28

IP1.

OVERVIEW OF THE ATLANTIC ALBACORE FISHERIES

R. PIANET

ORSTOM, BP A5, NOUMEA, NEW CALEDONIA

Atlantic albacore ressource is assumed to be shared in two stocks (northern and southern) usually separated at 5°N; Some exchanges between the southern Atlantic and southern Indian Ocean stocks are considered as probable. A separated stock may also exist in the Mediterranean sea. Historical catches are reported on Tab. 1 and 2.

NORTHERN ALBACORE STOCK.

THE FISHERY:

In 1986, catches reached 39 000 metric tons, shared in 24 000 metric tons from the surface fishery (roughly half pole-and-line and half trollers, essentially spanish, catching juvenile fishes of 1-5 years) and 15 000 metric tons from the longline fishery (essentially Taiwan (R.O.C.), catching adult fishes of 5+ years). Spawning is estimated to start at 6. Since 1987, some new gears appeared in the surface fishery (french gillnetters and pair midwater trawlers), ammounting some 2 500 metric tons.

STOCK ASSESSMENT:

In the north Atlantic, the surface fishery is the older (already more than 30 000 metric tons in 1950), while the longline fishery started only from the sixties. Surface catches regularly declines since 1965. Trollers catches represents the majority of this decline from 1960 to 1985, at the same rate than its effort did. Pole-and-line catches and efforts remained more stable, with a sligh decrease along the same period. The longline fishery is subject to large fluctuations, not related to the surface fishery evolution ((Fig. 1).

Pole-and-line, trollers and longline catches and cpues are shown on Fig. 2. On one hand, both pole-and-line and trollers cpues are considered as a juvenile stock index of abundance; they remained stable from 1960 to 1970, and globally increased with strong variations since then. On the other hand, longline cpues are considered as an adult index of abundance; they were recently standardized to taiwanese cpue (as it is now the main fishery), and exhibits large fluctuations, with an increasing trend along the last period (eighties).

Recruitment was estimated from age 3 catches from pole-and-line and trollers: it shows large fluctuations, with a decreasing trend from 1957 to 1980; this serie has not been updated since then, but the decreasing effort of surface fisheries related to the increasing cpues for all gears let think that the stock is in a better situation than then.

Production models using a new longline standardised effort (from Taiwan, but with k= 1 years classes in the fishery instead of the traditionnal k= 4 or 5) gives MSY

values ranging from 48 to 52 000 metric tons (Fig. 3, what is significantly less than the 60-70 000 metric tons obtained previously from a pole-and-line standardised effort; the reason for that difference is being investigated. In any case, it is substancially more than the actual catch fluctuating around 40 000 metric tons these last years. On an other side, production modelling is not assumed to be the most adequate tool to monitor the albacore fishery. Anyway, if this stock was giving matter to anxiety in the seventies, at the present time it is considered to be moderately exploited, and that an increasing effort will result in an increasing catch.

At the moment, there is no regulation on this fishery.

SOUTHERN ALBACORE STOCK.

THE FISHERY:

In 1986, the catch reached some 28 000 metric tons, 23 000 metric tons coming from the asian longline fishery (mainly R.O.C.) and 5 000 metric tons from surface fisheries (essentially South Africa, probably trollers). The surface fishery is quite recent (significant from 1980, see Tab. 1).

STOCK ASSESSMENT:

Catches and efforts show strong and synchroneous annual variations (Fig. 4). Longline cpues are used as an index of adult stock variations (Fig. 5): after a rapid decrease at the begining of the fishery (from .4 in 1965 to .2 in 1973), it remained relatively stable since then. We have no abundance index for the southern albacore juvenile stock.

Production models (with k= 4 years classes in the fishery) give a MSY ranging from 24 to 25 000 metric tons. With a catch of 28 000 metric tons these two last years, the stock is considered to be exploited at a level close to or exceeding the MSY; it is expected that any increase of the effort will result in a stable or declining catch. Nevertheless, interactions between southern Atlantic and Indian Ocean stocks cannot be excluded and must be investigated soon.

At the moment, there is no regulation on this fishery.

MEDITERRANEAN SEA ALBACORE STOCK.

Catches remain at a relatively low level, but the increase observed these last years draw ICCAT and EEC's attention on this stock. Albacore caught are all juveniles (2-3 years), including a local longline fishery.

Furthermore, the identity status of this stock (independant or related to the northern Atlantic stock) is not clear and must be elucidated. Tagging is planned to look further on this problem.

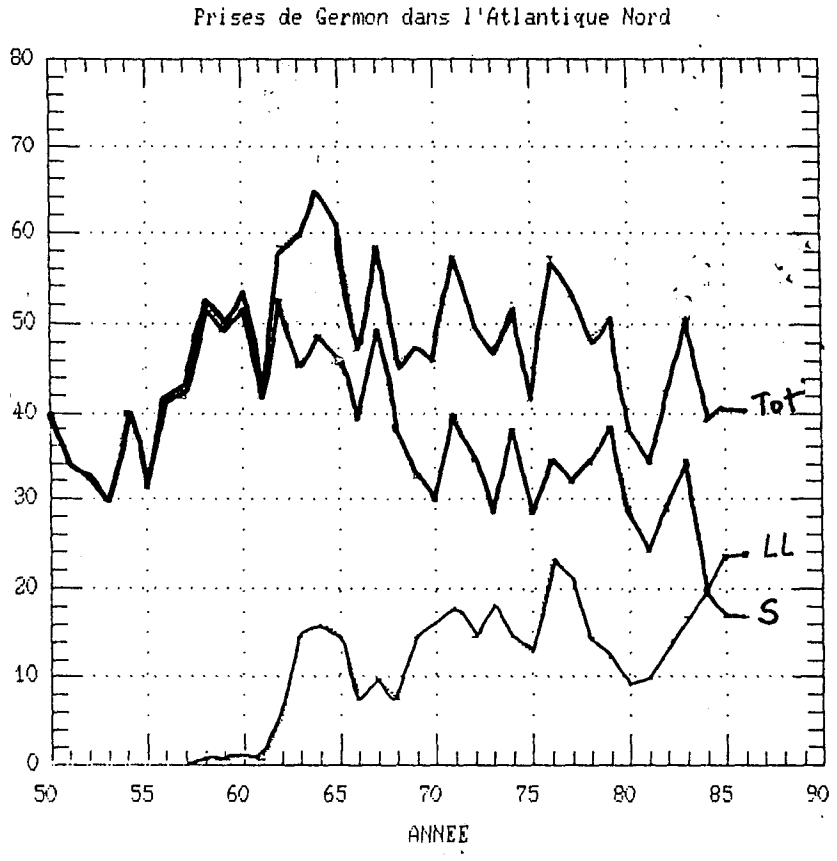
SOURCE: ICCAT, Report of the Standing Committee on Research and Statistics, 1987.

Tableau 1. Prise de germon de l'Atlantique (1.000 TH).

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
TOTAL	83.4	75.7	72.5	59.4	77.2	75.1	72.2	73.6	61.2	59.2	74.0	67.9	58.0	74.0	73.6
ATLANTIQUE NORD	49.4	47.0	52.3	41.4	57.3	52.9	48.5	50.3	38.2	34.1	42.1	50.9	39.5	40.4	40.4
-SURFACE	34.7	28.8	37.6	28.7	34.3	32.0	34.3	38.1	28.7	24.3	28.9	34.3	19.9	23.3	23.8
CANNEURS	8.2	10.1	16.7	19.2	20.4	15.6	11.7	15.9	16.2	13.4	15.9	21.1	8.3	12.6	12.5
FRANCE	0.5	1.1	0.6	0.7	1.1	0.6	0.4	0.2	0.4	0.4	0.2	0.2	0.0	0.1	0.1
ESPAGNE	7.3	8.2	14.9	17.6	18.7	14.9	11.3	15.6	15.7	12.6	15.3	19.0	7.4	11.8	11.9
AUTRES	0.4	0.9	1.2	0.9	0.6	0.1	0.1	0.1	0.1	0.4	0.4	2.0	0.9	0.7	0.4
LIGNEURS	26.5	18.7	21.0	9.5	13.9	16.5	22.6	22.1	12.6	10.8	12.8	12.8	11.0	10.7	11.1
FRANCE	8.7	5.8	7.9	5.0	5.7	6.2	8.4	7.8	3.1	2.5	2.7	2.2	2.8	1.8	1.1
ESPAGNE	17.8	12.9	13.1	4.5	8.2	10.3	14.1	14.2	9.5	8.3	10.1	10.6	8.2	8.9	10.0
AUTRES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUTRES ENGINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.4	0.6	0.1	0.2
-PALANGRE	14.7	18.1	14.6	12.7	23.0	20.9	14.2	12.2	9.4	9.8	13.2	16.6	19.5	17.1	16.7
CHINE (TAIWAN) . . .	4.4	9.5	9.5	8.1	14.8	13.7	9.3	7.0	7.1	6.6	10.5	14.3	14.9	14.9	14.8
JAPON	1.3	1.5	2.1	1.3	1.3	0.8	0.5	1.2	1.0	1.7	0.8	1.2	0.6	0.8	0.9
COREE + PANAMA . . .	8.2	7.2	3.0	3.1	6.6	6.1	3.8	3.4	1.0	1.1	1.8	0.8	3.5	1.0	0.9
AUTRES	0.8	0.0	0.0	0.2	0.2	0.2	0.5	0.6	0.3	0.4	0.1	0.3	0.5	0.4	0.1
ATLANTIQUE SUD	33.3	28.2	19.7	17.5	19.2	21.4	23.0	22.5	22.5	23.6	29.0	14.3	13.1	28.2	27.6
-SURFACE	0.1	0.1	0.1	0.2	0.1	0.4	0.3	0.7	1.9	3.3	3.7	2.5	3.2	5.6	4.9
FIS	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.5	0.9	0.9	0.4	0.0	0.0	0.0
AFRIQUE DU SUD . . .	0.1	0.1	0.1	0.2	0.0	0.1	0.1	0.4	1.2	1.4	2.5	1.7	2.6	5.3	4.7
ESPAGNE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.1	0.3	0.3	0.2	0.2
AUTRES	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.3	0.0	0.2	0.1	0.3	0.1	0.0
-PALANGRE	33.2	28.1	19.6	17.4	19.2	21.0	22.8	21.8	20.6	20.3	25.3	11.8	9.9	22.7	22.7
CHINE (TAIWAN) . . .	25.0	22.2	16.7	13.4	14.6	16.1	20.5	20.3	18.7	18.2	22.8	9.5	7.9	19.6	21.1
JAPON	2.1	0.3	0.1	0.3	0.1	0.1	0.1	0.1	0.3	0.6	0.6	0.2	0.2	0.6	0.7
COREE + PANAMA . . .	5.8	5.6	2.6	3.5	4.1	4.1	1.7	1.0	0.9	0.8	0.8	0.6	0.3	0.5	0.6
AUTRES	0.3	0.1	0.2	0.2	0.3	0.6	0.5	0.4	0.7	0.8	1.1	1.6	1.5	1.9	0.4
MEDITERRANEE	0.7	0.5	0.5	0.5	0.6	0.6	0.6	0.8	0.5	1.5	3.0	2.6	5.2	5.2	4.4
FRANCE - PS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.0
ITALIE - LL+GILL+UNCL	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.8	0.5	0.6	0.7	0.7	2.1	3.3	3.3
ESPAGNE - BB + TROL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.6	0.5	1.3	0.5	0.0
AUTRES - SURF + LL .	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.4	1.6	1.1	1.1
REGIONS NON CLASSEES . .	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-SURFACE	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-PALANGRE	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UNCL + TRAW GEARS - ATL. ENTIER (EXCEPTE ITALIE UNCL-MEDI)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	1.1

row	AN	PALNORD	PLNORD	TROLNORD	DIVNORD	SURFNORD	TOTALNORD	PALSUD	SURFSUD	TOTALSUD	TOTATL
1	50	0.	0.0	39.6	0.0	39.6	39.6	0.0	0.0	0.0	39.6
2	51	0.	0.0	34.1	0.0	34.1	34.1	0.0	0.0	0.0	34.1
3	52	0.	0.0	32.4	0.0	32.4	32.4	0.0	0.0	0.0	32.4
4	53	0.	3.9	26.2	0.0	30.1	30.1	0.0	0.0	0.0	30.1
5	54	0.	7.3	32.7	0.0	40.0	40.0	0.0	0.0	0.0	40.0
6	55	0.	4.1	27.3	0.0	31.4	31.4	0.0	0.0	0.0	31.4
7	56	0.	8.0	32.9	0.0	40.9	40.9	0.1	0.0	0.1	41.0
8	57	0.	12.0	30.0	0.0	42.0	42.1	0.7	0.0	0.7	42.8
9	58	1.	17.6	33.9	0.0	51.5	52.4	1.0	0.0	1.0	53.4
10	59	1.	18.5	30.8	0.0	49.3	49.9	4.7	0.0	4.7	54.6
11	60	1.	18.1	33.1	0.0	51.2	52.5	10.5	0.0	10.5	63.0
12	61	1.	21.1	20.9	0.0	42.0	42.5	10.7	0.1	10.8	53.3
13	62	6.	21.5	30.9	0.0	52.4	58.2	18.2	0.8	19.0	77.2
14	63	15.	20.7	24.6	0.0	45.3	60.0	17.4	0.0	17.4	77.4
15	64	16.	20.4	28.1	0.0	48.5	64.4	26.0	0.0	26.0	90.4
16	65	15.	20.1	25.5	0.0	45.6	60.3	29.8	0.0	29.8	90.1
17	66	8.	16.8	22.8	0.0	39.6	47.3	27.3	0.0	27.3	74.6
18	67	10.	18.3	30.7	0.0	49.0	58.5	15.9	0.0	15.9	74.4
19	68	8.	13.9	24.0	0.0	37.9	45.6	25.7	0.0	25.7	71.3
20	69	15.	14.6	17.9	0.0	32.5	47.3	28.5	0.0	28.5	75.8
21	70	16.	14.4	15.7	0.0	30.1	46.2	23.7	0.0	23.7	69.9
22	71	18.	15.7	24.0	0.0	39.7	57.6	25.0	0.0	25.0	82.6
23	72	15.	8.2	26.5	0.0	34.7	49.4	33.2	0.1	33.3	82.7
24	73	18.	10.1	18.7	0.0	28.8	46.9	28.1	0.1	28.2	75.1
25	74	15.	16.7	21.0	0.0	37.7	52.3	19.6	0.1	19.7	72.0
26	75	13.	19.2	9.5	0.0	28.7	41.4	17.4	0.2	17.6	59.0
27	76	23.	20.4	13.9	0.0	34.3	57.3	19.2	0.2	19.4	76.7
28	77	21.	15.6	16.5	0.0	32.1	53.0	21.2	0.4	21.6	74.6
29	78	14.	11.7	22.6	0.0	34.3	48.5	22.8	0.4	23.2	71.7
30	79	12.	15.9	22.1	0.1	38.1	50.3	21.8	0.3	22.1	72.4
31	80	9.	16.2	12.6	0.0	28.8	38.2	20.6	1.9	22.5	60.7
32	81	10.	13.4	10.8	0.1	24.3	34.1	20.3	3.3	23.6	57.7
33	82	13.	15.9	12.8	0.2	28.9	42.1	25.3	3.7	29.0	71.1
34	83	17.	21.1	12.8	0.4	34.3	50.9	11.8	2.5	14.3	65.2
35	84	20.	8.3	11.0	0.6	19.9	39.4	9.9	3.2	13.1	52.5
36	85	17.	12.6	10.7	0.1	23.4	40.5	22.7	5.6	28.3	68.8
37	86	17.	12.5	11.1	0.2	23.8	40.5	22.7	4.9	27.6	68.1

Table 2 -



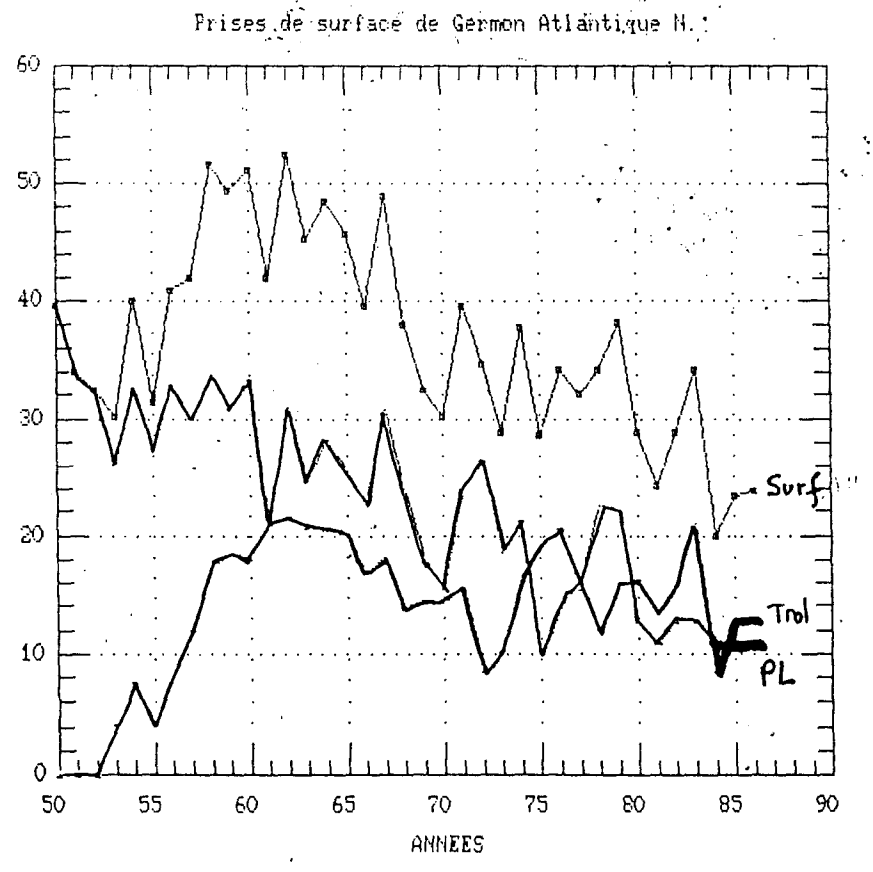


Fig 1: Annual catches on the albacore northern stock, all gears and surface gears separated (down)

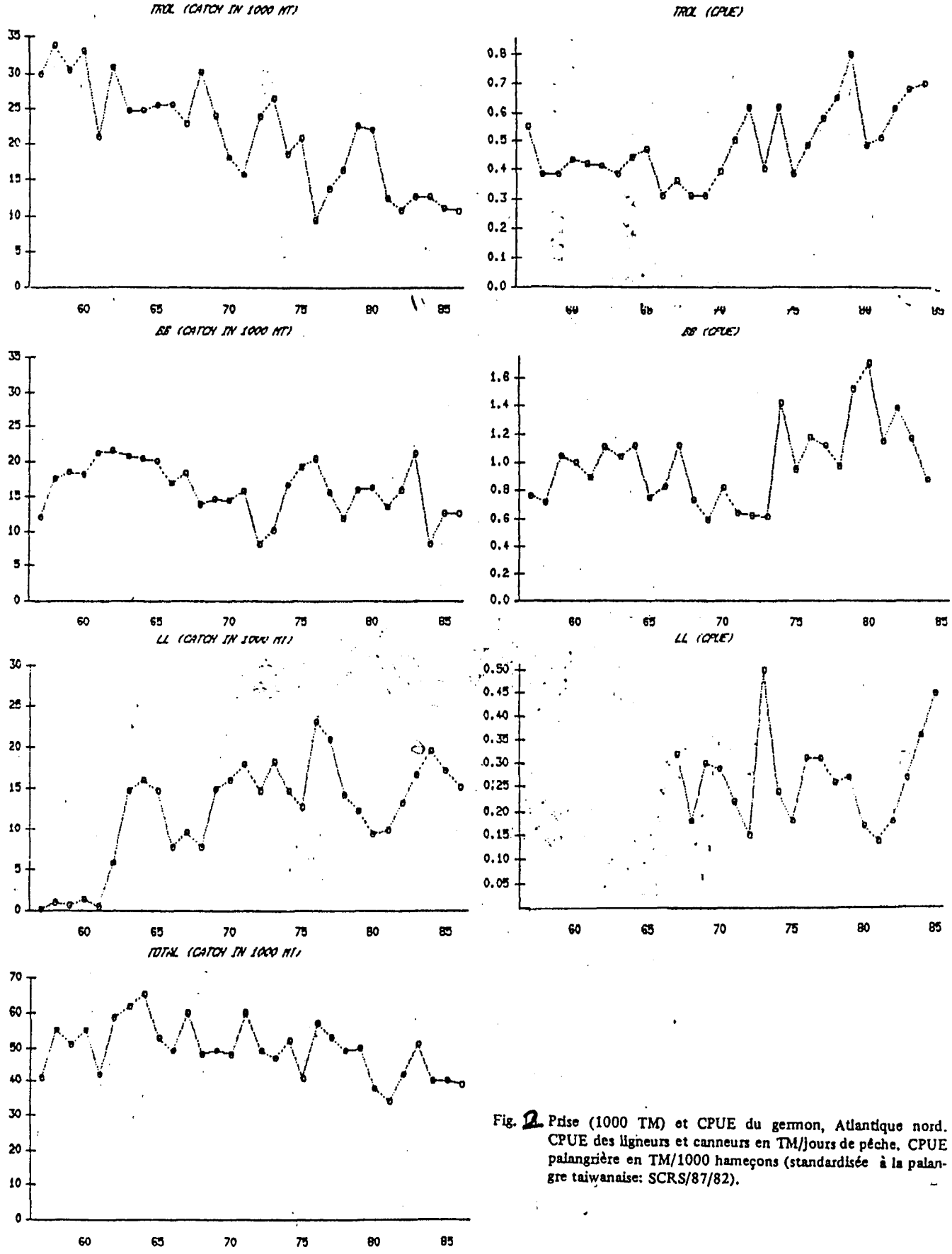


Fig. 2. Prise (1000 TM) et CPUE du germon, Atlantique nord. CPUE des ligneurs et canneurs en TM/jours de pêche, CPUE palangrière en TM/1000 hameçons (standardisée à la palangre taiwanaise: SCRS/87/82).

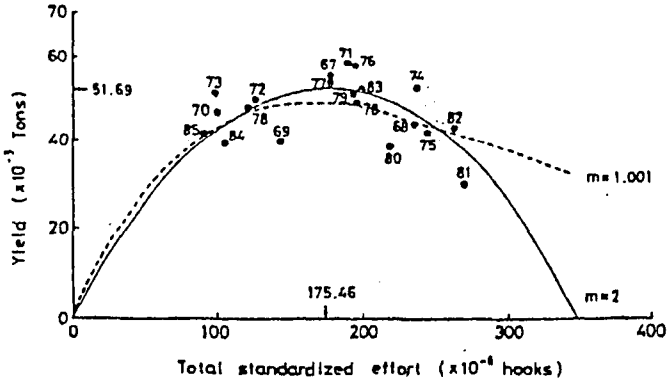


Fig. 3 Modèle de production ajusté à la pêcherie de germon, Atlantique nord. Effort standardisé en millions d'hameçons. (SCRS/87/82)

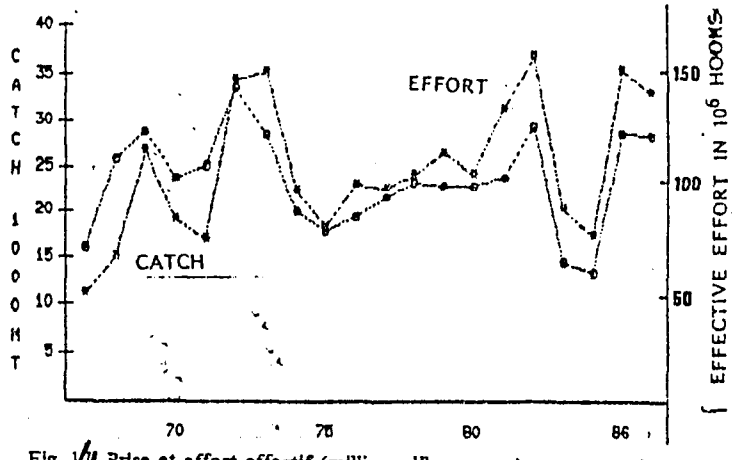


Fig. 4 Prise et effort effectif (millions d'hameçons), germon, Atlantique sud, tous engins combinés. Données de 1986 préliminaires.

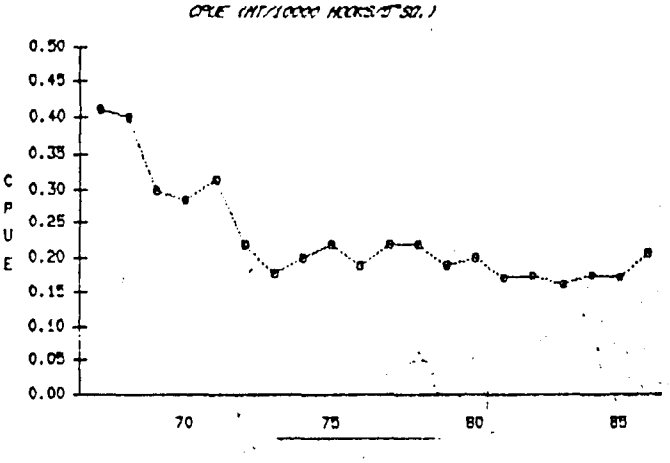


Fig. 5 CPUE (TM/1000 hameçons par carré de 5°) du germon, Atlantique sud, 1967-86. (SCRS/87/81)

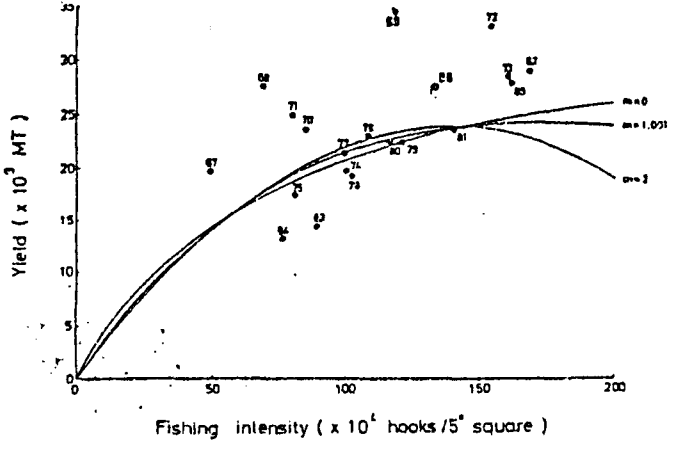


Fig. 6 Modèle de production ajusté à la pêcherie de germon, Atlantique sud, en supposant trois classes annuelles significatives dans la prise. Le point de 1986 est provisoire.