

**HIGHLY MIGRATORY SPECIES MANAGEMENT TEAM REPORT ON MANAGEMENT
OPTIONS FOR RECREATIONAL PACIFIC BLUEFIN TUNA FISHERY**

In this report, the Highly Migratory Species Management Team (HMSMT) provides supplemental and revised information on the recreational fishery for bluefin tuna previously provided in the HMSMT Report 2 under this agenda item.¹

Recreational Fishery for Bluefin Tuna

Estimates of catch reduction percentages under varied bag limit scenarios in U.S. and Mexico waters in Table 6 of Agenda Item G.4.b, HMSMT Report 2 were revised and are presented in Table 1 below. Revised 2013 reduction analyses are reported separately for California Department of Fish and Wildlife (CDFW) fishing blocks in Mexico, U.S. waters, and U.S./Mexico (blocks that intersect the border and are indeterminate).

Table 1. For the commercial passenger fishing vessel (CPFV) fishery, estimated cumulative percentage reductions in number of Pacific bluefin landings with successive reductions from a 10-fish bag limit for U.S. waters, U.S.-Mexico waters, Mexico waters, and all waters combined, during 2013 and during 2008-2013. (source: Elizabeth Hellmers, CDFW, CRFS CPFV logbook data),

CPFV No. Bags	2013 Percentage Reductions				2008-2013 Percent Reductions			
	4,037	762	40,905	45,704	17,438	2,900	133,735	154,073
Bag Size	U.S. Waters	U.S.- Mexico Waters	Mexico Waters	All Waters Combined	U.S. Waters	U.S.- Mexico Waters	Mexico Waters	All Waters Combined
0	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
1	54.6%	52.8%	54.2%	54.2%	51.3%	39.7%	51.5%	51.3%
2	32.3%	30.5%	29.5%	29.8%	29.3%	19.4%	27.9%	27.9%
3	18.2%	16.1%	14.8%	15.2%	16.6%	9.6%	14.2%	14.4%
4	9.4%	5.9%	5.8%	6.2%	9.1%	3.7%	5.8%	6.2%
5	3.7%	0.0%	0.5%	0.8%	4.3%	0.4%	0.6%	1.1%
6	2.0%	0.0%	0.2%	0.4%	2.5%	0.0%	0.3%	0.5%
7	0.8%	0.0%	0.1%	0.2%	1.1%	0.0%	0.2%	0.3%
8	0.1%	0.0%	0.1%	0.1%	0.3%	0.0%	0.1%	0.1%
9	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
10	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

¹ Information is provided on other topics for management measures to be potentially implemented under the biennial process in HMSMT Reports 1 and 3.

Alternatives

The HMSMT recommends adopting the alternatives described in Agenda Item G.4.b, HMSMT Report 2, which range from the current 10 fish bag limit and associated possession limit (no action) to prohibition of retention of bluefin tuna by recreational fisheries. Daily bag limits of 5, 4, 3, 2, and 1 are analyzed in detail in the report.

Additional Measure: Seasonal Closure

Seasonal closures would be necessary to limit catch below a 1 fish daily bag limit without moving to a complete retention prohibition. The HMSMT analyzed season options that would result in estimated catches falling between a 1-fish bag limit (3 fish possession limit) and the non-retention option.

A seasonal closure would reduce catch below a 1-fish bag limit without prohibiting retention for the entire fishing season. To address the impact of a season closure, bag analyses were run for semi-monthly time periods between July 1st and September 30th 2013 to show potential catch savings by time period (see Table 2).

Table 2. Semi-monthly catch savings in the CPFV recreational bluefin tuna fishery, from July 1 – September 30, 2013. Here U.S. waters include CDFW blocks which straddle the U.S.-Mexico border. (Source: Elizabeth Hellmers, CDFW, CRFS logbook data).

	U.S. Waters				Mexico Waters				U.S. and Mexico Waters Combined			
	10 fish to 1 fish		Weight (mt)		10 fish to 1 fish		Weight (mt)		10 fish to 1 fish		Weight (mt)	
2013 Semi-Monthly Time Period	Reduction in Number of Fish	Percent Reduction of Annual Total	Average	Range	Reduction in Number of Fish	Percent Reduction of Annual Total	Average	Range	Reduction in Number of Fish	Percent Reduction of Annual Total	Average	Range
7/1 - 7/15	46	0.7%	0.7	0.3 - 0.7	2,518	4.4%	37.5	17.9 - 37.5	2,564	4.1%	38.2	18.2 - 38.2
7/16 - 7/31	620	9.6%	9.2	4.4 - 9.2	7,949	14.0%	118.4	56.4 - 118.4	8,569	13.6%	127.7	60.8 - 127.7
8/1 - 8/15	1,029	15.9%	14.8	6.7 - 15.3	5,847	10.3%	84.0	38.0 - 87.1	6,876	10.9%	98.7	44.7 - 102.5
8/16 - 8/31	172	2.7%	2.5	1.1 - 2.6	5,048	8.9%	72.5	32.8 - 75.2	5,220	8.3%	75.0	33.9 - 77.8
9/1 - 9/15	717	11.1%	13.8	*	2,688	4.7%	51.6	*	3,405	5.4%	65.3	*
9/16 - 9/30	516	8.0%	9.9	*	2,981	5.3%	57.2	*	3,497	5.5%	67.1	*

* Average monthly weights for September were the same each year, 2008-2013.

Source: Marine Log System (MLS) CPFV Logbook data, weights from IATTC dockside sampling.

The HMSMT identified several problems with using a seasonal closure. Bluefin tuna are most often present in U.S. and Mexico waters from June through October each year, but seasonal availability to the recreational fishery may be too variable for this approach to be consistently effective or predictable. From an enforceability perspective, complementary regulations requiring zero retention of bluefin applying to boats fishing in waters off Mexico and landing in the US would be needed. Additionally, a closure during the middle of the fishing season will present enforcement issues for multi-day CPFV and private vessel trips that span open and closed periods.

Additional Management Considerations

In the process of evaluating potential alternatives for the management of the recreational bluefin fishery, the HMSMT has identified several additional factors which may affect the outcome of any selected outcome.

Tuna Filleting at Sea

Current Mexican regulations prohibit the filleting of fish at sea. However, once vessels cross the border into U.S. waters, filleting of catch is allowed if a one-inch patch of skin is left intact on the fillet. If the daily bag limit of bluefin were reduced below bag limits for other tuna species the current provisions that allow filleting at sea present an enforcement concern. It is not feasible to differentiate between yellowfin, bluefin, and sometimes albacore, by a small skin patch. The HMSMT encourages both the Enforcement Consultants and industry to work together in developing a method by which accurate identification of species can be made.

Filleting at sea is done for several reasons, mainly to address space onboard vessels containing numerous large fish (tuna) and to preserve quality of catch. Discard of carcasses once a vessel has returned to dock also poses a problem and discourages the processing of large species once a trip has landed.

Industry has also indicated that a prohibition on filleting at sea could have an economic impact on crew members, who make most of their money by offering filleting services. If filleting at sea is not allowed to continue there may be negative economic effects largely felt by the crew.

Despite some negative aspects of prohibiting filleting of tuna, there are also positive tradeoffs which the Council may want to consider when making this decision. Collection of biological data (e.g., length, maturity, age structure) for the stock, and especially within the recreational fishery, is minimal and could largely be improved by the additional opportunities available from the landing of whole fish. This information would be important in informing future stock assessments given the current status of the stock and some outstanding questions regarding data used in the assessment.

Harmonization of Bag Limits

The HMSMT recognizes that a harmonization of U.S. and Mexico recreational daily and possession limits for bluefin tuna would be desirable for both enforceability of regulations and conservation of the species.

Release Mortality

Hook and release mortality in Pacific bluefin tuna has yet to be evaluated. A Canadian study on recreationally-caught Atlantic bluefin has estimated a post-release mortality rate of 11 percent. There are additional pop-up satellite tagging studies evaluating the release mortality of recreational caught juvenile bluefin being conducted on both Atlantic (East Coast US) (Stokesbury et al., 2011; Marcek, 2013) and Southern bluefin tuna populations (Australia)

(Tracey, 2013, <http://www.abc.net.au/news/2013-07-30/nrn-tuna-tagging/4852494>). Preliminary results of both studies indicate low mortality.

Research and Monitoring Needs

- 1) Continue developing collaborative state-federal efforts on maintaining and improving commercial and recreational HMS monitoring efforts, including logbooks, electronic databases, California Recreational Fisheries Survey field sampling efforts, and other HMS data collection methods, including electronic monitoring and data collection systems.
- 2) Work with Southwest Fisheries Science Center and academia to identify and address fishery independent data

HMSMT Recommendations

The HMSMT recommends:

- Adopt alternatives for public review
- National Marine Fisheries Service and CDFW work together to enhance fishery monitoring for future inseason management
- The HMSMT gather information to better estimate recreational post-release mortality, so that catch estimates can be refined to mortality estimates.
- NMFS should work cooperative with CONAPESCA to enhance gathering recreational data in Mexican waters, including Mexican domestic effort.

References

Stokesbury, M.J.W, J.D. Nielson, E. Susko, and S.J. Cooke. 2011. Estimating mortality of Atlantic bluefin tuna (*Thunnus thynnus*) in an experimental recreational catch-and-release fishery. *Biological Conservation*, Vol. 144, No. 11, pp. 2684-2691.

Marcek, Benjamin Jon, 2013. Post-Release Mortality of School-Size Atlantic Bluefin Tuna (*Thunnus thynnus*) in the U.S. Recreational Troll Fishery. M. Sc. Thesis, College of William and Mary, 85p.

Tracey, Sean. 2013, Testing the resilience of southern bluefin tuna. <http://www.abc.net.au/news/2013-07-30/nrn-tuna-tagging/4852494>