



FACTSHEET

JULY
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Sustainability



Current Situation of Pacific Bluefin Tuna and Stock Management



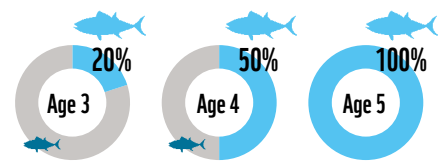
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The amount of Pacific Bluefin Tuna stock is now critically low. According to the latest report by the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC), both the amount of resources and the level of recovery remain at historically low levels. Countries engaging in the fishing of such tuna including Japan, the country consuming the largest amount of Pacific Bluefin Tuna, 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 grounds 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 they hatch from eggs. They travel across the Pacific when they become about one year old. Then they return to the sea area near Japan for spawning after they spend a few years near the west coast of the Americas. It takes three to five years for Pacific Bluefin Tuna to mature and reach spawning age.

Ratio of age-specific mature fish



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

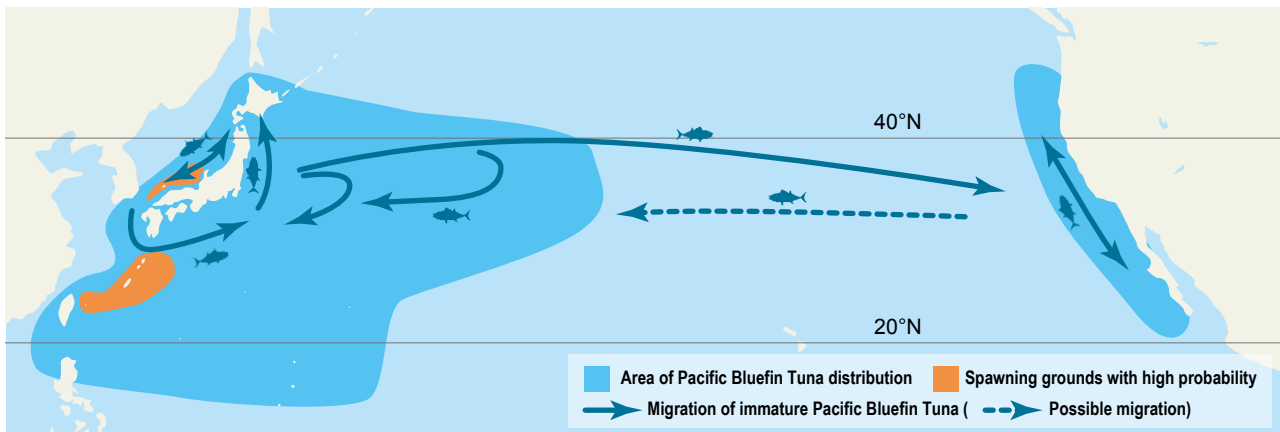


Fig. 1 Distribution, routes of migration, and spawning grounds

Fishery of Pacific Bluefin Tuna

The catch of Pacific Bluefin Tuna came to more than 35,000 tons during the peak period. It has decreased to around 15,000 tons in recent years, however (Fig. 2-1).⁴⁻⁵ Immature fish (younger than three years old) accounted for the most part of the caught Pacific bluefin tuna, and this ratio has increased to about 97% (based on the number of fish) (Fig. 2-2).¹⁰ Most immature Pacific Bluefin Tunas are caught by purse seine fishery carried out by Japanese, Korean, and Mexican fishermen. Other types of fishery that are employed for Pacific Bluefin Tunas include troll fishery, hand-line fishery, and set-net fishery on the coast of Japan (Fig. 2-3).^{1,10}

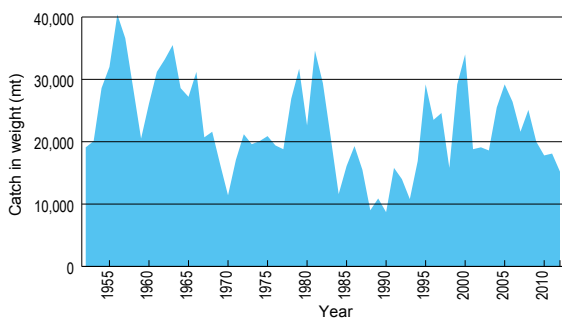


Fig. 2-1 Trend of catches

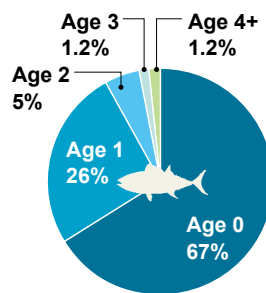


Fig. 2-2 Ratio of number of fish caught by age (average from 2001 to 2010)

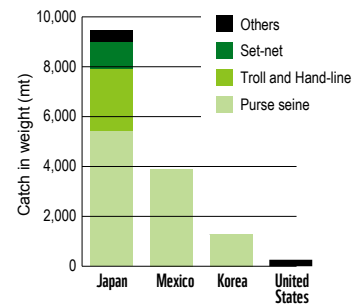


Fig. 2-3 Catches of immature fish by country and fishing method (average from 2001 to 2010)

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) are managing Pacific Bluefin Tuna in the western Pacific and the eastern Pacific, respectively. The ISC and IATTC Scientific Advisory Committee (IATTC SAC) are researching and integrating scientific data and providing them to the WCPFC and IATTC (Fig. 3).

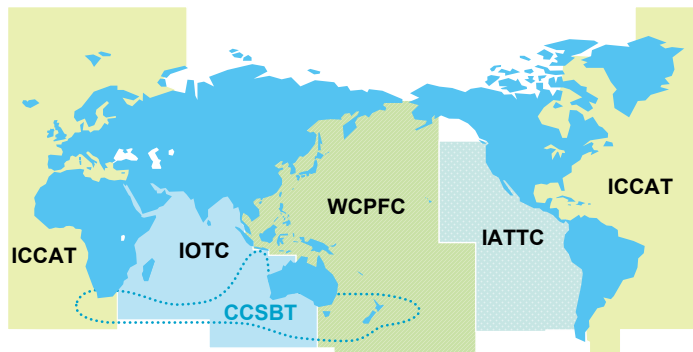


Fig. 3 Regional Fisheries Management Organizations (RFMO) for tuna and associated species



Pacific Bluefin Tuna schooling, Mexico



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

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Status of Pacific Bluefin Tuna stocks

The latest stock assessment released by the ISC in April 2014 revealed that Pacific Bluefin Tuna stocks have decreased to a historically low level. They have decreased to less than 20% of the peak time, with the total amount of stocks being 44,848 tons, the amount of reproductive broodstock (the amount of spawning stock biomass) 26,324 tons, and the number of juvenile fish which become targets for future fishing (recruitment) about 7 million individuals (Fig. 4).³

Meanwhile, the IATTC SAC held in May 2014 indicated the 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 is essential to quickly start working to recover the stocks.⁶

Fishery regulations and future projection outlook

The ISC is warning that Pacific Bluefin Tuna stocks will be depleted at an unprecedented rate if the current amount of catches is maintained. It is also reporting that the amount of spawning stock biomass will recover to the historical median (47,625 tons) in ten years if the amount of catches of immature fish can be reduced to 50% of the catches from 2002 to 2004.^{3,8} The IATTC SAC also has set a baseline, which was almost the same as the historical median, and advised that the amount of spawning stock biomass should not become less than this baseline.

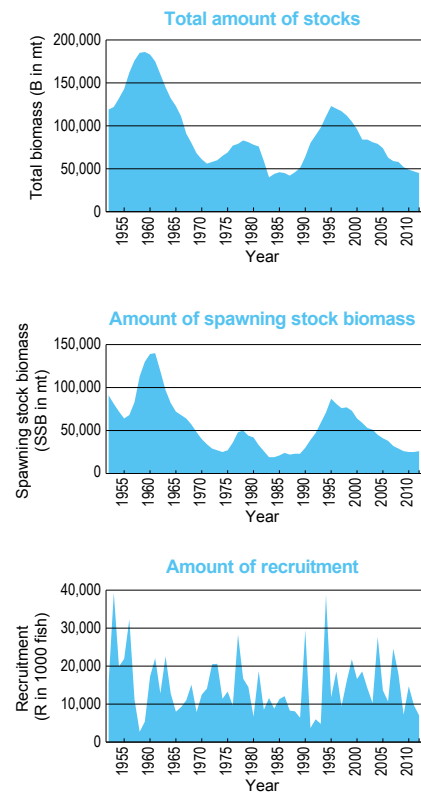


Fig. 4 Result of stock assessment by ISC (April 2014)

Stock management

The conservation measure that the WCPFC suggested in 2010 was “to reduce the fishing mortality and the amount of catches of immature fish (compared to 2002 to 2004)” (Table 1). Actually, however, the fishing mortality from 2009 to 2011 far from decreased, and it has increased mainly with regards to immature fish*. These data indicate that conservation and management measures are not being properly performed.

Problems

There seems to be great difficulties in realizing measures to “reduce the catches of immature fish alone by 50%” as advised by the ISC. Immature fish are caught in various regions with a range of fishing methods. They are often caught with other fishes in set-net fishery and troll fishery. Thus, it is difficult to specifically reduce the catches of Pacific Bluefin Tuna alone. In addition, purse seine fishery is also catching immature and adult fishes together. Thus, it is difficult to prevent catches of immature fish alone. Therefore, the style of Pacific Bluefin Tuna consumption should be re-evaluated to realize sustainable use of Pacific Bluefin Tuna resources, by for example preventing businesses from handling immature fish, rather than relying solely on management by national governments and fishing industries.

Year issued	Conservation and management measures
2011 (Advised in 2010)	The fishing mortality is maintained at a level lower than the 2002 to 2004 level, and the amount of catches of immature fish (newly hatched to three-year-olds) is reduced from the 2002 to 2004 level. (South Korea is an exception.)
2014 (Advised in 2013)	The fishing mortality is reduced to less than the 2002 to 2004 level, and the amount of catches of immature fish (newly hatched to three-year-olds) is reduced at least by 15% from the average catches from 2002 to 2004.

Table 1 Trend of conservation and management measures by WCPFC

* the ratios of increase from 2002 to 2004 are as follows: 19% for less than one-year-old fish, 4% for one-year-olds, 12% for two-year-olds, 31% for three-year-olds, 60% for four-year-olds, 51% for five-year-olds, and 21% for six-year-olds

WWF recommends

WWF recommends below issues for appropriate conservation and management of Pacific Bluefin Tuna

For RFMO and National governments

- WWF urges the IATTC and WCPFC to adopt the long-term Pacific Bluefin Tuna recovery plan, candidate limit and target reference points, and harvest control rules that are well-defined, pre-agreed and contain mandatory actions for a determined course of management actions in response to changes in indicators of stock status with respect to reference points.
- WWF calls the IATTC and WCPFC to establish catch limits to be consistent with the ISC recommendation of a 50% reduction.
- WWF calls the IATTC and WCPFC to develop a catch documentation scheme for Pacific Bluefin Tuna to ensure monitoring and control in the Pacific Bluefin Tuna catch through traceability.

If sufficient management measures are not adopted this year, fishing should not be allowed to continue on such a depleted stock, and WWF urges the IATTC for a **moratorium on fishing** for this species to prepare a rigorous Pacific Bluefin Tuna recovery plan.

For market

- To not trade tunas from Illegal, unreported and unregulated (IUU) fisheries by ensuring traceability.
- To support the changing to sustainable fishery (ex. To support the getting MSC certify)
- To prevent businesses from handling immature fish



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

References

1. Hiromu Fukuda et al., Preliminary Population Dynamics Model for the Updated Stock Assessment of Pacific Bluefin Tuna, ISC/14/PBFWG-1/03
2. IATTC SAC, 2014, RECOMMENDATIONS BY THE STAFF FOR CONSERVATION MEASURES IN THE EASTERN PACIFIC OCEAN, 2014, DOCUMENT IATTC-87-03d
3. ISC PACIFIC BLUEFIN TUNA WORKING GROUP, 2014, STOCK ASSESSMENT OF PACIFIC BLUEFIN TUNA 2014.
4. ISC PLENARY SESSION, 2013, REPORT OF THE THIRTEENTH MEETING OF THE INTERNATIONAL SCIENTIFIC COMMITTEE FOR TUNA AND TUNA-LIKE SPECIES IN THE NORTH PACIFIC OCEAN
5. Kazuhiro Oshima et al., 2014, Updates of input data for stock assessment model, Stock Synthesis 3, on Pacific bluefin tuna, ISC/14/PBFWG-1/05
6. Mark N. Maunder et al., 2014, STOCK STATUS OF PACIFIC BLUEFIN TUNA AND THE URGENT NEED FOR MANAGEMENT ACTION., IATTC SAC 5th meeting Document SAC-05-10a.
7. Mark N. Maunder et al., 2014, PROPOSAL FOR BIOMASS AND FISHING MORTALITY LIMIT REFERENCE POINTS BASED ON REDUCTION IN RECRUITMENT., IATTC SAC 5th meeting Document SAC-05-14
8. Yukio Takeuchi et al., 2014, Updated future projections of Pacific bluefin tuna with draft results to answer the requests from NC9, ISC/14/PBFWG-1/10rev
9. Japan Fisheries Agency. 2014. Stock management of the Pacific bluefin tuna, the Third Stock Management Examination Committee Document 3-1
10. National Research Institute of Far Seas Fisheries, Fisheries Research Agency. 2011. Status of the international fishery stocks in 2013



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To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony and nature.

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