

Analysis of Management Options for Development of a Plan to End Overfishing of Pacific Bigeye Tuna in the Eastern Pacific Ocean

PREFACE

Pacific bigeye tuna are subject to overfishing Pacific-wide and this document sets out alternatives that potentially could be used to end overfishing. Bigeye tuna, like other highly migratory species (HMS) are nomadic in behavior, thus do not recognize boundaries that management, policy, or science have established. Bigeye tuna are fished by many nations in addition the United States, thus future efforts to reduce fishing mortality on bigeye tuna in the Eastern Pacific Ocean (EPO) will require coordination and communication among all relevant regional fisheries stakeholders. The capacity for unilateral action by the United States to prevent overfishing, as required under National Standard 1 of the Magnuson-Stevens Act (16 U.S.C. 1851(a)(1)), is limited, as is the capacity of the Pacific Fishery Management Council (Council), which is required to develop a plan to end overfishing, under 50 CFR 600.310(e)(4)(i).

Pacific-wide, the U.S. annually lands approximately 10,000 metric tons (mt) (Table 3), or about five percent of the total bigeye catch. The Pacific-wide catch for bigeye tuna in the EPO between years 1999 and 2003 was between 88,000 mt and 142,000 mt. The U.S. West Coast commercial catch for this period was less than one percent; hence any unilateral action by U.S. fisheries to end overfishing would have little effect on the stock. Multilateral management action is essential to ensure that overfishing on bigeye tuna in the Pacific Ocean ends.

The current resolution that places conservation and management measures on fishing nations in the EPO for bigeye tuna is set to expire in 2006; for that reason this document provides future management options that would address overfishing of Pacific bigeye tuna in the EPO. The Council will choose a West Coast position to advance to the U.S. delegation to the Inter-American Tropical Tuna Commission (IATTC), as domestic management for 2007 and beyond depends on international management actions to reduce fishing on bigeye tuna stocks.

1.0. PURPOSE AND NEED FOR ANALYSIS

1.1 *Purpose and Need*

This document is intended to provide the Council with information needed to form a position on how to control fishing mortality on Pacific bigeye tuna in the EPO. Management and conservation options are a shared responsibility of both domestic and international fisheries management entities, and thus the requirement to reduce fishing mortality will dictate that the United States find an appropriate balance between protecting the resource and achieving sustainable utilization of the resource within its straddling jurisdictions. Once the Council approves a strategy to reduce fishing mortality it will be presented to the U.S. delegation for consideration by the IATTC. Any new conservation and management measures adopted by the IATTC, as a result of its June 2006 meeting will be implemented domestically.

After consideration of this document, the Council will determine its preferred strategy for the conservation and management of bigeye tuna in the EPO. In the event that regulatory action is considered, the Council will direct the preparation of a management document for public review, including environmental analysis consistent with the National Environmental Policy Act (NEPA). This will ensure

adequate consideration of the impacts of a broad range of alternatives as the Council formulates recommendations.

1.2 History of Action

NOAA's National Marine Fisheries Service (NMFS) notified the Council that it must take action to address overfishing of bigeye tuna by June 14, 2005. A similar notification was given to the Western Pacific Fishery Management Council. At the June 2005 meeting, the Council moved to begin work on Amendment 1 to the FMP for U.S. West Coast Fisheries for HMS as the proper response to address this issue. NMFS Southwest Region agreed to take lead responsibility on developing the amendment package for Council consideration. At its November 2005 meeting, the Council was to have adopted a preliminary range of alternatives for public review. However, because of time constraints at that meeting, the agenda item was deferred for a future meeting. This has also allowed NMFS staff, who initiated the preparation of an environmental assessment (EA) containing the alternatives and analysis of them, to provide a more complete document for the Council to review.

Shortly after NMFS staff began the development of the EA, it was determined that no regulatory action would result from an amendment since future actions are dependent on conservation and management measures adopted internationally. Therefore, at this juncture, a management options analysis for the development of a West Coast position on how to control fishing mortality on Pacific bigeye tuna in the eastern Pacific is a more relevant approach than is an environmental effects analysis of proposed conservation and management measures. The management options analysis will provide the Council with the information needed to form a position, which has the potential to influence any new conservation and management decisions adopted by the relevant international bodies governing bigeye tuna stocks in the eastern Pacific, in future years.

1.3 Current Management Controls

Primary management of Pacific bigeye tuna occurs internationally by the IATTC in the EPO and by the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPFC). The IATTC was established by international convention in 1950 and is responsible for the conservation and management of tuna fisheries and other species taken by tuna fishing activity in the EPO. The organization consists of a Commission in which each member country may be represented by up to four commissioners and a Director of Investigations, or the Director who is responsible for drafting research programs, budgets, administrative support, directing technical staff, coordination with other organizations and preparing reports to the Commission.

Staff scientists at the IATTC coordinate and conduct research, observer programs, and the collection, compilation, analysis and dissemination of fishery data and scientific findings. The work of the IATTC research staff is divided into two main groups: The IATTC Tuna-Billfish Program and the IATTC Tuna-Dolphin Program. Current membership of the IATTC includes Costa Rica, Ecuador, El Salvador, France, Guatemala, Japan, Mexico, Nicaragua, Panama, Peru, Spain, USA, Vanuatu, Venezuela, and Korea. Canada, China, the European Union, Honduras, and Chinese Taipei are Cooperating Non Parties or Cooperating Fishing Entities.

On September 5, 2000, the WCPFC was adopted. The Convention, which is subject to ratification, establishes a Commission that would adopt management measures for HMS throughout their ranges. The U.S. has yet to deposit its instrument of ratification of the Convention, but is participating as a cooperating non-member. Both Commissions affect West Coast-based HMS fisheries. Figure 1 illustrates the geographical delineation of the WCPO and the EPO.

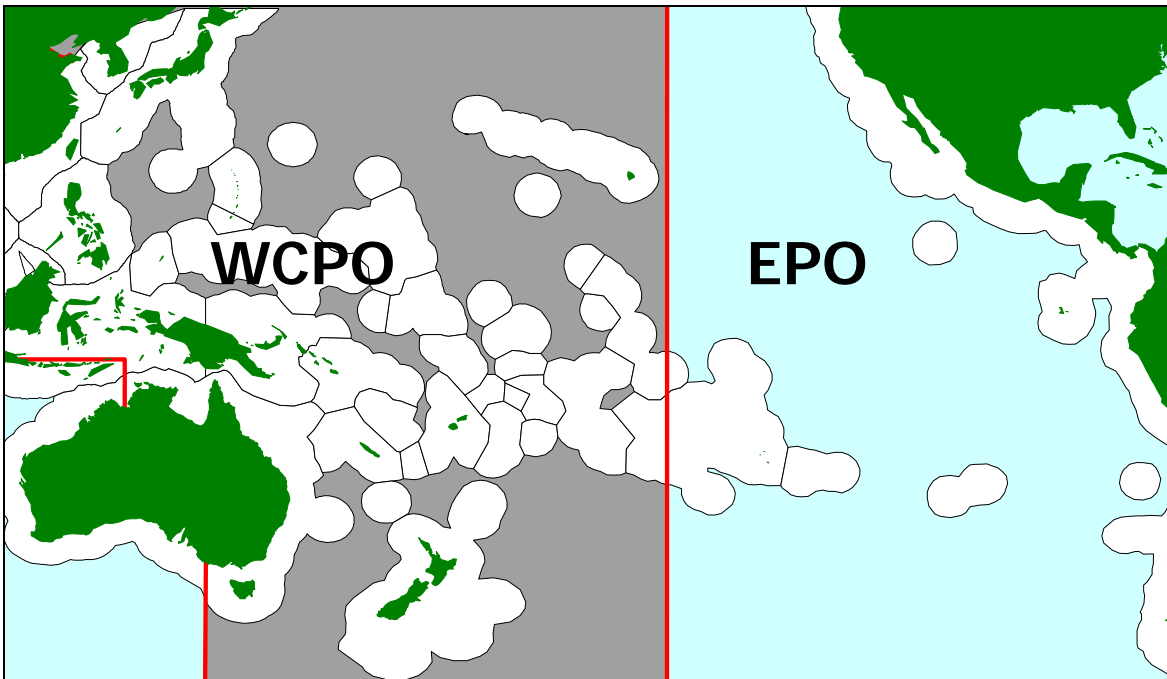


Figure 1. The geographical delineation of the Western and Central Pacific from the Eastern Pacific Ocean for statistical purposes.

The West Coast HMS FMP provides a management context to carry out recommendations of the IATTC. In particular and of interest to the FMP, regulations are in place to collect data on vessels harvesting HMS in the Convention Area, with the intent of assisting the IATTC in monitoring international fisheries as well as enforcing conservation measures. The vessels register system is also intended to assist the Council in monitoring West Coast based HMS fisheries north Pacific albacore, yellowfin, bigeye, skipjack, Pacific bluefin, common thresher shark, pelagic thresher, bigeye thresher, shortfin mako, blue shark, striped marlin, Pacific swordfish and dolphinfish.

In June of 2004, the IATTC adopted Resolution C-04-09 on Tuna Conservation Measures. The resolution established a multi-annual program to protect tuna in the EPO for years 2004 through 2006. The resolution includes conservation measures for yellowfin, bigeye, and skipjack tunas. Purse seine vessels fishing in the EPO are affected by these conservation measures. The conservation resolution includes a national choice of one of two possible six week closures of the Convention Area. The possible choices are either a six-week closure in the summer or winter. Longline vessels fishing for bigeye tuna will be restricted to a national catch not to exceed their national catch for the year 2001. The 2004 conservation resolution introduced a precedent-setting multi-year management framework with a review of the stock(s) response in 2005 and 2006. The multi-annual plan allows the industry to plan and minimize economic impacts. Pole-and-line and sportfishing vessels are not subject to this resolution. Also, members of the IATTC agreed to compliance measure prohibiting landings, transshipments, and commercial transactions involving tunas caught in contravention of the conservation measures in this resolution.

1.4 Management Option Process

March 2006 Council Meeting: Management Options for a West Coast Strategy to Address Overfishing of Bigeye Tuna in the Eastern Pacific Ocean document goes out for Council and public review. At this time the Council reports on its preferred management option.

April 2006 Council Meeting: Report on Public Comment.

April 2006 – May 15th 2006: Finalize document.

May 16th: Submission to the GAC for their review, contemplation, and consideration as an agenda item for their June 1st meeting.

The expectation here is that the GAC will embrace the Council's preferred strategy in part or whole as a part of their strategy and advice to the U.S. Section of the IATTC, which meets in late June to discuss future management options for bigeye tuna.

June 1st 2006: 5th meeting of the GAC.

June 22 – 30th 2006: IATTC meeting in Korea. Any new multi-year resolution adopted would need to be implemented via the Tuna Conventions Act or with an amendment to the West Coast HMS FMP.

2.0 SUMMARY OF THE MANAGEMENT OPTIONS

2.1 Management Objective

The Council will choose a strategy for the establishment of a West Coast position to end overfishing of bigeye tuna in the EPO. The strategy should include measures that meet requirements to end overfishing contained in the MSA as well as meet international obligations. Conservation and management measures to explore include time/area closures for fishing effort in the EPO; limits on mortality of juvenile bigeye associated with fishing on floating objects; and finally, if successful, the United States would then implement the IATTC program for bigeye tuna through quotas and/or time/area closures.

As specified in the West Coast HMS FMP, the Council has the option to provide analysis and documentation to NMFS and the Department of State supporting its recommendation for action under any new international agreement to end or prevent overfishing (Ch. 8, Pg. 4). It is expected that the Department of State and U.S. delegation, in coordination with NMFS, will consider the Council's preferred management option in developing U.S. positions for presentation to the IATTC, and will keep the Council informed of actions by the IATTC to end or prevent overfishing. These actions will be taken into account by the Council in completing its rebuilding plan, and in developing its recommendation to NMFS as to what additional U.S. regulations, if any, may be necessary to end or prevent overfishing. The Council's rebuilding plan will reflect traditional participation in the fishery, relative to other nations, by fishers of the United States, consistent with Section 304(e)(4)(C) of the Magnuson-Stevens Act, 16 U.S.C. §1854(e)(4)(C).

2.2 Description of Vessels/fleets Utilizing Tuna Fisheries in the EPO

Within the IATTC, the usage of "fleet" describes a Nation's fleet. For each nation Party to the IATTC, a fleet consists of all of that nation's vessels no matter the size or gear type. Thus far, within specific resolutions longline and purse seine vessels are defined for the tuna fisheries. The IATTC does maintain a record of each nation's fleet fishing for tropical tunas, such as bigeye. Table 1 summarizes information about national purse seine fleets.

Table 1. Active purse seine vessels targeting tropical tuna in the EPO (IATTC, 2006).

Nation	# of vessels	Range of Length (m)
Bolivia	1	32.9
Columbia	12	32.9 - 74.7 m
Ecuador	89	16.2 – 78.0 m
El Salvador	5	50.3 – 91.9 m
Guatemala	3	66.1 – 77.3 m
Honduras	4	51.6 -62.7
Mexico	73	25.0 – 79.9
Nicaragua	6	52.3 – 69.0
Panama	26	35.7 – 116.0
Spain	3	72.6 – 105.0
United States	3	22.3 – 65.2
Vanuatu	2	56.5 – 69.2
Venezuela	21	59.1 – 107.5

Additionally the IATTC adopted Resolution C-03-07 which established in 2003 a requirement to maintain a list of longline fishing vessels larger than 24 meters overall length (i.e., large-scale tuna longline fishing vessels or “the LSTLFV List”). For the purposes of this resolution, LSTLFVs not included in the LSTLFV Record are deemed not to be authorized to fish for, retain on board, transship or land tuna and tuna-like species in the eastern Pacific Ocean (EPO). Also, the initial LSTLFV List consists of the LSTLFVs of IATTC Parties, cooperating non-Parties, entities, fishing entities or regional economic integration organizations (collectively "CPCs") on the IATTC Regional Vessel Register. The LSTLFV List shall include the following information for each vessel:

1. Name of vessel, registration number, previous names (if known), and port of registry;
2. A photograph of the vessel showing its registration number; and
3. Previous flag (if known and if any);

Table 2 is a summary of the LSTLFVs targeting tropical tunas in the EPO.

Table 2. Active large longline vessels targeting tropical tuna in the EPO (IATTC, 2006).

Nation	# of Vessels	Range in Length (m)
China	89	35.1 – 50.8
Chinese Taipei	138	27.3 – 59.2
Costa Rica	11	24.0 – 27.0
Ecuador	21	24.0 – 55.2
France	14	24.8 – 33.2
Honduras	4	32.8 – 44.2
Japan	530	30.0 – 57.0
Korea	202	39.0 – 49.9
Mexico	9	24.4 – 46.8
Nicaragua	1	24.0
Panama	77	24.0 – 91.5
Peru	1	55.6
Spain	107	25.7 – 49.0
United States	25	24.0 – 50.7
Vanuatu	48	37.5 – 53.5

2.3 Management Option 1 (No Action)

NMFS and the Council would not develop and implement controls necessary to end overfishing by Pacific-wide fishermen, nor submit comments or actively participate in the development of input and recommendations on the conservation and management of Pacific bigeye to the U.S. delegation to the IATTC.

Comments and Considerations: IATTC staff scientists determined that under the current exploitation patterns, and assuming recruitment at recent average levels, yields of bigeye tuna are expected to decline in the near future to levels below the average maximum sustainable yield, potentially leading to an overfished condition.

Impact Summary

By implementing the no action management option (i.e. failure to implement measures that end overfishing) it is likely that a continued decline in Pacific bigeye stocks would result. If the Council chooses management option 1 as their strategy (no action), the stock could become overfished. Additionally, no action would be contrary to requirements in international agreements and to requirements of the MSA.

2.4 Management Option 2

The impact of purse seine and longline fisheries on Pacific bigeye is considered to be highly significant. An analysis by IATTC scientists suggests that the initial declines in stock biomass were caused by longline fishing, but accelerated declines since 2000 are mainly attributable to floating-object-based purse seine fishing. Under a current model, Spawning Biomass Ratio (SBR) levels are predicted to remain at very low levels for many years unless fishing mortality is significantly reduced or recruitment increases for several years.

IATTC scientists suggest large (50%) reductions in bigeye effort from the purse-seine fishery to allow the stock to rebuild towards the AMSY level in ten years. According to IATTC scientists, restrictions applied to a single fishery (e.g. longline or purse-seine), particularly restrictions on longline fisheries, are predicted to be insufficient to allow the stock to rebuild to levels that will support the AMSY. Therefore restrictions on both longline and purse-seine fisheries are necessary to rebuild the stock to the AMSY level in ten years. Simulations suggest that the restrictions imposed by the 2003 Resolution on the Conservation of Tuna in the EPO will not be sufficient to rebuild the stock.

IATTC scientists suggested a combination of the following management options as a means to rebuild the stock.

- 1) **Closure of the purse seine fishery in the EPO for six consecutive weeks.**

Comments and Considerations: The current resolution adopted by the IATTC allows member nations to choose between two different consecutive six week periods to close their purse seine fishery in the Convention Area. The closure dates begin either August 1, 2004, or November 20, 2004. The closure is intended to target fishing activity that results in high catches of juvenile tuna, and thus the closure should result in improved yields from the stock in subsequent years.

- 2) **Reduce the purse seine fishing effort on Pacific bigeye by 50 percent in 2007, and possibly beyond, with one or more of the following management options:**

- a) Close the purse seine fishery for six consecutive months in the area between 8°N and 10°S west of 95°W (this closure would not be intended to occur simultaneously with the two month EPO closure in (1)); and/or
- b) Close the purse seine fishery on floating objects for six consecutive months in the area west of 95°W (this closure is not intended to occur simultaneously with the two month EPO closure); and/or
- c) Limit the total annual catch of bigeye by each purse seine vessel that is required to carry an observer to 500 metric tons, estimated either by the observer or, at the request of the fishing vessels Captain, by scientific sampling of the vessel's catch conducted by IATTC staff at the time of unloading. If this latter option is chosen, the vessel would be responsible for the costs of the sampling.

Comments and Considerations: Management Option 2 contains recommendations by IATTC scientist who have indicated that large (50%) reductions in effort (on bigeye tuna) from the purse-seine fishery will allow the stock to rebuild towards the average maximum sustainable yield (AMSY) level, but restrictions on both longline and purse-seine fisheries will be necessary to rebuild the stock to the AMSY level in ten years. Simulations suggest that the restrictions imposed by the 2003 Resolution on the Conservation of Tuna in the EPO will not be sufficient to rebuild the stock. Projections indicate that, if fishing mortality rates continue at their recent (2002 and 2003) levels, longline catches and spawning biomass ration will decrease to extremely low levels.

The particular closure contained in option (a) above is due to the high percentage of juvenile bigeye known to occur in that area and (b) is an area where a large amount of bigeye associated with floating objects are caught. Closing these areas will reduce bigeye tuna mortality.

As Table 3 illustrates, four major fleets are contributing to the majority of the longline catch in the EPO. Fishing mortality from the U.S. and other smaller fleets are an insignificant fraction of the total catch. Also, the U.S. longline fleet does not have freezers, such as those used in the lucrative Japanese sashimi market. Japanese vessels are equipped to fish at sea for many months and are not limited by having to return to port to offload fresh, iced bigeye. The fishing power of the large Asian fleets is thus enhanced by the use of vessels containing freezing capabilities.

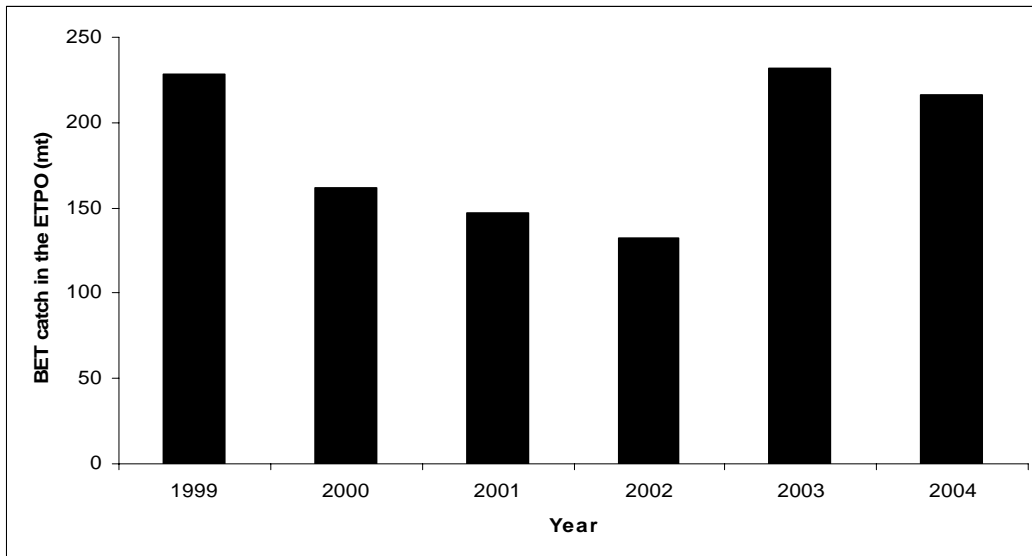
3) **Reduce longline catches in the EPO to 1999 levels.**

Comments and Considerations: Capping bigeye catches at the 1999 level would significantly reduce the volume of longline bigeye by 40-50% of present catches (see Figure 2). This would achieve significant conservation benefits to the stock. Additionally, the current bigeye quota set for U.S. vessels comes from the year 2001, which was a year when the U.S. catch level was at a lower than average, due to litigation and management measures regarding sea turtle conservation.

Impact Summary

Impacts on target and non-target stocks: As discussed previously, West Coast fisheries for bigeye tuna are small compared to other fishing nations and often are not a main target species. If management option 2 were adopted as part of the U.S. position to reduce fishing mortality of bigeye tuna, domestic fishing mortality on bigeye could be reduced through regulatory controls, such as time/area closures. Additional controls on domestic fisheries for bigeye tuna would reduce future impacts to bigeye in the EPO; however, this action may overly burden U.S. fishermen that have a relatively minor role in bigeye tuna fishing mortality.

Figure 2. Annual catch of bigeye tuna in the EPO by U.S. (Hawaii & California-based) vessels (Source: NMFS PIFSC)



Because bigeye landings by West Coast fisheries are so small relative to Pacific-wide fishing nations, none of the regulatory controls considered here would be anticipated to have measurable impacts on bigeye stocks. Similarly, because landings of all non-target species are small relative to Pacific-wide landings, and options are not expected to adversely affect the catches of any of these fisheries, they are not anticipated to result in measurable impacts on non-target stocks.

Impact Summary

Impacts on marine habitat: Purse seine and longline fisheries operations do not involve contact with the seabed, and because measures under management option 2 are not expected to alter these fishing operations, no adverse impacts on marine habitat are anticipated.

Impacts on biodiversity and ecosystem functions: The overall West Coast catch of bigeye tuna is less than 1 percent of the total Pacific-wide catch, thus adverse impacts to the tropical and subtropical pelagic ecosystems and biodiversity are not expected to occur.

Impacts to public health and safety: None of the measures contained in management option 2 are expected to require participants to fish in ways noticeably outside of historical patterns, and thus no impacts on public health and safety are anticipated.

Impacts on fishery participants and fishing communities: Anticipated impacts to affected participants would vary widely according to the severity of any new fishery management reduction in quota or fishing opportunities. However, because West Coast bigeye tuna fishery participants are not highly dependent on bigeye for a majority of their landings the effects of any fishing restrictions could potentially be offset over time with increased landings of other species.

If management option 2 were adopted it would provide for the sustained participation of fishing communities by helping to ensure the long-term availability of bigeye tuna, on the other hand there would likely be a short-term reduction in economic benefits from the fisheries until the stock recovers.

Impacts on data collection and monitoring: Under this management option no new data collection or monitoring requirements are required.

2.5 Management Option 3

Management Option 3 would include all management options contained in alternative 2, plus would exempt fleets¹ that catch 1 percent or less of the total Pacific bigeye tuna landings in the EPO and establish an annual international fishing quota (total allowable catch) of which the amount is to be divided among all nations in the EPO fishing on the stock. Each nation's quota would be based on historical effort. Additionally, this option would explore possible minimum size limitations on juvenile bigeye.

Comments and Considerations: Table 3 shows that the main contribution to EPO longline bigeye catches are made by fleets from China, Japan, Korea and Taiwan. Catches by these Asian fleets are two orders of magnitude larger than U.S. vessels landing bigeye. Catches by other South American longline fleets are comparable to the U.S. landings. Measures directed at the smaller fleets would have little conservation effect on bigeye stocks in the EPO, while at the same time incurring administrative costs that likely exceed the value of the small volume of bigeye landed.

Table 3. EPO longline catches of bigeye tuna (mt) (IATTC, 2005).

Year	Japan	South Korea	Taiwan	China	Other fleets	USA	Total
1999	22,224	9,431	910	660	961	228	34,414
2000	27,929	13,280	5,214	1,320	3,719	162	51,624
2001	37,493	12,576	7,953	2,639	4,169	147	64,977
2002	33,794	10,358	16,692	7,351	3,597	132	71,924
2003	20,517	10,272	12,501	10,065	1,292	232	54,879
Total	141,957	55,917	43,270	22,035	13,738	901	277,818
Percent of total	51.1%	15.57%	20.13%	7.93%	0.32%	4.94%	100%

Impact Summary

Impacts on target and non-target stocks: See Management Option 2 *Comments and Considerations*. Additionally, any measure that imposes minimum size limits on bigeye could potentially have a positive impact on the population by reducing fishing mortality on juvenile species. Management option 3 would also consider minimum size regulations on juvenile bigeye, which would prevent fishing nations from retaining and/or landing fish below a determined minimum size. Minimum size regulations are intended to conserve juvenile fish in three ways. First, prohibition on landing and/or sale prevents development of a commercial market for small fish, thereby discouraging fishermen from targeting them. Secondly, some of the small fish that are discarded will survive and mature to reproduce and contribute to the stock biomass. Third, a minimum size results in fewer fish being retained per mt than would be otherwise. However, to the extent that fishermen cannot control the size composition of the fish they catch, minimum sizes can result in significant discards of undersized fish. The objective to minimize bycatch and bycatch mortality, and the requirement to end overfishing should be considered when evaluating this management option.

¹ The IATTC does not define a fleet, but rather leaves it up to individual nations to impose their own fleet restrictions on a domestic basis. The current IATTC resolution applicable in 2004, 2005 and 2006 simply applies to “purse-seine vessels” fishing for yellowfin, bigeye, and skipjack tunas, and to “longline vessels.” Pole-and-line and sportfishing vessels are not subject to this resolution.

Overall, greater restrictions on purse seine FAD fishing combined with minimum size limits would likely have a measurable beneficial impact on bigeye tuna conservation.

Impacts on marine habitat: See Management Option 2 *Comments and Considerations*.

Impacts on biodiversity and ecosystem function: See Management Option 2 *Comments and Considerations*.

Impacts on public health and safety: See Management Option 2 *Comments and Considerations*.

Impacts of fishery participants and fishing communities: See Management Option 2 *Comments and Considerations*. Additionally, if fleets that catch 1 percent or less of the total Pacific bigeye tuna in the EPO are exempted then the focus of management and conservation would be on the fisheries with the greatest impacts and on the regions of highest catches. An exemption recognizes the need to avoid overly burdening those fleets and countries which are peripheral in generating fishing mortality for bigeye tuna.

Impacts on data collection and monitoring: See Management Option 2 *Comments and Considerations*.

2.6 Management Option 4

Same as Management option 3 plus either use the existing control date or re-establish a more current control date to notify present and potential participants that a limited entry and/or another management program may be considered by the Council for West Coast fisheries in the EPO so as to avoid excess capacity.

Comments and Discussion: See Management Option 2 *Comments and Discussion*.

This control date would not bind the Council to establishing limited access or other management programs for these fisheries, but it would notify current and prospective fishery participants that additional management measures may be taken by the Council for these fisheries. The implementation of a control date would be in recognition of the fact that unlimited expansion of purse seining and longline fishing is untenable with the conservation of bigeye tuna.

2.7 Management Option 5

Close all fisheries under the Council's jurisdiction that target Pacific bigeye tuna in the EPO.

Comments and Discussions: Closure of all fisheries under the Council's jurisdiction that catch bigeye tuna in the EPO would appear to address the contribution to overfishing from U.S. vessels in the eastern Pacific. However, this unilateral action would place an unfair burden on U.S. fishermen by threatening their livelihoods without any significant impact on reducing bigeye fishing mortality. This would not be consistent with the Council objective of addressing overfishing in a cost-effective and equitable manner and for that reason this alternative was not analyzed in detail.

2.8 Management Option 6

The Pacific Council adopts recommendations for international fisheries consistent with those described in Western Pacific Fishery Management Council's Pelagics FMP Amendment 14 as their Pacific-wide response to bigeye tuna overfishing. These recommendations could be adopted in addition to any adopted under options 2-4

Comments and Discussions: For additional details on Pelagics FMP Amendment 14 see Agenda Item G.1.a, Attachment 2, April 2006.

Amendment 14 creates a mechanism and a timetable for the Council to review the status of stocks, to consider and advise on impending RFMO actions, to deliberate on the Council's own proposals for conservation and management, to inform NMFS and the Department of State about the Council's positions and concerns, to participate in international meetings, and to apply their expertise in the subsequent implementation of any resultant agreements.

Specific recommendations for the Western and Central Pacific Ocean include:

- a) Short term: cap and roll back fishing effort (e.g. number of vessels) to 1999 levels)
- b) Long term: reduce levels of fishing mortality to sustainable levels. If quotas are established they should transferable within countries.
- c) Require that fish aggregating devices used by purse seiners be registered and limited in number.
- d) Give consideration to allow for the development of emerging Pacific Island fisheries.

Recommendations a-c are concerned with reducing fishing effort and hence fishing mortality. Given the volume of overfishing on bigeye and yellowfin tunas, it is unlikely that wholesale reductions in the order described above can be achieved in the short term, hence the need, as outlined in a, to establish a reasonable short term target to ensure that overfishing on bigeye and yellowfin tuna does not increase by unconstrained expansion of fishing. This should be followed by sustained reduction in fishing for bigeye, likely through attrition of fleets, although mindful that some expansion of fishing is also likely by emergent fishing nations in the Pacific Islands. As noted earlier, the use of FADs by purse seiners targeting skipjack is known to be a significant contribution to bigeye fishing mortality, especially on juvenile bigeye and yellowfin. Restricting FAD use will therefore have significant reduction of fishing mortality on the bigeye and yellowfin stock as a whole. Allowing for expansion of emerging Pacific Islands fisheries appears to be at odds with the overall conservation objectives that need to be adopted for bigeye and yellowfin tuna. However, the text of the convention establishing the WCPFC explicitly recognizes the aspirations of the Pacific Islands to participate in tuna fisheries, rather than simply be resource owners. Balancing these aspirations and the expansion of Pacific Island fisheries (which is already happening) will be difficult challenge for the new Commission. However, it may be possible to match this expansion with controlling the additional deployment of FADs to minimize the volumes of juvenile bigeye and yellow tuna catch.

The Council recommendations regarding quotas include a provision that would allow quotas to be transferred within countries between fishing vessels or fleets, this allows countries to implement and allocate their quotas according to domestic objectives and conditions.

Specific recommendations for the Eastern Pacific Ocean include:

- a) Set EPO bigeye tuna longline catch quotas at 1999 levels.
- b) Exempt fleets that take less than 1 percent of the total bigeye tuna catch in the EPO.
- c) Exempt fleets that catch less than 550 mt of bigeye tuna annually in the EPO.

- d) Provide the U.S. longline fleet with a quota of 250 mt of EPO bigeye tuna.
- e) All recommendations include a provision in whatever management measures are adopted to permit the landing of a small volume of bigeye (e.g. 20-25 fish) when quotas are exceeded to minimize bycatch and waste by longliners not targeting bigeye. They also include a provision that whatever management measures are adapted should incorporate flexibility for nations to administer the longline quota in accordance with national legislation and sovereignty. This will allow the Council to apply their expertise to the allocation and implementation of domestic quotas as they apply to vessels operating under or in the Council's management authority.

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