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FOR CONSERVATION AND SUSTAINABLE USE OF TUNAS

Pacific Albacore Issue

Rapid increase in fishing capacity of small-scale tuna long line fleet in the South Pacific --A verification of PITIA Statement--

Dr. Ziro Suzuki, Tuna Scientist

1) The importance of the Western and Central Pacific Ocean (WCPO)

Before dealing with the main subject of this paper, the author would like to confirm the importance of the area under the jurisdiction of the Western and Central Pacific Fisheries Commission (WCPFC). According to the U.N. Food and Agriculture Organization (FAO), the overall catch of tunas (skipjack, yellowfin, bigeye, albacore, southern bluefin, and bluefin) in the world in 2010 reached 4.4 million tons. Catch in the WCPFC area totaled approximately 2.4 million tons, which accounted for nearly 60% of the world's overall catch. Tunas (excluding skipjack) for sashimi provided from this area are estimated to account for 40% of the world's total supply. From the global perspective, many tuna stocks are now exploited either to their maximum limit or overfished, with skipjack remaining one of few robust resources. However, the rate of exploitation of skipjack is increasing in the WCPFC, now approaching the lower limit of the maximum sustainable yield (MSY). Furthermore, purse seine fishery, which catches skipjack as its main target species, also catches immature bigeye and yellowfin to a significant level. For this reason, this fishery has a big impact on the biomass of bigeye and yellowfin, creating a serious problem to their stock status. The author would like to point out at the outset that sufficient caution should be taken as to further increase of the skipjack catch in order to ensure sustainable utilization of tuna resources in the WCPO area.

2) Rapid increase in the catch of albacore

Last December, the Pacific Islands Tuna Industry Association (PITIA) expressed its serious concern over the fishery and local stock depletion of albacore in the South Pacific. About half of the albacore catch of 71,000 tons in the area in 2010 is mainly caught by Pacific Island countries, showing their very strong interest in this stock. The major points of the PITIA Statement can be summarized as follows:

- A. New fleets are constantly appearing in the area.
- B. In the albacore fishery, recent years have shown both a decrease in catch per unit effort (CPUE) and fish size.
- C. Practice shows that there has been a fast local depletion regardless of the perceived state of the overall stock.
- D. Whilst the new fleets have albacore as their target species, there is the inevitable catch of bigeye and yellowfin and given the vessel numbers the catch of these two species will not be

insignificant

(For details, refer to OPRT Newsletter International No.36, "Pacific Albacore Issue", on OPRT Website (English section)).

These new fleets apparently mean small scale longline fishing vessels. To date, little attention has been directed to the activities of small scale longline fishing vessels partly because their fishing capacity is smaller relative to large scale vessels and vessel statistics have not been made available in a satisfactory manner. In what follows, the author would like to verify the situation pointed out by the PITIA Statement based on recent relevant data and information.



3) Recent moves of small scale longline fishing vessels

First, Japan's import statistics were examined regarding the increase in catch of albacore as pointed out by PITIA. In Japan, albacore has been established as sashimi tuna for quite a long time. Recently, this species is sold as low-priced sashimi tuna in bargain sales of supermarkets. It has become a popular commodity that is sold in relatively large quantities. In point of fact, since about two years ago, Japan's imports of frozen albacore have shown a rapid growth, while those of the mainstay yellowfin and bigeye have decreased. In 2010, notably, the imports of albacore nearly tripled over the previous year, exceeding 20,000 tons. The bulk of imports are from Taiwan and China. The increase in recent years came especially from albacore caught in the South Pacific. As is noted, the import volume of albacore increased while imports of yellowfin and bigeye declined sharply. From this, it can be said that albacore is playing the role of supplementing the decline of yellowfin and bigeye as sashimi material.

4) Albacore fishery in the South Pacific and its biomass

The South Pacific albacore stock is different from the North Pacific stock. Unlike in the North Pacific, almost all albacore tunas are caught by longline fishing vessels, centering on large-

size fish. The catch began to increase from the 1990s, with major fishing ground being in the area 10S-20S, 160E-160W, which includes countries such as Fiji, Samoa and Cook Islands. The overall catch in recent years have been about 60,000 tons, a half of which are caught by Taiwanese and Chinese longline fishing vessels and another half by vessels from South Pacific Island countries. The bulk of the catch is exported to foreign countries for canned tuna materials and for fresh tuna materials such as sashimi.

It is the view of the WCPFC Scientific Committee that the South Pacific albacore stock is considerably robust against fishing pressures and the current catch is sustainable because it is caught mainly by longline fishing that catches large-size fish. Its MSY is estimated at approximately 80,000 tons, which is larger than the present catch of 71,000 tons. However, its biomass shows continued decline, falling to nearly half of the early state of exploitation. As for decrease of size of albacore

in the catch, the WCPFC studies have not yet observed the decreasing trend although very recent data not yet available to the scientists may indicate such warning trend. Based on the recommendation of its Scientific Committee, the WCPFC now enforces fishery regulations not to increase the number of fishing vessels from the recent level in order to ensure stable development of fisheries. But it is highly probable that this simple control of the number of fishing vessels is inadequate because fishing efficiency and catch transport capability of the fishing vessels have been considerably improved as mentioned later in this article.

5) Trend of small scale longline fishing vessels by area of the world's ocean

Before examining the trend of small scale long line fishing vessels in the WCPO, we will have a look into the approximate number of small scale longline fishing vessels by area of the world's ocean. In the world, there are five regional tuna fisheries management organizations (RFMOs): the Inter-American Tropical Tuna Commission (IATTC), the Western and Central Pacific Fisheries Commission (WCPFC), the Indian Ocean Tuna Commission (IOTC), the International Commission for the Conservation of Atlantic Tunas (ICCAT), and the Commission for the Conservation of Southern Bluefin Tuna (CCSBT). Requests were made to the catch statistics experts of the four organizations--excluding the CCSBT having virtually little or no small scale longline fishing vessels--to provide the annual changes in the number of small scale longline fishing vessels (i.e. tuna fishing vessels of 24m or less, with tonnage of about 50-150 gross tons). However, such fishing vessel statistics appear not to be fully in place, with the exception of the IOTC. However, snapshot of recent statistics of the vessel numbers of all longline boats (small

Table 1. Recent number of small scale longline boats (less than 100 GWT) and catches (ton) of albacore, bigeye, yellowfin and three species combined for Taiwan

Year	No. boats	Albacore	Bigeye	Yellowfin	Combined
2,003	1,444	3,412	6,889	17,178	27,479
2,004	1,387	2,027	4,101	13,957	20,088
2,005	1,420	2,177	5,415	13,816	21,408
2,006	1,490	4,550	6,454	15,071	26,075
2,007	1,750	5,308	5,652	14,011	25,004
2,008	1,260	5,337	6,452	14,652	26,441
2,009	1,220	8,288	4,456	16,582	29,226
*2010	1,123	12,652	3,874	18,656	35,182

*Preliminary

Extracted from Chinese Taipei National Reports provided to the WCPFC Scientific Committee

Table 2. No. of Chinese longline boats and catch by species (ton)

YEAR	VESSELS ACTIVE	ALBACORE		BIGEYE		YELLOWFIN		BLUE MARLIN		BLACK MARLIN		STRIPED MARLIN		SWORDFISH		OTHER		TOTAL
		CATCH	%	CATCH	%	CATCH	%	CATCH	%	CATCH	%	CATCH	%	CATCH	%	CATCH	CATCH	
1988	7	0	0	24	44	20	37	4	7	2	4	1	2	3	6	...	54	
1989	9	0	0	99	56	45	26	14	8	5	3	3	2	10	6	...	176	
1990	23	4	1	276	50	173	31	44	8	17	3	9	2	31	6	...	554	
1991	39	0	0	526	43	481	39	98	8	38	3	19	2	69	6	...	1,231	
1992	72	0	0	1,400	42	1,315	40	265	8	103	3	51	2	185	6	...	3,319	
1993	311	1	0	3,664	47	2,754	35	626	8	243	3	121	2	437	6	...	7,846	
1994	456	8	0	7,846	51	4,823	31	1,236	8	480	3	239	2	864	6	...	15,496	
1995	422	5	0	4,744	37	5,837	45	1,032	8	400	3	199	2	721	6	...	12,938	
1996	325	8	0	3,261	44	2,757	37	588	8	228	3	113	2	411	6	...	7,366	
1997	144	2	0	2,243	50	1,419	32	357	8	139	3	69	2	250	6	...	4,479	
1998	124	1	0	1,836	46	1,435	36	319	8	124	3	62	2	223	6	...	4,000	
1999	115	3,473	38	1,805	20	2,237	25	663	7	257	3	128	1	463	5	...	9,026	
2000	106	2,056	28	1,981	27	2,207	30	624	8	143	2	124	2	273	4	...	7,408	
2001	116	2,711	33	2,227	27	1,919	24	685	8	157	2	136	2	300	4	...	8,135	
2002	123	2,920	35	2,312	28	1,844	22	707	8	162	2	141	2	310	4	...	8,396	
2003	179	6,223	28	8,965	40	3,358	15	1,854	8	425	2	369	2	1,168	5	3	22,365	
2004	212	6,104	26	9,314	40	4,048	17	1,946	8	446	2	387	2	1,003	4	7	23,255	
2005	212	4,103	27	6,399	42	2,367	16	1,161	8	256	2	252	2	608	4	5	15,151	
2006	157	7,191	29	9,790	39	3,997	16	1,892	8	418	2	410	2	1,284	5	14	24,996	
2007	86	5,453	29	7,821	41	1,580	8	1,340	7	296	2	290	2	2,113	11	1	18,894	
2008	199	15,092	47	8,761	27	4,562	14	984	3	164	1	492	2	2,192	7	...	32,247	
2009	219	20,149	47	11,565	27	6,800	16	1,120	3	51	0	291	1	1,908	4	751	42,635	
2010	219	12,651	44	10,654	37	1,713	6	1,156	4	43	0	153	1	1,330	5	896	28,596	

Cited from SPC Tuna Yearbook 2010 (SPC 2011); Data from 2010 is preliminary.

plus large) were provided. The number of tuna longline fishing vessels around the world in recent years was roughly estimated at about 10,000. Of those vessels, the number was the highest in the WCPFC area, ranged between 3,000 and 6,000 (WCPFC-SC7-2011/GN WP-1, Fig.31). The recent trend for decrease of large scale longline fishing vessels in distant-water fishing countries and increase in small scale longline fishing vessels targeting albacore is evident. But the trend for small scale vessels of 24m or less remains unclear. It is presumed that the approximate numbers of small scale longline fishing vessels of 24m or less are considered to be about 1,000 in the IATTC area (out of total number of longline vessels of 2,500: personal communication with Mr. Nick Vogel, IATTC), and 1,000-2,000 in the Atlantic (out of total number of 2,000-2,500: personal communication with Mr. Carlos Palma, ICCAT).

Table 3. Albacore catches (2009 in ton) and rates of bigeye and yellowfin in the total catch for recent 10 years on major Pacific Island countries targeting albacore

Albacore catch in 2009		% in total catch for recent 10 years	
		Bigeye	Yellowfin
Fiji	7000	4-8	14-25
French Polynesia	3600	8-14	8-25
Samoa	2800	3-5	8-22
Cook Islands	1600	6-12	7-16
New Caledonia	1600	2-8	13-32
*Solomon Islands for 2010	8000	3	26

Extracted from Tuna Fishery Yearbook 2009 (SPC 2011)

Annual changes in the number of vessels are not available both in eastern Pacific and the Atlantic. The IOTC's statistics show very clearly the increasing trend of small scale fishing vessels (personal communication with Mr. Miguel Herrera, IOTC). Furthermore, since many fishing vessels operating in the areas under the jurisdiction of the IOTC and the WCPFC straddle each other's area, the two areas are closely related. Especially, in order to comprehend the background of the present issue, there is a need to look at the trend in the two areas because Taiwanese fishing vessels have a high-level mobility and possess skillful capability in albacore fishery. In the Indian Ocean, the number of small scale longline fishing vessels began a rapid increase from the 1990s. Its number reached 1,600, outstripping that of large scale vessels, thus reversing the previous balance of power (Mr. Miguel Herrera, op. cit.). Indonesia has several hundreds of longline fishing vessels, operating in both the Indian Ocean and the WCPO. It is of interest to know how these longline vessels are operating both in the two oceans, but this has not been clarified due to the lack of appropriate statistics in Indonesia.

6) Trend in Taiwanese and Chinese small scale tuna longline fishing vessels

As mentioned before, there remain much lack and uncertainty regarding the actual state such as numbers of active boats by size by country of small scale longline fishing vessels. To cope with this issue, we will see the changes in the number of operating vessels and catch with regard to Taiwan and China, the two major operators of small scale longline fishery in the WCPO. As shown in Table 1, the number of Taiwanese small scale longline fishing vessels has tended to decrease slightly in recent years, but their catch remains unchanged or has been on an increase. Albacore catch has been constantly on a sharply increasing trend. While the bulk of longline fishing vessels of this class operate in near-shore areas of Taiwan, a considerable number of vessels are also operating in the exclusive economic zones of the WCPFC island countries. Lately, the catch of tuna by Taiwanese small scale fishing vessels has exceeded the catch of its large scale vessels.

Solomon Islands' National Report shows that 113 small scale fishing vessels operated in 2010, with the catch of albacore sharply increasing. The abrupt increase in this type of fishing vessels appears to be related to the activities of Taiwanese vessels. Under the current catch regulations on bigeye and yellowfin, longline fishing countries with catch of 2,000 tons or less are exempt from the requirement to reduce its catch. But, considering concerns about the effectiveness of current

regulations and further tightening of the regulations is required, some kind of control on small scale longline fishing vessels may be necessary.

Looking at the changes of the number of Chinese vessels (see Table 2), the number of vessels decreased to 106 after reaching 456 in 1994, but it turned to increase again after that, reaching about 200 in recent years. Although the number of fishing vessels was reduced to about half of the years around 1994, catch almost doubled during the period. The catch of albacore increased significantly while increase of the catch of bigeye and yellowfin was also conspicuous. Chinese fishing vessel statistics show only the combined number of large and small scale longline fishing vessels, but the areas of their operation are mostly in the waters of the WCPFC island countries. Although analysis

pending the accumulation of more detailed data is needed because there are changes in fishing grounds and targeted species, it is presumed that the fishing capacity of Chinese longline fishing vessels, including small scale ones, showed substantial increase.

7) Improvement of fishing equipment of small scale longline fishing vessels

Conventionally, a large majority of small scale longline fishing vessels was of weight less than 50 gross tons, and the catch used to be stored in ice. Trip length ranged about one month, and the catch per one trip was about 5-10 gross tons, mainly of yellowfin and bigeye. On interviewing an executive of a Chinese company that operated the fleet after observing the vessels landing their catch in Micronesia, it was learned that the company intends to convert the vessels successively from ice-storing type into freezing vessels. With regard to Taiwanese small scale longline fishing vessels, Taiwan's report to the WCPFC in 2008 indicated that the overall number of vessels was 1,750. The report said that part of those vessels were already equipped with freezing facilities. It is assumed that the transition from ice-storing vessels into freezing vessels has advanced further in recent years. There is information that 50-60 ice-storing small scale longline fishing vessels are being reformed into freezing vessels in Taiwan recently. Furthermore, it appears that low-priced FRP fishing vessels having super-low-temperature fish holds are being constructed in Taiwan and other countries. It seems a natural course of events that these small scale longline fishing vessels will participate in albacore fishery—a type of fishery outside the current WCPFC regulations.

The fishing capacity of small scale longline fishing vessels (90-150 gross tons) in recent years is summarized as follows:

Number of hooks: 3,200 hooks/day

Freezing capacity: 1.5-2.5 tons/day

Fish hold capacity: 60 tons

Thus it is probable that small scale longline vessels are now equipped with the capacity comparable to that of large scale vessels.

Next, we will examine the species composition of the catch by small scale longline fishing vessels targeting albacore. Looking at the catch information of Pacific Island countries, the incidental catch rate mostly ranged 5-15% (Table 3) and this range is comparable with those shown in the PITIA Statement. Further, as bigeye and yellowfin, not albacore, are main fishing targets in the Federated States of Micronesia and Marshall Islands, the impact of small scale longline fishing vessels seems to be more direct.

8) Changes in the methods of transportation of the catch

The catch of tuna longline fishing vessels operating in distant area used to be transported by freezing transport boats. But the number of freezing transport boats has been decreasing recently. It appears that only about 20 are now operating--a sharp decrease from about 70 in the peak period. The major cause of the decrease seems to be the decrease of transported volume due to tightened regulations on tuna stocks. On the other hand, transportation of tunas in super-low-temperature containers (minus 35 to minus 60 degrees centigrade) seems to be increasing. Details of actual state, including quantities, have not been known. It is said that a freezing container has such advantages as its transportation costs is more or less the same as that of a super-low-temperature transport boat, is capable of transporting small-lot cargoes of about 24 tons, and the catch can be transported by ordinary container vessels. The development of freezing container transportation made it possible to transport the catch of small scale longline fishing vessels easily, resulting in their higher management efficiency.

9) Conclusion

This report supports the PITIA Statement. It appears that the fishing capacity of small scale longline fishing vessels is increasing rapidly, and this trend will possibly be accelerated in the days ahead. This course of events seems to be causing changes in highly efficient small scale longline fishing vessels having fishing capacity approaching that of large scale longline fishing vessels, most probably generating a new aspect to the issue of overfishing capacity. Furthermore, the introduction of convenient transportation methods by means of freezing containers, which replace freezing transport boats, is deemed to constitute a factor prompting the increase of small scale longline fishing vessels. This trend cannot be verified fully, given extremely inadequate fishing vessel statistics. All the WCPFC member countries are requested to implement their obligation to report regarding fishing vessel statistics to the Commission. In order to ensure sustainability of tuna resources in the WCPFC area, it would be necessary for the WCPFC to strive to urge improvement of fishing vessel statistics, clarify the actual state of small scale longline fishing vessels in the WCPO as expeditiously as possible, and implement appropriate management measures.

Topic

Shark-fins are disappearing from China Town!

**Dr. Makoto Miyake,
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Just came back from California. There, I saw many Chinese restaurants had a notice at the entrance stating that “in this restaurant, no shark-fins are served”. I have seen similar notices in the last two years at the entrance of many Sushi restaurants in abroad, stating “in this restaurant no bluefin tuna is used”. In both cases, such notices appeared to have been the results of pressure from certain organizations, which have abundant funds poured into their public relation campaigns. I discussed the recent move for banning shark fisheries with

some Chinese restaurant owners and fishers. Those with whom I talked with all showed much dismay and some showed even anger for such pressures,

Recently some countries are prohibiting catching, holding and landing all species of sharks. This would be very much related to the pressure given to the Chinese restaurant owners. I do understand the need to adopt

restrictive measures for some of the shark species, mostly coastal, whose stocks have been very much depleted. However, it is not a scientific attitude to force moratorium throughout all of sharks over 400 species, many of which, particularly oceanic species, scientific evidences showed that stocks are at a healthy level.

In the late 1990s, FAO held a series of meetings to develop International Plan of Action for sharks. I expressed in those meetings that Japanese eat many species of fish from head to tail, including bones, viscera and fins. Actually in many coastal fishing nations, fishing and eating shark has been a long tradition. In Japan for example, not only is the fresh meat eaten but the flesh is also now widely used as “surimi” for surimi products. Even its bones are used as medicine, health food and producing imitation shark fins.

Many people in the world eat fish but often only filleted flesh, and throw away the rest which means utilizing only 50 to 60% of the fish. Besides, many fish caught which are less than a commercial size are entirely discarded to the sea. Are those people qualified to force full utilizations only in case of shark?

The IPOA for sharks was adopted and at present, full utilization of shark is common understanding of the world. As stated above, this has been practised in many coastal fishing nations for many centuries.

All the Regional Fisheries Management Organizations (RFMOs) have adopted regulations to prohibit the landings of shark fins only while discarding carcasses. In order to implement this, the regulations prohibit the landing of shark fins weighing more than 5% of the total shark landing. According to recent scientific studies, the ratio of weight of fins to entire bodies of shark varies by species and size of shark but the average is more than 5%. Therefore, if this 5% rule is well implemented and observed, the entire shark have to be landed, regardless to whether the fins are physically attached to or detached from the bodies aboard. For this reason, it is difficult to understand why some people insist that fins should be physically attached to the body at landing, while giving so much unnecessary burden and risk of injuries to the fishers.

The further banning of shark fisheries is an absolute waste of resources. Sharks are often unwanted by-catch for tuna fisheries. If those sharks caught (including fins) can not be commercially sold, then the fishers have to discard all sharks caught. Or is the notice, ‘in this restaurant, no shark-fins are served’ suggesting fishers should keep the shark meat but throw away all fins into the sea? Is it not the most foolish waste of natural resources?

(This article is a translation from the SUI-KEI, a leading fisheries daily in Japan.)

