



**NOAA FISHERIES**  
Pacific Islands Regional Office

# **Supplemental Environmental Assessment for a Rule to Implement Decisions of the Western and Central Pacific Fisheries Commission for: Fishing Restrictions in Purse Seine Fisheries**

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## Executive Summary

This supplemental environmental assessment (SEA) has been prepared pursuant to the National Environmental Policy Act (NEPA; 42 U.S.C. § 4321, *et seq.*) and related authorities, such as the Council on Environmental Quality's (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508) and the National Oceanic and Atmospheric Administration's (NOAA) Administrative Order (NAO) 216-6A (April 22, 2016) – Compliance with the National Environmental Policy Act, and its associated Companion Manual (January 13, 2017).

The National Marine Fisheries Service (NMFS) is undertaking a rulemaking to implement recent decisions of the Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPFC or Commission). The rule would implement specific provisions of Conservation and Management Measure (CMM) 2018-01, "Conservation and Management Measure for Bigeye, Yellowfin, and Skipjack Tuna in the Western and Central Pacific Ocean," adopted in December 2018, for purse seine fishing vessels.

CMM 2018-01 is similar in many respects to its predecessor WCPFC conservation and management measures for tropical tunas, and NMFS has already implemented most provisions of CMM 2018-01 through prior rulemaking. The rule would implement the provisions in CMM 2018-01 regarding limits on fishing effort by U.S. purse seine vessels in the U.S. exclusive economic zone (EEZ) and on the high seas between the latitudes of 20° N. and 20° S. in the area of application of the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (Convention Area).

The limits on U.S. purse seine fishing effort detailed in CMM 2018-01 are similar to limits in previous WCPFC decisions and implemented by NMFS. The limits are 558 fishing days in the U.S. exclusive economic zone (EEZ) and 1,270 fishing days on the high seas in the Convention Area between the latitudes of 20° N. and 20° S. for each of the calendar years 2019 and 2020. CMM 2018-01 does not include the provision that was included in its predecessor measure, CMM 2017-01, which provided for the limited transfer of up to 100 fishing days from its limit in the U.S. EEZ to its limit on the high seas, with some conditions. The provision in CMM 2017-01 was included to alleviate the economic hardship faced by American Samoa and its canneries when U.S. purse seine fishing limits are reached, resulting in fishery closures.

In the past, NMFS has implemented the U.S. purse seine fishing effort limits on the high seas and in the U.S. EEZ as a single combined limit, rather than establishing separate limits for the two areas. NMFS's reasoning for combining the high seas and U.S. EEZ limits was that it afforded more operational flexibility to the fleet than establishing two separate limits, while remaining consistent with the conservation objectives of the CMM,

so long as the overall effort remained equal or less than the sum of the two limits. In light of CMM 2017-01's provision allowing the United States to transfer some of its EEZ fishing days to the high seas, NMFS established separate limits for the U.S. EEZ and the high seas in 2018.

Because CMM 2018-01 does not include the limited transfer provision that was included in CMM 2017-01, NMFS is combining the purse seine fishing effort limits for the U.S. EEZ and the high seas, consistent with previous rulemakings. The rule would establish a combined limit of 1,616 fishing days for 2019 (this takes into consideration the overage of the 2018 high seas limit)<sup>1</sup> for the Effort Limit Area for Purse Seine (or ELAPS), which comprises the areas of the high seas and U.S. EEZ between 20° N. latitude and 20° S. latitude in the Convention Area and a combined limit of 1,828 for 2020 and future calendar years until replaced. CMM 2018-01 specifies fishing effort limits for calendar year 2019 and calendar year 2020; NMFS is proposing to implement these limits under authority of the Western and Central Pacific Fisheries Convention Implementation Act (WCPFCIA; 16 USC 6901 *et seq.*) so that they will remain effective until they are replaced or amended.

CMM 2018-01 also includes new provisions for fish aggregating device (FAD) management for purse seine vessels. New FAD management provisions in CMM 2018-01 include: (1) specific FAD design requirements to reduce the risk of entanglement of sharks, sea turtles and other species; and (2) language to clarify that sets on small amounts of plastic or small garbage that do not have a tracking buoy attached are not considered to be FAD sets during the prohibition periods in 2019 for setting on FADs. The FAD design requirements do not need to go into effect until January 1, 2020, as specified in CMM 2018-01, and they would be implemented in a separate rulemaking (RIN 0648-BI79). NMFS is not revising the current regulatory definition of FAD found at 50 CFR 300.211 to clarify that “sets on small amounts of plastic or garbage that do not have tracking buoys are not considered FADs,” because NMFS has never interpreted the current definition in this manner.

In 2015, NMFS published a programmatic environmental assessment titled *Programmatic Environmental Assessment for the Implementation of Decisions of the Western and Central Pacific Fisheries Commission on Management of Tropical Tunas in the Western and Central Pacific Ocean from 2015-2020* (hereafter 2015 PEA). The 2015 PEA analyzed implementation of purse seine fishing effort limits and FAD management measures and included a wide range of alternatives as part of the analysis. This SEA

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<sup>1</sup> In 2018, as a result of the purse seine fishing effort limit for the high seas being reached, NMFS closed the high seas in the Convention Area to U.S. purse seine fishing on September 18, through the end of the calendar year (see 83 FR 45849; published September 11, 2018). Based on information available to date, the limit for 2018 (1,370 fishing days) was exceeded. CMM 2017-01 and CMM 2018-01 both include language that requires any overage of an annual limit to be deducted from the limit for the following year. Thus, the numerical limit specified in the rule would take into account the overage in 2018.

incorporates by reference the 2015 PEA and refers to relevant sections of the 2015 PEA, as appropriate.

Since completion of the 2015 PEA, the following new information is available:

- NMFS published a final rule listing the Eastern Pacific distinct population segment (DPS) of the scalloped hammerhead shark (*Sphyrna lewini*) as endangered under the ESA and the Indo-West Pacific DPS as threatened under the ESA (see 79 FR 38214; published July 3, 2014).
- NMFS published a final rule (see 80 FR 50926; published August 21, 2015) designating critical habitat (CH) for the Hawaiian monk seal (*Neomonachus schauinslandi*) under the Endangered Species Act (ESA) in the main Hawaiian Islands and expanding monk seal CH in the Northwestern Hawaiian Islands.
- NMFS and the U.S. Fish and Wildlife Service (USFWS) published a final rule to list 11 distinct population segments of the green sea turtle (*Chelonia mydas*) (see 81 FR 20058; published April 6, 2016).
- NMFS implemented provisions of WCPFC conservation and management measures on tropical tunas by rulemaking – CMM 2015-01, CMM 2016-01, and CMM 2017-01 – for longline and purse seine fisheries. The provisions include longline bigeye tuna catch limits, purse seine FAD restrictions, and purse seine fishing effort limits. See final rule published in 2018 for the most recent rulemaking on these provisions (see 83 FR 33851; published July 18, 2018).<sup>2</sup>
- The parties to the South Pacific Tuna Treaty (SPTT) agreed to a revised treaty in December 2016 that provides for access by U.S. purse seine vessels to the waters of the Pacific Island parties to the SPTT. The parties to the SPTT, including the United States, signed a memorandum of understanding, agreeing to provisionally apply provisions of the revised SPTT until it enters into force. The United States is continuing to proceed on the domestic implementation of the revised SPTT.<sup>3</sup>
- NMFS issued a final rule to implement for U.S. fishing vessels Inter-American Tropical Tuna Commission (IATTC) Resolutions 16-01 “Collection and Analyses of Data on Fish-Aggregating Devices” and 16-06 “Conservation Measures for Shark Species, with Special Emphasis on the Silky Shark (*Carcharhinus*

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<sup>2</sup> These rulemakings were within the scope of analysis of the 2015 PEA, which analyzed U.S. implementation of potential Commission decisions on tropical tunas from 2015-2020.

<sup>3</sup> The 2015 PEA included implementation of a revised SPTT within the scope of the cumulative impacts analysis.

- Falciformis*) for the Years 2017, 2018, and 2019” (see 81 FR 86966; published December 2, 2016).
- NMFS issued a final rule to implement IATTC Resolution C-16-08, “Measures for the Conservation and Management of Pacific Bluefin Tuna in the Eastern Pacific Ocean” (see 82 FR 18704; published April 21, 2017).
  - NMFS issued a final rule to implement IATTC Resolution C-17-01, “Conservation of Tuna in the Eastern Pacific Ocean During 2017” (see 82 FR 17382; published April 11, 2017).
  - NMFS published a final rule to list the giant manta ray (*Manta birostris*) as threatened under the Endangered Species Act (ESA) (see 83 FR 2916; published January 22, 2018).
  - NMFS published a final rule to list the oceanic whitetip shark (*Carcharinus lonigmanus*) as threatened under the ESA (see 83 FR 4153; published January 30, 2018).
  - NMFS issued a final rule to implement IATTC C-17-02, “Conservation Measures for Tropical tunas in the Eastern Pacific Ocean During 2018-2020 and Amendment to Resolution C-17-01” (see 83 FR 15503; published April 11, 2018).
  - NMFS issued a final rule to implement IATTC Resolution C-18-05, “Amendment of Resolution C-16-01 on the Collection of Data on Fish Aggregating Devices” (see 83 FR 62732; published December 6, 2018).
  - New stock assessments for bigeye tuna and yellowfin tuna discussed by the WCPFC Scientific Committee suggest that the stocks of bigeye tuna and yellowfin tuna in the WCPO are not experiencing overfishing nor are they overfished and the stock of bigeye tuna shows overall improvement, though there is substantial uncertainty in the stock assessments. NMFS does not currently consider the WCPO stocks of bigeye tuna or yellowfin tuna to be overfished or to be experiencing overfishing.
  - NMFS published a final rule (see 81 FR 24501, published April 26, 2016) that establishes that regulations implementing IATTC decisions no longer apply in the area of overlap between the WCPFC and the IATTC (overlap area), with the exception of regulations governing the IATTC Regional Vessel Register. NMFS published an advance notice of proposed rulemaking for the overlap area to seek public input to continue or revise management of the overlap area (see 83 FR 27305; published June 12, 2018).

- NMFS published a final rule to list the chambered nautilus (*Nautilus pompilius*) as threatened under the ESA (see 83 FR 189; published September 28, 2018).
- Based on the 2018 IATTC stock assessment of yellowfin tuna, NMFS determined that the EPO stock of yellowfin tuna is experiencing overfishing.
- Recent information regarding performance of the U.S. WCPO purse seine fishery is available since completion of the 2015 PEA.
- NMFS reinitiated formal consultation under Section 7 of the ESA for the U.S. WCPO purse seine fishery for ESA-listed species with which the fishery interacts to take into consideration the newly-listed species and new information regarding the fishery.

This SEA includes specific analysis to take into consideration the new information available since publication of the 2015 PEA and focuses on analysis of the rule to implement the purse seine provisions of CMM 2018-01 for 2019 and 2020. As stated above, CMM 2018-01 specifies fishing effort limits for calendar year 2019 and calendar year 2020; NMFS is proposing to implement these limits under authority of the WCPFCIA so that they will remain effective until they are replaced or amended. NMFS understands that the analysis in this document would need to be supplemented should the elements of the rule remain effective for more than two years.

## **Chapter 1 Supplemental Environmental Analysis**

This chapter provides an analysis of the direct, indirect, and cumulative environmental effects that could be caused by the implementation of the rule to implement provisions of CMM 2018-01 for purse seine fishing vessels. The analysis includes the new information available since publication of the 2015 PEA (see description of this information in the Executive Summary of this document). The chapter begins with a summary of the sections of the 2015 PEA that are incorporated by reference in this document and provides updates to those sections for the purposes of this SEA.

### ***1.1 Summary of Sections of 2015 PEA Incorporated by Reference***

The 2015 PEA is included in Appendix A of this document. Chapter 1 of the 2015 PEA provides more detailed background information on Commission decisions, the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (Convention), and the United States' domestic implementation of WCPFC decisions under the authority of the WCPFCIA.

Chapter 1 of the 2015 PEA includes the following purpose and need statement:

The purpose of NMFS' domestic implementation of WCPFC decisions on tropical tunas from 2015 to 2020 is to contribute to the underlying objectives of the Commission's management of tropical tuna stocks in the WCPO, which, as stated in CMM 2014-01, are to reduce or maintain their respective fishing mortality rates at levels no greater than those rates associated with maximum sustainable yield, and as reflected in the Commission's limit reference points for these stocks, are to avoid the spawning stocks becoming smaller than 20 percent of the estimated spawning stock size in the absence of fishing. The need for the domestic implementation of WCPFC decisions on tropical tunas is to satisfy the obligations of the United States as a Contracting Party to the Convention, pursuant to the authority of the WCPFCIA.

CMM 2018-01 includes language modifying the Commission's objectives for the tropical tuna stocks, which states that pending the establishment of harvest strategies, and any implementing CMM, the purpose of the measure is to provide for a robust transitional management regime that ensures the sustainability of bigeye, skipjack, and yellowfin tuna stocks. Accordingly, this SEA modifies the purpose and need statement in the 2015 PEA to take into consideration language in CMM 2018-01. This modified purpose and need statement is as follows:



The purpose of NMFS' domestic implementation of WCPFC decisions on tropical tunas through 2020 is to contribute to the underlying objectives of the Commission's management of tropical tuna stocks in the WCPO, which, as stated in CMM 2018-01, are, pending the establishment of harvest strategies, and any implementing CMM, to provide for a robust transitional management regime that ensures the sustainability of bigeye, skipjack, and yellowfin tuna stocks. The need for the domestic implementation of WCPFC decisions on tropical tunas is to satisfy the obligations of the United States as a Contracting Party to the Convention, pursuant to the authority of the WCPFCIA.

Chapter 2 of the 2015 PEA describes the proposed action and alternatives in detail. The proposed action is NMFS' domestic implementation of the Commission's conservation and management measures, pursuant to the WCPFCIA, on the "tropical tunas" or bigeye tuna, yellowfin tuna, and skipjack tuna from 2015 through the end of 2020. Eleven alternatives (the No-Action Alternative<sup>4</sup> and ten action alternatives) are analyzed in depth in the 2015 PEA. Each of the action alternatives includes specific purse seine fishing effort limits and purse seine FAD management measures. The rulemaking to implement provisions of CMM 2018-01 for purse seine fishing vessels is included within the scope of the described proposed action and is within the range of alternatives analyzed in the 2015 PEA.

Under CMM 2018-01, the specified U.S. purse seine fishing effort limit for the U.S. EEZ is 558 fishing days per year and the specified limit for the high seas is 1,270 fishing days per year. CMM 2017-01 and CMM 2018-01 both include language that requires any overage of an annual limit to be deducted from the limit for the following year. NMFS implemented separate purse seine fishing effort limits for 2018 of 1,370 fishing days for the high seas and 458 fishing days for the U.S. EEZ. As a result of the purse seine fishing effort limit for the high seas being reached, NMFS closed the high seas in the Convention Area to U.S. purse seine fishing on September 18, through the end of the calendar year (see 83 FR 45849; published September 11, 2018). NMFS' data indicates that the U.S. WCPO purse fleet fished for a total of 1,582 days on the high seas, which is 212 fishing days over the 2018 limit for the high seas. The 212 fishing day overage for the high seas in 2018 would be deducted from the 2019 high seas fishing effort limit. Thus, the limits for 2019 would be 1,058 fishing days for the high seas and 558 fishing day for the U.S. EEZ. The limits for 2020 would be 1,270 fishing days for the high seas and 558 fishing days for the U.S. EEZ (subject to reduction of any overage of the 2019 limits). The limits for the high seas and U.S. EEZ could either be implemented as separate limits or as a combined limit.<sup>5</sup> The 2015 PEA analyzed the following range of options for the purse

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<sup>4</sup> Under the No-Action Alternative, NMFS would not implement WCPFC decisions on tropical tunas, and thus, the U.S. purse seine fishing effort limits for 2019 and 2020 would not go into effect.

<sup>5</sup> The combined high seas and U.S. EEZ area where the fishing limits would apply – the high seas and the U.S. EEZ within the Convention Area, between the latitudes of 20° N. and 20° S – is referred to in U.S. fisheries regulations as the Effort Limit Area for Purse Seine, or ELAPS.

seine fishing effort limits, included within the ten action alternatives analyzed in the PEA:

- 1) Separate annual limits of 432 fishing days on the high seas and 25 fishing days in the U.S. EEZ for each of the years 2015-2020. These numbers are based on the lowest per-vessel effort levels in the 1997-2013 period (which occurred in 2010), adjusted for a maximum of 40 vessels fleet, which is the maximum number of vessel licenses currently authorized.
- 2) Separate annual limits of 1,270 fishing days on the high seas and 558 fishing days in the U.S. EEZ.
- 3) A combined annual limit of 1,828 fishing days in the ELAPS.
- 4) A combined annual limit of 3,898 fishing days in the ELAPS. This number is based on the highest per-vessel effort levels on the high seas and in the U.S. EEZ in the 1997-2010 period (which occurred in 2005 for the high seas and in 1997 for the U.S. EEZ), summed and adjusted for a maximum of 40 vessels in the fleet.

Thus, the 2019 limits of 1,058 fishing days for the high seas and 558 fishing day for the U.S. EEZ and the 2020 limits of 1,270 fishing days for the high seas and 558 fishing days for the U.S. EEZ (implemented as either separate or combined limits) fall within the range of alternatives analyzed in the 2015 PEA. Implementation of the combined limit is referenced as the “ELAPS” limit or Action Alternative 1 in this document; implementation of the separate limits is referenced as Action Alternative 2 in this document.

The 2015 PEA also included analysis of FAD management measures for U.S. purse seine vessels. These include FAD setting prohibition periods, FAD set limits, and high seas FAD closures. The provisions in CMM 2018-01 regarding FAD prohibition periods have already been implemented. CMM 2018-01 included new language clarifying that sets on small amounts of plastic or garbage that do not have a tracking buoy are not considered to be FAD sets during the prohibition periods. The current definition of FAD at 50 CFR 300.211 states that FAD means “any artificial or natural floating object, whether anchored or not and whether situated at the water surface or not, that is capable of aggregating fish, as well as any object used for that purpose that is situated on board a vessel or otherwise out of the water,” excluding a vessel. NMFS has not in the past, and continues not to, interpret the current regulatory FAD definition to include “sets on small amounts of plastic or garbage that do not have a tracking buoy” during prohibition periods. Because the CMM’s language is consistent with NMFS’s interpretation of the existing regulatory definition, NMFS is not revising the existing FAD definition found at 50 CFR 300.211. Moreover, because NMFS’ current interpretation of the existing regulatory definition is consistent with the revised CMM language, NMFS does not anticipate any changes to the type, location, or number of FAD sets. Consequently, the CMM’s new language is not considered further in this document.

Chapter 3 of the 2015 PEA contains detailed information on the affected environment, which is the physical and biological environment in which the U.S. purse seine fishery

operates in the WCPO. The chapter includes information on the following resources: (1) physical environment, climate change, and habitat change; (2) description of the U.S. WCPO purse seine fishery; (3) description of the U.S. WCPO longline fisheries; (4) description of Convention Area HMS fisheries; (5) description of target species of the fisheries analyzed in the 2015 PEA (albacore (*Thunnus alalunga*), bigeye tuna (*Thunnus obesus*), skipjack tuna (*Katsuwonus pelamis*), swordfish (*Xiphias gladius*) and yellowfin tuna (*Thunnus albacares*); (6) non-target species; (7) other biological resources; and (8) protected resources. The new information available since publication of the 2015 PEA (as described in the Executive Summary of this document) supplements the information in Chapter 3 of the 2015 PEA. The more recent information on the performance of the U.S. WCPO purse seine fishery available since completion of the 2015 PEA is included in Section 1.2 below.

Chapter 4 of the 2015 PEA examines the direct and indirect environmental impacts that would be expected to result from implementation of each of the action alternatives as well as the No-Action Alternative, which are described in Chapter 2 of the 2015 PEA. Chapter 5 of the 2015 PEA presents the cumulative impacts analysis.

The remaining sections of this chapter supplement the analysis in Chapters 4 and 5 of the 2015 PEA to take into consideration the new information available since publication of the 2015 PEA. The analysis focuses on the impacts from implementation of the U.S. purse seine fishing effort limits specified in CMM 2018-01 for 2019 and 2020.

## **1.2 The U.S. WCPO Purse Seine Fleet**

The direct and indirect effects to the U.S. WCPO purse seine fleet include economic effects and effects on fishing patterns and practices. NMFS has prepared a Regulatory Impact Review (RIR) for the rule, prepared under Executive Order 12866, which provides an analysis of the potential economic impacts of the rule to the fleet and to the nation. Section 4.1 of the 2015 PEA discusses the effects to the fishing patterns and practices of the fleet from implementation of the WCPFC fishing effort limits on the high seas and the U.S. EEZ. The remainder of this section includes more recent information on the performance of the fleet and supplements the analysis in the 2015 PEA.

As of May 2019, there were 33 U.S. purse seine vessels on the WCPFC Record of Fishing Vessels (WCPFC Record) and 31 U.S. purse seine vessels on the IATTC Vessel Register (IATTC Register), one of which was listed as inactive. Sixteen vessels are listed on both the WCPFC Record and IATTC Register. The management measures implementing WCPFC and IATTC decisions that went into effect since completion of the 2015 PEA, as described in the Executive Summary of this document, were included in the scope of the analysis in the 2015 either within the range of alternatives analyzed or within the cumulative impacts analysis. However, this section of the SEA provides specific analysis of the impacts from implementation of the U.S. purse seine fishing effort limits specified in CMM 2018-01 for 2019 and 2020 to the U.S. WCPO purse seine

fleet, taking into consideration the new management measures that went into effect since completion of the 2015 PEA.

Table 1 shows U.S. purse seine fishing effort limits and use in the U.S. EEZ and on the high seas in the Convention Area from 2009-2018.

**Table 1: U.S. purse seine fishing effort limits and use in the U.S. EEZ and on the high seas in the Convention Area, 2009-2018.**

Year	Limit (fishing days)			Used (fishing days)			Limit Reached	
	ELAPS (EEZ+HS)	U.S. EEZ	High Seas	ELAP S (EEZ +HS)	U.S . EE Z	High Seas	ELAPS closed	High Seas closed
2009	*2,588			1,867	107	1,760	--	--
2010	*2,588			449	26	423	--	--
2011	*2,588			621	40	581	--	--
2012	*2,588			1,483	205	1,278	--	--
2013	2,588			1,273	176	1,097	--	--
2014	1,828			1,312	227	1,085	--	--
2015	1,828			1,886	43	1,843	June 15**	--
2016	1,828			1,750	100	1,650	September 2**	--
2017	1,828			968	129	842	--	--
2018		458	1,370		91	1582	--	Septem ber 18**

Source: NMFS unpublished data.

\* These were 3-year overlapping limits of 7,764 fishing days

\*\* See temporary rules issued June 8, 2015 (80 FR 32313), May 25, 2016 (81 FR 33147) and September 11, 2018 (83 FR 45849).

Tables 2 and 3 show the estimated amount of fishing effort in the ELAPS, the U.S. EEZ and the high seas from 2009 through 2018, along with those values expressed as percentages of the limits included in this action.

**Table 2: U.S. purse seine fishing effort in the ELAPS, U.S. EEZ, and on the high seas in the Convention Area relative to 2019 limit, 2009-2018**

Year	Action Alternative 1		Action Alternative 2			
	ELAPS		U.S. EEZ		High Seas	
	Used (fishing days)	Percent of limit of 1,616 days	Used (fishing days)	Percent of limit of 558 fishing days	Used (fishing days)	Percent of limit of 1,058 fishing days
2009	1,867	<b>116</b>	107	19	1,760	<b>166</b>
2010	449	28	26	5	423	40
2011	621	38	40	7	581	55
2012	1,483	92	205	37	1,278	<b>121</b>
2013	1,273	79	176	32	1,097	<b>104</b>
2014	1,312	81	227	41	1,085	<b>103</b>
2015	1,886	<b>*117</b>	43	8	1,843	<b>174</b>
2016	1,750	<b>*108</b>	100	18	1,650	<b>156</b>
2017	993	61	129	23	842	82
2018	1,674	<b>104</b>	91	16	1582	<b>**150</b>

Source: NMFS unpublished data.

\*The ELAPS was closed before the end of the year

\*\*The high seas was closed before the end of the year

**Table 3: U.S. purse seine fishing effort in the ELAPS, U.S. EEZ, and on the high seas in the Convention Area relative to 2020 limit, 2009-2018**

Year	Action Alternative 1		Action Alternative 2			
	ELAPS		U.S. EEZ		High Seas	
	Used (fishing days)	Percent of limit of 1,828 days	Used (fishing days)	Percent of limit of 558 fishing days	Used (fishing days)	Percent of limit of 1,270 fishing days
2009	1,867	<b>102</b>	107	19	1,760	<b>139</b>
2010	449	25	26	5	423	33
2011	621	34	40	7	581	46
2012	1,483	81	205	37	1,278	<b>101</b>
2013	1,273	70	176	32	1,097	86
2014	1,312	72	227	41	1,085	85
2015	1,886	<b>*103</b>	43	8	1,843	<b>145</b>
2016	1,750	<b>*96</b>	100	18	1,650	<b>130</b>
2017	993	54	129	23	842	68
2018	1,674	92	91	16	1582	<b>**125</b>

Source: NMFS unpublished data.

\*As indicated in Table 2, the ELAPS was closed before the end of the year

\*\*As indicated in Table 2, the high seas was closed before the end of the year

Table 4 shows the effort data for the high seas, U.S. EEZ and the EEZs of Pacific Island countries (PIC) (in which the U.S. WCPO purse seine fleet fishes under the terms of the SPTT) for the most recent five years for which data is available.

**Table 4: U.S. WCPO purse seine fleet fishing effort (2014-2018) in the Convention Area<sup>6</sup>**

<b>Year</b>	<b>U.S. EEZ Effort</b>	<b>U.S. % days</b>	<b>High seas Effort</b>	<b>High Seas % days</b>	<b>PIC Effort</b>	<b>PIC % days</b>	<b>Total Effort</b>	<b>Number of Active Vessels<sup>7</sup></b>	<b>Number of Sets</b>
2014	150	2%	743	12%	5,457	86%	6,350	40	9,512
2015	21	0%	1,424	30%	3,294	70%	4,738	38	8,084
2016	72	2%	1,159	31%	2,528	67%	3,759	37	5,700
2017	86	2%	392	11%	3,110	87%	3,588	34	5,888
2018	91	2%	1,583	28%	4,033	71%	5,706	34	5,686

Source: NMFS unpublished data.

If a limit is reached in a given calendar year, the fishery would be closed in the area where the limit is reached (high seas, U.S. EEZ, or ELAPS for a combined limit) for the remainder of the calendar year, which would likely reduce the overall fishing effort of the fleet. Although the length of any such closure cannot be predicted with any degree of certainty, due to the large variation in the number of days fished in the U.S. EEZ and on the high seas from year to year, the fishery was closed in recent years as follows: (1) in 2015, the ELAPS was closed to purse seine fishing from June 15, 2015 to the end of the calendar year; (2) in 2016, the ELAPS was closed to purse seine fishing from September 2, 2016 to the end of the calendar year; and (3) in 2018, the high seas was closed from September 18, 2018 to the end of the calendar year.

Two factors could have a substantial influence on the amount of fishing effort in the ELAPS in 2019 and 2020: First, the number of fishing days available in foreign waters (the fleet’s main fishing grounds) pursuant to the Treaty will influence the incentive to fish outside those waters, including in the U.S. EEZ and on high seas. Second, El Niño—Southern Oscillation (ENSO) conditions will influence where the best fishing grounds are at any given time.

Regarding fishing opportunities in foreign waters, the increasing cost of fishing in foreign zones in the WCPO, which receive most of the fleet’s fishing effort, could influence the amount of fishing in other areas, including the ELAPS. Those costs, which are expressed in terms of cost per vessel-fishing-day, are partly determined through the SPTT (the other cost per fishing day for a certain number of “upfront” days is determined in the SPTT, but vessel owners have the opportunity to buy “additional” days on terms they negotiated with particular countries). If the number of available fishing days is relatively small, or the cost of additional fishing days is relatively high, fishing effort in the ELAPS might be relatively great.

<sup>6</sup> A fishing day is defined as any day in which a fishing vessel of the United States equipped with purse seine gear searches for fish, deploys a FAD, services a FAD, or sets a purse seine, with the exception of setting a purse seine solely for the purpose of testing or cleaning the gear and resulting in no catch.

<sup>7</sup> Number of vessels indicates the total number of unique vessels contributing to the data for a given year.

Regarding ENSO conditions, the eastern areas of the WCPO tend to be comparatively more attractive to the U.S. purse seine fleet during El Niño events, when warm surface water spreads from the western Pacific to the eastern Pacific and large, valuable yellowfin tuna become more vulnerable to purse seine fishing and trade winds lessen in intensity. Consequently, the ELAPS, much of which is situated in the eastern range of the fleet's fishing grounds, is likely to be more important fishing grounds to the fleet during El Niño events. This is supported by there being a statistically significant correlation between annual average per-vessel fishing effort in the ELAPS and the Oceanic Niño Index, a common measure of ENSO conditions, over the life of the SPTT through 2010.<sup>8</sup> As of April 11, 2019, weak El Niño conditions were present, and NOAA forecast with about 55 percent probability that they would persist through the Northern Hemisphere through fall of 2019 (NWS 2019). ENSO conditions cannot be usefully forecast beyond that period.

A third potentially important factor is that the EEZ and high seas limits would be competitive, so their establishment could cause a "race to fish" in the two areas. That is, vessel operators might seek to take advantage of the limited number of fishing days available in the areas before the limits are reached, and fish harder in the ELAPS than they would if there were no limits. On the one hand, any such race-to-fish effect might be reflected in the history of fishing in the ELAPS, described above. On the other hand, anecdotal information from the fishing industry suggests that the limits might have been internally allocated by the fleet, which might have tempered any race to fish. It is not known whether the industry intends to internally allocate the limits.

In summary, although it is difficult to predict, the history of fishing in the ELAPS indicates that there is a substantial likelihood that either the ELAPS limits or the high seas limits could be reached in either 2019 or 2020. Additionally, weak El Niño conditions and the increasing cost of fishing days in foreign fishing zones in the WCPO could favor an even greater likelihood of reaching either the ELAPS or the high seas limits, at least in 2019.

If the limit is reached in any year, vessels in the fleet could continue to fish in the EEZs of Pacific Island Parties to the SPTT, where the fleet expends the majority of its effort, as shown in Table 4, above. Vessels in the fleet would also have the option to continue to fish in the EPO in the area managed by the IATTC, subject to NMFS regulations implementing IATTC decisions. Should NMFS' proposed rule to change management measures in the area of overlap between the IATTC and WCPFC become effective, the fleet could also continue to fish in the overlap area after a limit is reached.

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<sup>8</sup> The three-month running averages of the Oceanic Niño Index, from NWS (2014), were averaged for each calendar year. The correlation between those annual values and annual average per-vessel fishing effort in the ELAPS was positive and statistically significant at a probability level of 99%.

Under the terms of the recently amended SPTT, the fleet is likely to have a number of fishing days available in EEZs of the Pacific Island countries that are parties to the SPTT.<sup>9</sup>

With respect to fishing in the EPO, a vessel must be on the IATTC's Regional Vessel Register (IATTC register) and categorized as active (50 CFR 300.22(b)).<sup>10</sup> The fleet has increased its fishing operations in the EPO since 2014, and in 2019, there are 16 purse seine vessel from the WCPO fleet that are also listed on the IATTC register. This suggests an increasing attractiveness of fishing in the EPO. However, in 2019 and 2020 vessels will be somewhat limited in their opportunity to fish in the EPO. As stated in the Executive Summary, on April 11, 2018, to implement a recent decision of the IATTC, NMFS published regulations (83 FR 15503) which require purse seine vessels to choose between two EPO fishing prohibition periods each year in 2018-2020: July 29 – October 8 or November 9 – January 19 (72 days in either case). Thus, the opportunity to fish in the EPO may be constrained, depending on when the ELAPS is closed, and which EPO closure period a given vessel operator chooses.

The effort limit could change the temporal patterns of fishing effort. Since the limit would be a competitive allocation whereby high seas, U.S. EEZ, or ELAPS fishing days would not be allocated among individual vessels and would be available to the entire fleet until the cap is reached, some vessel operators might have an incentive to fish harder in these areas earlier in the calendar year than they otherwise would in an attempt to obtain as many fishing days as they can (i.e., “the race to fish”) before the limit is reached. To the extent such a shift does occur, it would affect the seasonal timing of deliveries to canneries. A race to fish could also bring costs if it causes vessel operators to forego vessel maintenance or to fish in weather or ocean conditions that it otherwise would not. This could bring costs in terms of human safety as well as the performance of the vessel and its fishing gear and crew, but the effects are not expected to be substantial, as the fleet does not exert the majority of its fishing effort in the ELAPS, as shown in Table 4, above. This race to fish effect could also be expected in the time period between when a closure of the fishery is announced and when the fishery is closed.

Since the fleet generally fishes in areas outside of the ELAPS, it is also possible that there could be no overall change in the amount of fishing effort of the fleet in 2019 and 2020 compared to the No-Action Alternative.

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<sup>9</sup> These include Australia, Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu.

<sup>10</sup> As an exception to this rule, an SPTT-licensed vessel is allowed to make one fishing trip in the EPO each year without being categorized as active on the IATTC Regional Vessel Register. The trip must not exceed 90 days in length, and there is an annual limit of 32 such trips for the entire SPTT-licensed fleet (50 CFR 300.22(b)(1)).



### **1.3 Physical Environment and Climate Change**

The new information available since publication of the 2015 PEA would not change the analysis of effects on the physical environment and climate change presented in Section 4.4 of the PEA because there is no new information relevant to the physical environment and climate change that would affect the analysis presented in the 2015 PEA. The implementation of the purse seine fishing effort limits specified in CMM 2018-01 is expected to have impacts on the physical environment within those analyzed in the PEA.

### **1.4 Bigeye Tuna, Skipjack Tuna, and Yellowfin Tuna**

Although some of the NMFS stock status determinations have changed since publication of the 2015 PEA – the WCPO stock of bigeye tuna is no longer experiencing overfishing, but the EPO stock of yellowfin tuna is experiencing overfishing – this new information does not affect the overall analysis in Section 4.5 on effects to bigeye tuna, skipjack tuna, and yellowfin tuna. As described above, the implementation of the purse seine fishing effort limits specified in CMM 2018-01 fall within the range of alternatives analyzed in the 2015 PEA. As stated in Section 4.5 of the 2015 PEA, because fishing patterns and practices of the fleet would not change substantially, and because many other factors contribute to the status of the stocks (fishing activities by non-U.S. fleets, oceanographic conditions, etc.), the direct and indirect effects to bigeye, yellowfin, and skipjack tuna from implementation of the fishing effort limits under the rule would not be expected to be substantial.

### **1.5 Other Target Fish Species**

The new information available since publication of the 2015 PEA would not change the analysis of effects on other target fish species presented in Section 4.6 of the 2015 PEA. As described above, the implementation of the purse seine fishing effort limits specified in CMM 2018-01 fall within the range of alternatives analyzed in the 2015 PEA. As stated in Section 4.6 of the 2015 PEA, the other target fish species include albacore and swordfish and are not targeted by the U.S. WCPO purse seine fleet, which is the only fleet that would be affected by the rule analyzed in this SEA.

### **1.6 Non-Target Fish Species**

The new information available since publication of the 2015 PEA would not change the analysis of effects on non-target fish species presented in Section 4.7 of the 2015 PEA. As described above, the implementation of the purse seine fishing effort limits specified in CMM 2018-01 fall within the range of alternatives analyzed in the 2015 PEA. As described in Section 4.7 of the 2015 PEA, because the U.S. WCPO purse seine fleet does

not generally catch large amounts of other non-target fish species,<sup>11</sup> the overall direct and indirect effects on non-target fish species would be expected to be minor or negligible.

## 1.7 Protected Resources

This information supplements the analysis presented in Section 4.8 of the 2015 PEA for the U.S. WCPO purse seine fishery – the only fishery that would be affected by the rule analyzed in this SEA. This section also discusses in further detail impacts to the following species listed under the ESA that were not included in the 2015 PEA: oceanic whitetip shark, giant manta ray, and chambered nautilus.

On November 1, 2006, NMFS issued a no-jeopardy Biological Opinion (2006 BiOp;) under the Endangered Species Act for the U.S. purse seine fishery operating in the WCPO. The 2006 BiOp analyzed the effects of the fishery on the green turtle (*Chelonia mydas*), the hawksbill turtle (*Eretmochelys imbricate*), the leatherback turtle (*Demochelys coriacea*), the loggerhead turtle (*Caretta caretta*), the olive ridley turtle (*Lepidochelys olivacea*), the blue whale (*Balaenoptera musculus*), the fin whale (*Balaenoptera physalus*), the humpback whale (*Megaptera novaengliae*), the sei whale (*Balaenoptera borealis*), and the sperm whale (*Physeter macrocephalus*).

Since completion of the 2006 BiOp, the following species that occur in the area of operation of the U.S. WCPO purse seine fishery have been listed as threatened or endangered under the ESA: (1) the Indo-West Pacific distinct population segment (DPS) and the Eastern Pacific DPS of the scalloped hammerhead shark (*Sphyrna lewini*); (2) 15 species of coral (*Acropora globiceps*, *Acropora jacquelineae*, *Acropora lokani*, *Acropora pharaonis*, *Acropora retusa*, *Acropora rudis*, *Acropora speciosa*, *Acropora tenella*, *Anacropora spinosa*, *Euphyllia paradivisa*, *Isopora crateriformis*, *Montipora australiensis*, *Pavona diffluens*, *Porites napopora*, and *Seriatopora aculeata*); the giant manta ray (*Manta birostris*); the oceanic whitetip shark (*Carcharhinus longimanus*); and the chambered nautilus (*Nautilus pompilius*). In addition, three DPSs of loggerhead turtles have been designated in the area of operation of the U.S. WCPO purse seine fishery – the North Pacific DPS, the South Pacific DPS, and the Southeast Indo-Pacific Ocean DPS. Six DPSs of the green turtle have also been designated in areas where overlap could occur with the area of operation of the U.S. WCPO purse seine fishery. These DPSs of the green turtle include: (1) East Indian-West Pacific; (2) Central West Pacific; (3) Southwest Pacific; (4) Central South Pacific; (5) Central North Pacific; and (6) East Pacific. Finally, NMFS revised the ESA listing for the humpback whale to identify 14 DPS, listing one as threatened, four as endangered, and identifying nine others as not warranted for listing. One DPS of the humpback whale has been designated as

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<sup>11</sup> As described in the 2015 PEA, although bigeye tuna is a non-target fish species caught by the U.S. WCPO purse seine fleet, the analysis of effects on bigeye tuna is included in the section on bigeye tuna, skipjack tuna, and yellowfin tuna.

endangered in the area of operation of the WCPO purse seine fishery – the Western North Pacific DPS.

NMFS prepared a Biological Assessment (BA) (NMFS 2017) for the U.S. WCPO purse seine fishery in 2017. Based on the information in the BA, and pursuant to criteria (2), (3), and (4) of the regulations at 50 CFR § 402.16, NMFS reinitiated formal ESA Section 7 consultation on the effects of the U.S. WCPO purse seine fishery on the following species: the blue whale; the sei whale; the sperm whale; the following DPSs of the green turtle: East Indian-West Pacific, Central West Pacific, Southwest Pacific, Central South Pacific, Central North Pacific, and East Pacific; the hawksbill turtle; the leatherback turtle; the following DPSs of the loggerhead turtle: Southeast Indo-Pacific Ocean, South Pacific Ocean, and North Pacific Ocean; the olive ridley turtle, and the following DPSs of the scalloped hammerhead shark: Indo-West Pacific DPS and Eastern Pacific DPS. In May 2018, NMFS included the giant manta ray and the oceanic whitetip in the pending consultation.

As stated above, in the BA, NMFS determined that the U.S. WCPO purse seine fishery may affect but is not likely to adversely affect the 15 ESA-listed species of coral that occur in the area of operation of the fishery. The only potential for interaction of these species with the fishery would be during entry and exit of ports by fishing vessels and while at port, including during offloading and transshipment activities. During vessel transit and during transshipment activities, there is the potential for vessel grounding, and spills and leaks of pollutants. However, as fishing vessels avoid coral reef structures to avoid groundings and damage to their hulls, the chance of interactions between the U.S. WCPO purse seine fishery and listed coral species would be extremely unlikely and therefore discountable. Due to the spatial separation between fishing operations and ESA-listed corals, exposure of ESA-listed corals or coral reef habitat to hydrocarbon-based chemicals such as fuel oils, gasoline, lubricants, and hydraulic fluids that may enter the marine environment during at-sea operations, including fishing and transiting, is unlikely. While fishing operations may cause small volumes of hydrocarbon-based chemicals to enter the marine environment, wind and waves disperse the chemicals widely, such that exposure of ESA-listed corals would be limited and therefore discountable.

NMFS also determined in the BA that the U.S. WCPO purse seine fishery may affect but is unlikely to adversely affect the following two marine mammal species: (1) the fin whale because there have been no recorded interactions with fin whales in the fishery during the years for which data were analyzed (the 2008-2015 time period); and (2) the Western North Pacific DPS of the humpback whale, as the best available data does not indicate the likelihood of interactions with any ESA-listed humpback DPS.

As set forth in the analysis in Chapter 5 of the BA, NMFS determined that the U.S. WCPO purse seine fishery may adversely affect the blue whale; the sei whale; the sperm whale; the following DPSs of the green turtle: East Indian-West Pacific, Central West Pacific, Southwest Pacific, Central South Pacific, Central North Pacific, and East Pacific; the hawksbill turtle; the leatherback turtle; the following DPSs of the loggerhead turtle:

Southeast Indo-Pacific Ocean, South Pacific Ocean, and North Pacific Ocean; the olive ridley turtle; and the following DPSs of the scalloped hammerhead shark: Indo-West Pacific DPS and Eastern Pacific DPS. Subsequent to preparation of the BA, in a memorandum dated May 17, 2018, NMFS also determined that the U.S. WCPO purse seine fishery may adversely affect the oceanic whitetip shark and the giant manta ray. However, in memoranda dated December 5, 2017, May 17, 2018, and December 6, 2018, NMFS determined that continuation of the fishery during the period of consultation is not likely to jeopardize the continued existence of any of these species and would not constitute an irreversible or irretrievable commitment of resources under ESA Section 7(d).

The 2015 PEA at Sections 3.8 and 4.8 discussed impacts to all of the above-mentioned species except for the chambered nautilus, the oceanic whitetip shark, and the giant manta ray.<sup>12</sup> Thus, the remainder of this section includes more detailed information on impacts to these species.

The chambered nautilus occur in near shore areas, such as in coral reef structures, steep-sloped reefs, and fore reefs. They do not occur in the open ocean where the U.S. purse seine fishery operates. The only potential for interaction of these species with the fishery would be during entry and exit of ports by fishing vessels, including during offloading and transshipment activities. During vessel transit and during transshipment activities, there is the potential for vessel grounding, and spills and leaks of pollutants. However, as fishing vessels avoid coral reef and other reef structures to avoid groundings and damage to their hulls, the chance of interactions between the U.S. WCPO purse seine fishery and chambered nautilus would be extremely unlikely and therefore discountable. Due to the spatial separation between fishing operations and the chambered nautilus, exposure of the chambered nautilus to hydrocarbon-based chemicals such as fuel oils, gasoline, lubricants, and hydraulic fluids that may enter the marine environment during operations, including fishing and transiting, is unlikely. While fishing operations may cause small volumes of hydrocarbon-based chemicals to enter the marine environment, wind and waves would likely disperse the chemicals widely, such that exposure of the chambered nautilus would be limited and therefore discountable. In memorandum dated December 6, 2018, NMFS determined that the U.S. WCPO purse seine fishery may affect but is not likely to adversely affect the chambered nautilus.

The oceanic white tip shark was listed as threatened in 2018, but is not subject to ESA Section 4(d) regulations at this time. (83 FR 4153, Jan. 30, 2018). Observer data from the Pacific Islands Forum Fisheries Agency (FFA) from 2008 to 2015 indicate that the U.S. purse seine fishery has interacted with 1,143 oceanic whitetip sharks (an average of 143

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<sup>12</sup> The 2015 PEA discussed the green turtle before it became listed into six discrete DPSs. The BA and memoranda dated December 5, 2017 May 17, 2018, and December 6, 2018 evaluate impacts of the fishery on the six DPSs of green turtle, and conclude that the fishery is likely to adversely affect each DPS, but is not likely to jeopardize their continued existence during the period of consultation.

per year), with ~31% of those released dead where fate was recorded. Based on this incomplete data, NMFS projected that during the period of consultation, the fishery would interact with 73 oceanic whitetip sharks. Little is known about post-release mortality of oceanic whitetip sharks from purse seine vessels. The Status Review report for oceanic whitetips assumed mortality rates for oceanic whitetips to be similar to those (>85%) observed for silky sharks (Hutchinson et al. 2015, Young et al. 2016). Using the same assumption on mortality rates from the status review, NMFS anticipates approximately 62 mortalities to oceanic whitetip sharks during the consultation period. A stock assessment conducted in 2012 for oceanic whitetip shark in the WCPO estimated biomass at 7,295 mt (Rice and Harley 2012), which is roughly equivalent to 200,000 individuals (FAO 2012). Seventy-three interactions represent about 0.04% of the stock population in the WCPO. Although overall population trends remain uncertain, the removal of such a small fraction of the population is not likely to have a substantial impact on the oceanic whitetip shark's population abundance or potential for recovery. In memoranda dated May 17, 2018 and December 6, 2018, NMFS determined that the U.S. WCPO purse seine fishery is not likely to jeopardize the continued existence of the oceanic whitetip shark during the period of consultation.

The giant manta ray was listed as threatened in 2018, but is not subject to ESA Section 4(d) regulations at this time. (83 FR 2916, Jan. 22, 2018). FFA observer data from 2008 to 2015 indicate that the U.S. purse seine fishery has interacted with 816 giant manta rays (an average of 117 per year) and 1,027 unidentified manta rays (an average of 128 per year) with ~4% of those released dead where fate was recorded. Based on this incomplete data, NMFS projected that during the period of consultation, the fishery would interact with 126 giant manta rays. Little is known about the post-release mortality of giant manta rays from purse seine vessels, but using the mortality rate based on observer data (4%), NMFS anticipates approximately 5 giant manta ray mortalities during the period of consultation. There are no global estimates of giant manta rays available, and median bycatch estimates of mantas and mobulids in the WCPO by all purse seine vessels from 2003 through 2016 have ranged from 1,830 to 4,845 individuals – the average of the past five years is 3,719 individuals (Peatman et al. 2017). Accordingly, there is insufficient data to conclude that the U.S. purse seine fishery is having a substantial impact on the giant manta ray's population distribution or abundance. This finding is supported by the 2016 NMFS Status Review Report for the giant manta ray, which notes that bycatch of this species in the U.S. tuna purse seine fishery is likely to have minimal impact. In memoranda dated May 17, 2018 and December 6, 2018, NMFS determined that the U.S. WCPO purse seine fishery is not likely to jeopardize the continued existence of the giant manta ray during the period of consultation.

Effects to protected species from the implementation of this action would not appreciably alter expected interaction rates with protected species in a manner not considered in previous consultations. The proposed action analyzed in this SEA would implement fishing effort limits that could reduce U.S. purse seine fishing effort in the WCPO as a result of a fishery closure and consequently, could reduce the potential for the fishery to interact with any ESA-listed species than if the fishery were operating under the No-

Action Alternative. To the extent that there is a spatial shift in fishing effort resulting from effort moving to an area outside of the action area, due to a fishery closure, any effects in terms of interactions with protected resources would be expected to be small compared to typical year-to-year variations in interactions with species driven by changing oceanic and economic conditions. Thus, implementation of this proposed action is not expected to lead to substantial effects on ESA-listed species to an extent not already evaluated in ESA consultations.

NMFS has also completed informal ESA Section 7 consultation for species under the jurisdiction of USFWS for the U.S. WCPO purse seine fishery. Letter from NMFS dated August 28, 2017; concurrence letter from USFWS dated October 11, 2017.

The U.S. WCPO purse seine fishery is listed as a Category II fishery under the regulations implementing the MMPA, meaning that it is a commercial fishery determined to have occasional incidental mortality and serious injury of marine mammals. See 84 FR 22051 (published May 16, 2019) for the List of Fisheries for 2019. Consequently, implementation of the rule is not expected to cause any impacts to marine mammals not previously considered or authorized by the commercial taking exemption under section 118(c) of the MMPA.

Pursuant to NMFS' reinitiated ESA consultation for the U.S. WCPO purse seine fishery, NMFS is evaluating whether this fishery has adverse effects on ESA-listed marine mammals, and if so, whether these fisheries are subject to additional requirements under MMPA section 101(a)(5)(E).

There is no new information that would affect the analysis of effects to other protected resources presented in Section 4.8.2 of the 2015 PEA (areas designated as Essential Fish Habitat or Habitat Areas of Particular Concern under provisions of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 *et seq.*); ocean or coastal habitats; historic properties listed in or eligible for listing in the National Register of Historic Places; National Wildlife Refuges or National Monuments; etc.).

The rule to implement the specified WCPFC purse seine fishing effort limits in the U.S. EEZ and on the high seas could lead to a reduction in overall fishing effort than would otherwise occur, although this reduction in fishing effort is not expected to be substantial. Should such a reduction in fishing effort occur, there could also be a reduced potential for interactions with protected resources. Thus, implementation of the purse seine fishing effort limits specified in CMM 2018-01 under the rule analyzed in this document would not be expected to cause substantial effects to protected resources.

## **1.8 Environmental Justice**

The new information available since publication of the 2015 PEA would not change the discussion of environmental justice included in Section 4.9 of the 2015 PEA. As described above, the implementation of the purse seine fishing effort limits specified in CMM 2018-01 fall within the range of alternatives analyzed in the 2015 PEA. As stated in Section 4.9 of the 2015 PEA, there would be no significant and adverse environmental effect on minority of low-income populations from implementation of the effort limits.

## **1.9 Cumulative Impacts**

Although the new information available since publication of the 2015 PEA has changed some of the baseline conditions in the WCPO, as discussed throughout this document, there would be no overall change to the analysis of cumulative impacts included in Chapter 5 of the 2015 PEA. As described above, the implementation of the purse seine fishing effort limits specified in CMM 2018-01 fall within the range of alternatives analyzed in the 2015 PEA. The cumulative impacts analysis in the 2015 PEA took into consideration the following reasonably foreseeable future actions:

- Actions by the United States and other nations to implement any additional management measures adopted by the Commission for resources in the affected environment, details of which were unknown at that time;
- Actions by the United States and other nations to implement a new multi-year IATTC management measure for tropical tunas for 2017 and beyond, the details of which were unknown at that time; and
- Actions by the United States to implement a renegotiated SPTT, the specific details of which were unknown at that time.

Two additional other reasonably foreseeable future actions include:

- Implementation of the purse seine effort limits for years beyond 2020;
- Change in management of the overlap area; and
- Actions by the United States for domestic management of the fisheries that operate in the Pacific Ocean.

As stated throughout this document, NMFS is implementing the U.S. purse seine fishing effort limits so that they would remain in effect until they are modified or replaced. Should the U.S. purse seine fishing effort limits remain in place for a large number of years, they could lead to an overall reduction in fishing effort and greater conservation benefits to resources in the affected environment than if there were no U.S. purse seine fishing effort limits in place. However, it is difficult to predict the magnitude of such effects. Moreover, as stated in this document, should the limits remain in place after 2020, NMFS would need to conduct additional NEPA analysis.

Should there be a change in management of the overlap area so that IATTC regulations apply to the overlap area instead of WCPFC regulations, there could be a possibility that the U.S. purse seine effort limits in the WCPO would be reached later in the year than otherwise, since fishing effort in the overlap area would no longer count against the limit.

These two additional reasonably foreseeable future actions as well as the other actions by the United States for domestic management of the fisheries that operate in the Pacific Ocean and the new information analyzed in this SEA would not affect the cumulative impacts analysis presented in the 2015 PEA, because the overall cumulative impacts analysis to each of the resources in the affected environment would remain the same – the rule to implement the purse seine fishing effort limits analyzed in this SEA and the other identified actions are all fishery management actions that would not be expected to substantially affect any of the resources in the affected environment and thus, no substantial cumulative impacts would be expected.

### **1.10 Conclusions**

Based on the analysis in the 2015 PEA, as supplemented by this document, promulgation of the rule to implement the purse seine fishing effort limits for the United States specified in CMM 2018-01 would not cause substantial environmental effects on resources in the affected environment.



## Consultation

Table 5 lists the agencies, NOAA units, and entities that were contacted for information.

**Table 5: List of agencies and offices contacted**

NMFS – Headquarters – Office of International Affairs
NMFS – Pacific Islands Regional Office – Sustainable Fisheries Division
NMFS – Pacific Islands Fisheries Science Center
NMFS – West Coast Regional Office – Sustainable Fisheries Division
NMFS – Southwest Science Center
NOAA Office of Law Enforcement
North Pacific Fishery Management Council
Pacific Fishery Management Council
Department of State – Office of Marine Conservation
U.S. Coast Guard – 14 <sup>th</sup> Coast Guard District
Western Pacific Fishery Management Council

## Literature Cited

Council on Environmental Quality. 1981. *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations*. 46 FR 18026 (March 23, 1981).

FAO. 2012. Report of the fourth FAO expert advisory panel for the assessment of proposals to amend Appendices I and II of CITES concerning commercially-exploited aquatic species. In: *FAQ Fisheries and Aquaculture Report No. 1032 Rome*. p. 169.

Hutchinson, M.R., Ilano, D.G., Muir, J.A. and Holland, K.N. 2015. Post-release survival of juvenile silky sharks captured in a tropical tuna purse seine fishery. *Marine Ecology Progress Series*, 521, 143-154.

NMFS (National Marine Fisheries Service). 2006. *Biological Opinion on the U.S. Western and Central Pacific Purse Seine Fishery as Authorized by the South Pacific Tuna Act and the High Seas Fishing Compliance Act*. National Marine Fisheries Service, Pacific Islands Region.

NMFS (National Marine Fisheries Service). 2017. *Biological Assessment of the U.S. Western and Central Pacific Ocean Purse Seine Fishery for Endangered Species Act Section 7 Consultation*. National Marine Fisheries Service, Pacific Islands Region.

NWS (National Weather Service). 2019. El Niño/Southern Oscillation (ENSO) Diagnostic Discussion. National Oceanic and Atmospheric Administration, National Weather Service, Climate Prediction Center. Web page accessed April 11, 2019: [www.cpc.ncep.noaa.gov/products/analysis\\_monitoring/enso\\_advisory/index.shtml](http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/index.shtml)

Peatman, T., Allain, V., Caillot, S., Williams, P., Smith, N. 2017. Summary of purse seine fishery bycatch at a regional scale, 2003-2016. Western and Central Pacific Fisheries Commission Scientific Committee Thirteenth Regular Session. WCPFC-SC13-2017/ST-WP-05

Rice, J. and Harley, S. 2012. Stock assessment of oceanic whitetip sharks in the western and central Pacific Ocean. Western and Central Pacific Fisheries Commission Scientific Committee Eighth Regular Session. WCPFC-SCS-2012/SA-WP-06 Rev I. 53pp.

Western and Central Pacific Fisheries Commission (WCPFC). *Catch and Effort Tables on Tropical Tuna CMMs*. Prepared by Secretariat of the Pacific Community, Oceanic Fisheries Programme. WCPFC14-2017-IP05\_rev1. November 20, 2017.

Young, C.N., Carlson, J., Hutchinson, M., Hutt, C., Kobayashi, D., McCandless, C.T., Wraith, J. 2016. Status review report: oceanic whitetip shark (*Carcharhinus longimanus*).

Final Report to the National Marine Fisheries Service, Office of Protected Resources.  
November 2016. 162 pp.