SCIENTIFIC COMMITTEE
THIRD REGULAR SESSION

13-24 August 2007
Honolulu, United States of America

ANNUAL REPORT – PART 1
INFORMATION ON FISHERIES, RESEARCH, AND STATISTICS

WCPFC-SC3-AR PART 1/WP-18

NEW CALEDONIA

WESTERN AND CENTRAL PACIFIC FISHERIES COMMISSION

3rd Scientific Committee Meeting
13th – 24th August 2007
Honolulu, Hawaii

NEW CALEDONIA - ANNUAL REPORT
Part 1

Summary:

For more than 20 years tuna fishing in New Caledonia has been only by longliners without any license issued to foreign vessel since early 2001.

In 2006 there were 24 domestic vessels licensed to fish in the EEZ compared to 27 in 2005, and 29 in 2004 and 2003. In terms of number of boats active only 21 longliners fished last year which is less than in 2005 (23 active vessels then).

Despite better CPUE the annual catch has shown a similar decreasing trend to that of the fishing effort, from 2620 tonnes in 2004 down to 2110 tonnes in 2006. Albacore remains the main species caught encountering for about two thirds of the overall catch. Over the last ten years bigeye has become a by-catch species of the domestic fishery with only 35 tonnes unloaded in 2006.

Seasonality continues to affect the catch from the New Caledonian fleet. However, patterns during last year were somewhat different from the previous two years, especially with regard to albacore with drops in catch during the transitional seasons having been less important than in 2004 and 2005.

Port sampling and observer activities under a new EC-funded project due to start in 2008 will continue to add scientific data to the logsheets currently collected on a regular basis. It should be noted that in 2006, the incidental catch of a turtle (juvenile green turtle) was reported by the observer program which is the first such occurrence since the start of the program in early 2002.

Over the last years several initiatives, both on the scientific and technical aspects of the tuna fishery, have been implemented on a local scale so as to contribute to the regional efforts to improve and spread knowledge about the spatial distribution of target tuna species and the links to environmental signals.

A. Fleet structure and fishing activity

In 2006, 24 domestic tuna longliners were licensed to fish in the EEZ but only 21 of them were active. In accordance with a decision from the New Caledonia government no fishing license is issued to foreign vessels.

Table 1: Number of vessels active in 2006 by GRT class

	0-50	51-100	100+
Longliners	8	9	4

As indicated in table 1 above, 8 active vessels have a gross registered tonnage of less than 50 tons: these boats have therefore a limited cruise range of one week or so. The remaining vessels are larger boats capable of staying at sea for longer periods (two weeks or more). However, the average trip length is only 10 days of which 6 to 7 are fished.

Compared to 2005 the total number of days at sea (3300) and the number of hooks (3.8 millions) dropped down by 20 % and 24 % respectively. The decline in number of days fished represents 37% since 2003, directly impacting the level of catch.

B. Catch statistics

The catch statistics provided in table 2 are compiled from data reported for all vessels on South Pacific regional longline forms.

Thanks to good cooperation with the fishing companies the coverage rate is nearing 100%. VMS data have been used for a short time, enabling the fisheries department staff to check whether fishing reports are missing. So far, this situation occurred very rarely.

Table 2: breakdown of catch by species from New Caledonian longliners in the WCPFC statistical area

Metric tonnes of	2003	2004	2005	2006 (*)
Albacore	1111	1469	1590	1358
Yellowfin	754	631	448	414
Bigeye	142	90	76	35
Marlins	122	121	124	91
Swordfish	22	17	12	10
Mako shark	38	34	26	14
Others	277	256	197	187
TOTAL	2466	2618	2473	2108

*: preliminary figures

All of the catch is from the WCPFC statistical area south of the Equator and west of 150° west.

There has been a general declining trend in the total catch reported since 2004 representing a drop of almost 20%. This decline is common to all species, even for albacore which is now the target species by every vessel (2/3 of the overall catch).

Also noticeable is the very low tonnage of bigeye caught in 2006 (35 tonnes) compared to 2003 (142 tonnes) and previous years. This species can now be regarded as a bycatch in the

New Caledonian fleet which contributes to the limitation of fishing effort towards this species in the South West Pacific.

The situation is very similar for swordfish and marlins with a very low catch rate (100 tonnes all together).

As stated in previous reports the New Caledonian tuna fleet faces seasonal patterns in the abundance of the resources (see table 3 below).

Table 3: Number of fish caught per month in 2006

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Yellowfin	448	1492	2398	3930	2350	981	1014	1107	873	421	631	271
Bigeye	74	135	159	155	93	127	80	55	36	59	162	84
Albacore	6281	2331	2124	1654	6671	5664	7915	9878	6927	5054	8801	10408
Others	1432	1141	1054	1000	1129	833	691	750	663	954	1568	2682
TOTAL	8235	5099	5735	6739	10243	7605	9700	11790	8499	6488	11162	13445

In 2006 the drop of yellowfin catch in the second half of year was smaller than that recorded in the previous years. The usual seasonal pattern for albacore is also noticeable in table 3 with lower catch rates during the transitional months (February to April and September to October).

Compared to 2005 increases were recorded in the overall CPUEs of yellowfin and albacore.

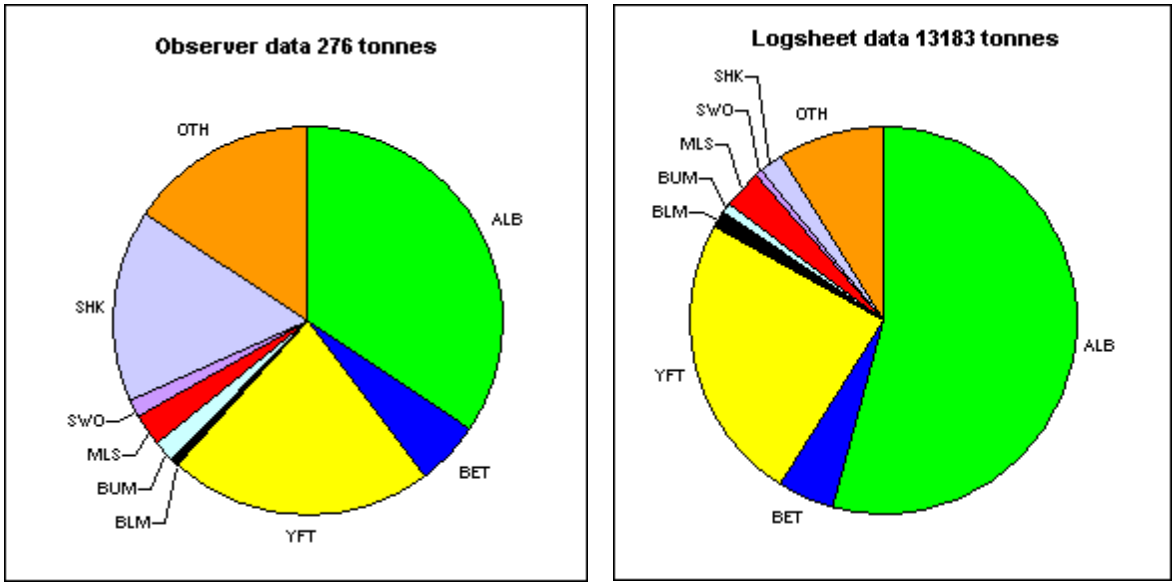
C. Monitoring activities

Port sampling and observer activities have been carried in New Caledonia for more than 20 years. However, they have only been stabilized for a few years under the EU-funded ProcFish program. Some similar activities are planned for the future so as to allow for a continuous monitoring of the domestic fleet.

1. Observer activity:

From 2000 to 2006 46 trips were observed representing 336 longline sets and 605 755 hooks. The proportion of species from the logsheets and the observer data respectively is shown on in figure 1 below. A substantive amount of sharks (mainly blue shark) is not reported on the logsheets; however, there is a recent trend towards a decrease in the number of sharks caught. The comprehensive list of species observed is given in annex 1.

Figure 1: comparison of proportion of major species caught derived from logsheet and from observer data (alb = albacore; bet = bigeye; yft = yellowfin; blm = black marlin; bum = blue marlin; mls = striped marlin; swo = swordfish; shk = sharks; oth = others)



So far, no direct incidental catch of marine mammals or birds has been reported by the observers. In April 2006, however, a juvenile green turtle was caught by a domestic longliner having an observer on board who therefore took this opportunity to show the crew how to adequately handle the turtle. He used the tools and techniques provided to the captains and crews during previous workshops to dehook and resuscitate the reptile.

These workshops helped to have the fishermen aware of the status of the turtles populations in the Pacific and allowed the fisheries department of New Caledonia to gather information about interactions between these species and the fishing gear. It appears that such interactions are rare within the domestic fleet due to the low level and characteristics of fishing effort (no low-depth setting for swordfish in particular).

2. Port sampling activity:

Table 4 below shows the results of the port sampling activity carried out in the two unloading ports of Nouméa and Koumac. After the significant drop in this activity in 2004 it will take more time than expected to recover the level of activity of the previous period. There is still some difficulty in having access to unloading sites of fishing companies which faced severe financial problems for three years.

Table 4: Number of fish sampled under ProcFish

	2002	2003	2004	2005	2006	TOTAL
Unloading sampled	396	353	357	185	135	1426
Albacore	42669	28207	25018	17889	16762	130545
Bigeye	3594	2376	1313	686	372	8341
Yellowfin	16692	24935	19240	4066	4213	69146
Striped marlin	549	541	265	160	161	1676
Swordfish	142	220	89	33	22	506
Black marlin	144	309	244	102	79	878
Blue marlin	359	151	100	56	8	674
Mahi mahi	5419	4068	3822	1570	1273	16152
Wahoo	2135	1943	1467	601	603	6749
Others	2143	3832	2968	1745	1033	11721
TOTAL	73846	66582	54526	26908	24526	246388

D. Scientific and technical research

1. Characterizing vertical habitat of target and non target fish:

The results of a study on “Depth, temperature, and capture time of longline targeted fish in New Caledonia” were presented at the first scientific committee meeting in 2005 (Fishing Technology IP3).

2. Contribution to fishing effort standardization:

Temperature depth recorders (TDR) used during the project presented in FT-IP3 have been provided to fishing boat operators since June 2005 to refine the bathymetric distribution of fishing effort in the waters of New Caledonia. However, the involvement of the fishing captains in the project was not significant enough to provide accurate data on the typical depth profile of the New Caledonian longliners.

Moreover, the longline fishing sector is presently involved in an important reorganisation scheme:

- There is much turn-over among fishing masters and fishing vessels owners and the access to remote sensing data is only slowly increasing.
- The overall commercial strategy (processing, markets) is also currently re-evaluated.

All those aspects may lead to major changes in the fishing strategy and consequently in the effective fishing effort.

3. Relationships between climatic signals and the dynamics of tuna stocks in the EEZ of New-Caledonia:

An integrated study will be soon implemented in order to understand the mechanisms which link the primary production with the hydrodynamic conditions, from seasonal to inter-annual time scales. A space-time analysis of the fine structures of the physical and biological variables will be carried out. Firstly, the vertical structure of the primary production around New Caledonia will be determined using a biogeochemical model (PISCES) coupled to a hydrodynamic model (ROMS). The application of a tuna model (SEAPODYM) will be then carried out in two steps: the simulation of the preys, then that of tunas. This integrated study will allow for a more rational approach of the relationships between physics and biology in the EEZ of New Caledonia and finally lead to an optimized management of tuna fisheries.

4. Gathering existing knowledge for communication on a large scale

A synthetic document ("Atlas of tuna fisheries in New Caledonia") has been recently distributed to the longline fishery sector and the management authorities. This synthesis, presently only available in French, aims at gathering and simplifying all relevant information on environment and tuna resources in the area to propose a comprehensive "state of the art" on fisheries sciences in relation to tuna fisheries.

It comprises four thematic chapters:
1/ overall hydrodynamic environment;
2/ tuna fisheries dynamics;
3/ management issues, and;
4/ comprehensive snapshot of the New Caledonia longline fishery on 1x1 statistical maps.

ANNEX 1

Species observed (2000-2006)

	Number observed	Percent of total fish	Percent of total observed sets	Retained (%)	Alive at capture (%)
Albacore	6009	45.27	93.1	89.9	27.1
Yellowfin	2307	17.38	83.4	95.4	43.3
Longsnouted lancetfish	876	6.60	64.7	0.9	49.2
Mahimahi	772	5.82	67.2	96.6	58.9
Bigeye	478	3.60	43.1	93.9	57.1
Blue shark	448	3.38	50.6	1.8	91.5
Skipjack	430	3.24	39.7	98.8	9.1
Opah (moonfish)	346	2.61	40.3	92.5	60.1
Wahoo	314	2.37	46.6	97.8	16.2
Great barracuda	161	1.21	27.5	6.2	59.6
Lancetfishes	92	0.69	7.2	1.1	46.7
Short-billed spearfish	103	0.78	21.9	95.1	30.1
Striped marlin	106	0.80	22.2	98.1	53.8
Short finned mako	77	0.58	21.3	93.5	68.8
Escolar	69	0.52	14.4	8.7	88.4
Pelagic sting-ray	72	0.54	16.9	1.4	95.8
Black marlin	24	0.18	5.9	95.8	29.2
Blue marlin	50	0.38	13.4	96	62
Oceanic whitetip shark	53	0.40	12.8	1.9	77.4
Snake mackerel	59	0.44	11.9	0	57.6
Other teleosts	212	1.66	-	-	-
Other sharks	126	0.98	-	-	-
Other billfish	88	0.66	-	-	-
TOTAL	13272				