



**Agreement on the Conservation of Albatrosses and Petrels**

**Second Meeting of the Parties**  
**Christchurch, New Zealand, 13 – 17 November 2006**

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**ACAP Species Assessments**

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## **1. Proposal for the Development of ACAP Species Assessments**

This paper describes a proposal to develop comprehensive and contemporary Species Assessments for all the albatross and petrel species listed in Annex 1 of the ACAP Agreement.

## **2. Background**

At the Second Meeting of the Advisory Committee (AC2) in June 2006 the Status and Trends Working Group tabled a proposal for ACAP to facilitate the creation of an ACAP Species Assessment for the 28 ACAP species currently listed. These assessments would include a description of each species including such information as population status and trends, taxonomy, breeding locations, threats and foraging distribution and overlap with fisheries operations and organisations. These assessments would also serve the important task of identifying key gaps in information and priorities for actions.

This proposal received unanimous and enthusiastic support from all Parties (Report of the Second Meeting of the Advisory Committee; Sections 8.1.6 to 8.1.8) and a detailed proposal and budget was requested for provision to the Second Meeting of Parties (MoP2) for further consideration and decision.

## **3. Justification and Context for ACAP**

These Species Assessments will address crucial objectives stated within Articles III, V and VI of the ACAP Agreement. These Articles emphasise not only the need to collect information about species listed under Annex I of the Agreement but also to disseminate the collated information. The relevant sections of these Articles are presented in Attachment A. Most pertinent to this proposal is Article 6 of Annex 2 that states:

*The Parties shall seek to make information on the conservation status of albatrosses and petrels, the threats facing them, and the activities taken under the Agreement, available to the scientific, fishing and conservation communities, as well as to relevant local authorities and other decision-makers, and to neighbouring states.*

*The Parties shall seek to make local communities and the public in general more aware of the status of albatrosses and petrels and the threats facing them.*

## **4. The ACAP Species Assessments Project**

In order to illustrate the scope, structure and content of these ACAP Species Assessments, an example Species Assessment for the Shy Albatross (*Thalassarche cauta*) has been produced specifically for consideration by MoP2 (Attachment B).

An integral element of each Species Assessment will be a map presenting the overlap of the species' range with regional fisheries management organisations (RFMOs). These maps and others displaying satellite tracking data will be produced in collaboration with BirdLife International (see Attachment C).

Each Assessment will be designed so that it can be updated annually and will therefore reflect the most comprehensive and current information on the taxonomic status, population size and trends, and threats affecting each species. The Assessments will be made widely available through cost-effective publication media such as the ACAP web site, a downloadable PDF file, and on CD-ROM. The Species Assessments could also be made available in hard copy if the Parties request (and fund) this.

In accordance with Articles III, V, VI and Annex 2 of the ACAP Agreement, the production of ACAP Species Assessments will:

1. Provide a means to access, analyse and deliver the most up-to-date comprehensive and reliable information on the conservation status of ACAP listed species;
2. Facilitate the development of Conservation Measures that are contingent upon a thorough understanding of our knowledge and knowledge-gaps for all ACAP listed species;
3. Provide information that is not only critical for advancing the work of the Agreement, but will also prove invaluable to other international and national fora;
4. Be instrumental in encouraging other groups who have yet to engage with data delivery, or indeed ACAP, to participate in the work of the Agreement;
5. Facilitate the assessment of the effectiveness of the ACAP Agreement;
6. Showcase the work of ACAP and raise the profile of ACAP beyond scientific and political communities;
7. Synergise the activities of all the ACAP AC Working Groups;
8. Ensure engagement in, and the ongoing success of, the ACAP AC Working Groups through the creation of a tangible product;
9. Centralise the data and assessments collated by the current ACAP AC Working Groups that are currently dispersed among the institutions of the Convenors and the ACAP Secretariat; and
10. Provide comparable data on population size and trend through the application of consistent decision rules and analytical techniques.

To date, the ACAP AC Working Groups have operated largely independently of ACAP resources, using either pro bono work or voluntary contributions from Parties. However, to collate and synthesise the information, to conduct trend analyses and to highlight and communicate the results, funding will be required. An itemised budget to deliver Species Assessments for all ACAP listed species is provided in Attachment D.

#### **5. Timeframe**

If this project is approved by the MoP2 and funded, we anticipate that production of the Species Assessments would commence in late 2006. The first portion (approximately half) of Assessments will be available in all three ACAP languages as Portable Document Format (pdf) files on the ACAP web site by the 3rd AC meeting (mid-2007). The second portion, the implementation of an Assessments web site, and the production of hard copies (if required) could be completed by mid-2008.

#### **6. Action by the MoP2**

To effectively continue progress of the ACAP AC Working Groups, we recommend that ACAP species assessments be developed and produced. Consequently the MoP2 is asked to:

1. Consider the proposal for the production of ACAP Species Assessments;
2. If approved, seek and allocate funding for the project to progress;
3. Consider whether any changes are required to the draft Species Assessment template that has been provided for information.

#### **7. Attachments**

- A. The context of the Species Assessments in relation to the ACAP Agreement.
- B. Indicative Species Assessment for the Shy Albatross (*Thalassarche cauta*).
- C. A representative map of the format to be provided for the Assessments by BirdLife International.
- D. The itemised budget for the ACAP Species Assessment Project.

### **Context of Species Assessments in Relation to the Agreement**

The Species Assessments will be used for multiple purposes but in particular to address the following specific requirements of the Agreement.

1. The text of the ACAP Agreement emphasises both the collection and dissemination of information about species listed under Annex I of the Agreement. Specifically, Article III (General Conservation Measures) of the Agreement states:

*In furtherance of their obligation to take measures to achieve and maintain a favourable conservation status for albatrosses and petrels, the Parties, having regard to Article XIII, shall:*

- develop and maintain programmes to raise awareness and understanding of albatross and petrel conservation issues;*
- exchange information and results from albatross and petrel, and other relevant, conservation programmes;*

2. Also Article V (Cooperation Between Parties) of the Agreement states:

*The Parties shall cooperate, having regard to the Action Plan, to:*

- develop systems for collecting and analysing data, and exchanging information;*
- undertake exchange of expertise, techniques and knowledge.*

3. The emphasis within the Agreement on the collation and dissemination of information continues within the Action Plan of the Agreement (Article VI). The Action Plan is described in detail within Annex 2 of the Agreement and itemises the specific data to be assembled and presented by the Advisory Committee (Article 5, Annex 2). This includes assessments of:

- Breeding sites
- Population sizes and trends
- Foraging ranges
- Threats at-sea
- Threats at breeding sites
- Methods to mitigate threats
- Mortality of listed species in fisheries
- Fishing effort in relevant fisheries
- Protection arrangements and legislation relevant to ACAP listed species
- Research relevant to conservation of ACAP listed species
- Identify gaps in our current knowledge of ACAP listed species

4. Upon production of these assessments Article 6 of Annex 2 (Action Plan: Education and Public Awareness) states that:

*The Parties shall seek to make information on the conservation status of albatrosses and petrels, the threats facing them, and the activities taken under the Agreement, available to the scientific, fishing and conservation communities, as well as to relevant local authorities and other decision-makers, and to neighbouring states.*

*The Parties shall seek to make local communities and the public in general more aware of the status of albatrosses and petrels and the threats facing them.*

CRITICALLY ENDANGERED      ENDANGERED      VULNERABLE      **NEAR THREATENED**      LEAST CONCERN      NOT LISTED

### Synonyms

Tasmanian shy albatross  
Shy mollymawk  
White-capped albatross

### Scientific synonyms

*Thalassarche cauta cauta*  
*Diomedea cauta*  
*Diomedea cauta cauta*



### CONSERVATION LISTINGS AND PLANS

#### International

2006 IUCN Red List of Threatened Species – Near Threatened<sup>[1]</sup>.

This listing presumes *T. cauta* and *T. steadi* are conspecific.

Convention on Migratory Species - Listed Species (Appendix II; as *Diomedea cauta*)<sup>[2]</sup>.

#### National - Australia

Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)<sup>[3]</sup>

- Listed Threatened Species – Vulnerable  
- Listed Migratory Species  
- Listed Marine Species

Recovery Plan for Albatrosses and Petrels (2001)<sup>[4]</sup>

Threat Abatement Plan 2006 for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations<sup>[5]</sup>

#### State - Tasmania

Threatened Species Protection Act 1995, Tasmania)

- Listed Species – Vulnerable<sup>[6]</sup>

### TAXONOMY

Order Procellariiformes

Family Diomedidae

Genus *Thalassarche*

Species *cauta*

Originally a member of the polytypic species *Diomedea cauta* (Gould 1841), *T. cauta* was elevated to specific status when *Diomedea cauta* was placed in the genus *Thalassarche*<sup>[7]</sup> and split into four species: *T. cauta* (Shy albatross), *T. steadi* (White-capped albatross), *T. eremita* (Chatham albatross) and *T. salvini* (Salvin's albatross)<sup>[8]</sup>. The recognition of *T. cauta* and *T. steadi* remains controversial<sup>[9][11]</sup> although following scrutiny of morphological, genetic and behavioural data the ACAP Taxonomy Working Group endorsed recognition of *T. cauta* and *T. steadi* as separate species in 2006<sup>[10]</sup>.

### BREEDING BIOLOGY

*T. cauta* is a colonial, annual breeding species; each breeding cycle lasts about 8 months. Most eggs are laid in September, hatch in December and the chicks fledge in April at about 4.5 months old (Table 1)<sup>[11]</sup>.

At least 3 years after fledgling, immature birds begin to return to their breeding colony. When at least 5 to 6 years old most *T. cauta* begin breeding annually, almost always in their natal colony.

Table 1. Breeding cycle

	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
At colonies		•	•	•	•	•	•	•	•	•	•	
Egg laying				•	•							
Incubating					•	•	•					
Chick provisioning							•	•	•	•	•	

### BREEDING STATES

Table 2. Distribution of *T. cauta* among the Breeding States of ACAP listed species

	Antarctica	Argentina	Australia	Chile	Ecuador	France	New Zealand	South Africa	United Kingdom
Breeding pairs			100%						

### BREEDING SITES

*T. cauta* is an Australian breeding endemic (Table 2) with colonies only on three islands off Tasmania (Albatross Island, Pedra Branca and the Mewstone; Figure 1; Table 3). Data submitted to the ACAP Status and Trends

Working Group in 2005 estimated the total breeding population to be approximately 12,750 pairs (Table 3). The total population was estimated to be between 50,000 and 60,000 individuals<sup>[12]</sup>.

Figure 1. Location of the three *T. cauta* breeding sites



Table 3. Monitoring methods and estimates of the population size (annual breeding pairs) for each breeding site (see Glossary). This Table is based on data submitted to the ACAP Status and Trends Working Group in 2005 (unpublished data)

Breeding site location	Jurisdiction	Years monitored	Monitoring method	Monitoring reliability	Breeding pairs
Albatross Island 43° 23'S, 144° 39'E	Australia	1982-2005 (excl. 1992-93)	D (100%)	High	5,128 (2004)
Mewstone 43° 44'S, 146° 22' E	Australia	1996	D (100%)	Medium	7,258-7458 (1996)
Pedra Branca 43° 52' S, 146° 58' E	Australia	1984,1991-2005	D (100%)	Medium	268 (1996)

## CONSERVATION LISTINGS AND PLANS FOR THE BREEDING SITES

### International

#### Mewstone and Pedra Branca

Tasmanian Wilderness World Heritage Area <sup>[4]</sup>.

### National - Australia

#### Albatross Island, Mewstone and Pedra Branca

Listed - Register of Critical Habitat (EPBC Act) <sup>[4]</sup>.

### State - Tasmania

#### Albatross Island

Nature reserve - *Nature Conservation Act 2002* (Tasmania)

Management Plan - Summary of Bass Strait Island Nature Reserves – (Draft October 2000) <sup>[13]</sup>.

#### Mewstone and Pedra Branca

Southwest National Park <sup>[13]</sup>; Tasmanian Wilderness World Heritage Area <sup>[4]</sup>.

Management Plan: Tasmanian Wilderness World Heritage Areas Management Plan 1999 <sup>[14]</sup>.

## POPULATION TRENDS

### Albatross Island

In the late 1700s, soon after Europeans first sighted a *T. cauta* colony, there were thought to be 20,000 pairs breeding on Albatross Island. By 1909 feather and egg collectors had reduced the colony to between 250 and 300 nests <sup>[15]</sup>. Censuses of pre-fledge chicks now suggest the population is increasing and recent estimates suggest 2,500 chicks fledged annually (Figure 2). However, this colony is currently only 25% of the original colony size.

### Mewstone and Pedra Branca

The historical size of the populations on the Mewstone and Pedra Branca has not been reported so the population trend on these islands is less clear. The population on Pedra Branca may have always been small <sup>[4]</sup> but it appears competition for nesting space from Australasian gannets (*Morus serrator*) may steadily be reducing the number of fledglings produced on the island each year (Figure 2). In 1996 the total number of breeding pairs on the Mewstone was estimated to be approximately 7,300 (Table 3) but this estimate is of uncertain accuracy <sup>[16]</sup>. A aerial census method is now being developed to accurately determine the population size and trend.

Table 4. Summary of population trend data for *T. cauta*. These data are based on counts of chicks close to fledging (Figure 2) rather than the censuses of breeding pairs (Table 3) due to the higher level of accuracy associated with the former method

Location	Current monitoring	Census years	Census reliability	Trend	Trend reliability
Albatross Island	Yes	1980 – 2005*	High	Increasing	High
The Mewstone	Yes	1995	Low	Unknown	n/a
Pedra Branca	Yes	1992 – 2005*	High	Decreasing	High

\*Missing data: Albatross Island (1990 – 1993); Pedra Branca (1993 and 1997)

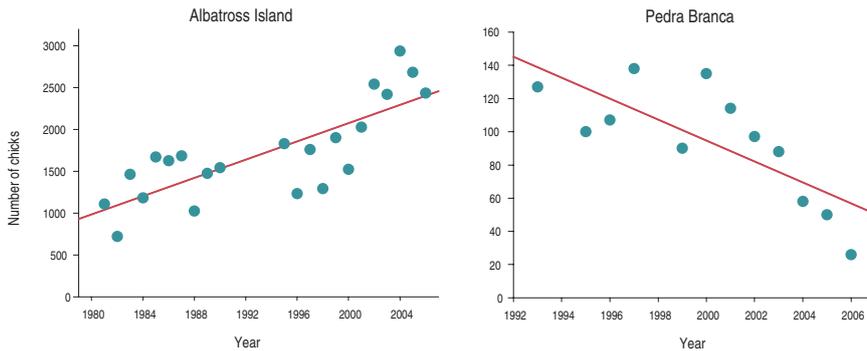


Between 1981 and 2006 the chick production on Albatross Island increased from approximately 1000 to 2500 per year (Figure 2). On Pedra Branca, however, the chick production decreased from over 100 to less than 30 between 1993 and 2006. No trend data are available for the Mewstone population (Table 4). Trend analyses show that the size of the Albatross Island population is increasing at

a rate of approximately 3.2% per year (95% confidence interval = -0.10, 0.16<sup>[19]</sup>) whereas the Pedra Branca population is decreasing in size at a rate of approximately 10% per year (95% confidence interval = -0.3, 0.06<sup>[19]</sup>). These data suggest the population on Albatross Island is increasing at a moderate rate but the population on Pedra Branca is in moderate to steep decline (see Glossary).



Figure 2. Population counts of pre-fledge chicks with a simple regression line fitted. See text for assessment of population trends.



Due to access and disturbance issues on the Mewstone and Pedra Branca, the breeding success and survival of juveniles and adults have only been studied in detail at Albatross Island. There, breeding success varies from

20% to 50% with an average of 37% of nests fledging a chick (Table 5). Analyses of juvenile and adult survival are in progress (2006) but adult survival is thought to be very high<sup>[20]</sup>.

Table 5. Demographic data for the three *T. cauta* breeding sites. This Table is based on data submitted to the ACAP Status and Trends Working Group in 2005 (unpublished data)

Location	Mean breeding success (std dev)	Juvenile survival	Adult survival	Years (number)
Albatross Island	37% (±12.8%)	In progress	In progress	1982-2004 (21)
The Mewstone	No data	No data	No data	No data
Pedra Branca	No data	No data	No data	No data

**BREEDING SITES: THREATS**

Table 6. Summary of known threats at the breeding sites of *T. cauta* (See Glossary). This Table is based on data submitted to the ACAP Breeding Sites Working Group in 2005 (unpublished data)

Location	Human disturbance	Human take	Natural disaster	Disease	Habitat alteration (human)	Habitat alteration (alien species)	Predation (alien species)	Increased impact by native species	Contamination
Albatross Island	Low <sup>a</sup>	No	No	Low <sup>b</sup>	No	No	No	No	No
The Mewstone	Low <sup>a</sup>	No	No	No	No	No	No	No	No
Pedra Branca	Low <sup>a</sup>	No	Low <sup>c</sup>	No	No	No	No	No	No

Few threats exist at any of the breeding sites of *T. cauta* (Table 6) and all sites are legally protected. <sup>a</sup> Anthropogenic disturbance is essentially limited to activities associated with the conservation management of the islands. <sup>b</sup> In some years, symptoms of a pox virus infection are common on Albatross Island and this disease has been associated with chick mortality and hence depressed breeding success<sup>[21]</sup>. <sup>c</sup> Pedra Branca is occasionally exposed to extreme wave action which is

known to affect the breeding Australasian gannets (*Morus serrator*) on the island and may also impact the albatross population. There are no non-native species on Mewstone and Pedra Branca and the non-native species on Albatross Island have no impact on the albatross population. *T. cauta* show relatively low levels of heavy metal contamination<sup>[22]</sup>.

## FORAGING ECOLOGY AND DIET

*T. cauta* usually forage singly and have been observed taking prey from the surface or occasionally making surface plunges or shallow dives. However, a study using time-depth recorders revealed *T. cauta* commonly plunge-dive within 3 m of the surface and can swim down to over 7 m<sup>[23]</sup>. The diet of *T. cauta* has only been examined through food delivered to chicks at Albatross Island. There, fish (mostly *Trachurus declivis* and *Emmelichthys nitidus*) dominated the diet (89% wet mass), followed by cephalopods (mostly *Nototodarus gouldi*) and small amounts of tunicates and crustaceans<sup>[24]</sup>. Evidence suggests *T. cauta* capture most prey during the day<sup>[24]</sup>.

## MARINE DISTRIBUTION

Table 7. Summary of the known Range States and Regional Fisheries Management Organisations that overlap with the marine distribution of *T. cauta*.

	Frequency of occurrence in region (see Glossary)		
	Abundant	Common	Infrequent
Known Range States	Australia	South Africa	New Zealand
Regional Fisheries Management Organisations	WCPFC CCSBT IOTC		ICCAT

CCSBT - Convention for the Conservation of Southern Bluefin Tuna

IOTC - Indian Ocean Tuna Commission

ICCAT - International Commission for the Conservation of Atlantic Tunas

WCPFC - Western and Central Pacific Fisheries Commission

Understanding of the marine distribution of *T. cauta* is confounded by its similar appearance to other albatross species, particularly *T. steadi*. However, band recoveries, satellite-tracking data, and genetic identification of birds caught in fishing operations show that *T. cauta* are most frequently found around Tasmania and southern Australia<sup>[16, 25]</sup> but its range also extends to southern Africa (Figure 3). Satellite tracking data show *T. cauta* are less pelagic than many other albatross species, are usually found over the continental shelf, and regularly venture close to shore along the coasts of Tasmania and southern Australia<sup>[26-28]</sup> (Figure 4 & 5). Adult *T. cauta* remain close to their breeding colonies year-round<sup>[26, 27]</sup> whereas juvenile birds (predominantly from the Mewstone colony) have been recorded off southern Africa<sup>[16]</sup>. During breeding, adults

forage close to their colonies, usually within 300kms, in waters less than 200m deep<sup>[28]</sup>. The only evidence that shy albatrosses occur in New Zealand is from a single band recovery from a bird that was banded at the Mewstone colony<sup>[16, 25]</sup>.

Satellite tracking data indicate that *T. cauta* overlap with four Regional Fisheries Management Organisations, but principally the CCSBT, IOTC and WCPFC. These RFMOs overlap in the region encompassing the breeding sites (Figure 3; Table 7). Australia and South Africa are the principal Range States for *T. cauta* (Figure 3; Table 7). All available satellite tracking data for *T. cauta* have been submitted to the Birdlife International 'Global Procellariiform Tracking Database'<sup>[28]</sup>.

Figure 3. The approximate range of *T. cauta* (blue) inferred from satellite tracking, band recoveries and genetic identification of fisheries bycatch. The boundaries of Regional Fisheries Management Organisations (RFMOs) are also shown. The CCSBT, IOTC and WCPFC RFMOs all encompass the water surrounding the breeding sites of *T. cauta*.

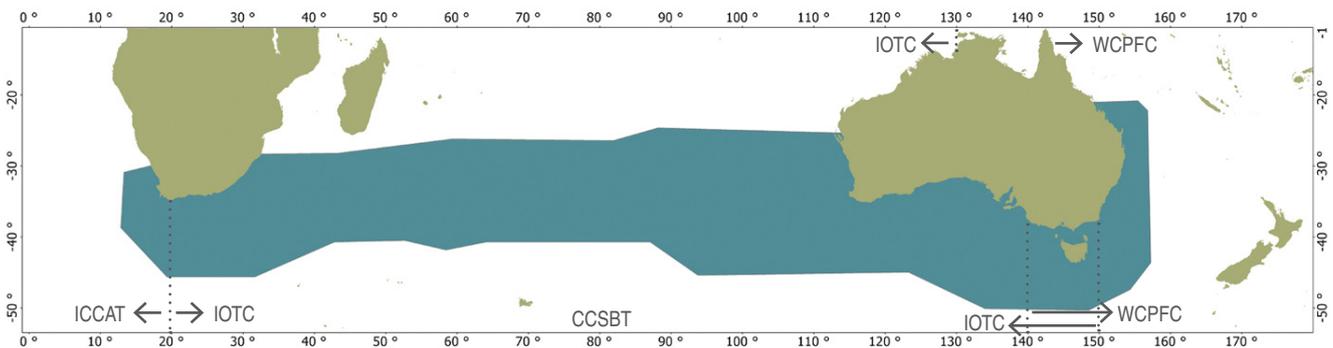


Figure 4. Satellite-tracking data of juvenile and non-breeding adult *T. cauta* albatrosses (Non-breeding adults N = 9; Juvenies N = 25; Total hours = 42,000)

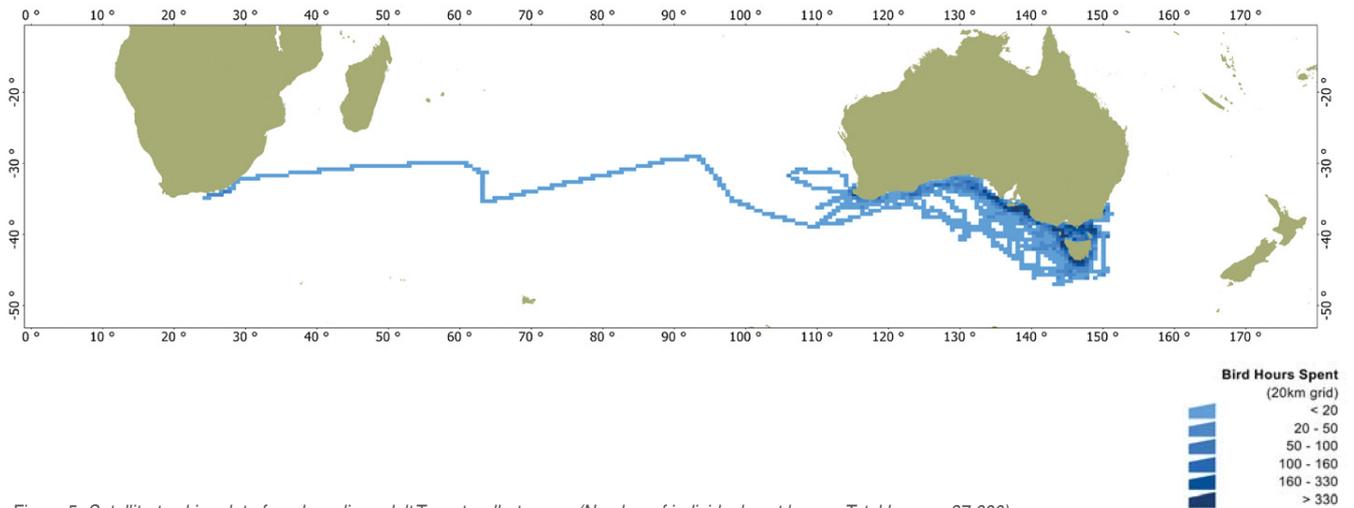
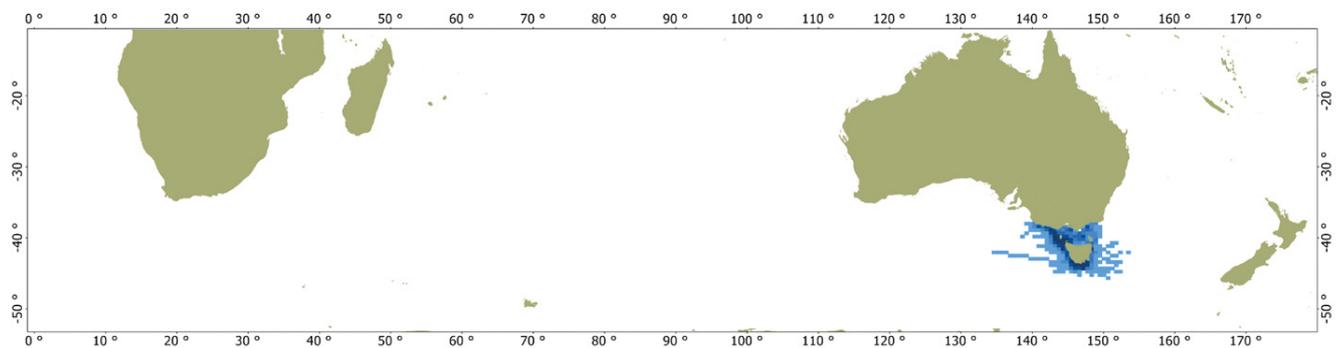


Figure 5. Satellite-tracking data from breeding adult *T. cauta* albatrosses (Number of individuals not known; Total hours = 37,600)



**MARINE THREATS**

Like most marine organisms, *T. cauta* are exposed to the threats of marine debris, plastic ingestion and pollution, but it is the incidental mortality of *T. cauta* in fishing operations that is thought to pose the greatest threat. *T. cauta* are known to be killed in longline fishing operations in Australian and South African waters [16; 29; 25; 30]. *T. cauta* juveniles that leave Australian waters and traverse the Indian Ocean to southern Africa (Figure 5) are particularly vulnerable to interactions with fishing operations. Both high seas longline fleets and South African longline and trawl fisheries are known to kill large numbers of albatrosses [31; 30]. Adult shy albatrosses largely remain within the Australian waters but, based on 2005 fishing effort profiles, their exposure to domestic longline fisheries is limited [30]. *T. cauta* are killed in Australian trawl fisheries but the magnitude of the impact is poorly understood.

**KEY GAPS IN SPECIES ASSESSMENT**

*T. cauta* is one of the more comprehensively studied albatross species. This is particularly the case for the Albatross Island population (comprising 40% of the total population) where the population trends, diet and behavioural ecology have all been the subject of investigation. The marine distribution is reasonably well known, with satellite tracking studies being undertaken on both adults and juveniles from all three colonies [28]. However, the population size and trend for the Mewstone, the largest of the three breeding sites (58% of the total population) remains a significant gap in the species' assessment as do accurate estimates of adult and juvenile survival for all populations. The population trend of the small, but genetically distinct Pedra Branca population also requires clarification as management decisions need urgent consideration if the trend in chick production continues a downward trajectory. The most significant threat to this species is mortality associated with fisheries operations. Our current understanding of the impact of trawl fisheries in Australia, and fishing operations in the Indian Ocean and off southern Africa is lacking.





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