



## SEYCHELLES NATIONAL REPORT 2008

Prepared by the Fisheries Research and Development Division

Seychelles Fishing Authority

### 1. INTRODUCTION

The Seychelles Fishing Authority (SFA) was incorporated in August 1984, coinciding with the immense expansion of industrial fishing activities in the Western Indian Ocean, to coordinate and manage the development of the fisheries sector. Since it was set up, the SFA has been collecting catch and effort information via a logbook system as a result of licensing requirements agreed under the various fishing agreements with foreign fishing fleets. Purse seining and longlining are the two main fishing methods used to target tuna and tuna like species. The fishing activities of purse seiners in the western Indian Ocean are covered 100% whereas the coverage of longliners activities is restricted to the Seychelles EEZ, unless the vessels are registered in Seychelles. Those Distant water longline vessels do not use Port Victoria as their port of transshipment making it difficult to obtain good logbook coverage and to collect size frequency data. Collection of size frequency data for purse seiners is conducted in collaboration with the Spanish Fishing Agency through Instituto Español de Oceanografía (IEO) and IRD (Institut de Recherche pour le Développement). A fisheries data collection and sampling programme for the semi-industrial longline fishery has also been in place since this fishery started in 1995.

The Seychelles National Report summarizes the past 5 years activities of the industrial purse seine and longline fleet licensed to operate inside the Seychelles EEZ, emphasising on Seychelles registered vessels. Activities of the local “semi industrial” monofilament longline fishery targeting swordfish are also incorporated. Statistics include licences issued, number of vessels active, catch, effort and spatial distribution of catch and effort.

### 2.0 PURSE SEINE FISHERY

#### 2-1. Licences issued and fleet composition

The main fishing nations involved in purse seining in the WIO are those from European Community (France, Spain) taking over 70 percent of the annual licences. Seychelles registered purse seiners (French and Spanish origin) started to operate in 1997. Currently all Seychelles registered purse seiners are of Spanish origin.

Table 1a shows the number of licences issued to purse seiners to operate inside of the Seychelles EEZ and the number of vessels that were active over the past five years. It must be noted that the number of vessels active may be more than the number of licenses issued as some licenses may overlap between years. There are currently 10 Seychelles flagged purse seiners fishing in the Indian Ocean, similar to the previous year. There was a slight decrease (-2%) in total number of licenses issued to purse seiners for the year 2007 compared to the previous year. Figure 1 shows the trend in the number of purse seiners and their corresponding carrying capacity from 2003 to 2007.

Tables 1b to 1e show the number of purse seiners according to their size category (carrying capacity) by fleet. The same information is shown in Figures 2 and 3 for the whole fleet and the Seychelles' fleet respectively. No major changes have been observed for the whole purse seine fleet over the past 5 years. The Seychelles fleet however experiences a reduction in the number of vessels in the 801-1200 size category (from 5 to 2) between 2004 and 2006.

#### 2-2. Fishing effort

Table 2a shows the carrying capacity and the nominal fishing effort (fishing days) for the whole purse seine fleet and the Seychelles' fleet. This is also illustrated in figure 4 and figure 5. The annual trend in

nominal effort show an increasing trend over the past 5 years. The nominal effort exerted during 2007 was at the highest observed over the past five years. An increase of 12% in fishing effort was recorded for the Seychelles fleet in 2007.

Table 2b shows the number of purse seine sets according to school types. In 2007, the overall number of sets made by the whole purse seine fleet dropped by 10% (figure 6). The number of sets made by the Seychelles fleet remained more or less similar to the previous year. The proportion of positive and null sets have remained relatively constant over the past 5 years under study (figure 8 and 9).

### **2-3. Catch**

Table 3a shows the total yearly catch by species for the whole fleet and for the Seychelles' fleet. The total catches recorded by the purse seine fleet during 2007 is estimated at 245,670MT, the lowest catch reported over the last five years (Figure 10). This represents a decrease of 37% over the catches reported for 2006. Similarly, a decrease of 37% was also recorded in the catches made by the Seychelles fleet in 2007 (figure 11).

Figures 12 to 15 illustrate catches by fishing mode for the whole purse seine fleet and for the Seychelles' fleet. A sharp decline 35% in yellowfin tuna catches on free-swimming schools was observed in 2007 (figure 12 and 13). A similar sharp decline 43% was also observed in skipjack tuna catches on FAD's associated school in 2007 (figure 14 and 15). Similar pattern was observed for the Seychelles fleet with yellowfin tuna catches on free schools decreasing by 37% and skipjack tuna on FAD's associated school decreasing by nearly 48%.

### **2-4. Yield**

Table 4a shows catch rates by species and table 4b and 4c show that same information by fishing mode. Figure 16 shows that the overall CPUE has been on a decreasing trend over the past 5 years, reaching a low average of 15.69 MT /fishing day in 2007 from approximately 34.85 MT/ fishing day in 2003 (figure 16). Similarly the CPUE for the Seychelles fleet shows a decreasing trend since the year 2003 from 32.80 Mt/fishing day to 14.26 MT /fishing day in 2007 (Figure 17).

### **2-5 Fishing grounds**

Maps 1 and 2 show the distribution of catches reported by the whole purse seine fleet for the year 2007 and the mean catches reported for 2003- 2006 respectively. Maps 3 and 4 show the distribution of catches reported by the Seychelles' fleet for 2007 and the mean catches reported for 2003 - 2006 respectively. The maps show that the 2007 fishing zone appears to be the typical fishing zone with increased catches in the Mozambique channel in 2007 and reduced activities on the Somalia coast.

**Table 1a.** Number of licenses issued by country to fish inside of the Seychelles EEZ.

Year	Spain	France	Seychelles	Others	Total Licences	Number of vessels active
2003	18	14	11	4	47	47
2004	19	15	11	3	48	48
2005	20	16	9	2	47	49
2006	22	18	10	2	52	52
2007	21	17	10	3	51	50

**Table 1.b.** Spanish purse seiners by category (carrying capacity) licensed to fish inside of the Seychelles EEZ.

Year	50 -400	401-600	601-800	801-1200	1201-2000	>2000	Total
2003	0	0	1	6	9	2	18
2004	0	0	1	4	10	5	20
2005	0	0	1	4	10	5	20
2006	0	0	1	5	11	5	22
2007	0	0	1	4	11	5	21

**Table 1.c.** French purse seiners by category (carrying capacity) licensed to fish inside of the Seychelles EEZ.

Year	50 -400	401-600	601-800	801-1200	1201-2000	>2000	Total
2003	0	0	1	8	5	0	14
2004	0	0	2	8	5	0	15
2005	0	0	2	9	5	0	16
2006	0	0	2	11	5	0	18
2007	0	0	2	10	5	0	17

**Table 1.d.** Seychelles purse seiners by category (carrying capacity) licensed to fish inside of the Seychelles EEZ.

Year	50 -400	401-600	601-800	801-1200	1201-2000	>2000	Total
2003	0	0	0	5	5	1	11
2004	0	0	0	5	5	3	13
2005	0	0	0	4	4	3	11
2006	0	0	0	2	5	3	10
2007	0	0	0	2	5	3	10

**Table 1.e.** NEI purse seiners by category (carrying capacity) licensed to fish inside of the Seychelles EEZ.

Year	50 -400	401-600	601-800	801-1200	1201-2000	>2000	Total
2003	0	0	1	4	2	2	9
2004	0	0	0	2	1	1	4
2005	0	0	0	1	1	0	2
2006	0	0	0	2	1	0	3
2007	0	0	0	2	1	0	3

**Table 2a.** Purse seine fishing effort (carrying capacity and fishing days) reported on all school type

<b>CARRYING CAPACITY AND FISHING EFFORT (WHOLE FLEET)</b>		
<b>YEAR</b>	<b>C.CAPACITY</b>	<b>FISHING DAYS</b>
<b>2003</b>	52888	11708
<b>2004</b>	54174	11928
<b>2005</b>	61494	13347
<b>2006</b>	65829	15225
<b>2007</b>	66305	15661
<b>CARRYING CAPACITY AND FISHING EFFORT (SEYCHELLES' FLEET)</b>		
<b>YEAR</b>	<b>C.CAPACITY</b>	<b>FISHING DAYS</b>
<b>2003</b>	10949	2249
<b>2004</b>	13574	2677
<b>2005</b>	16291	3091
<b>2006</b>	15877	3094
<b>2007</b>	16818	3501

**Table 2b.** Purse seine fishing effort (number of sets by school type)

<b>SETS BY SCHOOL TYPE (ALL COUNTRIES)</b>												
	<b>COMBINED</b>			<b>LOGS</b>			<b>FREE SCHOOL</b>			<b>UNSPECIFIED</b>		
<b>YEAR</b>	<b>Total</b>	<b>Positives</b>	<b>Null</b>	<b>Total</b>	<b>Positives</b>	<b>Null</b>	<b>Total</b>	<b>Positives</b>	<b>Null</b>	<b>Total</b>	<b>Positives</b>	<b>Null</b>
<b>2003</b>	10131	7515	2616	4518	4223	295	5317	3022	2295	296	270	26
<b>2004</b>	11042	7642	3400	4467	4177	290	6507	3407	3100	68	58	10
<b>2005</b>	13360	9643	3717	5742	5418	324	7573	4201	3372	45	24	21
<b>2006</b>	13418	9807	3611	6371	6068	303	6991	3718	3273	56	21	35
<b>2007</b>	12121	8656	3465	6184	5745	439	5915	2900	3015	22	11	11
<b>SETS BY SCHOOL TYPE (SEYCHELLES)</b>												
	<b>COMBINED</b>			<b>LOGS</b>			<b>FREE SCHOOL</b>			<b>UNSPECIFIED</b>		
<b>YEAR</b>	<b>Total</b>	<b>Positives</b>	<b>Null</b>	<b>Total</b>	<b>Positives</b>	<b>Null</b>	<b>Total</b>	<b>Positives</b>	<b>Null</b>	<b>Total</b>	<b>Positives</b>	<b>Null</b>
<b>2003</b>	1512	1224	288	785	749	36	712	462	250	15	13	2
<b>2004</b>	2212	1695	517	1010	964	46	1202	731	471	0	0	0
<b>2005</b>	2683	2064	619	1323	1260	63	1359	803	556	1	1	0
<b>2006</b>	2124	1672	452	1175	1106	69	949	566	383	0	0	0
<b>2007</b>	2085	1603	482	1291	1152	139	794	451	343	0	0	0

**Table 3a.** Purse seine species composition of total catch

<b>TOTAL CATCH BY SPECIES (ALL COUNTRIES)</b>					
<b>YEAR</b>	<b>YFT</b>	<b>SKJ</b>	<b>BET</b>	<b>ALB</b>	<b>TOTAL</b>
<b>2003</b>	197782	189566	19026	1583	408366
<b>2004</b>	201727	137103	18848	242	358258
<b>2005</b>	176322	190053	21848	145	389256
<b>2006</b>	145596	224065	18106	1199	389935
<b>2007</b>	92034	132238	20455	665	245670
<b>TOTAL CATCH BY SPECIES (SEYCHELLES)</b>					
<b>YEAR</b>	<b>YFT</b>	<b>SKJ</b>	<b>BET</b>	<b>ALB</b>	<b>TOTAL</b>
<b>2003</b>	33360	36822	3364	174	73780
<b>2004</b>	48797	29960	4395	59	83305
<b>2005</b>	36479	46038	4794	18	87537
<b>2006</b>	28054	47515	3496	46	79342
<b>2007</b>	16085	29727	3857	136	49936

**Table 3b.** Purse seine species composition of catch reported on free-swimming schools

<b>CATCH ON FREE SCHOOLS BY SPECIES (ALL COUNTRIES)</b>					
<b>YEAR</b>	<b>YFT</b>	<b>SKJ</b>	<b>BET</b>	<b>ALB</b>	<b>TOTAL</b>
<b>2003</b>	128807	32380	7030	1541	169859
<b>2004</b>	155976	19813	3457	232	179483
<b>2005</b>	118962	46050	8444	143	173801
<b>2006</b>	79625	36988	6304	1180	124206
<b>2007</b>	51753	25340	5590	641	83366
<b>CATCH ON FREE SCHOOL BY SPECIES (SEYCHELLES)</b>					
<b>YEAR</b>	<b>YFT</b>	<b>SKJ</b>	<b>BET</b>	<b>ALB</b>	<b>TOTAL</b>
<b>2003</b>	20216	7806	1015	174	29255
<b>2004</b>	37693	3355	654	57	41762
<b>2005</b>	23469	10668	1733	18	35910
<b>2006</b>	13246	5143	1072	46	19511
<b>2007</b>	8314	3944	855	119	13237

**Table 3c.** Purse seine species composition of catch reported on FADs associated schools

<b>CATCH ON FLOATING OBJECTS BY SPECIES (ALL COUNTRIES)</b>					
<b>YEAR</b>	<b>YFT</b>	<b>SKJ</b>	<b>BET</b>	<b>ALB</b>	<b>TOTAL</b>
<b>2003</b>	66324	144087	11805	41	222557
<b>2004</b>	44879	115396	15375	10	175994
<b>2005</b>	57152	143422	13388	2	214649
<b>2006</b>	65478	186867	11790	20	265012
<b>2007</b>	40248	106768	14861	25	162138
<b>CATCH ON FLOATING OBJECTS BY SPECIES (SEYCHELLES)</b>					
<b>YEAR</b>	<b>YFT</b>	<b>SKJ</b>	<b>BET</b>	<b>ALB</b>	<b>TOTAL</b>
<b>2003</b>	12909	28628	2335	0	43889
<b>2004</b>	11104	26605	3741	2	41543
<b>2005</b>	13008	35350	3061	0	51605
<b>2006</b>	14808	42372	2424	0	59831
<b>2007</b>	7771	25783	3003	16	36699

**Table 4a.** Purse seine catch rate (MT/fishing day and MT/positive set) by species reported on all school type

	Overall CPUE, MT/fishing day (ALL COUNTRIES)					Overall CPUE, MT/positive set (ALL COUNTRIES)				
YEAR	YFT	SKJ	BET	ALB	TOTAL	YFT	SKJ	BET	ALB	TOTAL
2003	16.89	16.19	1.62	0.14	34.87	26.32	25.22	2.53	0.21	54.34
2004	16.91	11.49	1.58	0.02	30.03	26.40	17.94	2.47	0.03	46.88
2005	13.21	14.23	1.64	0.01	29.16	18.28	19.71	2.27	0.02	40.37
2006	9.56	14.72	1.19	0.08	25.61	14.85	22.85	1.85	0.12	39.76
2007	5.88	8.44	1.31	0.04	15.69	10.63	15.28	2.36	0.08	28.38
	Overall CPUE, MT/fishing day (SEYCHELLES)					Overall CPUE, MT/positive set (SEYCHELLES)				
YEAR	YFT	SKJ	BET	ALB	TOTAL	YFT	SKJ	BET	ALB	TOTAL
2003	14.83	16.37	1.50	0.08	32.80	27.25	30.08	2.75	0.14	60.28
2004	18.23	11.19	1.64	0.02	31.12	28.79	17.68	2.59	0.03	49.15
2005	11.80	14.89	1.55	0.01	28.32	17.67	22.31	2.32	0.01	42.41
2006	9.07	15.36	1.13	0.01	25.64	16.78	28.42	2.09	0.03	47.45
2007	4.59	8.49	1.10	0.04	14.26	10.03	18.54	2.41	0.08	31.15

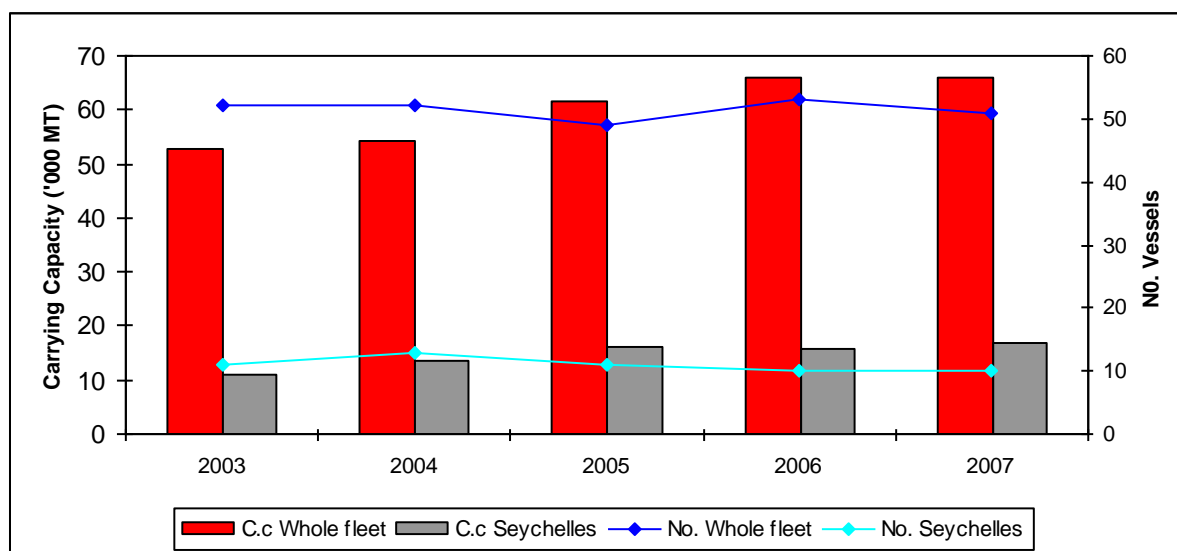
**Table 4b.** Purse seine catch rate (MT/fishing day and MT/positive set) by species reported on free-swimming schools

	CPUE FREE SCHOOLS, MT/fishing day (ALL COUNTRIES)					CPUE FREE SCHOOLS, MT/positive sets (ALL COUNTRIES)				
YEAR	YFT	SKJ	BET	ALB	TOTAL	YFT	SKJ	BET	ALB	TOTAL
2003	11.00	2.77	0.60	0.13	14.50	42.62	10.71	2.33	0.51	56.21
2004	13.08	1.66	0.29	0.02	15.05	45.78	5.82	1.01	0.07	52.68
2005	8.91	3.45	0.63	0.01	13.02	28.32	10.96	2.01	0.03	41.37
2006	5.23	2.43	0.41	0.08	8.16	21.42	9.95	1.70	0.32	33.41
2007	3.30	1.62	0.36	0.04	5.32	17.85	8.74	1.93	0.22	28.75
	CPUE FREE SCHOOLS, MT/fishing day (SEYCHELLES)					CPUE FREE SCHOOLS, MT/positive sets (SEYCHELLES)				
YEAR	YFT	SKJ	BET	ALB	TOTAL	YFT	SKJ	BET	ALB	TOTAL
2003	8.99	3.47	0.45	0.08	13.01	43.76	16.90	2.20	0.38	63.32
2004	14.08	1.25	0.24	0.02	15.60	51.56	4.59	0.89	0.08	57.13
2005	7.59	3.45	0.56	0.01	11.62	29.23	13.29	2.16	0.02	44.72
2006	4.28	1.66	0.35	0.01	6.31	23.40	9.09	1.89	0.08	34.47
2007	2.37	1.13	0.24	0.03	3.78	18.44	8.74	1.90	0.26	29.35

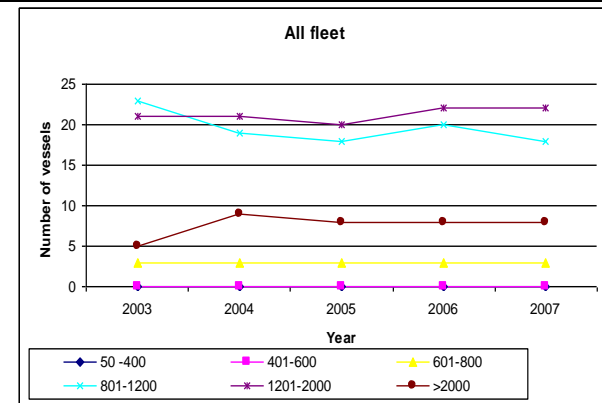
**Table 4c.** Purse seine catch rate (MT/fishing day and MT/positive set) by species reported on FADs associated schools

	CPUE FADS, MT/fishing day (ALL COUNTRIES)					CPUE FADS, MT/positive sets (ALL COUNTRIES)				
YEAR	YFT	SKJ	BET	ALB	TOTAL	YFT	SKJ	BET	ALB	TOTAL
2003	5.66	12.30	1.01	0.00	19.00	15.71	34.12	2.80	0.01	52.70
2004	3.76	9.67	1.29	0.00	14.75	10.74	27.63	3.68	0.00	42.13
2005	4.28	10.74	1.00	0.00	16.08	10.55	26.47	2.47	0.00	39.62
2006	4.30	12.27	0.77	0.00	17.41	10.79	30.80	1.94	0.00	43.67
2007	2.57	6.82	0.95	0.00	10.35	7.01	18.58	2.59	0.00	28.22
	CPUE FADS, MT/fishing day (SEYCHELLES)					CPUE FADS, MT/positive sets (SEYCHELLES)				
YEAR	YFT	SKJ	BET	ALB	TOTAL	YFT	SKJ	BET	ALB	TOTAL
2003	5.74	12.73	1.04	0.00	19.51	17.24	38.22	3.12	0.00	58.60
2004	4.15	9.94	1.40	0.00	15.52	11.52	27.60	3.88	0.00	43.09
2005	4.21	11.44	0.99	0.00	16.69	10.32	28.06	2.43	0.00	40.96
2006	4.79	13.69	0.78	0.00	19.34	13.39	38.31	2.19	0.00	54.10
2007	2.22	7.36	0.86	0.00	10.48	6.75	22.38	2.61	0.01	31.86

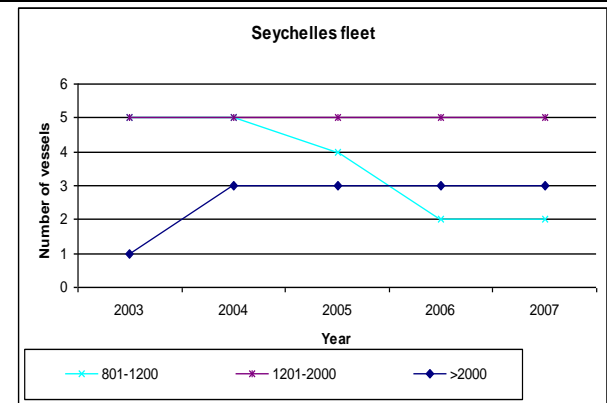
**Figure 1.** Trend in number and carrying capacity of purse seiners (licensed to operate inside of the Seychelles EEZ) active in the WIO.



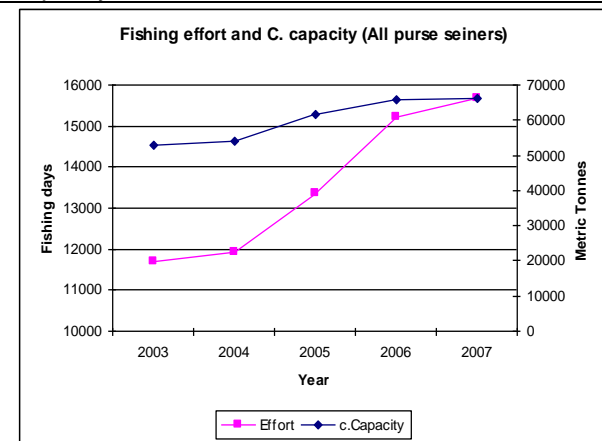
**Fig 2.** All purse seiners by category (carrying capacity)



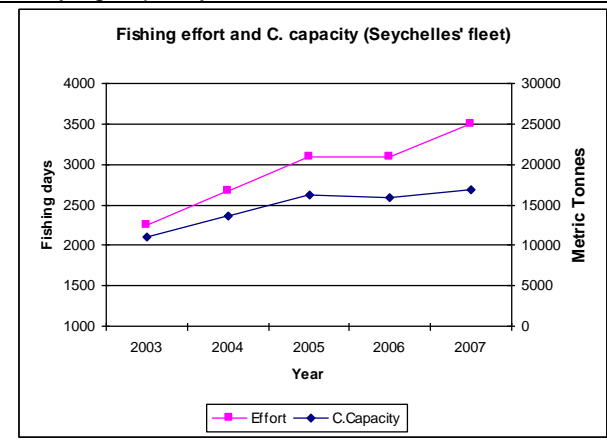
**Fig 3.** Seychelles purse seiners by category (carrying capacity)



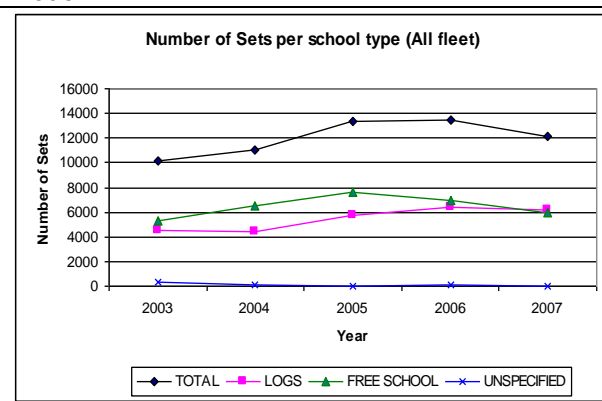
**Fig 4.** All purse seiners fishing effort and carrying capacity



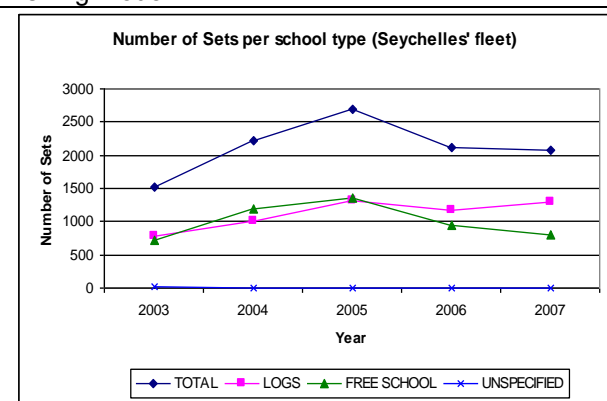
**Fig 5.** Seychelles purse seiners fishing effort and carrying capacity



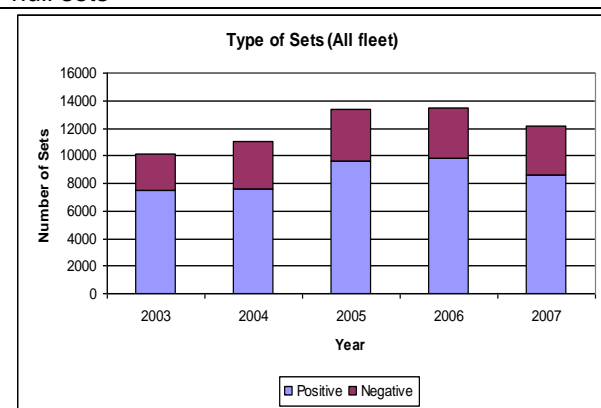
**Fig 6.** All purse seiners number of sets by fishing mode



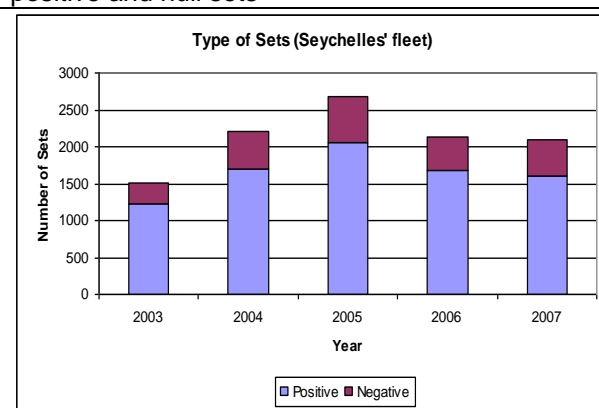
**Fig 7.** Seychelles purse seiners number of sets by fishing mode



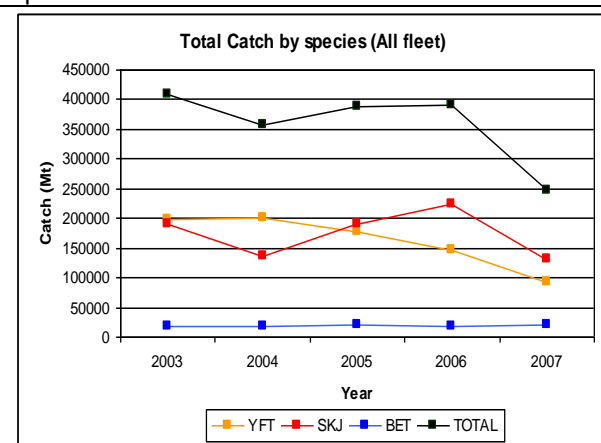
**Fig 8.** All purse seiners proportion of positive and null sets



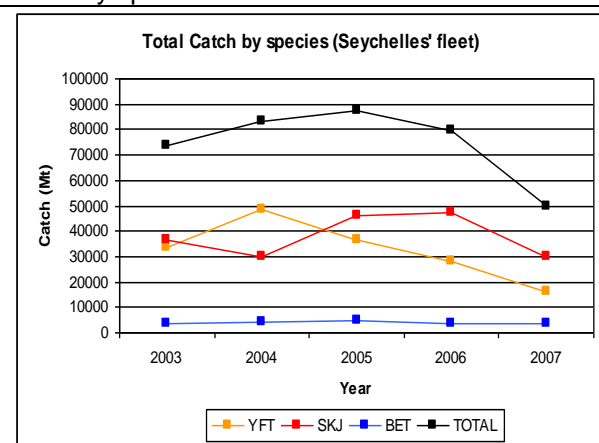
**Fig 9.** Seychelles purse seiners proportion of positive and null sets



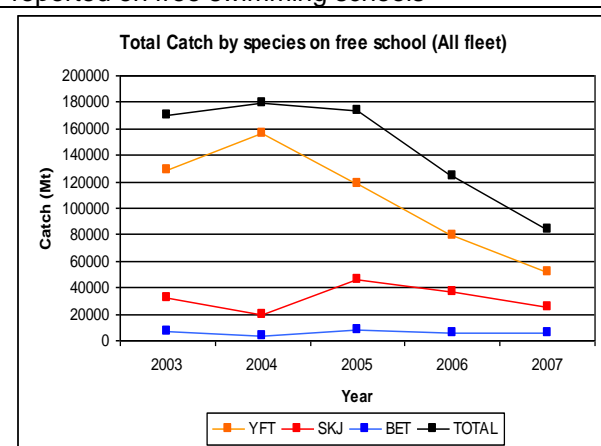
**Fig 10.** All purse seiners total reported catch by species



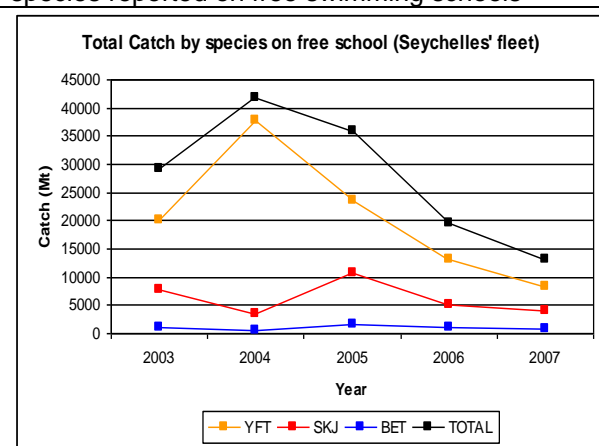
**Fig 11.** Seychelles purse seiners total reported catch by species



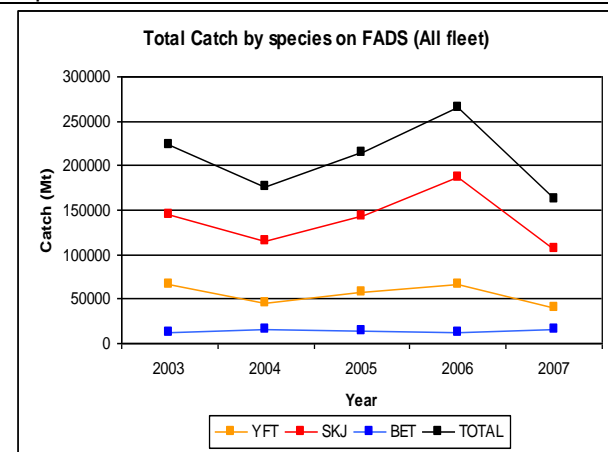
**Fig 12.** All purse seiners total catch by species reported on free swimming schools



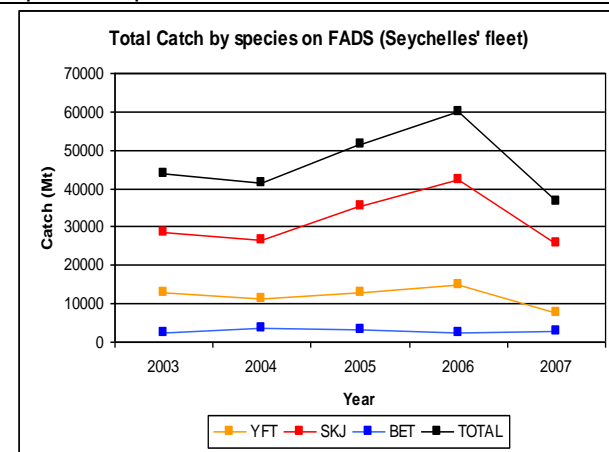
**Fig 13.** Seychelles purse seiners total catch by species reported on free swimming schools



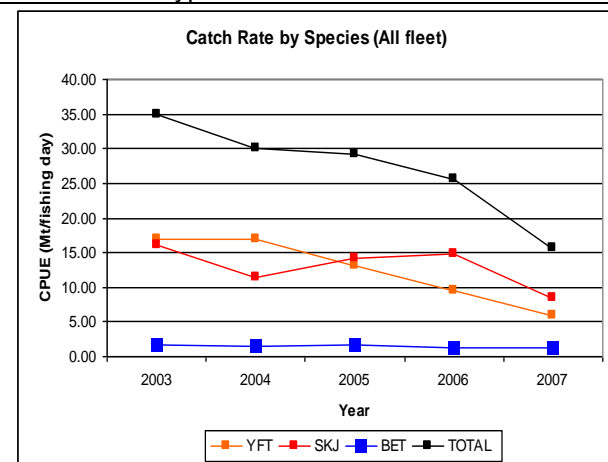
**Fig 14.** All purse seiners total catch by species reported on FADs associated schools



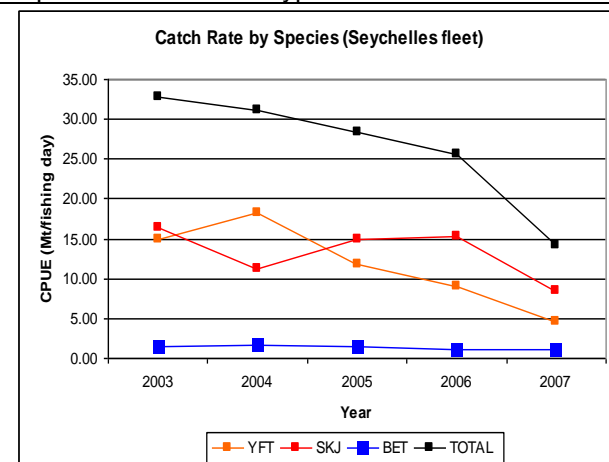
**Fig 15.** Seychelles purse seiners total catch by species reported on FADs associated schools



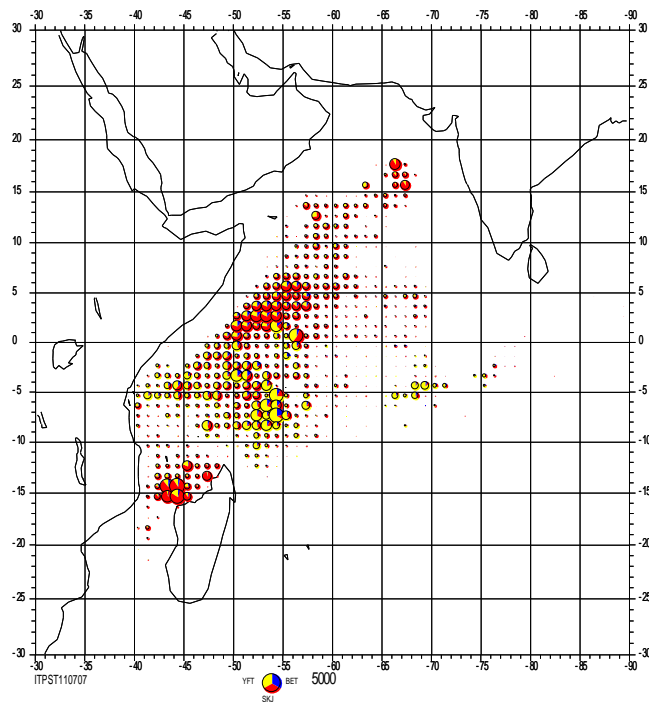
**Fig 16.** All purse seiners CPUE by species reported on all school types.



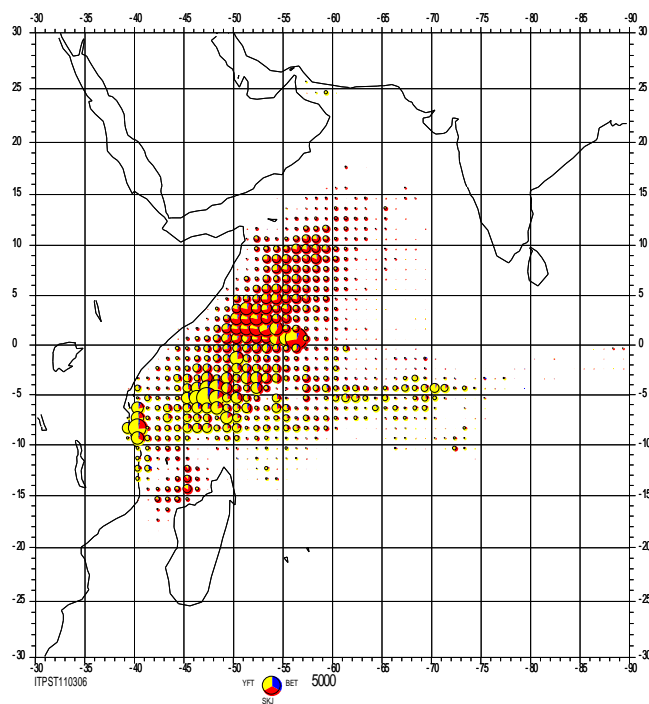
**Fig 17.** Seychelles purse seiners CPUE by species reported on all school types.



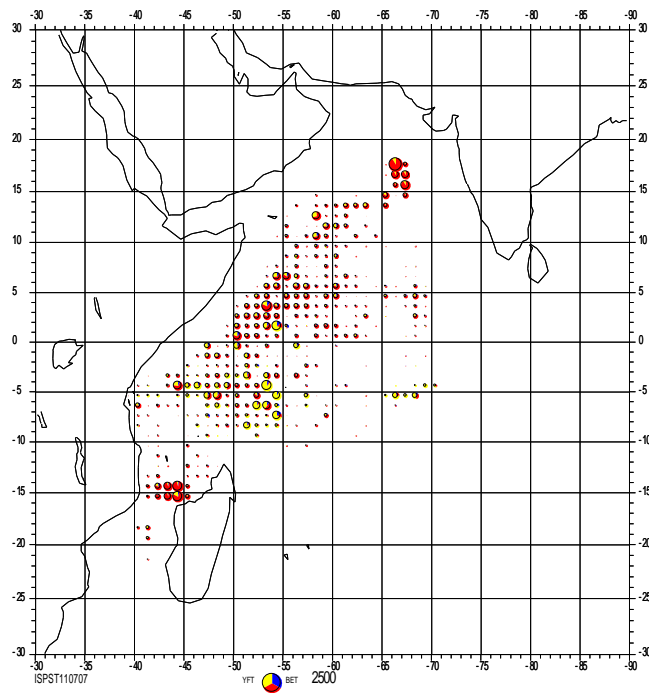
**Map 1.** Distribution of catches (MT) by 1° square for the year 2007 reported by the whole purse seine fleet



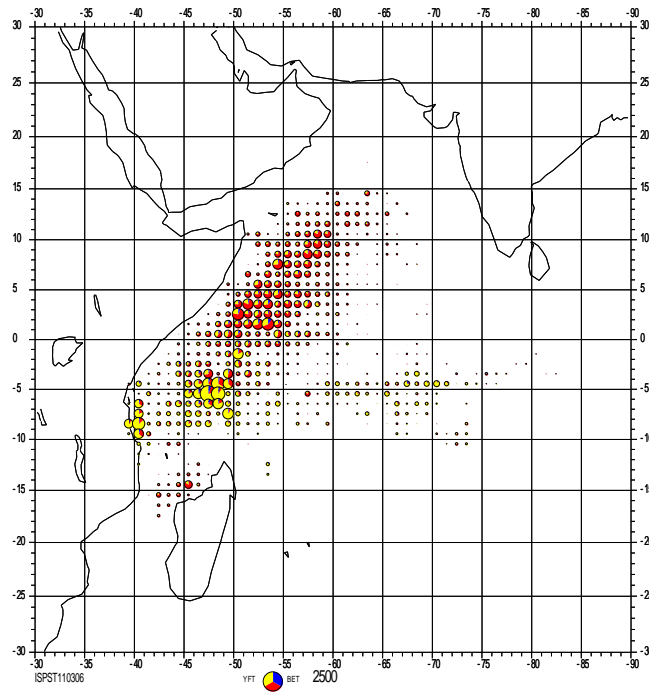
**Map 2.** Distribution of mean catches (MT) for the period 2003– 2006 by 1° square reported by the whole purse seine fleet.



**Map 3.** Distribution of catches (MT) by 1° square for the year 2007 reported by the Seychelles' purse seine fleet



**Map 4.** Distribution of mean catches (MT) for the period 2003– 2006 by 1° square reported by the Seychelles' purse seine fleet.



### **3.0 LONGLINE FISHERY**

#### **3-1 Licenses issued and fleet composition**

Table 5a and 5b show the number of licenses issued and the number of vessel active by country respectively. It must be noted that a vessel may be registered in Seychelles and operate in the Western Indian Ocean but may not have a licence, as licences are required only if the vessel wishes to operate inside the Seychelles EEZ. Hence the number of active Seychelles registered vessels may exceed the number licensed.

In 2007 a total of 142 licences were taken by longliners to fish inside the Seychelles EEZ, representing a decrease of 53% from the 301 licenses taken in 2006. In 2007 54% of the licenses were taken by Japanese longliners followed by Taiwanese longliners with 35%. In 2007 there were 27 longliners of Taiwanese origin registered as Seychelles vessels.

#### **3-2 Logbook coverage**

A remarkable increase in logbooks returns by the Seychelles registered vessels has been observed over the past 5 years. However the rate has been on a reduce trend since 2005 (Table 6). The overall logbook returns was still low for the year 2007 (42%) at the close of the database for producing this report

#### **3-3 Fishing effort**

It should be noted that the statistic presented here represent only a sample of longliners activities in the WIO as activities are restricted to the Seychelles EEZ unless the vessels are Seychelles registered.

The fishing effort by all fleets show an increasing trend for the period 2002 to 2005 followed by a sharp decline over the past 2 years whilst the fishing effort for the Seychelles fleet have remained more or less constant (Table 7 and figure 18). The decline in fishing effort for the year 2007 may be attributed to the low level of logbook return to SFA. .

The fishing effort for the Seychelles registered longliners has remained more or less stable over the 2003 – 2007 periods.

#### **3-4 Catch**

The total catch reported by all fleet has increased steadily from 2003 to 2005 followed by a sharp decrease in 2006 and 2007 (Table 8 and figure 19). This decline may be due to the low level of logbook returned for the years 2005 and 2006

In 2007 the reported catches of the Seychelles fleet has remained similar to that of 2006.

#### **3-5 Species Composition**

Since 2006 bigeye tuna has regained it's position as the dominant species caught by all longline fleet licensed to operate inside the Seychelles EEZ. In 2007 Bigeye tuna accounted for 53% of the total catch reported by all fleet with yellowfin tuna representing 21%. Similarly bigeye tuna dominated the catches reported by the Seychelles fleet since 2006 accounting for 52% of the total catch in 2007.

#### **3-6 Yield**

The overall catch rate has remained more or less constant (around 0.5 MT/1000 hooks) from the year 2003 to 2005 and has since then been on the decrease reaching 0.31 MT/ 1000 hooks in 2007.

The Seychelles' fleet has recorded a slight increasing trend in catch rate with a peak of 0.69 MT/1000 hooks in 2005 and has since then been on the decrease to 0.45 MT/1000 hooks in 2007 (table 9 and figure 22).

Species wise, the catch rate for bigeye tuna remained constant, approximately 0.20 MT/1000 hooks from 2003 to 2006 and has dropped to 0.16 MT/1000 hooks in 2007 for all fleet. The catch rate of yellowfin tuna reported for the year 2007 was 0.06 MT/1000 hooks, the lowest recorded over the past 5 years.

The Seychelles longline fleet also recorded a low catch rate of 0.09 MT/1000 hooks for yellowfin tuna in 2007 whilst the catch rate of bigeye tuna was similar to that of 2006.

### **3-7 Fishing grounds**

Maps 5 and 6 show the distribution of catches reported by the Seychelles longline fleet for the year 2007 and mean catches reported for the period 2003- 2006 respectively. The overall catch distribution pattern for 2007 is relatively similar to the previous years. However it can be observed that there was a decrease in yellowfin catches in the Arabian Sea and an increase in catches 30 to 35 degrees south and 30 degrees east comprising mainly of albacore tuna and species recorded on logbook as other species.

**Table 5a.** Number of licenses issued to longliners to fish inside of the Seychelles EEZ by country

Year	CHINA	JAPAN	REPUBLIC OF KOREA	SEYCHELLES	TAIWAN ROC	OTHERS	TOTAL LICENCES
2003	16	90	43	15	243	11	418
2004	12	111	29	24	156	2	334
2005	7	164	29	20	162	4	386
2006	11	138	33	16	93	10	301
2007	3	77		11	49	2	142

**Table 5b.** Number of vessels active (with licenses to fish inside of the Seychelles EEZ) by country and number of Seychelles registered vessels.

Country Year	CHINA	JAPAN	REPUBLIC OF KOREA	SEYCHELLES*	TAIWAN ROC	OTHERS	TOTAL VESSELS ACTIVE
2003	7	33	20	35	122	10	227
2004	7	42	23	27	141	3	243
2005		58	10	26	160	2	256
2006	3	43	9	25	112	4	196
2007	3	41		27	12		83

**Table 6.** Logbooks (%) returned to SFA by country.

Country Year	CHINA	JAPAN	REPUBLIC OF KOREA	SEYCHELLES	TAIWAN ROC	OTHERS	TOTAL
2003	36	49	60	68	57	10	56
2004	72	56	79	77	73	48	71
2005	37	65	39	100	80	19	75
2006	45	83	60	98	83	8	79
2007	34	76	0	79	4	31	42

**Table 7.** Longline fishing Effort (Million hooks and fishing days) and average hooks per set.

TOTAL EFFORT (ALL COUNTRIES)			
YEAR	HOOKS (Million)	FISHING DAYS	MEAN HOOKS PER SET
2003	36	11,736	3,098
2004	49	15,181	3,219
2005	57	17,546	3,250
2006	39	12,267	3,217
2007	30	9,130	3,271
TOTAL EFFORT (SEYCHELLES)			
YEAR	HOOKS (Million)	FISHING DAYS	MEAN HOOKS PER SET
2003	10	2,943	3,386
2004	19	5,716	3,272
2005	21	6,310	3,285
2006	17	5,567	3,125
2007	19	5,835	3,213

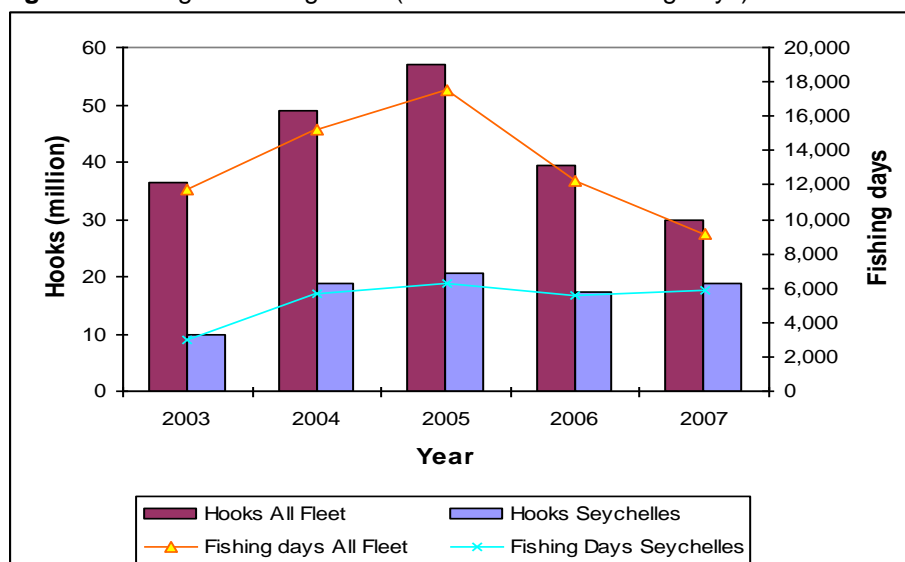
**Table 8.** Longline Species composition of total catch

TOTAL CATCH BY SPECIES (ALL COUNTRIES)						
YEAR	YFT	BET	SWO	ALB	OTH	TOTAL
2003	7,641	7,517	1,571	905	1024	18,658
2004	9,155	11,195	1,854	245	1089	23,538
2005	13,359	11,822	1,673	294	1095	28,244
2006	5,583	7,880	1,153	133	1435	16,184
2007	1,926	4,902	707	321	1446	9,302
TOTAL CATCH BY SPECIES (SEYCHELLES)						
YEAR	YFT	BET	SWO	ALB	OTH	TOTAL
2003	893	2,460	879	568	429	5,229
2004	3,306	5,500	1,214	54	554	10,628
2005	7,378	5,374	982	139	486	14,359
2006	2,763	3,834	722	92	963	8,374
2007	1,732	4,416	677	303	1359	8,487

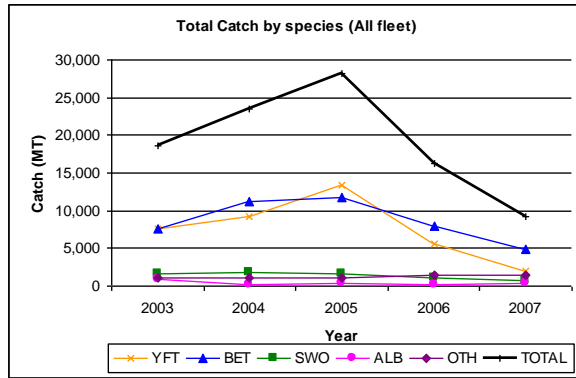
**Table 9.** Longline catch rate (MT/1000 hooks) by species

CPUE (MT/1000 HOOKS) (ALL COUNTRIES)						
YEAR	YFT	BET	SWO	ALB	OTH	TOTAL
2003	0.21	0.21	0.04	0.02	0.03	0.51
2004	0.19	0.23	0.04	0.01	0.02	0.48
2005	0.23	0.21	0.03	0.01	0.02	0.50
2006	0.14	0.20	0.03	0.00	0.04	0.41
2007	0.06	0.16	0.02	0.01	0.05	0.31
CPUE (MT/1000 HOOKS) (SEYCHELLES)						
YEAR	YFT	BET	SWO	ALB	OTH	TOTAL
2003	0.09	0.25	0.09	0.06	0.04	0.52
2004	0.18	0.29	0.06	0.00	0.03	0.57
2005	0.36	0.26	0.05	0.01	0.02	0.69
2006	0.16	0.22	0.04	0.01	0.06	0.48
2007	0.09	0.24	0.04	0.02	0.07	0.45

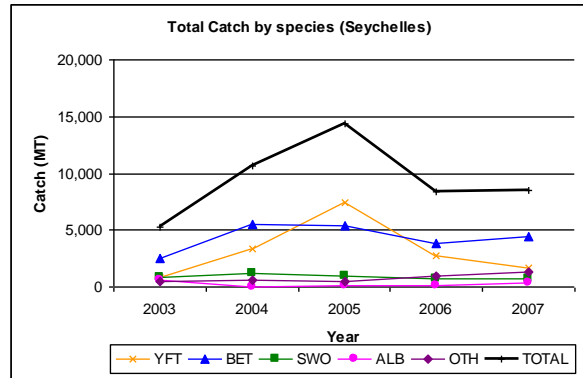
**Figure 18.** Longline fishing effort (1000 hooks and fishing days)



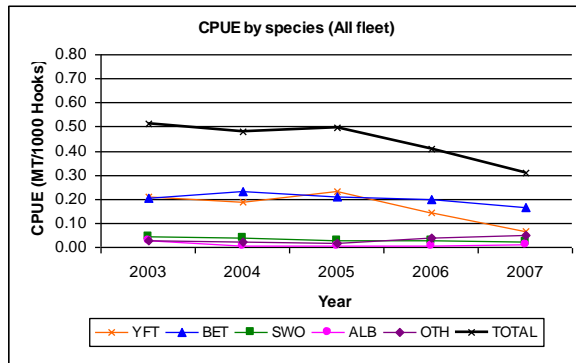
**Fig 19. All longliners catch by species.**



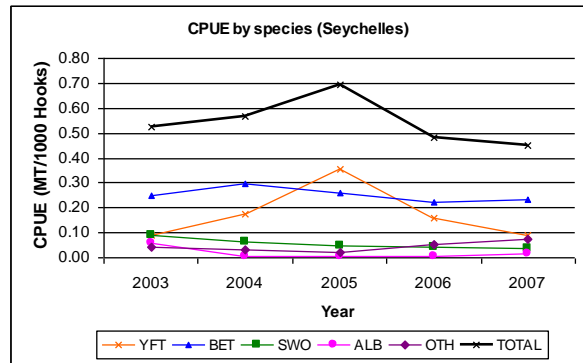
**Fig 20. Seychelles longliners catch by species**



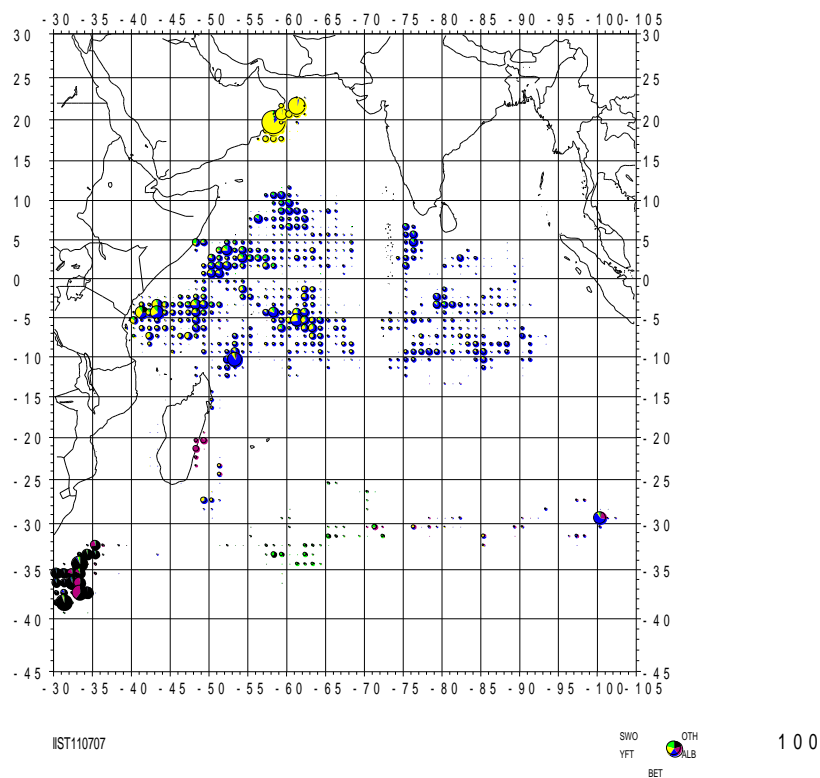
**Fig 21. All longliners CPUE by species.**



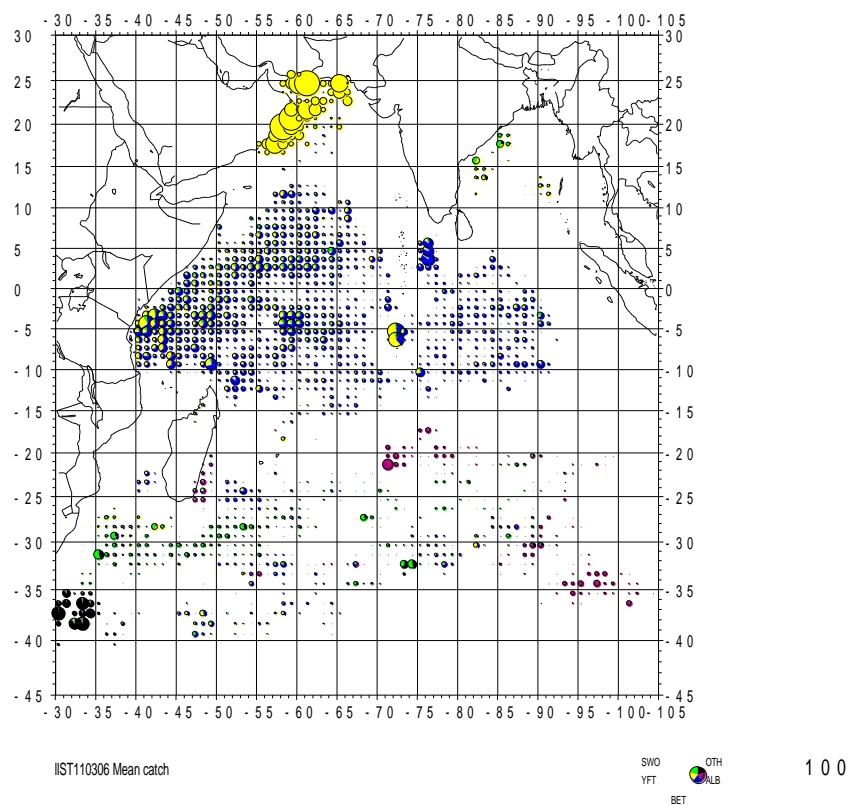
**Fig 22. Seychelles longliner CPUE by species**



**Map 5.** Distribution of catches (MT) for the year 2007 by 1° square reported by the Seychelles longline fleet.



**Map 6.** Distribution of mean catches (MT) for the years 2003– 2006 by 1° square reported by the Seychelles longline fleet.



## **4.0 SEMI-INDUSTRIAL FISHERY**

It must be noted that figures presented in this report might differ from previously presented figures. In the current report the data have been raised to take into consideration missing logbooks and missing landings. Furthermore logbooks and landings data have been raised to round weights.

### **4-1 Vessels active and fishing effort**

Table 10 summarises the fishing activities of the semi-industrial fleet from 2003 to 2007. During 2007, 4 semi-industrial vessels conducted a total of 40 longline fishing trips for tuna and swordfish, compared with 40 trips conducted by 6 local vessels in 2006. The fishing effort (number of hooks set) decreased by only 1 %, from 194,611 hooks in 2006 to 192,275 hooks in 2007 (figure 23).

### **4-2 Catch**

The estimated catch by the local semi-industrial fleet for 2007 is estimated at 248.23 MT compared to 219.09 MT in 2006 (Table 10). This represents an increase of 13% in catches even though the effort decreased by only 1%

### **4-2 Species Composition**

The species composition reported since 1998 to 2007 is given in table 11. In 2007, for the first time since the beginning of the fishery, tuna (125 MT) dominate the catch accounting for 51% , whilst swordfish (111 MT) accounted for 45%.

### **4-3 Yield**

The catch rate estimated for 2007 is 1.29 MT/1000 hooks compared to 1.13 MT/1000 hooks for 2006 (figure 3.9). The CPUE of swordfish and bigeye tuna was similar to that recorded in 2006 around 0.6MT/1000 hooks and 0.3 MT/1000 hooks respectively. The CPUE of yellowfin tuna in 2007 is estimated at 1.27 MT/1000 hooks, the highest reported over the past five years (Table 12)

### **4-5 Shark fishing activities.**

In 2007, 6 vessels, continued to target sharks. It must be noted that only a small proportion of the total catch are landed as shark meat, with a significant percentage of catches finned and the meat discarded at sea.

In 2007 a total of 60 sharks fishing trips were conducted compared to 97 trips in 2006. A total of 20.42 MT of shark meat and 18.57 MT of shark fins were landed in 2007 compared with 17.91 MT of shark meat and 22.33 MT of shark fins which were landed in 2006 (Table 2.4) This represent an increase of 20% in total shark meat landed and a decrease of 17% in the total Shark fins landed.

**Table 10.** Summary of fishing activities of the semi-industrial fleet.

	2003	2004	2005	2006	2007
<b>Number of vessels active</b>	6	4	5	6	4
<b>Number of Trips</b>	42	22	43	40	40
<b>Number of set</b>	165	139	341	293	299
<b>Gross Catch (Mt)</b>	91	90	290	219	248
<b>Effort (1000' Hooks)</b>	112	88	197	195	192
<b>Catch Rate (Mt/1000Hooks)</b>	0.81	1.02	1.48	1.13	1.29

**Table 11.** Catch (Mt) reported by the semi industrial fishery from 2002 to 2006.

Year	Swordfish	Yellowfin	Bigeye	Sailfish	Marlin	Shark	Others	Total
1998	241.32	50.79	64.9	2.07	8.82	24.8	3.73	396.43
1999	292.43	94.1	87.29	16.19	18.55	63.61	8.46	580.61
2000	259.67	50.41	57.14	35.7	13.89	78.03	5.9	500.75
2001	270.18	96.28	57.56	21.42	12.1	71.3	6.75	535.6
2002	135.12	41.94	24.08	7.56	3.92	14.79	2.92	230.34
2003	65.51	13.13	11.44	0.43	0.28	0.07	0	90.87
2004	71.06	7.43	7.24	0.65	0.4	3.21	0.19	90.16
2005	168.11	49.82	55.75	4.76	1.95	8.36	1.54	290.27
2006	114.58	43.17	52.47	1.99	1.87	4.44	0.57	219.09
2007	110.99	70.07	55.34	2.59	1.91	4.62	2.72	248.23

**Table 12.** Catch rate (Mt/1000 hooks) by species reported by the semi industrial from 2002 to 2006

SPECIES	2003	2004	2005	2006	2007
SWORDFISH	0.59	0.80	0.86	0.59	0.58
YELLOWFIN TUNA	1.15	1.03	0.89	0.82	1.27
BIGEYE TUNA	0.10	0.08	0.28	0.27	0.29
OTHER SPECIES	0.01	0.05	0.08	0.05	0.05
<b>GRAND TOTAL</b>	<b>0.81</b>	<b>1.02</b>	<b>1.48</b>	<b>1.13</b>	<b>1.29</b>

**Figure 23.** Total catch and catch rates reported since the beginning of the fishery

