

MANAGEMENT OF NORTH PACIFIC ALBACORE

North Pacific albacore tuna (*Thunnus alalunga*) is a highly migratory fish found in the temperate and tropical portions of the Pacific Ocean. Spawning occurs in tropical and subtropical waters and early life stages are spent in nursery areas of the western North Pacific Ocean. At about age three to four years, some individuals journey from off the coast of Japan and migrate across the Pacific Ocean where they arrive off the North American west coast starting in the spring. Migrants generally arrive off California and Baja California, Mexico in the spring, but later over the extended west coast, from Canada to Mexico in summer and fall. Some individuals return to the western North Pacific for winter, whereas others over-winter in the central North Pacific and return to the west coast in the spring. Sexually mature individuals appear to leave the eastern side for spawning in the western North Pacific. The species has a long history of exploitation in the North Pacific Ocean.

I. Origin of the IATTC North Pacific Albacore Resolution

The best scientific evidence on North Pacific albacore tuna comes from the International Scientific Committee for Tuna and Tuna-like Species (ISC) in the North Pacific Ocean. The most recent information indicates that North Pacific albacore is either fully exploited, or may be experiencing fishing mortality above levels that are sustainable in the long term. Staff of the Inter-American Tropical Tuna Commission (IATTC) also recognized that the stock assessment for North Pacific albacore tuna suggested a need for conservation and management measures to avoid further increases in fishing mortality

Based on the stock appearing at low levels of its unexploited size coupled with a biomass level expected to decline, the IATTC took action to manage North Pacific albacore at its 73rd meeting in Lanzarote, Spain in June, 2005. The IATTC adopted a resolution calling for a limit on the total level of fishing effort for North Pacific albacore tuna in the eastern Pacific Ocean that does not increase beyond current levels. The resolution also urges member nations to take necessary steps to ensure that the level of fishing effort by their vessels fishing for North Pacific albacore tuna is not increased. The resolution also requested that the IATTC work with the Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPFC)

II. Concerns for a sustainable stock

At the 5th meeting of the ISC held in Tokyo, Japan in March, 2005, the ISC reviewed stock status information for North Pacific albacore. It concluded that exploitation of this stock is at high levels and fishing mortality should not be increased. For the stock, it noted that recent recruitment has been strong, resulting in high current stock biomass. However, as recruitment declines to levels more typical of the extended historical time series of recruitment coupled with current fishing mortality rate (F) that is high, relative

to commonly used reference points, it is unlikely that the spawning stock biomass (SSB) will rebuild to levels required for maximum sustainable yield (MSY). Furthermore, results of simulation analyses, designed to determine F's for safely maintaining future SSB's above minimum levels recorded so far, indicate that F's slightly higher than the range of current F's would result in SSB's above the lowest observed in the late 1970s. Because the lowest SSBs of the late 1970s may be the least reliable, a more robust SSB threshold would be the lower 10th and 25th percentile of observed SSB's. In this case, current F should maintain SSB at or above the lower 10th percentile SSB threshold, but a modest reduction in current F would be required to maintain SSB at or above the lower 25th percentile SSB threshold.

The IATTC staff also reviewed the results used by the ISC and considered that the higher level for current fishing mortality rate (0.68) to be more realistic based on the methods used to calculate the estimates. They added that the high F estimate may be too low given the retrospective bias shown by the model. They estimated that a current fishing mortality of 0.68 implies an equilibrium spawning stock biomass at 17 percent of unfished levels. Projections assuming fishing mortality of 0.68 under low and high scenarios of future recruitment, suggest that the biomass may decline if current levels of fishing mortality persist. In summary, both analyses indicate the need to reduce current F.

III. Concerns for a sustainable fishery

North Pacific albacore have a long history of exploitation in the North Pacific Ocean. Total catches of albacore for all nations peaked to a record high of 125,400 metric tons (mt) per year IN 1976, and then declined to a low of 37,600 mt in 1991. Catch began to recover in the 1990s and peaked again in 1999 at 121,500 mt, averaging 92,600 mt between 2003-2004.

Most of the North Pacific catch of albacore, between 35 and 65 percent from 1983 through 2003, occurred in the northwestern sector of the North Pacific Ocean (Food and Agriculture Organization (FAO) fishing area 61). The northwest Pacific catch increased from 36,000 mt in 1983 to 89,000 mt in 1990. The catch then declined abruptly to about 33,000 mt in 1993. The catch recovered to 87,000 mt in 1999, then declined to a low of 47,000 mt in 2000. Since then, the annual catch has remained fairly stable between 47,000 mt and 51,000 mt.

Approximately 13 percent of the 2003 North Pacific albacore catch was made in the northeast Pacific (FAO fishing area 67). Catch of albacore in this sector reached 23,000 mt in 1974 and then declined to 2,000 mt in 1982. The catch in 2003 recovered to 18,000.

Historically, pole-and-line and troll were the major gears employed in the North Pacific Ocean, but these fisheries have decreased in recent years owing largely to economic factors. Since 1987, longline fishing has produced most of the albacore landings each year. Additional longline capacity is available from other HMS fisheries that can easily

shift to targeting north Pacific albacore. It is this capacity, along with the current high fishing mortality rates, that threatens the future sustainability of the fishery. Other gears used since the mid-1990s included purse seine, gill net, unspecified and recreational fishing gears which account for roughly 6 percent of the total catch of albacore.

IV. Multilateral Cooperation

In preparing its North Pacific albacore resolution, the IATTC also recognized that proper management of the species throughout its migratory range requires not unilateral actions but rather, efforts taken multilaterally with other regional fishing management organizations. Consequently, IATCC acknowledged the importance of working with WCPFC in implementing its resolution. Specifically, it calls upon the members of the WCPFC to consider and take, at the earliest opportunity, actions deemed necessary to ensure the effective conservation and management of North Pacific albacore tuna throughout its migratory range. Included within this element of the resolution are implementing measures that ensure fishing effort on the stock in the WCPFC area does not increase and, as necessary, employ measures that the WCPFC considers for reducing fishing effort to levels commensurate with the long-term sustainability of the resource.

V. Case Studies - Albacore Management

In 1997, the International Commission for the Conservation of Atlantic Tunas' (ICCAT) Standing Committee on Research and Statistics determined that northern Atlantic albacore tuna was at or near a level of full exploitation. In 1998, faced with an overfishing and overfished situation, ICCAT adopted a recommendation to limit fishing capacity to the number of vessels in the directed northern Atlantic albacore tuna fishery during the years of 1993 to 1995 and for countries to submit a list of vessels fishing for northern Atlantic albacore. In 2003, ICCAT recommended a total allowable catch (TAC) of 34,500 mt ww for 2004, 2005, and 2006, of which the United States was allocated 607 mt ww per year.

In its 1999 report to the U. S. Congress on the status of U.S. fisheries, NOAA's National Marine Fisheries Service (NMFS) identified the northern Atlantic albacore tuna stock as overfished. Three alternatives for developing a rebuilding plan were prepared. They included a no action alternative in which NMFS would continue to monitor U.S. northern Atlantic albacore tuna fisheries to stay in compliance with the ICCAT-recommended annual U.S. TAC of 607 mt ww. A second alternative included a U.S. action plan in which a reduction in fishing mortality of northern Atlantic albacore tuna in U.S. fisheries would be established. This unilateral action proposed to set a proportional reduction below the current TAC in an effort to begin rebuilding the northern Atlantic albacore stock. A variety of measures designed to reduce mortality were to be examined, including but not limited to: seasonal closures, closed areas, quota restrictions, size limits, and retention limits. Those measures found to be appropriate would be implemented as a domestic regulation through separate rulemaking. The third and preferred alternative was to establish the foundation with ICCAT for developing an international rebuilding program. Under this alternative, the United States would continue to work through

ICCAT to establish a stock size and rebuilding plan time frame consistent with the Magnuson-Stevens Act. Such an international rebuilding program was expected to ensure rebuilding to a level capable of producing MSY with a target stock level, a timetable, and reference points. Once a plan was established, the United States would comply with ICCAT recommendation(s) with domestic regulatory action taken as necessary but did not require any immediate domestic regulatory action.

VI. References

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