WWF Recommendations

WWF recommends the following points for robust conservation and management of Pacific Bluefin Tuna

For RFMO and National governments

- To adopt a long-term Pacific Bulefin Tuna recovery plan targeting at least $SSB_0$20% by 2030
- To implement a catch limit for adults (over 30kg) to conserve spawning stock in addition to the current temporary management measure based on precautionary approach.
- To implement a revised stock assessment and a predictive simulation for the stock recovery in early 2016
- To conduct a close monitoring, especially the catch numbers, to ensure that catch limits are being complied

For market

- Not to trade tunas from illegal, unreported and unregulated (IUU) fisheries by ensuring traceability.
- To support the rigorous improvement of tuna fishery
- To refrain from sourcing Pacific Bluefin Tuna until a long term recovery plan based on the sound science and precautionary approach is adopted

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Frozen tuna for auction at the Tsukiji fish market, Tokyo, Japan.

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Sustainability

Current Situation of Pacific Bluefin Tuna and Stock Management

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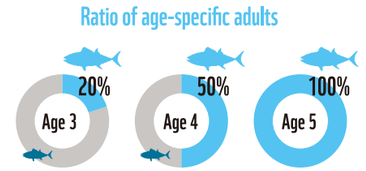
The amount of Pacific Bluefin Tuna stock is now critically low. According to the latest report by the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC), both the amount of resources and the level of recovery remain at historically low levels. Countries engaging in the fishing of Pacific Bluefin Tuna including Japan, the largest consumer of it, are required to implement fishery management so that Pacific Bluefin Tuna resources can recover.

Ecology of Pacific Bluefin Tuna

The Pacific Bluefin Tuna (*Thunnus orientalis*) is mainly distributed in temperate zones in the North Pacific Ocean from 20 to 40 degrees north latitude (Fig. 1). Their spawning areas are located near the Nansei Islands (April to July) and the southwestern part of the Sea of Japan (July to August). They travel along the coast of Japan looking for food after hatching from eggs. When becoming about one year old, they travel across the Pacific. Then, they return to the sea area near Japan for spawning after spending a few years near the west coast of the Americas.[12] It takes three to five years for Pacific Bluefin Tuna to mature and reach spawning age.



Of these fish, 20% have reached adulthood by three years of age, 50% have by four years of age, and 100% have by five years of age.[3]

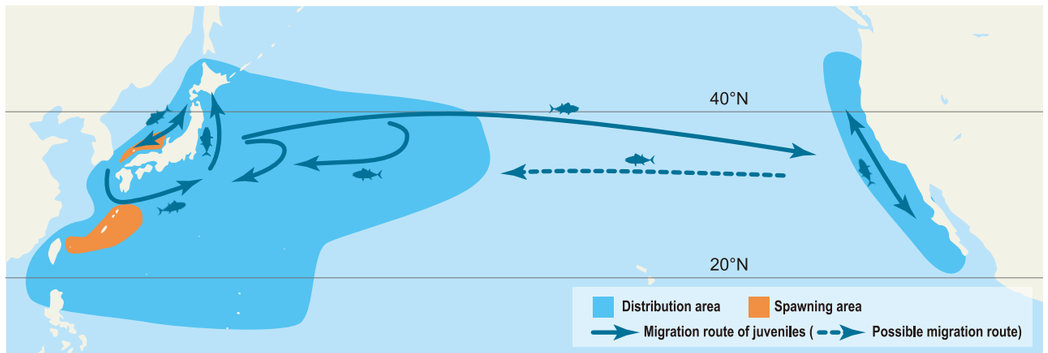


Fig. 1 Distribution, routes of migration, and spawning areas

Fishery of Pacific Bluefin Tuna

The catch of Pacific Bluefin Tuna was more than 35,000 tons during the peak period. However, it has decreased to around 15,000 tons in recent years (Fig. 2-1).[5, 6] Juveniles (younger than three years old) accounted for the most part of the catch, and this ratio has increased to about 97% (based on the number of fish) (Fig. 2-2).[10] Most of them are caught by purse seine fishery carried out by Japanese, South Korean, and Mexican fishermen. Other types of fishery that are employed include troll fishery, hand-line fishery, and set-net fishery on the coast of Japan (Fig. 2-3).[1, 12]

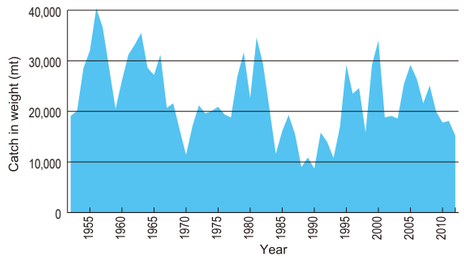


Fig. 2-1 Trend of catches

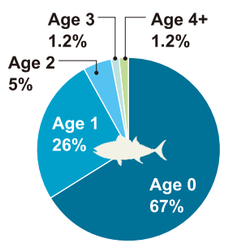


Fig. 2-2 Ratio of catch numbers by age (average from 2001 to 2010)

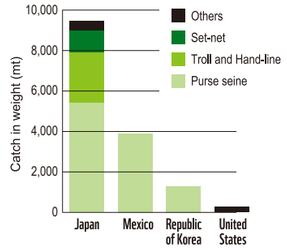


Fig. 2-3 Catches of juveniles by country and fishing method (average from 2001 to 2010)

Regional Fisheries Management Organization (RFMO) related to the tuna species

The Western and Central Pacific Fisheries Commission (WCPFC) and the Inter-American Tropical Tuna Commission (IATTC) manage PacificBluefin Tuna in the western Pacific and the eastern Pacific, respectively (Fig. 3). The ISC and IATTC Scientific Advisory Committee (IATTC SAC) research and integrate scientific data and provide them to the WCPFC and IATTC.

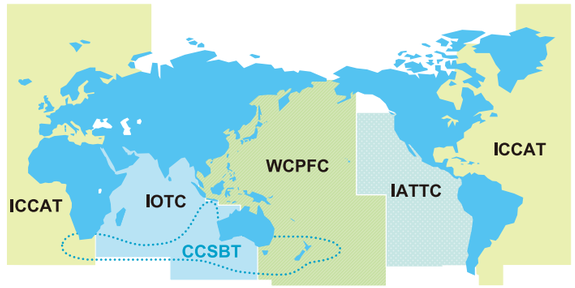


Fig. 3 Regional Fisheries Management Organizations (RFMO) for tuna and associated species

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Pacific Bluefin Tuna schooling, Mexico

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Fishermen's nets set out to corral Northern Bluefin Tuna during the migration.

Status of Pacific Bluefin Tuna stocks

The latest stock assessment released by the ISC in April 2014 revealed that the stocks of Pacific Bluefin Tuna had decreased to a historically low level. They had decreased to approximately less than or equal to 20% of the peak time: the total amount of stock was 44,848 tons, the amount of reproductive broodstock (spawning stock biomass) was 26, 324 tons, and the number of juveniles which will become targets for future fishing (recruitment) was about 7 million individuals (Fig. 4).[4]

Meanwhile, the IATTC SAC held in May 2014 indicated a possibility that the amount of spawning stock biomass would become less than 10,000 tons, about half of the estimate of the ISC. This suggested it should be essential to quickly start working to recover the stocks.[7]

Fishery regulations and future projection outlook

The ISC warns that Pacific Bluefin Tuna stocks will be depleted at an unprecedented rate if the current amount of catches is maintained. It also reports that the amount of spawning stock biomass will recover to the historical median (approx. 43,000 tons) in ten years if the catch of juveniles can be reduced to 50% of the catches recorded from 2002 to 2004.[4, 9] The IATTC SAC also sets a baseline which is almost the same as the historical median and advises that the amount of spawning stock biomass should not become less than this baseline. Also, it advises that management of adults as well as juveniles should be implemented.[2, 8]

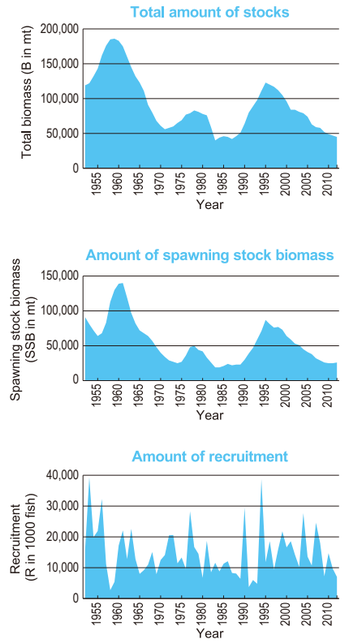

Fig. 4 Result of stock assessment by ISC (April 2014)

Stock management

The conservation measures that the WCPFC adopted in 2014 was "to reduce the catch of juveniles and not to increase that of adults to rebuild the spawning stock biomass". On the other hand, the one that the IATTC adopted in the same year was "to reduce the annual catch limit".

Problems

Under the current low recruitment levels, the risk of spawning stock biomass falling below the historically lowest level is increasing. However, the conservation and management measures adopted in the WCPFC and IATTC are based on the preliminary recovery plan. Thus, a robust long-term recovery plan which targets at $SSB_0$20% or its equivalent, including conservation and management measures for both adults and juveniles, needs to be adopted in the WCPFC and IATTC. In addition, it is expected that fisheries management by means of reference points and harvest control rules to take action promptly and effectively based on pre-agreed management measures, and Catch Documentation Scheme (CDS) shall be immediately adopted.

Table 1 Conservation and management measures adopted in the WCPFC and IATTC

Year issued	Conservation and management measures
WCPFC 2015 (Adopted in 2014)	The catch of juveniles (age 0-3) shall be reduced by 50% and that of adults shall not be increased from the 2002-2004 average levels to rebuild the spawning stock biomass to the historical median (approx. 43,000 tons) within 10 years from 2015.
IATTC 2015 (Adopted in 2014)	During 2015 and 2016, total catches shall not exceed 6,600 tons, for an effective annual catch of 3,300 tons in each year.