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Working Document

The French anchovy fishery

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1 MATERIAL AND METHOD

1.1. Description of fishery

The french fishery of anchovy is divided in two groups defined by gears : purse seine and pelagic trawl. The average length of these vessels is about 20m.

This fleet is very opportunistic : all trawlers are using several trawls during the year, to catch sometimes bass, tuna, hake, or scampi, and purse seine are mainly fishing sardine. Each year, the main anchovy catches are provided by pair trawlers.

Purse seiners operate often in coastal areas (<10 nautical miles); trawlers may operate until 50 nautical miles offshore but are banned inside the three miles coastal zone.

The pair trawlers may operate from Basque country to western Channel according to fish availability. Purse seiners usually stay around their home harbour.

1.2. Sources of data

Since 1999, two database are available. The first one called 'log-books' is made of all the information available in the EU log-books. The second one called 'Sales' is a record of all the information from the auctions. This includes all the landings of all species from all vessels (since the sale is recorded). It does not provide any information on effort, gear or area.

Since log-books could not be computed for all vessels and/or all trips, the first database should either be considered as a sample of the total population of vessels/trips, or corrected with information from the second one.

Before 1999, only one database was available which was a merge of the two sources of data. In the earlier years, vessels without log-books were generally merged in a common vessel. This was the case in 1998 for lot of vessels operating in the Bay of Biscay.

This fishery is very opportunist and some catches may even provide from bottom trawlers sometimes. Therefore, the pelagic fleet is of course the main fishing effort but to real define a target fishing fleet, it is necessary to analyse catches boat by boat along a year to separate regular to occasional vessels.

Looking at annual catches year by year (figure 1), a threshold of 50 tons per year has been decided to separate target trawlers from occasional ones.

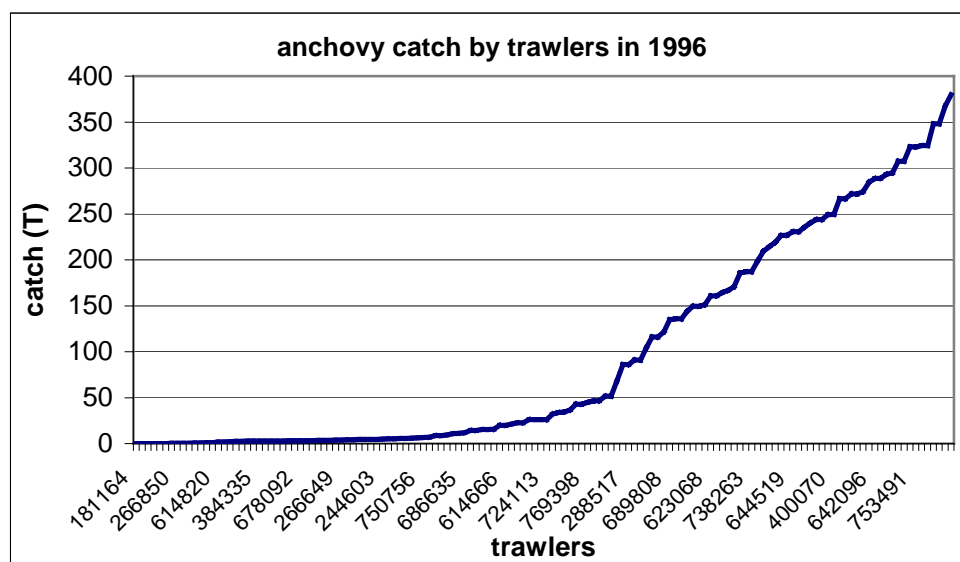


Figure 1

It is also necessary to scrutinise vessel by vessel to avoid the particular problem due to pair trawlers : boats are not allways operating with the same one all along the year, and moreover, sometimes only one of the pair declares the catch.

2. ANCHOVY FISHERY

2.1. the fleet

In table 1, annual catches and numbers of vessels are gathered. A reliable data base for the whole French fishery on any species is accessible only from 2000. Before, numbers of vessels were only available according to species. Therefore, we can be confident in the number of vessels targeting anchovy on the whole series (1989 to 2003), but a comparison with the total fleet is only accessible since 2000.

Year	purse seiners (P.S.) nb	Anchovy P.S. nb	anchovy catch P.S.	Pelagic trawlers (P.T.)>50t	all trawlers	Anchovy catch P.T. >50T	anchovy catch PS + PT	biomass
1989		18	172	6		451	2255	21 053
1990		25	2355	48		5097	10598	51 008
1991		19	175	53		4806	9708	30 536
1992		21	445	85		10468	15217	71 816
1993		34	1445	108		16622	20914	82 227
1994		34	1319	77		12259	16934	53 370
1995		33	2151	44		6987	10892	43 218
1996		30	1206	60		12741	15238	39 974
1997		27	1202	52		9630	12020	45 721
1998		29	2035	44		11972	20811	95 382
1999		30	1113	49		11617	13649	76 532
2000	33	32	1015	57	795	15836	17765	90 865
2001	35	34	2336	60	800	14660	17097	91 218
2002	36	32	630	47	793	10327	10998	51 292
2003	38	19	393	47	778	6732.3	7593	29 200

Table 1

Figure 2 shows that number of purse seiners fishing anchovy is rather constant from year to year. The pelagic trawl fleet is more variable mainly before 1996.

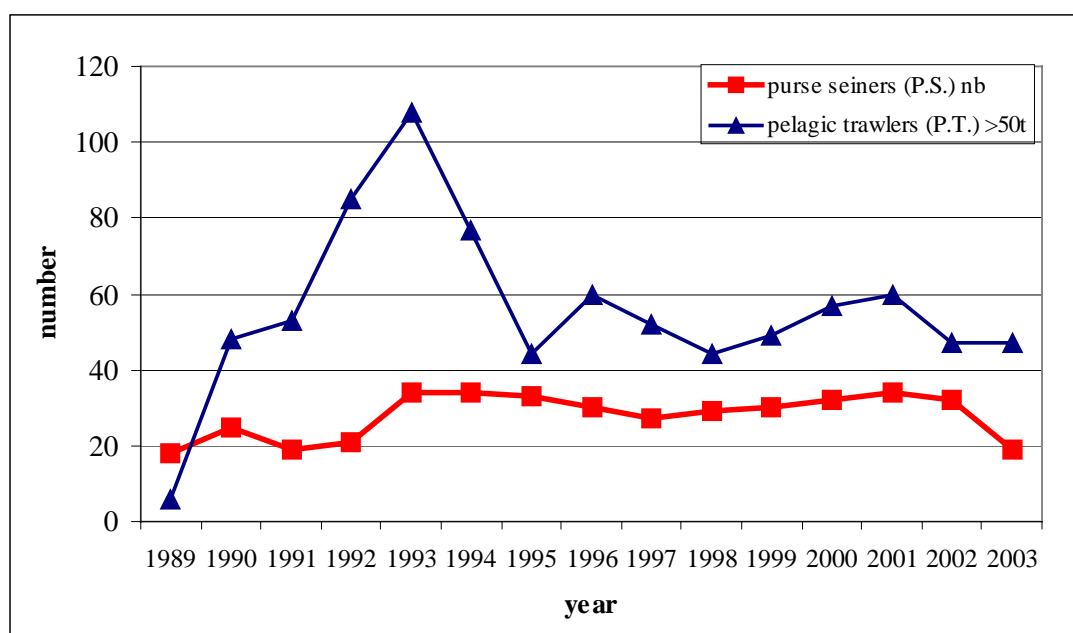


Figure 2

Compared to the biomass level estimated during WG, the opportunistic character of the anchovy fishery is confirmed (figure 3). The level of total catches suits perfectly the biomass, even if we consider only the trawl catches. 1998 data are doubtful in terms of separation between trawlers and purse seiners because of a misreporting of gears characteristics.

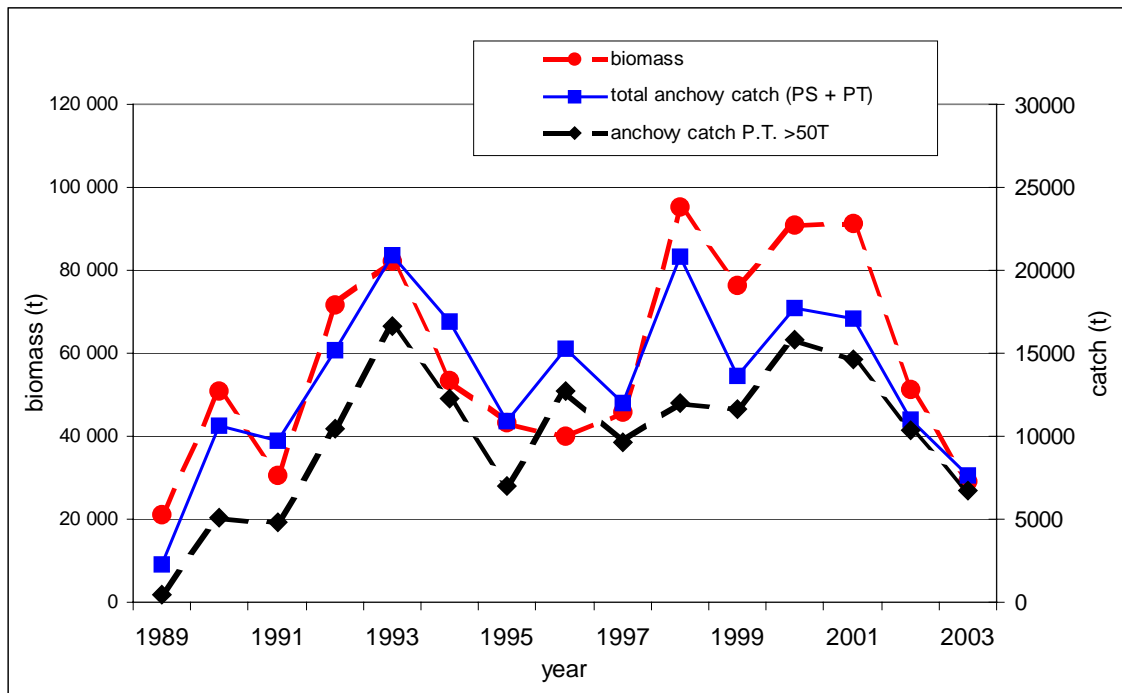


Figure 3

2.2. geographic distribution

Historical geographic distribution of catches month by month is actually in progress but is not totally completed today.. This approach is done from only a part of the fleet as it is provided by a cross analysis between Log books and reported anchovy sales. After some comparisons it appeared that they represent more than half of the fishery and were well representative of the whole fishery.

Figures 4, and 5 show 2000 distribution of catches from respectively french pair trawlers and purse seiners. This year represent a « typical » situation of geographic repartition of anchovy catches :

- Pair trawlers are catching anchovy in the south of the bay, in coastal zone (“Gironde”; figure 4) in the beginning of the year. After a voluntary break of anchovy catch for pair trawlers (April and may, bilateral agreement), the fishery is moving North.
- purse seiners (figure 5) are catching anchovy in the south of the bay of Biscay during the first half of the year, and in the North during the second semester.

Figure 6 shows an example of atypic distribution of purse seiners catches when spanish vessels sale in french harbours (figure 6).

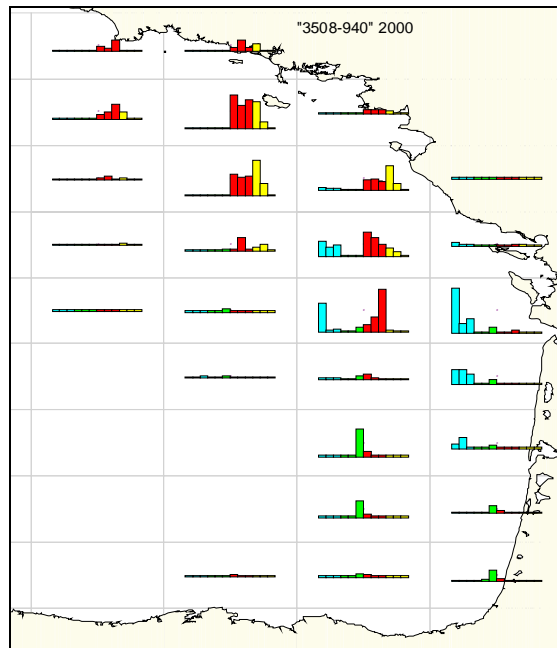


Fig. 4 – French pair-trawlers anchovy catches by month (month 1, 2 and 3 : blue ; 4, 5 and 6 : green ; 7, 8 and 9 : red ; 10, 11 and 12 : yellow)

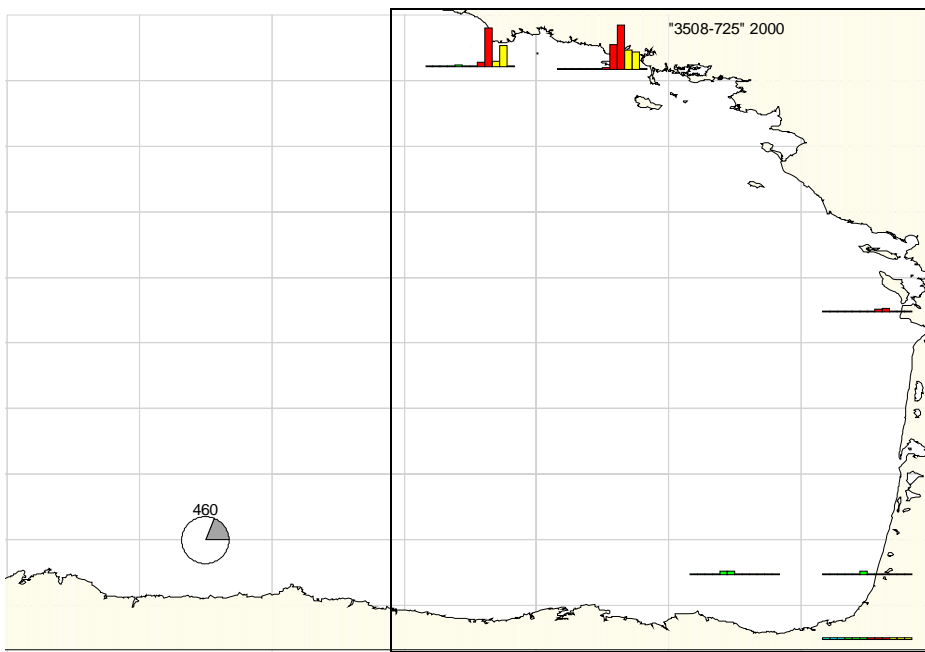


Fig. 5 – French purse seiners anchovy catches by month (month 1, 2 and 3 : blue ; 4, 5 and 6 : green ; 7, 8 and 9 : red ; 10, 11 and 12 : yellow)

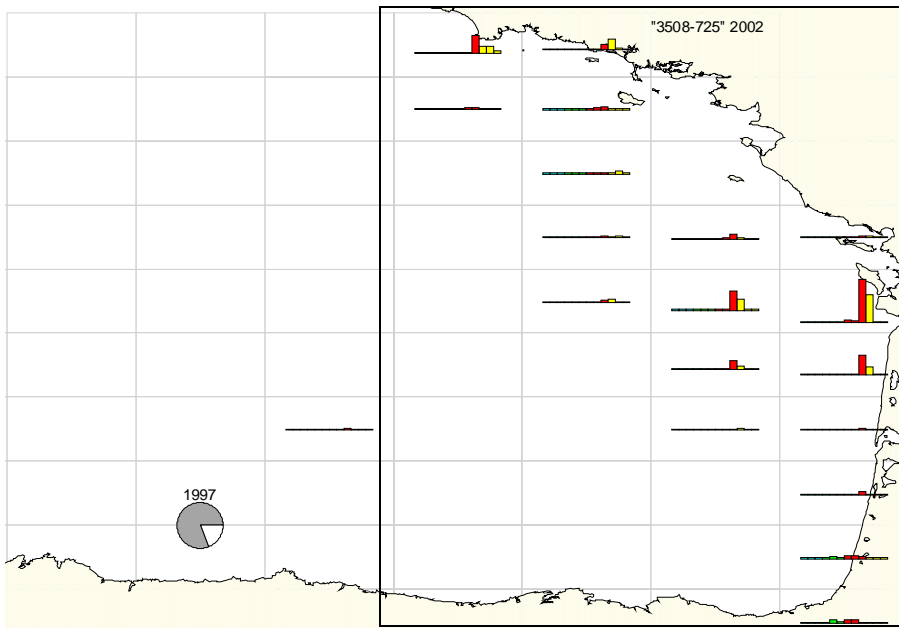


Fig. 6 – Example of a year when Spanish purse seiners sold anchovy in French harbours (month 1, 2 and 3 : blue ; 4, 5 and 6 : green ; 7, 8 and 9 : red ; 10, 11 and 12 : yellow)

Conclusion :

This is the best approach we can have for the time being about the French anchovy fishery. This shows mainly that it is an opportunistic fishery and the fishing effort seems to be directly reliable to the biomass. To be usable in a ecosystemic model, the equivalent analysis for the Spanish fishery would be essential, the accessibility and catchability could be more accurate than the fishing effort.