



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

**Second Meeting of Advisory Committee**

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**Document Title : Status of Measures Implemented by  
France...**

**Author: France**

ACAP Advisory Committee (Agreement on the Conservation of Albatrosses and Petrels)

5-8 June, Brasilia

**STATUS OF MEASURES IMPLEMENTED BY FRANCE  
IN THE FRENCH SOUTHERN AND ANTARCTIC LANDS (TAAF)  
RELATING TO THE CONSERVATION OF PETRELS AND ALBATROSSES  
(BY-CATCH REDUCTION AND HABITAT RESTORATION)**

In the late 1990s, the French professional fishermen involved in the French Southern and Antarctic Lands (TAAF) toothfish fishing gave up trawl fishing in favour of longline fishing in order to protect toothfish juveniles and to minimise the fish by-catch. The longline method, which was new to the French fishing vessels, has only taken on its full dimension in French waters since late 2002.

From the moment longline fishing appeared, the French Southern and Antarctic Lands Administration as well as the fishing vessels have been anxious to control the incidental bird mortality. This document describes the method used by the French fishing fleet to reduce the risk of incidental avian mortality, and more generally, outlines the initiatives that have been taken in the French Southern and Antarctic Lands which are consistent with the world-wide approach to the problem of incidental bird mortality.

In addition to those conservancy measures, the Territory has been working for several years on the restoration of the main seabird breeding sites in the Kerguelen archipelago. A number of rodent eradication campaigns took place between 2002 and 2006, aimed primarily at encouraging the nesting of several species of petrels.

**I) Main measures implemented**

**I.1) Restriction of illegal fishing :**

Between 1997 and 2000, 20 illegal fishing vessels were boarded and inspected by [French] navy ships and subsequently seized by judicial decision. Since 2001, two other vessels have met with the same fate.

These activities unquestionably harmed the toothfish stocks but also the bird populations, as no conservancy measures to reduce the by-catch were in place on those ships.

Since 2001, the authorities charged with the fight against illegal fishing have carried the “RADARSAT” project which enables the radar detection of vessels located in the KERGUELEN and CROZET EEZs from a satellite.

In January 2003, a ship which was fishing without a permit was boarded and seized, then brought up to standard and manned to become the OSIRIS, a government ship assigned to the patrolling of fisheries. The Osiris patrols about 150 days each year, which covers most of the year, taking into account the patrols by [French] navy ships.

Diplomatic steps have been undertaken to raise the awareness of the flag States of unauthorised vessels suspected of fishing illegally in the waters of the CCAMLR. This increase in additional controls has borne fruit: all indications are that illegal vessels have not ventured into the EEZs of the Territories for over a year, with very few exceptions.

### **I.2) Partnership with the shipping vessels:**

Ever since longline fishing appeared in the French Southern and Antarctic Lands, the fishing vessels have been concerned about controlling the incidental seabird mortality

That concern has led, and is leading, them to:

- Look for and experiment with bird avoidance measures which are not limited to the measures recommended by the CCAMLR, which are naturally also observed by French ships;
- Contribute initiatives which are consistent with a world-wide approach to the bird mortality problem and with a better knowledge of the evolution and dynamics of bird populations in the French Southern and Antarctic Lands.

In regard to that last point, it should be mentioned that:

- The fishing fleets contribute to the upkeep of the ship Osiris which, as described in (Chapter II), provides a greater presence in the fishing areas, prevents and curbs illegal fishing activities. It helps to reduce the depletion of the toothfish resource caused by illegal fishing, and hence the bird mortality for which it is responsible;
- The decision by the fishing fleets to co-finance a scientific study intended to evaluate the current size of the white-chinned petrel population, the demographic parameters of the white-chinned petrel and grey petrel populations in the French Southern and Antarctic Lands, their evolutionary trends;  
This study should make it possible *in fine* to assess the impact of the incidental mortality caused by the fisheries to the petrel populations in the French Southern and Antarctic Lands; The results of the study should be available in 2006.

### **I.2.A) Learning and know-how**

The fishing fleets indicated, in the paper they sent to the CCAMLR, that the sum of the efforts deployed by the French ships to control the bird incidental mortality could only be appreciated by taking into account the novelty of that method in French waters and the learning it required.

The world-wide decrease in seabird by-catch is evidence of this.

Quite apart from the on-going bird by-catch avoidance and scaring techniques implemented by the French ships, a very large part of the progress made is indeed attributable to the experience and know-how acquired by the ship crews and their captains, and to their awareness of incidental bird mortality control methods.

### **I.2. B) Bird avoidance and scaring methods used:**

Several ongoing bird avoidance and scaring measures for reducing the risk of incidental bird mortality are being implemented on a permanent basis by French ships.

Those measures include:

- Paying out longlines at night, between the end of dusk and the beginning of dawn
- Switching off the deck lights during pay-out;
- Using white-coloured ground lines;
- Even weighting of automatically baited longlines;
- Discarding fish waste on the opposite side to that where the heaving operation is taking place;
- No discarding of waste during pay-out and 30 min. before pay-out;
- Deploying streamer lines.

### **I.2. C) Bird avoidance and scaring methods used:**

In early September 2004, Jacobs HALS (FISKVEGN) and Malcom MAC NEIL (SEALORD NZ) met representatives of the French fishing fleets.

That meeting enabled the French fishing vessels to analyse the first conclusions they had drawn from the self-weighted line trials conducted in the French Southern and Antarctic Lands and the practical aspects of their implementation, in the light of the greater and wider experience of New-Zealand.

The first results of those trials seem to confirm that the use of self-weighted lines makes it possible to significantly reduce the incidental bird mortality thanks to the greater sinking speed of the lines.

### **I.3) Enforcement of regulations**

The new decree governing toothfish fishing in the Crozet and Kerguelen EEZs from 1 September 2005 to 31 August 2006 tend towards stricter regulations in matters of avian mortality, through the bans it imposes (black lines prohibited) and through the requirements to use self-weighted lines and white, automatic longlines in accordance with the CCAMLR recommendations.

The decree relating to the fixing of the total catch allowed for toothfish which it is permitted to fish during the 2005-2006 campaign in the Kerguelen and Crozet economic zones and the distribution of quotas between ship owners, and which contains various technical provisions, sets draconian new rules in matters of avian mortality.

The vessels must be operated so as to avoid seabird mortality. All the dead birds fished during the weighing of the line are placed at the fishing inspector's disposal. Discarding dead birds is prohibited without the inspector's authorisation.

In addition, the inspector is charged with regularly reporting to the relevant department on the incidental bird mortality. In the light of those elements, the department concerned may decide to temporarily ban the access of a fishing vessel to a sub-sector or sector, or to fish within a radius of 100 nautical miles. It informs authorised ships of the figures and trends in incidental seabird mortality.

Finally, for automatic-type longlines, the captains must use either non self-weighted white lines to which are added five-kilo weights every 50-60 metres or self-weighted white lines with a minimum of 50 grams per meter.

A bird scaring device consisting of several streamer lines must be put in place.

Black lines are strictly prohibited.

Fishing is prohibited in the Kerguelen Islands in February.

### **1.4) Study concerning petrels**

Incidental mortality caused by longline fishing of Procellariiforms (seabirds with several tubular nostrils, such as petrels and albatrosses) is regarded in the Southern Ocean as the main threat to the conservation of those birds.

In order to know the real impact of that mortality, in particular of white-chinned and grey petrels in the Crozet and Kerguelen EEZs, the CNRS laboratory at Chizé was commissioned to do a study with three main objectives:

- Have past and present levels of incidental mortality had, and do they still have, a significant effect on population dynamics?
- Are the populations declining?
- What is the impact of incidental mortality on the populations compared with the fluctuations of the ocean environment?

The study comprises the following stages:

- A census of the Possession (Crozet) Island and Kerguelen archipelago populations.

- A summary of data already acquired by the Chizé laboratory on the demographic follow-up, satellite tracking and diet.
- A determination of the degree of interaction between the petrel feeding areas and the fishery zones.
- A modelling of the impact of incidental mortality on the populations.

An analysis of the long-term follow-up which started in 1966, will make it possible to model the actual impact of longline fishing through an estimate of the survival rate, flight initiation and recruitment rate.

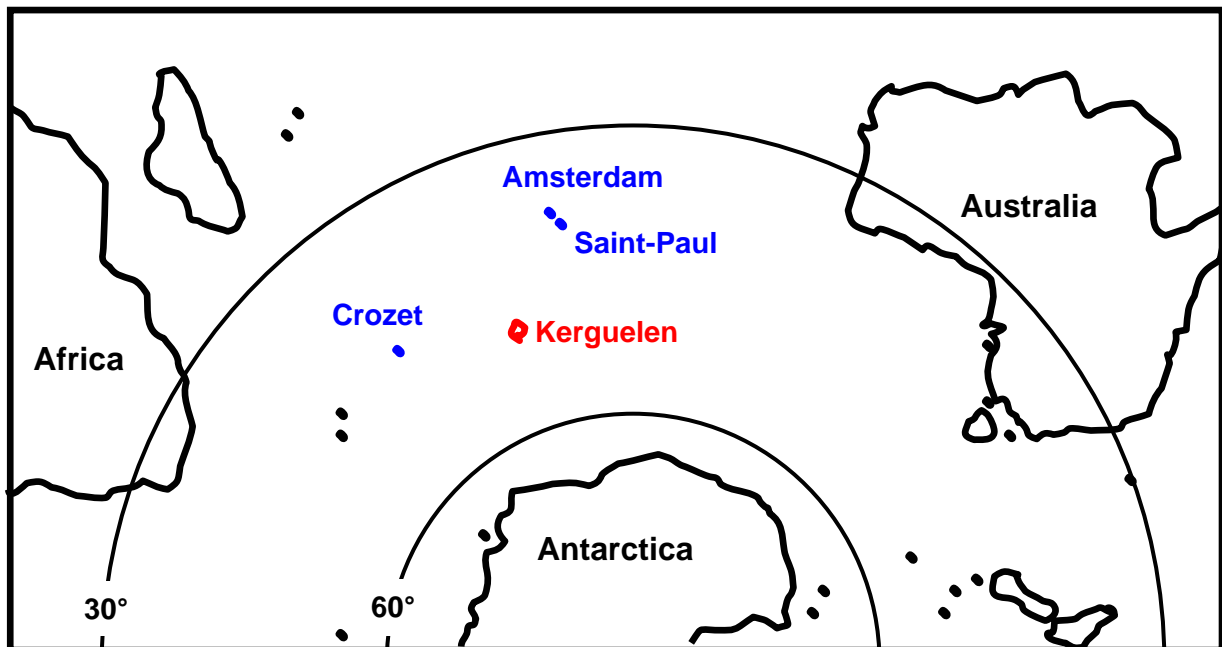
The laboratory analyses will be finalised between December 2006 and the first semester of 2007.

## II) Rehabilitation of the Golfe du Morbihan (Kerguelen) Islands

### Eradication of introduced mammals: protecting petrels both on land and at sea

#### Background

The damage caused by introduced mammals to the bird fauna of the Kerguelen Islands is common to most oceanic islands and has led the French Southern and Antarctic Lands (TAAF) administration to embark on an aggressive policy for the restoration of some islands. The ultimate objective is the elimination of all the species of mammals introduced into the Golfe du Morbihan (Kerguelen) Islands and the tracking of returning birds which had disappeared. This objective materialised in the form of the Morbihan Project which will enable the knowledge of current species to be improved and the eradication to be implemented on some islands.



The French Southern and Antarctic Lands are not inexperienced in this field, as they launched their ecological rehabilitation policy in 1987 with the confinement of a herd of cattle on Amsterdam Island and pursued it in 1994 with the eradication of rabbits and rats on St Paul Island (800 ha), which was confirmed in late 2001. The latter operation, funded in part by the European Development Fund, enabled the recolonisation of petrel species which were

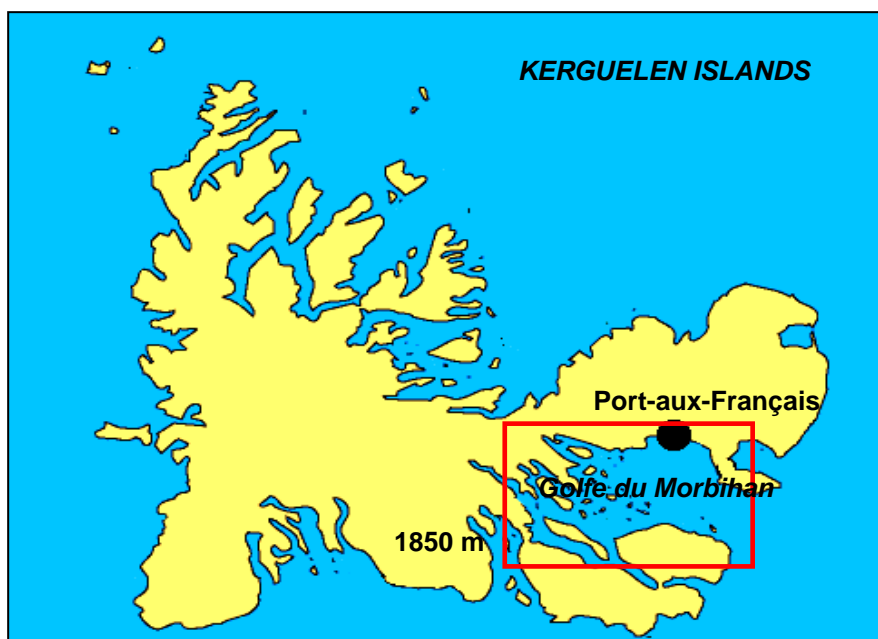
endangered, including an endemic one, Macgillivray's prion (*Pachyptila Macgillivrayi*). These two operations were conducted with the scientific support of the *Centre d'Études Biologiques* [Centre for Biological Studies] at Chizé (CNRS [*Centre National de la Recherche Scientifique* = National Centre for Scientific Research]) which also conducts studies associated with the follow-up of the recolonisation of St Paul Island by the birds. The follow-up of the plant community restoration is conducted by the Paimpont Biological Station (University of Rennes).

It was against that background that the French Southern and Antarctic Lands decided to extend their action to the Kerguelen area. The approach used, in respect of the surface area of the islands concerned, the species involved and the methods used, has no equivalent in metropolitan France.

### **The Morbihan Project**

Some of the Golfe du Morbihan (Kerguelen) Islands support populations of introduced species of mammals (sheep, mouflons, cats, rats, mice, rabbits) which have an appreciable impact, albeit to different degrees, on their environment. The "Morbihan Project" is the materialisation of the will to protect the biodiversity of the French Southern and Antarctic Lands; the targeted species are the rats and mice whose predatory action on birds, including breeding petrels has been demonstrated.

A programme of that magnitude comprises several phases, with the first islands to be treated serving to streamline the strategy for the following ones. It is therefore necessary to take into account the current species (rats, mice, rabbits, cats, sheep, mouflons) and their interactions, the surface areas concerned (from a few hectares to more than 20 km<sup>2</sup>), the methods to be used (poisoning, trapping, shooting) and the potential risks (primary or secondary mortality). In accordance with those criteria, operations are undertaken only after an assessment has shown the chances of success to be optimal.



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The Kerguelen Islands with the permanent base of Port-aux-Français, located to the north of the Golfe du Morbihan.

### **Château Island (220 ha)**

This island, one of the highest in the Golfe du Morbihan reaching 172 m at its highest point and with a surface area of 220 ha, was treated twice by spreading poisoned bait from a helicopter during stopovers of the Marion Dufresne (supply ship of the French Southern and Antarctic Lands) in November and December 2002. The cabins built for the occasion were brought in by helicopter in November together with the equipment and rations crates. The skill of the helicopter crews and the forecasts provided by the Météo France staff at Port-aux-Français enabled the bait spreading to be carried out in the most secure and efficient way. A dedicated team of four people then stayed on the site for one month to ensure the correct distribution of the bait and complete it if required, but also to make a first assessment of the success of the operation. The whole island was thus inspected on several occasions and over the 88 km that was covered, no trace of live rats or mice was found during the week after the first spreading.

A team of ornithologists from the *Centre d'Études Biologiques* at Chizé (CNRS) conducted an initial study of the bird populations at the same time. A survey of the breeding bird fauna was carried out and thus made it possible to accurately locate couples of skuas, sheathbills, gulls, Kerguelen (Eaton's) pintails, but also burrows of Kerguelen petrels, white-chinned petrels and white-headed petrels. This survey will make it possible in the future to follow the evolution of this community, including the actual impact of the incidental mortality associated with the absorption of poisoned bait by some birds. It is anticipated and very likely that the benefit derived from the eradication of the predatory rats, and occasionally mice, will more than compensate the few losses recorded during the operation. It was thus shown at Crozet that the predation by rats on white-chinned petrels was responsible for the failure of 41% of the breeding, the latter not exceeding the 16% success rate before the poisoning of rats over a limited area.

A follow-up mission to assess the success of the operation was conducted on Château Island from November to December 2003 by a team of four people. After noting that the bait left in situ in permanent stations had not been touched, regularly spaced traps were set throughout the island and checked daily to detect the possible presence of rats or mice. By the end of the mission, no trace of rodents had been found, which augured well for the success of the project.

The definitive absence of rats and mice was confirmed during a second mission from November to December 2004 and during a week in May 2005, which validated the success of the operation.

The follow-up of the recolonisation by the petrels will be conducted by the *Centre d'Études Biologiques* (CNRS) at Chizé but is unlikely to show any clear results before a few years, as the species under consideration have a distinctive biology, including a very long pair establishment and low reproduction rate with at best one chick per year.

### **Australia Island (2000 ha)**

Australia Island is the second largest island in the Golfe du Morbihan and is by far the largest French island treated for targeted species (black rats and mice). This operation required the presence on the site for one month of a four-member team and a helicopter with its crew. Thirty-two tonnes of bait and 70 drums of kerosene were positioned on two island sites. Two spreadings separated by a ten-day interval were carried out during periods of favourable



weather conditions. Flights covering over 1100 km were made, and bait was dropped at 80 metre intervals in order to maximize coverage.

The outcome of that operation will be assessed in November-December 2006.

### **Moules Island**

The next stage of the “Morbihan project”, which provides for the eradication of mammals introduced into all the Golfe du Morbihan Islands at Kerguelen, is Moules Island. The eradication of mice from that island, which has an area of 400 ha, is planned for late 2005.

### **Conclusion**

Even though the impact on the bird populations of those islands is not yet known with certainty, the consequences of the eradication of predatory species have always been positive on the petrel populations (i.e., the Crozet white-chinned petrels). It is thus hoped that seabird species affected by longline fishing, which suffered heavy losses over recent years because of this, will be able to find new breeding sites on land.