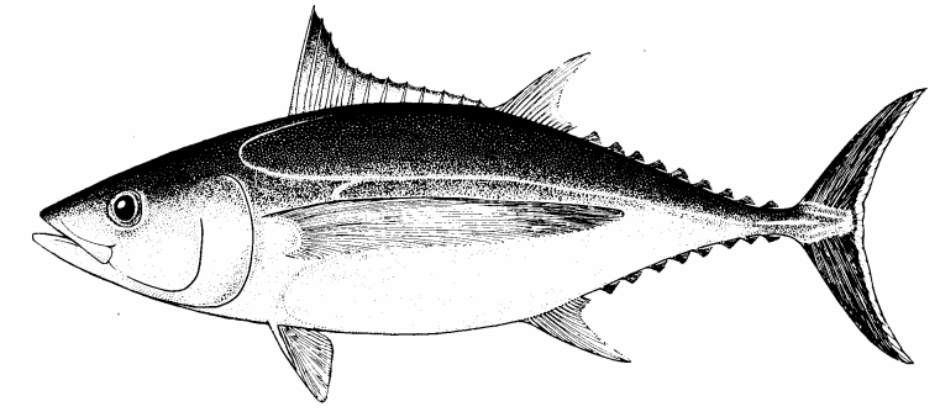
WCPFC-SC1 **FR WP-21**

Western and Central Pacific Fisheries Commission

1st Meeting of the Scientific Committee of the Western and Central Pacific Fisheries Commission
WCPFC–SC1
Noumea, New Caledonia
8–19 August 2005

Tuna fisheries in French Polynesia in 2004



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August 2005

Introduction

Tuna fisheries are a major component of the development of the French Polynesian economy, for both economic and social reasons. The tuna fisheries of French Polynesia are divided into two components: a small scale coastal fishery and an offshore longline fishery. There are currently no access agreements allowing foreign fleets to fish within the French Polynesian EEZ, a situation which has existed since 2001.

Coastal fishery

The coastal fishery comprises fleets of two types of vessels (Appendix 1). A fleet of 241 *poti marara* vessels, (literally 'flying-fish boats'), operated in 2004. These are small boats, 6-8 m in length, made from wood or FRP and suitable for many different fishing techniques (trolling, vertical longlining or harpooning, in both the lagoon and reef environments). Secondly, 52 *bonitiers* vessels ('skipjack boats'), operated in 2004.These are 10–12 m long and are made from wood or FRP. Most *bonitiers* target skipjack using pole-and-line gear. *Bonitiers* are less versatile than *poti marara*. The logsheet coverage rates of the *bonitier* fleet is highly variable among the different islands (from 0 % to 80 %).

Total fishing effort in 2004 for the *poti marara* fleet was 7,488 days (average of 102 days per boat) and 1,399 days for the *bonitiers* fleet (average of 106 days per boat). The total 2004 catches for both fleets were estimated at approximately 2,140 mt (Appendix 2). The average CPUE of the *poti marara* fleet was approximately 56 kg per fishing day. The average CPUE for the *bonitier* fleet was approximately 112 kg per fishing day.

Table 1 – total estimated catches of the coastal fishery in 2004

Species	Catches estimates (mt)
Skipjack	1,024
Yellowfin	509
Dolphin Fish	232
Billfish	133
Other	131
Albacore	71
Wahoo	39
Bigeye	1
Total 2004 Catch	**2,140**

Total catches show significant regional differences among the islands in relation. This is likely due to differences in local oceanographic conditions and the gears and fishing techniques.

Although the size of the *poti marara* fleet shows some fluctuation among years, this fleet seems to have stabilised. Thus total effort will probably remain relatively stable in the future. There are also a large number of non-professional *poti marara* whose fishing effort and catches are not currently able to be estimated. The *bonitiers*' fleet has steadily declined and it is likely that this trend will continue in the future. Nevertheless, due to the variable coverage rates, clear trends for the two fleets are uncertain.

Offshore fishery

Fleet structure

In accordance with the fishery development policy of the government of French Polynesia, the longline fleet has increased by 39 % in the past two years after several years of relatively stable numbers of vessels. In 2004, the offshore longline fleet totaled 75 vessels, an increase of 11 boats (+ 17 %). Statistical coverage for the fleet (except longlinning *bonitiers*) was 79 % of the total number of trips in 2004. The fleet is divided into four kinds of vessel (Appendix 3 and 4):

- Longlining *bonitiers*: 3 vessels which are traditional skipjack boats (pole-and-line) which have been converted to allow drifting longline fishing. The number of longlining *bonitiers* has steadily declined over the past few years (an 88% decline since 1993). These boats have a very limited range and relatively low yields. Their low profitability is partly explained by the low number of lines set in comparison to the days spent at sea and the low number of hooks per set (610 on average). These boats do not have lineshooters and set their lines in the top 100 m of the water column.

- Fresh fish longliners: 43 vessels which comprise boats 13-to-20 m in length made of aluminium or FRP. These boats have a maximum fishing trip of 10 days, partly due to the limited fish storage facilities as fish are kept on ice.. For this reason, their fishing range is limited to about 350 NM.

- Mixed longliners: 4 vessels, 21 m in length and of steel construction. Mixed tuna boats are an intermediate size between freezer tuna vessels and fresh tuna vessels. They can stay at sea for up to one month and are capable of filleting and freezing their catches and/or storing them on ice. They were among the most active vessels in 2004. They operated in the same zones as the freezer vessels during month-long trips, or in fresh tuna boat areas for up to two weeks at a time.

- Freezer longliners: 18 vessels which are mostly 25-26 m steel vessels. These boats can remain at sea for 1 1/2 to 2 months and have freezer capacity; however, the final sets made by these vessels target fish that is kept on ice or in slurry for the fresh fish market. One advantage of this greater time at sea is the gain in the number of days at sea over the number of fishing days.

Fishing effort

Although the longline fleet remained quite steady for several years, fishing effort (in total number of hooks set) steadily increased, consistent with the increase in mean vessel size. Total effort increased by 61 % in two years (26 % increase in 2004).

Table 2 – Overall characteristics of the fishing activity of the longline fleets in 2004

	Trips	Days at sea	Lines set	Hooks
Fresh tuna boats	799	8 381	5 388	10 855 721
Mixed tuna boats	73	15 978	891	2 318 947
Freezers tuna boats	233	5 258	3 482	9 335 488
Total	1 105	29 617	9 760	22 510 155

NB: Considering the very low rate of covering, effort by the longlining bonitier fleet has not been reported in this table. Their fishing effort is estimated around 150 000 hooks.

Catches and CPUE

During the last two years, the overall CPUE fell by 56 % (36 % in 2004), mainly due to a drop in albacore CPUE (-72 % during this period, - 57 % in 2004). However, the CPUE of yellowfin tuna increased in 2004 (+ 43 %). Total longline catches fell by 30 % during the past two years (- 21 % in 2004) and catches of albacore dropped by 53 %, similar to the albacore catch reported in 1996. In 2004, the overall catches of the longline fleet were 5,159 mt, which included 2,164 mt of albacore, 1,042 mt of yellowfin (second highest record for yellowfin catches) and 495 mt of bigeye tuna.

Table 3 - Catch estimates of the long line fleet in 2004

Species	Catch estimates (mt)
Albacore	2,164
Yellow Fin Tuna	1,042
Big Eye Tuna	495
Others Sharks	309
Blue Marlin	239
Wahoo	192
Opah	148
Dolphin Fish	125
Striped Marlin	106
Swordfish	84
Other	72
Skipjack	69
Oil Fish	36
Mako Shark	36
Pomfret	25
Spearfish	12
Sailfish	5
Black Marlin	1
Nominal Catches	5,159

Export

In 2004, exports amounted to 1,031 in tones of whole weight equivalents, a 38% drop from 2003 (- 64 % in two years). Whole frozen tuna exports dropped by 42% and the increased frozen whole fish exports (2.8 time higher in 2004) did not compensate for the drop in frozen loins exports (- 48 %). Limited by the decrease in production and handicapped by a very lucrative domestic market and a low dollar, the total export of fresh fish also dropped by 43%.

Table 5: export volumes in 2004 (in mt 'whole-weight equivalent')

Product		Volume (mt)
Fresh	Loins	2.1
	Whole	278.1
Frozen	Loins	634.1
	Whole	108.2
Other	Smoked	1.0
	Dried	7.0
Total		**1,030.5**

Appendices

Appendix 1: Composition of coastal fleets since 1990

Year	Bonitiers	Poti marara	Total
1990	118	100	218
1991	108	104	212
1992	115	106	221
1993	98	152	250
1994	96	155	251
1995	100	159	259
1996	96	160	256
1997	70	166	236
1998	72	207	279
1999	74	242	316
2000	63	280	343
2001	60	250	310
2002	55	237	292
2003	54	235	289
2004	52	241	293

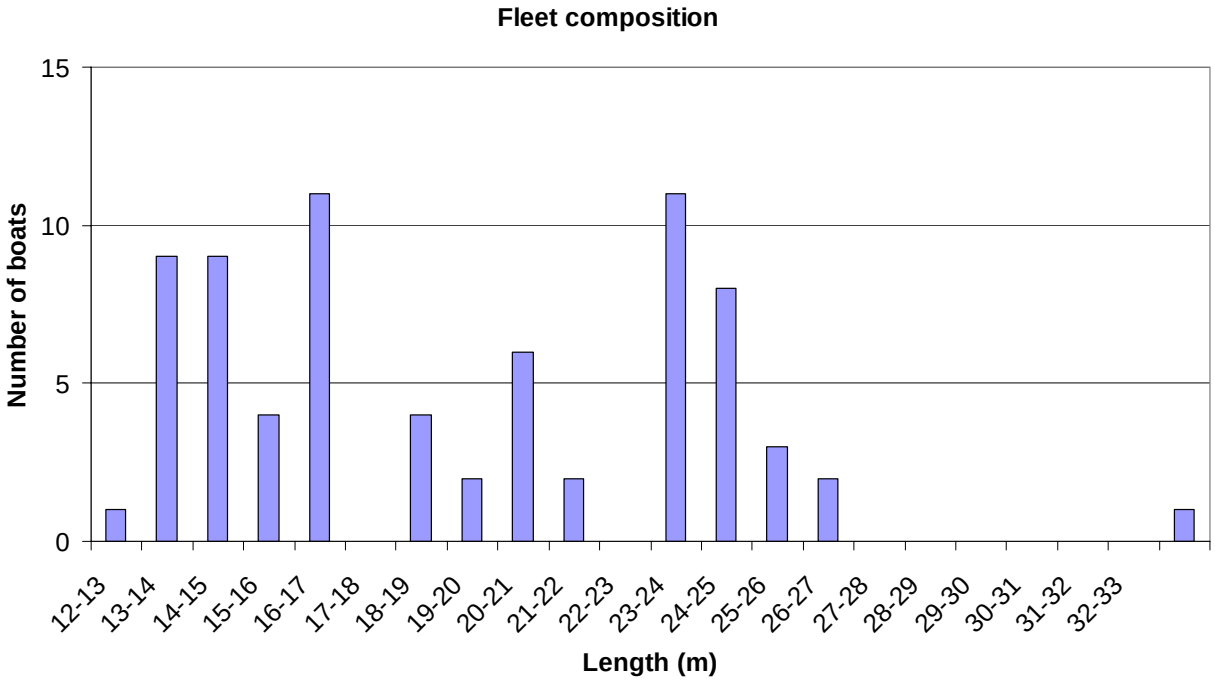
Appendix 2 : History of catches of the coastal fleet

Year	Catch estimates (mt)
1990	1,567
1991	2,048
1992	1,822
1993	1,341
1994	1,681
1995	2,110
1996	1,703
1997	1,612
1998	2,192
1999	2,033
2000	2,028
2001	2,506
2002	2,301
2003	1,879
2004	2,140

Appendix 3: Composition of the offshore longline fleet since 1990

Year	Longline bonitiers	Fresh tuna boats	Mixed tuna boats	Freezer tuna boats	Total	Hooks (*1000)
1990	1	-	-	4	5	49
1991	2	2	-	6	10	414
1992	15	6	-	4	25	662
1993	25	15	-	7	47	3,650
1994	25	29	-	9	63	5,026
1995	23	31	-	11	65	5,898
1996	21	26	-	12	59	6,601
1997	15	30	-	15	60	7,549
1998	14	28	-	12	54	8,247
1999	14	24	-	19	57	11,760
2000	11	30	-	16	57	12,453
2001	10	34	2	13	57	14,109
2002	6	30	2	16	54	13,964
2003	6	37	4	18	64	17,873
2004	3	42	4	26	75	22,515

Appendix 4 : Length structure of the offshore fleet in 2004



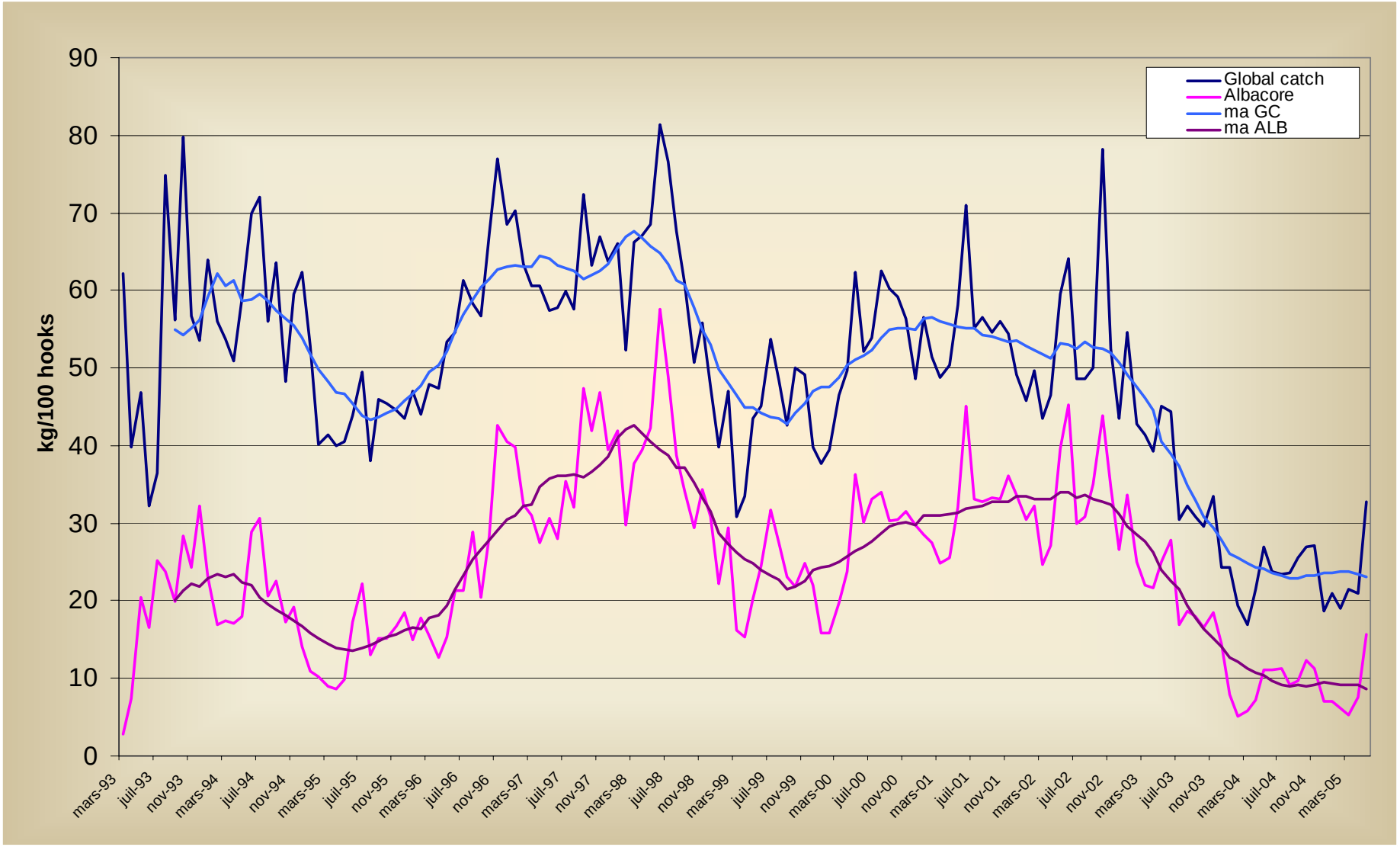
Appendix 5 – History of catches by the off shore fleet

Year	Long line fleet	Trollers (40°S)	Total
1990	55	299	354
1991	370	326	696
1992	820	72	892
1993	2 400	45	2 445
1994	2 653	0	2 653
1995	2 455	183	2 638
1996	3 373	69	3 442
1997	4 636	24	4 660
1998	5 282	0	5 282
1999	5 303	0	5 303
2000	6 891	0	6 891
2001	7 811	0	7 811
2002	7 401	0	7 401
2003	6 530	0	6 530
2004	5 159	0	5 159

Appendix 6 – History of export volumes of pelagic fish (in t 'whole-weight equivalent')

Year	Fresh	Frozen	TOTAL (mt)
1997	346	956	1,302
1998	186	1,101	1,287
1999	52	1,256	1,308
2000	296	2,197	2,493
2001	803	2,625	3,428
2002	944	1,881	2,825
2003	495	1,271	1,766
2004	280	742	1,023

Appendix 7 – Trends in the total nominal CPUE and nominal albacore CPUE, 1993–2004
Trend lines represent a XX month moving average of each CPUE series



Appendix 8 – Trends in the bigeye and yellowfin tuna nominal CPUEs, 1993--2 004
Trend lines represent a XX month moving average of each CPUE series