

STATUS OF TAIWAN LONGLINE FISHERY IN THE ATLANTIC OCEAN

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SUMMARY

About 61,000 MT of tuna and tuna-like species were caught by Chinese Taipei in 1996 by 201 longliners. Catches by species were at a similar level as that of 1995, except for bigeye and yellowfin tunas, due to the increase in the number of deep longliners.

According to the 1996 recommendation, Dr. P. M. Miyake, ICCAT Assistant Executive Secretary, visited Chinese Taipei in July, 1997, and worked together with the scientists of Chinese Taipei to carefully review the new data collection and compilation system, as well as the databases. This work was very successful and was documented in SCRS/97/17. The new system has been verified at the meeting and all the databases have been reviewed. Task I for bigeye, yellowfin and swordfish were revised at the meeting, mainly resulting from the application of conversion factors to convert product weights to round weights. Task II data (catch and effort and size data) of most species were also revised and submitted to the Secretariat.

RÉSUMÉ

Le Taïpei chinois a pris environ 61.000 TM de thonidés et d'espèces voisines en 1996, au moyen de 201 palangriers. Les prises par espèces étaient à un niveau similaire à celui de 1995, sauf pour le thon obèse et l'albacore, en raison de l'augmentation du nombre de palangriers de profondeur.

Conformément à la recommandation de 1996, le Dr P.M. Miyake, Secrétaire Exécutif Adjoint de l'ICCAT, s'est rendu au Taïpei chinois en juillet 1997, et à travailler avec les scientifiques locaux afin de réviser avec soin le nouveau système de collecte et de compilation des données, ainsi que les bases de données. Cette tâche a été réalisée avec succès et ses résultats ont été présentés dans le document SCRS/97/17. Le nouveau système a été vérifié lors de la réunion et toutes les bases de données ont été examinées. Les données Tâche I pour le thon obèse, l'albacore et l'espadon ont été révisées à cette occasion, comme résultat, principalement, de l'application de facteurs de conversion du poids des produits en poids vif. Les données Tâche II (données de prise et d'effort, et de taille) de la plupart des espèces ont également été révisées et transmises au Secrétariat.

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RESUMEN

Taipei Chino pescó aproximadamente 61.000 t de túnidos y especies afines en 1996, por medio de 201 palangreros. Las capturas por especie estuvieron a un nivel similar al de 1995, excepto las de patudo y rabil, debido a un incremento en el número de barcos de palangre profundo.

De acuerdo con la recomendación de 1996, el Dr. P.M. Miyake, Secretario Ejecutivo Adjunto del ICCAT, visitó Taipei Chino en julio de 1997 y trabajó en colaboración con los científicos locales para revisar a fondo el sistema de recogida y recopilación de datos de Taipei Chino y sus bases de datos. La tarea se llevó a cabo con todo éxito y los resultados se presentaron en el SCRS/97/17. El nuevo sistema ha sido comprobado en la reunión y todas las bases de datos han sido revisadas. Durante la reunión se revisaron los datos de la Tarea I para el patudo, rabil y pez espada, como resultado sobre todo de la aplicación de factores para convertir los pesos del producto en pesos vivos. Los datos de la Tarea II (captura y esfuerzo y talla) de la mayor parte de las especies fueron también revisados y presentados a la Secretaría.

1. STATUS OF THE FISHERY

1.1. General overview

Only longline fishery is currently operated by Taiwan in the Atlantic and the Mediterranean Sea. Two fishing patterns have been adopted simultaneously for different target species: the regular (conventional) longline for albacore and the deep longline for bigeye and yellowfin tunas. There were 201 longliners (monthly average) operated in the Atlantic in 1996, an increase of 29 vessels from 1995 (172 vessels, monthly average). By vessel types, 12 vessels were small longliners, 81 regular longliners, and 108 deep longliners in 1996. Compared to 1995 (12 small longliners, 81 regular longliners and 79 deep longliners), the deep longliners have increased by 29 vessels in 1996.

The total catch made by these vessels were preliminarily estimated as 61,136 MT (Table 1) in 1996, an increase of about 9,000 MT from 1995. Catches of different tuna species in 1996 were at the similar level of 1995, except those of bigeye and yellowfin tunas due to the increase in number of deep longline vessels.

1.2. Albacore

Albacore was caught all year round in the whole Atlantic Ocean. The total catch in 1996 was preliminarily estimated as 22,861 MT. Among which, 4,027 MT was caught in the North Atlantic Ocean. Catch from the South Atlantic Ocean was 18,789 MT, similar to the catch of 1995. In response to the regulation to implement the recommendation of ICCAT, the south Atlantic albacore catch has been maintained at the level of 90% of the 1989-1993 average catches.

1.3. Bluefin tuna

Taiwan catches bluefin tuna as a target species by longline fishery, only in the Mediterranean Sea. Continued strict control of vessel number in the east Atlantic and the Mediterranean Sea targeting on bluefin tuna was applied in 1996 and 1997. Only 14 specific vessels got the permit to operate in that area, which were the same as in 1994 and 1995.

Total bluefin catch made by the 14 vessels in 1996 was 472 MT, a decrease of 30 MT from 1995, while the total catch in 1997 was 504 MT.

1.4. Tropical tunas

Tropical tunas were the only tuna species showing obvious increase in 1996. Preliminary bigeye catch in 1996 was 25,115 MT, increased from 1995 by about 7,000 MT; and yellowfin catch was 6,653 MT in 1996, increased by about 2,000 MT. These increases were mainly due to the shifting of deep longliners from the Indian Ocean.

1.5. Swordfish

Preliminary catch estimate for swordfish of the entire Atlantic Ocean was 3,394 MT in 1996, almost identical to that of 1995 (3,364 MT), among which 524 MT was caught in the north Atlantic, a slight increase from 1995 (489 MT). The catch of south Atlantic swordfish was preliminarily estimated as 2,870 MT in 1996.

2. STATISTICS COLLECTING SYSTEMS AND RESEARCHES

2.1. Meeting for reviewing Taiwan's statistics system

During the Albacore Stock Assessment Session held in Taipei in August 1996, Taiwan reported the revision of statistics as well as the changes in data collecting and processing system. Since the change seemed to have some substantial effects on stock assessment, the Albacore Group recommended that the ICCAT Assistant Executive Secretary visit Taiwan in 1997, to make careful review with Taiwan scientists on both the system and the databases. This recommendation was reiterated by the ICCAT Standing Committee on Research and Statistics (SCRS), and approved later by the Commission.

According to the recommendation, Dr. Miyake visited Taiwan in July 1997, and worked together with Taiwan scientists for a three-week period. His travel fee was paid by the Commission and his per diem was provided by OFDC.

The main objectives in the meeting were (1) to review and finalize the new system, (2) to review and make necessary revisions on the historical TASK I and catch/effort data, (3) to review the catch at size of albacore and swordfish, (4) to establish proper methodology for updating the above catch at size and creating new one for bigeye tuna, and (5) to study the way to standardize the CPUE using the new revised TASK II data.

The meeting was very successful, and the objectives were well achieved and documented in the meeting report of "Critical review of data collecting and processing system adopted and revised statistics for Taiwanese longline fleet".

2.2. TASK I data

Taiwan changed the catch statistics compiling system in 1996. The new system was applied to 1994 data to the present. Except the catch of bluefin tunas which was estimated based on the Bluefin Statistical Documents, the TASK I data of the other species were estimated based on the following four commercial records: (1) trader's sales records; (2) verification against fishing vessels' sales settlement; (3) certified weight reports of Shin Nihon Kentei Kaisha (New Japan Surveyors and Sworn Measures Association); and, (4) verification by Taiwan Deep Sea Tuna Boatowners and Exporters Association. Some of the records were historically used and some were new comings. Details on those records were described in Section 2 of the meeting report.

As mentioned in SCRS/96/155, before 1993, Taiwan's landing data were estimated based only on traders' sales records and did not cover the landings unloaded at Japanese market handled by new brokers (mostly bigeye and partly yellowfin and swordfish). Great efforts had been exerted to recover the sales records for 1991 and 1992 in 1996, but with difficulties for those years before 1991. Therefore, recognizing that the Japanese imports are the minimum estimates for Taiwan's landing for these species, the landings of bigeye and yellowfin tunas reported in the

past were decided to be raised to the Japanese imports in the July meeting, assuming that the proportions of landings among three oceans were correct over the years from 1985 through 1991.

Historically, Taiwan's landing data were mainly obtained from the commercial weights in product (round weights for albacore, gilled-and-gutted for bigeye and yellowfin, and dressed for swordfish and billfishes). Except bluefin and billfishes, the TASK I data of the other species reported in the past to ICCAT have not been converted into round weights basis and were always in product weights. Therefore, after reviewing all the data collection and compilation procedures and the databases, it was decided in the meeting that the landing weights of bigeye, yellowfin and swordfish be converted to round weights by applying the conversion factors. The formal ICCAT conversion factor of 1.13 was applied to gilled and gutted landing weights of bigeye and yellowfin. For swordfish, the recommended conversion factor of 1.3 (for dressed weight) was used.

Table 1 shows the final revised TASK I catch data.

2.3. TASK II catch and effort data

A new procedure has been adopted for correcting and raising logbook records for data of 1994 to the present. Apart from the basic verification of logbook records, this procedure also compares and further adjusts the records with the aforementioned four commercial landing records on boat-trip basis. It has been reviewed in the July meeting and was suggested to continue applying, since it would decrease the discrepancies between TASK II and TASK I landing records (see Section 3 of the meeting report).

After thoroughly reviewing the historical TASK II catch/effort data, it was decided to have them revised in the July meeting. Main changes were on the selection of basic data sets, adoption of coverage rates and procedures, and application of conversion factors. Detailed reasons and procedures were described in Section 3.4 of the meeting report. The revised TASK II catch/effort data has been submitted to ICCAT.

There are two fishing patterns adopted simultaneously by Taiwan longliners in the Atlantic Ocean since 1980s', for different target species. A new item for hooks per basket has been added in the new logbooks from 1995 onwards. This information is going to be used to segregate the mixed logbook data to avoid misleading of stock abundance index in the future.

2.4. TASK II size data

The historical actual size data for albacore, swordfish and bigeye tunas have been reviewed in the July meeting and revision was decided based on close examination on the size measurements at vessel-time level, as preliminarily done in SCRS/96/78 (Rev.) for 1994 albacore data. With this procedure to reveal vessels' characteristics at vessel-time level (in simple case, vessel-year level), many unreasonable or inappropriate samples were screened out or adjusted. There were examples such as some vessels measured the swordfish using the upper jaw fork length (FL) although they were instructed to measure it with the lower jaw fork length (LJFL); some vessels reported fish measurements in a 2 cm, 5 cm or even 10 cm class intervals; and some vessels provided large quantity of measurements in a single length class, and so on. Efforts have been made to screen out and adjust those cases, and new historical actual size data were created and submitted for the three species. Actual size data for yellowfin was also created upon the same procedure and submitted later.

Data for 1995 onwards, all the size measurements are entered together with the TASK II landing data (in weight and number). It would be easier now to associate the size data with TASK II data. Some suggestions have been made in the July meeting to weight the size frequencies by catch on boat-day basis, to raise the size data by the number of fish caught for the same boat-day of the sampling. The suggestions would be taken for further studies in the future.

A protocol and clear procedure for creating catch at size data has been developed in the July meeting. Catch at size of albacore, bigeye and swordfish were created based on the protocol by Taiwan scientists. Details on this matter were described in Section 5 of the meeting report.

3. IMPLEMENTATION OF ICCAT CONSERVATION AND MANAGEMENT MEASURES

Although Taiwan is not a contracting party of ICCAT, Taiwan has zealously been joining the activities of ICCAT ever since 1970, and continuously providing catch statistics since 1973. Also, as one of the countries utilizing the tuna resources of the Atlantic Ocean, Taiwan has always been and will continue to be cooperative and endeavor to implement the resolutions or recommendations adopted by ICCAT.

3.1. South Atlantic Albacore

To implement the 1994 ICCAT recommendation of limiting the south Atlantic albacore catch, an official announcement was made on 1995 that, with the exception of those longliners already operating in the Atlantic Ocean in 1994, no longliner targeting on the South Atlantic albacore were allowed to enter the area from other oceans until such a time as approved thereof. The total catch of south Atlantic albacore in 1996 was preliminary estimated as 18,789 MT.

3.2. Bluefin tuna

Starting from 1994, appropriate measures have been adopted to fulfill the ICCAT Bluefin Tuna Statistical Document Program. According to the information as documented, bluefin catch in the east Atlantic and the Mediterranean in 1994 and 1995 was 724 and 475 MT, respectively. A voluntary measure of reducing the bluefin tuna catch was adopted in the eastern Atlantic Ocean and in the Mediterranean Sea by 25% to 543 MT in 1996 by using the generally applicable reference level set forth at ICCAT's 9th special meeting. Total bluefin catch was 472 MT in 1996 and 504 MT in 1997.

A fixed number of 14 vessels were permitted to fish bluefin tuna in the Mediterranean during the period 1994-1997. They have all followed instructions to comply with resolutions and recommendations adopted by ICCAT, such as prohibiting to fish bluefin in the Mediterranean Sea in June and July, and to fish and keep east Atlantic bluefin smaller than 6.4 kg.

3.3. Swordfish

It has been instructed in an official announcement that north Atlantic swordfish as by-catch of Taiwan longliners should not exceed 8% of the total weight of catches as from 1995, as adopted at the ICCAT 9th special meeting. As to south Atlantic swordfish, an announcement has also been made to maintain the total catch at the 1994's level to implement the 1994 ICCAT recommendation on south Atlantic swordfish: not to increase the catch during 1995 and 1996 beyond the 1993 and 1994 level (whichever is higher). The 1996 preliminary catch was 2,870 MT, which is almost identical to the 1994 and 1995 catches.

Table 1. Revised new TASK I catch (in round weight, MT) for Taiwan's longline fishery, 1962-1995 and preliminary 1996

SPECIES	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
ALB	17	18	103	114	204	1,820	8,699	14,898	16,900	20,362	29,395	31,658	26,224	21,514	29,437	29,815	29,791	27,313	25,800
BET	20	46	54	-	672	2,521	6,039	8,456	8,538	6,191	5,639	4,314	3,500	4,464	3,700	3,365	2,970	2,486	2,561
BFT	-	-	-	-	-	-	150	121	48	25	9	3	32	6	3	3	1	52	20
BLM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUM	20	48	13	4	69	291	803	1,364	929	935	928	692	552	527	409	171	258	190	289
KGM	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	-
OTH	-	-	-	17	16	183	408	1,117	844	708	941	1,008	932	398	1,007	3	489	1,272	775
SAI	2	4	2	2	35	177	643	602	407	696	802	598	179	53	343	64	17	37	41
SBF	-	-	-	-	36	42	13	16	71	109	87	196	121	30	61	-	34	13	26
SKJ	-	-	-	-	-	10	7	4	13	9	28	55	72	17	22	-	12	10	7
SWO	1	8	4	3	143	265	637	1,112	1,585	1,073	975	1,420	1,067	1,206	1,216	920	789	1,630	836
WHM	6	14	6	4	61	181	385	583	612	438	713	599	537	507	519	163	277	217	250
YFT	278	399	396	183	1,243	3,023	8,884	12,202	7,990	4,938	5,317	3,000	2,630	2,669	1,962	372	384	1,038	687
YOU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SPECIES	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996*
ALB	24,771	33,300	23,756	22,812	34,542	47,238	35,426	22,863	19,680	22,093	24,201	25,272	25,700	28,982	22,328	22,861
BET	1,887	2,147	1,623	924	1,219	1,124	1,488	1,469	940	5,755	13,850	11,546	13,426	19,680	18,023	25,115
BFT	13	27	4	3	3	3	-	-	-	-	-	-	334	729	502	472
BLM	-	-	-	-	-	-	-	-	-	-	-	-	2	28	111	18
BUM	202	250	172	172	313	215	317	292	473	1,704	1,672	824	685	663	467	643
KGM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OTH	825	1,100	770	13	45	127	270	124	1,075	223	2,023	1,103	946	1,541	1,103	1,183
SAI	93	89	51	53	48	65	31	300	178	96	73	33	643	334	193	68
SBF	66	3	20	-	29	43	80	72	80	64	15	14	472	172	168	157
SKJ	9	20	8	13	7	1	2	8	22	-	37	29	11	17	5	6
SWO	710	780	533	363	432	373	390	822	627	1,170	2,031	2,127	974	3,336	3,365	3,394
WHM	310	361	290	220	300	515	766	565	983	895	803	598	616	1,350	907	566
YFT	867	610	539	646	925	1,410	902	1,848	858	7,465	4,172	4,528	4,196	6,660	4,698	6,653
YOU	-	-	-	-	-	-	-	-	-	-	-	-	202	-	-	-

* 1996 was preliminary