

DESCRIPTION OF YUGOSLAVIAN TUNA FISHERIES (NORTH ADRIATIC)

by

M. LAURENT

1. HISTORY OF THE FISHERY

The fishery has existed in Yugoslavia since the 18th century. The fishery was at first composed only of traps, but became diversified and included boats (1958: 28 tuna vessels, 7 traps). Since 1966, traps have no longer been in use. At the present time, in 1978, only those vessels similar to Mediterranean seiners operate along the Yugoslavian coast.

2. FISHING SEASON AND AREAS

The fishery begins in the Spring (April-June) and reaches its peak in the Summer (July-September). The current trend is to extend the fishery throughout the whole year.

Fishing areas are in the North Adriatic. The following table shows the catch broken down by different areas for the Adriatic for 1977 (Fig. 1).

RECTANGLE NO.	% OF ANNUAL BLUEFIN CATCH IN EACH RECTANGLE
2	0.2
-	-
-	-
6	37.2
7	3.7
9	7.2
10	21.1
11	0.5
-	-
14	21.3
15	6.5
16	2.3

It should be noted that 80% of the catches are made in rectangles 6, 10 and 14. This indicates that the Yugoslavian fishery operates in the same areas as the Italian bluefin fishery. The major landing ports are Split and Zadar.

3. DESCRIPTION OF GEARS

Tuna vessels similar in size to Mediterranean tuna vessels (50 MT) are used. The gear is seine net, operated by one or more vessels. It should be observed that tuna fishing is only carried out in the Croatian Republic (of the the six federal republics of Yugoslavia). All the seiners are nationalized. Catches from the private sector are very minor.

The number of boats fishing tuna varies greatly according to the year, and is more or less related to catch fluctuations, with a displacement of time.

4. RELATIONSHIP WITH OTHER FISHERIES

As for other Mediterranean seiners, Yugoslavian vessels are equipped for trawling and tuna fishing. According to the season and the presence of tunas, the vessels change their gear. Other tuna species are caught together with bluefin tuna and outside of the fishing season.

5. TYPE OF BAIT USED

No information available.

6. FISHING OPERATION

Tuna schools are located by the usual methods: birds, jumping fish, etc. The fish are then surrounded and caught. Trips are of short duration.

7. CATCH TRENDS

Table 1 shows catch and number of vessels for bluefin and other tuna species. It can be seen that in the past years, the amount of bluefin in the total catch has been increasing.

The period 1947 to 1978 can be divided into three parts: 1947 to 1958 (disappearance of traps), 1959 to 1970 (very small catch), and 1971 to 1978. The following statistics are available:

	1947 - 1958	1959 - 1970	1971 - 1978
Maximum catch	897 MT	381 MT	1043 MT
Minimum catch	253	87	155
Average catch	519	195	470

Upon examining the statistics it can be seen that it is difficult to evaluate a catch trend. It can only be said that there are large fluctuations and that the catches dropped greatly from 1959 to 1970. It is not possible, to our knowledge, to attribute a cause independent from stock availability to this occurrence.

8. FISHING EFFORT

In effect, the number of boats varied according to the year, as can be seen in Table 1. The number of boats depends, with a certain shift, on catch variations and an explanation of this occurrence can be proposed: given the total number of fishing vessels, trawl and other, "industrial" and nationalized, from year to the next, the concerned persons can, considering the total catch, direct a larger or smaller number of vessels to one or another fishery.

Under these conditions, increased effort can be expected in the future, taking into account the substantial catches of 1977 (932 MT) and 1978 (1,043 MT).

9. SIZE AND MATURITY OF THE FISH CAUGHT

The fish caught are immature. Average weight, based on 502 individuals, from three different fishing years (Morovic, 1969) is 5.2 kg. These are certainly young tunas from the south feeding migrations. However, larger tunas are sometimes caught, although this is unusual.

10. PROCESSING AND CONSUMPTION

The catch is almost totally canned in Yugoslavia. The current price for the fishermen is US \$2.00 per kilo.

Table 1. Yugoslavian tuna catches from 1947 to 1978.

Year	"Tuna" (Thunnus thynnus)	"Polanda" (Sarda sarda)	"Trupac" (Auxis thazard)	"Luc" (Euthynnus alletteratus)	No. of boats
	in MT				
1947	459	295	185	22	----
1948	897	342	127	10	----
1949	802	58	79	33	14
1950	657	47	29	18	14
1951	531	48	52	23	14
1952	279	36	36	11	16
1953	588	21	22	6	21
1954	654	40	77	126	27
1955	345	311	195	47	30
1956	253	180	68	13	27
1957	382	27	32	22	29
1958	388	13	86	47	32
1959	224	30	72	11	27
1960	109	20	43	12	18
1961	123	82	35	24	12
1962	87	42	41	2	9
1963	277	34	75	8	16
1964	271	22	68	2	20
1965	134	30	52	2	14
1966	246	138	47	3	21
1967	331	56	58	7	16
1968	150	28	50	5	13
1969	301	17	56	8	17
1970	90	10	24	5	12
1971	326	13	29	4	16
1972	200	13	21	12	16
1973	224	4	12	9	14
1974	317	10	22	4	16
1975	155	9	16	20	13
1976	562	23	18	2	16
1977	932	26	24	4	14
1978	1043	----	----	----	15

RIBOLOVA PODRUČJA

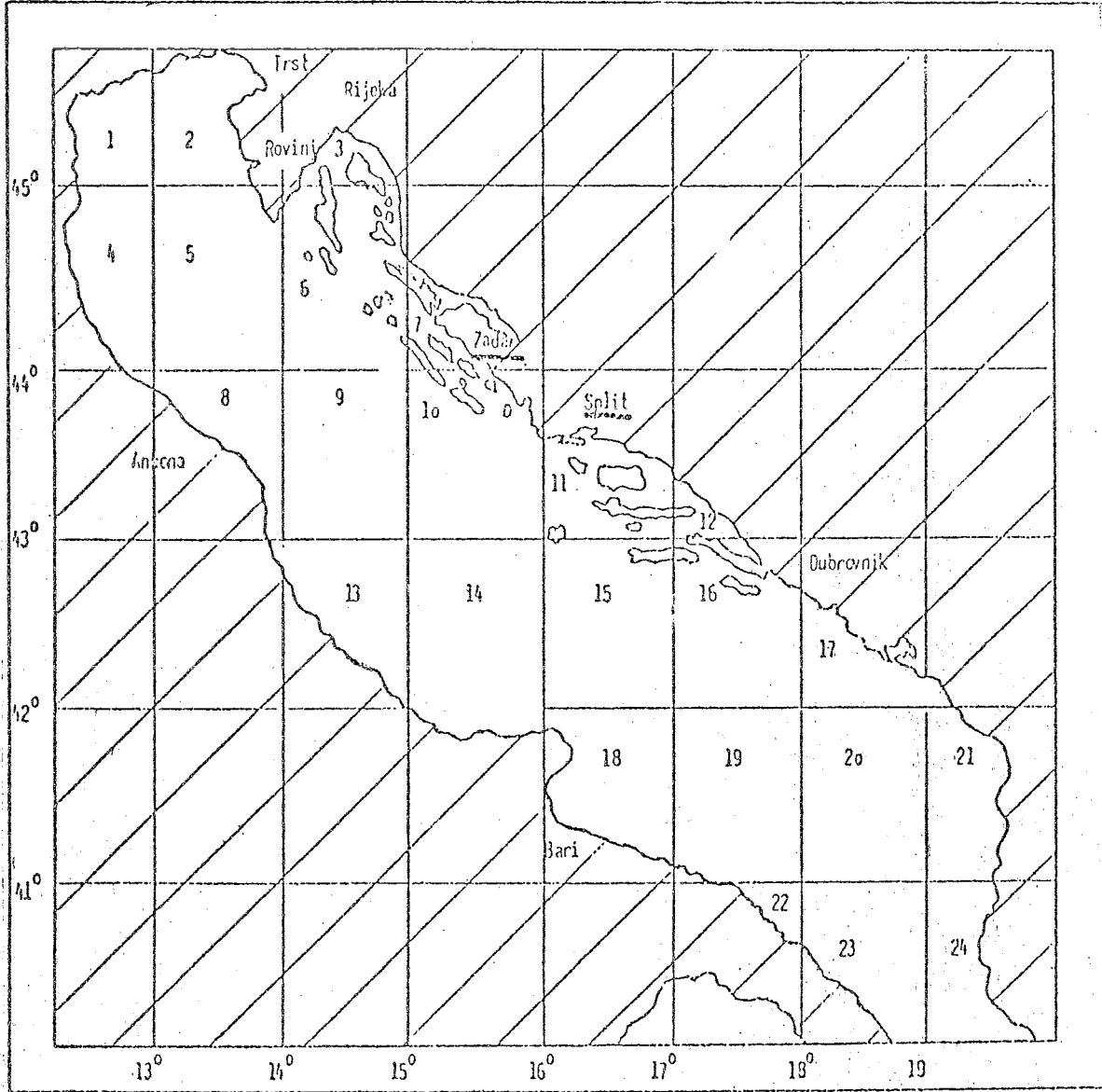


Fig. 1. Catch breakdown by different areas for the Adriatic for 1977.