

REVIEWED FISHING STATISTICS AND TUNA CATCH RECORDS IN THE REPUBLIC OF CROATIA

Homen, Z.¹, A. Dujmusic¹

SUMMARY

The present state of official fishing statistics in the Republic of Croatia is illustrated by the fact that 90% of the fishermen are not now officially obliged to submit catch data. For that reason, in order to determine the actual tuna catch over the 1991-1996 period, the authors have undertaken a survey among all the fishermen engaged in tuna fishing during the observed period. That is why the data collection involves both private fishermen and companies.

The data obtained are several times more than that provided by the official statistics, i.e., the National Bureau of Statistics, which itself describes its data as incomplete (information about catch and tuna catch records for the period 1986-1996, Zagreb, 30 July 1997).

The findings show that the tuna catch in normal (peace time) years in Croatia is about 1,500 MT, whereas in wartime years, it declined by about 25%.

RÉSUMÉ

L'état actuel des statistiques officielles de pêche dans la République de Croatie est illustré par le fait que 90 % des pêcheurs ne sont pas encore officiellement obligés de présenter des données de capture. Pour cette raison, afin de déterminer la prise réelle de thonidés pendant la période 1991-1996, les auteurs ont menés une prospection parmi tous les pêcheurs engagés dans la pêche de thonidés au cours de la période observée. Ceci explique pourquoi la collecte de données a compris des pêcheurs privés et des entreprises.

Les données obtenues sont plusieurs fois supérieures à celles fournies par les statistiques officielles, c'est-à-dire le National Bureau of Statistics, qui dit lui-même de ses statistiques qu'elles sont incomplètes (Information about catch and tuna catch records for the period 1986-1996, Zagreb, 30 July 1997).

Les résultats montrent que la prise thonière au cours d'années normales (en temps de paix) se situe à environ 1.500 TM, alors que durant les années de guerre elle s'est effondrée à environ 25 % de cela.

RESUMEN

El estado actual de las estadísticas oficiales de pesca en la República de Croacia se ilustra por el hecho de que el 90% de los pescadores no está aún oficialmente obligado a presentar datos de captura. Por esta razón, con el fin de determinar la captura real de tónidos durante el período 1991-1996, los autores han llevado a cabo una campaña entre los pescadores que efectuaron pesca de tónidos durante el período observado. Así es como la recolección de datos comprende pescadores privados y compañías.

Los datos obtenidos son varias veces superiores a los facilitados por las estadísticas oficiales, es decir, el National Bureau of Statistics, que describe sus datos como incompletos (Information about catch and tuna catch records for the period 1986-1996, Zagreb, 30 July 1997).

Los resultados muestran que la captura de tónidos en años normales (en época de paz) en Croacia está en unas 1.500 toneladas, mientras que en los años de guerra se desplomó a una cifra en torno al 25%.

INTRODUCTION

The fishing statistics and catch records pose a problem in many countries irrespective of the developmental degree of their fishery. The case of the Republic of Croatia may be even worse for lack of any direct catch and landings data over the past eighty years or so. Fishermen have not been officially obliged to submit their catch data to any agency in charge of statistics or fishery.

Over the past 50-odd years it was only the socially-owned companies which were officially obliged to provide data to the National Bureau of Statistics, whereas estimates were to be made for private fishermen, which was mostly ignored for lack of any sanctions in case of non-compliance.

Throughout that time an overwhelming majority of fishing boats have been owned by private fishermen, which makes the data coming in at the National Bureau of Statistics so much less reliable.

Unfortunately, fishery statistics in Croatia must also be viewed through the prism of political developments in the region. It should thus be borne in mind that it was only a little more than a year ago that the first comprehensive Sea Fishery Act was passed with provisions on mandatory submission of catch data applying to all fishermen.

However, under the said Act the collection of catch data is still pending, with the system of data collection and processing still being prepared at the Ministry of Agriculture and Forestry. The previous method of supplying data to the National Bureau of Statistics was characterized by a situation in which the company owning fishing flotillas sold out or rented their boats, whereas the fishermen do not supply any data and are mostly not subjected to any catch estimates for the simple reason that no one can control their catch.

This state of affairs regarding data collection and processing generates a vast gap between the actual figures and official statistical data to the effect that official figures are several times lower than the actual ones, as conceded by the National Bureau of Statistics.

¹ Ministry of Agriculture and Forestry, Fisheries Directorate, 41000 Zagreb - Ul Grada Vukovar 78, P.O. Box 1034, Croatia.

Determining the actual data for the period 1991-1996 is made difficult by the fact that over the same period an overall privatization of fishing boats was going on, so that individual boats changed a number of owners.

METHOD

The only applicable method in this research was to carry out a survey involving signed statements by fishermen engaged in tuna fishing over the said period with registered tuna fishing accessories (purse seine, long line and fish hooks). Basic data for this survey were fishing boat registers which served for listing of all fishing boats and appurtenant accessories. Based on these registers, survey forms were printed and sent to all fishermen and companies which had boats over that period bigger than 25 GT together with tuna fishing accessories (mostly purse seine).

For fishermen and their boats smaller than 25 GT survey was carried out by telephone on a representative sample. The obtained catch figures were multiplied by the number of boats doing fishing in a particular year. In this case of fishing boats smaller than 25 GT not all fishermen were surveyed, as the registers with their boats and accessories are not comprehensive either. (It is estimated that 20% out of the list in Table 2 is missing).

Through an assessment and based on data obtained on a sample of about 25% of fishermen listed in Table 2 it was concluded that, on the average, they were catching about 5000 kg a year each.

As the ownership of boats was changing over the said period, we were forced to send the survey forms to a number of fishermen even in the course of the same year. The same had to be done for the second group (of boats smaller than 25 GT), i.e., the authors had an additional task of making estimates for smaller boats.

RESULTS:

The results obtained primarily through a survey and then assessment have shown that some fishermen did not even know where to send their catch reports until they received the survey forms. It can be said with certainty that the obtained data (shown in Table 1) are true because they have been confirmed by the owners of the very same ships with which they were catching fish.

Table 1 shows the catches of all vessels bigger than 25 GT, those which were catching tuna under the Croatian flag over the observed period; these catch figures are related to the vessel and the year when the catch took place.

Table 2 specifies vessels smaller than 25 GT with registered tuna fishing accessories. This list of vessels can be extended by about 20% more vessels of the same size, because the ship registers have not been wholly updated.

As visible from Table 3, which shows catches by the group of vessels bigger than 25 GT and assesses the catches of smaller vessels, the total figures prove that tuna catch in Croatia since its independence in 1991 has never been lower than 1100 a year; the lowest catch was recorded in the wartime years 1992 and 1993 when the enemy navy was roaming the Croatian seas.

Chart 1 clearly illustrates the tuna catch trends over the past six years in Croatia.

DISCUSSION:

In view of the previous method of catch data collection for all fish, including tuna, it was decided that the only way of determining the actual tuna catch figures over the last six years was to list all

tuna fishermen and their catch over the said period. It was a strenuous undertaking considering the sheer length of time and all the intervening changes. Thus, in the course of data collection an answer was often given that this or that boat was not engaged in tuna fishing. Or some boats were supplying data at a later date (e.g. "TULJAN" which supplied her 1992 catch report in the quantity of 356 tons long after all other boats).

However, it has been proved that the catch data thus collected are by three to five times higher than presented by the National Bureau of Statistics which has confirmed that its statistics are not comprehensive. Finally, it can be said that the catches of vessels bigger than 25 GT have been determined with a fair amount of accuracy and that further research may only arrive at catch figures even higher (than shown), certainly not lower for the simple reason that the fishermen themselves had no interest in declaring higher taxable catches.

On the other hand, when it comes to the catches of vessels smaller than 25 GT (Tables 2 and 3), it should be noted that their number in the observed period was roughly 20, except for an increase in 1996, and that their total estimated catch amounted to about 100 tons a year or 5 tons per vessel. In spite of the increased number of vessels during 1996, our estimates have not been increased, because most newly registered vessels were registered in the second half of 1996, i.e., at the end of the fishing season, so that their catch was not considered significant enough to greatly influence the estimates. Here, too, it must be pointed out that any further research would arrive at catch figures which can only be higher, because, unfortunately, the list of fishing boats is not comprehensive; this was offset by 10-20% increase in estimates for individual years.

It should also be noted that this type of research will be necessary as long as we in Croatia lack a comprehensive database system covering the fishing performance in the territorial waters of the Republic of Croatia and in international waters, with catches landed in the territory of the Republic of Croatia.

CONCLUSIONS:

The study and data collection have been carried out in the best possible way, given the existing conditions as well as prevailing social and economic limitations that fishing in Croatia is exposed to.

The obtained and shown study results reflect the actual state of affairs, because the sources were the very persons involved.

That is why these data must be officially verified as real and official statistics. They have already been submitted to the National Bureau of Statistics for correction of the part of its records related to this study. Namely, the data obtained in this way are certainly more complete and more accurate than those obtained by methods used by the National Bureau of Statistics, confined to the data supplied by legal entities only.

For the sake of illustration, just to mention the fact that the data provided by the National Bureau of Statistics corresponded to the catch figures of only one company ("JADRAN RIBOLOV"), which alone submitted required data to the Bureau. We believe that the data obtained through the described survey are authentic and trustworthy because they are corroborated by written statements by fishermen and responsible persons from the companies concerned. Hence the need to continue with similar studies also on other fish species as long as there is no comprehensive fishery database in Croatia.

Table 1

VESSELS OVER 25 GT ENGAGED IN TUNA FISHING FROM 1991 TO 1996
THEIR DELIVERED CATCH (T)

		YEAR					
VESSEL		1991	1992	1993	1994	1995	1996
SKUŠA	OWNER	JADRAN RIBOLOV	JADRAN RIBOLOV	JADRAN RIBOLOV	JADRAN RIBOLOV	"BRAČANKA SEAFOOD"	BRAČANKA SEAFOOD
	CATCH (T)	184	114	63	127	55	44
NAPREDAK	OWNER	JADRAN RIBOLOV	JADRAN RIBOLOV	JADRAN RIBOLOV	JADRAN RIBOLOV	TEŠI TUNOLOV	TEŠI TUNOLOV
	CATCH (T)	183	114	63	127	150	80
JASTREB	OWNER	JADRAN RIBOLOV	JADRAN RIBOLOV	JADRAN RIBOLOV	JADRAN RIBOLOV + KOLEGA R.	KOLEGA RADOSLAV	KOLEGA RADOSLAV
	CATCH (T)	183	114	63	127+40	90	40
TULJAN	OWNER	RENTED BY VIDOV S. VITLOV B	RENTED BY VIDOV S. VITLOV B.	RENTED BY VIDOV S. VITLOV B.	RENTED BY VIDOV S. VITLOV B.	VIDOV SINEK VITLOV BOŽIDAR	VIDOV SINEK VITLOV BOŽIDAR
	CATCH (T)	258	356	295	325	250	244
LUBIN	OWNER	RENTED BY SANDALIĆ ZDRAVKO	RENTED BY SANDALIĆ ZDRAVKO	RENTED BY SANDALIĆ Z.	RENTED BY SANDALIĆ Z.	SANDALIĆ ZDRAVKO	SANDALIĆ ZDRAVKO
	CATCH (T)	287	258	336	294	265	243
EVA I	OWNER						TEŠI TUNOLOV
	CATCH (T)						50
KALI II (PROIZD)	OWNER	ADRIA Co.	ADRIA Co.	ADRIA Co.	ŠPIKA JURE	ŠPIKA JURE	ANTE JURASOVIĆ (P)
	CATCH (T)	-	-	-	90	80	40
NEMIRNA	OWNER	ZADRUGA LOVIŠTE	ZADRUGA LOVIŠTE	ZADRUGA LOVIŠTE	ZADRUGA LOVIŠTE	ZADRUGA LOVIŠTE	ANTE JURASOVIĆ
	CATCH (T)	-	-	-	-	-	55
MARINERO	OWNER					ARKOVIĆ PETAR	ARKOVIĆ PETAR
	CATCH (T)					120	70
PREKO	OWNER	ARKOVIĆ TOMO	ARKOVIĆ TOMO	ARKOVIĆ TOMO	ARKOVIĆ TOMO	ARKOVIĆ TOMO	ARKOVIĆ TOMO
	CATCH (T)	131	70	190	210	120	80
KALI EX ADRIA II	OWNER	ADRIA Co.	ADRIA Co.	ADRIA Co.	ADRIA Co.	ADRIA Co.	DRAŽIĆ GORAN
	CATCH (T)	54	-	-	-	-	130
SIN KALI	OWNER	-	-	-	-	-	KURTIN DENIS
	CATCH (T)	-	-	-	-	-	70
HIDRA II	OWNER	-	-	-	-	-	BLASLOV MILIVOJ
	CATCH (T)	-	-	-	-	-	135

CENTAR B	OWNER	-	-	-	-	-	MADREŠIĆ Co.
	CATCH (T)	-	-	-	-	-	5
MOLO	OWNER	-	-	-	-	-	MARDEŠIĆ Co.
	CATCH (T)	-	-	-	-	-	4
BELICIA	OWNER	ADRIA Co.	VITLOV ZDENKO	VITLOV ZDENKO	VITLOV ZDENKO	VITLOV ZDENKO	VITLOV ZDENKO
	CATCH (T)	33	-	80	80	80	20
EVA II	OWNER	ADRIA Co.	GOBIN DRAGAN	GOBIN DRAGAN	GOBIN DRAGAN	GOBIN DRAGAN	GOBIN DRAGAN
	CATCH (T)	12	-	-	-	-	-
SABLJAŠ	OWNER	ADRIA Co.	KARASIJ BORIS	KARASIJ BORIS	KARASIJ BORIS	KARASIJ BORIS	KARASIJ BORIS
	CATCH (T)	35	-	-	-	-	-
SALPA	OWNER	ADRIA Co.	KONČURAT DRAGAN	KONČURAT DRAGAN	KONČURAT DRAGAN	KONČURAT DRAGAN	KONČURAT DRAGAN
	CATCH (T)	10	-	-	-	-	-
TOTAL		1370	1026	1090	1420	1210	1310

Table 2

VESSELS (UP TO 25 GT) FITTED WITH TUNA FISHING ACCESSORIES IN THE PERIOD 1991-1996 AND CHECKED FOR CATCH (T) A BY SAMPLING METHOD

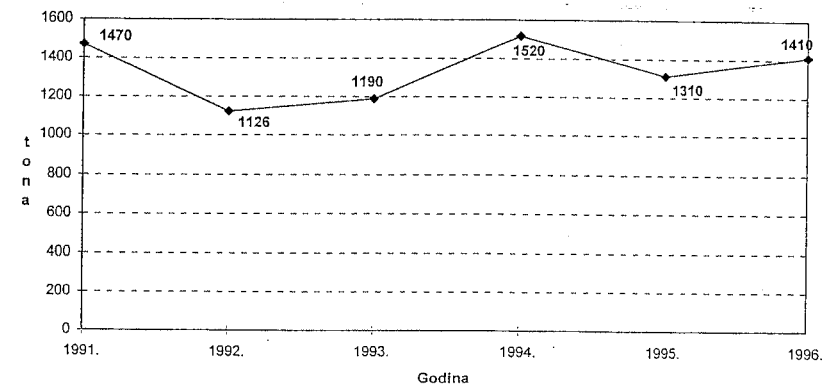
No.	Reg. No.	91	92	93	94	95	96
1	56 PG					+	+
2	151 NV					+	+
3	622 [B						+
4	397 MU						+
5	66 MU						+
6	120 VD						+
7	85 VD						+
8	204 VD					+	+
9	84 TI					+	+
10	16 MU						+
11	205 MU						+
12	SVETI ROKO						+
13	115 VD						+
14	70 TI						+
15	JEZERA I						+
16	92 MU						+

17	91 TI							+
18	272 TI					+		+
19	265 MU							+
20	235 MU							+
21	42 TI							+
22	178 MU							+
23	264 MU							+
24	21 MU							+
25	132 TI							+
26	711 MU							+
27	200 MU							+
28	17 MU							+
29	644 [B							+
30	426 MU							+
31	381 MU							+
32	BRIOZO							+
33	111 MU							+
34	327 ST	+	+	+	+	+	+	+
35	40 ST	+	+	+	+	+	+	+
36	367 ST	+	+	+	+	+	+	+
37	123 ST	+	+	+	+	+	+	+
38	2MN	+	+	+	+	+	+	+
39	12 TG	+	+	+	+	+	+	+
40	409 ST	+	+	+	+	+	+	+
41	464 ST	+	+	+	+	+	+	+
42	235 ST	+	-	-	+	+	+	+
43	162 ST	+	+	+	+	+	+	+
44	354 ST	+	+	+	+	+	+	+
45	162 ST	+	+	+	+	+	+	+
46	75 ST	+	+	+	+	+	+	+
47	368 ST	+	+	+	+	+	+	+
48	37 ST	+	+	+	+	+	+	+
49	142 ST	+	+	+	+	+	+	+
50	333 ST	+	+	+	+	+	+	+
51	142 ST	+	+	+	+	+	+	+
52	35 KŽ							+
53	19 KŽ	+						+
54	82 KŽ							+
55	65 KŽ							+
56	44 KŽ							+
57	17 KŽ							+
	TOTAL	19	18	18	19	23		57

Table 3: Total tuna catch in the period 1991-1996

Source of data	Year	1991	1992	1993	1994	1995	1996
Data supplied directly from fishermen		1370	1026	1090	1420	1210	1310
Estimate for about 20 small vessels		100	100	100	100	100	100
Total (t)		1470	1126	1190	1520	1310	1410

Chart 1. Tuna catch trends in the period 1991-1996. in the Republic of Croatia



REFERENCES:

- National Bureau of Statistics:
"Tuna catch records for the period 1986-1996", Zagreb, 22 July 1997
- County offices for economy:
"Registers of fishing vessels and their accessories", July, August 1997
- National Bureau of Statistics:
"1991 Statistical Almanac" December 1991, Zagreb
- National Bureau of Statistics:
"1992 Statistical Almanac" March 1993, Zagreb
- National Bureau of Statistics:
"1993 Statistical Almanac" December 1993, Zagreb
- National Bureau of Statistics:
"1994 Statistical Almanac" December 1994, Zagreb
- National Bureau of Statistics:
"1995 Statistical Almanac" December 1995, Zagreb
- National Bureau of Statistics:
"1996 Statistical Almanac" December 1996, Zagreb
- All other written materials (statements by fishermen with catch data, etc.) kept with the authors.