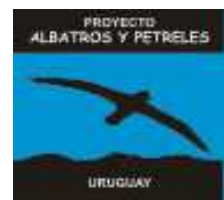




Albatross Task Force

Annual Report 2007



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Executive Summary

The Albatross Task Force of BirdLife International's Global Seabird Programme is the world's first international team of bycatch mitigation instructors. It was established in 2006 as a collaborative initiative between the Royal Society for the Protection of Birds (UK BirdLife Partner), BirdLife International and a range of other stakeholders to meet an urgent need for skilled practitioners to work on 'grass roots' projects with fishermen on-shore and at-sea.

The main focus of the Albatross Task Force (ATF) is working in pelagic longline and trawl fisheries: a) to demonstrate to fishermen, fisheries managers and government the suite of cost-effective mitigation measures that are available to reduce seabird bycatch to negligible levels; and b) to have appropriate fishery-specific measures incorporated into official regulatory frameworks.

The ATF has now been working for a full year in some countries; this report represents a summary of the achievements of 2007, goals and objectives for 2008 and future challenges for the project. The initial focus of ATF deployment was in Brasil, Chile and South Africa, where there is a high level of threat (from both longline and trawl fisheries), and where there is sufficient domestic support and industry structures to anticipate relatively rapid, tangible returns.

In addition to the primary tasks of running workshops on-shore and practical demonstrations of mitigation techniques at-sea, the main highlights and achievements so far include:

Brasil - In 2007, the team took significant steps toward the implementation of the recently adopted National Plan of Action-Seabirds (NPOA-Seabirds), both in terms of improving the robustness of bycatch data, conducting experimental trials to support the mitigation requirements of the plan and also working with government to help draft regulations that, once adopted, will require the mandatory use of a combination of measures for the swordfish longline fisheries.

Chile – The team have identified a bycatch problem in the swordfish longline fishery, including mortality of 'wandering', Black-browed, Salvin's White-capped and Buller's albatrosses, and White-chinned petrels. Considerable effort has been directed to improving the design and operational characteristics (and therefore compliance) of streamer lines, which are required under the NPOA-Seabirds in combination with a prescribed line weighting regime.

South Africa – A major success was achieved working with WWF (South Africa) to strengthen the regulatory framework and protocols for the national observer

programme for the Asian distant water fleet targeting tuna, which in 2007 had an estimated bycatch of >1000 seabirds in a six month period at a catch rate of 0.36 birds/1000 hooks. Data collected in the hake trawl fishery indicate that when deployed, streamer lines will reduce bycatch by around 90%, but that in order to achieve this level of reduction, compliance levels need to be improved.

Argentina, Namibia and Uruguay are all in the process of commencing operations and an ATF coordinator has recently been employed to develop a more fully integrated international team and to increase internal and external communications.

In 2008, the ATF will focus on strengthening our current teams and delivering tangible reductions in bycatch across our core range of southern Africa and South America fisheries. We will also investigate the feasibility of expanding into Ecuador and Peru, where large artisanal longline fleets operating from many small coastal ports will require us to consider a variation of the current ATF model to ensure we maximise our impact under these more dispersed and localised conditions.

Overall, in its first full year, the ATF has made outstanding first steps towards its goal of reducing seabird bycatch and thereby helping to halt the decline of albatross and petrel populations.

Annual Report 2007

1. Introduction

The Albatross Task Force (ATF), established in 2006 by BirdLife International's Global Seabird Programme (GSP)¹, is the world's first international team of bycatch mitigation instructors and was established to meet an urgent need for skilled practitioners to work on 'grass roots' projects with fishermen on-shore and at-sea. The instructors conduct workshops and fishing trips to train fisheries managers and fishermen on the need for, effectiveness of, and ease of adopting a range of 'best practice' mitigation measures that - once deployed - rapidly reduce seabird mortality levels.

The ATF has now been working for over a year in South Africa and Brasil and is starting work in Argentina, Chile, Namibia and Uruguay; this report summarises the achievements of 2007, goals and objectives for 2008, and future challenges for the project.

1.1 Project Structure

Fisheries to be targeted by the ATF fall into two broad categories based on their management structures, vessel characteristics, industry incentives, level of observer coverage and bycatch data availability. This division helps to determine fishery-based project objectives. It recognises that both between and within country the objectives of the ATF will be largely determined by the nature of the fishery being targeted. Thus, the ATF works with two broad types of fishery:

Type I - typically occur in countries with large diverse fleets (including artisanal fisheries)

- considerable known or potential overlap between seabirds and fishing effort
- limited awareness of seabird conservation issues
- initial bycatch estimates lacking [or limited/anecdotal bycatch data]
- limited industry incentives and structures

¹ In 1997, BirdLife International established the GSP to support BirdLife partners to:

- Promote the collaborative international action that is vital to arrest seabird declines
- Advocate the conservation of seabirds at national, regional and global levels
- Work directly with fishermen and other stakeholders to reduce seabird bycatch and other threats to seabird populations

The headquarters for the GSP are based at the RSPB (UK).

Type II – typically in countries characterised by fleets of large vessels (factory fleets)

- Bycatch estimates available [observer programmes in place]
- In-country capacity to collect bycatch data and promulgate mitigation measures
- Industry incentives in place [mitigation measures].

1.2 Placement of ATF Effort

The initial concept of the ATF was to target countries with the following characteristics: (1) Exclusive Economic Zones (EEZs) supporting significant numbers of threatened albatross and petrel species (relevant to FAO National Plans of Action² and the Agreement on the Conservation of Albatrosses and Petrels, ACAP³) and longline (and trawl) fisheries; (2) limited national capacity for such programmes, and (3) some existing BirdLife or collaborator advocacy or outreach.

At a workshop held in October 2005 (in Hobart, Tasmania) several options to focus effort were discussed, including placing instructors in countries to target bycatch of seabirds of known [or presumed] origin. Thus placing effort in Argentina, Brasil, southern Africa and Uruguay would enable the ATF to focus on reducing seabird bycatch of birds from South Georgia. The workshop participants recognised the value in working towards bycatch reduction that in the long-term could be measurable in population changes at breeding colonies. But it was also considered important to focus effort where there was the most immediate need and adequate support structures (in industry and with in-country collaborators) to give tangible results. One of the key outputs of the workshop was a matrix to identify priority countries based on a range of criteria. These included:

- known or inferred high levels of bycatch of globally threatened seabirds, especially albatrosses
- fisheries capacity (level of receptiveness to engage on the issue),
- collaborator capacity (capacity to support and assist ATF members and deliver outcomes)
- size and nature of the domestic and distant water fleet operating in EEZ
- government support (level of support within upper level of government)
- political timing (current opportunities for leverage)
- availability of baseline bycatch data

Based on these criteria South Africa and Brasil were identified as the first two countries for the ATF to target. The first ATF instructors were employed by Birdlife South Africa in March 2006. This was followed in September 2006 by the recruitment of two instructors by Projeto Albatroz in Brasil, working in collaboration with the BirdLife

² A national document that is developed by countries under the auspices of the UN Food and Agriculture Organisation's International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries - <http://www.fao.org/fishery/ipoa-seabirds>

³ See www.acap.aq

partner SAVE Brasil. In March 2007, three instructors were employed by Centro Ballena Azul in Chile and in December 2007, two instructors were employed by Aves Uruguay and Proyecto Albatros y Petreles de Uruguay in Uruguay. In January 2008, one instructor was employed by Aves Argentinas in Argentina, and in April 2008 two instructors will commence work for the Namibian Nature Foundation in collaboration with the Ministry of Fisheries and Marine Resources in Namibia and BirdLife South Africa (Figure 1, Table 1).

1.3 ATF Work Programme

The work programme of the various ATF teams varies according to local conditions and needs. It is not possible, or desirable, to try to develop a one-size-fits-all model for the project. One of the most important facets of the work of the ATF is the balance between understanding and recognising the need for fishermen to own and adopt the solutions to reducing seabird bycatch and the need to maximise our impact and efficiency by importing knowledge and experience from around the world. By working with highly regarded local in-country leaders and locally hired instructors we have been able to achieve that essential balance. The international structure of the ATF facilitates information exchange between teams and the GSP has the ability to import experiences and knowledge from the entire BirdLife partnership and our numerous collaborators, many of whom are world leaders in mitigation research, development and implementation.

The structure of this report varies between countries because while the key objectives of the various ATF teams are similar, for a range of reasons their strategic work plans vary considerably. For example, depending on the extent of a reliable time series of data and the level of bycatch in target fisheries, it may be necessary initially to focus on collecting bycatch data to present a defensible and robust argument to fisheries managers and fishermen of the need for mitigation measure (Type I fisheries). In contrast, other fisheries have sufficient bycatch data that the need for the implementation of mitigation measures is understood, though not always fully supported (Type II fisheries). Depending on the nature and structure of the fisheries the means by which to achieve uptake of mitigation may also vary considerably. In an industrial fishery, based around one or two main ports, on-shore workshops can be an efficient and effective means of reaching a range of people (e.g. managers, fishermen, Captains). However, for more locally based fisheries that operate throughout the year from smaller ports scattered along the coast and which often have less formal industry structures, this approach has been found to be less effective, and the personal touch of port visits is required to establish the teams credibility (e.g. Brasil; T. Neves (Projeto Albatroz), *pers. comm.*).

Figure 1. Structure and development of the ATF (see Table 1 for detail of acronyms)

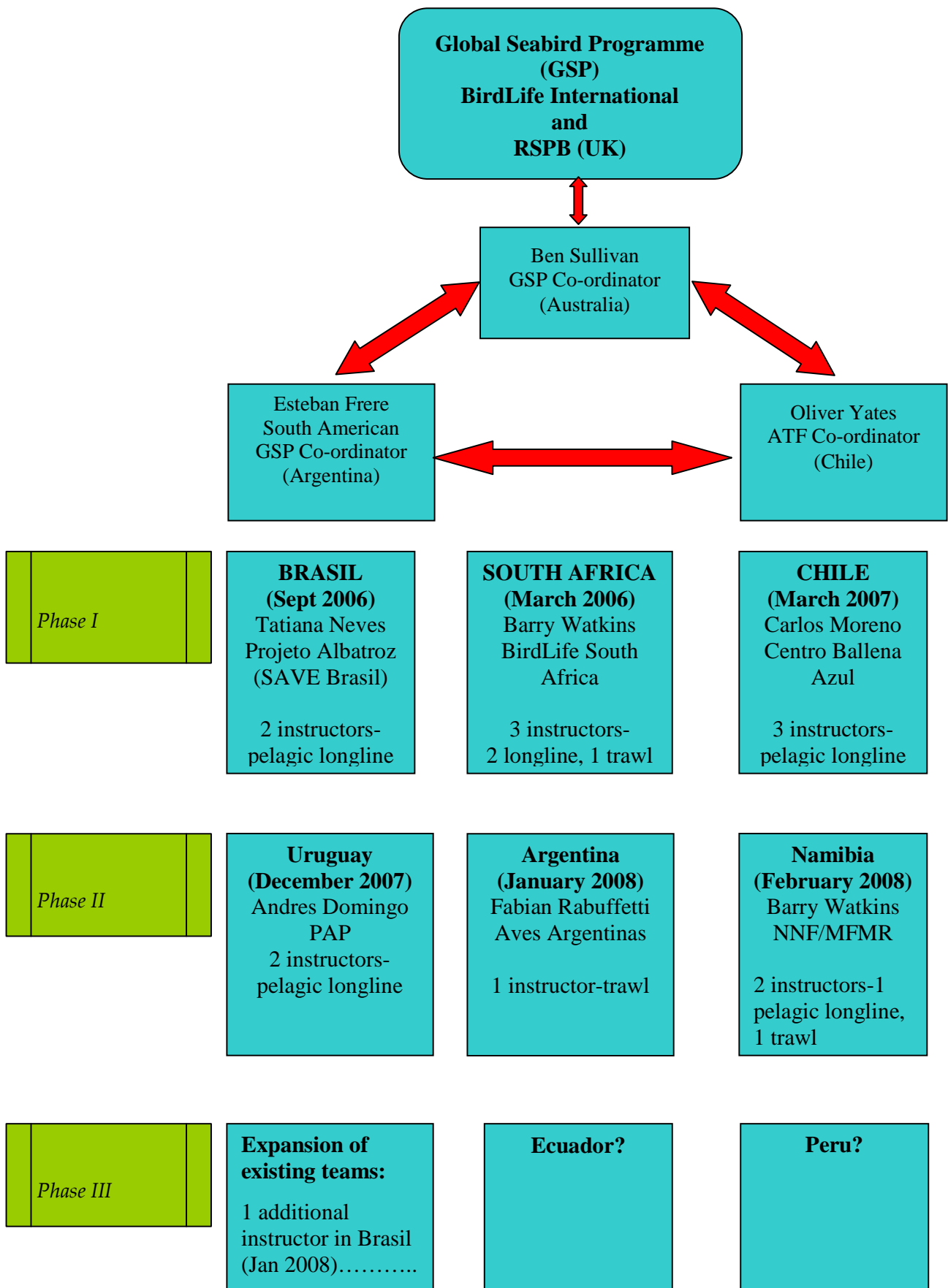


Table 1. Current and future ATF teams and personnel

Country	Start date	Organisation	Project leader	Instructors	Target fleet
South Africa	March 2006	Birdlife Africa	South Barry Watkins	Meidad Goren Barry Watkins	Pelagic longline fleet Hake trawl fishery
Brasil	September 2006	Projeto Albatroz/SAVE Brasil	Tatiana Neves	Fabiano Peppes	Santos Pelagic longline fleet
	January 2007			Ricardo Hoinkis Caio Azevedo Marquez	Itajaí Pelagic longline fleet Itaipava pelagic fleet
Chile	April 2007	Centro Azul	Ballena Carlos Moreno	Rodrigo Vega Humberto Flores	Pelagic longline fleet Pelagic longline fleet
				Jorge Ruiz	Pelagic/demersal longline fleets
Uruguay	December 2007	Aves Uruguay & Proyecto Albatros y Petreles de Uruguay (PAP)	Andrés Domingo	Sebastián Jimenez Martin Abreu	Pelagic longline fleet Pelagic longline fleet
South Africa	November 2007	BirdLife Africa	South Barry Watkins	Replacement appointment to be made in Feb. 2008*	Pelagic longline/hake trawl fleets
Argentina	January 2008	Aves Argentinas	Fabian Rabuffetti	Leandro Tamini	Demersal trawl fishery
Namibia	March 2008	Namibian Nature Foundation (NNF) & Ministry of Fisheries and Marine Resources (MFMR)	Barry Watkins	To be appointed	Pelagic longline/and trawl fleets

*After Maria Honig left the ATF in mid 2007, a replacement third instructor was recruited in November 2007, but after a three month probation period it was agreed not to proceed with full employment; further recruitment procedures are underway.

2. Country Reports

2.1 Brasil

Pelagic Longline Swordfish and Tuna Fishery

The ATF team in Brasil is working with the national pelagic longline fleet, which is composed of around 32 vessels based at Santos in the south, and Itajaí harbour on the central coast. The fishing grounds range from 20°S - 35°S, but during the winter months when the greatest number of non-breeding albatrosses and petrels forage in Brazilian waters, there is a strong concentration of fishing effort at the extreme south of the country.

Vessel in these fleets with lighter 'surface' longline gear typically target a combination of swordfish (*Xiphias gladius*), Yellowfin tuna (*Thunnus albacares*) and sharks, while other vessels target Atlantic Albacore (*T. alalunga*) and Bigeye tuna (*T. obesus*) in deeper waters.

The first six months of the project (September 2006-March 2007) were spent strengthening links, particularly in Itajaí, which is a relatively new port/fleet in terms of seabird bycatch reduction efforts. There are around 20 vessels operating from this port, and the ATF conducted at-sea trips on ten vessels and in total have had direct contact with around 70% of the fleet. In addition, between October and November 2006, initial contact was made with 13 surface longline vessels from the Itaipava region, which target tuna and Dolphinfish (*Coryphaena hippurus*). Catches are disembarked in Itajaí harbour .

At-sea Effort

During the course of 12 cruises conducted by ATF instructors and Projeto Albatroz⁴ observers in 2007, 105 seabird mortalities were recorded. These consisted of 64 Black-browed albatrosses (*Thalassarche melanophris*, 0.47 birds/1000 hooks) and 41 White-chinned petrels (*Procellaria aequinoctialis*, 0.30 birds/1000 hooks). In addition to these direct observations, information obtained from fishing cruises monitored by ATF instructors provided another 36 seabirds that were returned ashore by the skippers. These predominantly consisted of Wandering albatross (*Diomedea exulans*), Tristan albatross (*D. dabbenena*), Black-browed albatross, Atlantic Yellow-nosed albatross (*T. chlororhynchos*), Spectacled petrel (*P. conspicillata*) and White-chinned petrel. In addition to these returned birds, skippers and fishermen reported the capture of a further 177 unidentified seabirds.

⁴ In addition to coverage achieved by ATF instructors, Projeto Albatroz have observers funded by other means. The results of this additional effort complements and strengthens the work of the Task Force in Brasil.

Research and Uptake of Mitigation Measures

In line with the Brasil NPOA-Seabirds, the focus of the ATF in terms of mitigation research and uptake has been on streamer lines and blue-dyed bait. Before the ATF commenced work in Brasil in September 2006, only one of the 32 vessels in the fleet used mitigation measures (streamer lines/blue dyed bait) and after a 12-month period 16 vessels (50% of the fleet) are known to be voluntarily using streamer lines as a standard part of their operations. This result far exceeded the expectations of the team in Brasil and is an important precursor to having mitigation integrated into local regulations.

ATF Brasil conducted a range of mitigation trials in 2007, to collect the data necessary to present fishermen with conclusive evidence of the effectiveness of blue-dyed bait and streamer lines in reducing seabird bycatch while not adversely affecting the catch rate of target species. Here we present the findings of the research into the effectiveness of streamer lines. In both cases the capture rates were calculated as individuals/1000 hooks. These data were collected during 17 fishing cruises (201 longline sets) with dedicated seabird observers on board (ATF instructors and Projeto Albatroz observers). The cruises were carried out between 7 April, and 1 October, 2007 in southern Brasil, between 25 and 37°S and between 29 and 51°W (Figure 2).

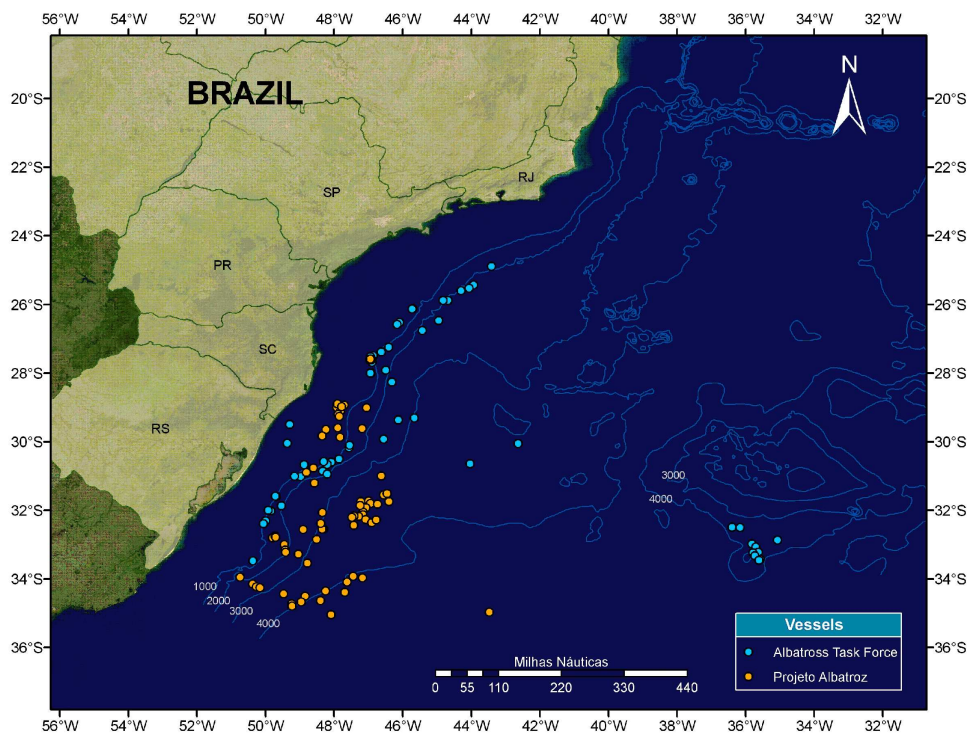
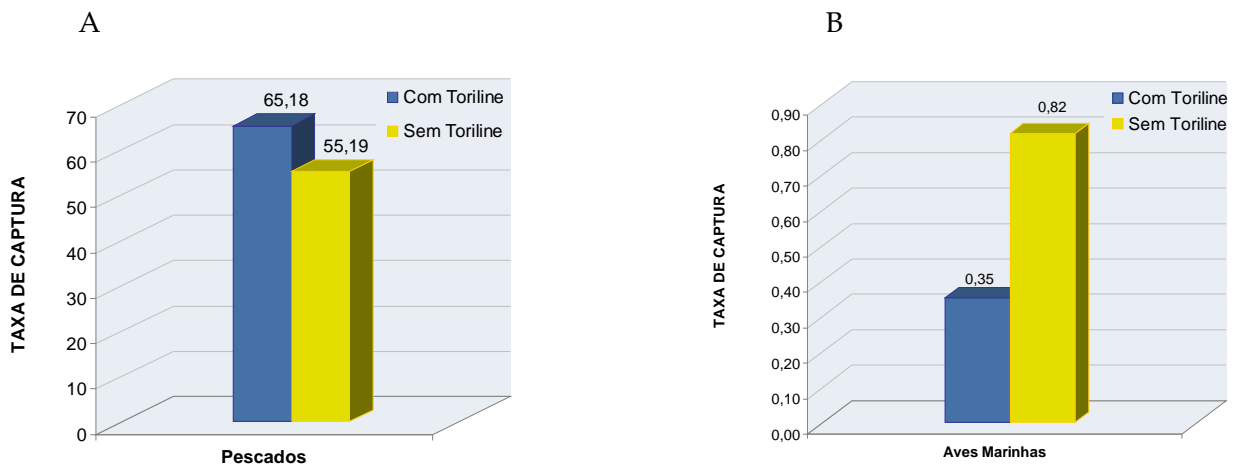


Figure 2. The distribution of ATF and Projeto Albatroz at-sea effort (blue dots represent ATF at-sea trips)



Figures 3 (A&B). Capture rates of target fish (Pescados) and seabirds (Aves Marinhas) with streamer lines (Com Toriline) and without streamer lines (Sem Toriline). Data were collected by a combination of the ATF, Projeto Albatroz and NEMA (Núcleo de Educação e Monitoramento Ambiental) instructors/observers

These results show clearly that the streamer lines markedly reduce seabird bycatch (3B) and also may confer an advantage on the fishermen (at least no disadvantage) in terms of increased catch (3A), presumably due to reduced bait loss from scavenging birds during line setting. Further data are currently being collected to expand this data set and to place an economic value on the cost/benefit of using streamer lines. While these data are preliminary, they present a very positive and encouraging picture in terms of the effectiveness of streamer lines in reducing seabird bycatch and they potentially provide an economic incentive to fishermen to adopt streamer lines. This situation highlights one of the key challenges of the ATF (and for all people working to reduce fisheries related bycatch of non-target species); which is that developing and testing a technical fix (mitigation measure) is only the first step towards solving the problem. Securing support from officials to have regulations or licensing conditions is part of the answer; and achieving adoption and compliance is the final and most challenging step in the process. This inevitably requires an incentive to fishermen (e.g. economic, political) to collaborate in the process and adopt mitigation measures as a standard part of their fishing operations.

Legislative Developments

An important achievement of Projeto Albatroz and the ATF in 2007 has been working with the government to draft a regulation in accordance with the NPOA-Seabirds Brasil for the mandatory adoption of mitigation measures. This draft is currently being considered by Brazilian environmental authorities, including IBAMA (Brazilian Institute of Environment and Natural Renewable Resources) and SEAP (Special Secretariat of Aquiculture and Fisheries of the Presidency of the Republic). The regulation will require the mandatory use of streamer lines, (double or single), combined with at least one

additional measure (night setting and/or blue dyed baits) for vessels operating south of 20°S, between May – November and year-round for vessels operating south of the 28°S, which is the region with the highest interactions with many albatross and petrel species from South Georgia, the Falkland Islands/Islas Malvinas and Tristan da Cunha.

From the outset, one of the aims of the ATF was to ensure that the delivery of conservation success and data collection on the ground would directly assist fishery managers and governments to develop appropriate regulations. The work in Brasil is already clearly demonstrating this success. In addition to working with the Brazilian government as described above, the results are already contributing to initiatives by the International Commission for the Conservation of Atlantic Tunas (ICCAT), the Regional Fisheries Management Organisation (RFMO) responsible for the management of tuna (and tuna-like species) in the Atlantic Ocean. At the November 2007 ICCAT meeting, BirdLife worked closely with delegations from Brasil, USA, South Africa and Uruguay, resulting in adoption of a requirement for all longline tuna vessels to use streamer lines when fishing south of 20°S, and a requirement for all swordfish vessels to set lines at night and use line weights. This mutual reinforcement of the ATF and BirdLife's advocacy work is proving extremely productive, and is something that we will continue to develop.

2008 Growth and Work Programme

The fishing fleet based in Itaipava harbour, on the southwest coast of Brasil is the largest and most diverse fleet in Brasil, and operates around harbours south of latitude 20°S. It is also one of the least understood in terms of seabird bycatch. This fleet is extremely diverse and targets several species using up to six gear types, including pelagic and surface longlining, bottom drop lines, two types of trolling, and hand lines. The primary target fish species are swordfish, mahi mahi and a range of tuna species (yellowfin, bigeye and albacore). The complexity of this fleet is increased by the fact that many vessels use different combinations of fishing methods depending on the season and availability of target species.

There are currently no observer programmes in this fleet but preliminary investigations (five cruises) conducted by Projeto Albatroz in 2006/07 recorded significant seabird bycatch levels, with an estimated bycatch rate of 0.44 seabirds/day in the trolling fishery and 0.56 seabirds/day in the handline fishery. The following species were recorded as bycatch: White-chinned and Spectacled petrel, Black-browed and Atlantic Yellow-nosed albatrosses.

There are currently no known mitigation measures for such multi-gear fisheries and quantifying and mitigating mortality in this fishery will be a challenging but important task for the ATF in 2008 and beyond. In addition, the team will continue to work with the fleets in Santos and Itajaí to increase the voluntary uptake of mitigation measures

and to oversee the introduction of mandatory regulations under the auspices of Brasil's NPOA-Seabirds.

2.2 Chile

In February 2007, three ATF (one full-time, two half-time) instructors started in Chile.

Pelagic Longline Swordfish Fishery

Their work is focused on the swordfish fishery based in the port of Coquimbo (northern Chile at 29°S) that operates around Juan Fernández Archipelago and as far west as Isla de Pascua (Easter Island) (Figure 4). Currently, this fishery is composed of eight artisanal or semi-artisanal vessels of between 17 and 26m in length and four industrial vessels between 33 and 54m in length. Typically, the fishing season begins in March and continues until December each year.

The smaller artisanal vessels spend approximately 20-25 days at-sea when targeting swordfish and one week when targeting shark species. Typically, they fish around the Juan Fernandez Archipelago. The industrial and semi-industrial vessels spend an average of 45 days at-sea and fish as far west as Isla de Pascua and beyond.

Each industrial pelagic longline set consists of approximately 1,200 hooks that stretch over 40 nm, whilst artisanal gear typically holds 800 to 1,000 hooks and extends around 25 nm. The estimated effort of the whole fleet is around 2.5 million hooks per year. This fishery has significant overlap with the foraging range of a relatively high number of threatened albatrosses and petrel species many of which have small population sizes and/or high threat status making them vulnerable to an increase in fisheries bycatch. This includes Black-browed albatross from Chile, and White-capped (*T. steadi*), Salvin's (*T. salvini*), Chatham (*T. eremita*) and Buller's (*T. bulleri*) albatrosses and Parkinson's (*Procellaria parkinsoni*) and Westland petrels (*P. westlandica*) from New Zealand. These New Zealand species migrate across the Pacific Ocean in the non-breeding season (austral winter) to the western seaboard of South America, arriving on the Chilean coast and then moving northwards along the Humboldt Current into coastal waters from Peru to Mexico and even California.

During the development of the Chilean NPOA-Seabirds an analysis of the incidental mortality of the swordfish fishery was solicited through the Fishery Development Institute (IFOP). This indicated that between 20 to 40 albatross were killed by the fishery each year, the majority being Black-browed albatross. Working with our project managers in Chile, Professor Carlos Moreno (Universidad Austral de Chile) and Dr. Rodrigo Hucke-Gaete (Centro Ballena Azul), this fishery was identified as the primary target fishery for the ATF in Chile as it was considered possible that the level of seabird bycatch in this fishery was higher than indicated. This possibility needed more thorough investigation, and potentially the introduction of appropriate mitigation measures, in

line with the NPOA-Seabirds. One full-time and one half-time post are working with this fleet

In addition, one of the two half-time posts is based in Valdivia (southern Chile), to work with a combination of artisanal longline fisheries and the southern demersal fleet, which also interacts with a diversity of threatened seabirds, and to produce educational materials for the key Chilean fleets.

In 2003, the second phase of the Chilean NPOA-Seabirds was enacted. Despite the fact that anecdotal data and limited observer data suggested that the fishery killed relatively few seabirds, the managers of the swordfish fishery agreed to adopt two mitigation measures across the fleet: (1) a 60g weighted swivel to be placed no greater than 1m from the baited hook, and (2) the use of streamer lines during daytime and night-time setting operations.

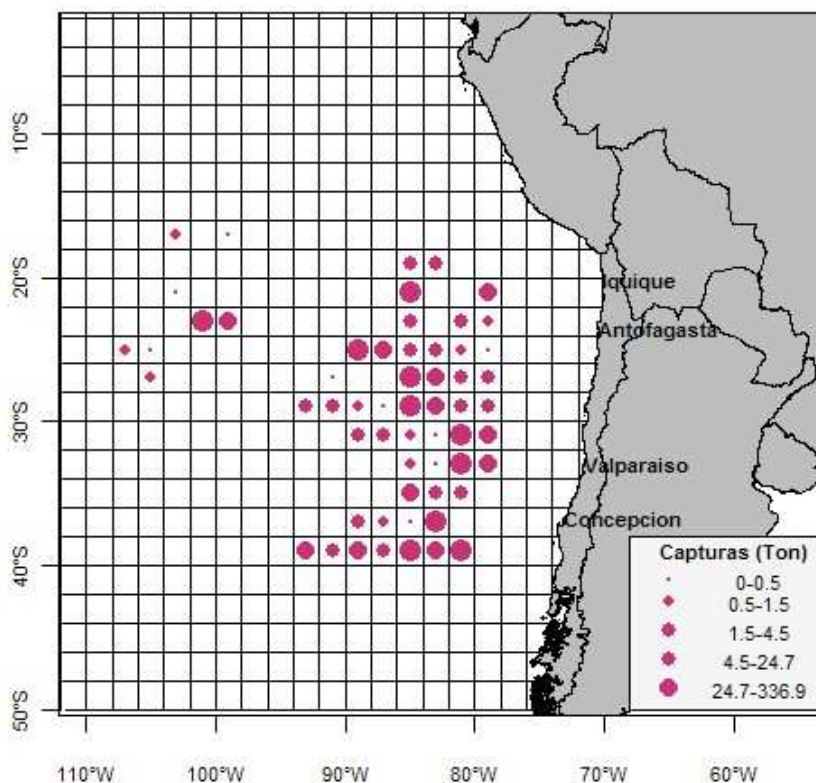


Figure 4. Spatial distribution of swordfish captures in 2005 (IFOP)

To understand the birds most at risk, and to establish an historical picture of bycatch in the fishery, one of the first tasks of the ATF was to work with the Northern Catholic University (Universidad Católica del Norte) to examine the carcasses of seabirds returned

to shore by IFOP observers in 2005-06. These autopsies revealed some unexpected and worrying results. As expected the fleet was killing a range of threatened species from New Zealand including White-capped, Buller's, Salvins, as well as Black-browed albatross (the last presumably from southern Chile populations) and White-chinned petrels, which is the most frequently killed species in the Southern Hemisphere⁵.

Unexpectedly, 'great albatross' of the wandering albatross complex were the second most abundant species grouping (behind White-chinned petrels) returned to shore. Although the juvenile stages of 'wandering' albatross are not easily distinguished, these birds were either Wandering albatross, Antipodean albatross *D. antipodensis antipodensis* or Gibson's albatross *D. antipodensis gibsoni*. Based on what we know about the migration of juvenile birds from South Georgia (Wandering albatross) and New Zealand (Antipodean and Gibson's albatrosses), it is more likely that these birds would be Antipodean rather than Gibson's or Wandering albatrosses from South Georgia (R. Phillips (British Antarctic Survey), *pers comm.*). While the sample was not representative of the entire fleet over the two-year period, the data did suggest that there is a bycatch problem in the fleet that needs addressing.

At-sea Effort

These autopsy data were supported by at-sea data collected by ATF instructors, particularly on an 81 day trip conducted from August to October 2007. Fishing activity during this trip was centred around the Juan Fernandez Islands and 62 lines were set with a total of 65 seabird mortalities recorded. Bycatch consisted of seven species from 23 of the 62 observed sets, including 38 Black-browed albatross, 13 White-chinned petrels and nine 'Wandering albatross'. This is considered a high number of 'Wandering albatross', particularly given their declining status. On South Georgia, where there has been a 30% decline in breeding pairs since 1984, the population has, since 1997, been decreasing at a rate of over 4% per annum since 1997⁶.

Based on these data and those collected from other ATF trips conducted in 2007, it is estimated that for the approximately 60 voyages conducted by the fleet until December 2007, the estimated seabird mortality level for the swordfish fishery ranges between 517 and 923 birds. The historical autopsy work and ATF 2007 data indicate that mortality of 'Wandering' and Black-browed albatrosses and White-chinned petrels is of concern and that further data are required to determine the level of mortality for a variety of New Zealand breeding species (e.g. White-capped, Buller's and Salvin's albatrosses) (Figure 5).

⁵ Weimerskirch, H., A. Catard, P.A. Prince, Y. Cherel and J.P. Croxall. 1999. Foraging white-chinned petrels *Procellaria aequinoctialis* at risk: from the tropics to Antarctica. *Biological Conservation* **87**:273-275.

⁶ Poncet, S., Robertson, G., Phillips, R. A., Lawton, K., Phalan, B., Trathan, P. N. and Croxall, J. P. (2006). Status and distribution of Wandering, Black-browed and Grey-headed albatrosses breeding at South Georgia. *Polar Biology*, **29**: 772-781.

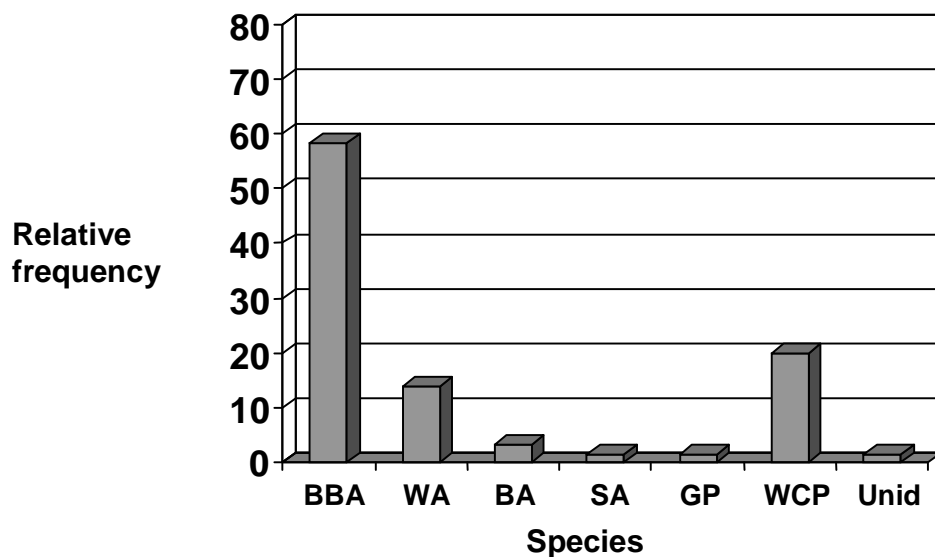


Figure 5. Incidental mortality of seabirds during the August-October 2007 trip around the Juan Fernandez Islands expressed as relative mortality (%). (n=65). (BBA: Black-browed albatross, WA: Wandering albatross, BA: Buller's albatross, SA: Salvin's albatross, GP: Giant petrel, WCP: White-chinned petrel, Unid: Unidentified albatross)

A good example of the complexity of what the ATF is trying to achieve is exhibited from recent trips in Chile when seabirds badly damaged some swordfish before they were hauled onboard (Figure 6 A&B). This creates a difficult situation because the good will created via workshops, educational materials and at-sea trips can be quickly undermined if valuable catch is destroyed. The Chilean team is investigating the frequency of this problem and potential mitigation options.

A



B



Figures 6 (A&B). Damage caused by seabirds (predominantly Giant-petrels) to swordfish catch in Chile (ATF Chile).

Compliance with Mitigation

Port visits and at-sea trips by ATF instructors suggest that in accordance with the NPOA-Seabirds, there was 100% compliance with the adoption of 60g weight on dropper lines. During workshops several fishing captains also discussed the improved gear performance with additional weighting, which greatly encourages compliance with regulations. This is an excellent example of creating incentive for change.

However, evidence suggests that compliance with the use of streamer lines has been lower. Two reasons are given for this:

- 1) There is currently no standard streamer line design for the two types of vessel (large and small); and
- 2) For many artisanal fishermen, streamer lines constitute an additional cost.

In the short-term the second problem is relatively easily solved by providing vessels with streamer lines. The issues of streamer line design are being addressed through on-going work with industry and collaboration with Washington Sea Grant to develop 'best practice' streamer lines for pelagic longliners (see Section 3.1).

Workshops in Coquimbo

In February 2007, just prior to the fleet commencing fishing for the season the ATF team conducted two workshops in Coquimbo; one for the captains and crews of the swordfish fleet and one for the IFOP scientific observers that work with the fleet. The fishermen's workshop focused on discussing the implementation of the NPOA-Seabirds, the interaction between the fishery and the migratory routes of seabirds and review of the mitigation measures proposed in the NPOA-Seabirds in light of current best practice mitigation for pelagic longline fisheries.

The workshop for observers focused on seabird identification for scientific observers. Specifically developed educational materials were distributed at both workshops.

2008 Work Programme

The level of bycatch recorded in the swordfish fishery is markedly higher than previously thought and in 2008 the team will work to better quantify the scale of the problem and the species most at risk. They will continue to advocate compliance with the NPOA-Seabirds requirement for the use of 60g swivels in combination with streamer lines for all setting operations (day and night). The team will also be heavily involved in mitigation research to improve streamer lines for pelagic longline fisheries (see Section 3.1). A series of workshops with the industry is planned for Coquimbo, the first being in February 2008, prior to the fleet commencing the new season.

2.3 South Africa

The ATF in South Africa was the first team to commence work, in March 2006, as a project called 'Operation Ocean Task Force', the precursor of the ATF. We have come a long way since then and progress made in South Africa, a region that has a large and diverse range of fleets, each with their own specific bycatch issues, has been encouraging.

Currently, the team is working with five fleets:

Demersal Longline Fishery

The fleet targets Hake, *Merluccius capensis* and *M. paradoxus* and is comprised of up to 70 locally flagged vessels using the Spanish (double line) system (see Annex 1b). This system has lines that extend along the seabed for up to 30km, each with up to 10,000 hooks. Due to the work of BirdLife and WWF in recent years, including significant mitigation research and development, seabird bycatch rates in this fleet have been greatly reduced and this fishery was not the primary target for the ATF in 2008. A one month-long trip was conducted in this fishery in 2007, during which no seabird mortality was recorded. However, the level of compliance with the mandatory requirement for the use of streamer lines during all setting operations (day and night) was very low, and the team has been working with both the fisheries managers, Compliance Officers and fishermen to improve the current streamer line design in order to reduce foul-ups with the gear and consequently improve compliance.

The ATF annual estimate of seabird mortality rate for 2006/07 was 0.004 birds/1000 hooks, predominantly White-chinned petrels. However, these data are limited in their temporal (seasonal) distribution.

Pelagic Tuna and Swordfish Longline Fishery

The fleet targets Yellowfin, Bigeye tuna and Albacore and is comprised of 30 tuna and 20 swordfish licenses, made up of a mix of locally flagged and foreign (Asian) vessels (for a typical pelagic longline system see Annex 1a).

The ATF baseline seabird mortality rate calculated for 2006/07 was 0.34 birds/1000 hooks, predominantly White-capped and Black-browed albatrosses and White-chinned petrels. Based on the three trips conducted in 2007 (February to August) the estimated mean mortality rate was 0.3 birds/1000 hooks, which suggests a similar bycatch rate to 2006/07, although no mortality was recorded on two of the three trips conducted. It will be essential in 2008 to increase coverage on this fleet to develop a more robust estimate of bycatch and to work to improve streamer line designs to help ensure their uniform uptake across the fleet, in combination with appropriate line weighting.

Hake Trawl Fishery

This fleet targets the same two hake species as the longline fishery and consist of approximately 80 vessels that operate off-shore (Figure 8).⁷ In April 2004, this fishery was granted Marine Stewardship Council (MSC) Certification⁸ and a condition of which (Condition 7) stated that '.....Accordingly, appropriate and quantifiable studies should be carried out within the trawl industry to determine the extent of [seabird] interactions...Appropriate mitigation measures should be implemented where trawl

⁷ There is also an inshore fleet that operates within 20nm of the coast and consists of small vessels that place their catch on ice, these are classed as 'wet' vessels. No trips were conducted on these vessels in 2007.

⁸ <http://www.msc.org/>

fishing constitutes an important component of total mortality on protected or threatened populations⁹

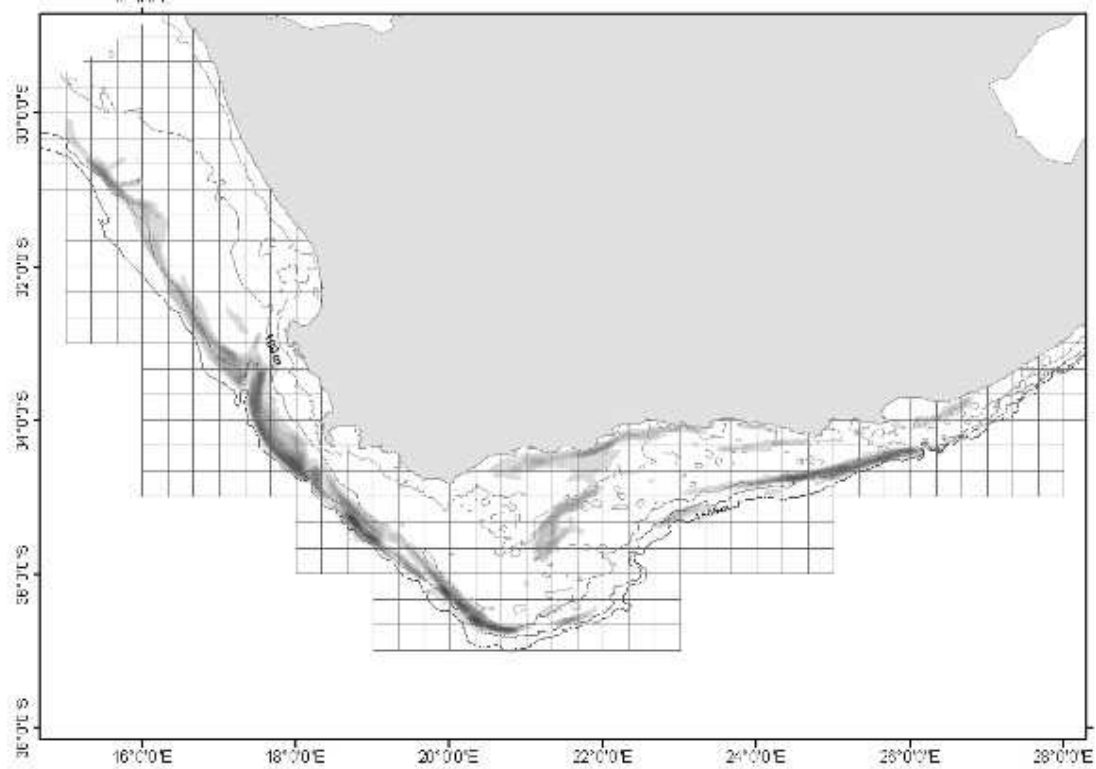


Figure 7. Inshore and deep-sea trawl effort in South African waters (2005/06) (CapFish, Cape Town)

This Condition of Certification led to the creation of an industry levy to fund an observer to investigate interactions and develop an annual estimate of mortality. The results of this work indicated that the fishery had a serious bycatch problem. In 2005/06 it was estimated that 18,000/seabirds ($\pm 8,000-31,000$) (70% of which were albatross) were killed in this fishery. This was comprised of 39% White-capped, 29% Black-browed albatross, 14% Cape gannets (*Sula capensis*) and 9% White-chinned petrels.

As a result of this alarmingly high estimated level of mortality, the ATF worked with the fleet to trial and design the most effective streamer line design (to scare birds away from the area where the cable enters the water at the stern of the vessel, Figure 8) to reduce mortality as quickly as possible. The ATF team also worked through government

⁹ Moody Marine (2004) Final Certification Report of the South African Hake Trawl Fishery. Moody International Certification, Salisbury House, Derby, UK.

channels to lobby for the mandatory use of streamer lines and prohibition of offal discharge during setting operations.¹⁰ These license restrictions came into force in July 2006. Since this time, the ATF has distributed 100 pairs of streamer lines to the fleet and has put considerable effort into working with the industry and Compliance Officers to ensure that these measures are followed. (See Annex 2 for a description of seabird mortality in trawl fisheries).

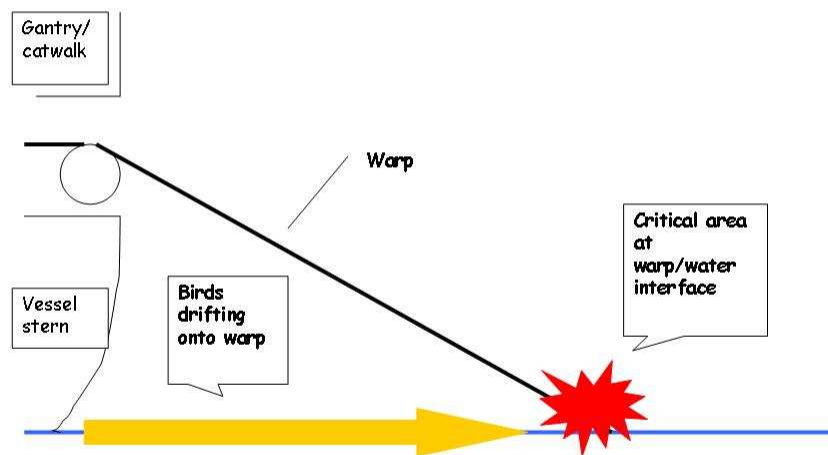


Figure 8. The stern of a trawler highlighting the critical area where birds scavenging offal discharge are struck by the warp cable.

Compliance with Mitigation

Eight trips were conducted in the deep-sea hake trawl fishery in 2007, indicating that the level of compliance with the prohibition on offal discharge during shooting and hauling was very low. Most vessels continued to discharge offal during these periods and compliance with the deployment of streamer lines has varied considerably depending on the time of day. It is estimated that during daylight hours around 80% of vessels deployed streamer lines, but that during the night and the first shot in the morning (when there is typically no offal discharge) compliance levels are very low, possibly as low as 20-30%. Around 40 hours of experimental data collected with and without streamer lines suggests that when they are deployed streamer lines are >90% effective at reducing seabird mortality¹¹, with strong cross winds being the conditions under which

¹⁰ Offal discharge is the primary attractant for birds to a vessel and prohibiting this during shooting and hauling greatly reduces interaction with seabirds during these periods.

¹¹ Greater than 90% reduction in bycatch was achieved in the Falkland Island/Islas Malvinas trawl fleet in the 12-months following the introduction of streamer lines.

the streamer lines are least effective. However, due to two changes in ATF personnel in 2007, the level of coverage required to provide a statistically robust bycatch estimate across the fleet was not sufficient.

As discussed earlier in this report one of the key challenges is to provide the incentive for industry to use mitigation in combination with government providing the regulatory framework and resources to ensure compliance. The focus of the ATF in this fishery in 2008 will be working with MCM (Department of Marine and Coastal Management), CapFish (a Cape Town based company responsible for the placement of scientific observers) and the industry to increase the level of compliance with both streamer lines and offal discharge restrictions, and to continue to work with industry to improve streamer line design and investigate longer-term solutions, such as offal management. Importantly, this fishery is currently undergoing Reassessment for MSC Certification, and ATF/BirdLife input will form a critical part of this process, as our data indicate that, in order to justify Certification for a further 5 years (2008-2012), considerable improvement is required by the fishery in terms of taking steps to reduce seabird bycatch. Certification is a huge economic incentive to the managers and operators in the fishery, conferring market security for their product. The findings of the ATF will be used to concentrate attention on the corrective actions needed to ensure compliance of the fishery with the MSC standard and Certification.

Workshops and Interviews

A total of 25 harbour visits and 14 workshops were held over the course of the year and this included all the major ports for the three primary target fleets (tuna longline, hake longline and hake trawl). The workshops ranged in size from 10 attendees to >50. In addition, 99 port-side interviews with captains and crew were held across these ports.

Most (but not all) of these activities occurred in the two main harbours of Cape Town: Cape Town harbour and Hout Bay (Figure 9). Hout Bay harbour is the base of a large hake longline fishery with a small number of pelagic longliners as well as pelagic trawlers, tuna pole and line fishery, crayfish and other small fisheries.



Figure 9. Location of key harbours of the Cape (South Africa) (CapFish, Cape Town)

Training: Fisheries Observers and Compliance Officers

To build the links and government support required to ensure an understanding of the need for measures to be taken to reduce bycatch, and to enforce compliance with mitigation measures, the team has put considerable effort into training Fisheries Officers, and particularly Compliance Officers. Training courses held around South Africa have been attended by 27 Fisheries Officers and 34 Compliance Officers. The level of support from the Department of Marine and Coastal Management has been extremely encouraging.

In March 2007, a government Compliance Officer issued the first infringement notice and fine to a hake longliner for failing to have a set of streamer lines onboard during a port inspection. This was followed by three other fines across ATF target fisheries.

- July –swordfish vessel
- October – hake longline vessel
- November – hake trawler

This was a significant result as it was a direct outcome of cooperation and support received by the Compliance Officers following on from a training workshop held by the ATF team. There is obviously considerable work to be done to ensure all Compliance Officers are proactive in terms of mitigation requirements, and that the correct deployment of streamer lines (not just their presence onboard) is monitored, but these

were significant steps in the right direction and exhibit a greatly increased awareness of the steps required to reduce seabird bycatch in South Africa.

Pole-and-line fishery

This fishery targets a range of tuna species and is limited to a maximum of 200 small vessels. Generally, pole-and-line vessels are smaller than the tuna and swordfish longliners and therefore cannot fish in extreme weather conditions. Trips are usually much shorter (3-5 days) compared to the longliners (10-28 days) and so fishing grounds are limited to the continental shelf (not further than 45 miles offshore).

Over the last year the team have heard repeated stories of birds being captured and some deliberately killed, in the pole-and-line fishery. The vessels operate by locating deep-water trawlers and longliners targeting hake, they then position themselves to steam slowly astern of the larger hake vessels to trace schools of fish which are attracted to their offal discharge. Once the fish are located the boat stops and uses burley/bait to attract the fish. The rod is baited with a whole pilchard and the pole with artificial bait (called "bird" by the fishermen). Once this operation is no longer successful the vessels steam off and commence trolling. Trolling lines are dragged behind the boat carrying artificial baits. The vessel will steam towards the next fishing area where the procedure is repeated.

One investigative four-day trip was conducted in May 2007 on a vessel targeting Yellowfin tuna. Four birds were caught during trolling (one White-capped albatross and three Cape gannets), all four birds had the hooks removed and were released alive. Seabird interactions within this fishery need further investigation as interviews with skippers suggest there is a reason for concern as clubbing of birds stealing bait has been reported. Given the high priority of other fisheries, a decision as to whether to conduct ATF trips in 2008 will be based on resources and time.

Distant Water Asian Tuna Fleet

One of the primary issues for the team in 2007 was the unacceptably high number of birds being killed in the Asian tuna pelagic fleet. This fleet has a permit requirement for 100% observer coverage and data returned to CapFish, indicates that 1,059 seabirds were killed between June and December 2007 at a catch rate of 0.36 birds/1,000 hook, these were predominantly White-capped and Black-browed albatrosses and White-chinned petrels. In response to efforts made by BirdLife and WWF (South Africa) working with both CapFish and MCM a Seabird Task Group was established. The ATF team worked closely with WWF South Africa to advocate for a new suite of regulations for foreign licensed vessels through this process, and a proposal was submitted to MCM¹².

¹² A copy of a position paper prepared by WWF and BirdLife to advocate for stricter regulation of this fleet, including the introduction of the bycatch threshold, is available upon request to Ben Sullivan ben.sullivan@rspb.org.uk

After several meetings of the Task Group, amendments were made to the 2007 permit conditions, and MCM approved the 2008 permit conditions which, amongst a range of new measures, include:

- 1) a prescribed sink rate of 0.3m/second, or a depth of 10m no further than 150 metres behind the vessel
- 2) a requirement for streamer lines (prescriptive design provided) to be deployed for all setting operations (night and day)
- 3) a mortality threshold of 25 seabirds per vessels, after which more stringent regulations are imposed (e.g. setting restricted to night, setting prohibited for 3 days around the full moon, demonstrated sink rates in excess of 0.3 m/second) and if a further 25 birds are killed the vessel is excluded from the fishery for the remainder of the season.

This was a very positive outcome and the 2008 season will be critical in determining how effective these measures will be in tackling what is a chronic bycatch problem. The most effective way the ATF can contribute to reducing bycatch in this fishery is to help to improve the standard of the current observer programme, in terms of the implementation of 'best practice' mitigation measures. The ATF have worked closely with Capfish and MCM to establish a formal briefing and debriefing process for observers in this fishery. This will enable ATF instructors to work more closely with these observers to: (a) improve data collection standards in respect to bycatch of non-target species; (b) greatly increase the education of these fishermen on the need for effective mitigation; (c) help provide observers with the knowledge and confidence to ensure vessels are compliant with fisheries regulations, including the new seabird mortality thresholds.

Database Development

Throughout 2007, the South African team worked with the technical assistance of WWF and CapFish to develop a new database that includes not only the standard at-sea variables (environmental and operational) but also incorporates all on-shore information into one centralised database. Such data include full contact information for fishing companies, details of vessel and port visits, attendees to workshops and the dissemination of mitigation measures. The database is now complete, and in December 2007 Meidad Goren visited the Brazilian ATF team to exchange experiences and information and to work with them on a centralised ATF database, before visiting the newly appointed ATF Coordinator in Chile (see Section 3.3) to advance this process further. The development of a centralised ATF database based on common data fields from all ATF teams will be a powerful tool for the ATF.

3. Development of the ATF

3.1 ATF Mitigation Research

One of the key objectives of the ATF is to provide a resource to assist in the research, development and use of new mitigation measures. Increasingly, the ATF is being recognised as the most skilled group of practitioners available to assist in mitigation research in longline and trawl fisheries.

During 2008, the ATF will be involved with a range of mitigation research projects. The teams in South Africa, Chile, Brasil and Uruguay will be supporting projects coordinated by Dr Ed Melvin (Washington Sea Grant) and Dr. Graham Robertson (Australian Antarctic Division), who are world leaders in mitigation research, development and implementation. Dr Melvin's project will concentrate on the development of improved streamer lines for pelagic longliners and Dr Robertson's project will focus on the testing and implementation of a bait setting capsule for pelagic longliners. The former project is likely to be undertaken in Chile and South Africa and the latter will start in Uruguay, before potentially expanding to other target fisheries.

In addition, the GSP have secured funding from the David and Lucile Packard Foundation to conduct thorough testing of 'safe leads', which is a new line weighting system developed collaboratively between the BirdLife Global Seabird Programme and Fishtek, a UK based engineering firm. While we always advocate for the adoption of a suite of measures that work in combination, it is widely recognized that increasing the sink rate of the baited hook is one of the single most effective means of reducing seabird bycatch in pelagic longline fisheries. Traditionally line weighting in pelagic longline fisheries has involved adding weighted swivels to branchlines/snoods. These weights increase the sink rate of the branchline (and therefore the hook) and reduce seabird bycatch by reducing the time during which the hook is within the dive depth of foraging seabirds.

However, many fishermen are understandably reluctant to use weighted swivels on the basis of concerns about safety. Conventional leaded swivels (also referred to by fishermen as 'lead bullets') can be extremely dangerous for fishermen. The problem occurs during a bite-off¹³, when the swivel can slingshot towards the boat at dangerous speed (A 2.0mm diameter branch line will accelerate a 60g leaded swivel to speeds of 500km/h). A number of fishermen have been seriously injured and two deaths have been recorded (one in New Zealand and one in Hawaii) as a result of being hit by a lead swivel after a bite-off. The Safe lead is a completely new approach to line weighting in

¹³ A bite-off typically occurs when sharks are hauled to the surface and swim hard away from the vessel, which stretches the branchline to breaking point; causing a line breakage at or near the hook. Under current operations, this causes the weighted swivel to catapult back toward the boat.

pelagic longline fisheries and relies on using the force on the broken line to slide the weight down the line when a bite-off occurs, rather than catapulting back into the boat.

In addition to a range of experiments being conducted on safe leads from around the world (e.g. in Australia, New Zealand and Hawaii), the ATF in South Africa will be conducting dedicated trials in March/April 2008. We look forward to reporting on the outcome of these series of trials and developing strategies for the uptake and implementation of those measures that prove successful in trials.

3.2 Recent Expansion of the ATF

3.2.1 Uruguay

In December 2007, the ATF officially started work in Uruguay with two instructors employed to work in their pelagic longline fishery. We have established a collaboration between the BirdLife partner, Aves Uruguay and a local NGO, Proyecto Albatros y Petreles de Uruguay (PAP) who have an excellent track record of working with fisheries to reduce bycatch, and also have strong links with the local government department responsible for fisheries management Dirección Nacional de Recursos Acuáticos (DINARA).

The Uruguayan pelagic longline fleet currently consists of 12 fishing vessels, ranging in length from 15m to 35m, which use monofilament longline and operate in the Uruguayan EEZ (on the continental shelf and slope) and adjacent international waters (between 20° - 40° S and 20° - 50° W). The confluence of the Brasil and Falkland/Malvinas Currents, together with the nutrient-rich freshwater discharge of the Rio de la Plata and Patos Lagoon, allow for a great biological productivity in this area. The main target species are swordfish, pelagic sharks (e.g. *Carcharhinus* spp, *Isurus oxyrinchus* and *Prionace glauca*) and Yellowfin and Bigeye tuna.

In many ways, Uruguay is in the most urgent need of the Albatross ATF. The shelf break region of Uruguay provides rich foraging grounds for a range of albatross and petrel species and historically some of the highest recorded bycatch rates have come from this area, with catch rates as high as 4.7 birds/1000 hooks being recorded in the mid 1990s.

Between 1998 and 2006, 54 commercial fishing trips and 1,132 sets were monitored by the National Observers Program (PNOFA) of DINARA and PAP. A total of 584 seabird entanglement were recorded, 563 of which were mortalities. This represents a capture rate of 0.26 birds/1000 hooks. Black-browed albatross was the most frequently caught species followed by Yellow-nosed albatross and White-chinned petrel (Figure 10).

Significant numbers of Wandering albatross (many banded at South Georgia) were also caught. As South Georgia populations are declining at around 4-5% per year, and this

rapidly increasing rate of decline is occurring in a breeding population that has already halved in size since the early 1970s, every mortality of these birds needs to be prevented. Achieving this in Uruguay through the adoption of effective mitigation measures is critical to halting the decline of Wandering albatross and several other threatened species (e.g. Tristan and Black-browed albatrosses).

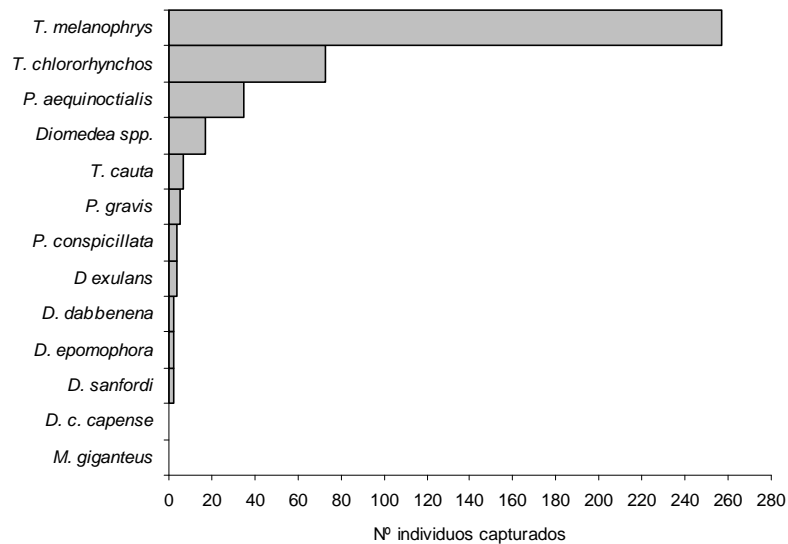


Figure 10. Number of individuals of seabird species captured by the Uruguayan longline fleet between 1998 and 2006 (Proyecto Albatros y Petreles de Uruguay)

Like other countries targeted by the ATF, Uruguay has recently adopted a NPOA-Seabirds, and the ATF will be key to helping deliver the objectives of this plan.

3.2.2 Argentina

In January 2007, the ATF commenced work in Argentina. The BirdLife partner Aves Argentinas will manage the project with the support of a range of people in Argentina, including personnel from the University of Mar del Plata. Initially, one instructor was hired to target the large factory trawler fleet that operates on the Patagonian Shelf and shelf break areas, after six months we will consider employing a second instructor. In recent years high levels of mortality in the demersal trawl fleet in the Falkland Islands/Islands Malvinas and surrounding high seas waters to the north of the archipelago suggests that high levels of albatross and petrel mortality could extend north up the Patagonian Shelf. The factory trawler fleet on the shelf target comparable species and have similar levels of discharge to the Falkland Islands/Islands Malvinas fleet, so it seems likely that at certain times of the year, particularly in the winter (non-breeding) months and during incubation when breeding adult Black-browed albatross forage north on the Patagonian Shelf, the fleet has the potential to cause significant levels of mortality.

The ATF instructor will focus on investigating the nature of seabird interactions with the fleet, quantifying the scale of mortality and working with government and industry to mitigate any problems through the adoption of mitigation measures.

The ATF project will collect data on seabird interactions that is vital to supporting current moves to develop a NPOA-Seabirds and also to contribute to Argentina's recent ratification of ACAP.

3.2.3 Namibia

Interviews for the recruitment in Namibia were held in early February 2008 and two instructors will commence work at the beginning of April.

The rich waters of the Benguela Current that lie off the coast of Namibia are critically important for the conservation of a range of albatross and petrels from South Georgia and Tristan da Cunha and several species that breed on the Marion and Prince Edward Islands. The BCLME bycatch project (*The Bycatch of Seabirds, Turtles and Sharks in Longline Fisheries in the Benguela Current Large Marine Ecosystem: An Integrated Approach*) reports that Namibian longline fisheries kill approximately 30 850 birds per annum (200 by the pelagic longline fishery and 30 650 by the demersal longline fishery) and currently no regulations are in place to mitigate this impact. The scale of bycatch in the 100 vessel trawl fleet fishing for Horse mackerel (*Trachurus trachurus capensis*) is largely unknown. The two instructors will work with the longline and trawl fleets to assess the scale of the problem and to introduce improved mitigation. In 2007, Namibia adopted a NPOA-Seabirds, so the ATF is seen as a critical link to help deliver the objectives of this plan and to further strengthen its conservation outcomes.

The two instructors will be employed by the Namibian Nature Foundation (NNF) and will be based at the offices of the Ministry of Fisheries and Marine Resources (MFMR) in Swakopmund. This relationship with government should provide us with good access to industry and government stakeholders that we need to make the project work in the region. The instructors will be managed by BirdLife South Africa in collaboration with NNF and MFMR.

3.3 ATF Coordination

Since the initial planning phases of the project, we recognized that once the ATF reached a critical size of around 10 instructors, a dedicated coordinator would be required to help manage the team. To meet the coordination requirements of the greatly expanded ATF, in September 2007 we hired a half-time coordinator (Oli Yates), who is based in Coquimbo, Chile. Oli has several years experience working with fishermen to reduce seabird bycatch, is bilingual (English/Spanish) and is based at the primary port for the Chilean ATF. Initially the post was half-time, but in January 2008 it was decided that, given his workload, a full-time post was required. Ben Sullivan (Global Seabird Programme Coordinator) and Esteban Frere (Global Seabird Programme South

American Coordinator) will retain responsibility for the strategic development of the ATF and will continue to conduct the discussions, negotiations and contracting required to put teams in place. Oli Yates will be responsible for internal and external communication and the development of systems and structures to ensure an integrated and effective team that incorporates and maximises the strengths of ATF in-country project leaders and instructors.

Already we are seeing the benefits of having additional resource (based in South America) to help coordinate and further develop the ATF. One of the key challenges is to create an international 'team', rather than simply a set of in-country projects. One of the main tasks of the new coordinator is to increase and stimulate communication between teams and ensure that this information is disseminated to all stakeholders. An example of some of the key initiatives that Oli is working on are:

- Improved standardised reporting structures
- Working with project management to refine performance/success indicators for the programme
- A web-based discussion forum for instructors to exchange information and experiences
- Increased web-based and media friendly outputs
- The development of standardised data collection protocols across ATF teams and the subsequent building of a centralised data base
- Working with teams to develop targeted educational materials
- To generally act as conduit for communications between the ATF and RSPB/BirdLife

Performance Indicators

It is critical that we are able to objectively assess the success of the project in reaching its primary conservation objective. To do so, we are developing a range of performance /success indicators. The deliverables for each country [and fishery] are a different combination of awareness, capacity building, observer-based bycatch data, the uptake of mitigation measures and working to strengthen regulatory frameworks to reduce seabird bycatch, and these are largely determined by the incentives already in place. For example, in some cases the initial projective objective will be to raise awareness of the conservation issues and the need for mitigation [Type I fisheries], and in other fisheries [Type II fisheries] indicators such as the level of adoption of mitigation measures will serve as a more direct measure of success.

An example of indicators being developed include:

- Number of workshops and attendees
- Level of instructor coverage at-sea
- Development and dissemination of training materials
- Dissemination of mitigation measures
- Establishment of a centralised ATF database
- Voluntary uptake of mitigation measures
- Industry incentive structures in place [reflected in fisheries regulations]

Although it is difficult to ascertain the direct cause of seabird population recoveries, in the long-term, reductions in seabird mortality achieved by the ATF should be reflected in decreased population declines and/or population recovery.

3.4 The Future

3.4.1 Medium term (2008-2009)

Enhancing knowledge and information exchange within the ATF will greatly increase our effectiveness, which is an important goal for 2008. We will also continue to investigate the feasibility and practicalities of expanding the ATF into Peru and Ecuador. However, given that fisheries in these countries are dominated by large artisanal fleets that operate from small coastal ports, the nature and objectives of the ATF in these countries will need to be considered and constructed carefully, to ensure that we have an effective engagement and maximum impact. This will build on the recent BirdLife workshop on seabirds in Peru¹⁴ and initiatives underway in Ecuador and Peru through ACAP, which also involve the BirdLife partner in Ecuador (Aves y Conservacion) and Esteban Frere as the GSP South American Coordinator.

One of the key strategies for the ATF is to strengthen our government and industry links by assisting the implementation of NPOA-Seabirds. In all cases where the ATF is currently working a NPOA-Seabirds has either been officially adopted (Brasil, Namibia), is in the process of being implemented and adopted (Chile and South Africa) or currently being drafted (Argentina). By providing key resources, techniques and mechanisms to help implement these plans we are securing the support required to meet our goals and objectives.

¹⁴ BirdLife International/American Bird Conservancy, Workshop on Seabirds and Seabird-Fishery Interactions in Peru, 25-27 June 2007, Lima, Peru. Available in English and Spanish upon request from Ben Sullivan, ben.sullivan@rspb.org.uk

3.4.2 Long term (2010 onwards)

Currently, the ATF works with national fleets and foreign flagged vessels (distant water fleets) licensed to operate in Exclusive Economic Zones (EEZs) and we are also increasingly recognising the need to influence national observer programmes. In most cases the scale of national observer programmes far exceeds the size of ATF teams, so by strengthening the bycatch related elements of these programmes and demonstrating the effectiveness of mitigation measures to reduce seabird bycatch both in terms of operational issues and also cost effectiveness programmes we can greatly increase the impact of the ATF across the board.

Discussions about the strategic expansion of the ATF have included maximising contacts made with operators of distant water fleets in EEZs and those made within RFMOs in order to move beyond national fisheries to target key distant water fleets (e.g. Japan, South Korea, Spain and Taiwan) which operate on the high seas. This is a long-term objective and if successful will take several years to negotiate and develop. However, by dealing with fleets in both EEZs and on the high seas, the ATF would have the opportunity to transfer skills and knowledge to reduce seabird bycatch across the majority of Southern Ocean longline fisheries. Work with these fleets would also provide vitally needed data from these fleets, which would feed into advocacy work with RFMOs, a significant component of which specifically addresses appropriate levels of trained seabird observer coverage. To achieve this it will be necessary for the ATF to strengthen links with national or regional observer programmes of key distant water fishing nations, which will be a challenging process.

The ATF is in its early stages of a long-term project. We achieved some very promising results in its first year, and in 2008 steps will be taken to consolidate the project in the countries in which we are based and to investigate opportunities for expansion within those countries and also into new regions where urgent steps are required to reduce seabird bycatch. This will involve a continuation of the current ATF model and may also require new and innovative thinking to be effective in larger artisanal fleets and on the high seas.

Acknowledgements:

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Namibia- Chris Brown (Namibian Nature Foundation), and Ben van Zyl, Beau Tjizoo and Janine Basson (Ministry of Fisheries And Marine Resources)

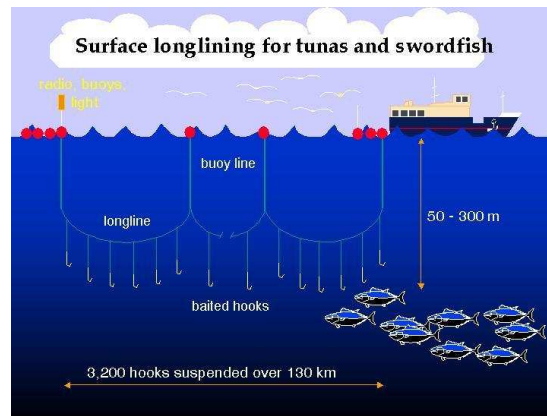
South Africa- Barry Watkins (BirdLife South Africa) and Samantha Petersen (BirdLife South Africa/WWF South Africa), Barrie Rose (Irvin & Johnson), Anel Norties (Marine and Coastal Management) and Peter Ryan (FitzPatrick Institute of African Ornithology)

Uruguay- Andrés Domingo (Proyecto Albatros y Petreles de Uruguay) and Augustin Carriquiry (Aves Uruguay)

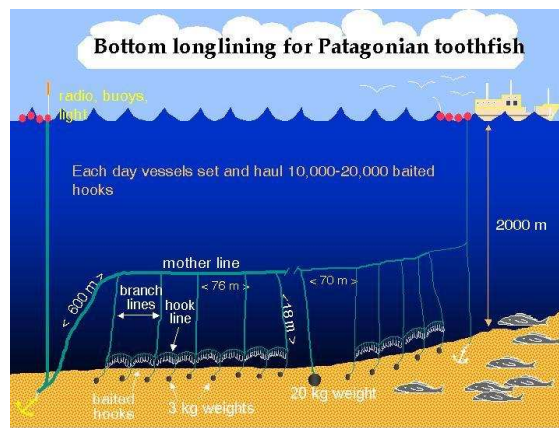
The greatest debt is owed to the dedicated instructors of the ATF (see Table 1) who spend a significant proportion of the year often in harsh conditions away from family and friends working tirelessly to do what it takes to Save the Albatross (and petrels!).

Annex 1. The three predominant longline gear types. A. Pelagic gear; B. Spanish (double line) demersal system, and C. Autoline (single line) demersal system.

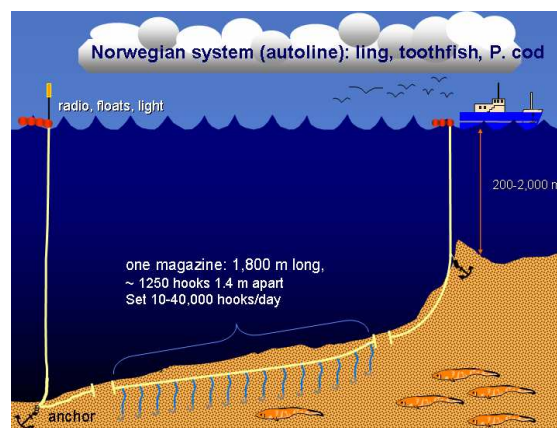
A



B



C



Annex 2. An introduction to seabird mortality in trawl fisheries

Recent declines of many albatross and petrel species throughout the world have been attributed to mortality in longline fisheries. However, high levels of mortality caused by stern trawlers have recently been recorded around the Southern Hemisphere.¹⁵ The causes of mortality in trawl fisheries are varied and depend on the nature of the fishery (pelagic or demersal) and the species targeted, however, it may be categorised into two broad types:

- cable related mortality, which includes collisions with netsonde cables, warp cables and paravanes (see Figure 11)
- net related mortality, which includes all deaths caused by net entanglement

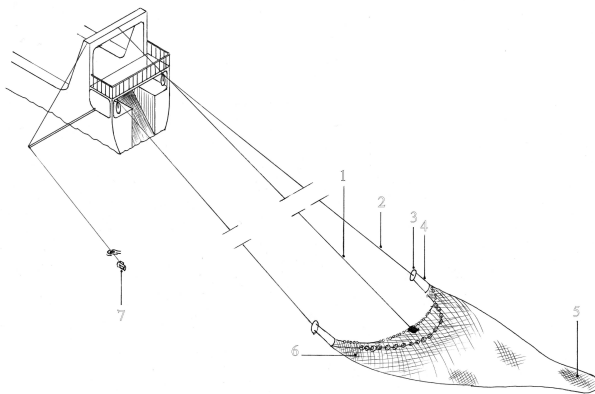


Figure 11 The working gear of a typical factory stern trawler (N.B. vessel are unlikely to operate with both a net-sonde cable and paravanes, as both are used to electronically monitor the position and operation of the net; both are shown simply for clarification)

Legend

- | | |
|--------------------|---------------------|
| 1. net sonde cable | 2. warp cable |
| 3. trawl door | 4. bridle and sweep |
| 5. cod-end | 6. net-wings |
| 7. paravane | |

¹⁵For a detailed introduction to the issue see:

Sullivan, B. J., Reid, T. A. and Bugoni, L. (2006). Seabird mortality on factory trawlers in the Falkland Islands and beyond. *Biological Conservation*, **131**: 495-504.

Historically, seabird mortality records associated with trawl fisheries in the Southern Hemisphere have been predominantly caused by birds colliding with the net-sonde cable, which extends from the top of the aft gantry to 20m behind the vessel and is attached to the net to electronically monitor the position of the net. In the New Zealand squid trawl fishery around the Snares and Auckland Islands an estimated 2,300 White-capped albatross (*Thalassarche cauta steadi*) were killed in 1990 (Bartle 1991). It is estimated that up to 90% of these deaths were caused by collisions with the netsonde cable. Comparable mortality levels have also been recorded in Kerguelen waters. However, since the abolition of net-sonde cables in many Southern Hemisphere trawl fisheries (e.g. New Zealand, South Africa), seabird mortality associated with the warp cable has become the cause of most concern. This is caused primarily by seabirds feeding on offal discharge at the stern of the ship being struck by the warp cable, at the point where it enters the water and being dragged under water and drowned

Given the nature of many trawl fisheries, particularly demersal fisheries that are restricted to regions of shelf and shelf-break, which is also the typical location of seabird breeding islands, trawl fisheries could potentially have a disproportionately high impact on seabird mortality and therefore associated population declines and in some cases this may pose a greater threat to some populations than longline fishing.

Given the large size and extensive coverage of factory trawler fleets around the world, in many such shelf regions (e.g. Patagonian Shelf, Gulf of Alaska, Agulhas Bank, Chatham Rise) it is critical that observer programmes are established to investigate the nature of seabird interactions with these fleets and where appropriate, that effective mitigation measures are identified as soon as possible.

All research conducted to date in demersal trawl fisheries (e.g. in Alaska, Falkland Islands, New Zealand, and South Africa) has shown a statistically significant relationship between seabird mortality and offal discharge from factory processing, clearly indicating that if discharge can be removed mortality associated with the warp cables will be almost eliminated. However, this is a medium to long-term proposition because it takes time to re-fit vessels to process the large quantities of onboard factory waste produced from fish processing. In the interim, the development and testing of appropriate bird-scaring devices (e.g. streamer lines) is critical to mitigating the problem in the short-term.