Status Of Seychelles Semi Industrial Longline Fishery

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INTRODUCTION

1. Introduction

The Seychelles billfish report summarizes status of the semi industrial fishery where swordfish and tuna are the targeted species. The report looks at the general catch, effort and species composition of the semi Industrial vessels during the last five years.

2. Semi Industrial Longline Fishery

2.1. Overview

The so-called semi-industrial sector comprise of the monofilament longline fishery (targeting mainly swordfish and tuna) operated solely by Seychellois fishers.

There are at present 8 longliners (from 13m to 27 m) active in the Semi Industrial fishery compared to 9 in 2007.and 7 of these vessels conduct fishing trips targeting mainly swordfish .The semi Industrial longliners operate around the Mahe plateaux concentrating their efforts in the North Eastern section of the Seychelles EEZ. On average these vessels remains at sea for a period of 8 -12 days, preserving their catches on ice.

2.2. Data Collection

A monitoring program was set up by SFA since 1995 to closely monitor the semi industrial fishery. Several data are collected from logbooks filled by skippers and landing data from fish processors.

Fish are also sampled to collect biometric data. Table 2.1 below summarises logbook coverage for the last 5 years. Logbook coverage was lower during the year 2004 when fishing effort was directed towards sharks fishing and skippers were not reporting such activity. Significant improvement in logbook and landings returns has been recorded over the past 4 years. The landing data is first raised from processed weight to round weight and the logbook data is then extrapolated to the landing.

Table 2.1. Logbook coverage of semi Industrial fishery, 2004- 2008

Year	N0. Of Trips	Logbook received (%)	Landing Received (%)
2004	23	74%	96%
2005	43	98%	100%
2006	40	100%	100%
2007	40	100%	100%
2008	72	90%	100%

2.3. Fishing effort

In 2008 only 7 semi Industrial vessels conducted a total of 72 longline fishing trips (for tuna and swordfish) with an average duration of 10 days per trip compared to 4 vessels active the previous year.

Following the decrease in fishing effort during the year 2004, linked to the exportation constraints of swordfish, an increase in fishing effort was observed in 2005 and has since then remained more or less constant until 2007 . (figure 2.1).

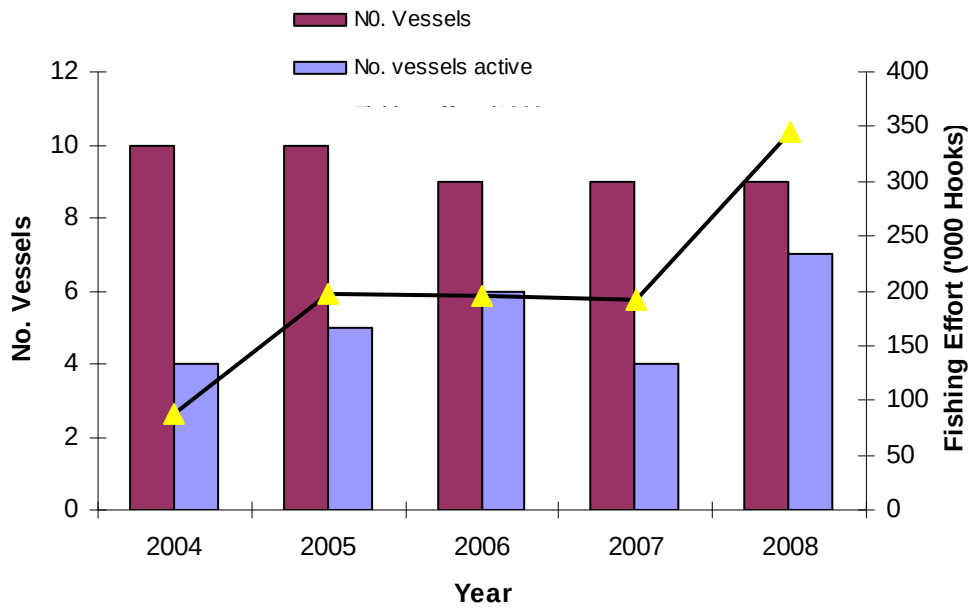

Figure 2.1. Number of vessels active and fishing effort of semi Industrial fishery, 2004- 2008

3.2 Total Catch and Catch rates

The lowest recorded catch in the semi industrial fishery was in 2004 when a total catch of 90 MT was recorded. The total catch then increased in 2005 when the ban on exportation of swordfish was lifted reaching 290 Mt for that year and has since then remained more or less constant (Table 2.2 and figure 2.2).

Table 2.2. Catches by species of semi Industrial fishery, 2004- 2008

Year	SWO	YFT	BET	SFA	MAR	SHK	OTH	Total Catch ((Mt)
2004	71	7	7	3	0	1	0	90
2005	168	50	56	8	2	5	2	290
2006	115	43	52	4	2	2	1	219
2007	111	70	55	5	2	3	3	248
2008	98	44	59	22	3	7	1	233

The CPUE increased from1.02Mt/1000 hooks in 2004 to a record of 1.48 Mt/1000 hooks in 2005, then drop to 1.29 Mt/ 1000 hooks in 2007 . In 2008 the CPUE stands at 0.68 Mt/1000 hooks, lowest recorded so far. (figure 2.2).

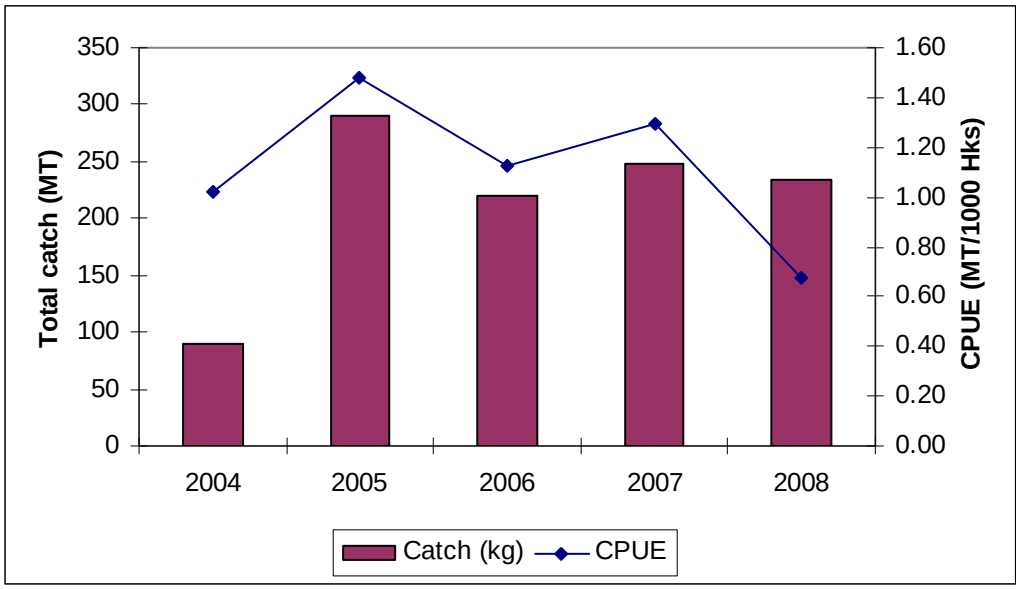

Figure 2.2. Catch and catch rate of semi Industrial fishery, 2004- 2008

3.3 Species composition

The average species composition of the total catch reported over the last 5 years is shown in figure 2.3. Swordfish the targeted species dominated the catch making up 52% of the total catch followed by bigeye (21%) and yellowfin tuna (20%). It must be noted that since 2005 the proportion of tuna in the semi industrial fishery has been on the increase from 36% of the total catch in 2005 to 44% in 2006. In 2007, for the first time since the beginning of the fishery, tuna (125 Mt) dominate the catch accounting for 51% of the total catch whilst swordfish (111Mt) accounted for 45% of the total catch (table2.3). in 2008 tuna (103 Mt) still dominated the catch accounting for 44% ,followed by swordfish (98 Mt).By-catches constituted of sailfish (9%), sharks (3%), marlin and other species 1%. It must be noted that catches of shark obtained from trips targeting sharks are considered under section 2.5 below

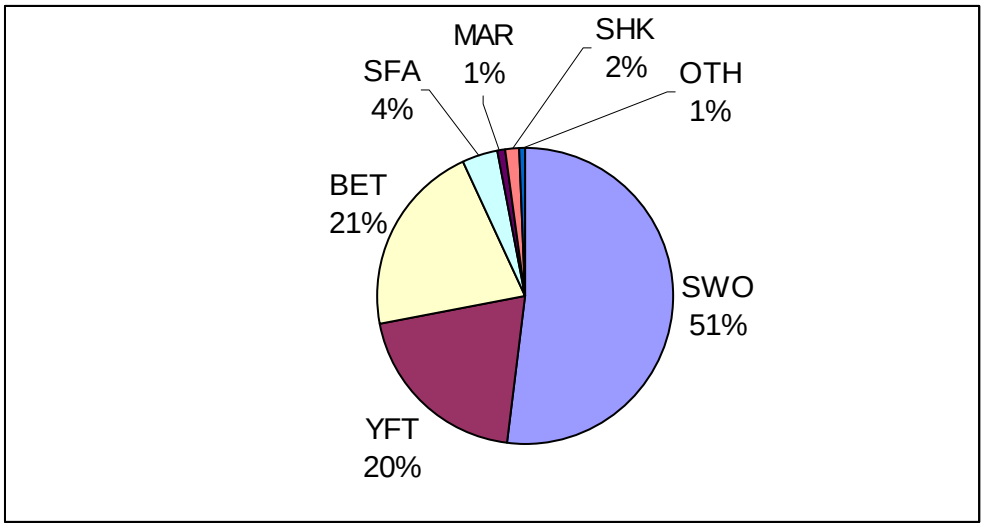

Figure 2.3. Average Species composition of semi Industrial fishery for the 2004- 2008 period.

Table 2.3 Species composition of semi Industrial fishery, 1995- 2008

Year	SWO	Tuna	Others
1995	64%	30%	6%
1996	57%	40%	3%
1997	57%	32%	10%
1998	61%	29%	10%
1999	50%	31%	18%
2000	52%	21%	27%
2001	50%	29%	21%
2002	59%	29%	13%
2003	72%	27%	1%
2004	79%	16%	5%
2005	58%	36%	6%
2006	52%	44%	4%
2007	45%	51%	5%
2008	42%	44%	14%

From 2004 the Swordfish CPUE shows an increasing trend reaching a peak of 0.86 Mt/1000 hooks in 2005 and has since then been on the decrease to 0.28 Mt/1000 hooks in 2008. For yellowfin and bigeye tuna a sharp increase in both species CPUE was reported during 2007 reaching 0.36 mt/1000 hooks and 0.29Mt/1000 hooks respectively.However in 2008, both yellowfin and bigeye CPUE decreased to in 2007 to 0.13 Mt/1000 hooks and 0.17 Mt/1000 hooks respectively . The CPUE for by-catches (Marlins, sailfish and other species) has remained less than 0.2Mt/1000hookss over the past 5 years.

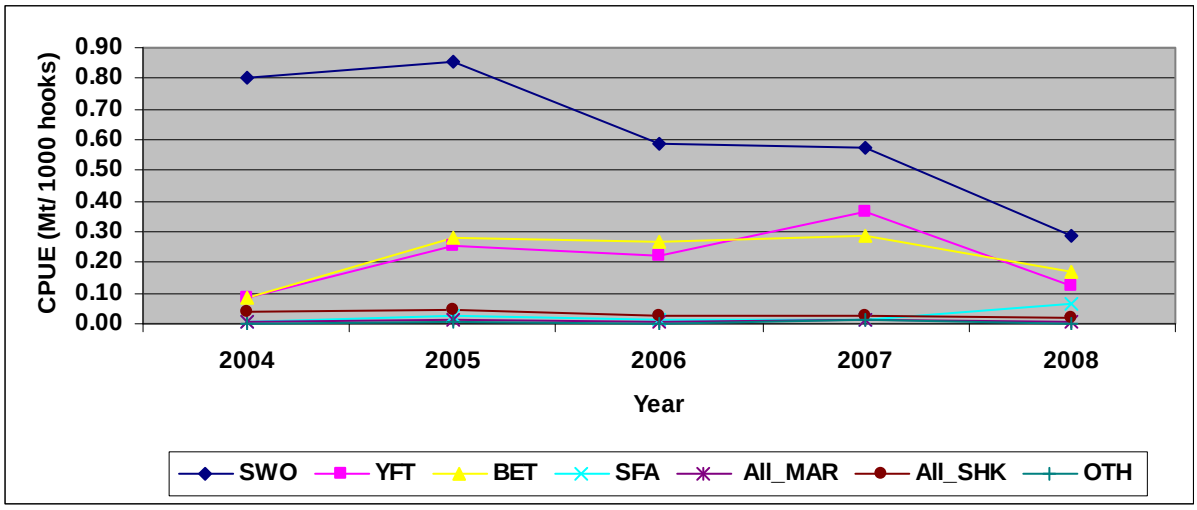

Figure 2.4. Catch rate (Mt/1000 hooks) by species of semi Industrial fishery, 20034- 2008

2.4. Length Frequency

The monitoring of size frequencies has been carried out by SFA staff since the beginning of the fishery during the landing of fish. Analysis of size frequency were realised from Pectoral Anal Length (PAL) for swordfish. The swordfish size frequency distributions for the last 5 years are presented in figure 2.5. The size class are in centimetres. A total of 1221 swordfish were sampled representing 13% of the total swordfish catches for the past 5 years. The mean PAL of swordfish over the past 5 years was 54.1 cm.

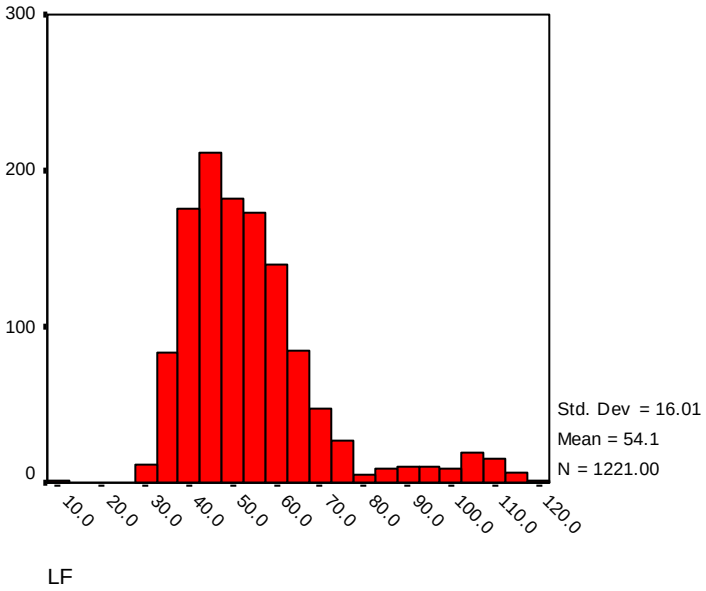

Figure 2.5. Swordfish size frequency distributions (PAL in cm) from fish landed by Seychelles' longliners in Victoria for the period 2004 - 2008 (n=1221).

2.5. Shark fishery

During 2008 a total of 4 vessels, have 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 given the low commercial value of the meat.

In 2008 a total of 33 sharks fishing trips were conducted compared to 60 trips in 2007. A total of 21.02MT of shark meat and 8.88 MT of shark fins were landed in 2008 compared with 20.42 MT of shark meat and 18.57MT of shark fins which were landed in 2007 (Table 2.4) This represent an increase of 3% in total shark meat landed and a decrease of 52 % in the total Shark fins landed.

Sharks' catches consisted mainly of the blue shark (*Prionace glauca),* oceanic whitetip shark *(Carcharinus longimanus),* silky shark *(Carcharinus falciformis),* hammerhead shark *(Sphyrna spp),* mako shark *(Isurus oxyrinchus),* thresher shark *(Alopia sp)* and tiger shark (*Galeocerdo cuvieri)*.

Table 2.4 Shark catches of semi Industrial fishery, 2005-2008

Year	Number of vessels active	Number of Trips	Catch of shark meat (Mt)	Catch of shark fins (Mt)
2005	10	103	21.81	22.15
2006	9	97	17.91	22.33
2007	6	60	20.42	18.57
2008	4	33	21.02	8.88