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Sankaido Bldg. (9th Floor)
1-9-13 Akasaka, Minato-ku, Tokyo, Japan
107-0052
Tel: 03-3568-6388; Fax: 03-3568-6389
Website: <http://www.oprt.or.jp>

FOR CONSERVATION AND SUSTAINABLE USE OF TUNAS

Skipjack fishery management

Are skipjack stocks in the Western and Central Pacific on a decline?

Urgent steps are needed to restrain purse-seine capacity on a global scale

Dr. Ziro Suzuki
Tuna scientist

The author is concerned that the state of skipjack stock may be approaching its limit, although the stock has generally been believed to be in a healthy condition. A yellow light might start flashing for the skipjack resources in the Western and Central Pacific (hereafter referred to as the "WCPFC area," i.e. the area under the jurisdiction of the Western and Central Pacific Fisheries Commission), in which nearly 60% of tunas in the world are produced.

In recent years, concerns have been rising among fishermen and other stakeholders that skipjack resources in the waters near Japan have been on a decline. This concern is based on the view that the stock migrating to Japan's near-shore area may most probably be decreasing because they are caught in large quantities by purse-seine fishing vessels in the southern tropical area. Although a number of uncertainties exist about the migratory relations of skipjack between Japan's near-shore area and the tropical area, the catch of skipjack by purse-seine fishing vessels in recent years has reached 1.5 million-1.7 million tons a year partly helped by the progress in the use of Fish Aggregating Devices (FADs). (The FAD is a fishing method using floating reefs, and is capable of catching juveniles of skipjack, yellowfin and bigeye in a very efficient manner). Not only fishermen but also researchers and administrators thus embrace anxiety over the future of the skipjack population in the WCPFC area, including Japan's near-shore waters.

The first yellow light was shown in the joint research by the South Pacific Commission (SPC – an international organization to which stock assessment of tunas in the WCPFC area is entrusted) and Japan's National Research Institute of Far Seas Fisheries. This research is still in



a preliminary stage and is subject to modifications in the future. Therefore, before drawing a final conclusion, we need to wait for the results of analyses of large-scale tagging program for tunas in the WCPFC area, which has just been completed.

The outline of this research is as follows. In the stock assessment for skipjack, stock size indicators (such as catch per unit of effort (CPUE); hook rate in the case of longling) cannot be used. The reason is that major fishing methods targeting the skipjack are purse-seining and pole-and-line fishing and only increasing trend can be shown by calculating CPUE (e.g. catch in weight per fishing day) that can be obtained from these fisheries. In other words, those data do not convey accurate information regarding the stock status because the apparent CPUE is increasing as fishing efficiency continues to be improved. In the case of purse-seining, it is highly possible that the decline in stocks, even when it occurs, cannot be known because

fishing efficiency is increasing at a conspicuous pace by the use of the devices such as FADs, sonar and bird radar. Similar situation can be found for pole-and-line fishing as well although pole-and-line boats do not depend on the FADs.

Detailed analysis of operation records in pole-and-line fishing was carried out in this joint research. Specifically, CPUE was calculated in detail on a vessel-to-vessel basis, in addition to the examination of the installation of fishing equipments onboard the vessels. Although the number of pole-and-line fishing vessels is decreasing, it is possible that the vessels with good catch records and having competent fishing masters and crew will survive a longer period of time. This situation leads to making an oversight of the stock decline because only CPUE of excellent vessels tends to be calculated recently.

Therefore, attempts were made to remove the rising factors for CPUE that have resulted from the increasing fishing efficiency, by calculating to what extent the current CPUE has declined when the ordinary fishing vessels with average catch continue to operate at the conventional fishing efficiency. The CPUE, thus corrected, seem to be generally showing declines of nearly 25% compared with a decade ago, although the figures may differ from area to area.

In the stock assessment of the skipjack at the WCPFC Scientific Committee meeting in August this year, these corrected CPUE values were used, together with other information. As a result, in a considerable change from the optimistic stock status to date, it was shown that cautious approach should be taken with regard to further increase in skipjack catch, although the stock is found to be in a healthy condition. The estimated maximum sustainable yield (MSY) for the entire WCPFC area totals about 1.4 million-1.8 million tons, which is close to the current catch level.

The recent skipjack catch has been supported by the increasing trend in recruitment of this species. But, when the recruitment returns to the average level, then catch may exceed the MSY level, thus resulting in the over-exploitation of the resources. The stock management target of the WCPFC is given as one attaining the MSY level. But the view is increasingly gaining ground that the MSY should be regarded as the limit value (i.e. the value that should not be exceeded as the excess may cause over-exploitation), rather than as a target value.

Observing the tuna resource management organizations throughout the world, we find that regulations have always been introduced belatedly only after the stock status exceeded the MSY level. In the WCPFC area, purse-seining, which accounts for nearly 80% of the total tuna catch, is the main fishing practice. Regulations have already been introduced for bigeye and yellowfin tunas, but there are no regulations in place with regard to skipjack tuna. As skipjack is the last species of vital importance in this area, it seems that precautionary measures should be implemented, taking utmost caution in stock management into consideration. If catch regulations on skipjack can

be introduced at an early stage in the WCPFC area, it would certainly mark an epoch-making achievement in the history of tuna stock management.

The results of most recent stock assessment need to be considered in a comprehensive manner, jointly with the analysis of large-scale tagging program that has just been completed. The results may be revised in the future. But, amid continued increase of purse-seining capacity, the indicators of corrected CPUE, as stated in the foregoing, should be taken as an important warning. Notably, there is a need to implement immediately the reduction and control of overcapacity of purse-seine fishing on a global scale.

Japan-China cooperation

Japan, China agree to reinforce cooperation in restricting the capacity of large-scale tuna purse-seine fishing vessels

On August 27, 2010, Mr. Masahiko YAMADA, Japanese Minister of Agriculture, Forestry and Fisheries (then) and his Chinese counterpart, Mr. Han Changfu met in Beijing and confirmed their intention to strengthen the cooperation in the tuna Regional Fisheries Management Organizations (RFMOs). In particular, the following points were recognized as specific future actions.

- Both sides intend to cooperate to restrict the uncontrolled increase of large tuna purse seine fishing vessels in Western and Central Pacific Ocean (WCPO).
- China intends to prevent its large tuna purse seine fishing vessels from increasing over the current level (owned by Chinese fishing companies) in WCPO.
- Japan intends to work with China to increase the Chinese bigeye tuna quotas through quota transfer or other available actions in RFMOs so as to alleviate the difficulties of shortage the Chinese fishing industry is facing.

In the meantime, commenting on Japan's effort to restrain its tuna purse-seine fishing effort, Mr. Akira Nakamae, president of the Japan Purse-seiners' Fisheries Association, stressed that Japan controlled the number of tuna purse-seine fishing vessels in a way not to increase pressures on the resources.

He said that Japan should appeal the international community about such efforts, in other words, that Japan has taken quite a different approach from the countries which have indiscriminately increased their fishing capacity. Japan has seriously abided by the resolution of the Western and Central Pacific Fisheries Commission (WCPFC) from the preparatory stages of the establishment of that organization, Mr. Nakamae said.

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COP10 in Nagoya

**COP 10 adopts "Aichi-Nagoya Strategic Plan"
--solution to the overfishing issue envisioned by 2020 --**

The 10th conference of Parties (COP10) of the Convention on Biological Diversity (CBD) was held in Nagoya, Aichi Prefecture, Japan on November 18-29.

It closed its 12-day session on November 29 by adopting the Nagoya Protocol regarding the access and benefit sharing on genetic resources as well as the Aichi-Nagoya Strategic Plan which provided goals (Aichi Target) concerning the conservation of biodiversity by 2020. The conference was attended by more than 13,000 representatives from 179 Contracting Parties, international organizations and non-governmental organizations (NGOs).

The Strategic Plan put forth its mission with the target year set for 2020. The Plan explicitly stated that it will "take effective and urgent action to halt the loss of biodiversity in order to ensure that by 2020 ecosystems are resilient and continue to provide essential services, thereby securing the planet's variety of life, and contributing to human well-being, and poverty eradication."

Specifically, the Plan provided for 20 targets. Regarding the issue of overfishing, it noted in Target 6: "By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits."

The solution of the issue of overfishing was thus clearly located as the common issue of the international community. It is expected that Contracting Parties will implement the specific measures regarding the overfishing issue of tunas in the future and will achieve the target by the designated dateline.

As regard the marine protected area, it stated in Target 11 that : "By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascapes.

With respect the establishment of target on the marine protected area, heated discussion took place, with developing countries and China insisting on 6%-5% as



Photo: Global Guardian Trust

against 15% proposed in the original plan developed by the CBD Secretariat. In the end the COP10 came to agreement on 10%.

At any rate, in the light of the statement in Target 6 which said "all fish...are managed and harvested sustainably," it is evident that the marine protected area is not intended to implement a total ban of fisheries. Also, COP10 introduced limitations, including the concept of "particular importance, equitably managed," thus preventing the abuses of the marine protected area as a means to exclude fisheries arbitrarily.

Meanwhile, Japan made public its plan to contribute \$2 billion for "Life Symbiosis Initiative"--a program aimed at assisting the developing countries with respect to the conservation of biodiversity. It will also contribute \$1 billion "Japan Biodiversity Fund" to assist the national strategy toward biodiversity conservation.

Tuna-related topics

**Japanese tuna dealers say flat "NO" to overfishing
-- 40,000 signatures gathered --**

On September 6, representative of tuna wholesalers throughout Japan, centering on dealers at Tokyo's Tsukiji Fish Market, presented to Minister of Agriculture, Forestry and Fisheries, Masahiko Yamada

(then), a petition calling for termination of overfishing of tunas as soon as possible.

The wholesalers, who were concerned by the deterioration of tuna population, collected signatures in support of their request from about 40,000 people ranging from tuna fishermen to distributors over the past six months.

On the day, five wholesale leaders visited the Minister, including Hiroyuki Ito, president of the Federation of Seafood Wholesalers Unions and Tadao Ban, president of Tuna Dealers Group at the Tsukiji market.

As the minister read through the list of signatures, Ito explained the importance of terminating overfishing in the world, including the near-shore area of Japan. "Overfishing by large-scale purse-seine fishing vessels is reducing the resource of various species. In Japan's offshore area as well, the number of mature bluefin tuna has been decreasing by the catch of small-size tunas for tuna farming," Ito said. "I would like to alert the attention of the minister that a wide-ranging people related to tuna fisheries have a serious concerns," he said.

Regarding Japan's offshore area, Ito emphasized that the signatures by 40,000 people notably reflect the patient efforts of Japanese tuna consumers to conserve the tuna resources.

Ban also requested the minister that a sustainable management system for ensuring the use of tunas over many years to come be established as expeditiously as possible. "We are not asking for a ban of tuna purse-seine fisheries. What we are asking is that purse-seiners both in Japan and the rest of the world should operate within the framework under well controlled management system," he said.

Japan is committed to reinforce Pacific bluefin tuna resource management

The Fisheries Agency of Japan (FAJ) held a briefing session in Tokyo on September 23, in which it explained about the plan to be launched from fiscal 2011 to strengthen management of Pacific bluefin tuna resources, starting with the area of the Sea of Japan-East China Sea of Kyushu, western Japan. (Already partly reported in OPRT Newsletter International No. 28).

The meeting was participated in by about 200 people from tuna-related organizations, including purse-seine, longline, set-net fishers, and coastal fishing and aquaculture operators.

At the outset of the meeting, FAJ Director-General Masanori Sato sought understanding of the participants, saying "The Pacific bluefin tuna is an important fishery resource for Japan. As the largest tuna fishing and consuming country in the world, Japan has an important responsibility for the conservation and management of the resources. We are committed to take a leadership role in the international forums with a view to ensure

sustainable use of tuna resources."

The management measures for the Pacific bluefin tuna was discussed at the 6th Northern Committee of the Western and Central Pacific Fisheries Commission (WCPFC) held in Fukuoka, Japan, from September 7 to 10 this year. The committee developed management measures in accordance with the recommendation of the International Scientific Committee (ISC) that fishing pressures (especially for immature fish aged 0-3) should be reduced below the level of 2002-2004. However, as the Republic of Korea reserved its position in accepting the outcome of the meeting, the committee's agreement was postponed until the WCPFC's annual meeting in Honolulu in December.

Research on juvenile bigeye bycatch avoidance conducted in the Pacific

The Fisheries Agency of Japan (FAJ) and the Fisheries Research Agency (FRA) started from October 28 the observation research on the technology to avoid bycatch of juvenile bigeye tuna in the western area of the tropical Pacific, with the cooperation from tuna purse-seine fishermen. (For the research area, see the map below from the FRA website.)

The research has been carried out since fiscal 2009 (April 2009-March 2010) in accordance with the decision of the Western and Central Pacific Fisheries Commission (WCPFC) at its 2008 annual meeting to reduce the catch of bigeye tunas and implement a three-year program to develop the technique to avoid the catch of juvenile bigeye by the purse-seine fishing vessels that use fish aggregating devices (FADs) in their operation. Shoyo-maru, the FAJ's fisheries research vessel, Nihon-maru, a chartered vessel by FRA and several purse-seine fishing vessels will take part in the project.

Specifically, the research is intended to clarify the actual state of small-size tunas that swim through large-mesh nets, and to collect information for development of bycatch avoidance techniques using light stimuli.

The research will be continued through December.

