0	0	2	0	4	4	4	0	14	14	14	14
Cape Petrel	<i>Daption capense</i>	0	0	0	0	4	4	3	1	12	13	13	13
Herald Petrel	<i>Pterodroma heraldica</i>	0	0	2	0	4	4	3	0	13	13	13	13
Hawaiian Petrel	<i>Pterodroma sandwichensis</i>	2	2	3	0	0	4	2	0	13	13	11	9
Black-winged Petrel	<i>Pterodroma nigripennis</i>	0	0	0	0	3	4	3	0	13	13	13	13
Collared Petrel	<i>Pterodroma brevipes</i>	0	0	3	0	3	4	3	0	13	13	13	13
Christmas Shearwater	<i>Puffinus nativitatis</i>	0	0	2	0	4	4	3	0	13	13	13	13
Band-rumped Storm Petrel	<i>Oceanodroma castro</i>	0	0	2	0	4	4	3	0	13	13	13	13

Common name	Scientific name	IUCN status	CMS listing	Population size	Current population trend	Endemism	Migratory	Land-based threats	At-sea threats	Total	Weighted Total ¹	Weighted Total – IUCN	Weighted Total - IUCN + CMS
Black-bellied Storm Petrel	<i>Fregatta tropica</i>	0	0	2	0	4	4	3	0	13	13	13	13
Antarctic Prion	<i>Pachyptila desolata</i>	0	0	0	0	4	4	4	0	12	12	12	12
Fairy Prion	<i>Pachyptila turtur</i>	0	0	0	0	4	4	4	0	12	12	12	12
Blue Petrel	<i>Halobaena caerulea</i>	0	0	0	0	4	4	4	0	12	12	12	12
Great-winged Petrel	<i>Pterodroma macroptera</i>	0	0	0	0	4	4	4	0	12	12	12	12
Jamaica Petrel	<i>Pterodroma caribbaea</i>	4	0	4	0	0	2	2	0	12	12	9	9
Barau's Petrel	<i>Pterodroma barauii</i>	3	0	3	0	0	4	2	0	12	12	9	9
Trindade Petrel	<i>Pterodroma arminjoniana</i>	2	0	3	0	1	3	3	0	12	12	10	10
Pycroft's Petrel	<i>Pterodroma pycrofti</i>	3	0	3	0	0	4	2	0	12	12	9	9
Beck's Petrel	<i>Pseudobulweria becki</i>	4	0	4	0	1	2	1	0	12	12	8	8
Manx Shearwater	<i>Puffinus puffinus</i>	0	0	1	0	4	4	3	0	12	12	12	12
Newell's Shearwater	<i>Puffinus newelli</i>	3	0	2	1	1	3	2	0	12	12	9	9
Audubon's Shearwater	<i>Puffinus lherminieri</i>	0	0	1	0	4	4	3	0	12	12	12	12
Little Shearwater	<i>Puffinus assimilis</i>	0	0	1	0	4	4	3	0	12	12	10	10
Bulwer's Petrel	<i>Bulweria bulwerii</i>	0	0	1	0	4	4	3	0	12	12	12	12
European Storm Petrel	<i>Hydrobates pelagicus</i>	0	0	1	0	4	4	3	0	12	12	12	12
Swinhoe's Storm Petrel	<i>Oceanodroma monorhis</i>	0	0	2	0	3	4	3	0	12	12	12	12
Guadalupe Storm Petrel	<i>Oceanodroma macrodactyla</i>	4	0	4	0	0	2	2	0	12	12	8	8
Tristram's Storm Petrel	<i>Oceanodroma tristrami</i>	1	0	3	0	1	3	4	0	12	12	11	11
Ashy Storm Petrel	<i>Oceanodroma homochroa</i>	1	0	3	1	1	2	4	0	12	12	11	11
South Georgia Diving Petrel	<i>Pelecanoides georgicus</i>	0	0	0	0	4	4	4	0	12	12	12	12
Common Diving Petrel	<i>Pelecanoides urinatrix</i>	0	0	0	0	4	4	4	0	12	12	12	12
Slender-billed Prion	<i>Pachyptila belcheri</i>	0	0	0	0	3	4	4	0	11	11	11	11
White-headed Petrel	<i>Pterodroma lessonii</i>	0	0	1	0	2	4	4	0	11	11	7	7
Magenta Petrel	<i>Pterodroma magentae</i>	4	0	4	0	0	1	2	0	11	11	11	11
Soft-plumaged Petrel	<i>Pterodroma mollis</i>	0	0	0	0	4	4	3	0	11	11	7	7
Zino's Petrel	<i>Pterodroma madeira</i>	4	0	4	0	0	1	2	0	11	11	7	7
Chatham Island Petrel	<i>Pterodroma axillaris</i>	4	0	4	4	0	1	2	0	11	11	7	7
Cook's Petrel	<i>Pterodroma cookii</i>	3	0	2	0	0	4	2	0	11	11	8	8
Black-vented Shearwater	<i>Puffinus opisthomelas</i>	2	0	2	3	0	2	2	0	11	11	9	9
Townsend's Shearwater	<i>Puffinus auricularis</i>	4	0	3	1	0	1	2	0	11	11	7	7
Wilson's Storm Petrel	<i>Oceanites oceanicus</i>	0	0	0	0	4	4	3	0	11	11	11	11
Great Shearwater	<i>Puffinus gravis</i>	0	0	0	0	0	4	1	3	8	11	8	8

Common name	Scientific name	IUCN status	CMS listing	Population size	Current population trend	Endemism	Migratory	Land-based threats	At-sea threats	Total	Weighted Total ¹	Weighted Total – IUCN	Weighted Total - IUCN + CMS
White-faced Storm Petrel	<i>Pelagodroma marina</i>	0	0	0	0	4	4	3	0	11	11	11	11
Leach's Storm Petrel	<i>Oceanodroma leucorhoa</i>	0	0	0	0	4	4	3	0	11	11	11	11
Fork-tailed Storm Petrel	<i>Oceanodroma furcata</i>	0	0	0	0	3	4	4	0	11	11	11	11
Broad-billed Prion	<i>Pachyptila vittata</i>	0	0	0	0	2	4	4	0	10	10	10	10
Salvin's Prion	<i>Pachyptila salvini</i>	0	0	0	0	2	4	4	0	10	10	10	10
Providence Petrel	<i>Pterodroma solandri</i>	2	0	2	0	0	4	2	0	10	10	8	8
Murphy's Petrel	<i>Pterodroma ultima</i>	1	0	1	0	1	4	3	0	10	10	9	9
Hutton's Shearwater	<i>Puffinus huttoni</i>	3	0	1	0	0	2	2	1	9	10	7	7
Heinroth's Shearwater	<i>Puffinus heinrothi</i>	2	0	4	0	1	2	1	0	10	10	8	8
Markham's Storm Petrel	<i>Oceanodroma markhami</i>	0	0	2	0	1	4	3	0	10	10	10	10
Kerguelen Petrel	<i>Lugensa brevirostris</i>	0	0	1	0	2	4	4	0	9	9	7	7
Atlantic Petrel	<i>Pterodroma incerta</i>	2	0	0	1	0	4	2	0	9	9	7	7
Bonin Petrel	<i>Pterodroma hypoleuca</i>	0	0	1	0	1	4	3	0	9	9	9	9
Stejneger's Petrel	<i>Pterodroma longirostris</i>	2	0	1	0	0	4	2	0	9	9	7	7
White-vented Storm Petrel	<i>Oceanites gracilis</i>	0	0	2	0	1	4	2	0	9	9	9	9
Wedge-rumped Storm Petrel	<i>Oceanodroma tethys</i>	0	0	1	0	1	4	3	0	9	9	9	9
Black Storm Petrel	<i>Oceanodroma melania</i>	0	0	1	0	1	4	3	0	9	9	9	9
Juan Fernandez Petrel	<i>Pterodroma externa</i>	2	0	0	0	0	4	2	0	8	8	6	6
De Filippi's Petrel	<i>Pterodroma defilippiana</i>	2	0	3	0	0	1	2	0	8	8	6	6
Streaked Shearwater	<i>Calonectris leucomelas</i>	0	0	0	0	3	4	1	0	8	8	8	8
Hornby's Storm Petrel	<i>Oceanodroma hornbyi</i>	0	0	3	0	1	3	1	0	8	8	8	8
Magellanic Diving Petrel	<i>Pelecanoides magellani</i>	0	0	2	0	1	2	3	0	8	8	8	8
Buller's Shearwater	<i>Puffinus bulleri</i>	0	0	1	0	0	4	2	0	7	7	7	7
Jouanin's Petrel	<i>Bulweria fallax</i>	0	0	2	0	0	4	1	0	7	7	6	6
Mottled Petrel	<i>Pterodroma inexpectata</i>	1	0	0	0	0	4	2	0	7	7	7	7
Matsudaira's Storm Petrel	<i>Oceanodroma matsudairae</i>	0	0	2	0	0	4	1	0	7	7	6	6
Southern Fulmar	<i>Fulmarus glacialisoides</i>	0	0	0	0	2	4	0	0	6	6	6	6
Snow Petrel	<i>Pagodroma nivea</i>	0	0	0	0	3	3	0	0	6	6	6	6
Fulmar Prion	<i>Pachyptila crassirostris</i>	0	0	1	0	1	2	2	0	6	6	6	6
Fluttering Shearwater	<i>Puffinus gavia</i>	0	0	2	0	0	2	2	0	6	6	6	6
Least Storm Petrel	<i>Oceanodroma microsoma</i>	0	0	1	0	0	4	1	0	6	6	6	6
New Zealand Storm Petrel	<i>Oceanites maorianus</i>	0	0	4	0	0	0	1	0	5	5	5	5
Antarctic Petrel	<i>Thalassoica antarctica</i>	0	0	0	0	0	4	0	0	4	4	4	4

¹The weighted total has been calculated by doubling the score for sea-based threats (see text).