



**SCIENTIFIC COMMITTEE**  
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**ANNUAL REPORT – PART 1**

**NEW CALEDONIA**

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The tuna fleet in New Caledonia is composed of longliners managed by 100 % local companies. There has been no licensed foreign vessel in the New Caledonian waters since early 2001.

The local fleet increased sharply from 2000 to 2003 but this trend ceased in 2005: last year 27 domestic vessels were licensed to fish in the Exclusive Economic Zone (EEZ) compared to a peak of 29 vessels in 2004 and 2003.

The local vessel monitoring system is regularly improving. It is used to check the logsheet coverage which is now nearing 100 %.

Seasonality remains an important feature of the tuna catch in the New Caledonian waters in relation to fluctuations of environmental conditions. From a study carried out last year in collaboration with OFP-SPC it appears that variability of catch can be explained by seasonal climatic changes, ENSO events as well as local heterogeneity in the ecosystem.

**A. Fleet structure and fishing activity**

In 2005, 27 domestic tuna longliners were licensed to fish in the EEZ but only 23 of them were active.

**Table 1: Number of vessels active in 2005 by GRT class**

	0-50	51-100	100+
Longliners	8	15	0

As indicated in active vessels table 1 above, 8 registered tonnage of less than 50 tons: these boats have a limited cruise range. The remaining vessels are larger boats capable of staying at sea for longer periods (more than two weeks).

Compared to 2004 the total number of days at sea (400) and the number of hooks (5 millions) dropped down by 20 % and 18 % respectively. In this regard, it should be noted that two companies totally stopped fishing in 2005.

It should be noted that no fishing license for the EEZ has been issued to foreign vessels since early 2001.

## **B. Catch statistics**

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

M. tonnes of	2001	2002	2003	2004	2005 (*)
Yellowfin	570	572	754	631	448
Bigeye	128	189	142	90	76
Albacore	1,020	1,165	1,111	1,469	1,590
Sharks	36	20	38	34	26
Others	310	265	421	394	333
<b>TOTAL</b>	<b>2,064</b>	<b>2,211</b>	<b>2,466</b>	<b>2,618</b>	<b>2,473</b>

\*: preliminary figures

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

With regard to marlins 124 tonnes were caught in 2005 of which 74 were of striped marlin and 50 tonnes of blue and black marlins.

The catch statistics provided in table 2 are compiled from logsheet data. The South Pacific regional longline logsheet is used by all fishing companies to report catches by their vessels.

Since the establishment of a socio-economic tuna fishery observatory in mid-2003 the national statistics have gradually improved with a coverage rate now nearing 100%. Every day, staff from this observatory visit the fishing companies in Noumea to collect the latest logsheets. The only company not located in Noumea sends its logsheets to the observatory on a regular basis following the provisions of the New Caledonia fisheries policy. Checking with VMS data allows to certify the high coverage rate.

The decrease of catch in 2005 compared to the previous year (- 5 %) is directly due to less or no activity by several fishing companies despite an increase of the overall CPUE (+ 26 % from 2003 to 2005).

As stated in previous reports the New Caledonian tuna fleet faces seasonal patterns in the abundance of the resources. This is reflected in table 3 below which gives the catch statistics in number of fish per month in 2005:

- yellowfin represents a high proportion of fish caught from February to May, then albacore becomes the predominant species (May to September);
- bigeye encounters for a very low proportion of catch, with a peak in the second quarter of the year.

**Table 3: Number of fish caught per month in 2005**

Month	01	02	03	04	05	06	07	08	09	10	11	12
Yellowfin	1,535	2,519	2,538	4,452	2,122	767	135	288	299	202	420	310
Bigeye	156	197	257	340	413	266	231	98	93	55	53	44
Albacore	2,359	5,144	1,571	1,986	9,225	9,532	9,895	14,326	12,199	6,419	10,119	5,465
Others	1,153	1,398	744	660	957	1,113	885	813	832	1,062	1,547	1,734
<b>TOTAL</b>	<b>5,203</b>	<b>9,258</b>	<b>5,110</b>	<b>7,438</b>	<b>12,717</b>	<b>11,678</b>	<b>11,146</b>	<b>15,525</b>	<b>13,423</b>	<b>7,738</b>	<b>12,139</b>	<b>7,553</b>

### **C. Research and monitoring activities**

#### *1. Tuna behaviour:*

Taking benefit from what was done by the SPC-OFP on a regional scale a project was carried out in 2005 under the ZoNéCo programme to address the question of seasonality of the tuna resources in the New Caledonian EEZ and, more generally, to better understand and predict their movements. It appears that environment may explain variability in catch due to seasonal climatic changes, ENSO events as well as local heterogeneity.

Temperature greatly influences the tuna movements on a large scale: unlike albacore, in the region, tropical species like yellowfin and bigeye are more abundant during La Niña events. With regard to yellowfin catch are greater than average for temperatures more than 20 °C.

CPUE of these two species are also positively correlated to primary production: yellowfin seems to prefer waters with low a-chlorophyll concentration and bigeye appears to be more tolerant to a moderate concentration.

The distribution of albacore is mainly driven by water fronts movements in surface and sub-surface whereas yellowfin abundance more depends on temperatures within the midwater layer.

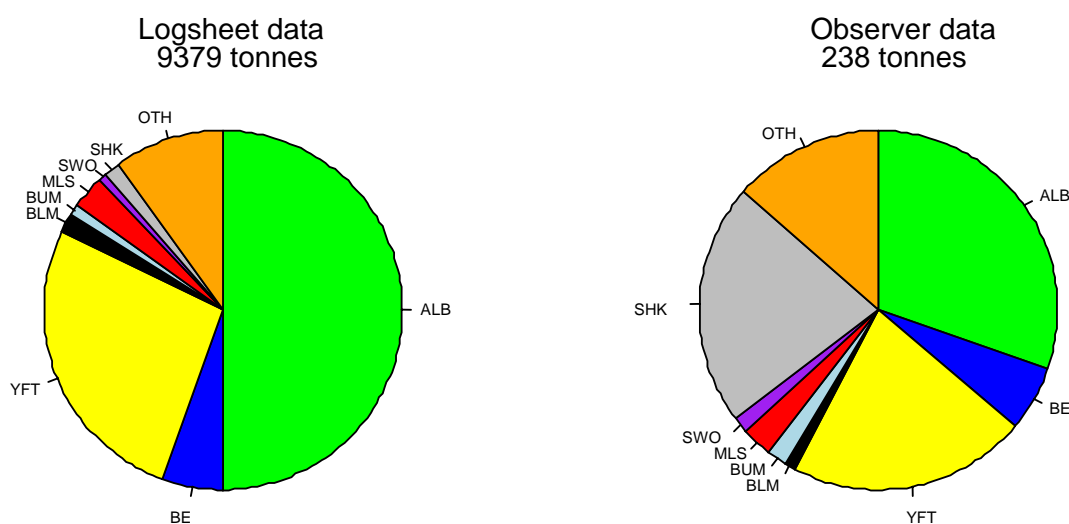
The issue of prey abundance was also addressed in this work. Albacore CPUE tend to decrease when prey are too abundant, this species apparently preferring living preys to bait. Yellowfin shows a quite different behaviour: CPUE for this species stay higher than average when preys are abundant, maybe because of its high demand in energy.

## 2. Port sampling and observer activity:

Together with scientific activity, port sampling and observer activity are also undertaken routinely in New Caledonia. Although some of these activities date back to 20 years ago they have increased notably since March 2002 when the EU-funded ProcFish program started in the region.

For the period 2000 to 2005, the observer activity represents 39 trips, 286 longline sets and 520,615 hooks. Figure 1 below shows the proportion of species from the logsheets and the observer data respectively indicating a substantive amount of sharks (mainly blue shark) not reported on the logsheets. A 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)**



It is worth noting that no interaction with turtles, marine mammals or birds has been reported.

The port sampling activity is carried out at the unloading ports of Nouméa and Koumac. As stated in table 4 below this activity dropped significantly in 2005 due to financial difficulties faced by the two major fishing companies and re-arrangements within the port sampling and observer program. It is expected that it will improve in 2006.

**Table 4: Number of fish sampled under ProcFish**

Year	Unload. sampled	alb	bet	yft	stripe d marlin	sword fish	black marlin	blue marlin	mahi mahi	wahoo	others	Total
2002	396	42,669	3,594	16,692	549	142	144	359	5,419	2,135	606	72,309
2003	353	28,207	2,376	24,935	541	220	309	151	4,068	1,943	2,372	65,122
2004	357	25,018	1,313	19,240	265	89	244	100	3,822	1,467	1,968	53,526
2005	185	17,889	686	4,066	160	33	102	56	1,570	601	1,135	26,298



### List of species observed (2000-2005)

Annex 1

Species	Number observed	Percent of total fish	Percent of total observed sets	Retained (%)	Alive at capture (%)
Albacore	4,528	41.13	90.9	87	24
Yellowfin	2,049	18.61	80.0	95	39
Longsnouted lancetfish	798	7.25	67.4	1	49
Mahimahi	683	6.20	64.6	97	57
Bigeye	455	4.13	43.3	94	56
Blue shark	434	3.94	52.8	2	91
Skipjack	383	3.48	38.1	99	9
Opah (moonfish)	298	2.71	39.5	91	58
Wahoo	249	2.26	43.7	97	14
Great barracuda	151	1.37	28.3	3	58
Lancetfishes	92	0.84	8.0	1	47
Short-billed spearfish	85	0.77	19.5	94	25
Striped marlin	77	0.70	20.2	97	45
Short finned mako	71	0.64	21.6	93	69
Escolar	59	0.54	13.2	10	88
Pelagic sting-ray	55	0.50	15.3	0	98
Black mackerel	49	0.45	8.3	8	53
Blue marlin	47	0.43	13.9	96	60
Oceanic whitetip shark	47	0.43	12.5	2	79
Snake mackerel	47	0.43	11.5	0	60
Other teleosts	117	1.06	-	-	-
Other sharks	135	1.23	-	-	-
Other billfish	99	0.90	-	-	-
<b>TOTAL</b>	<b>11,008</b>				