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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

“October 10 is the Day of Tuna” Campaign 2021

The OPRT, in cooperation with the Japan Fish Retailers Union (Zensui-Shoren), carried out the “Wild Sashimi Tuna Campaign 2021” from October 1 to 11 in relation to “October 10 – Day of Tuna.” 250 fresh fish retailers belonging to Zensui-Shoren participated in the campaign, which is 63 more than last year. A total of 800 posters, 25,000 leaflets, and banner flags were distributed for sales promotion for wild frozen tuna. The retailers promoted the appeals of wild tuna through these materials as well as gifts of frozen wild sashimi tuna to consumers.

This year’s campaign was the 18th one, with the theme of “Uchide no maguro.” “Uchide” means “at home” and also comes from “Uchide no kozuchi,” a magic hammer in an old Japanese tale that can be used to get anything that one wishes. The concept was that since people have been eating more at home due to the COVID-19 pandemic, learning new ways to cook tuna at home as if using “Uchide no kozuchi” would not only be fun but also promote consumption of tuna. The leaflet for distribution at retailers showed not only local Japanese tuna cuisines but also how to cook tuna in foreign cuisine styles such as Korean and Vietnamese ones. Consumers were able to access the details of the recipes using QR codes. In addition, a lucky draw was held for people who filled out questionnaire forms available and collected at the retailers participating in this campaign, and 150 people won 3 saksu (rectangular portions of tuna meat ready to be sliced into sashimi pieces) of wild frozen bigeye tuna (700 g or more).

During the campaign period, staff of the OPRT and Zensui-Shoren jointly visited several of the fish retailing stores participating in the campaign.

“Uokuma” is located in Toshima-ku, Tokyo and is an old establishment that has existed since 1926. It mainly sells bigeye tuna, as well as fresh tuna coming from Japan’s coastal area. The owner of the store, Mr. Isao Komiya, said that there are customers who like the slight sourness peculiar to bluefin tuna and that is why he sells bluefin tuna in addition to bigeye tuna. Every afternoon, he burns charcoal to broil salmon and squid, popular items for regular customers.

“Uofumi” is just 100 meters away from “Uokuma.” The owner of this store, Mr. Eiji Furuya, spoke energetically and said, “It has now become rare to see two fish stores in the same shopping area. I want to sell bigeye tuna sashimi with good color and for that purpose I need to get blocks of tuna meat coming from relatively large bigeye tuna. I recommend southern bluefin tuna for customers who prefer fatty tuna.” Many customers visit the store to buy fish as side dishes for a dinner-time drink at home. Mr. Furuya prepares a package of sashimi and fish boiled with soy

and sugar before evening when customers come to buy them on their way back home.

“Uomasa” is also located in Toshima-ku. The most popular item is tuna. The store deals only in southern bluefin tuna and sells it in a sashimi package. The owner, Mr. Makoto Tajima, said, “Under the COVID-19 pandemic, more men are buying fish for a dinner-time drink at home.” He sells broiled fish every day and adds fried fish on the day when the fish wholesale market is closed as this gives him extra time. He said, “The fried oyster season is coming.”

“Uobayashi,” located in Ohta-ku, Tokyo, has been operating for 72 years. This store again deals only in southern bluefin tuna and sells it only as a dish of sliced tuna rather than as saku. Every day, he decides the number of fish he will purchase from the wholesaler based on his sales prediction, considering the weather and the temperature. About 60% of sashimi sales is tuna. Mr. Yuichi Hamano, who is the third-generation owner, said, “Customers buy tuna first of all and an additional one or two items. This is the purchase pattern of regular customers.”



Problems in farming of Atlantic bluefin tuna

The problems occurring in the farming of Atlantic bluefin tuna (ABT) were previously reported in the OPRT Newsletter International No. 67/68 released on March 2019. As a follow-up, this article highlights three points: (i) statistics for ABT farming production and trade; (ii) accurate estimation of catch amount at the time of putting live caught fish into farming cages (caging); and (iii) growth estimates of farmed ABT. It discusses what these problems are and how they relate to each other.

Statistics for ABT farming production and trade

The International Commission for the Conservation of

Atlantic Tunas (ICCAT) has no statistics for farming production and trade of ABT. The lack of compilation and publication of such data is a serious defect given that the scale of the farming has become so big now. ICCAT introduced an electronic bluefin catch document (eBCD) which mandates ICCAT Members to report the movement of ABT from catch to export/import. This could enable ICCAT to produce such statistics, but no progress has been made so far. Since more farmed ABT is being exported to countries other than Japan in recent years, it would be possible to see the whole picture of ABT trade if the export data to those countries were to become available. It seems that the Fisheries Agency of Japan (FAJ) will make more efforts in ICCAT to realize such compilation and publication. This problem should be resolved as soon as possible.

Accurate estimation of catch amount at the time of caging

It is difficult, in farming, to count the number of fish as well as to measure the length and weight of each fish (biological measurement) and this has caused problems in conducting the ABT stock assessment and management of allocations to each Member, which made it difficult for ICCAT to manage the total allowable catch (TAC). To overcome this, ICCAT introduced, in 2014, stereoscopic video cameras (SVC). SVC consists of two cameras which record ABT at the time of caging. The length determined through the video image of each ABT is converted to the weight using the length-weight relationship formula and thereby the total amount of the catch can be estimated. While measurement through SVC should cover a random selection of 20% of the fish to be caged, there are concerns that smaller fish are being intentionally selected for measurement. Also, the measurement is done by clicking the tip of the head and the central end of the caudal fin on the screen, so the length could be calculated as being shorter if the wrong places are clicked intentionally. If these things are occurring, there is a possibility that: the catch amount is underestimated; the stock assessment is biased; and TAC is not observed, causing compliance issues.

Another problem is that, when recording the movement of fish going into cages, sometimes the bulk of the fish all quickly move at the same time. In such cases, several individuals are superimposed on the screen or the video images of some fish in the group are obscured. This causes the possibility of underestimating their number and difficulty in measuring their length. In addition, the validity of 20% has not been scientifically tested. To resolve these problems, Japan has been leading a discussion on the realization of a system which automatically measures the length of all the fish using artificial intelligence (AI). It is not clear, however, whether this will be introduced soon.

Growth estimates of farmed ABT

Since it is difficult to measure directly the weight of the fish subject to farming and the estimates through SVC cannot exclude human biases, FAJ has been checking the consistency between (i) weight growth of fish during farming calculated by comparing the weight of caged fish and the weight of harvested fish, both of which can be extracted from eBCD accompanying fish imported to Japan and (ii) a table produced by the Standing Committee on Research and Statistics of ICCAT (SCRS) indicating weight growth by size at

caging and by duration of farming. This revealed that there are many cases in which the growth of fish is two or more times higher than the figures in the SCRS table. In some cases, the import of the fish to Japan was suspended while discussion was going on between the exporting Member and Japan. Let's examine the problem of the growth in farmed fish in detail, looking at recent events.

The size of ABT caged for farming varies greatly, ranging from 30 kg to 300 kg. In some cases, only fat fish just before spawning are selected for farming whereas in other cases only skinny fish just after spawning are selected. Nevertheless, ICCAT has only one formula for conversion of length to weight, which does not appear to be able to cover all the cases. Next, let's look at the table produced by the SCRS regarding possible growth rates by size at caging and by duration of farming. In 2009, when this table was produced, the ABT stock was depleted, and the catch statistics were inaccurate. The table was produced in a hasty manner to estimate the catch weight of ABT subject to farming, which was expanding rapidly. It should be noted that the basis for calculating the figures in the table is not clear and no threshold beyond which the growth is considered abnormal was established. This is one of the causes behind the suspension of the ABT import to Japan as mentioned above.

There are problems in FAJ's estimation of growth by comparing the average weight of the fish at caging and the weight of the fish harvested (imported) on the eBCD. Export of fish is usually conducted by harvesting fish several times from the same farming cage. When only big fish are exported, the estimated growth becomes much bigger than the actual one. On the other hand, when small fish are exported, the estimated growth becomes small, or even negative in extreme cases. To resolve this problem, FAJ compares the average weight of the fish caged and the average weight of the fish harvested after most of the fish are harvested. Unfortunately, this method cannot be applied to cages where part of the fish is carried over to the following year.

To respond to a criticism that the SCRS table does not properly reflect regional differences in growth of ABT, the SCRS has started a new research project to estimate the maximum growth rates during farming by looking at data on an individual basis, but it is not easy to trace the growth of individuals. In addition, the growth rate of the same size of caged fish may vary, depending on conditions such as the temperature, the feed and the density of fish in a cage. The SCRS is planning to calculate the maximum growth rates by about four different areas to address such variations.

The quickest solution for estimating the weight of ABT for farming would be that ICCAT will develop a system consisting of SVC and AI which automatically measures the length, as well as a software which automatically converts the measured length to the weight. The discussion on this new technique is expected to advance as soon as possible. If this new system is established, the current research project on growth rates in farming by the SCRS would be no longer necessary. Since management of ABT farming in ICCAT could affect management of farming in southern bluefin tuna and Pacific bluefin tuna, attention should be given to how this discussion will proceed in the next few years. (This article is a translation of an article written by Dr. Ziro Suzuki (tuna biologist) that was originally featured in OPRT Japanese Newsletter No. 110.)