



Agreement on the Conservation of Albatrosses and Petrels

Second Meeting of Seabird Bycatch Working Group

Hermanus, South Africa, 17 – 18 August 2008

Engaging with Regional Fisheries Management
Organisations to reduce bycatch of albatrosses and
petrels

ACAP Advisory Committee 3 Work Programme Item 4.3

**BirdLife International
Seabird Bycatch Working Group
Secretariat**

SUMMARY

This paper summarises the current status of Regional Fisheries Management Organisations (RFMOs) which overlap spatially with albatross and petrel species listed in Annex 1 of the Agreement on the Conservation of Albatrosses and Petrels (ACAP), in terms of RFMO actions that relate to the conservation of these species. It is intended to facilitate ACAP working group and Advisory Committee discussions on developing strategic engagement with RFMOs. RFMOs are inter-governmental organisations which work to manage fish stocks. As part of that management, RFMOs consider ecosystem impacts of fishing, which includes seabird bycatch. Because of the capacity for RFMOs to establish management measures relating to seabird conservation in ‘their’ fisheries, ACAP may further its objective through engaging with these bodies. We propose goals and processes for such engagement, and suggest areas of work in each RFMO to which attention could be devoted for the benefit of ACAP, that is, albatross and petrel conservation.

We request that the Advisory Committee (AC):

- consider adopting goals and processes for engagement with RFMOs, subsequent to the review and potential revision of those proposed here,
- evaluate priority areas for RFMO engagement, alongside other work areas for ACAP,
- agree to include priority areas of work in the AC Work Programme, and,
- review RFMO progress and priority areas for work at AC5.

INTRODUCTION

The purpose of this paper is to facilitate ACAP working group and Advisory Committee discussions on how ACAP Parties can progress strategic engagement with Regional Fisheries Management Organisations (RFMOs). The paper suggests goals that ACAP may wish to adopt to guide RFMO engagement. In addition, it presents background to RFMOs, summarises their current work on seabird bycatch, and identifies ways in which ACAP Parties may consider contributing to, and engaging with RFMOs. Throughout this paper, RFMOs are referred to in a variety of ways. However, it is well recognised that RFMOs are bodies made up by States and that these States are individually the decision-makers, as well as those responsible for implementing decisions. Similarly, decisions in ACAP are made and implemented by Parties. Finally, it is well recognised that some RFMOs include both States' exclusive economic zones as well as high seas areas. Lessons, messages, and resources relating to reducing seabird bycatch can sometimes be relevant, and applied, to areas under both national and international forms of governance.

1.1. What RFMOs do

RFMOs are the inter-governmental organisations through which States collaborate to manage fish stocks on the high seas and/or fish stocks that straddle the EEZs of more than one State. RFMOs have the capacity to establish management measures, setting them apart from advisory bodies.

Globally, there are 17 RFMOs¹, of which 15 are active and two are in preparatory stages (Table 1). Figure 1 illustrates the areas managed by RFMOs, that overlap with ACAP-listed species. Most RFMOs address a specific set of fish stocks, meaning that RFMO areas may therefore overlap.

The UN Fish Stocks Agreement and the FAO Code of Conduct for Responsible Fisheries establish a central role for RFMOs in the sustainable management of the oceans, and establish the principles and mechanisms through which this should be achieved. Duties include transparent decision-making processes, broad stakeholder participation, using a 'precautionary approach' and 'ecosystem approach' to management. Further, RFMOs are obligated to address excessive fleet capacities, control IUU (Illegal, Unregulated and Unreported) fishing and assist developing States. Of particular relevance to the conservation of species such as albatrosses and petrels, these new legal instruments also establish the duty of RFMOs to conserve the non-target species dependent on, or associated with, target fish stocks. The FAO has called upon RFMOs to view the new fishery instruments as checklists that will enable them to fulfil their expanded role².

While expectations and duties of RFMOs have expanded under these new legal instruments for the oceans, the majority of existing RFMOs have been established under their own convention. RFMOs are therefore independent from each other, and are not overseen by a higher body. However, in recent years there has been work to increase communication between RFMOs (such as the first joint meeting of the tuna

¹ <http://www.fao.org/fishery/rfb/search>

² Lugten, G. 1999. A Review of Measures Taken by Regional Marine Fishery Bodies to Address Contemporary Fishery Issues" FAO Fisheries Department, 1999. Available at www.fao.org

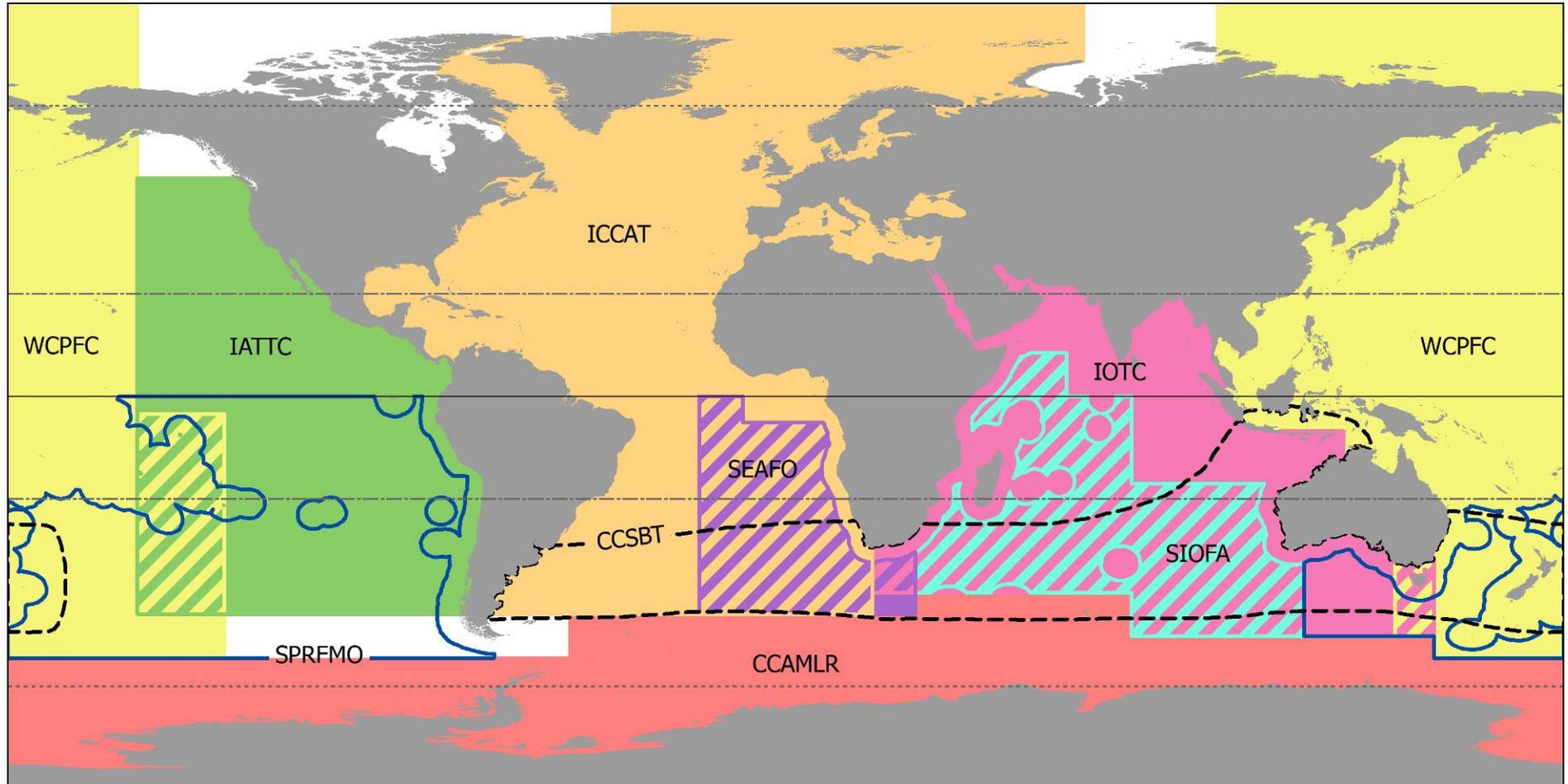
commissions, held in Kobe, Japan, January 2007), and to undertake reviews of RFMO performance (as proposed at the UN Fish Stocks Review Conference in 2006, and agreed at the UN General Assembly 2006 and FAO Committee of Fisheries 2007).

To ensure effective interactions around seabird bycatch issues between ACAP and RFMOs, the range of other challenges that RFMOs may be facing requires recognition. Pressures on RFMOs include shortage of data (on target catch and bycatch, for example), fully or over-exploited fish stocks, over-capacity of fishing fleets, and IUU fishing, as well as conventions and/or structures that were established before the UN Fish Stocks Agreement or Code of Conduct for Responsible Fisheries existed. The strengthening of RFMOs has emerged as a key priority if high seas and migratory fish stocks and associated species, such as albatrosses, petrels, turtles and pelagic sharks, are to be adequately conserved.

Table 1. List of the 17 Regional Fisheries Management Organisations, in alphabetical order. Nine RFMOs have areas and fisheries that overlap with the distribution of ACAP species. Shaded rows represent the RFMOs overlapping with the ranges of ACAP species.

Acronym	RFMO	Year in force	Ocean	ACAP species in RFMO area	EEZs or high seas
1. CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources	1982	Southern	Y	Both
2. CCSBP	Convention on the Conservation and Management of Pollock Resources in the Central Bering Sea	1995	Bering Sea	N (Y for N Pacific albatross)	High seas only
3. CCSBT	Commission for the Conservation of Southern Bluefin Tuna	1994	All oceans approx. 30-50° S	Y	Both
4. GCFM	General Fisheries Commission for the Mediterranean	1952	Mediterranean	N	Both
5. IATTC	Inter-American Tropical Tuna Commission	1950	East Pacific	Y	Both
6. ICCAT	International Commission for the Conservation of Atlantic Tunas	1969	Atlantic	Y	Both
7. IOTC	Indian Ocean Tuna Commission	1996	Indian	Y	Both
8. IPHC	International Pacific Halibut Commission	1953	Northeast Pacific	N (Y for N Pacific albatross)	Mostly EEZs
9. NAFO	Northwest Atlantic Fisheries Organisation	1979	Northwest Atlantic	N	Both
10. NASCO	North Atlantic Salmon Conservation Organisation	1983	North Atlantic	N	Both
11. NEAFC	Northeast Atlantic Fisheries Commission	1982	Northeast Atlantic	N	Both
12. NPAFC	North Pacific Anadromous Fishery Commission	1993	North Pacific	N (Y for N Pacific albatross)	High seas only
13. PSC	Pacific Salmon Commission	1985	Northeast Pacific	N (Y for N Pacific albatross)	EEZs only
14. SEAFO	Southeast Atlantic Fisheries Organisation	2004	Southeast Atlantic	Y	High seas only
15. SIOFA	South Indian Ocean Fisheries Agreement	Awaiting ratification	Indian	Y	High seas only
16. SPRFMO	South Pacific Regional Fisheries Management Organisation	Preparatory meetings	South Pacific	Y	High seas only
17. WCPFC	Western and Central Pacific Fisheries Commission	2004	West Pacific	Y	Both

Figure 1. Map showing the areas managed by Regional Fisheries Management Organisations, which overlap with ACAP-listed species. Many RFMOs cover a specific set of fisheries, meaning that RFMO areas may overlap (striped areas). For explanation of acronyms see Table 1.



1.2. RFMOs and seabird bycatch

Nine RFMOs have trawl and/or longline fisheries that overlap with the distribution of albatrosses and petrels listed on Annex 1 of ACAP (Table 1). These include CCAMLR, the world's five tuna commissions and the three RFMOs in the Southern Hemisphere that address non-tuna stocks. Of the latter, SIOFA and SPRFMO are still in preparatory stages, and SEAFO also is still relatively new. Table 2 indicates the percent overlap between the combined ranges of ACAP-listed species and the areas managed by RFMOs. This must be considered only as an approximate indication of relative importance of RFMOs in relation to risk of bycatch of ACAP species, since actual risk also depends on amount of fishing effort, bird density, and the spatial and temporal overlap between the two, as well as methods of fishing.

Table 2. Percent of combined ranges of the 26 ACAP species falling within each RFMO. The nine RFMOs that are not shown have zero overlap with the ranges of ACAP species.

	CCSBT	WCPFC	IOTC	CCAMLR	ICCAT	IATTC	SIOFA	SEAFO	SPRFMO
Percent overlap	28%	21%	16%	30%	11%	22%	11%	6%	27%

CCAMLR differs from other RFMOs in that it was established in the context of the Antarctic Treaty system, which shaped its mandate and objectives. However, CCAMLR has demonstrated what can be achieved by RFMOs, having reduced mortality of seabirds in regulated fisheries around South Georgia and the Prince Edward Islands by over 99%³. (However, addressing bycatch associated with IUU fishing presents ongoing challenges and will require further work). The CCAMLR case study has been analysed by Waugh *et al.* (2008⁴) in relation to key elements to achieving effective reduction of seabird bycatch within RFMOs.

Waugh *et al.* (2008) identified the following key steps:

- a) Establishing the context and problem formulation;
- b) Risk assessment through identification, analysis and evaluation of the risks;
- c) Management of risk; and
- d) Monitoring and review (feedback steps, including data acquisition)

Elements of these key steps may include:

- The RFMO having a mandate to implement management measures to address ecosystem and bycatch issues
- A specialist working group to discuss ecosystem and bycatch issues
- Review of scientific information on ecosystem and bycatch issues
- Establishment of management measures to reduce bycatch
- Requirements for reporting data on bycatch
- Onboard observer programmes
- Systems for monitoring and compliance

³ Croxall, J.P., Rivera, K. and Moreno, C.A. 2007. Seabird bycatch mitigation: the Southern Ocean (CCAMLR) experience. Chapter 8, Working with fisheries to reduce bycatches, Case Study 7. In Kennelly, S. J. (ed.), *Bycatch reduction in the world's fisheries*. Pp 271-281. Springer-Verlag, Berlin.; Croxall, J.P. 2008. The role of science and advocacy in the conservation of Southern Ocean albatrosses. *Bird Conservation International* 18: 1-17

⁴ Waugh, S.M., Baker, G.B., Gales, R. and Croxall, J.P. 2008. CCAMLR process of fish assessment to minimise the effects of longline fishing mortality on seabirds. *Marine Policy* 32(3): 442-454, doi:10.1016/j.marpol.2007.08.011

- An education programme for fishermen

1.3. RFMO Structure

While each RFMO is different, key elements tend to include:

- The *Commission*, the decision making body, made up of delegates from each member state
- A *Scientific Committee*, which passes scientific advice and recommendations to the Commission
- *Working Groups/Sub-Committees*, where there is technical discussion and agreement on scientific recommendations to pass to the Scientific Committee. Most RFMOs have some sort of working party addressing ecosystem and bycatch issues
- A *Compliance Committee* to review data on compliance with conservation and management measures

Other sub-groups may include groups on finance or data. In most RFMOs, meetings of the commission and scientific committee tend to be a week's duration each, held once a year or sometimes more frequently. The duration of meetings held by working parties on ecosystem and bycatch issue varies considerably between RFMOs, from one week per year (CCAMLR, ICCAT), to one day or less per year (WCPFC, IATTC).

In most cases, decisions in RFMOs are made based on consensus between member states. In a few RFMOs (e.g. ICCAT, IOTC, WCPFC), the convention text establishes the ability to make decisions with a majority. However, in most cases, consensus is still sought where possible.

1.4. Member states

Table 3 lists ACAP Parties, signatories and participating non-contracting Parties and their membership of RFMOs whose areas overlap with the ranges of ACAP species. Appendix 1 lists all the countries that are members of each of the 17 RFMOs. ACAP currently has observer status at CCSBT, IATTC, ICCAT, IOTC and WCPFC.

Table 3. Parties to ACAP and membership of the nine RFMOs whose areas and fisheries overlap with the ranges of ACAP species. Key to table: M=member, C=cooperating non-party, S=signatory to convention but not yet ratified, P=non-member but participating at meetings, * member on behalf of Overseas Territories. Note: The European Union is included in the list since France, Spain and UK are also members of RFMOs through the European Union. Explanation of acronyms given in Table 1.

<i>ACAP Parties</i>	CCAMLR	CCSBT	IATTC	ICCAT	IOTC	SEAFO	SIOFA	SPRFMO	WCPFC
Argentina	M								
Australia	M	M			M			P	M
Chile	M							P	
Ecuador			M					P	
France	M		M	M*	M*		S*	P*	M*
New Zealand	M	M					S	P	M
Norway	M			M		M			
Peru	S		M					P	
South Africa	M	C		M	C	S			
Spain	M		M						
United Kingdom	M			M*	M*	S*			
<i>ACAP Signatories</i>									
Brazil	M			M					
<i>ACAP Participating non-members</i>									
Canada	S		C	M				P	M
Namibia	M			M		M			
Uruguay	M			M	C	P			
USA	M		M	M	P	S		P	M
<i>Other</i>									
European Union	M	C	C	M	M	M	S	P	M

1.5. Goals for ACAP engagement with RFMOs

The following suggested goals clarify what ACAP Parties aim to achieve through interactions with RFMOs. The goals proposed are derived from Articles II and III of the Agreement text.

1. To the extent possible, ACAP will endeavour to address factors operating in oceans under the governance of RFMOs, which may jeopardise the achievement and maintenance of a favourable conservation status for albatrosses and petrels. In doing so, ACAP shall take a precautionary approach.
2. ACAP will work with RFMOs to contribute to meeting the fisheries-related aspects of its objective to develop and implement measures to prevent, remove, minimize or mitigate the adverse effects of activities that may influence the conservation status of albatrosses and petrels.
3. ACAP will support the implementation of the actions elaborated in the FAO International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries, when engaging with RFMOs.

Clearly these goals may be achieved in a variety of ways, the most appropriate of which will vary between RFMOs. Consequently, for RFMOs in general or each RFMO meeting, ACAP Parties will need to agree specific objectives or actions. (Specific actions are suggested in section 3, below).

RFMO CONTEXT AND PROGRESS TO DATE ON SEABIRD BYCATCH

2.1. CCAMLR

Commission for the Conservation of Antarctic Marine Living Resources

Background

As noted above, CCAMLR was established in the context of the Antarctic Treaty (Article IX of the Treaty), rather than solely for fisheries management. In that way, it is not a typical RFMO. CCAMLR is circumpolar in its extent, and was established in response to concerns about the potential impacts of krill fisheries on both krill populations themselves, and other marine life, notably birds, seals and fish. The Convention is required to balance the conservation of marine living resources, with any harvesting (so-called 'rational use') of these. So, the Convention includes those species dependent on, or associated with, harvested marine living resources.

Mandate

Most of the CCAMLR area is high seas, however the Commission is also subject to some specific declarations about sovereignty in relation to islands lying within the Convention Area but outside the area of application of the Antarctic Treaty. The harvesting of whales and seals is managed outside of CCAMLR, through the International Convention for the Regulation of Whaling, and the Convention for the Conservation of Antarctic Seals, respectively. Excluding whales, and seals at latitudes south of 60°S, CCAMLR is relevant to all marine living resources occurring from the Antarctic continent, north to the Antarctic Polar Front. CCAMLR-area fisheries currently include longline, trawl and pot fisheries for a range of target marine

species including fish and krill. CCAMLR manages its fisheries through the adoption and implementation of Conservation Measures, which members must implement.

Seabird Bycatch Measures

CCAMLR's Conservation Measures have strict requirements for the reduction of seabird bycatch. These measures are reviewed annually, as is operational compliance with them on observed vessels. All Conservation Measures in force are promulgated annually and posted on the CCAMLR website

(http://www.ccamlr.org/pu/e/e_pubs/cm/drt.htm). Relevant measures for seabird bycatch reduction in 2007/08 include:

[CONSERVATION MEASURE 24-02 \(2005\)](#)

[CONSERVATION MEASURE 25-02 \(2007\)](#)

[CONSERVATION MEASURE 25-03 \(2003\)](#)

These measures relate to mitigation measures in place to reduce seabird bycatch, including line-weighting, streamer lines of a specified standard, night-setting and other setting restrictions, offal disposal, etc.

CCAMLR also issues resolutions which have included material relating to seabird bycatch (Resolution 22/XXV, http://www.ccamlr.org/pu/e/e_pubs/cm/07-08/r22-xxv.pdf). This resolution specifically focuses on international actions and addresses what RFMOs adjacent to the CCAMLR Area can do to avoid taking birds that breed in the CCAMLR Area.

Bycatch Working Group

CCAMLR has a well developed working group structure. The ad-hoc working group IMALF (Incidental Mortality Associated with Longline Fisheries) was established in 1992. In 2001, the group broadened its mandate to all fisheries, becoming IMAF. This group currently meets each year and advises the Scientific Committee which in turn advises the CCAMLR Commission. IMAF works closely with ACAP and the Scientific Committee has extended a standing invitation to ACAP to participate in the IMAF meetings. In particular ACAP provides information on the population status and trends of CCAMLR seabirds. With the inception of its Seabird Bycatch Working Group, ACAP also coordinates with CCAMLR on seabird bycatch issues.

Identification of Problem

Seabird bycatch issues are thoroughly discussed at CCAMLR, with such discussions facilitated by the Commission's mandate and origins. The Commission's interest in seabird bycatch started in 1984, when members were asked to record and report seabird bycatch. When the CCAMLR Scheme of International Scientific Observation was introduced in 1992/93 season, the collection of seabird bycatch data was a priority task for observers. Data collected under this scheme continue to be reported to the Commission.

Risk Assessment

IMAF reviews a risk assessment for the CCAMLR area annually. Any relevant new information is considered in this review, and mitigation measures are recommended in accordance with seabird bycatch risk.

Requirements for Bycatch Data Reporting

Members are required to report seabird bycatch to the Commission. Reporting was initially requested in 1984.

Observer Programmes

The CCAMLR Scheme of International Scientific Observation was introduced in 1992/93. Under this Scheme, international (independent) observers must be deployed on all longline vessels, and on trawl vessels in new and exploratory fisheries. When maritime zones of coastal states overlap with the Convention Area, national observers may be deployed. The Text of the CCAMLR Scheme of International Scientific Observation and the CCAMLR Scientific Observers Manual are available on the CCAMLR website, and detail the data observers must record.

Monitoring and Compliance

Compliance with Conservation Measures is assessed every year in working groups and at the Commission level. Extent of compliance with these measures is assessed in accordance with the CCAMLR System of Inspection, which has been in place since 1989/1990. Further, vessels must be inspected both prior to departure, and after arrival back in port, to assess compliance in a number of areas including with seabird bycatch reduction measures.

Education

CCAMLR publishes various educational materials from time to time. Seabird-related materials include a poster on the importance of removing hooks from fishery discards, and an educational book entitled 'Fish the Sea, not the Sky'.

2.2. ICCAT

International Commission for the Conservation of Atlantic Tunas

Background

ICCAT came into force in 1969 and is responsible for the management of tuna and billfish in the Atlantic Ocean. ICCAT fisheries include purse-seine, longline and pole and line. ICCAT longline fishing effort extends down to around 45°S (the southern boundary of the ICCAT convention area is not defined).

Mandate

[ICCAT's convention](#) (established 1966) covers tuna and tuna-like species. However, ICCAT has interpreted this as including a responsibility for collecting data on catches of non-target species, and ICCAT has adopted a range of binding (Recommendations) and non-binding (Resolutions) measures on sharks (Res 2005-02, Res 2001-11, Res 2003-10, Rec 2004-10), turtles (Res 2003-11) and seabirds (Res 2002-14, Rec 2007-07). Recommendation 2007-07 on seabirds requires countries to "seek to achieve reductions in levels of seabird by-catch across all fishing areas, seasons and fisheries, through the use of effective mitigation measures".

Seabird Bycatch Measures

[Resolution 2002-14](#) on Incidental Mortality of Seabirds urges countries to implement IPOA-Seabirds, encourages them to collect data on seabird bycatch and submit it to ICCAT, and stipulates that ICCAT will undertake a seabird assessment, when feasible and appropriate. Proposals on seabirds were first submitted in 2001; the 2002 measure was proposed jointly by Brazil, Japan and USA.

[Recommendation 2007-07](#) on Reducing Incidental By-catch of Seabirds in Longline Fisheries requires all longline vessels to use a bird scaring line (also known as a tori line) when fishing south of 20°S. Swordfish vessels using monofilament gear are exempted on the condition that they set lines at night and use 60g of line weight less than 3m from the hook. The measure states that ICCAT shall develop mechanisms to enable countries to record data on seabird interactions, and requires countries to provide available information to the Secretariat on interactions with seabirds. The measure is due to be reviewed at the Commission meeting in 2008 in light of further information, including that from the ICCAT seabird assessment, which is currently underway.

Bycatch Working Group

ICCAT established a Sub-Committee on Bycatch in 1996. This was primarily focused on sharks, and the seabird discussion between 2003 and 2006 was largely held within the plenary of ICCAT's Standing Committee on Research and Statistics (SCRS, the scientific committee). In September 2006, the SCRS established the ICCAT Sub-Committee on Ecosystems, and a separate Sub-Committee on Sharks. The Sub-Committee on Ecosystems has met in Feb 2007 (1 week), Sept 2007 (1 day) and March 2008 (1 week). Seabirds have been a major agenda item. The ICCAT scientific committee has encouraged delegations to include seabird experts at ICCAT scientific meetings.

Identification of problem

Seabird bycatch has been discussed at ICCAT since at least 2001, when several seabird proposals were tabled at the commission meeting. The 2002 report of the SCRS acknowledges receipt of a letter from CCAMLR regarding seabird bycatch. BirdLife has been an observer at ICCAT meetings since 2002. Data on seabird bycatch rates have been presented to ICCAT since 2003 (USA). BirdLife, Brazil, Chinese Taipei, Spain, South Africa, Uruguay and the USA have presented data on seabird bycatch rates at recent meetings. ICCAT has also received papers on distribution of albatrosses and petrels and overlap with ICCAT fishing effort and on methodology and initial results of the ICCAT seabird assessment.

Risk Assessment

Resolution 02-14 states that an assessment of the impact of ICCAT fisheries on seabird populations should be conducted when feasible and appropriate. The seabird assessment began in February 2007 at the first meeting of the Sub-Committee on Ecosystems, and will be completed in March 2009. It is using a method that is compatible with the ecological risk assessment method developed in Australia. Analysis is being led by British Antarctic Survey, CSIRO and BirdLife International, with funding from the UK and USA, and overseen by the ICCAT Sub-committee on Ecosystems. ICCAT longline fishing effort data are relatively complete: ICCAT has had a CATDIS (catch distribution data) project to fill gaps in catch data, and has worked at Ecosystem Sub-Committee meetings in 2007 and 2008 to use this to fill gaps in the longline effort database.

Requirements for bycatch data reporting

Reporting of bycatch data has been encouraged since 2002 (Resolution 2002-14, also [ICCAT Circular #256/07](#)). [Recommendation 2007-07](#) requires countries to provide

available information on seabird bycatch to the Secretariat, and states that ICCAT shall develop mechanisms to enable countries to record data on seabird interactions. [The ICCAT field manual](#) has been updated since 2005, and this includes a [revised list of seabird species](#) caught as bycatch in ICCAT fisheries. Codes for seabird species are not yet provided.

Observer Programmes

The ICCAT Secretariat encourages countries to submit observer data ([ICCAT webpage on submitting data](#)). However currently there are no active ICCAT resolutions or recommendations on observer programmes, other than the transshipment observer programme ([Rec 2006-01](#)), which requires that all transshipments of ICCAT species take place in port, unless they are monitored under the ICCAT Regional Observer Programme (ROP). Initially, the ROP is limited to large-scale longline vessels.

ICCAT has not issued data standards for observer data, although there has been some discussion of this in the Sub-Committee on Ecosystems. As a first step, in 2007-8 the Ecosystem Sub-Committee has developed a [form to collect meta-data on observer programs](#) being operated in the Atlantic by ICCAT members. Responses will be requested in time for the 2008 SCRS meeting.

Monitoring and Compliance

ICCAT has undertaken a range of measures to combat IUU fishing. These include [Rec 2006-13](#) which covers port inspection, [Rec 2006-11](#) establishing the transshipment observer programme, and [Rec 2003-14](#) on VMS (Vessel Monitoring System). Monitoring of seabird bycatch rates and compliance with mitigation measures relies on the data required through the seabird [Recommendation 2007-07](#).

Education

At the 2007 Ecosystem meeting, presentations were given on education work with fishermen in Brazil and South Africa. In 2008, the Sub-Committee on Ecosystems is developing a poster on seabird bycatch which will be distributed to fishermen.

2.3. IOTC

Indian Ocean Tuna Commission

Background

The IOTC came into force in 1996 and is responsible for managing tuna and billfish in the Indian Ocean. IOTC is established under Article XIV of the FAO Convention and covers [FAO statistical areas 51 and 57](#). IOTC longline fleets operate as far south as 45°S.

Mandate

IOTC's convention covers only tuna and tuna-like species. However in 1998 an Expert Consultation advised that, given the increasing global concern over bycatch, IOTC should reinterpret its mandate to include the collection of data on non-target, associated and dependent species ([IOTC, 1998](#)). The Commission voted unanimously to collect such data on a regular basis, and the Commission has instructed the Secretariat to collate it ([IOTC mission statement](#)). The IOTC has subsequently adopted a number of Resolutions and Recommendations (binding and non-binding,

respectively) on sharks (Resolution 2005-05), turtles (Recommendation 2005-08) and seabirds (Recommendation 05-09, Resolution 06-04, Resolution 07-0X – number as yet unknown). Resolution 06/04 notes that IOTC's ultimate aim is to achieve a zero bycatch of seabirds, especially threatened albatross and petrel species, in longline fisheries.

Seabird Bycatch Measures

[Recommendation 2005-09](#) on Incidental Mortality of Seabirds urges countries to implement IPOA-Seabirds, encourages them to collect data on seabird bycatch and submit it to IOTC, and stipulates that IOTC will undertake a seabird assessment, when feasible and appropriate.

[Resolution 2006-04](#) on Reducing Incidental By-catch of Seabirds in Longline Fisheries requires all longline vessels to use a bird scaring line when fishing south of 30°S, and gives technical specifications for this. Swordfish vessels using the 'American longline system' (defined as use of monofilament gear and lightsticks), and equipped with a line-throwing device, are exempted. The measure states that IOTC shall develop mechanisms to enable countries to record data on seabird interactions, and requires countries to collect and provide available information to the Secretariat on interactions with seabirds.

Resolution 2007-0X requires longline vessels south of 30°S to use a combination of two mitigation measures from bird streamer line, night setting, line weighting, blue-dyed bait, offal management and line shooter, with at least one from the first three of these. The Resolution also gives technical specifications. The Resolution follows the recommendations from the 2007 WPEB meeting, though adds line shooters to the list of possible measures, and supersedes Resolution 2006-04.

Bycatch Working Group

In 2002 the IOTC resolved to establish a Working Group on Bycatch, this became active in 2005 (now re-named the IOTC Working Party on Ecosystems and Bycatch, or WPEB), and has met annually since then (1-2 days per year, with 3 days scheduled for the meeting in October 2008).

Identification of Problem & Risk Assessment

Data on seabird bycatch have been presented to IOTC since 2005. Information presented includes seabird bycatch rates, albatross and petrel distribution, mitigation measures, data standards for observer programmes, and education. Documents are available through the IOTC website.

Risk Assessment

As in other tuna commissions, Recommendation 2005-09 states that IOTC will undertake an assessment of the impact of its fisheries on seabirds, when feasible and appropriate. In 2006, the IOTC Secretariat collated available information on bycatch and established a database, although progress was hindered by lack of available data ([IOTC, 2006](#)). The 2007 WPEB meeting concluded that the low coverage observer programmes in the region currently restricts assessment of bycatch. France is currently undertaking an ecosystem analysis in the Indian Ocean, funded by the EC.

Requirements for bycatch data reporting

Resolution 2006-04 (and Resolution 2007-0X), requires that countries provide all available information to the Secretariat on interactions with seabirds, including incidental catches by their fishing vessels. The IOTC Secretariat has developed a database for recording bycatch data. IOTC has a [form for recording fishery discards](#). Codes for seabird species are not yet provided.

Observer Programmes

IOTC has encouraged Parties to undertake observer programmes (e.g. [Scientific Committee 2005](#), [WPEB 2006](#)). However, there are no active recommendations or resolutions on observer programmes, other than the transshipment observer programme (Resolution 2006-02), which applies to observation of transshipment by large-scale tuna longline vessels.

In 2005, Japan presented guidelines for observer programmes (IOTC-2005-SC-INFO7). Data standards for recording bycatch in observer programmes were discussed at the WPEB in 2006, and in 2007 the WPEB endorsed the data recommendations made in Dietrich et al. 2005, and recommended high levels of regional coordination be provided by IOTC on observer data standards and observer training. The 2007 WPEB meeting also noted that observer coverage “in the Indian Ocean is currently very low which means that it is unable to provide reliable estimates of the overall total catch of non-target species. Furthermore, the IOTC Secretariat does not currently hold data from any of the observer programmes operating in the Indian Ocean.”

Monitoring and Compliance

IOTC has adopted a range of measures to combat IUU fishing. These include port inspection ([Resolution 2005-03](#)), transshipment ([Resolution 2006-02](#)) and VMS ([Resolution 2006-03](#)). Monitoring of seabird bycatch rates and compliance with mitigation measures relies on the data required through the seabird Resolution 2007-0X.

Education

No current plans. A paper on education was presented at the 2006 WPEB meeting⁵.

2.4. WCPFC

Western and Central Pacific Fisheries Commission

Background

The WCPFC manages migratory fish stocks (e.g. tuna and tuna-like species) in the EEZs and high seas of the Western and Central Pacific. Preparatory meetings began in 2000 and WCPFC entered into force in 2004. Approximately 72% of total catch is caught by purse seine vessels, 10% by pole and line fishing and 10% by longline vessels ([Williams & Reid 2007](#)).

Mandate

The objective of the WCPFC is to manage migratory fish stocks in accordance with the UN Law of the Sea and UN Fish Stocks Agreement. The [convention](#) includes

⁵ Tasker, M., 2006. Agreement on the Conservation of Albatrosses and Petrels. Paper submitted to the Second Meeting of the IOTC Bycatch Working Party IOTC-2006-WPBy-INF04.

commitments to a precautionary and ecosystem approach to management. Articles 5 and 6 of the WCPFC convention state that the Commission will collect data on bycatch, and that it will develop monitoring and research programmes to assess the impact of fishing on non-target species. Article 10 establishes that the Commission will adopt, where necessary, conservation and management measures and recommendations for non-target species and species dependent on or associated with the target stocks, with a view to maintaining or restoring populations of such species above levels at which their reproduction may become seriously threatened.

Seabird Bycatch Measures

[Resolution 2005-01](#) on Incidental Mortality of Seabirds (non-binding) requires countries to implement IPOA-Seabirds and to provide available data to the Commission to enable estimation of seabird mortality, and stipulated that WCPFC would consider seabird bycatch mitigation measures in 2006. The Scientific Committee and Technical & Compliance Committee were tasked by the Commission to review seabird bycatch mitigation measures, and to take steps to improve monitoring and reporting of seabird interactions.

[Conservation and Management Measure-2006-02](#) requires longline vessels south of 30°S or north of 23°N to use two mitigation measures from the table below, at least one of which must be from Column A. Implementation is staged (in areas south of 30°S by 1 January 2008 for longliners of 24 m or more in length, and by 31 January 2009 for longliners of less than 24 m in length; in areas north of 23°N by 30 June 2008 for longliners of 24 m or more in length). In the northern hemisphere, vessels less than 24m in length are exempt.

Column A	Column B
Side setting [with bird curtain and weighted branch lines]*	Tori line
Night setting with minimum deck lighting	Weighted branch lines
Tori line	Blue-dyed bait
	Deep setting line shooter
	Bait caster
	Underwater setting chute
	Management of offal discharge

* Counts as two measures

[Conservation and Management Measure-2007-04](#): In 2007, technical specifications for the mitigation measures were debated extensively. Parties had differing views, particularly in relation to a proposal to add so-called 'light' tori lines (page 37, <http://www.wcpfc.int/sc3/pdf/SC3%20Summary%20Report.pdf>) to the list of measures. Discussions at the Commission meeting resulting in CMM 2007-04. This repeats the seabird bycatch mitigation requirements in CMM-2006-02, and establishes mandatory technical specifications for these measures and reporting requirements.

Bycatch Working Group

During preparatory meetings, WCPFC members agreed to establish an Ecosystem and Bycatch Specialist Working Group, EBSWG ([WCPFC, 2004](#)). EBSWG has met annually since then, for one day per year, in conjunction with the other WCPFC scientific committee meetings.

The number of WCPFC meetings and groups is quite complex. Seabird bycatch issues are currently addressed in the Ecosystem and Bycatch SWG, the Northern Committee, the Technical & Compliance Committee, and, in 2007, by a small working group chaired by Robert Martinolich (Canada). An external review of the WCPFC scientific process is planned ([Attachment P of 2007 Scientific Committee report](#)). A draft report will be prepared for December 2008, with a final report scheduled for December 2009.

Identification of Problem

During the preparatory meetings, WCPFC commissioned MRAG (Marine Resource Assessment Group) to prepare a report on ecosystem and bycatch issues within the Western and Central Pacific ([MRAG 2002](#)). Papers have been submitted to the EBSWG on seabird bycatch rates, overlap with fishing effort and mitigation measures.

At the 2007 Scientific Committee meeting, the WCPFC Secretariat was requested “to obtain the available estimates of seabird population sizes and trends for the next meeting of the Science Committee. The Secretariat is also requested to include a summary of seabird catch reporting in its coverage of data gaps.” An analysis of seabird interactions and mitigation effectiveness will be included in the 2008–2010 work plan (Paragraph 76, [Commission meeting report 2007](#)).

Risk Assessment

WCPFC is funding an Ecological Risk Assessment project (2006-2010), coordinated by SPC. The assessment is using a productivity-susceptibility approach ([Kirby & Hobday 2007](#)). A workshop was held in August 2007 to develop the [2008-2010 research plan](#). Seabird data have been included in the analysis.

Requirements for bycatch data reporting

WCPFC has established [requirements for operational catch and effort data](#) to be provided to the Commission. Bycatch data are not specifically mentioned in this. In 2008, data standards are due to be agreed for the regional observer programme. Under the seabird measure [CMM 2007-04](#), countries must report all available information on seabird interactions in Part 1 of their annual reports, including bycatch rates and species. Longline fishing countries must also report to the Commission the mitigation measures that they require their vessels to use.

Observer Programmes

The Regional Observer Program (ROP) is under development. A measure passed in December 2007 ([CMM-2007-01](#)) establishes the ROP as being coordinated by the WCPFC Secretariat and having an initial goal of 5% coverage of effort by June 2012. The data collected by the ROP will be reviewed in 2012. Some vessels are currently exempt from the ROP, including vessels fishing only within one EEZ, vessels fishing for fresh fish north of 20°N, and small vessels (definition to be decided in 2008). Current observer programme coverage in the area is low (<0.1% coverage for longlines).

Monitoring and Compliance

The [WCPFC Convention](#) outlines a number of systems that will be established for monitoring and compliance. Article 27 establishes that port States may inspect vessels which enter their ports voluntarily; and Article 24.8 establishes that all vessels on the high seas will be equipped with VMS, and that VMS data will be sent directly to the Commission. Article 29 states that WCPFC will establish guidelines for regulating and monitoring transshipment (Article 29). Procedures have been drawn up for boarding and inspection. CMM-2007-02 establishes that from January 2008 the VMS system is active in areas south of 20°N or North of 20°N and east of 175°E. The system for areas in the North has no start date yet. Vessels of less than 24m in length have until 1 January 2009 to activate the system. [CMM-2007-04](#)

Education

No current plans.

2.5. IATTC

Inter-American Tropical Tuna Commission

Background

The IATTC came into force in 1950, originally as a bilateral agreement between the USA and Costa Rica. Between 1998 and 2003, IATTC drafted a new convention (the [Antigua Convention](#)). As of end 2007, this requires two more ratifications by Parties to the 1949 Convention in order to come into force. The Antigua Convention will extend the IATTC area by 10° north and south, to 50°N and 50°S. In addition, a scientific committee will then be formed, and the EC will become a full member. IATTC differs from other tuna commissions in that the stock assessments are undertaken by IATTC staff.

Mandate

IATTC's original 1949 convention covers fish taken by vessels fishing for tuna. However, IATTC has significant responsibilities for the implementation of the International Dolphin Conservation Program (IDCP), which is the successor to IATTC's 1992 Agreement on the Conservation of Dolphins. IDCP aims to reduce incidental dolphin mortalities in the tuna purse-seine fishery in the IATTC area to levels approaching zero. IATTC has passed measures to reduce the bycatch of dolphins, turtles, seabirds, and non-target fish. The new [Antigua Convention](#) (not yet in force) covers all species taken by tuna vessels, and Article VII (g) contains a commitment to taking measures to avoid, reduce and minimise catch of non-target species.

Seabird Bycatch Measures

IATTC has implemented measures to reduce dolphin bycatch, and has a consolidated bycatch measure [C-04-05-Rev2](#). However, seabird measures are currently separate from this.

[Resolution C-05-01](#) encourages Parties and cooperating non-parties to collect data on seabird bycatch, and to implement IPOA-Seabirds. As in other tuna commissions, it also asks the IATTC Secretariat to undertake a seabird risk assessment when feasible and appropriate.

In May 2007, Spain put forward a seabird proposal similar to WCPFC CMM 2007-04. This was referred back to the Bycatch Working Group and Stock Assessment Group for further discussion. At the Commission's 2008 Annual Meeting, a binding proposal was tabled for the reduction of seabird bycatch in IATTC waters. The proposal was based largely upon the 2007 proposal, but was revised to address issues that arose at the 2007 annual meeting and for consistency with measures adopted at WCPFC in 2007. Although there was fairly widespread support of the proposal, a few outstanding issues relating to the area of application and references to WCPFC technical specifications remained. These issues, coupled with difficult discussions regarding tuna conservation, resulted in a lack of consensus to adopt the measure. It was referred to the next meeting of the IATTC Bycatch Working Group for further consideration.

Bycatch Working Group

IATTC has a Bycatch Working Group that has met six times between 1998 and 2008 (average once every two years). The last two meetings (2006 & 2007) have been one-day duration. However, in the period 2006-2008, seabird bycatch has been discussed mostly at the Stock Assessment Review meetings rather than the Bycatch Working Group. IATTC members have indicated that seabird bycatch discussions will revert principally to the Bycatch Working Group from now on, and that there will be a meeting in 2009.

Identification of Problem

The issue of seabird bycatch in longline fisheries was raised in 2004, by the USA. The first papers on seabird bycatch were presented at the 2006 Stock Assessment Review meeting by the IATTC Secretariat, USA, China and BirdLife. Papers have also been presented on the distribution of albatrosses and petrels and the overlap with fishing effort.

Risk Assessment

In May 2007, IATTC Secretariat produced document [SAR-8-14](#), representing an initial seabird assessment. This summarises available information on seabird distribution and bycatch rather than using a risk assessment methodology. Since 1999, IATTC staff have developed an ecosystem model for the tropical East Pacific Ocean (see [Bycatch WG report 2000](#)).

Requirements for bycatch data reporting

[Resolution C-05-01](#) encourages Parties and cooperating non-parties to collect data on seabird bycatch and to provide these to the Secretariat.

Observer Programmes

IATTC has a regional observer programme requiring 100% observer coverage of large purse-seine vessels. This programme requires at least 50% of the observers to be independent, and has a primary aim of recording dolphin interactions and mortality. There are no mandatory requirements for observer programmes for longline vessels. Since 2000, the IATTC Bycatch Working Group has recommended that IATTC establishes a programme to obtain bycatch data from longline vessels and small purse-seine vessels, including an observer programme. In May 2007, Spain proposed a requirement for longline observer coverage (suggesting 10% coverage), but this was not adopted.

Monitoring and Compliance

A VMS scheme for vessels greater than 24m was established by [C-04-06](#). VMS data are not required to be sent to the IATTC Secretariat. IATTC has a scheme for tracking tuna that will be certified as dolphin-friendly.

Education

IATTC has a programme for training observers and fishermen in relation to reducing dolphin mortality. IATTC also has a large programme of work with artisanal fishermen. The latter programme has included some discussion of seabird bycatch.

2.6. CCSBT

Commission for the Conservation of Southern Bluefin Tuna

Background

CCSBT came into force in 1994. Longline fishing effort is concentrated between 30-50°S in the Pacific, Indian and Atlantic Oceans and CCSBT fisheries have high overlap with the distribution of ACAP species. CCSBT has been recognised as dysfunctional in the past, and as a result this RFMO is faced with a variety of complex political issues which have inhibited its discussions, and progress, significantly.

Mandate

Articles 5, 8 and 9 of the CCSBT convention cover the collection of data on ecologically related species (ERS), and reporting to the commission on the status of ERS. In addition, the website states that one of CCSBT's functions is to 'foster activities directed towards the conservation of ecologically related species and bycatch species' (<http://www.ccsbt.org/docs/about.html>). However, the mandate to establish binding measures on non-target species was a matter of debate at the [ERS Working Group in 2007](#).

Seabird Bycatch Measures

CCSBT requires longline vessels to use bird scaring (tori) lines south of 30°S. This was established in 1997 ([Attachment U, CCSBT Fourth Annual meeting Part 1](#)). Further proposals on seabird bycatch mitigation and data collection have been presented regularly since then, but not adopted.

Bycatch Working Group

The ERS Working Group was established in 1995, and has held seven meetings in the 14 years since then. Most are of 3 or 4 day duration. The [terms of reference](#) of the ERS Working Group include reviewing factors affecting ERS populations, assessing impact of fisheries on ERS, providing advice on measures to minimise fishery effects on ecologically related species, including but not limited to gear and operational modifications, and providing recommendations on data collection programmes and research projects.

The [CCSBT Commission meeting report in 2005](#) expressed concern over the current effectiveness of the ERS Working Group (Paragraph 121). Current issues within the ERS Working Group are summarised in paragraphs 158-167 of the [CCSBT Commission meeting report from 2007](#). Disagreements amongst members on remit

and mandate have continued to frustrate progress on seabird bycatch and data collection in this RFMO.

Identification of Problem

Much information has been submitted to CCSBT on seabird bycatch: at the 1998 ERSWG meeting, at least 18 of the 34 documents for the meeting were related to seabird bycatch; at the 2001 ERSWG meeting, 44 of the 76 documents for the meeting were related to seabird bycatch.

Risk Assessment

While it is in ERSWG's terms of reference to assess the impact of SBT fisheries on ERS, it has not taken on a risk assessment role yet.

Requirements for bycatch data reporting

Currently, ERSWG only requires a national report. This report includes bycatch data, as well as data relating to target species catch, current management measures in member countries, education programmes etc. Bycatch data submitted in national reports is currently not submitted in accordance with any required spatial resolution.

Observer Programmes

An observer programme was agreed in 2001. Ten percent observer coverage is encouraged, but this level is not mandatory. CCSBT has established [observer programme standards](#), although methods for recording seabird bycatch are not specified. Collection of data on non-target species is ranked 3 on a priority scale of 1 (highest) to 3 (lowest). Observer data are not centrally collected by the CCSBT Secretariat.

Monitoring and Compliance

Reporting on bycatch rates is voluntary. Systems to monitor compliance with (or effectiveness of) the seabird bycatch measure have not been established.

Education

In 2004, CCSBT produced [educational pamphlets](#) on seabird, shark and turtle bycatch, which have been distributed to fishermen.

2.7. SEAFO

South-East Atlantic Fisheries Organisation

Background

SEAFO manages non-tuna stocks (including Orange Roughy, alfonsinos, squid and deep sea red crabs) in [high seas areas of the South East Atlantic](#). SEAFO held its first meetings in 2005. Angola, Namibia, Norway and EC are members. Japan, Iceland, South Africa and USA also attend meetings. Currently, the main active fishery is the Japanese pot and trap fishery for red crab. A priority for SEAFO is to collect catch and effort data on other fisheries to allow stock assessment. IUU levels are unknown. In 2006, SEAFO closed areas around seamounts to fishing ([CMM 2006-06](#)).

Mandate

Article 3 of the [Convention](#) includes commitments to adopting, where necessary, conservation and management measures for species belonging to the same ecosystem

as the harvested fishery resources, and to ensuring that fishery practices and management measures take account of the need to minimise harmful impacts on living marine resources as a whole.

Bycatch Working Group

None yet.

Identification of Problem & Risk Assessment

Representatives from the Benguela Current Large Marine Ecosystem project (BCLME) have been observers at meetings since 2005. South Africa has represented ACAP interests at meetings in 2006 & 2007. SEAFO also receives reports seabird-related activities in ICCAT (e.g. SC report 2007).

Seabird Bycatch Measures

[Conservation measure 05-06](#) requires that longline vessels use a bird streamer line when fishing south of 30° S. All longline vessels are required to set lines at night (with minimal deck lighting), and all trawl and longline vessels are prohibited from dumping offal during setting. The resolution also requires SEAFO to develop data collection methods within a year, and the measure shall be reviewed at the SEAFO meeting in 2009.

Requirements for bycatch data reporting

Article 13 of the Convention establishes the duties of contracting Parties to provide the data that SEAFO may require.

Observer Programmes

Article 16 of the [Convention](#) states that SEAFO will establish a system for collecting data, which will include a centrally coordinated-observer programme with independent observers. The 2007 Commission meeting agreed that SEAFO was not yet ready to establish the regional observer programme. At the Scientific Committee in 2007, concern was expressed at the paucity of observer data submitted to the Secretariat.

Monitoring and Compliance

Article 16 of the Convention lays out the scope for establishing port and at-sea measures for monitoring and compliance. In 2006, SEAFO adopted an interim banning of transshipment at sea ([Conservation measure 03-06](#)), and in 2007, SEAFO adopted [Conservation measure 09-07](#) on port measures, which establishes a system of port inspection.

Education

Not yet established.

2.8. SPRFMO

South Pacific Regional Fisheries Management Organisation

Background

SPRFMO is currently under negotiation. The process was initiated by Australia, Chile and New Zealand, and the first international meeting took place in February 2006. Five preparatory meetings have been held and 20 States are participating. The

proposal is that SPRFMO will manage straddling and discrete high seas fish stocks in [high seas areas in the South Pacific](#), including squid, horse mackerel and jack mackerel fisheries. The fisheries are predominantly trawl (pelagic and bottom), but also include longlines (pelagic and demersal). Highly-migratory species such as tunas will not be covered by SPRFMO as they are under the management of WCPFC and IATTC.

Mandate

The convention text is not yet finalised, however the [draft](#) under consideration at the meeting in March 2008 incorporates many principles from the UN Fish Stocks Agreement, including commitments to a precautionary and ecosystem approach to management and to minimising the impact of fisheries on non-target species. Article 17 includes the aim of maintaining or restoring populations of non-target and associated and dependent species to above levels at which their reproduction may become seriously threatened.

Seabird Bycatch Measures

None yet established.

Bycatch Working Group

Not yet established.

Identification of Problem & Risk Assessment

Not yet.

Observer Programmes

Article 27 of the draft convention text outlines a regional observer programme that will be coordinated by the Secretariat and will use independent observers. Interim measures agreed in May 2007 require 100% observer coverage for bottom trawl vessels. The [fourth preparatory meeting](#) in September 2007 agreed to a minimum 10% observer coverage for pelagic and bottom fisheries, and adopted [data standards](#) for the observer programme, as proposed by the Data and Information Working Group (DIWG). These include standards for recording data on interactions with seabirds.

Monitoring and Compliance

The interim measures agreed in May 2007 include requirements for VMS. Other systems not yet established.

Education

None so far.

2.9. SIOFA

South Indian Ocean Fisheries Agreement

SIOFA covers the high seas areas of most of Indian Ocean and will manage non-tuna stocks such as orange roughy. Nine countries (Australia, Comoros, France, Kenya, Madagascar, Mauritius, Mozambique, New Zealand, Seychelles) and the EC have signed the agreement, and one has ratified. SIOFA will enter into force once FAO, which is its legal depositary, receives the fourth instrument of ratification, including at least two from coastal states. As yet, SIOFA has not developed its own website.

Article 3 of the [Convention text](#) includes commitments to the precautionary and ecosystem approaches to management, to the protection of biodiversity, and states that fishing practices and management measures shall take due account of the need to minimize the harmful impact that fishing activities may have on the marine environment. Unlike other recent RFMOs (WCPFC, SEAFO, SPRFMO), the convention text does not include specific mention of non-target species taken as bycatch, and does not mention a regional observer programme. No bycatch working group or seabird bycatch management measures have yet been established.

PROPOSED AREAS FOR ACAP PARTIES TO SUPPORT RFMOS

Note that the points below often stem from discussion captured in the reports of meetings of the various RFMOs, and in some cases these suggestions below have years of ongoing context. Links to reports are not included here, but the perusal of recent reports is encouraged to facilitate understanding, as well as potential avenues for, and barriers to, progress.

3.1. CCAMLR

CCAMLR is typically seen as a ‘model’ RFMO on seabird bycatch matters, and so there is a lesser need for progressing seabird bycatch reduction initiatives here than in other RFMOs. However, key gaps remain, e.g. in the krill fisheries operating under the Convention, where requirements for increased observer coverage in krill fisheries have been proposed and resisted by various nations in recent years. In the CCAMLR context, the goals of ACAP in interacting with RFMOs (proposed in section 1.5 above) could be advanced if Parties:

- advocate for the requirement of independent observer coverage in krill fisheries;
- support and continue to encourage France in its ongoing work to reduce seabird bycatch in their CCAMLR-area fisheries;
- undertake research on, and support the development and implementation of haul mitigation in longline fisheries;
- continue to collect data on warp strikes, to ascertain the extent of these in trawl fisheries;
- continue efforts to reduce IUU fishing activity; and
- actively implement Resolution 22/XXV and take noted actions in RFMOs adjacent to CCAMLR to reduce the bycatch of birds that breed in the CCAMLR Area.

3.2. ICCAT

ICCAT has begun to consider and address seabird bycatch, for example including seabird bycatch risks, data collection and mitigation measures. More specific matters for ACAP Parties to consider promoting and supporting through ICCAT could include the following. Progress could occur through a variety of avenues, including the development of Resolutions and Recommendations where appropriate.

- Continue to participate in, and support the operation of, the Sub-Committee on bycatch and discussions of seabird bycatch at that forum
- Support and contribute to the completion of the seabird assessment currently being undertaken, and facilitate the use of this assessment in fisheries management
- Support the continued development and implementation of mechanisms for data collection on seabird interactions
- Contribute data on seabird interactions from their flagged fisheries to ICCAT
- Complete and implement National Plans of Action – Seabirds
- Identify observer programme data collection standards
- Propose, develop and implement observer programmes collecting seabird bycatch/interaction data
- Support the maintenance of suitable technology (e.g. databases) required to effectively and securely manage seabird interaction data
- Undertake research on, and promote the implementation of effective and appropriately specified bycatch mitigation measures for all appropriate areas, including developing a minimum required specification, in addition to a best practice specification, for the currently required tori line
- Propose the development and implementation of effective compliance monitoring measures for mitigation
- Promote the need to annually review the effects of IUU fishing on albatrosses and petrels
- Propose, support and implement appropriate educational programmes relating to seabird bycatch awareness and reduction

3.3. IOTC

Like ICCAT, IOTC has also begun to consider and move towards managing seabird bycatch. Given the stated goal of zero bycatch of seabirds, a focus on solving seabird bycatch issues should be more easily maintained than in RFMOs with less explicit seabird-related goals. Matters for ACAP Parties to consider promoting and supporting through their roles in IOTC could include the following, again with progress occurring through a variety of avenues, including the development of Resolutions and Recommendations where appropriate:

- continue to participate in, and support the operation of, the IOTC's Working Party on Ecosystems and Bycatch and discussions of seabird bycatch at that forum;
- implement existing Resolutions and Recommendations relating to seabird bycatch reduction and management, e.g. complete and implement National Plans of Action – Seabirds, collect data on seabird bycatch and submit it to the Commission, implement mitigation measures;
- contribute any new information to, and support the completion of, the assessment of the impact of IOTC fisheries on seabirds;
- propose, develop and implement observer programmes collecting seabird bycatch/interaction data;
- identify observer programme data collection standards for the above;

- support the maintenance of suitable technology (e.g. databases) required to effectively and securely manage seabird interaction data, including observer data once programmes are in place;
- undertake research on, and promote the implementation of effective and appropriately specified bycatch mitigation measures for all appropriate areas/fishing methods;
- propose the development and implementation of effective compliance monitoring measures for mitigation;
- promote the need to annually review the effects of IUU fishing on albatrosses and petrels; and
- propose, support and implement appropriate educational programmes relating to seabird bycatch awareness and reduction.

3.4. WCPFC

Despite being one of the newest RFMOs in existence, the WCPFC is already relatively well advanced in their consideration of issues related to seabird bycatch. Given the references to precautionary management, non-target species and environmental protection in the convention text, WCPFC is well placed to continue actively managing seabird bycatch, though only three ACAP Parties are members of this Commission. The number of meetings in which seabird-related issues are discussed could be challenging for Members in terms of ensuring those knowledgeable in seabird matters can attend. ACAP Parties could consider promoting and supporting seabird conservation through WCPFC with the following actions:

- ensuring delegations to all relevant meetings are well prepared to engage in discussions around seabird bycatch, whether or not they include seabird ‘experts’;
- implement existing Resolutions, and Conservation and Management Measures, relating to seabird bycatch reduction and management, e.g. complete and implement National Plans of Action – Seabirds, report data on seabird bycatch and mitigation to the Commission, implement mitigation measures;
- undertake research on, and encourage the WCPFC's adoption of, improved seabird bycatch mitigation measures;
- ensure any information on new or existing mitigation measures is discussed at the relevant WCPFC meetings, and that the implementation of effective mitigation measures is required on all vessels;
- support the progression of the Ecological Risk Assessment and promote explicit consideration of this in the management of WCPFC fisheries;
- identify, and encourage the adoption of, observer programme data collection standards that include seabird data;
- support the development and implementation of the ROP for the collection of seabird bycatch/interaction data;
- advocate for all vessels to be included in the ROP;
- support the maintenance of suitable technology (e.g. databases) required to effectively and securely manage seabird interaction data, including observer data once programmes are in place;

- support the development and implementation of effective compliance monitoring measures for reporting and use of mitigation measures;
- promote the need to annually review the effects of IUU fishing on albatrosses and petrels;
- propose, support and implement appropriate educational programmes relating to seabird bycatch awareness and reduction.

3.5. IATTC

While much of the focus of the IATTC was originally, and continues to be, on dolphin bycatch rather than seabird bycatch, discussions of seabird bycatch to date set the Commission up to continue considering the effects of fishing on non-target species. Further, the text of the Antigua Convention includes provision for an ecosystem-based precautionary approach to sustainable development, and environmental protection, providing for the continuation of work on seabird bycatch. ACAP Parties involved with IATTC will need to provide support and compelling technical information to ensure the advancement of issues related to seabird bycatch in this RFMO, including when the new Convention comes into force. Currently, provisions for seabird conservation are weaker than in some other RFMOs, e.g. WCPFC. Key areas for engagement of ACAP Parties include the following:

- encourage discussions on seabird bycatch issues, through the convening of the Bycatch Working Group, and other meetings as appropriate. (Thoroughly briefing delegations to all meetings on seabird issues would help ensure that no opportunities were missed to advance the goals of ACAP).
- implement existing Resolutions relating to seabird bycatch, e.g. complete and implement National Plans of Action – Seabirds, collect data on seabird bycatch
- support the continued development and implementation of mechanisms for data collection on seabird interactions
- report seabird bycatch data at appropriate meetings
- support and contribute to the completion of the seabird assessment currently requested (through Resolution C-05-01). Advocate for the use of such a risk assessment in fisheries management.
- engage in Bycatch Working Group discussions to support binding effective seabird conservation measures (including data collection), following the referral of the proposal from the June 2008 Commission meeting back to the Working Group for further consideration;
- propose, develop and implement mandatory observer programmes collecting seabird bycatch/interaction data from longline vessels, and ensure observers are currently recording data on seabird interactions on purse seine vessels.
- identify observer programme data collection standards for the above
- support the maintenance of suitable technology (e.g. databases) required to effectively and securely manage seabird interaction data
- undertake research on, and propose and support the mandatory implementation of effective and well specified bycatch mitigation measures for all appropriate areas, including developing a minimum required specification;
- propose the development and implementation of effective compliance monitoring measures for mitigation;

- promote the need to annually review the effects of IUU fishing on albatrosses and petrels; and
- propose, support and implement appropriate educational programmes relating to seabird bycatch awareness and reduction

3.6. CCSBT

Though this RFMO is extremely important for ACAP-listed species, the existence of future opportunities for making progress on the management of seabird interactions is currently unclear. After a dysfunctional meeting in Tokyo in 2007, the Ecologically Related Species Working Group (ERSWG) requested guidance from the Commission to clarify its scope, mandate and role. It appears that these fundamentals must be resolved for all members, before progress can be made on ERS issues in this RFMO. A performance review of CCSBT is currently underway, which may facilitate movement to solve issues and progress fisheries management, including interactions with ERS. Consequently, for ACAP Parties, progress towards ACAP's objective will be difficult in CCSBT. However, if a climate for progress can be established, there are a number of areas in which ACAP Parties could seek to progress CCSBT's approach to seabird bycatch, including the following:

- support the performance review of CCSBT currently being undertaken, to facilitate resolution of the current barriers to progress on ERS matters;
- support the continuation of a working group dealing with bycatch issues;
- promote the adoption of measures to require data collection and reporting on seabird bycatch, at spatial and temporal scales sufficiently fine to allow understanding and effective management of seabird interactions with SBT fisheries;
- promote the completion of a risk assessment of seabird interactions with SBT fisheries and recommend the use of this for fisheries management (to the extent possible given knowledge gaps);
- undertake research on, and promote the mandatory use of effective and appropriately specified bycatch mitigation measures, in addition to the current requirement for use of a tori line south of 30°S;
- support the implementation of mandatory observer coverage, initially at the 10% level members are currently encouraged to achieve on a voluntary basis, and subsequently at increasing levels;
- identify, and promote the adoption of, observer programme data collection standards for seabird bycatch/interaction data;
- promote the development and implementation of effective compliance monitoring measures for mitigation and reporting, once the latter become mandatory;
- identify implications of any IUU SBT fishing activity for albatrosses and petrels; and
- propose, support and implement appropriate educational programmes relating to seabird bycatch awareness and reduction.

3.7. SEAFO

As another relatively new RFMO, SEAFO has the remit to manage seabird bycatch given its commitment to the long-term conservation of marine living resources and marine ecosystems. Only one ACAP Party is a member of SEAFO, but others are currently signatories. While no bycatch working group-type structure currently exists, the Scientific Committee has been tasked with delivering management advice relating to ecosystem impacts and conservation, which includes issues relating to seabirds and seabird bycatch. Opportunities for progressing seabird-related initiatives in this RFMO include the following:

- ensure discussions at the Scientific Committee and Commission levels continue to include seabird bycatch issues;
- support the establishment of a working group that will consider seabird bycatch issues, and report back to the Scientific Committee;
- thoroughly brief all meeting delegations on seabird issues, to ensure that opportunities are not missed to advance the goals of ACAP;
- support the mandatory use of effective and appropriately specified bycatch mitigation measures, including the current requirements [Conservation Measure (05-06)], e.g. use of a tori line south of 30°S, night-setting, offal retention during line-setting and shooting, net cleaning, etc.;
- support the development and implementation of mechanisms for data collection on seabird interactions;
- report seabird bycatch data at appropriate meetings;
- support and contribute to the completion of the seabird risk assessment when available information allows, and advocate for the use of such a risk assessment in fisheries management;
- support mandatory observer programmes collecting seabird bycatch/interaction data;
- identify observer programme data collection standards for the above;
- support the maintenance of suitable technology (e.g. databases) required to effectively and securely manage seabird interaction data;
- undertake research on, and propose the development and implementation of effective compliance monitoring measures for mitigation and reporting;
- promote the need to annually review the effects of IUU fishing on albatrosses and petrels; and
- propose, support and implement appropriate educational programmes relating to seabird bycatch awareness and reduction.

3.8. SPRFMO

Given that the draft convention text includes reference to associated and dependent species, RFMO members (including ACAP Parties) have latitude to establish provisions for seabird conservation in this RFMO. Relevant areas to develop include the following:

- develop an appropriate working group body to foster and progress discussions and mitigation of seabird bycatch;
- thoroughly brief delegations to all meetings on seabird issues, to ensure that no opportunities are missed to advance the goals of ACAP;

- develop risk assessments for seabird interactions and support the use of these in fisheries management;
- promote the development and implementation of mechanisms for data collection on seabird interactions;
- promote reporting requirements for seabird interaction data;
- identify, and promote the adoption of, observer programme data collection standards for seabird interactions;
- propose, develop and implement observer programmes collecting seabird bycatch/interaction data;
- promote the development and maintenance of suitable technology (e.g. databases) required to effectively and securely manage seabird interaction data;
- undertake research on, and propose and support the mandatory implementation of effective and appropriately specified bycatch mitigation measures, including minimum required specifications
- propose the development and implementation of effective compliance monitoring measures for mitigation
- promote the regular review of any IUU fishing and possible effects on albatrosses and petrels; and
- propose, support and implement appropriate educational programmes relating to seabird bycatch awareness and reduction.

3.9. SIOFA

While the draft convention text does not include specific reference to associated and dependent species, ACAP Parties can consider raising seabird issues under the provisions for biodiversity protection and minimising the environmental impacts of fishing. Similar to the embryonic SPRFMO, relevant areas to develop include the following:

- establishing that the RFMO will consider seabird bycatch and interactions, and management measures related to these as part of its mandate;
- develop an appropriate working group body to foster and progress discussions and mitigation of seabird bycatch;
- thoroughly brief delegations to all meetings on seabird issues, to ensure that no opportunities are missed to advance the goals of ACAP;
- propose the development of risk assessments for seabird interactions and support the use of these in fisheries management;
- support the development and implementation of mechanisms for data collection on seabird interactions;
- propose and support reporting requirements for seabird interaction data;
- propose, develop and implement observer programmes collecting seabird bycatch/interaction data, including suitable data collection standards;
- support the development and maintenance of suitable technology (e.g. databases) required to effectively and securely manage seabird interaction data;
- undertake research on, and propose and support the mandatory implementation of effective and appropriately specified bycatch mitigation measures, including developing a minimum required specification;

- propose the development and implementation of effective compliance monitoring measures for mitigation;
- promote the need to annually review the effects of IUU fishing on target and non-target species, including seabirds; and
- propose, support and implement appropriate educational programmes relating to seabird bycatch awareness and reduction.

ENGAGEMENT WITH RFMOs

4.1. Levels of engagement

There are several different ways in which ACAP Parties may engage with RFMOs. Each RFMO is made up of States (e.g. denoted as members, fishing nations, co-operating non-members, etc), some of which may also be Parties to ACAP. Parties to ACAP which are part of an RFMO are bound by their obligations under ACAP and their negotiating positions at RFMOs should reflect this. However, decisions within an RFMO are resolved at the organisational level, and so considering RFMOs as collective decision-makers, made up of individual States, is vital. Given the number of members, the typical operation by consensus, and any relevant history in RFMOs, changing approaches within RFMOs may require a medium to long-term strategy.

Broadly, there are three different scenarios of ACAP representation at meetings of RFMOs and other relevant organisations:

- presence of an ACAP representative, e.g. the Secretariat;
- presence of States who are part of RFMOs, as well as Parties to ACAP, and
- a combination of the above

Where RFMO members are also members of ACAP, particular emphasis should be placed on utilising the expertise and influence of such Parties, individually and cooperatively, to advance ACAP's objective of achieving and maintaining a favourable conservation status for albatrosses and petrels.

Types of engagement will vary depending on the capacity in which ACAP is represented, but will include:

- direct engagement through the submission of papers or proposals (e.g. for the adoption of bycatch mitigation measures) and lobbying of delegations; and
- indirect engagement through the submission of information papers (e.g. relating to the spatial overlap of ACAP-listed species with fisheries managed by that RFMO) to inform decisions and positions about matters relevant to albatross and petrel conservation

Finally, indirect influence is also possible by making information available, e.g. through the ACAP website, for example, if RFMO delegations access and utilise this information to inform national positions on seabird/fisheries interactions.

Promoting the objective of ACAP will require different inputs into different RFMOs, but three key areas could be covered, as outlined below. ACAP may choose to develop specific products (e.g. conduct mitigation research) to support inputs into RFMOs, and develop relationships with particular RFMOs of high importance to ACAP-listed species.

1. **Provision of credible information:** ACAP can provide information to RFMOs, for example, in the following areas:
 - the rationale for conserving seabirds and which ACAP-listed species are most at risk from their fisheries;
 - the spatial and temporal overlap of ACAP-listed species with fisheries managed by that RFMO;
 - potential threats to seabirds from the type of fisheries currently occurring or that may be proposed;
 - any other special considerations relating to seabird issues in their area or fisheries;
 - how to assess and monitor whether a seabird bycatch problem exists, including by the use of suitable observer programs and appropriate data management mechanisms;
 - the types of measures that could avoid or mitigate seabird bycatch in their fisheries;
 - how to evaluate and refine measures to mitigate seabird bycatch; and
 - management case studies, showing the efficacy of various management approaches in reducing albatross and petrel bycatch.

2. **Prioritising fisheries threats:** Ability to do this may be limited by the extent of knowledge, however ACAP can also provide advice to RFMOs on how to most effectively target their seabird management actions. For example, different fishing methods may pose different bycatch threats to seabirds, and RFMOs would typically be encouraged to address the methods representing the greatest threat first.

3. **Recognising progress and proposing next steps:** As an Agreement with very specific interests, ACAP can to identify progress towards its objective made by various RFMOs. Support for such progress could be expressed in a variety of ways to RFMOs. At the same time, ACAP can promote specific next steps for RFMOs to consider, and any relevant support, in order to continue to progress the ACAP objective in the fisheries context.

4.2. Processes for engagement

Whether or not all ACAP Parties are involved with particular RFMOs, all Parties must agree on ACAP positions (e.g. papers, views) presented in these fora. The broad aims of ACAP in RFMOs are identified by the Agreement and its Action Plan, and further developed by the Advisory Committee. However it will also be necessary to agree on approaches to achieve specific outcomes. Such an approach will require significant coordination. Consequently, nominating an ‘RFMO Coordinator’ from an ACAP Party to coordinate the development of ACAP’s approach to each relevant RFMO meeting could be expeditious. A suggested process follows, for reaching agreement amongst Parties as to what ACAP’s specific aims for an RFMO meeting might be.

1. Parties are notified of an upcoming RFMO meeting at which an ACAP Party or Parties wish to present an ACAP position or material, including via the Secretariat.
2. The RFMO Coordinator for that RFMO is identified from amongst interested ACAP Parties. RFMO Coordinators could be identified at meetings of the

Advisory Committee or intersessionally, as appropriate. In the absence of a coordinator from an ACAP Party, the Secretariat could be requested to coordinate.

3. The Coordinator canvasses ACAP Parties with the proposed position or material to be taken to the RFMO meeting, seeking feedback and input from Parties within a reasonable timeframe. In addition, the RFMO Coordinator should liaise with the Chair/vice Chair of the AC and relevant ACAP WG Convenors. Discussions could include who, of the members present at the RFMO meeting but not represented in ACAP, may support the proposed view or approach.
4. Revisions to views or material to be presented may be made with reference to the feedback received and a revised version circulated.
5. The Coordinator leads Parties to agree a final approach or position for the RFMO meeting. If an agreed ACAP approach is not achievable, the coordinator will provide all interested Parties with the range of views discussed.
6. Once agreement on the ACAP position or material is reached, the Secretariat shall submit any ACAP papers and the Coordinator will work to ensure that appropriate ACAP products, briefing papers etc. have been conveyed to the ACAP Parties' national contacts.
7. If attending the RFMO meeting, the Coordinator will work to ensure Parties consult and coordinate during the meeting. The potentially important supporting roles of Range States and observers to ACAP (e.g. non-governmental organisations) should also be considered in pursuing ACAP's position(s) at RFMO meetings.
8. After the meeting, the RFMO Coordinator (or their delegate, or the ACAP observer) will report back to the ACAP Parties, including via a brief written report to the Advisory Committee. This report would be included as part of ACAP's review of RFMO progress, and would be used to develop future approaches.

Note that the RFMO Coordinators and delegates from Parties who are also RFMO participants would not necessarily just be active around meeting dates. Negotiations within international fora revolve not only around the meeting documents, but also around the interactions between delegations and the relationships developed between their members. Consequently, working between meetings to discuss ideas and strategies for upcoming meetings, as well as to build upon relationships, is expected to be advantageous. The development of these relationships and building trust and respect takes time, in some cases years, and for this reason continuity of representation can be very important, as is consistency in policy messages. Similarly, the need to maintain strong connections within national governments between ACAP delegates and RFMO delegates is vital.

The ACAP Advisory Committee would review progress in each RFMO between relevant RFMO meetings. The Advisory Committee would also establish new/revised objectives and tasks as appropriate. Ideally, such discussions would take place at meetings of the Committee, or intersessionally, as required.

4.3. Priority actions

Determining the priority of actions for ACAP Parties within the RFMO context may be complex, and influenced by the information available as well as political factors operating within RFMOs. The broad aims of ACAP in RFMOs will be identified by the ACAP Advisory Committee as part of its work reviewing the activities of RFMOs with which ACAP-listed species overlap. The work of the Seabird Bycatch Working Group is expected to be informative to the Advisory Committee, in both these areas. Currently, ACAP Parties are considering how best to prioritise work across the different priority areas of Agreement. The same or similar methods may be considered for prioritising which actions ACAP Parties decide to pursue through RFMOs. In any case, initially at least, priorities should be based on which actions will bring greatest benefit to conservation of ACAP-listed species.

DEVELOPMENT OF PRODUCTS FOR EACH RFMO

5.1. ACAP products that may be of value to RFMOs

ACAP can usefully contribute resources to RFMOs to assist with their progress towards effectively managing albatross and petrel bycatch, and thereby helping achieve the objective of ACAP. In some cases, different RFMOs will be assisted by the same sorts of products, though the content will vary with different fishing operations and geographic contexts. Below, products that may be useful to the various RFMOs are grouped into the categories established by Waugh *et al.* (2008), and mentioned at the start of this paper. That is:

- a) Establishing the context and problem formulation ('Problem' in Table 4);
- b) Risk assessment through identification, analysis and evaluation of the risks ('Risk' in Table 4);
- c) Management of risk ('Management' in Table 4); and
- d) Monitoring and review ('Monitoring' in Table 4)

Education is also added, as this may be where ACAP can supply benefit most easily and least controversially.

Table 4. Products that ACAP may consider providing to RFMOs to assist the management of seabird bycatch (Y = RFMOs may wish to use this product, N = Not relevant or unnecessary e.g. because they are already available from another source). [Table to be considered, and completed, by the Seabird Bycatch Working Group, or at AC4].

Product		CCAMLR	CCSBT	IATTC	ICCAT	IOTC	SEAFO	SIOFA	SPRFMO	WCPFC
Problem	- Information on ACAP, its objective, and what it can offer RFMOs to facilitate their management of seabird bycatch	Y	Y	Y	Y	Y	Y	Y	Y	Y
	- Basic information on seabird interactions with fisheries: when, why and how they happen	Y	Y	Y	Y	Y	Y	Y	Y	Y
Risk	- New information on seabird distribution, population status and trends	Y	Y						Y	
	- Summary of relevant risk assessment methods and examples of those used in the seabird/fisheries context	N	Y						Y	
	- List of key contacts with experience in developing risk assessments, and identifying and evaluating fisheries risks to seabirds	N	Y						Y	
Management	- Compilation of management measures used in RFMOs to date, and recommended for success in managing seabird bycatch	N	Y						Y	
	- Compilation of existing information on mitigation measures, including their efficacy	N	N						Y	
	- New information on mitigation measures	Y	Y						Y	
	- Examples of case studies where mitigation measures have been successfully implemented and monitored	N	N						Y	
	- List of key expert contacts	N	Y						Y	
Monitoring	- Guidance on observer programme standards required to effectively monitor and inform management of seabird bycatch	N	Y						Y	
	- Information on developing and implementing	N	Y						Y	

	effective methods for monitoring and compliance, with case studies - List of key expert contacts	N	Y						Y	
Education	- Educational material geared to fishers, on mitigation measures, and seabirds they are likely to encounter when fishing	N	N						Y	
	- If requested, training materials for observers who will record data on seabird interactions	N	Y						Y	

Appendix 1. RFMO membership matrix for RFMOs. Correct as of May 2008.

State	CCAMLR	CCBSP	CCSBT	IATTC	ICCAT	IOTC	IPHC	NPAFC	GFCM	NAFO	NASCO	NEAFC	PSC	SEAFO	SIOFA	SPRFMO	WCPFC	UNFSA	ACAP
Albania					M				M										
Algeria					M				M										
Angola					M									M					
Argentina	M																		M
Australia	M		M			M									S	P	M	R	M
Austria																		R	
Bahamas																		R	
Barbados					M													R	
Belgium	M																	R	
Belize				C	M	M						C				P	C	R	
Brazil	M				M													R	S
Bulgaria	S								M									R	
Canada	S			C	M		M	M		M	M	C	M			P	M	R	P
Cape Verde					M														
Chile	M															P			M
China, People's Republic of	M	M		C	M	M										P	M		
Columbia				M												P			
Cook Islands	S			C								C				P	M	R	
Comoros						M									S				
Costa Rica				M														R	
Cote d'Ivoire					M														
Croatia					M				M										
Cuba										M						P			
Cyprus									M									R	
Denmark (Faeroe & Greenland)										M	M	M				P		R	
Ecuador				M												P			M
Egypt					M				M									R	

State	CCAMLR	CCBSP	CCSBT	IATTC	ICCAT	IOTC	IPHC	NPAFC	GFCM	NAFO	NASCO	NEAFC	PSC	SEAFO	SIOFA	SPRFMO	WCPFC	UNFSA	ACAP
El Salvador				M															
Equatorial Guinea					M														
Eritrea						M													
European Union	M		C	C	M	M			M	M	M	M		M	S	P	M	R	
Fiji Islands																	M	R	
Finland	S																	R	
France	M			M	M	M			M	M					S	P	M	R	M
Gabon					M														
Germany	M																	R	
Ghana					M														
Greece	S								M									R	
Guatemala				M	M														
Guinea						M												R	
Guyana					C														
Honduras					M														
Iceland					M					M	M	M		S				R	
India	M					M												R	
Indonesia			M			M											C		
Iran (Islamic Republic of)						M												R	
Ireland																		R	
Israel									M										
Italy	M								M									R	S
Japan	M		M	M	M	M		M	M	M		C		P		P	M		
Kenya						M									S			R	
Kiribati																	M	R	
Korea, Republic of	M		M	M	M	M		M		M				S		P	M	R	
Lebanon									M										
Libya					M				M										
Luxembourg																		R	
Madagascar						M									S				

State	CCAMLR	CCBSP	CCSBT	IATTC	ICCAT	IOTC	IPHC	NPAFC	GFCM	NAFO	NASCO	NEAFC	PSC	SEAFO	SIOFA	SPRFMO	WCPFC	UNFSA	ACAP
Malaysia						M													
Maldives																		R	
Malta									M									R	
Marshall Islands																	M	R	
Mauritius	S					M									S			R	
Mexico				M	M														
Micronesia, Federated States of																P	M	R	
Monaco									M									R	
Montenegro									M										
Morocco					M				M										
Mozambique															S				
Namibia	M				M									M				R	P
Nauru																	M	R	
Nicaragua				M	M														
Netherlands	S				C													R	
New Zealand	M		M									C			S	P	M	R	M
Nigeria					M														
Niue																P	M	R	
Norway	M				M					M	M	M		M				R	M
Oman						M													
Pakistan						M													
Palau																P	M	R	
Panama				M	M											P			
Papua New Guinea																P	M	R	
Peru	S			M												P			M
Philippines			C		M	M											M		
Poland	M																	R	
Portugal																		R	
Romania									M									R	
Russia	M				M			M		M	M	M		P		P		R	

State	CCAMLR	CCBSP	CCSBT	IATTC	ICCAT	IOTC	IPHC	NPAFC	GFCM	NAFO	NASCO	NEAFC	PSC	SEAFO	SIOFA	SPRFMO	WCPFC	UNFSA	ACAP
Saint Lucia																		R	
Saint Vincent & Grenadines					M														
Samoa																	M	R	
Sao Tome & Principe					M														
Senegal					M	C												R	
Seychelles						M									S			R	
Slovenia									M									R	
Solomon Islands																	M	R	
South Africa	M		C		M	C								S				R	M
Spain	M			M					M									R	M
Sri Lanka						M												R	
Sudan						M													
Sweden	M																	R	
Syria					M				M										
Chinese Taipei			M	C	C	P										P	M		
Tanzania						M													
Thailand						M													
Tonga																	M	R	
Trinidad & Tobago					M													R	
Tunisia					M				M										
Turkey					M				M										
Tuvalu																	M		
Ukraine	M									M						P		R	
UK	M				M	M								S				R	M
Uruguay	M				M	C								P				R	P
USA	M			M	M	P	M	M		M	M		M	S		P	M	R	P
Vanuatu	S			M	M	M										P	M		
Venezuela				M	M											P			

Appendix 2. Examples of papers submitted to certain RFMOs on seabird bycatch

IOTC

- Small, C. 2005. Distribution of albatrosses and petrels in the Southern Indian Ocean and the overlap with IOTC longline fisheries. Paper presented to the first meeting of the IOTC Bycatch Working Group. IOTC-2005-WPBy-05.
- Petersen, S. Bycatch of seabirds, turtles and sharks caught by tuna vessels operating in South Africa's pelagic longline fishery. Paper presented to the first meeting of the IOTC Bycatch Working Group. IOTC-2005-WPBy-06.
- Garcia-Cortes, B. and Mejuto, J. 2005 Scientific estimations of bycatch landed by the Spanish surface longline fleet targeting swordfish (*Xiphias gladius*) in the Indian Ocean: 2001-2003 period. Paper presented to the first meeting of the IOTC Bycatch Working Group. IOTC-2005-WPBy-14.
- IOTC 2006. Status of the IOTC databases for Bycatch. Paper presented to the second meeting of the IOTC Bycatch Working Group. IOTC-2006-WPBy-03.
- J. Ariz, A. Delgado de Molina, M^a L. Ramos and J. C. Santana. 2006 Check list and catch rate data by hook type and bait for Bycatch species caught by Spanish experimental longline cruises in the South-western Indian Ocean during 2005. Paper presented to the second meeting of the IOTC Bycatch Working Group. IOTC-2006-WPBy-04.
- Shui-Kai Chang, Ju-Ping Tai and Chih-Hao Shiao. 2006. Incidental and By-catches in the Indian Ocean from Taiwanese Observer Data of 2002-2005. Paper presented to the second meeting of the IOTC Bycatch Working Group. IOTC-2006-WPBy-12.
- BirdLife International. 2006. Seabird bycatch in swordfish longline fisheries worldwide. Paper presented to the second meeting of the IOTC Bycatch Working Group. IOTC-2006-WPBy-13.
- BirdLife International 2006. Seabird bycatch rates in swordfish longline fisheries worldwide. Paper submitted to the IOTC Scientific Committee, Seychelles, 6-10 November 2006. IOTC-SC-INFO-10.
- Rachel Bristol, Samantha Petersen, Cleo Small & Mark Tasker. 2006. Recommendations for addressing seabird bycatch data requirements in IOTC fisheries. Paper presented to the second meeting of the IOTC Bycatch Working Group. IOTC-2006-WPBy-14.
- Petersen, S., Honig, M. 2006. Seabird, turtle and shark bycatch in South African pelagic longline fisheries. South Africa/BirdLife & WWF Responsible Fisheries Programme. Paper submitted to the Second Meeting of the IOTC Bycatch Working Party, IOTC-2006-WPBy-15.
- Stobutzki, I., Lawrence, E., Bensley, N., Ho-Shon, E. 2006. Bycatch mitigation approaches in Australia's western tuna and billfish fishery. Paper submitted to the Second Meeting of the IOTC Bycatch Working Party IOTC-2006-INFO-02.
- Tasker, M., 2006. Agreement on the Conservation of Albatrosses and Petrels. Paper submitted to the Second Meeting of the IOTC Bycatch Working Party IOTC-2006-WPBy-INF04.
- Tasker, M. 2006. Educational and training material for use in reducing Paper submitted to the Second Meeting of the IOTC Bycatch Working Party IOTC-2006-WPBy-INF05.
- Hiroaki Okamoto, Yasuko Semba, Hiroaki Matsunaga and Toshiyuki Tanabe, 2007. Japanese longline observer activity in the Indian Ocean in 2006. Paper submitted to the third meeting of the IOTC Working Party on Ecosystems and Bycatch, Seychelles, 11-13 July 2007. IOTC-2007-WPEB-12.
- BirdLife International, 2007. Development of mitigation measures to reduce seabird mortality in pelagic longline fisheries. Paper submitted to the third meeting of the IOTC Working Party on Ecosystems and Bycatch, Seychelles, 11-13 July 2007. IOTC-2007-WPEB-18.
- Petersen, S. 2007. Seabird and turtle bycatch in the South African pelagic longline fishery. Paper submitted to the third meeting of the IOTC Working Party on Ecosystems and Bycatch, Seychelles, 11-13 July 2007. IOTC-2007-WPEB-20.
- ACAP 2007. Analysis of albatross and petrel distribution and overlap with longline fishing effort within the IOTC area results from the Global Procellariiform Tracking database. Paper submitted to the third meeting of the IOTC Working Party on Ecosystems and Bycatch, Seychelles, 11-13 July 2007. IOTC-2007-WPEB-22.
- Baker, B. 2007. Coordination of mitigation research: report of the first meeting of the seabird bycatch working group, Agreement on the Conservation of Albatrosses and Petrels. Paper submitted to the third meeting of the IOTC Working Party on Ecosystems and Bycatch, Seychelles, 11-13 July 2007. IOTC-2007-WPEB-21.
- Australia, 2008. Proposal on reducing incidental catch of seabirds. IOTC-2008-S12-Prop A [E].

ICCAT

- BirdLife International 2006. Distribution of albatrosses and petrels in the Atlantic Ocean and overlap with ICCAT longline fisheries. Paper prepared for the ICCAT Bycatch Sub-Committee meeting, Madrid, 2005. ICCAT Collective Volume of Scientific Papers Vol 59 Part 1.
- Phillips, R.A., G. Tuck and C. Small 2007. Assessment of the impact of ICCAT fisheries on seabirds: proposed methodology and framework for discussion. Paper submitted to the first meeting of the ICCAT Sub-Committee on Ecosystems, 19-23 February, Madrid. SCRS/2007/030
- Phillips, R.A. and Small, C.J. 2007. Results of the preliminary risk prioritization exercise for the ICCAT seabird assessment: updated. Paper submitted to the second meeting of the ICCAT Sub-Committee on Ecosystems, 29 September, Madrid. SCRS/2007/129.

WCPFC

- Molony, B. 2005. Estimates of the mortality of non-target species with an initial focus on seabirds, turtles and sharks. Paper submitted to the first meeting of the WCPFC Ecosystem and Bycatch Specialist Working Group, Pohnpei, 13 August 2005. SC1-EB-WP1.
- Small, C. 2005. Distribution of albatrosses and petrels in the Western & Central Pacific & overlap with WCPFC longline fisheries. Paper submitted to the first meeting of the WCPFC Ecosystem and Bycatch Specialist Working Group, Pohnpei, 13 August 2005. SC1-EB-IP1.
- WCPFC Secretariat 2005. Mortality of sea birds and possible mitigation measures. Paper submitted to the first meeting of the WCPFC Technical and Compliance Committee, 5-9 December 2005. WCPFC/TCC1/18 Suppl.4.
- BirdLife International 2006. Distribution of albatrosses and petrels in the WCPFC Convention Area and overlap with WCPFC longline fishing effort. Paper submitted to the second meeting of the WCPFC Ecosystem and Bycatch Specialist Working Group, Manila, 10 August 2006.
- BirdLife International 2006. Seabird bycatch rates in the WCPFC Convention Area. Paper submitted to the second meeting of the WCPFC Ecosystem and Bycatch Specialist Working Group, Manila, 10 August 2006.
- Waugh, S. 2006. Additional information on the distribution of seabirds in the WCPFC Convention area. Ministry of Fisheries, Wellington, New Zealand. Paper submitted to the second meeting of the WCPFC Ecosystem and Bycatch Specialist Working Group, Manila, 10 August 2006. EB-WP4.
- BirdLife International 2006. Seabird bycatch mitigation in pelagic fisheries. Paper submitted to the third regular session of the WCPFC, Samoa, 11-15 December 2006.
- Kirby, D. S., Molony, B. 2006. An ecological risk assessment for species caught in WCPO longline and purse seine fisheries. Oceanic Fisheries Program, Secretariat of the Pacific Community, Noumea, New Caledonia. Paper submitted to the second meeting of the WCPFC Ecosystem and Bycatch Specialist Working Group, Manila 10th August 2006. EB-WP1
- Bull, L. A review of methodologies aimed at avoiding and / or mitigating incidental catch of seabirds in longline fisheries. WCPFC-TCC2-2006-DP03.
- Waugh, S. 2007. Risk Assessment in the CCAMLR context. Paper submitted to the workshop on Ecological Risk Assessment, Honolulu, 6-9 August 2007.
- Black, A., Small, C. and Sullivan, B. 2007. Recording seabird bycatch in pelagic longline observer programs. Paper submitted to the third session of the WCPFC Ecosystem and Bycatch Specialist Working Group, 16 August 2007. EB-WP-06
- Norris, W. and Brouwer, S. 2007. Draft Report and Information Paper of the Voluntary Small Working Group on Seabird Bycatch Mitigation. Paper submitted to the third session of the WCPFC Ecosystem and Bycatch Specialist Working Group, 16 August 2007. EB-WP-08.
- BirdLife International 2007. Update on albatross and petrel tracking data in the WCPFC area (presentation).
- Yolota, K, Minami, H., Kiyota, M.. Effective factors of tori-poles in reducing incidental catch of seabirds in the Japanese longline fishery. National Research Institute for Far Seas Fisheries, Shimizu, Japan. Paper submitted to the third session of the WCPFC Ecosystem and Bycatch Specialist Working Group, 16 August 2007. EB-WP-13.
- Kirby, D. 2007. Ecological risk assessment for the effects of fishing in the Western & Central Pacific Ocean: productivity-susceptibility analysis. Paper submitted to the Third Regular Session of the Scientific Committee, 13-24 August 2007, Honolulu. WCPFC-SC3-EBSWG/wp1.
- ACAP 2007. Seabird bycatch mitigation: minimum standards for pelagic longline fishing and priorities for further research. Paper submitted to the Third meeting of the WCPFC Ecosystems and Bycatch Specialist Working Group, Honolulu August 2007.
- TCC 2007. Outcomes of the Small Working Group on Seabirds. WCPFC-TCC3-2007-37.

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- BirdLife International 2006. Analysis of albatross and petrel distribution within the IATTC area: results from the Global Procellariiform Tracking Database. Paper submitted to the Seventh meeting of the IATTC Working Group to Review Stock Assessments La Jolla, California, 15-19 May 2006. SAR-7-05b.
- IATTC Secretariat 2006. Distribution and vulnerability to bycatch of seabirds. Paper SAR 7-10 submitted to the Stock Assessment Review Group May 2006.
- Rivera, K. 2006. Seabird and fisheries in the IATTC area. Paper submitted to the Seventh meeting of the IATTC Working Group to Review Stock Assessments La Jolla, California, 15-19 May 2006. SAR-7-05c.
- Dai, X., Xu, L., Song, L. 2006. Observation of sea bird bycatch in the Chinese longline fishery in the IATTC waters. Paper submitted to the Seventh meeting of the IATTC Working Group to Review Stock Assessments La Jolla, California, 15-19 May 2006. SAR-7-05e.
- IATTC Secretariat 2007. Seabirds: Interactions with longline fisheries: areas and mitigation tools. SAR 8-14 and IATTC 75-07c. Submitted to the Stock Assessment Review Group May 2007 and the Commission meeting June 2007.
- BirdLife International 2007. Update on albatross and petrel tracking data. Presentation to the Eighth meeting of the IATTC Working Group to Review Stock Assessments La Jolla, California, 7-11 May 2007.
- Rivera, K. 2008. Seabird and fisheries in IATTC area: an update. Paper submitted to the 9th IATTC Stock Assessment Review Meeting, La Jolla, California, 12-16 May 2008, SAR-9-11a.

- ACAP, 2008. Albatross and petrel distribution within the IATTC area. Paper submitted to the 9th IATTC Stock Assessment Review Meeting, La Jolla, California, 12-16 May 2008, SAR-9-11b
- Huang, H-W., Chang, K-Y., Tai, J-P, 2008. Preliminary estimation of seabird bycatch of Taiwanese longline fisheries in the Pacific Ocean. Paper submitted to the 9th IATTC Stock Assessment Review Meeting, La Jolla, California, 12-16 May 2008, SAR-9-11c