

Final Report



**Santos, SP
BRAZIL
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INTRODUCTION

Southern Brazil is an important foraging area for albatrosses and also the most important longline fishing ground in Brazil. Fishing grounds in Brazil are under the influence of the SW Atlantic Subtropical Convergence, where cold waters of the Malvinas-Falklands Current flowing northward meet the warm waters of the Brazil Current flowing southward (Garcia 1998). The presence of high productivity waters from the Falklands-Malvinas Current in winter (Castello 1998) sustains an important pelagic longline fishery in southern Brazil and is a significant foraging ground for several albatross and petrel species during breeding and non-breeding seasons. The community of pelagic seabirds off Brazil is largely composed, in number of species and individuals, of albatrosses and petrels from Tristan da Cunha Archipelago, Malvinas-Falkland Islands, South Georgia, the Antarctic and New Zealand, and feed off Brazil during breeding and wintering periods (Olmos 1997, Neves et al. 2006). But unfortunately there is seabirds interaction with the longline vessels, not only in Brazil but all over the oceans, and in Brazil we have a estimative of 10.000 seabirds bycatch (National Plan of Action for the Conservation of Albatrosses and Petrels, Ibama, 2006) and according to Bird Life International 300.000 seabirds died by the longliners, being 100.000 albatrosses and considering that many of those species are threatened (IUCN Red List 2007) the prognostics are not very optimistic and that is the reason why is so important to aware the fishermen and introduce and test mitigation measures in order to reduce the seabirds bycatch. Estimative pointed that those vessels are responsible by the seabird's bycatch of approximately 10.000 seabirds per year.

In terms of this Rufford Small Grants report, as expected it was introduced mitigation measures in at least 4 vessels from the longline fishery fleet in Southern Brazil. This fleet is composed by 20 vessels which are already monitored by Projeto Albatroz. The main goals are implementing mitigation measures and monitoring the seabird bycatch. Environmental educational programs addressed to the fishermen were implemented in order to inform them about the importance of marine ecosystem preservation, with special attention on the albatrosses and petrels. It was also emphasized that bycatch of seabirds is, for one side, a waste of money, especially for the fishing industry and an environmental problem considering the decreasing of seabird populations around the world what is becoming a critical issue.

The landings in fisheries ports at Santos and Itajaí cities were monitored on a weekly basis, through informal conversations with the skippers and crewmembers in order to increase the link between the fishermen and Projeto Albatroz, promoting the reduction of the seabird's incidental bycatch caused by the longline vessels. To test these measures, the project offers the necessary materials (torilines) for the longline vessels, and advises them through an observer on board from the Projeto Albatroz staff.

PERIOD OF THE PROJECT EXECUTION

Considering that the funds were made available to the Instituto Albatroz banking account in December, 15th of 2009, the time table was reset in order the project run between January 2010 and January 2011.

OBJECTIVES

1. To implement mitigation measures in at least 4 vessels from the longline fishery fleet in Southern Brazil;
2. To test mitigation measures (torilines) on longline vessels based in Santos – SP and Itajaí - SC harbors in 4 cruises;
3. To monitor 4 longline cruises by specialist fishery observer onboard evaluating the number of seabirds incidentally caught;
4. To monitor the longline landings at fishing harbors in order to continue the evaluation of the number of seabirds incidentally caught by the longline fleet in southern Brazil with and without mitigation measures.
5. To make the fishermen aware of seabird mortality caused by the longline fishery and its environmental and economic implications;

DEVELOPED ACTIVITIES

Educational materials

Folders were prepared to be distributed among fishermen, skippers, and ship-owners. It was produce folders with the follows contents:

1. Explanation about the biology and characteristics Albatrosses and Petrels:

The albatrosses can live until 80 years, starting to breeding with 10 years old. They lay one egg only each one or two years, depending of specie. Once the couple are being formed they trends to stay together for all life, but they meet each other for reproduction only.

Males and females rotate in turns to take care of the egg and the chick, bring food to them until they are able to fly and reach their own food.

Some albatrosses and petrels came to Brazil to eat and they come from faraway islands such as: Malvinas / Falkland, South Georgia and Tristan da Cunha Archipelagos and Gough Islands.

2. Information about the fishermen life style and their relationship with the albatrosses:

The pelagic longline fishermen generally set their hooks many miles far from the coast, facing bravely the nature adversities of high seas.

Albatrosses and petrels share the same landscape, difficulties and beauties offered for the live at sea. They live the most part of their lives far from the families looking for their survival.

3. Incidental captures of seabirds:

The birds attend the fishing vessels looking for food. They are being caught by the hooks when the birds try taking the baits used on longline fishing gears.

For this reason from the 40 species that occurs on Brazilian coast, 11 (28%) are being threatened of extinction in accord of IUCN Red List.

Data on incidental caught:

1 year = 300.000 seabirds caught

1 year = 100.000 albatrosses killed

1 year = 10.000 seabirds killed in Brazil

Each 5 minutes = 1 albatross dead

4. How to avoid the seabird's incidental caught?

Night settings:

Great part of seabirds feed during the day and because of this if the fishermen set the longline during the night this can reduce the incidental captures.

Blue dyed baits:

Dyeing the bait, especially the squids used as bait in blue color the birds cannot recognize it as food or cannot distinguish it over the blue ocean color.

Toriline:

The birds scaring line (or Torilines) is being made with two poles attached on the vessel's stern. From the poles tops a longline is dragged carrying colored streamers that scare the birds.

The folder also presented the main species that have being caught by Brazilian hooks in a kind of identification guide to help the fishermen recognize the species caught by them.

Also the folder presents an institutional briefing including the Projeto Albatroz main sponsors.

The folder is presented as Annex of this report, in Portuguese version as originally produced to the fishermen.

Visit on harbors

The visits were made at the same time in both cities, Santos and Itajaí, like suggested on the project proposal. During 2010, 116 visits on Santos/SP and Itajaí/SC harbors were made, when 22 vessels of the longline fleet were monitored. It is estimated that 178 fishermen and skippers were contacted and 1.100 folders were distributed for them to read and also give to others.



Apart the educational work, a job as import, is the monitoring of the vessels in order to collect information about fishery, fishing production, seabirds bycatch and the use of the measures proposed by Projeto Albatroz, taking this chance to ask for skippers the availability in having an observer on board for next trips.



For this monitoring, the field team responsible for these visits have a field book labored by Projeto Albatroz, where there are pre-defined subjects to be addressed during these conversations. The fulfillment of the field

books aim to receive information given by the skippers such as: fishery effort distribution, bait used, time of start and end of longline setting, but notwithstanding keep the skipper in closer contact with the main objectives of the project.

Fishing cruises



In the period of execution of the project, were

performed 09 fishing cruises with the presence of an onboard observer from the Projeto Albatroz staff, 04 of those cruises were sponsored by Rufford Small Grants Foundation

and the other 05 by other supporters.

On these cruises, the onboard observers perform two jobs, collect research data for Projeto Albatroz database and keep the educational work that is made on the harbors with the fishermen and skippers. This educational work consists in, besides the distribution of education materials, the approximation of



the onboard observes with the fishermen, to than can discuss subjects like the singularity of the biology of albatrosses and petrels, their areas of origin, monogamous habits, longevity, migration and other aspects that fetch encourage the feeling of the fishermen to these species. The conservation status of species has been shown in a way to make the



fishermen understand the delicacy of the situation of these birds. The importance of using mitigation measures and the issue of garbage were also presented and a predisposition by fishermen to adopt such

measures was noted.

At all, were 127 days at the ocean, in 6 different vessels, where 93 sets were performed, totalizing 99.300 hooks and 08 pelagic seabirds incidentally caught.

Mitigation Measure



During the Projeto Albatroz cruises this year, the observers in conjunction of the fishermen and skippers tested the Toriline. The Toriline is considered the main mitigation measure by the Seabirds Bycatch Working Group from the Advisory Committee of the Agreement for the Conservation of Albatrosses and Petrels – ACAP according its last meeting held in Hermanus – South Africa in August 2009.

The lack of information about a suitable design of a Toriline for pelagic fisheries and the necessity to have a number of hooks sampled as higher as possible to support statistical analysis were the main reason that make us decided to test one mitigation measure (ToriLine) only instead the two (ToriLine and blue dyed bait) as suggested in the project proposal.

The toriline design adopted is described below:

Light Toriline (LT)

The light Toriline (Figure 1) is composed of monofilament nylon lines of 4, 0 mm (same as mainlines) and 1m long polypropylene colored streamers (short streamers). The Toriline measures 100 meters total length and will be fixed with a pole at 6 meters above sea level. The short streamers are used in bunches of six (three lengths of 2 meters, doubled in half), attached every two meters along the length of the Toriline. Every 10 meters a bunch of streamers will be white in order to facilitate estimation of aerial extension. The first bunch of streamers will be fixed ten meters from the pole.

Light Bird Scaring Line (Short Streamers)

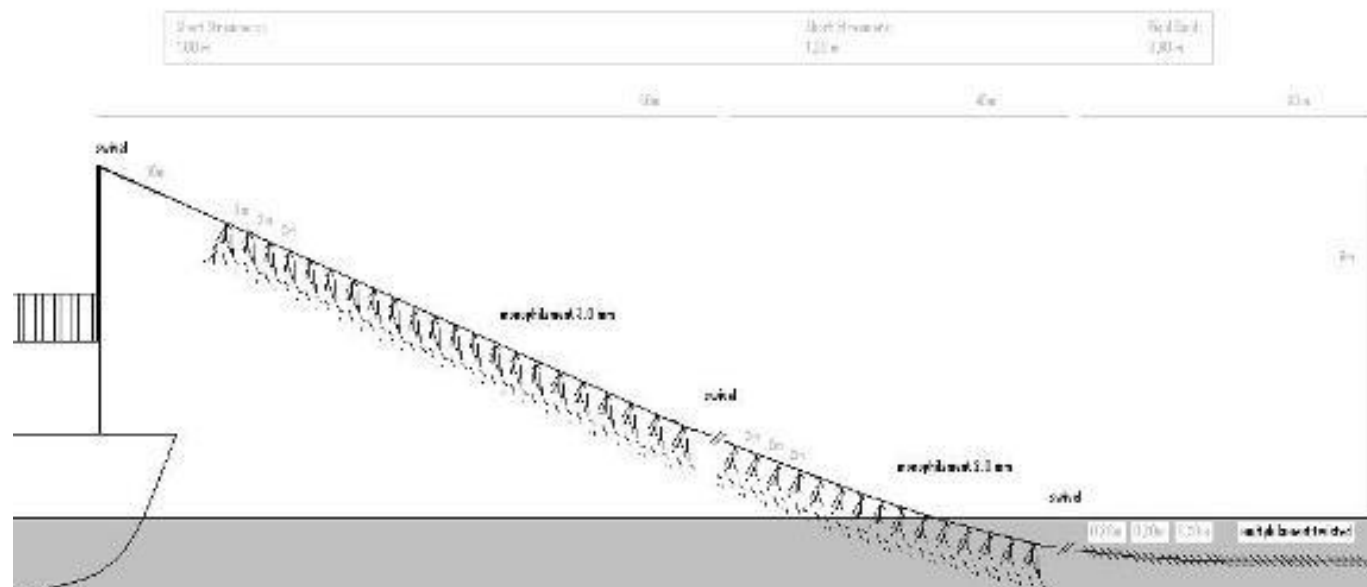


Figure 1. Designed of Light toriline (short streamers) used on the tests.

Comments and Advances

At all, were 127 days at the ocean, in 6 different vessels, where 93 sets were performed, totalizing 99.300 hooks and 08 pelagic seabirds incidentally caught. The duration of four cruises made under this project was of 55 days at sea when it was observed 37 fishing settings what represent a total of 38.270 hooks sampled.

Considering all cruises monitored, the main specie captured were Black-browed Albatross *Thalassarche melanophris* (6 specimens), where captured also a White-chinned Petrel *Procellaria aequinoctialis*, and an Atlantic-yellow-nose Albatross *Thalassarche chlororhynchos*. The capture rate was 0,147 birds / 1000 hooks when the fishermen didn't use the Torilines and none caught birds when the Toriline were used.

During the cruises monitored, when the Toriline was adopted, it was recorded a capture rate (none caught birds) lower than the capture rate recommended by FAO (0.05 birds/1000 hooks), evidencing an improvement in the effectiveness of the mitigation measures in relation to previous years.

Conclusion

This report inform that the significant reduction of by-catch rates (no bird caught using toriline) was one of the great strengths of the work of Projeto Albatroz in 2010, demonstrating the effectiveness of mitigation measures used, especially the current configuration of Brazilian toriline. However, this capture rate observed in the PA monitored cruises does not reflect the real by-catch scenario in Brazil, where only a few boats use mitigation measures. During the monitoring work in the ports, fishermen had reported captures rates of up to 8 birds/1000 hooks during setting at daytime without toriline, most *Thalassarche spp.* and *Procellaria spp.* Although the PA is working on the right way, the national fleet of pelagic longline is large (more than 20 boats), shows constant modifications, and the work of approach and convincement of the captains delay much time. So faced this situation, the continuity of the work is fundamental. Moreover, the installation of torilines in a large number of boats is recognized as an emergency, and is suggested as one of the priorities

for 2011 in order to reduce the captures rates at the national level in Brazil.

Annexes

1. Educational Material – Folder

- **Printed material annexed.**

2. Information on website



Figure 3: Projeto Albatroz homepage with the Rufford Small Grants Foundation logo, as one of the PA sponsors.



Figure 4: Projeto Albatroz publishes on its website about its selection in the Rufford Small Grants Foundation.