



**Australian Government**

**Department of Sustainability, Environment,  
Water, Population and Communities**  
Australian Antarctic Division

# **National recovery plan for threatened albatrosses and giant petrels 2011-2016**





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Cover photograph: Light mantled albatross and chick, North Head, Macquarie Island, 2010; photographer Sarah Way, Tasmanian Department of Primary Industry, Parks, Water and Environment.

## Introduction

The first Recovery Plan for albatrosses and giant petrels was released in October 2001 in recognition of the need to develop a co-ordinated conservation strategy for albatrosses and giant petrels listed threatened under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Under s279 (2) of the Act, the Environment Minister must review a recovery plan at intervals of not longer than 5 years. This 2011-2016 Recovery Plan includes the results of that review process.

## Species covered by the recovery plan

Twenty-one species (nineteen albatross species and two giant petrel species) are covered by this recovery plan. These have been categorised as:

- (i) 'Breeding species': species that breed on islands in areas under Australian jurisdiction (seven species); and
- (ii) 'Foraging species': species that forage (or potentially forage), but do not breed, within areas under Australian jurisdiction (fourteen species).

This plan, and the accompanying Background Paper, were prepared for the species (see Table 1, column 2) as gazetted under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The three additional species in the Table, while not listed as threatened under the Act, are included in this Plan because they occur in essentially the same areas, face the same conservation threats, require the same conservation actions, some are similarly endangered (as recognised on the IUCN Red List 2010) as the listed species, and their inclusion makes the Recovery Plan a more cogent document.

The taxonomy of albatrosses and petrels has been controversial for many years; it remains a work in progress and continued further development is expected. While a significant amount of new taxonomic information has become available since the 2001 Recovery Plan was finalised, including from genetic studies, this has not resulted in a resolution of the differing views on what is the most appropriate taxonomy. For a variety of reasons – including its international standing, use of the most recent data and review processes – and without wishing to stimulate unproductive taxonomic debate, this Plan uses the taxonomy adopted by the Agreement on the Conservation of Albatrosses and Petrels (ACAP). The ACAP taxonomy is the same as that currently used by the IUCN Red List and Birdlife International; additionally, the Scientific Council of the Convention on the Conservation of Migratory Species of Wild Animals (CMS) has recently recommended CMS adopt it too. Columns 2 and 4 of Table 1 show how to "translate" the taxonomy used in the EPBC Act gazettals and the 2001 Recovery Plan to the ACAP taxonomy. The influential taxonomic work of Christidis and Boles 2008 was considered carefully during the development of this Plan, however the albatross and petrel taxonomy they advocate has not been widely accepted and is significantly different to that used by the above organisations. The use of the ACAP taxonomy does not substantially or practically alter the conservation actions and management priorities contained in this Plan.

Table 1: Albatross and giant-petrel species considered in this report, their EPBC Act listing status and scientific names, and their scientific names as used throughout this Recovery Plan.

<b>Breeding in Australian jurisdiction</b>			
Wandering albatross	<i>Diomedea exulans</i>	Vu	<i>Diomedea exulans</i>
Black browed albatross	<i>Thalassarche melanophris</i>	Vu	<i>Thalassarche melanophris</i>
Shy albatross	<i>Thalassarche cauta</i>	Vu	<i>Thalassarche cauta</i> <sup>1</sup>
Grey headed albatross	<i>Thalassarche chrysostoma</i>	En	<i>Thalassarche chrysostoma</i>
Light mantled albatross	<i>Phoebastria palpebrata</i>	Not Listed	<i>Phoebastria palpebrata</i>
Northern giant petrel	<i>Macronectes halli</i>	Vu	<i>Macronectes halli</i>
Southern giant petrel	<i>Macronectes giganteus</i>	En	<i>Macronectes giganteus</i>
<b>Foraging in Australian jurisdiction</b>			
Tristan albatross *	<i>Diomedea dabbenena</i>	En	<i>Diomedea dabbenena</i>
Antipodean albatross	<i>Diomedea antipodensis</i>	Vu	<i>Diomedea antipodensis</i> <sup>2</sup>
Gibson's albatross	<i>Diomedea gibsoni</i>	Vu	<i>Diomedea antipodensis</i> <sup>2</sup>
Northern royal albatross	<i>Diomedea sanfordi</i>	En	<i>Diomedea sanfordi</i>
Southern royal albatross	<i>Diomedea epomophora</i>	Vu	<i>Diomedea epomophora</i>
Amsterdam albatross *	<i>Diomedea amsterdamensis</i>	En	<i>Diomedea amsterdamensis</i>
Laysan albatross *	<i>Phoebastria immutabilis</i>	Not Listed	<i>Phoebastria immutabilis</i>
Campbell albatross	<i>Thalassarche impavida</i>	Vu	<i>Thalassarche impavida</i>
White capped albatross	<i>Thalassarche steadi</i>	Vu	<i>Thalassarche steadi</i> <sup>1</sup>
Chatham albatross *	<i>Thalassarche eremita</i>	En	<i>Thalassarche eremita</i>
Salvin's albatross *	<i>Thalassarche salvini</i>	Vu	<i>Thalassarche salvini</i>
Atlantic yellow nosed albatross *	<i>Thalassarche chlororhynchos</i>	Not Listed	<i>Thalassarche chlororhynchos</i>
Indian yellow nosed albatross	<i>Thalassarche carteri</i>	Vu	<i>Thalassarche carteri</i>
Buller's albatross	<i>Thalassarche bulleri</i>	Vu	<i>Thalassarche bulleri</i> <sup>2</sup>
Pacific albatross	<i>Thalassarche nov. sp. (platei)</i>	Vu	<i>Thalassarche bulleri</i> <sup>2</sup>
Sooty albatross	<i>Phoebastria fusca</i>	Vu	<i>Phoebastria fusca</i>

<sup>1</sup> This change accords with the taxonomy adopted by Parties to ACAP; ACAP Resolution 2.5 noted that data warrant the recognition of Shy Albatross (*Thalassarche cauta*) and White-capped Albatross (*Thalassarche steadi*) as divergent and diagnosable species.

<sup>2</sup> This change accords with the taxonomy adopted by Parties to the Agreement on the Conservation of Albatrosses and Petrels (ACAP); ACAP Resolution 2.5 noted that data did not warrant the recognition of Antipodean albatross (*Diomedea antipodensis*) and Gibson's albatross (*Diomedea gibsoni*), and Buller's albatross (*Thalassarche bulleri*) and Pacific albatross (*Thalassarche nov. sp. (platei)*) at the specific level.

\* Denotes vagrant in Australian waters.

See also Appendix C for further information on scientific names according to Christidis and Boles (*Systematics and Taxonomy of Australian Birds*, 2008)

## Distribution and Populations

There are ten separate breeding locations for albatrosses and giant petrels under Australian jurisdiction (Table 2 and Figure 1).

Table 2: Breeding populations of albatrosses and giant petrels within Australian jurisdiction.

Macquarie Island	Black browed albatross	57	2010	Stable	Annual data 1995-2010
	Light mantled albatross*	~1200 <sup>1</sup>	2005	Stable	Data 1994 and 2005
	Grey headed albatross*	108	2010	Stable	Annual data 1995-2010
	Wandering albatross*	4	2010	Stable/ Decreasing?	Annual data 1963-2010
	Northern giant petrel	1689	2009	Stable/ Increasing?	Annual data 1995-2010
	Southern giant petrel	2534	2010	Stable	Data 1996-2004 and 2006-2010
Bishop and Clerk	Black browed albatross	~140	1993	Unknown	Very few data available due to difficulty of access
Heard Island	Black browed albatross	~600	2000	Unknown	Few data available due to limited access; 1954, 1955, 1980, 1987, 2001
	Light mantled albatross*	200-500	1954	Unknown	Very few data (only 1954)
	Southern giant petrel	~3000	1988	Unknown	Very few data: 1952, 1988, 2004
McDonald Island	Light mantled albatross*	Unknown	Na	Unknown	Not visited since extensive seismic activity began in late 1990s; visits not permitted by Management Plan
	Black browed albatross	~80	1981	Unknown	
	Southern giant petrel	~1400	1979	Unknown	
Giganteus Island	Southern giant petrel	3	2007	Stable	Few comparable data
Hawker Island	Southern giant petrel	~45 <sup>2</sup>	2010	Stable?	As above
Frazier Islands	Southern giant petrel	~170	1990	Stable?	As above
Albatross Island	Shy albatross	5233	2009	Stable	Data 1989, 2000, 2002 and 2004-2010
Mewstone	Shy albatross	9000-11000	2005	Unknown	Very few data available
Pedra Branca	Shy albatross	~220	2007	Decreasing	Data 1991, 1993, 1995-1997 and 1999-2007

\* Denotes biennial breeding species. Breeding population estimates represent annual census, not the total breeding population.

<sup>1</sup> Annual monitoring continues at 9 breeding sites. Light mantled albatross breed at intervals of 2 to 4 years and not all sites are accessible, total breeding population probably ranges from around 1,000 to 2,000 annual breeding pairs. Population trends were determined from monitored sites which were largely stable.

<sup>2</sup> Preliminary figure based on a count of occupied nests using photographs taken by automated cameras during 2009/10.

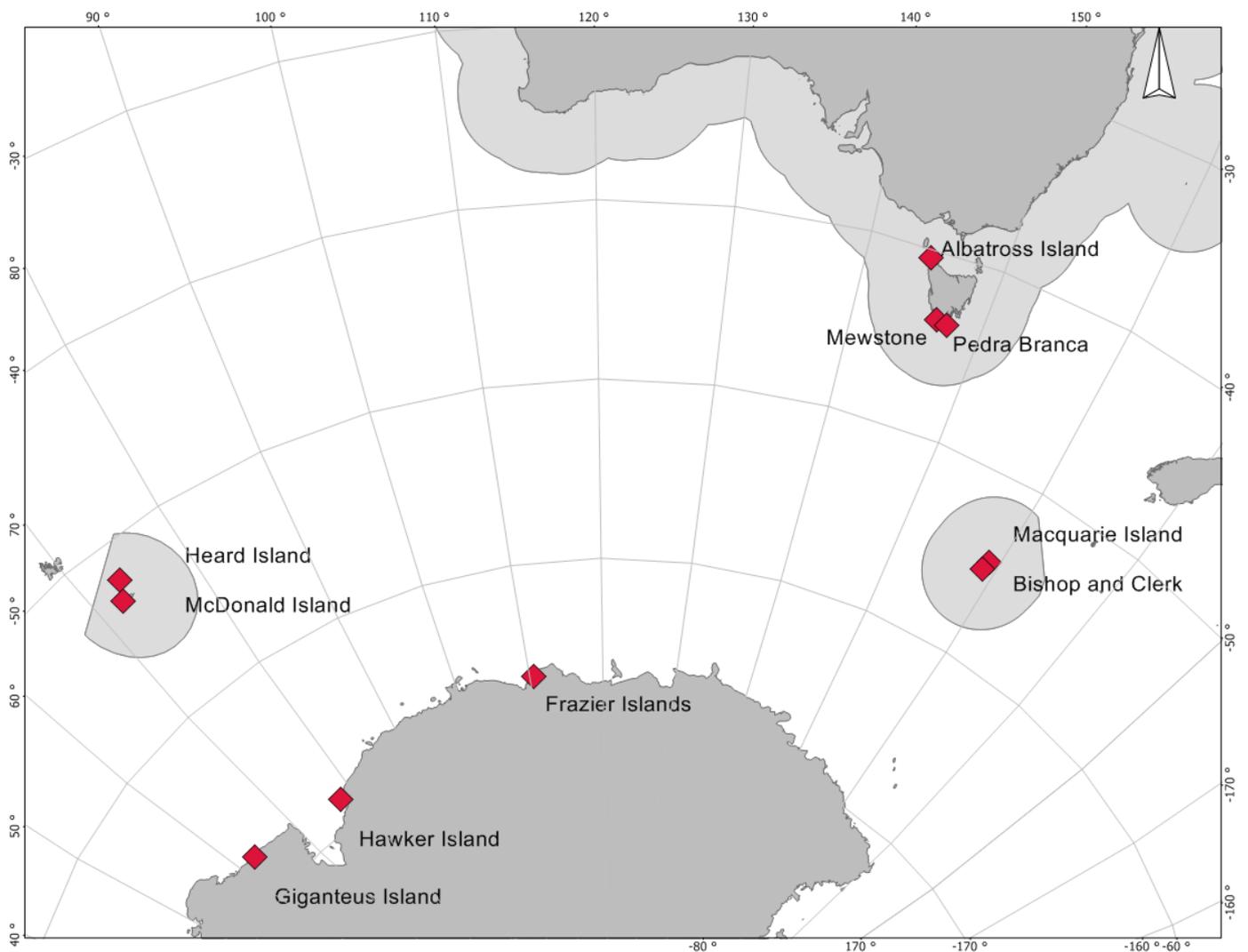


Figure 1: Location of albatross and giant petrel breeding colonies within Australian jurisdiction.

## Habitat critical to the survival of albatrosses and giant petrels

### *Breeding Habitat*

Albatrosses and giant petrels breed at only six localities under Australian jurisdiction. These are:

- Macquarie Island (including Bishop and Clerk Islets);
- Albatross Island;
- Pedra Branca;
- the Mewstone;
- Heard and McDonald Islands; and
- the Australian Antarctic Territory (Giganteus Island, Hawker Island and the Frazier Islands).

These remote islands constitute the only suitable breeding habitat under Australian jurisdiction and should be regarded as habitat that is critical to the survival of albatrosses and giant petrels in Australian waters. Shy albatrosses breed only within Australia, and hence the breeding habitats of this species (Albatross Island, Pedra Branca and the Mewstone) comprise its entire breeding habitat. Macquarie Island, Heard and McDonald Islands and the Australian Antarctic Territory (AAT) host several species of albatrosses and giant petrels. There are no other islands within areas under

Australian jurisdiction that are considered to be potential or former breeding habitat for albatrosses or giant petrels.

### Foraging Habitat

Albatross and giant petrel species exhibit a broad range of diets and foraging behaviours, and hence their at-sea distributions are diverse. Combined with their ability to cover vast oceanic distances, all waters within Australian jurisdiction can be considered foraging habitat, however the most critical foraging habitat is considered to be those waters south of 25 degrees where most species spend the majority of their foraging time. This assessment is supported by a range of research, including extensive albatross tracking studies (see summary map at Appendix B).

### Key threats

There are numerous threats to albatrosses and giant petrels both on terrestrial breeding sites and at-sea in their foraging habitat. These are listed below and summarised in the background paper available at ([www.antarctica.gov.au](http://www.antarctica.gov.au) and [www.environment.gov.au](http://www.environment.gov.au)). Land based threats are specific to Australian populations whereas threats faced at sea may affect individuals from any population that spends some part of their life foraging in waters under Australian jurisdiction.

Table 3: Summary of threats to albatrosses and giant-petrels

<ul style="list-style-type: none"> <li>• Incidental catch resulting from fishing operations</li> <li>• Competition with fisheries for marine resources</li> <li>• Dependence on discards</li> <li>• Marine pollution</li> <li>• Climate change</li> <li>• Intentional shooting/killing</li> </ul>	<ul style="list-style-type: none"> <li>• Feral pest species</li> <li>• Human disturbance at the nest</li> <li>• Parasites and diseases</li> <li>• Loss of nesting habitat</li> <li>• Competition for nest space</li> <li>• Climate change</li> </ul>
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The most pervasive threat to albatross and giant petrel survival is the accidental mortality and injury arising from interactions with human fishing activities. These interactions have been implicated in the dramatic population declines witnessed around the globe and are the focus of conservation efforts. While additional threats to albatrosses and giant petrels, whether on land or in the marine environment, are *generally* less devastating, they compound the problem of fishing related mortality.

The magnitude and temporal and spatial extent of fishing related mortality in the southern hemisphere to date has been such that it potentially renders other conservation actions ineffective. For example, for some albatross colonies subject to serious unmanageable threats to breeding habitat (e.g. from volcanic activity), it has been suggested that translocation of breeding colonies (i.e. encouraging birds to breed in a new, more favourable location) might be appropriate. Notwithstanding the inherent difficulties of such an action (e.g. the very high degree of philopatry exhibited by albatrosses, the limited success and resource-intensive nature of translocations), fishing mortality has been so pervasive in the southern hemisphere, at least, that it would potentially continue to cause population declines in a translocated population.

Climate change is emerging as an important factor in understanding the threats and recovery of albatross and giant petrel populations. Through modifications to marine and terrestrial environments, climate change is likely to cause fundamental changes to aspects of the breeding biology and foraging ecology of albatross and giant petrel species. Changes in abundance and distribution of fish species leads to continual changes in fishing methods and spatial and temporal distribution of fishing effort – which has direct implications for albatross and giant petrel conservation. Climate change may also influence the scale and severity of other threats, in turn directly influencing survival and breeding parameters.

Specific impacts of climate change predicted for albatross and giant petrel species are:

- altered reproductive success;
- changes to prey species abundance, distribution and availability;
- changes to breeding phenology; and
- loss or alteration of breeding and feeding habitats due to sea level rise and increases in the frequency and intensity of extreme weather events.

Actions relating to the effect of climate change on albatrosses and giant petrels focus on identifying information gaps and developing research and monitoring protocols to detect and measure impacts of change. Strategic actions to build resilience to climate change, such as ensuring major food sources and associated trophic pathways are maintained and that mortality associated with human activity is minimised, are also important.

The ultimate responsibility for threats facing albatrosses and giant petrels breeding and foraging within Australian jurisdiction varies. Threats may be exclusive to Australia and involve dedicated management or mitigation strategies. They may also involve other nations, in which case Australia has to engage with those nations to promote and assist seabird conservation. The threatening process may be a phenomenon that cannot practically be reversed, i.e. climate change and regime shifts. In this case Australia should understand the changes and consider compensating or active interventions as appropriate.

As the nature of the threats to albatrosses and giant petrels is constantly changing, an adaptive, flexible management approach for conservation must incorporate prediction and information collection, feedback and re-assessment.

### Evaluation of Performance of Previous Plan

The 2001 Recovery Plan nominated four recovery criteria against which to judge the success of the albatross and giant petrel recovery plan. None of those four criteria can be judged to have been fully met (Table 4).

Table 4: Assessment of recovery criteria in 2001 Recovery Plan.

Incidental bycatch during longline fishing operations is consistent with the criteria specified in the longline fishing threat abatement plan for all albatross and giant petrel species within the AFZ.	Not achieved
All human induced threats to albatrosses and giant petrels have been minimised or eliminated.	Not achieved
No breeding population within areas under Australian jurisdiction declines due to human activities.	Unknown
All albatross and giant petrel breeding populations within areas under Australian jurisdiction that have declined, exhibit a sustained increase in population size.	Not achieved

The poor outcome of these recovery criteria is due to one or a combination of the following:

- the criteria operate on a time scale beyond the life of the recovery plan;
- the criteria were not practical, e.g. many human induced threats are outside Australian control; and

- longline fishing is no longer the sole major threat facing albatrosses and giant petrels. Land-based threats, as well as other forms of fishing, such as trawl fishing operations, also threaten these species.

The 2001 Recovery Plan identified six specific objectives and a total of forty associated recovery actions. As part of the performance evaluation, each recovery action was assessed according to the performance indicator and scored between 0-3 using the following criteria:

- 0 No progress / cannot be assessed
- 1 Insufficient action to meet criteria
- 2 Action underway – most elements of action met or it is anticipated they will be
- 3 Criteria met – further action may or may not be required

The individual assessments for each of the forty recovery actions are contained in the background document. The results for the specific objectives are summarised in Table 5.

Table 5: Evaluation of achievement against specific objectives of 2001 Recovery Plan.

Quantify and reduce the threats to the survival of albatrosses and giant petrels within areas under Australian jurisdiction	(11 Actions) 45% achieved	Good achievement where recovery actions are aligned with Threat Abatement Plan (i.e. longlining) and for investigation into the foraging ranges of albatrosses and giant petrels has been comprehensive. Lack of actions relating to all other threats, particularly other fishing methods, is responsible for poor achievement. Note that priority was intentionally given to longlining as it posed the greatest immediate threat.
Quantify and reduce the threats to the reproductive success of albatrosses and giant petrels breeding within areas under Australian jurisdiction	(13 Actions) 72% achieved	Most of the actions relating to land based threats have been partially or completely implemented. Threats at sea require quantification.
Quantify and reduce the threats to the foraging habitat of albatrosses and giant petrels within areas under Australian jurisdiction	(3 Actions) 11% achieved	Lower priority in the case of marine pollution. Dietary requirements not directly accounted for in AFMA's fisheries management regime although they indirectly form part of the ecosystem-based management framework being implemented.
a) Maintain existing population monitoring programs for albatrosses and giant petrels breeding on Macquarie Island, Albatross Island, Pedra Branca and the Mewstone; and b) Develop population monitoring programs for other representative breeding populations under Australian jurisdiction	(8 Actions) 63% achieved	All monitoring and demographic programs that were in existence at the start of the 2001 recovery plan have been maintained. Few new reliable data have been obtained for other breeding populations for which the population level and trend were unknown when the 2001 Recovery Plan was adopted.
Educate fishers and promote public awareness of the threats to albatrosses and giant petrels	(1 Action) 33% achieved	Good for visitation to breeding colonies and longline fishing. Lacking for intentional shooting, and trawl and troll fishers.
Achieve substantial progress towards global conservation of albatrosses and giant petrels in international conservation and fishing fora	(2 Actions) 100% achieved	Australia has had significant, substantial and influential involvement in international fora.
Assess and revise the albatross and giant petrel recovery plan as necessary	(2 Actions) 33% achieved	Annual meetings to assess and revise the recovery plan did not occur although in-house informal assessment was carried out.

## **Objective for the 2011-2016 Albatross and Giant Petrel Recovery Plan**

The overall objective of the 2011-2016 recovery plan is:

*to ensure the long term survival and recovery of albatross and giant petrel populations breeding and foraging in Australian jurisdiction by reducing or eliminating human related threats at sea and on land.*

### **Criteria to measure performance of the Plan against the objective**

It is not anticipated that the objective, including population increases, will be achieved within the lifetime of the Plan. However, considering the limitations highlighted by the assessment of the previous performance criteria, the 2011-2016 Recovery Plan will be deemed successful if positive trends, in terms of achieving the overall objective, can be demonstrated; in particular:

1. the population status and trends of albatrosses and giant petrels breeding under Australian jurisdiction are known, verified and updated and, where possible, the demographic parameters of those trends are known;
2. all Australian fisheries are assessed for their risk of adverse interactions with albatrosses and giant petrels where relevant. Where sufficient risk is present, robust observer / data collection programs are implemented to statistically quantify bycatch rates and best practice mitigation measures are promptly implemented to reduce / eliminate mortality. Where bycatch is occurring in longline fisheries, bycatch rates should be reduced in line with the requirements of the “Threat Abatement Plan for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations” (the Threat Abatement Plan);
3. all factors adversely influencing the conservation status of albatross and giant petrel populations breeding and foraging within Australian jurisdiction are identified and, where feasible, prevented, minimised or eliminated; and
4. education and support amongst fishers and fisheries management bodies is improved.

### **Specific Objectives**

1. Research and monitoring of the biology, ecology and population dynamics of albatrosses and giant petrels breeding within Australian jurisdiction is sufficient to understand conservation status and to implement effective and efficient conservation measures.
2. Land-based threats to the survival and breeding success of albatrosses and giant petrels breeding within areas under Australian jurisdiction are quantified and reduced.
3. Marine-based threats to the survival and breeding success of albatrosses and giant petrels foraging in waters under Australian jurisdiction are quantified and reduced.
4. Fishers are educated and public awareness is raised on the threats to albatrosses and giant petrels.
5. Substantial involvement in the promotion and development of improved and, ultimately, favourable conservation status of albatrosses and giant petrels globally in international conservation and fishing fora is maintained.

## Actions to achieve specific objectives

SO1: Research and monitoring of the biology, ecology and population dynamics of albatrosses and giant petrels breeding within Australian jurisdiction is sufficient to understand conservation status and to implement effective and efficient conservation measures

1. Population monitoring programs						
A. 1.1	<p>Develop strategy (where required) for and obtain population estimates for all albatross and giant petrel populations breeding under Australian jurisdiction.</p> <p>Reliable current estimates at the time of this plan are consistently available for</p> <p>Black browed albatrosses</p> <ul style="list-style-type: none"> <li>• Macquarie Island</li> </ul> <p>Grey headed albatrosses</p> <ul style="list-style-type: none"> <li>• Macquarie Island</li> </ul> <p>Light mantled albatrosses</p> <ul style="list-style-type: none"> <li>• Macquarie Island</li> </ul> <p>Wandering albatrosses</p> <ul style="list-style-type: none"> <li>• Macquarie Island</li> </ul> <p>Northern giant petrels</p> <ul style="list-style-type: none"> <li>• Macquarie Island</li> </ul> <p>Southern Giant petrels</p> <ul style="list-style-type: none"> <li>• Macquarie Island</li> </ul> <p>Shy albatrosses</p> <ul style="list-style-type: none"> <li>• Albatross Island</li> <li>• Pedra Branca</li> <li>• The Mewstone</li> </ul> <p>Reliable current estimates at the time of this plan are lacking for:</p> <p>Black browed albatrosses</p> <ul style="list-style-type: none"> <li>• Bishop and Clerk Islets</li> <li>• Heard Island</li> <li>• McDonald Island</li> </ul> <p>Light Mantled Albatross</p> <ul style="list-style-type: none"> <li>• Heard Island</li> </ul>	<p>Robust and up to date (i.e. preferably within 5 but no more than 10 years) population estimates are available for all albatross and giant petrel populations breeding under Australian jurisdiction.</p> <p>Repeat monitoring strategies are developed for each population, tailored for logistical and other constraints and consideration given to the use of remote methods.</p>	<p>Macquarie and Albatross Islands – approx. \$120 000 per year.</p> <p>Pedra Branca and Mewstone approx. \$24 000 per year (for both).</p> <p>Heard and McDonald Islands approx. \$10 000 excluding logistical costs and if logistical support is available.</p> <p>AAT approx \$10 000 per site excluding logistical costs and if logistical</p>	<p>Ongoing – assessed regularly, preferably annually</p>	<p>DSEWPC and Tas Gov't</p>	<p>High</p>

	<ul style="list-style-type: none"> <li>• McDonald Island</li> </ul> <p>Southern Giant petrels</p> <ul style="list-style-type: none"> <li>• Heard Island</li> <li>• McDonald Island</li> <li>• Australian Antarctic Territory, all 3 sites.</li> </ul>		support is available			
A 1.2	<p>Continue long-term demographic studies of albatrosses on Macquarie Island and shy albatrosses on Albatross Island and assess survivorship data on a regular basis.</p> <p>Where populations without demographic studies are identified as decreasing (see above action), assess the logistical and resource feasibility for undertaking banding and demographic studies on other populations to identify the driving parameter for observed population declines.</p>	<p>Robust estimates and trends for survivorship and breeding parameters of Macquarie Island and Albatross Island albatrosses are known with confidence and reported regularly.</p> <p>Extent to which demographic parameters driving population decreases in these populations are identified and described.</p>	Programs contained in (A 1.1).	Ongoing	DSEWPC and Tas Gov't	High
A 1.3	Australia participates in national and global dissemination of population status and trend data.	<p>All population estimates and demographic trend data are updated annually (or as appropriate) with ACAP and other relevant organisations.</p> <p>There is alignment of conservation listings between State and Federal Governments and the IUCN where appropriate.</p>	Minimal	Ongoing	DSEWPC and Tas Gov't	High
<b>2: Foraging distributions</b>						
A 2.1	<p>At sea data for albatross and giant petrel populations breeding within Australian jurisdiction are evaluated with respect to:</p> <ul style="list-style-type: none"> <li>• gaps and limitations in sample size;</li> <li>• overlap with fisheries and consequent risk; and</li> <li>• population trend.</li> </ul> <p>Identify priority populations, species, age and breeding status and, where appropriate, undertake further foraging investigations</p> <p>Submit remote tracking data to Procellariiform Global Tracking database.</p>	<p>Gaps in the knowledge of foraging ranges and at sea distributions undergo regular assessment annually or as appropriate (i.e. changes to threats or population status).</p> <p>Priorities are identified and data are collected where appropriate.</p> <p>All remote tracking data are submitted to Procellariiform Global Tracking database.</p>	<p>Low (&lt;\$10 000) if done with other research on a population; costs falling due to gains in new technology.</p> <p>Costs of new studies could be significant.</p> <p>Minimal</p>	Ongoing	DSEWPC	High

3: Climate change						
A 3.1	The effects of climate change predicted for the marine and terrestrial environments of albatrosses and giant petrels within Australian jurisdiction are synthesised. The likely impacts on albatrosses and giant petrels breeding and foraging within Australian jurisdiction are assessed and reported and knowledge gaps identified (long term monitoring strategies – A.1.1 – are important for understanding and tracking impacts of climate change).	Where climate change is identified as having the potential for significant negative impacts on Australian populations of seabirds: i) appropriate monitoring strategies are implemented to fill information gaps; and ii) mitigation actions are identified and adopted where feasible and appropriate.	Related to A.1.1.	Ongoing	DSEWPC	Medium

SO2: Quantify and reduce land based threats to the survival and breeding parameters of albatrosses and giant petrels breeding within areas under Australian jurisdiction.

4. Feral pest species						
B 4.1	Complete the integrated pest eradication program on Macquarie Island targeting rabbits and rodents	On Macquarie Island rabbits and rodents have been eliminated.	\$24.6m provided	5 years	DSEWPC and Tas Gov't	High
B 4.2	Stringent formal quarantine measures are in place and adhered to (including regulated access to all breeding islands)	Mandatory measures are in place and adhered to (measured). No new introductions occur.	Low		DSEWPC and Tas Gov't	Medium
B 4.3	Breeding islands assessed for presence of feral species; Tasmanian islands to be highest priority	Accurate and up to date catalogue of feral species on all breeding islands.	Low		DSEWPC and Tas Gov't	Medium
5. Human disturbance at the nest						
B 5.1	Implement or continue restrictions (through protected area and other arrangements) on human disturbance at and access to albatross and giant petrel breeding sites	Protected area arrangements or other similar controls are established or maintained, and regularly assessed. Access to breeding islands within areas under Australian jurisdiction is restricted to appropriate permit holders only.	Low		DSEWPC and Tas Gov't	High
B 5.2	Education material regarding the impacts of wildlife disturbance should be provided to all visitors to albatross and giant petrel breeding colonies	Education material is prepared and distributed as appropriate.	Minimal		DSEWPC and Tas Gov't	High
6. Loss of / competition for nesting habitat						
B 6.1	Monitor shy albatross population on Pedra Branca for the relative distribution and abundance of Australasian gannets.	The relative distribution and abundance of shy albatrosses and Australasian gannets at Pedra Branca are monitored and measured.	Included in (Action A1.1)		DSEWPC and Tas Gov't	Medium

	Document interactions between shy albatross and gannets and assess appropriate methods that may limit adverse interactions between the species.	Interactions are documented and methods to limit adverse interactions are assessed and, where appropriate, implemented.			
7. Parasites and disease					
B 7.1	Determine baseline presence of disease on breeding islands and implement stringent quarantine measures where appropriate	Disease presence is determined and no new diseases or parasites are transferred by humans.	Estimated at \$12 000 per year.	DSEWPC	Medium to low
B. 7.2	Quantify the demographic impact of disease on shy albatrosses on Albatross Island.	The impact of the disease on shy albatross survival and breeding parameters is established and monitored over time. Further research and / or mitigating actions are considered as appropriate.	Included in (Action A1.1)	DSEWPC	Medium to low

SO3: Quantify and reduce marine based threats to the survival and breeding parameters of albatrosses and giant petrels foraging in waters under Australian jurisdiction

8. Incidental catch during fishing operations						
C 8.1	All actions in the Threat Abatement Plan are fully implemented	Robust observer data indicate bycatch rates approach or reach zero; and there is full compliance with mitigation measures.		Ongoing	DSEWPC, AFMA	High
C 8.2	The scale and nature of interactions between albatrosses and giant petrels and trawl fishing operations in Australian waters are quantified and, if required, reporting processes are improved and bycatch is mitigated. (see also C8.6 on page 18 and D13.1 on page 32)	Where required, observer and other data collection programs are established that report robust bycatch data in a timely and relevant manner, allowing for adaptive and responsive management, and the effectiveness of any mitigation actions taken.	Variable subject to circumstances; initial at-sea study of the Commonwealth major trawl sector approx. \$30 000 (already partly funded)	Ongoing	DSEWPC, AFMA	High
C 8.3	All longline and trawl fisheries, both Commonwealth and State managed, are and continue to be assessed for the risk of albatross and giant petrel interactions, and where required, a program for the collection, synthesis and analysis of data relating to incidental mortality of albatrosses and giant petrels is introduced.	Agreed risk assessment process developed; observer programs in place and reporting of robust data and mitigation action where appropriate.  Reporting of interactions with EPBC Act listed species occurs.		Ongoing	DSEWPC, AFMA, DAFF, relevant State agencies	High

C 8.4	Where bycatch in a fishery is identified as significant, limits or other appropriate management arrangements to prevent significant adverse impacts on the conservation status of the albatross and giant petrel species and populations are implemented.	Where DSEWPC identifies the potential for significant adverse impacts on albatross and giant petrel populations, associated fisheries adhere to agreed limits and facilitate timely reporting for monitoring of catch events and rates. Where appropriate, other measures such as closures and move on provisions have been implemented.		Ongoing	DSEWPC, AFMA, relevant State agencies	High
C 8.5	Monitor the frequency of fishing equipment ingestions / entanglement at breeding colonies as part of existing population monitoring programs under Action A 1.1.	Fishing equipment ingestion / entanglement at breeding colonies is monitored and quantified.  Monitoring of fishing gear entanglement and / or ingestion is a low priority action being undertaken as part of a high priority action (Action A 1.1).	Included in (Action A 1.1)	Ongoing	DSEWPC and Tas Gov't	Low
C 8.6	Determine vulnerability of species to bycatch mortality using molecular species assignment methods (and building on previous genetic provenance work, see D13.1, page 32).	Provenance of species is determined genetically and analysed in relation to fishing effort to determine species specific management actions.	New methods of genetic analysis are low cost.	Ongoing	DSEWPC	Medium
9. Competition with fisheries for marine resources						
C 9.1	Encourage research to quantify the scale and nature of dietary requirements of albatrosses and giant petrels, with priority for populations breeding in Australian jurisdiction.  Provide this data to AFMA and other agencies managing fisheries that overlap with albatross and giant petrel species.  Promote the incorporation of total dietary requirements of albatross and giant petrel populations into fisheries assessments and the development of improved management strategies.	The best available scientific data on total dietary requirements of albatrosses and giant petrels have been taken into account when AFMA and other fisheries management agencies: (i) strategically assess (e.g. under the EPBC Act) the ecological sustainability of each fishery that overlaps with any albatross and giant petrel species; and (ii) develop or revise management arrangements that might otherwise adversely affect albatross and giant petrel populations (e.g. setting of catch limits, spatial / temporal closures) for fisheries overlapping with any albatross and giant-petrel population.		Ongoing	DSEWPC, AFMA	Medium
10. Dependence on fisheries discards						
C 10.1	Continue to monitor the effects of offal discharge on the reproductive success of albatrosses and giant	Quantity and quality of feasible monitoring, including by observers at-sea.			DSEWPC	Low

	petrels, to the extent feasible.				
C 10.2	Continue to encourage management of offal discharge to prevent birds habituating to this food source.	Level of compliance with this measure is high		DSEWPC, AFMA, DAFF	Medium
11. Marine pollution					
C 11.1	Where feasible, population monitoring programs also monitor, in a standardised manner, the incidence of: i) oiled birds at the nest; ii) marine debris egestion / entanglement at the nests; and iii) egg shell thinning.	The incidence of: i) oiled birds at the nest; ii) marine debris egestion / entanglement at the nests; and iii) egg shell thinning are reported by each population monitoring program in a standardised manner.	Included in (Action A 1.1)	DSEWPC	Low

SO4: Educate fishers and promote public awareness of the threats to albatrosses and giant-petrels

D 12.1	Design and implement education strategies for fisheries with significant risk of albatross and giant petrel interactions.	Information is disseminated to fishers as appropriate and there is a reasonable awareness of conservation issues and / or use of mitigation measures by fishers.	Minimal	DSEWPC, AFMA, DAFF	High
D 12.2	Where feasible, encourage the development by industry and others of measures that allow consumers to distinguish products from "albatross and giant petrel friendly" fisheries. Develop criteria that might facilitate formal recognition of such fisheries.	There is sufficient information available to vendors and consumers to allow them to distinguish "albatross and giant petrel friendly" fisheries products.		DSEWPC, AFMA, DAFF	Low

SO5: Achieve substantial progress towards global conservation of albatrosses and giant petrels in international conservation and fishing fora:

E. 13.1	Promote best practice seabird by-catch mitigation, data collection and dissemination by foreign fishers, including through international fora such as CCAMLR, CCSBT, IOTC, WCPFC and other applicable international arrangements to which Australia is a Party	Extent to which RFMOs have implemented effective and universally applied measures to gather accurate bycatch data and minimise bycatch.  Levels of bycatch are declining and impacts on bycatch populations are thought to be sustainable.	\$20,000	Ongoing	DSEWPC, DAFF	High
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E. 13.2	Use diplomatic and other means to encourage countries to co-operate to conserve albatrosses and petrels, including by avoiding or mitigating fisheries bycatch.	Approaches are made to relevant countries and are effective (e.g. result in improved bycatch mitigation measures being employed and, in the longer term bycatch is avoided or bycatch rates are reduced).	Ongoing	DSEWPC, DAFF, DFAT	High
E. 13.3	Encourage ACAP to develop strong relationships with RFMOs, the UN FAO and other relevant bodies, including by promulgating assessments of albatross and giant petrel species population trends and status, their spatial distribution and bycatch mitigation measures	The quality and extent of ACAP's relationship with RFMOs and the extent to which they accept and implement ACAP's advice.	Ongoing	DSEWPC	High

## **Benefits to other threatened species and ecological communities**

A range of other seabird species, including other petrels, shearwaters, gulls, skuas, gannets and cormorants, are also killed in a range of fisheries. These species will also benefit from best practice fishing methodology. Other flora and fauna species breeding on islands will benefit from reduction in land based threats.

## **Duration and cost of recovery process**

The recovery process will take longer than the life of this plan (2011 – 2016), which should be reviewed after 5 years. A recovery plan for threatened albatrosses and giant petrels should remain in place until such time that populations of these species breeding and / or foraging within Australian jurisdiction have improved to the point where populations are considered secure.

The cost of this plan will be met through various direct and indirect funding activities undertaken by the Commonwealth Government, State and Territory governments, researchers, conservation groups, marine based industries and the Australian public. While some indicative costings have been included, the costing of specific actions will be determined at the time of activity.

## **Affected interests**

### Australian Government:

- Australian Fisheries Management Authority
- Department of Sustainability, Environment, Water, Population and Communities
- Department of Agriculture, Fisheries and Forestry

### State Government

- Department of Primary Industries, Parks, Water and Environment Tasmania
- Tasmanian, New South Wales, Queensland, Victorian, South Australian and Western Australian fisheries management bodies

### Non government conservation organisations

- World Wide Fund for Nature
- Humane Society International
- Greenpeace
- Antarctic and Southern Ocean Coalition
- The Wilderness Society
- Southern Ocean Seabird Association

### Fishers in affected fisheries

## **Social and Economic impacts**

The imposition of technical and operational mitigation measures may have financial impacts on fishers. These may be partially offset; for example, if measures to reduce seabird mortality result in a market advantage for fish marketed as being caught in a manner that avoids seabird bycatch.

## **Indigenous consultation**

Many marine species have cultural significance to Aboriginal or Torres Strait Islander people. There is some evidence from Aboriginal language and history of a link to albatross and their breeding habitat in Tasmania. Recognising this cultural connection is important. The Tasmanian Aboriginal Land and Sea Council were consulted during the drafting of this Plan.

### **Organisations / persons involved in evaluating the performance of the plan**

The Department of Sustainability, Environment, Water, Population and Communities will monitor and review this plan, including throughout its life, with the assistance of relevant scientists, managers and other stakeholders. The Threatened Species Scientific Committee may assist in the evaluation of the performance of this plan and report the results of its review to the Commonwealth Minister for Sustainability, Environment, Water, Population and Communities.

### **Where to get the plan**

This recovery plan is obtainable from:

[www.antarctica.gov.au](http://www.antarctica.gov.au) and [www.environment.gov.au](http://www.environment.gov.au)

OR

Territories, Environment and Treaties Section

Australian Antarctic Division

Department of Sustainability, Environment, Water, Population and Communities

203 Channel Highway

KINGSTON TAS 7050

## Appendix A: Evaluation of recovery actions in the previous (2001) Recovery Plan

- 0 No progress / cannot be assessed.  
 1 Insufficient action to meet criteria  
 2 Action underway – most elements of action met or it is anticipated they will be  
 3 Criteria met – further action may or may not be required

### Specific Objective A

				Score 0-3
A 1.1	Implement the Threat Abatement Plan for the Incidental Catch (or By-catch) of Seabirds During Oceanic Longline Fishing Operations.	AFMA / EA	The incidental catch of seabirds within the AFZ is reduced to below 0.05 birds per 1000 hooks (set across all seasons, strata and fisheries at the 1998 fishing effort) by August 2003, and ultimately reduced to zero via implementation of the Longline Fishing Threat Abatement Plan.	2 Bycatch rates and observer coverage targets in most fisheries/areas/seasons have been met; some other actions may not have been fully implemented, e.g. retention of dead birds and presentation of statistical data.
A 1.2	Determine the foraging range and at-sea distribution of: <ul style="list-style-type: none"> <li>• Adult and juvenile shy albatrosses from Pedra Branca</li> <li>• Adult and juvenile shy albatrosses from the Mewstone</li> <li>• Juvenile shy albatrosses from Albatross Island</li> </ul>	TASPAWS / EA	The foraging range and at-sea distribution of shy albatrosses is determined.	3 Substantial progress has been made in tracking of shy albatrosses; however some populations and age classes are better represented than others. The indicator is poorly worded - at-sea distribution never fully determined.
A 1.3	For Macquarie Island populations <ol style="list-style-type: none"> <li>i) Continue studies into the foraging ranges and at sea distribution of :               <ul style="list-style-type: none"> <li>• wandering albatrosses</li> <li>• light mantled albatrosses</li> <li>• grey headed albatrosses</li> <li>• black browed albatrosses; and</li> </ul> </li> <li>ii) in the longer term, determine the foraging ranges and at sea distribution of:               <ul style="list-style-type: none"> <li>• northern giant petrels</li> </ul> </li> </ol>	TASPAWS / EA	Knowledge of the foraging ranges and at-sea distributions of Macquarie Island populations of these species is substantially increased	3 Substantial progress has been made in tracking of all Macquarie island albatrosses and giant petrels, some species and age classes are better represented than others. A risk / gap analysis underway to identify important gaps.

	<ul style="list-style-type: none"> <li>southern giant petrels</li> </ul>				
A 1.4	Ensure that existing population monitoring programs on Macquarie Island, Albatross Island, Pedra Branca, the Mewstone and the AAT also monitor the frequency of fishing equipment ingestion / entanglement at breeding colonies.	TASPAWS / EA	Fishing equipment ingestion / entanglement at breeding colonies is monitored and quantified.	3	All existing population monitoring programs (those listed in D12.1 and D 12.2) record instances of ingestion / entanglement at colonies when they occur.
<b>2: Trawl fisheries</b>					
A 2.1	Continue to collect, collate and analyse data regarding incidental mortality of albatrosses and giant-petrels associated with subantarctic trawl fisheries	AFMA /EA	The incidental mortality of albatrosses and giant-petrels associated with trawl fishing operations around Macquarie Island and Heard and McDonald Islands is monitored and quantified.	3	Observer coverage in subantarctic trawl fisheries is high and rates of mortality well quantified.
A 2.2	Continue to collect, collate and analyse data regarding incidental mortality of albatrosses and giant petrels associated with the South East Fishery.	AFMA / ISMP /EA	The incidental mortality of albatrosses and giant petrels associated with trawl fishing operations within the South East Fishery is adequately monitored and quantified.	0	Incidental mortality in SE fisheries has not been extensively quantified but observations to date indicate that it is likely to be significant for some seabird species, including Shy albatross..
A 2.3	Quantify the current levels of incidental mortality of albatrosses and giant petrels associated with trawl fishing operations occurring within the AFZ south of 30°S (other than the subantarctic and South East Fishery trawl fisheries) through assessment of logbooks and current observer programs.	AFMA	The incidental mortality of albatrosses and giant petrels associated with trawl fishing operations occurring within the AFZ south of 30°S (other than the subantarctic and South East Fishery trawl fisheries) is quantified.	0	Refer to comments for A2.2
A 2.4	Design and implement an education strategy aimed at commercial trawl fishers to encourage the implementation of simple by-catch mitigation measures.	AFMA / EA	An effective education strategy is developed and in operation.	0	
<b>3: Intentional shooting/killing</b>					
A 3.1	EA to investigate the capacity of the Commonwealth to regulate to prohibit the carrying of firearms on fishing vessels operating within the AFZ.	EA	The carrying of firearms on fishing vessels within the AFZ is prohibited.	0	The carrying of firearms on fishing vessels is not prohibited and unlikely to be achieved. Fishers use firearms to kill large tuna and sharks when they land them.
A 3.2	Design and implement an education strategy aimed at commercial and recreational fishers to discourage the intentional killing of albatrosses and giant petrels.	AFMA / EA	An effective education strategy is developed and in operation.	1	Fishers in Commonwealth managed fisheries are well informed of their obligations not to harm albatrosses and giant petrels. However, education of recreational fishers and commercial fishers

				in State fisheries has not been undertaken.
<b>4: Trolling vessels</b>				
A 4.1	Design and implement an education strategy aimed at commercial and recreational troll fishers to encourage them to set their fishing lines at least 2m below the surface of the water.	AFMA / EA	An effective education strategy is developed and in operation.	0 Refer to comments for 3.2.
Total				15/33

#### Specific Objective B

B 5.1	Continue the integrated vertebrate pest management program on Macquarie Island targeting: <ul style="list-style-type: none"> <li>• feral cats</li> <li>• rabbits</li> <li>• rodents</li> </ul>	TASPAWS / EA	On Macquarie Island, feral cats have been eradicated and rabbit and rodent numbers are maintained at a significantly reduced level or eradicated.	2	1. Feral cats have been eradicated. 2. Rabbit and rodent numbers have increased. A vertebrate pest eradication (targeting rabbits and rodents) is underway.
B 5.2	Maintain the current guidelines preventing the introduction of feral species to all albatross and giant petrel breeding islands.	TASPAWS / AAD	Current guidelines preventing the introduction of feral species to all albatross and giant petrel breeding islands within areas under Australian jurisdiction are maintained.	1	Generally inadequate quarantine arrangements for Tasmanian breeding islands. Breeding sites at Heard and McDonald Island and in Australian Antarctic Territory all have strong management arrangements to prevent the introduction of non-indigenous species and also avian diseases.
<b>6: Human disturbance at the nest</b>					
B 6.1	Maintain the existing 25m minimum approach limit around wandering albatrosses on Macquarie Island.	TASPAWS	The existing 25m minimum approach limit around wandering albatrosses on Macquarie Island is maintained.	3	Implementation of the Special Management Areas (SMAs) on Macquarie island exceeds this standard; 25m now considered inadequate
B 6.2	Continue to manage the seasonal area closures around albatross breeding colonies around Caroline Cove and the Featherbeds on Macquarie Island.	TASPAWS	Seasonal area closures around Caroline Cove and the Featherbeds on Macquarie Island are closely managed.	3	Implementation of the SMAs on Macquarie island encompasses all seabird species around the island and supersedes the concept of area closures.
B 6.3	Educational material regarding the impacts of wildlife disturbance should: <ol style="list-style-type: none"> <li>Continue to be provided to all tourists and ANARE</li> </ol>	TASPAWS / AAD	Education material is prepared and distributed as appropriate.	3	Education of expeditioners and tourists is thoroughly implemented on Macquarie Island, Heard and McDonald Islands and in the Australian Antarctic Territory.

	expeditioners prior to arrival on Macquarie Island and the AAT. Be designed, developed and provided to all visitors to Heard Island				Breeding sites' entry is by permit only and only for essential purposes.
B 6.4	Continue to manage access to all albatross and giant petrel breeding islands under Australian jurisdiction.	TASPAWS / AAD	Access to breeding islands within areas under Australian jurisdiction is restricted to appropriate permit holders only.	2	1. Access to Macquarie Island, Heard and McDonald Islands and the AAT sites is well managed. 2. Shy albatross colonies are freely accessed by tourists, recreationalists and fishermen. It is intended to seek improved controls by the Tasmanian government on visiting these colonies.
B 6.5	Maintain the current guidelines restricting the construction of further infrastructure on albatross and giant petrel breeding islands under Australian jurisdiction in accordance with the relevant management plans for each island.	TASPAWS / AAD	Guidelines restricting the construction of further infrastructure on breeding islands within areas under Australian jurisdiction are maintained.	3	The construction of further infrastructure on breeding islands is tightly managed.
<b>7: Avian Parasites and disease</b>					
B 7.1	Conduct an investigation into the parasites and diseases causing mortality of shy albatrosses at Albatross Island.	TASPAWS / EA	An investigation into the parasites and diseases causing mortality of shy albatrosses at Albatross Island is completed.	1	A preliminary investigation was conducted on Albatross Island to determine which diseases were present in the population. Additional investigation to quantify prevalence, incidence and impact and understand the ecology of the disease agents did not proceed as no further funding was secured. The priority for this action needs to be reassessed based on the impact of disease agents on shy albatross demographic parameters on Albatross Island.
B 7.2	Ensure that existing population monitoring programs on Macquarie Island, Albatross Island, Pedra Branca and the Mewstone also monitor the presence or absence of avian parasites and diseases at breeding colonies.	TASPAWS / EA	The presence or absence of avian parasites and diseases at breeding colonies is monitored.	1	Obvious external sign of avian parasites and diseases are monitored and quantified during existing population monitoring programs and provide an indication of disease prevalence. However there is no systematic clinical sampling protocol to collect baseline data on diseases present in these two albatross populations.

<b>8: Interspecific competition for nest space</b>					
B 8.1	Ensure that the existing population monitoring program on Pedra Branca also monitors the relative distribution and abundance of shy albatrosses and Australasian gannets.	TASPAWS / EA	The relative distribution and abundance of shy albatrosses and Australasian gannets at Pedra Branca is monitored.	3	The shy albatross population-monitoring program on Pedra Branca includes the collection of data on the relative distribution and abundance of Australasian gannets.
<b>9: Dependence upon discards</b>					
B 9.1	Continue to monitor the effects of offal discharge on the reproductive success of albatrosses and giant petrels.	TASPAWS / EA	The effects of offal discharge on the reproductive success of albatrosses and giant petrels are monitored.	0	The existing population monitoring programs record incidental observations but do not otherwise quantify the reliance of offal in albatross and giant petrel diet. This would require invasive diet studies, which are inconsistent with ethical considerations.
B 9.2	Investigate the foraging ranges of albatrosses and giant petrels.	TASPAWS / EA	See entries under Actions A 1.3 and A 1.4	3	Refer to comments for Actions A 1.3 and A 1.4
B 9.3	IAATO to regulate to prohibit the intentional provisioning of seabirds during tourist operations.	IAATO / EA	The intentional provisioning of food sources to seabirds during tourist operations is prohibited.	3	IAATO wildlife guidelines 2007 "advise" - Never feed wild birds and no chumming to attract birds. This is in IAATO code of practice, but IAATO can only deal with members; i.e. not all tour operators. Apart from yachts, nearly all Antarctic tourism is by IAATO members. All tourist visits to subantarctic islands are strictly managed and feeding is prohibited.
Total				28/39	

Specific Objective C

C 10.1	As required by the EPBC Act, AFMA will strategically assess the ecological sustainability of each fishery that overlaps with any albatross and giant petrel species by taking into account the total dietary requirements of each	AFMA / EA	The total dietary requirements of albatrosses and giant petrels have been taken into account when AFMA: i) strategically assesses the ecological sustainability of each fishery that overlaps with any	1	Each Commonwealth fishery is assessed for its ecological sustainability. Direct provision for dietary requirements is not made in these assessments however the requirements of an ecosystem-based management approach to fisheries does
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	albatross and giant petrel population.		ii) albatross and giant petrel species (under the EPBC Act); and develops or revises management arrangements (e.g. the setting of TACs) for fisheries overlapping with any albatross and giant petrel population.		indirectly consider these aspects. More research is needed into quantifying dietary requirements of albatrosses and giant petrels.
<b>11: Marine Pollution</b>					
C 11.1	Ensure that existing population monitoring programs on Macquarie Island, Albatross Island, Pedra Branca and the Mewstone also monitor the incidence of: i) hatching failure due to egg shell thinning; ii) oiled birds at the nest; and iii) marine debris egestion / entanglement at the nest	TASPAWS/ EA	i) Hatching failure due to egg-shell thinning; ii) The presence of oiled birds at the nest; and iii) Marine debris egestion / entanglement at the nest, at breeding colonies is monitored and quantified.	1	There is no formal assessment of eggshell thinning, however checks for oiled birds and marine debris entanglement at nest are monitored and quantified as part of existing population monitoring programs. Eggshell thinning is not assessed as this is currently considered a low priority; however ongoing population monitoring allows detection.
C 11.2	Design and implement an education strategy to increase general public understanding of the environmental consequences of using industrial, agricultural and domestic chemicals.	WWF / EA	An effective education strategy is developed and in operation.	0	No work has been undertaken on this issue.
Total				2/9	

#### Specific Objective D

D 12.1	Maintain existing population monitoring programs on Macquarie Island measuring demographic and breeding parameters of: <ul style="list-style-type: none"> <li>• wandering albatrosses;</li> <li>• black browed albatrosses;</li> <li>• grey-headed albatrosses;</li> <li>• light mantled albatrosses;</li> <li>• northern giant petrels; and</li> <li>• southern giant petrels</li> </ul>	TASPAWS / AAD / EA	Existing population monitoring programs on Macquarie Island are continued.	3	Long-term population and demographic monitoring programs on Macquarie Island albatrosses and giant petrels have been maintained on an annual basis.
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D 12.2	Maintain existing population monitoring programs measuring demographic and breeding parameters of shy albatrosses breeding on: <ul style="list-style-type: none"> <li>• Albatross Island</li> <li>• Pedra Branca</li> <li>• The Mewstone</li> </ul>	TASPAWS / EA	Existing population monitoring programs on Albatross Island, Pedra Branca and the Mewstone are continued.	3	Long term population (and demographic Albatross Island only) programs on shy albatrosses have been maintained on an annual basis.
D 12.3	Maintain AAD's existing program of opportunistically estimating the population size and breeding success of southern giant petrels breeding within the AAT.	AAD / EA	AAD's existing program of opportunistically estimating the population size and breeding success of southern giant petrels breeding within the AAT is continued.	1	Presently reviewing ways to improve quality of opportunistic counting and quality of AAT monitoring more generally, particularly through the use of automated cameras deployed for successive seasons.
D 12.4	For Heard Island populations, representative population monitoring programs using non-intrusive techniques should be conducted whenever the island is visited (during the breeding season) or every ten years (whichever is sooner) in order to determine the population status of: <ul style="list-style-type: none"> <li>• black browed albatrosses;</li> <li>• light mantled albatrosses;</li> <li>• wandering albatrosses (if present); and</li> <li>• southern giant petrels.</li> </ul>	AAD / EA	On Heard Island, representative, non-intrusive population monitoring programs are conducted for: <ul style="list-style-type: none"> <li>• black browed albatrosses</li> <li>• light mantled albatrosses</li> <li>• wandering albatrosses (if present)</li> <li>• southern giant petrels</li> </ul>	1	No recent or consistent population censuses due to lack of visitation. Automated cameras systems and more regular visits are desirable and being investigated so that the requirements of the Recovery Plan and the Heard Island Wilderness Reserve Management Plan can be met in the future.
D 12.5	For McDonald Island populations, representative population monitoring programs using non-intrusive techniques should be conducted whenever the island is visited (during the breeding season) or every ten years (whichever is sooner) in order to determine the population status of: <ul style="list-style-type: none"> <li>• black browed albatrosses;</li> <li>• light mantled albatrosses; and</li> <li>• southern giant petrels.</li> </ul>	AAD / EA	On McDonald Island, representative, non-intrusive population monitoring programs are conducted for: <ul style="list-style-type: none"> <li>• black browed albatrosses;</li> <li>• light mantled albatrosses; and</li> <li>• southern giant petrels.</li> </ul>	0	There is no population monitoring program for this island. Landings are generally prohibited on the island.
D 12.6	Continue investigations into remote population-monitoring techniques to enable rapid assessment of isolated albatross and giant petrel populations.	TASPAWS / EA	Effective remote population-monitoring techniques are developed.	2	Remote aerial photographic methods are well developed. Limited development of other remote methods due to logistical constraints and/or funding availability.

<b>13: Reduced genetic variability</b> (identifying provenance using genetic markers) <sup>1</sup>				
D 13.1	Complete the genetic profiling of the three shy albatross populations and the closely related white capped albatross from NZ. These data are to be used to assess the impact of Longline Fishing operations.	TASPAWS/ ANU/EA	The genetic profiling of all shy albatross and white capped albatross populations is completed, and the data are used in assessing the impact of Longline Fishing operations.	3 The genetic profiling of shy and white capped albatrosses has been comprehensive and data have been used to assess the impact of longline fishing operations. Results have been published in peer reviewed journals: Abbott <i>et al.</i> (2006) Molecular provenance analysis for shy and white capped albatrosses killed by fisheries interactions in Australia, New Zealand and South Africa. <i>Conservation Genetics</i> . Vol 7, 531–542, and Baker <i>et al.</i> (2007) A global assessment of the impact of fisheries-related mortality on shy and white capped albatrosses: conservation implications, <i>Biological Conservation</i> Vol 137, 319–333.
D 13.2	Initiate genetic profiling programs of populations breeding on Macquarie Island for: <ul style="list-style-type: none"> <li>• wandering albatross</li> <li>• black browed albatross</li> <li>• grey-headed albatross</li> <li>• light mantled albatross</li> </ul>	TASPAWS/ ANU / EA	Genetic material of Macquarie Island populations of the following species are collected: <ul style="list-style-type: none"> <li>• wandering albatross</li> <li>• black browed albatross</li> <li>• grey-headed albatross</li> <li>• light mantled albatross</li> </ul>	2 Genetic material has been collected from all albatross species as well as the two giant petrel species on Macquarie Island. Genetic profiling of the wandering, black browed and grey headed albatross has been completed; Alderman <i>et al.</i> 2005. Genetic affinities of newly sampled wandering and black browed albatross populations, EMU. Light mantled albatross have not been profiled as this species is considered a low priority to pursue. Researchers at the British Antarctic Survey are currently finalising analysis of giant petrel samples.
Total				15/24

<sup>1</sup> The 2001 Recovery Plan referred to “Reduced genetic variability”; however this heading does not fully describe the actions in that section which are aimed at identifying the provenance of species using genetic markers.

Specific Objective E

E 14.1	Design and implement education strategies aimed at: i) commercial and recreational fishers: <ul style="list-style-type: none"> <li>• to encourage longline and trawl fishers to employ effective bycatch mitigation measures (TAP Actions 6.1 &amp; 6.2; Action 2.4)</li> <li>• to discourage intentional shooting (Action 3.2)</li> <li>• to encourage troll fishers to employ effective bycatch mitigation measures (Action 4.1)</li> </ul> ii) visitors to breeding colonies (Action 6.3); and iii) the general public (Action 11.2).	AFMA / EA	Effective education strategies are developed and in operation.	1	A deal of education of commercial fishers has occurred for Commonwealth fisheries, the highest priority, but little has been done to educate State commercial fishers and recreational fishers.
Total				1/3	

Specific Objective F

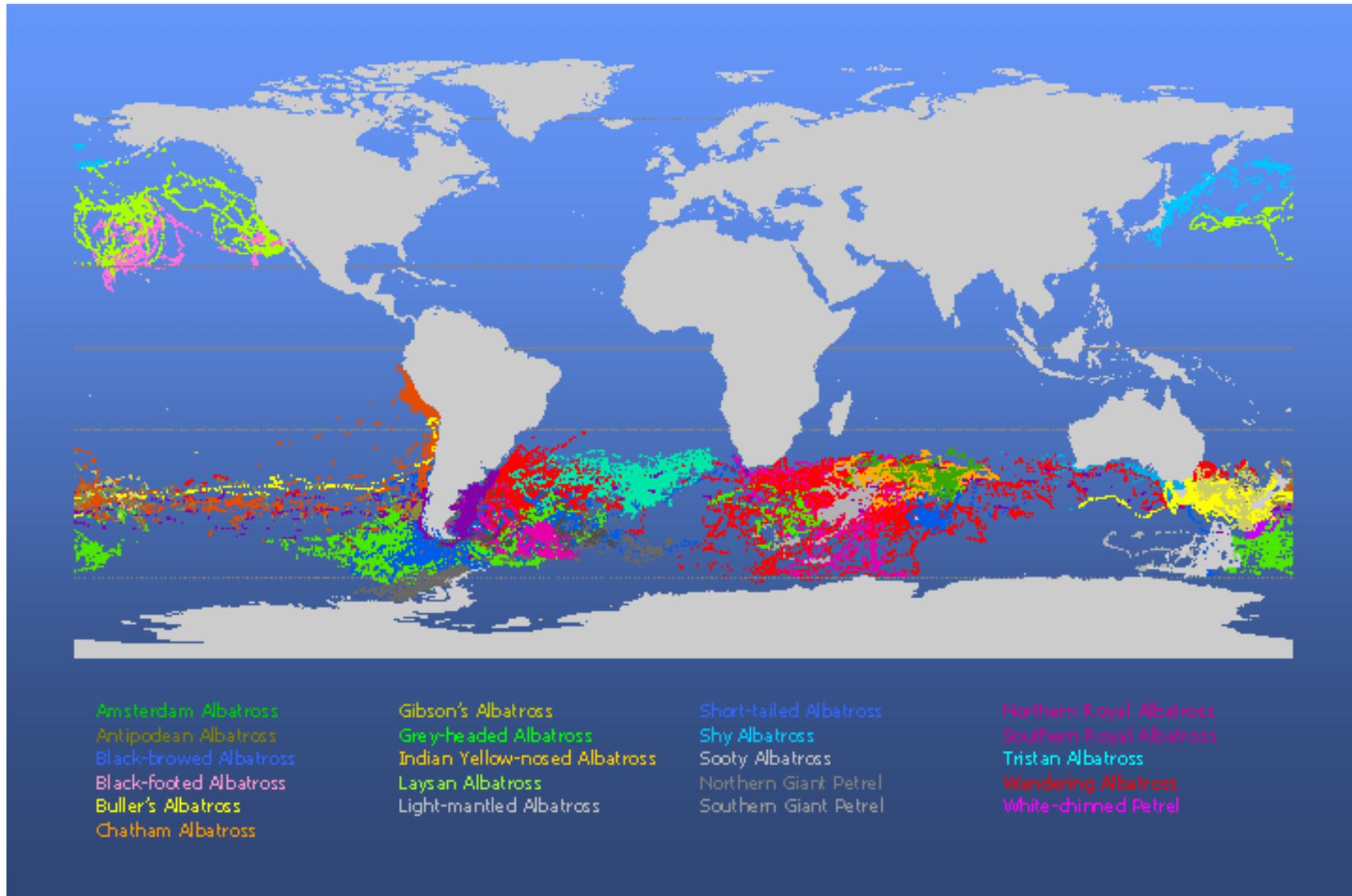
F 15.1	Promote seabird bycatch mitigation with foreign fishers through international fora including CCAMLR, CCSBT, COFI, IOTC, FFAC and other applicable international conventions to which Australia is a signatory (as prescribed in the Longline Fishing Threat Abatement Plan Action 7.1).	EA	The efficacy of seabird bycatch mitigation measures is promoted through international fora.	3	Promotion of seabird bycatch mitigation has been a high priority in international fora. There has been good progress in CCAMLR, some in the IOTC and WCPFC, but generally poor in other RFMOs. All tracking data (see A 1.2 and A 1.3) has been contributed to the Global Procellariiform Database to facilitate assessments of overlap between seabirds and RFMOs on a global scale. These assessments are presented to relevant
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					RFMOs to promote uptake of seabird bycatch mitigation and data collection.
F 15.2	Develop an effective regional agreement for the conservation of albatrosses and giant petrels in the Southern Hemisphere through CMS via: i) conducting second meeting of the working group to continue development of albatross regional agreement (Australia to host); and ii) continue to facilitate development and implementation of the albatross regional agreement.	EA	A regional agreement is developed and in operation.	3	Australia led the negotiation and development of ACAP (the Agreement on the Conservation of Albatrosses and Petrels) and continues to be a major contributor. ACAP now has 11 Parties. Additionally, the Secretariat is based in Tasmania.
Total				6/6	

Specific objective G

G 16.1	The Albatross and Giant Petrel Recovery Team will meet annually or as required to assess the progress of the Recovery Plan and to revise the actions and priorities of the Plan as necessary.	Recovery Team / EA	Implementation and progress of the Recovery Plan is assessed annually.	0	There have been no formal annual assessments of the Recovery Plan; however in-house, informal assessments of the Recovery Plan were undertaken.
G 16.2	Evaluate the efficacy of the Recovery Plan after five years of operation and make revisions where necessary.	Recovery Team / EA	The Recovery Plan is reassessed and progress is measured against the recovery criteria, actions, timeframe and objectives.	3	This document fulfils this criterion.
Total				3/6	

**Appendix B: Extract from the global Procellariiform tracking database.** (Courtesy of Birdlife International)



**Appendix C: Albatross and giant-petrel species considered in this report, their scientific names as used throughout this Recovery Plan and their scientific names according to Christidis and Boles 2008.**

<b>Breeding in Australian jurisdiction</b>		
Wandering albatross	<i>Diomedea exulans</i>	<i>Diomedea exulans</i>
Black browed albatross	<i>Thalassarche melanophris</i>	<i>Thalassarche melanophris</i>
Shy albatross	<i>Thalassarche cauta</i>	<i>Thalassarche cauta</i>
Grey headed albatross	<i>Thalassarche chrysostoma</i>	<i>Thalassarche chrysostoma</i>
Light mantled albatross	<i>Phoebetria palpebrata</i>	<i>Phoebetria palpebrata</i>
Northern giant petrel	<i>Macronectes halli</i>	<i>Macronectes halli</i>
Southern giant petrel	<i>Macronectes giganteus</i>	<i>Macronectes giganteus</i>
<b>Foraging in Australian jurisdiction</b>		
Tristan albatross	<i>Diomedea exulans</i>	<i>Diomedea dabbenena</i>
Antipodean albatross	<i>Diomedea exulans</i>	<i>Diomedea antipodensis</i>
Gibson's albatross	<i>Diomedea exulans</i>	<i>Diomedea antipodensis</i>
Northern royal albatross	<i>Diomedea epomophora</i>	<i>Diomedea sanfordi</i>
Southern royal albatross	<i>Diomedea epomophora</i>	<i>Diomedea epomophora</i>
Amsterdam albatross	<i>Diomedea exulans</i>	<i>Diomedea amsterdamensis</i>
Laysan albatross	<i>Phoebastria immutabilis</i>	<i>Phoebastria immutabilis</i>
Campbell albatross	<i>Thalassarche melanophris</i>	<i>Thalassarche impavida</i>
White capped albatross	<i>Thalassarche cauta</i>	<i>Thalassarche steadi</i>
Chatham albatross	<i>Thalassarche cauta</i>	<i>Thalassarche eremita</i>
Salvin's albatross	<i>Thalassarche cauta</i>	<i>Thalassarche salvini</i>
Atlantic yellow nosed albatross	<i>Thalassarche chlororhynchos</i>	<i>Thalassarche chlororhynchos</i>
Indian yellow nosed albatross	<i>Thalassarche chlororhynchos</i>	<i>Thalassarche carteri</i>
Buller's albatross	<i>Thalassarche bulleri</i>	<i>Thalassarche bulleri</i>
Pacific albatross	<i>Thalassarche bulleri</i>	<i>Thalassarche bulleri</i>
Sooty albatross	<i>Phoebetria fusca</i>	<i>Phoebetria fusca</i>

## Appendix D: Acronyms used in this plan and the associated Background Document.

<b>ACAP</b>	Agreement on the Conservation of Albatrosses and Petrels
<b>AAD</b>	Australian Antarctic Division, Commonwealth Department of Sustainability, Environment, Water, Population and Communities
<b>AAT</b>	Australian Antarctic Territory
<b>AFMA</b>	Australian Fisheries Management Authority
<b>AFZ</b>	Australian Fishing Zone
<b>ANARE</b>	Australian National Antarctic Research Expedition
<b>ANU</b>	Australian National University
<b>ASAC</b>	Antarctic Science Advisory Committee
<b>CCAMLR</b>	Convention on the Conservation of Antarctic Marine Living Resources
<b>CCSBT</b>	Convention for the Conservation of Southern Bluefin Tuna
<b>CMS</b>	Convention on the Conservation of Migratory Species of Wild Animals
<b>COFI</b>	FAO Committee on Fisheries
<b>DPIPWE</b>	Tasmanian Department of Primary Industries, Parks, Water and Environment
<b>DSEWPC</b>	Department of Sustainability, Environment, Water, Population and Communities
<b>EA</b>	Environment Australia (now DSEWPC)
<b>EEZ</b>	Exclusive Economic Zone
<b>EPBC Act</b>	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
<b>FAO</b>	Food and Agriculture Organisation of the United Nations
<b>FFAC</b>	Forum Fisheries Agency Convention
<b>HIMI</b>	Heard Island and McDonald Islands
<b>IAATO</b>	International Association of Antarctica Tour Operators
<b>IMAF</b>	Incidental Mortality Arising from Fishing Working Group of CCAMLR
<b>IOTC</b>	Indian Ocean Tuna Commission
<b>RFMO</b>	Regional Fisheries Management Organisations
<b>STWG</b>	Status and Trends Working Group, ACAP
<b>TAC</b>	Total Allowable Catch
<b>TAP</b>	Threat Abatement Plan for the incidental catch (or bycatch) of seabirds during longline fishing operations
<b>TASPAWS</b>	Tasmanian Parks and Wildlife Service (now TPIPWE)
<b>VMS</b>	Vessel Monitoring System
<b>WCPCF</b>	Western and Central Pacific Fisheries Commission
<b>WWF</b>	World Wide Fund for Nature