

Bycatch Communication Network NEWSLETTER

Issue 10 Aug-Sept 2008

In This Issue

Prawn Research Yields Big Results (AUS)	2
Cetacean Strandings in the Southwest UK and Links to Bycatch (UK)	3
Malaysia's First Turtle Rescue and Resuscitation Workshop	5
Giant Leap for Hector's Dolphins (NZ)	6
ARC Dehookers - Now in the South Pacific (AUS)	8
Interactions Between Cetaceans and Industrial Gillnet Fisheries in South and Southeast Brazil (abstract)	9
BirdLife International's Albatross Task Force - Update (UK)	9
International Team to Test Novel Gillnets (US)	14

Disclaimer: Opinions expressed in this publication are not necessarily those of the Bycatch Communication Network (BCN).

As of this issue, WWF US is unable to fund further production of the BCNN. I am extremely grateful for their support to date, without which this initiative would not have developed into the practical communication tool that it has proven to be. As this is potentially the final issue, I request the following from all subscribers:

1. Could you please forward any comments regarding your perceived value of the newsletter so I can determine if it is worth continuing;
2. Please advise on any potential funding sources you may be aware of, e.g. funding grants, could your organisation fund or partially fund continued production of the newsletter?

The total monies required is less than AUD \$8,000 (USD \$6,486 as of 7/9/08) for four issues per year.

Your continued support would be greatly appreciated and will be essential if we are to continue to produce the Newsletter, which feedback suggests is a valuable resource, for example:

- Thanks again for organising the Newsletter - just what's needed!
Dr Robin Davies, Manager: Global Bycatch Initiative, WWF International, Switzerland.
- I find it (the Bycatch Communication Network Newsletter) to be very informative and relevant to our work on bycatch of marine wildlife.
Vicki Cornish - Director, Marine Wildlife Conservation, Ocean Conservancy, USA
- Another excellent newsletter!
Mark Gray - Sea Fish Industry Authority, UK
- This is great! nice job.
Edward A. Trippel - Fisheries and Oceans Canada
- Once again, an outstanding newsletter. Great work.
Steve Beverly - Secretariat of the Pacific Community, New Caledonia
- Thanks for all the hard work on this - without somebody chasing and making it all happen, I fear this, and other useful publications like it, would cease to exist.
Ian Cartwright - Thalassa Consulting, Australia
- The newsletter was really interesting - thanks!
Samantha Petersen, BirdLife South Africa



Sincerely,

Emma Bradshaw

This issue of the BCN newsletter is generously funded by WWF US.

Prawn Research Yields Big Results

David Maynard, Faculty of Fisheries and Marine Environment, Australian Maritime College (AMC),
University of Tasmania, Australia.

A new research project by the Australian Maritime College is set to revolutionise the world's prawn fishing industry. The project, which uses underwater lights to deter fish from prawn nets, has yielded early results that include:

- ❑ 30% reduction in fish bycatch;
- ❑ 10% increase in prawn catch and;
- ❑ a reduction in fuel usage, meaning lower operating costs as a result of reduced weight in the net.

The project has presented a more successful picture than first anticipated, according to research leader David Maynard from the Australian Maritime College's National Centre for Marine Conservation and Resource Sustainability.

"The United Nations estimates annual fish discard is 7.3 million tonnes a year. Tropical shrimp trawling is responsible for a quarter of that. We've found a way to reduce discards by 30%. For every kilo of prawns there are between three and 20 kilos of fish discarded at sea. If this was adopted throughout the world we'd make massive inroads into bycatch reduction, sustainability of non-target species and juvenile commercial species that cohabit with prawns. Potentially our method could reduce global bycatch by more than half a million tonnes per year".

"The new approach to an old problem had been the key".



Spilling the codend: the mixed catch being dumped onto the sorting tray. © Steve McGowan



Attaching the light system to the trawl was a bit of a jigsaw puzzle. © Chris Burns

"The way we're looking at this issue is totally new," he said. "What's been done in the past is to look at ways to reduce bycatch once the fish are in the back of the net. The problem remained in the issue of post escape mortality or, put simply, what happened to fish once they escaped".

"All the effort in all state departments and Federal research and overseas has gone into tackling the issue of bycatch in the back of the trawl net. They're dealing with the issue once it's happened. Overall there's about a 30% reduction using existing bycatch reduction tools. But these fish that escape, you don't know if they survive. What we don't know is the

post escape mortality. The fisheries managers can feel good about these nets coming up with less fish in them but they don't know if they actually achieved anything".

"So what did we do? We received funding from the Department of Agriculture Fisheries and Forestry (DAFF) and attached lights along the trawl nets. The lights trigger a flight response in fish, and 30% of the fish are able to avoid entering the trawl net. And because these fish didn't enter the trawl, the issue of post-escape mortality doesn't exist.

"What the early figures are showing is that as well as the bycatch reduction, we're finding an increase in the prawn catch by 10%," he said.

The decrease in bycatch means boats will have reduced fuel costs as they are trawling with less weight to tow. David also believes prawn fishermen could ultimately reduce their number of fishing days due to the catch increases.

Conducted in the Torres Strait fisheries during June, the latest round of field work saw AMC Fisheries graduates working on the prawn trawl charter. The latest results, including bycatch species, are still being collated, but David said the early indicators were very positive.

"We believe we're doing something really positive here," he said.

For further information contact: David Maynard at: D.Maynard@amc.edu.au.

Cetacean Strandings in the Southwest UK and Links to Bycatch

Ruth H. Leeney, Namibian Dolphin Project, Walvis Bay, Namibia

Strandings have been recorded from the coasts of Cornwall, southwest UK, for many hundreds of years, with the first recorded stranding of a baleen whale dating back to 1308. More frequent reporting in recent decades has amounted to a substantial dataset which offers invaluable insight into the long-term dynamics of cetacean populations, and the threats they face. With many cetaceans now protected by UK and European laws, it is important to understand the factors affecting the conservation status of these species.

The Centre for Ecology and Conservation (University of Exeter, UK) investigated whether the spatio-temporal patterns of cetacean strandings around Cornwall have changed in the past century. Data comprised records of cetaceans stranded in Cornwall and the Isles of Scilly, collated by the Cornwall Wildlife Trust Marine Strandings Network (MSN). Stranding records were systematically compared over a 96-year period between 1911 and 2006 (n = 2,257).

A total of 16 whale and dolphin species have been recorded from Cornish coasts during this period. Analysis of these data showed that since the mid 1970s, the relative frequency of strandings of the three most commonly-stranding species, Common Dolphins (*Delphinus delphis*), Harbour Porpoises (*Phocoena phocoena*) and Pilot Whales (*Globicephala melas*), has increased significantly. Seasonal peaks in stranding frequencies are apparent between December and March for Harbour Porpoises and Common Dolphins, and between November and January for Pilot Whales. There were significant positive trends in the number of Common Dolphin and Harbour Porpoise strandings, as a proportion of total strandings over time.

Spatial patterns were also investigated in strandings of Common Dolphins, Harbour Porpoises and all other species. Per kilometre of coastline, strandings were more numerous on the south coast of Cornwall than on the north coast, and were concentrated in embayments. The high numbers of Harbour Porpoise and Common Dolphin strandings on the south coast of Cornwall during the early part of the year, may be at least in part due to the prevailing south-westerly winds and regional wind-induced surface currents in these months.

To better assess the potential factors that may be causing this dramatic increase in strandings, the necropsy records for carcasses from Cornwall were assessed. A total of 415 cetaceans from this region were subject to full veterinary necropsy analysis to determine cause of death, between 1990 and 2006, and 61% were determined to have died due to bycatch in fishing gear. Perhaps unsurprisingly, an analysis of industrialised fishing pressure in UK waters, using data from the UK Government Vessel Monitoring System (DEFRA), shows the seas around Cornwall to be one of the most heavily fished areas of the UK.

Considering these results, a number of factors could be responsible for the recent increases in cetacean strandings in southwest UK waters in recent years. Obviously, an increase in survey and reporting effort will have in part contributed to the rise in documented strandings. Shifts in species' abundance and range, potentially linked with climate change, are also possible contributing factors. Nonetheless, bycatch is a major cause of death for cetaceans in the southwest UK and there is strong evidence to suggest that fishery interactions in UK waters contribute significantly to the continuing high levels of strandings which have been observed in the study region. Such levels of detected cetacean mortality, given that they might represent a small proportion of those actually impacted is a matter of concern. This issue is certainly worthy of more detailed investigation.



Harbour Porpoise bycatch © Caroline Curtis

This paper has recently been published in *Biodiversity and Conservation* as: Leeney *et al.* (2008) Spatio-temporal analysis of cetacean strandings and bycatch in a UK fisheries hotspot.

This work was funded by the Natural Environment Research Council (NERC), Darwin Initiative, UK Overseas Territories Environment Programme. Ruth Leeney was funded by the European Social Fund. Strandings data provided by Cornwall Wildlife Trust Marine Strandings Network (MSN); necropsy data provided by the Zoological Institute of London. Many thanks to D. Carslake, C. MacLeod, the Cornwall Veterinary Laboratories Agency (VLA) and the strandings network volunteers who have collected strandings data.

For more information contact Ruth Leeney at: rleeney@coastalstudies.org.

Malaysia's First Turtle Rescue and Resuscitation Workshop

River Foo, Terengganu Turtle Conservation, WWF-Malaysia

To address the capture of sea turtles in Malaysia's fishing communities, the community based organisation, Persatuan Khazanah Rakyat Ma' Daerah (MEKAR) and WWF-Malaysia in collaboration with the Department of Fisheries, organised the inaugural Turtle Rescue and Resuscitation Workshop in Terengganu.

The workshop was attended by 90 mainland fishermen from the Dungun and Kemaman areas on the 26th and 27th of April. The Kemaman district has the highest incidence of observed turtle bycatch in Malaysia and the highest rate of confiscated illegal fishing gear (Department of Fisheries, unpublished data).

The following experts facilitated the workshops:

- ❑ Dr. I.B. Windia Adnyana, Sea Turtle Sub-Leader of the Coral Triangle Network Initiative WWF Indonesia;
- ❑ Imam Musthofa Zainudin, National Fisheries Program Coordinator - WWF Indonesia and;
- ❑ Dr. Soehartoyo, Operational Coordinator of Global Ocean Fishery Ltd. Co (in cooperation with P.T. Perikanan Nusantara).

The workshop began with an overview of the decline of sea turtle populations and the various threats to their survival, including interactions with fishing gear.

Next, it was important to educate local fishermen to differentiate between a lifeless and a living turtle. A turtle that appears lifeless may not be dead, but merely in a comatose state. Therefore, the facilitators demonstrated the methods to assess whether a turtle is dead or alive. Participants were then trained to resuscitate asphyxiated or comatose turtles, and release them to the waters once recovered. Fishermen were also introduced to the technique of releasing hooked turtles using de-hooker devices.

At the end of the session, each participant was presented with a flag carrying the message "Saya Telah Selamatkan Penyu" which literally translates to "I Have Rescued a Turtle ". They were encouraged to erect the flag when fishing to showcase their commitment to saving sea turtles.



*Ms Rahayu Zulkifli of WWF-Malaysia with workshop participants learning to use the dehooker equipment
© WWF-Malaysia/Sharifah Ruqaiyah*

This workshop will be a platform for future training sessions to be conducted for fishermen along turtle nesting zones. It reflects the expanded vision of MEKAR and WWF-Malaysia for the fishing community, and its conservation goals for Malaysia's turtles. It is also part of the MEKAR objective to convey the conservation message to local communities in regards to dwindling population and what can they do to conserve these species.

Background to WWF-Malaysia working relationship with MEKAR

WWF-Malaysia has been working with local communities in Kemaman since 2003. In August 2005, a local community group, Persatuan Khazanah Rakyat Ma' Daerah (MEKAR), was registered with the Malaysian Registrar of Societies. This group comprises voluntary participation of local fishermen, retirees, teachers, local youth, housewives, village leaders, businesspeople and other members of local communities.

MEKAR advocates the conservation of turtles and their habitat within the vicinity of Kemaman.

It operates on a local level with support from WWF-Malaysia as technical advisor. Although WWF-Malaysia provides guidance, management responsibility, decision making, planning and execution of activities are the responsibility of MEKAR.

For more information contact: River Foo at: rfoo@wwf.org.my.



Promotion of the turtle workshop in the local Malay Newspaper "Sinar Harian" © Sinar Harian

Giant Leap for Hector's Dolphins

Kirstie Knowles (Marine Conservation Advocate),
Royal Forest and Bird Protection Society of New Zealand

The outlook for Hector's Dolphins brightened significantly in May when the New Zealand Government announced measures to protect the endangered species.

These measures were a response to the overwhelming public support for the effective protection of Hector's Dolphins, and are the culmination of 10 years' lobbying by Forest & Bird (www.forestandbird.org.nz).

In the last 40 years, the number of Hector's Dolphins has declined by up to 70%. Today, fewer than 8000 dolphins remain and are listed as endangered by the IUCN (World Conservation Union).

Maui's Dolphin, a sub-species of Hector's now found only off the north-west coast of the North Island – is recognised as the world's rarest marine dolphin, with an estimated 111 individuals remaining. Maui's Dolphin is listed as critically endangered.

Fishing is responsible for 70% of Hector's Dolphin deaths where the cause of death is determined: set netting 63% and trawling 7%. A recent study by the National Institute of Water and Atmospheric Research (NIWA), with the Ministry of Fisheries, fishing industry and academic

researchers, shows an estimated 110-150 Hector's Dolphins are killed in commercial set nets every year.

The Government's package of measures recognises that set net fishing is the greatest threat to Hector's Dolphins. For most regions, the new regulations around set net bans are consistent, making them easy to implement and enforce. In the dolphin's main habitat (with a few exceptions), commercial and recreational set netting is banned in waters out to four nautical miles. Trawling, which also poses a threat, has been banned in waters out to two nautical miles.

An extra NZD \$6 million over the next three years is earmarked to fund observers on all commercial fishing boats within the dolphins' range.

There are plans to establish four new marine mammal sanctuaries on the south and east coast of the South Island and the west coast of the North Island. The Banks Peninsula sanctuary, established in 1988 after earlier Forest & Bird lobbying will be extended.

These measures are a significant step forward, but it should not be overlooked that they are likely to reduce the decline of Hector's Dolphins rather than quickly restore their numbers. To guarantee the dolphins' future, further protection is needed.

The new measures fail to protect the dolphins throughout their range. Around Banks Peninsula, Hector's Dolphins inhabit waters up to 100 metres deep and 20 nautical miles from the coast. Dolphins moving offshore into these deeper waters during winter will still be at risk, as will dolphins in areas where set netting for flounder continues.

Off the west coast of the South Island, where 70% of the dolphins live, recreational set netting is banned out to just two nautical miles and commercial set netting is banned only between the beginning of December and the end of February. A total of 39% of all known deaths caused by set nets reported since 2000 are from the west coast. Another poorly protected South Island population is off the coast from Farewell Spit to Cape Jackson in the Marlborough Sounds.

In the North Island, deeper offshore waters and waters south of the existing ban around Taranaki are still unprotected zones for Maui's Dolphins.



Hector's Dolphin
© NZ Conservation

The financial impact of these new measures on some fishers is not small, but a published figure of a NZD \$79 million loss over 10 years is a gross overestimate. This figure was based on a complete ban on set netting and trawling wherever dolphins occur. The final package concentrated the restrictions in the main dolphin habitats, rather than their entire range and the cost was estimated at NZD \$31 million over the 10 years.

The recovery of Hector's Dolphin populations will take many years. But we've made a good start.

For more information contact Kirstie Knowles at: k.knowles@forestandbird.org.nz.

ARC Dehookers - Now in the South Pacific

Carolyn Robins, Belldi Consultancy, Australia

ARC Dehookers new sole distributor in the South Pacific, Belldi Consultancy, is proud to bring these revolutionary marine animal release tools to Australia and its Pacific neighbours. Belldi will be supplying equipment to both the commercial and recreational sectors of the fishing industry.

Aquatic Release Conservation, Inc. (ARC) is a research and manufacturing company dedicated to the development and distribution of equipment technologies and educational outreach materials and programs to enable recreational and commercial fishermen to practice careful handling and release techniques. Such practices will significantly increase post-release survival of target and non-target aquatic life in all hook and line fisheries.

ARC works in cooperation and as a fisheries partner with US State, Federal and International government agencies, non-government organizations, academia, media and researchers to promote and encourage sustainable and responsible conservation-friendly fishing practices and experiences. The devices are approved by NOAA and mandatory in various US commercial and recreational fisheries.

The principals behind Belldi Consultancy, Carolyn Robins and David Kreutz, have been involved with bycatch mitigation for many years. Carolyn, a fishery consultant, has worked for various government and non-government organisations in the area of marine turtle mitigation with respect to commercial fisheries and also fisher education in handling and release techniques.



*Dave Kreutz with the simple, affordable but highly effective road cone tori line
© Belldi Consultancy*



*Dehooker kit including from left: turtle dehooker with attached beak block, dehooker and line cutter,
© Belldi Consultancy*

David Kreutz, an ex-commercial longline fisher and dedicated seabird bycatch mitigation expert, previously worked for the NGO OceanWatch Australia. Dave's

revolutionary invention from his commercial fishing days, the Road Cone Tori-Line[§], is now mandatory in Australian longline fisheries and has been adopted in many other fisheries around the world including in Argentina, South Africa, New Zealand and in the Japanese joint-venture operations.

For more information contact Carolyn and Dave at: belldiconsult@bigpond.com.

[§] **Editors note:** The road cone tori line was an entry into the 2006 WWF Smartgear Competition, only just missing out on a runner up prize.

Interactions Between Cetaceans and Industrial Gillnet Fisheries in South and Southeast Brazil (abstract)

Ana Paula Cordeiro and André Silva Barreto - UNIVALI, Vale do Itajaí University, Brazil

Research on the interactions of cetaceans in Brazil's shallow water fisheries are relatively more common than those in oceanic waters, however, this research considers interactions in both realms.

The main objective of this research has been to record the types of interactions that occur between cetaceans and the industrial gillnet fishery which operates from Santa Catarina, along southeast and southern Brazil. It also sought to evaluate the spatial occurrence of cetaceans in the region and to spatio-temporally quantify these interactions based on information obtained from the industrial fleet.

Between May 2006 and October 2007, 112 interviews were conducted with 62 vessels in the gillnet fishing fleet. Data on positive interactions (cetaceans following the boat), neutral interactions (cetaceans sighted by boats) and negative interactions (incidental catch of cetaceans) were recorded.

Animals were separated into six categories according to their morphological characteristics. Of those categories, the vast majority of sightings were for category one - dolphins and porpoises, and mostly of neutral interactions (sightings). The vast majority of sightings occurred in winter and spring near the Itajaí river mouth, and along the coast of Santa Catarina. Incidental catches (negative interaction) were reported in 14 of the 112 interviews.

For more information contact Ana Cordiero at: popitwilla@gmail.com.

BirdLife International's Albatross Task Force – Update

Andy Black, BirdLife Global Seabird Programme, UK

The Albatross Task Force (ATF), the world's first international team of seabird bycatch mitigation instructors, was established to meet an urgent need for skilled practitioners to work at the grass roots with fishers. ATF instructors work ashore and at-sea to train fishermen in the need for, effectiveness of, and ease of adopting a range of 'best practice' mitigation measures that once deployed, rapidly reduce seabird mortality levels.

Since the deployment of the first ATF instructor in March 2006 (see Issue one of the Bycatch Communication Network Newsletter), there has been considerable progress. ATF teams have now been operating in three countries - South Africa, Brazil and Chile for over a year. In early 2008, phase II of the project saw the establishment of ATF teams in Uruguay, Namibia and Argentina, with a current total of 14 instructors. Oli Yates, based in Chile, has been employed to coordinate the growing team.

By improving the robustness of bycatch data, conducting experimental trials of mitigation measures and working with governments to draft seabird bycatch regulations, the ATF has made outstanding progress towards its goal of reducing seabird bycatch.

South Africa

The project commenced in South Africa in March 2006, with support from BirdLife South Africa, and currently employs three instructors. In the first two years, the team collected baseline bycatch data in their target fisheries and trained fishermen, government fisheries observers and compliance officers in seabird mitigation best practices. Additionally, the ATF has influenced the drafting of new mitigation regulations in South African longline and trawl fisheries. The ATF have worked in all three of the major fishing fleets; pelagic and demersal longline and trawl fisheries, the key actions in each are listed below.

Pelagic Longline Fishery

The reported baseline mortality rate calculated for the 2006/07 season was 0.34 birds/1,000 hooks. Despite having a range of mitigation measures already written into the fishing regulations, compliance has been found to be low, resulting in this high level of mortality. The awareness and education work of the ATF is leading to greater uptake of mitigation measures within the fleet and should result in lower bycatch rates. In the coming year, ATF instructors will be testing streamer lines to determine the most efficient design and promote adoption throughout the fleet.

Distant Water Asian Tuna Fleet

Due to unacceptably high bycatch rates in the Asian tuna fleet within South African waters, efforts by BirdLife and WWF South Africa, working with both CapFish (a Cape Town based company responsible for the placement of scientific observers) and the Department of Marine and Coastal Management, resulted in the establishment of a Seabird Task Group. This initiative led to amendments to the 2008 vessel permit conditions to include a range of new bycatch mitigation measures.



Streamer lines deter seabirds from feeding close to trawl warps
© Ben Sullivan

Demersal Longline Fishery

During the 2006/07 season, data collected by the ATF led to an estimated seabird mortality rate of 0.004 birds/1,000 hooks. This meets the target set in the South African National Plan of Action for reducing incidental catch of seabirds in longline fisheries (NPOA-Seabirds). Further observations are planned in these fisheries to improve the seasonal spread of seabird bycatch data.

Hake Trawl Fishery

Prior to the formation of the ATF, industry funded observations produced an alarmingly high estimate of seabird mortality in the hake trawl fishery, with 18,000 seabirds (70% of which were albatross) killed in the 2004/05 season. Of these, an estimated 85% were killed by warp strike and 15% by net entanglement. As a result of these bycatch estimates, the ATF has worked with the fleet to design and trial an effective streamer line to reduce mortality as quickly as possible. The ATF has also worked with government to lobby for the mandatory use of streamer lines and the prohibition of offal discharge during net shooting operations. These licence restrictions came into force in July 2006. Since this time, the ATF has distributed 100 pairs of streamer lines to the fleet. Continued monitoring with mitigation measures in place indicates these measures can reduce seabird

bycatch by 90%. An important follow-up of this work has been the training of compliance officers to ensure these measures are followed.

Training: Fisheries Observers and Compliance Officers

It has always been the intention of the ATF to transfer their skills and knowledge to the governmental fisheries management bodies. To build these links and the government support required to ensure an understanding of the need for mitigation measures, and to enforce compliance with these measures, the team has placed considerable effort into training fisheries observers, and in particular compliance officers. Training courses, held around South Africa, have been attended by 27 fisheries observers and 34 compliance officers. The level of support from the government fisheries department has been extremely encouraging.

Brazil

The ATF team in Brazil work in collaboration with Projeto Albatroz (a Brazilian NGO), under the coordination of Tatiana Neves.

Pelagic Longline Fisheries

All three of the ATF instructors in Brazil are working with the national pelagic longline fleet, which is composed of 32 vessels based at Santos in the south, and Itajaí Harbour on the central coast. 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. The ATF conducted at-sea trips on ten of the 20 vessels operating from this port, and has had direct contact with 70% of the fleet. In addition, between October and November 2006, initial contact was made with 13 vessels from the Itaipava region, that use the harbour of Itajaí to land their catch.

At-Sea Effort

During 12 cruises conducted by ATF instructors and Projeto Albatroz, 105 seabird mortalities were recorded. These consisted of 64 black-browed albatrosses (*Thalassarche melanophrys*, 0.47 birds/1,000 hooks) and 41 white-chinned petrels (*Procellaria aequinoctialis*, 0.30 birds/1,000 hooks). Besides these, another 36 seabirds were independently returned ashore by the fishing vessels, 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. Observations show large seasonal fluctuations in seabird bycatch with most of the bycatch occurring in the winter months.

Uptake of Mitigation Measures

In line with Brazil's 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 Brazil, only one of the 32 vessels in the fleet used mitigation measures (tori lines/blue-dyed bait). After a 12-month period, 16 vessels (50% of the fleet) are known to be voluntarily using streamer lines as standard. This result far exceeded the expectations of the team in Brazil and is an important precursor to having mitigation written into local regulations.

At-Sea Trials

Between April and October 2007, ATF and Projeto Albatroz observers conducted at-sea trials of the effectiveness of streamer lines and blue-dyed bait on 201 longline sets in southern Brazil. Results indicate a marked reduction in seabird bycatch rates and a potential improvement in target fish catch, an important economic incentive to fishers, when mitigation measures were



The team in Brazil is encouraged by the level of voluntary uptake of streamer lines. © ATF Brazil

used. Further research is underway to strengthen the dataset and place an economic value on the cost/benefits of using streamer lines.

Legislative Developments

Possibly the most important achievement of the ATF and Projeto Albatroz in 2007 was the drafting of a regulation in accordance with the Brazilian NPOA-Seabirds for the mandatory adoption of seabird bycatch 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 Aquaculture and Fisheries of the Presidency of the Republic). The regulation will require the mandatory use of streamer lines combined with at least one additional measure (night-setting and/or blue-dyed bait) for vessels operating south of latitude 20°S, between May and November and during the full year for vessels operating south of 28°S.

The ATF results are also contributing to initiatives by the International Commission for the Conservation of Atlantic Tunas (ICCAT) to address seabird bycatch. ICCAT is the Regional Fisheries Management Organisation (RFMO) responsible for the management of tuna (and tuna-like species) in the Atlantic Ocean.

Chile

In March 2007, three ATF instructors were employed in Chile, two (one full-time, one half-time) working in the swordfish fishery that operates around the Juan Fernández Archipelago, based in the port of Coquimbo, and one half-time post working with demersal longline fisheries. The Chilean team is managed by Carlos Moreno and Rodrigo Huckle-Gaete (Centro Ballena Azul, a Chilean NGO).

Pelagic Swordfish Fisheries

Previously, there was only anecdotal bycatch data available from this fishery. However, given the significant overlap with the foraging range of black-browed albatross from Chile and Salvin's (*Thalassarche salvinii*) and Buller's (*T. bulleri*) albatrosses from New Zealand, amongst other species, it is vital that the level of seabird bycatch in this fishery is quantified and appropriate mitigation measures are introduced. The first two sea trips in this fishery have revealed far higher levels of seabird, primarily albatross, bycatch than expected. Preliminary results suggest, between 517 and 923 birds are killed per year. Of these, a high proportion are immature 'wandering' type albatrosses (*Diomedea exulans* or *D. antipodensis*).

The Chilean NPOA-Seabirds requires vessels to use line weighting in conjunction with a streamer line. Observations indicate there is a high level of compliance with the requirement to use 60g weights on dropper lines but streamer lines are rarely used, largely due to the additional cost to

artisanal fishers and the lack of a standardised design. The Task Force will be heavily involved in research to improve the design of streamer lines for pelagic longline vessels in the coming year.

Demersal Longline Fisheries

Work with the demersal longline fisheries is focusing on the production of education materials for the key Chilean fleets.

Workshops

In February 2007 and 2008, workshops were held prior to the start of the fishing season to instruct observers in seabird identification and discuss the requirements of Chile's NPOA-Seabirds with Captains and crews of fishing vessels. Specifically developed educational materials were distributed at each of the workshops.

Uruguay

The shelf break region of Uruguay provides rich foraging grounds for a range of albatross and petrel species. Historically, there is evidence of extremely high bycatch rates in this area. In December 2007, the ATF officially started work in Uruguay with two instructors employed to work in the domestic pelagic longline fishery. We have established a collaboration between the BirdLife affiliate, Aves Uruguay, and a local NGO, Proyecto Albatros y Petreles de Uruguay (PAP) which has 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.

Argentina

In January 2008, the ATF commenced work in Argentina, managed by the BirdLife partner, Aves Argentinas, with the support of a number of groups in Argentina, including personnel from the University of Mar del Plata. The ATF instructor is working with the large factory trawler fleet operating on the Patagonian Shelf and shelf break areas. The focus is 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 appropriate measures.

Namibia

In April 2008, two instructors were 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. The two instructors will work with the longline and trawl fleets to assess the scale of seabird bycatch problems 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 Future

We are excited about the results achieved thus far, and having now completed developing much of the strategic planning and infrastructure that such a complex multi-national project requires, we can focus on delivering action where it matters most...at the stern of the vessel! The ATF is already taking tangible steps to halting the decline of albatrosses and petrels by working with fishermen and governments to erase the world's bycatch 'hotspots'.

We encourage you to follow the progress of the ATF via diaries and news stories on our website www.savethealbatross.net.

For more information contact Andy Black at: Andrew.Black@rspb.org.uk.

International Team to Test Novel Gillnets

Tim Werner, New England Aquarium, US.

Gillnetting is a prevalent form of fishing around the world and produces cumulatively high bycatch in many non-target species, including mammals, sea turtles, elasmobranchs and birds. In many areas, it poses the greatest risk to conserving endangered animals. A good example is the well-publicized case of the Vaquita (*Phocoena sinus*), a small porpoise found only in the upper Gulf of California. Reducing bycatch in gillnets is essential to the survival of this and many other threatened species.

Unfortunately, there are few techniques available that gillnet fishermen can implement to avoid or reduce fatal entanglements of threatened animals. With support from the Lenfest Ocean Program, the New England Aquarium and collaborators from Argentina, Brazil, Canada, Denmark, the UK and the US are evaluating two novel types of nets with fishermen: a strong nylon net, and one containing barium sulfate (BaSO₄). The latter is an innovation developed by Dr. Norm Holy of Better Gear, Inc., which in two trials has shown significant reduction in bycatch of Harbor Porpoise (*Phocoena phocoena*) and the potential to lower bycatch of diving seabirds. Despite these promising results and recognition from the WWF Smart Gear competition in the form of a USD \$5,000 runner-up prize, there is much uncertainty regarding the efficacy of this type of net as a potential bycatch mitigation technology.

Two trials are being organized to evaluate the potential of these two net types to reduce non-target species bycatch: one in the Danish commercial hake fishery and the other in the artisanal croaker/weakfish fishery in the Bahia de Samborombom, Argentina. The focal bycatch species in the former is the Harbor Porpoise, and in the latter Franciscana (*Pontoporia blainvillei*), a small cetacean restricted to the southwest Atlantic. At least one more field trial is also planned in a fishery with high sea turtle bycatch. This study is running in parallel with a similar US trial led by NOAA Fisheries.

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