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Data collection protocol of the National longliners at CSP Madagascar

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Abstract:

Observer program exist and is operational at the CSP of Madagascar. Data bases on national longliners vessels are created at the CSP to record data. Data are provided by observers as trip reports. A pre-established canvas is filled out by each observer during his staying on board. Information permitting of the resource monitoring is collected by observers. Thus, information on catches and efforts are the most concerned and they are recorded in data base. Cover rate is around 30% of national fleets.

Key words: National fleets, longline, observers, data collection.

List of contents

List of illustrations

Tables

Figurew

1. Introduction

Management of marine resources is one of the concerns of each department in charge the national fishing for countries having such resources. Several ways are adopted by each State in the implementation of activities to manage marine resources. In general, these activities are included in the implementation of laws and texts that fit the regulations of the exploitation of resources and the establishment of monitoring systems that help in decision-making and guidance policy for resources management.

Among these activities of resources management, Statistics plays an important part in the knowledge of the state of resources. This is a determining factor for the monitoring of resource states. And data collection constitutes a main key in the statistics or in the management of resources in general.

For CSP Madagascar, several data are collected in its activities such as fishing permits, law violations, fishing by VMS, logbooks, inputs and outputs declaration as well as trip reports of observers and recently the landing. All industrial fisheries are affected by these activities.

This document provides clarification on the protocol for collecting data by the observer program through reports trip of the national longliners. It has three sections. First, arrangements for selection of vessel for boarding observers will be explained briefly. Then, the contents of trips reports will be described and finally, illustrations of some elements of the database for the data records will be shown.

2. Choice of vessel for boarding of the observers

The Memorandum of Understanding between the fishery Department and the fishing Companies requires that Companies must submit their notice of departure to the CSP and indicate that the rate of observer coverage is about 30%. Thus, having informed the number of vessels of each Company and the notice of departure of each vessel, CSP plans boarding of observers. CSP ensures that each vessel should be observed at least once per year and approximately 30% of each company's trip are covered.

3. The content of a trip report

A trip report contains information of the daily activities for fishing, weekly recapitulation, fact sheets of samplings and summary of trip.

1.1 Information on the vessel

The physical characteristics of the vessel, means of communication available on board and the characteristics of fishing gear are recorded in the report in early boarding.

1.2 Daily activities

Daily activities are recorded during fishing operations. Several parameters are involved in this task of observation. Information such as the fishing efforts in hours and in number of fishing operations and catches in kilograms per species are noted. At the end of the day, quantities in kilograms per day are known for each species. Depths and the geographical coordinates of the fishing area that are given by the vessel devices are also recorded. The following table summarizes the records by year and geographic positions of fishing days for all vessels and trips observed.

Table 1 : Summary records of daily activities

Year	2007	2008	2009	2010	2011	2012
Number of tuna longline vessels	1	2	2	4	7	8
Number of trips observed	3	4	13	4	19	UK
Number of fishing days observed	192	75	178	35	230	UK
Number of positions recorded	84	36	114	25	212	UK

1.3 Reporting weekly

Per week, each observer categorizes by target or bycatch or rejection the catches according to the fishing agreement of the vessel and regroups them per day. Average depth, the total time in hours of operations as well as the numbers of operations performed are calculated on week. The extreme positions of the operations are also recorded weekly. The following table shows the number of weekly reports registered per year between 2007 and 2011.

Table 2 : Number of records of weekly reports

Year	2007	2008	2009	2010	2011
Number of weeks recorded	23	16	32	8	45

1.4 Samplings

Samplings are performed to determine the weight distributions of species caught. Individuals of the same species are weighed and counted and registration includes the weight in kilograms and number of individuals for the species concerned. In general, this activity is performed whenever the vessel changed fishing zone and the number of recordings are presented in the table below.

Table 3 : Number of records of the samplings per year

Year	2007	2008	2009	2010	2011
Number of mensuration recorded	485	222	798	-	521

1.5 Summary of the trip

The summary of the trip relates only catches. The quantities of catch for each species are grouped per week and then catches are grouped per category as target, or bycatch and rejections per week. The number of summary of the trip is equal to the number of observed trip as shown in the following table.

Table 4 : Number of summary trips

Year	2007	2008	2009	2010	2011
Number of trips observed	3	4	13	4	19

4. Recording data in the database

An Access database was created in CSP for recording data from trip reports. Verification work is made for the report to improve its content. The writings of scientific names, calculations recaps daily, weekly or final of the trip report are thoroughly checked and all errors are corrected.

After verification, trip report is recorded in the database. Several tables contained follow each other during entry operations. The following figures show the home with an extract from the list of tables (fig a) in general, data entry windows of reports for each fishery (Fig. b) and an extract of the architecture that shows the links between the various tables (fig. c).

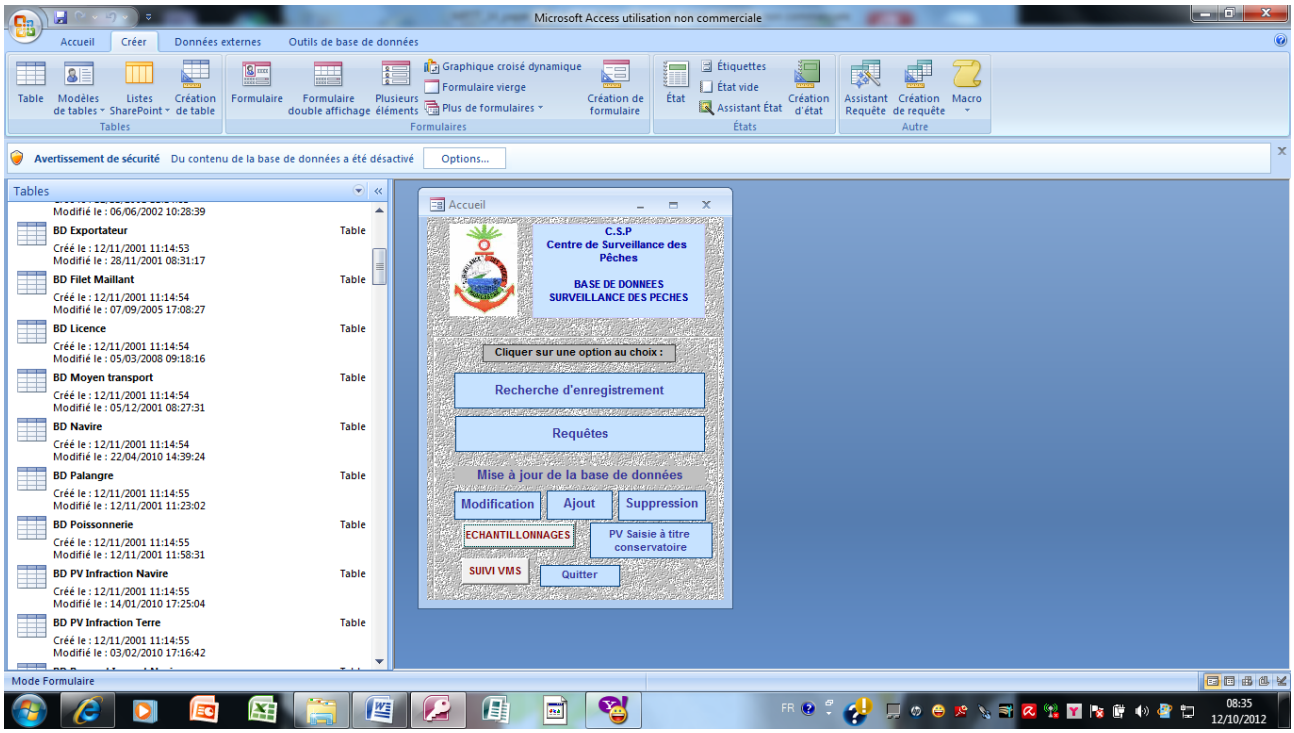

Figure a : Home of data base

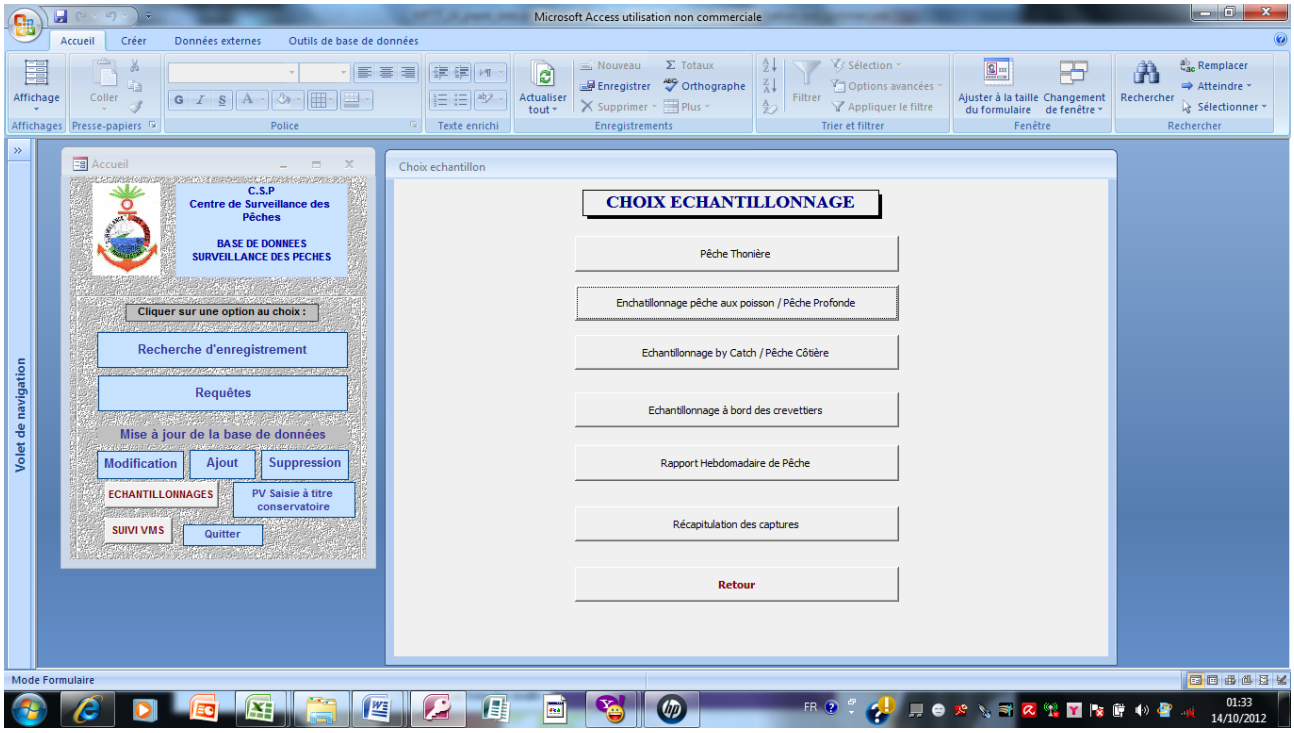

Figure b : Data entering windows for each fishery

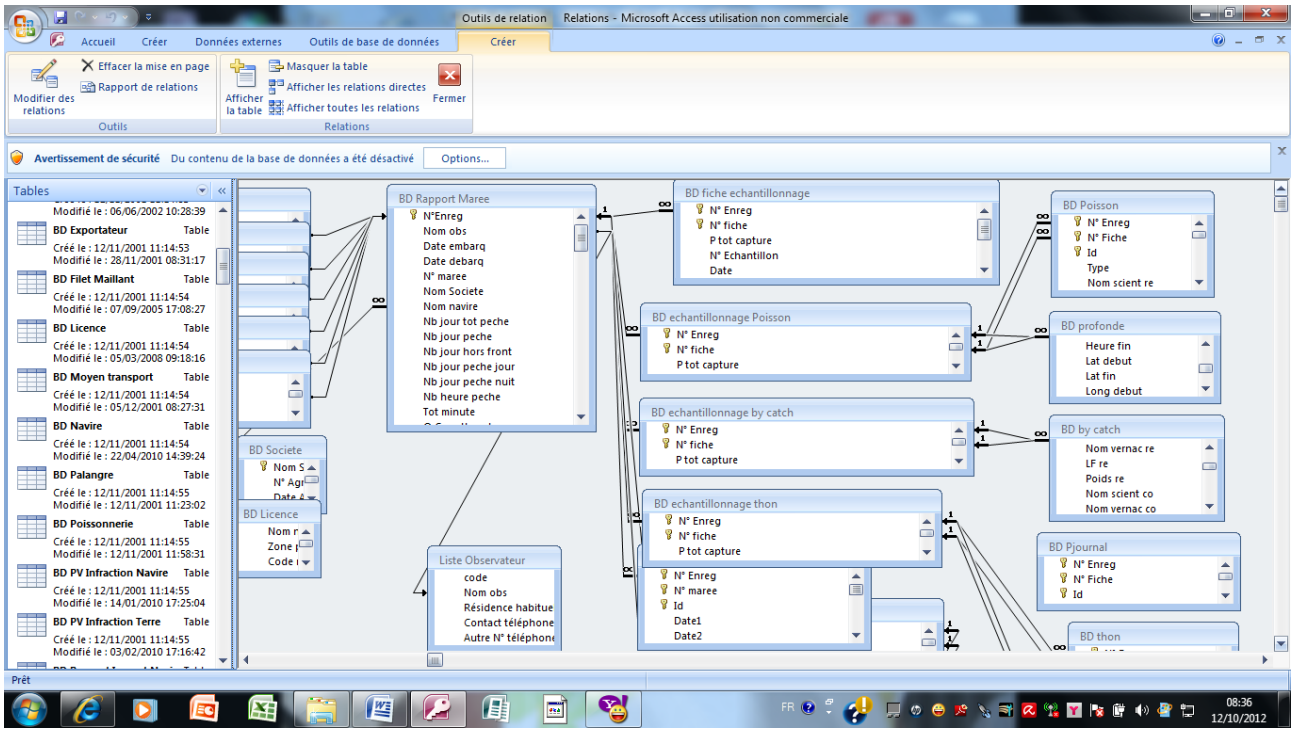

Figure c : An extract of the architecture showing the relationships between the various tables

It must be recognized that typing mistakes are frequent during data entering and verification efforts but also improvements in the basis for self-verification are made by the technicians.

5. Conclusions

The protocol implemented by the administration of fishing data collection by the observer program can have samples covering 30% of the fishing activities. It provides information for the implementation of monitoring resources. There is the information on catches and effort as well as geographical and oceanic area of operation. They are collected for each operation and then summarized daily, weekly, and finally the full trip and that constitute the trip report. Data records are in an Access database as CSP technicians continue to make improvements to reduce mistakes during data entered.