

NATIONAL REPORT OF FRENCH GUIANA

by
Anatole Charuau³

1. SHRIMP

The entire shelf of French Guiana is exploited up to the slope through various types of strategies. The seasonality is well marked, with important catches from December to May during the wet season. The more heavily exploited area is between the 20 m and 90 m isobaths although there is a regulation forbidding trawling inside 30 meters. Inside the 20 m isobath, catches of small individuals are common and in accordance with the migratory behaviour of juveniles from mangroves, marshes and estuaries.

In the French Guiana E.E.Z, the main shrimp species exploited on the continental shelf is *Penaeus subtilis* and its landings represent nearly 95% of the total shrimp landings from the area. The second species which is also exploited, *Penaeus brasiliensis*, is not sorted and its contribution is evaluated from sampling of the market.

The fishery has been controlled since 1985 by a T.A.C. system implemented by the European Economic Community (EEC) and, since 1992, by a local licence system fixing the maximum number of trawlers allowed to exploit the stock (Table 1).

Table 1: Breakdown of the TAC and landings in tonnes over the period 1987-96

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Number of licensed boats	70	74	80	78	72	71	70	66	68	68
Effort in fishing days	20946	21356	22384	18955	14656	15937	15694	15129*	17224*	17497*
TAC	4300	4680	4810	4100	4000	4000	4000	4000	4000	4000
Landings										
U.S.A	1550	1864	928	450	0	0	0	0	0	0
France	2685	2392	2776	3477	3314	3987	3275	4125*	4276*	4344*
Total	4235	4256	3704	3927	3314	3987	3275	4125*	4276*	4344*

*preliminary

A fishery for deep waters shrimps also exists on the shelf slope for *Solenocera acuminata* (200m depth) and for *Parapenaeus edwardsianus* (700 m depth) (Table 2).

³ IFREMER, Délégation de Guyane, Cayenne Cedex
e-mail: acharuau@ifremer.fr

There is no directed fishery on sea-bob (*Xiphopenaeus kroyeri*) although the resource seems to be very important. Only some fixed fisheries exist in the estuaries and their production is used on the local market.

Table 2: Fishing effort, landings (tonnes) and catches per unit of effort (kg/day) on the continental slope

	1988	1989	1990	1991	1992	1993	1994	1995	1996
Fishing effort (days)	365	531	620	1457	1050	735	510	n.a	n.a
<i>Solenocera acuminata</i>									
Landings (tonnes)	97.8	142.9	166.9	80.5	73.5	17.3	55.2	n.a	n.a
CPUE (kg/day)*	267.9	269.1	269.2	55.25	70	23.5	108.2	n.a	n.a
<i>P. edwardsianus</i>	n.a n.a								
Landings (tonnes)	52.2	41.3	34.3	258.5	159.2	140.3	54	n.a	n.a
CPUE (kg/day)*	143	77.7	55.3	177.4	151.6	190.9	105.9	n.a	n.a

*Average annual cpue

From 1979 to 1990, the resources were exploited by French, US and Japanese companies. The production of the various species of shrimps was exported headless to USA and Japan. After the implementation of the fishery under the French flag due to the extension of the EEC area, new trends were observed in the markets and a demand was encountered from European countries for whole shrimp of both small and big sizes. That market induced a change in the habits of shrimp-trawlers and during the second half of the year, the juveniles are now exploited in shallow waters. Due to the recent fluctuations on the international market, a decrease of demand was observed with a correlative decrease in the effort of the French fleets after 1990, from 22 400 days at sea in 1989 to 15 100 in 1994, remaining low in 1995 and in 1996.

Biological sampling covers 90% of the landings. All the shrimps are processed at sea and packaged frozen. The biological samples are made after landing before marketing, with a sampling-stratification taking into account the habits of each factory according to their own market categories.

There is no local market for the shrimps which are all exported to the European nations. Only sea-bob is sold very rapidly after being caught in the fixed fisheries. However, as there is an interdict on the use of these gears which prevents them from being transferred to descendants, it is likely that they will disappear in the next years.

2. FISHES

Snappers

It is likely that there are interactions between the shrimp fishery and the demersal fishery. Previous observations showed that small snappers, mainly lane snapper, are caught in the shrimp fishery but, as a result of the difficulties in freezing these fishes, the majority are discarded at sea. No commercial data are available on these discards.

There are three main species: lane snapper (*Lutjanus synagris*), vermilion snapper (*Rhomboptiles aurorubens*) and red snapper (*Lutjanus purpureus*). Only the last one is of real commercial interest and is targetted for Venezuelan hand-liners.

As with the shrimp-trawlers, since 1985 there has been a licensing system for Venezuelan boats (Table 3). They are obliged to land 75% of their catches in French Guiana and the licences are given only if there is a contract between the ship-owner and a processor in French Guiana. In this fishery, only lines and pots can be used.

The fishing effort which was reduced in 1991, seemed to stabilize from 1991 to 1994 at close to 35 000 hours per year. The landings, which also seemed to fall in 1991 and 1992, increased rapidly thereafter (Table 3). An analysis of the yields by depth stratum shows that the fleet is optimizing its strategy and is fishing in deeper water (90-120 m). In 1996, the yields obtained in the usual areas increased sharply and the effort is equally distributed from 30 to 120 m.

In 1996, there was a complete change in the rate of exploitation of the fishery, with a substantial increase in the effort of the fishery (57 316 fishing hours) and of related landings (1 527 tonnes).

Table 3: Activity of the Venezuelan fleet in the EEZ area of French Guiana from 1985 to 1996

	Mean monthly numbers of:			Number of license d boats	Total fishing effort (hours)	Landings in French Guiana (tonnes)	Cpue in kg/hour
	boats	trips	fishing days				
1985	7	8	102	25		295	
1986	9	12	230	20	12508	490	45.8
1987	10	15	238	25	27077	519	21.2
1988	13	19	378	25	24761	808	33.1
1989	20	33	330	35	42587	989	22.4
1990	18	24	337	35	39118	925	23.1
1991	20	29	337	35	36703	807	22.1

1992	18	27	390	41	35760	867	23.8
1993	19	30	328	41	35075	1001	26.6
1994	20	31	360	41	35664	1063	28.3
1995	25*	36*	316	41	38075	1059	28.0
1996	27*	43*	600	41	57316	1527	28.8

* preliminary

3.SMALL SCALE FISHERY

The artisanal boats fish inside the 10 m isobath. A fleet analysis is now in progress, but the initial results show an important decrease in the number of these boats. The aim of the analysis is to categorise homogeneous groups of boats in order to design a realistic sampling strategy of the exploited species. In 1993, there were 120 registered boats but in 1996 there were only 60.

The artisanal system has developed to exploit the coastal resources. The structure of that fleet is representative of similar systems in other countries at the same latitudes and is complex and adapted to the variability of the environment. Although these boats fish inside the 10 m isobath, it is likely that, even in these extreme inshore areas, technical interactions with the industrial shrimpers occur. In the coastal zones the activities are seasonal and fishing exclusively targets on fishes, using gill-nets. A local licensing system has been in use from the 1st January 1996.

The fleet operates within areas with relative low salinity and in the estuaries. It is likely that the present production, estimated at 2 500 tonnes, is well below the potential production of the area and in many cases coastal fishing occurs at a subsistence level.