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Final Supplemental Environmental Assessment

Specification of Bigeye Tuna Catch and Allocation Limits for Pelagic Longline Fisheries in U.S. Pacific Island Territories in 2016, including a Regulatory Impact Review

(RIN 0648-XE284)

August 17, 2016

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Location: U.S. Exclusive Economic Zone and High Seas around Hawaii, American Samoa, the Commonwealth of the Northern Mariana Islands, and Guam

Supplements the Environmental Assessment for:

Specification of Bigeye Tuna Catch and Allocation Limits for Pelagic Longline Fisheries in U.S. Pacific Island Territories in 2015 and 2016, including a Regulatory Impact Review (RIN 0648-XD998). September 29, 2015.

Summary: NMFS prepared this Supplemental Environmental Assessment (SEA) pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality Regulations at 40 Code of Federal Regulations 1500-1508, and agency guidance on preparing NEPA documents. The SEA supplements the environmental assessment (EA) that NMFS completed on September 29, 2015, entitled "EA for Specification of Bigeye Tuna Catch and Allocation Limits for Pelagic Longline Fisheries in U.S. Pacific Island Territories in 2015 and 2016, including a Regulatory Impact Review," hereinafter, the 2015 EA. Specifically, this SEA describes new information relevant to sea turtles in the action area since September 2015, and provides additional analysis to help NMFS determine whether the Hawaii-deep set longline fishery operating under the proposed action in 2016 would result in significant environmental impacts to the human environment. We incorporate the 2015 EA by reference.

In the 2015 EA, NMFS evaluated the potential environmental impacts of specifying a catch limit of 2,000 metric ton (mt) of longline-caught bigeye tuna for each of the three U.S. territories (i.e., American Samoa, Guam and the Northern Mariana Islands) in 2015, and potentially again in 2016. The 2015 EA also analyzed the impacts of allowing each U.S. territory to allocate in each year up to 1,000 mt of its 2,000 mt bigeye tuna limit to a U.S. longline fishing vessel(s) permitted under the Fishery Ecosystem Plan for Pelagic Fisheries of the Western Pacific (Pelagic FEP), and identified in a specified fishing agreement applicable to the territory. The analysis in the 2015 EA indicated that the specification of catch and allocation limits for each of the three U.S. territories in 2015 and potentially again in 2016 is not expected to result in substantial effects to the long-term sustainability of bigeye tuna, other non-target species, bycatch species, protected species, or adversely affect marine habitats. After considering public comments received on the proposed catch and allocation limit specifications, and a draft version of the 2015 EA, NMFS finalized the 2015 EA and issued a Finding of No Significant Impact (FONSI) determination on September 29, 2015.

For calendar year 2016, NMFS is again proposing to specify catch and allocation limits for the three U.S. territories that are identical to those analyzed in the 2015 EA. However, NMFS has received new information relevant to the 2015 EA. Specifically, the Hawaii-deep set longline fishery has exceeded the incidental take statements (ITS) for green sea turtles, olive ridley sea turtles and the North Pacific loggerhead sea turtle distinct population segment (DPS), as authorized in a NMFS 2014 Biological Opinion (BiOp) for that fishery. Additionally, on April 6, 2016, NMFS and the U.S. Fish and Wildlife Service published a final rule to list 11 DPS of green sea turtle under the Endangered Species Act or ESA (81 FR 20058). The final rule removed the previous range-wide listing and, in its place, listed eight DPS as threatened and three as endangered. Six of the green sea turtle DPS may occur in the area where the Hawaii deep-set longline fishery operates, and have the potential to interact with the fishery. Thus, NMFS determined that supplementation of the 2015 EA was appropriate.

The analyses in this SEA indicates that the Hawaii-deep set longline fishery operating under the proposed action in 2016 is not expected to result in substantial effects to sea turtle populations and, therefore, the conclusion reached in the 2015 EA remains valid for fishing year 2016. The reader may find copies of this SEA, the 2015 EA and the final 2016 catch and allocation limit specifications under regulatory identification number (RIN) 0648-XE284 at www.regulations.gov, or by contacting the responsible official or Council at the above address.

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1 INTRODUCTION

This document supplements the Environmental Assessment (EA) for the Specification of Bigeye Tuna Catch and Allocation Limits for Pelagic Longline Fisheries in U.S. Pacific Island Territories in 2015 and 2016, including a Regulatory Impact Review, dated September 29, 2015, hereinafter the 2015 EA (NMFS 2015a) by identifying and evaluating information relating to sea turtles in the action area since September 2015. The 2015 EA, incorporated herein by reference, provides detailed information on the proposed federal action, the purpose and need for the action, the action area, the description of the alternatives, the description of the affected environment, and the environmental impact analysis supporting the NMFS September 29, 2015, finding of no significant impact (FONSI) for the proposed catch and allocation limits in 2015 and 2016. This section briefly summarizes elements of the 2015 EA and explains the purpose for this supplemental environmental assessment (SEA).

1.1 Summary of the Proposed Action

The proposed action for 2016 is the same as was described in the Section 1.3 of the 2015 EA. In summary, under the proposed action, NMFS would specify a catch limit of 2,000 mt of longline-caught bigeye tuna for each U.S. territory (American Samoa, Guam and the Northern Mariana Islands) in 2016. NMFS would also allow each U.S. territory to allocate up to 1,000 mt of its 2,000 mt bigeye tuna limit to eligible U.S. longline fishing vessels permitted under the Fishery Ecosystem Plan for Pelagic Fisheries of the Western Pacific (Pelagic FEP) and identified in a valid specified fishing agreement applicable to the territory. The criteria a specified fishing agreement must meet and the process for attributing longline caught bigeye tuna made by vessels of the U.S. participating territories and U.S. vessels identified in an approved specified fishing agreement are to follow the procedures codified in federal regulations at 50 CFR 665.819 – Territorial Catch and Fishing Effort Limits. The Western Pacific Fishery Management Council (Council) recommended the proposed action for 2016 at its 164th meeting held October 21-22, 2015 in American Samoa. This is the same action that the Council recommended for fishing year 2015 at its 162nd meeting held March 16-18, 2015 in Honolulu, HI.

Specified fishing agreements provide support for territorial fisheries development and projects through monetary contributions to the Western Pacific Sustainable Fisheries Fund (WP SFF), which supports the implementation of marine conservation plans (MCP). 50 C.R.F. § 665.819. Section 204(e)(7) of the Magnuson-Stevens Fishery and Conservation and Management Act (Magnuson-Stevens Act) allows for funds to be deposited into the WP SFF in support of these plans. MCPs are developed by the Governors of each U.S. territory and describe planned marine conservation projects in the territory, including, but not limited to, development and implementation of sustainable marine resource development projects, fisheries monitoring and enforcement activities, and scientific research.

Under the proposed action, NMFS would also continue to monitor catches of longline-caught bigeye tuna by the longline fisheries of each U.S. territory, including catches made by U.S. longline vessels operating under specified fishing agreements. When NMFS projects a territorial catch or allocation limit would be reached, NMFS would prohibit the retention of longline-caught bigeye tuna by vessels in the applicable U.S. territory (if the territorial catch limit is

projected to be reached), and/or by vessels operating under specified fishing agreements (if the allocation limit is projected to be reached). Pursuant to federal regulations at 50 CFR 664.819, if NMFS determines catch made by vessel(s) identified in a specified fishing agreement exceeds the allocated limit, NMFS will attribute any overage of the limit back to the U.S. or U.S. participating territory to which the vessel(s) is registered and permitted. NMFS submits the total harvest of big eye tuna by the U.S. and its territories to the WCPFC annually.

The proposed 2016 catch and allocation limits are identical to the limits NMFS proposed for the three U.S. territories in 2015, and analyzed in the 2015 EA. However, in 2015, NMFS only implemented catch and allocation limits for the Northern Mariana Islands (80 FR 61767, October 14, 2015) and Guam (80 FR 68778, November 6, 2015). NMFS did not implement catch and allocation limits for American Samoa in 2015 because the American Samoa Coastal Zone Management (CZM) Program requested an extension to the 90-day CZM consistency determination review period for the 2015 action. That review period began in late July 2015, and was to end in late October 2015. NMFS granted the extension request; however, the American Samoa Coastal Management Program subsequently did not submit a response to the NMFS federal consistency determination. Therefore, NMFS could not complete the rulemaking process to specify the 2015 catch and allocation limits for American Samoa before the calendar year ended.

1.2 Summary of the Purpose and Need for Action

The purpose and need for the action is the same as was described in Section 1.4 of the 2015 EA. In summary, the purpose of this action is to establish a bigeye tuna catch and an allocation limit for longline fisheries of each U.S. territory (American Samoa, Guam and the Northern Mariana Islands), consistent with the conservation needs of the stock, that will help to support the development of fisheries in those territories under Amendment 7 to the Pelagic FEP (WPFMC and NMFS 2014).

The proposed 2016 catch limit of 2,000 mt is needed to ensure stock sustainability in conjunction with the 2016 allocation limit. U.S. territories are not currently subject to a longline bigeye tuna catch limit under Conservation and Management Measures 2015-01 (CMM 2015-01) adopted by the Western and Central Pacific Fisheries Commission (WCPFC). The longline bigeye tuna catch limits adopted in CMM 2015-01 are identical to the catch limits for the longline fishery contained in CMM 2014-01. For purposes of consistency, NMFS will cite CMM 2015-01 in this document.

The objective of CMM 2015-01 is to reduce fishing mortality of bigeye tuna to a level no greater than the fishing mortality that produces maximum sustainable yield or F_{MSY}, (i.e., $F/F_{MSY} \leq 1$). However, the WCPFC exempts Small Island Developing States (SIDS) and participating territories (PT) to the WCPFC from CMM 2015-01 (see Section 1.1 of the 2015 EA). Because the U.S. territories are PTs to the WCPFC and have no limit on the amount of bigeye tuna that may be caught in their longline fisheries, the Council, in recommending Amendment 7, was concerned that allocation transfers not accompanied by limits on total Territory harvests could create the potential for uncontrolled harvest of bigeye tuna in U.S. territorial longline fisheries.

The proposed 2016 allocation limit of 1,000 mt is needed because the U.S. territories do not currently harvest substantial amounts of bigeye tuna, and yet desire to responsibly develop their fisheries. Allowing each U.S. participating territory to allocate a portion of its bigeye tuna catch limit at a level that is consistent with the objective of CMM 2015-01 – to reduce fishing mortality of big eye tuna to a level no great than F_{MSY} – provides support for NMFS-approved fisheries development projects identified in each U.S. participating territory's MCP. See Section 1.1 of the 2015 EA for more detailed information on Amendment 7 to the Pelagic FEP, the WP SFF, MCPs and conservation and management measures adopted by the WCPFC, including CMM 2014-01, and all prior CMMs related to bigeye tuna.

1.3 Summary of the Alternatives Considered and Expected Fishery Outcomes

Section 2 of the 2015 EA describes the alternative considered to meet the purpose and need for action and the expected fishery outcomes of each alternative, and is summarized below.

1.3.1 Alternative 1: No Specification of Territorial Catch or Allocation Limits (No Action)

Under Alternative 1, NMFS would not specify a bigeye tuna catch or allocation limit for any U.S. territory in 2016.

Expected Fishery Outcomes for Alternative 1

Under Alternative 1, longline fisheries of American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands (CNMI) would not be subject to a bigeye tuna catch limit in 2016; they would also not be able to allocate any catch under a specified fishing agreement. Based on recent past fishery performance, NMFS anticipates vessels operating in the longline fisheries of American Samoa to catch 521 mt of bigeye tuna in 2016. This is the average level of catch for the period 2011-2014. NMFS does not expect longline vessels in CNMI or Guam to catch bigeye tuna in 2016 because, as of today, there are currently no active longline fisheries based in those islands. High operating costs associated with vessel-docking, along with poor market access may be contributing factors to the lack of longline fishing in the Marianas (WPFMC and NMFS 2014).

Under Alternative 1, NMFS also anticipates vessels operating in the Hawaii longline fishery to catch 3,554 mt in 2016. This is the U.S. bigeye tuna limit set forth in CMM 2015-01, and implemented by NMFS (see 81 FR 412239, June 24, 2016). As noted in Section 1.1 of the 2015 EA and the proposed rule, the U.S. bigeye limit is applicable to U.S. longline vessels operating in the WCPO; the limit does not apply to the longline fisheries of the U.S. participating territories.

Based on 2015 levels of bigeye tuna catch by vessels to which the limit applies, NMFS forecasted the 2015 U.S. bigeye tuna limit of 3,502 mt would be reached on August 5, 2015, and prohibited the retention of longline caught bigeye tuna in the WCPO through the end of the year (80 FR 44883, July 28, 2015). NMFS forecasted the Hawaii longline fishery would reach the 2016 U.S. bigeye tuna catch limit of 3,554 mt on July 22, 2016, and published a notice in the

Federal Register that prohibited retention of longline caught bigeye tuna in the WCPO on that date through the end of the year (81 FR 45982, July 15, 2016).

Under Alternative 1, the expected bigeye tuna catch for 2016 would be 4,075 mt, which represents the combined catch of the U.S. territories, American Samoa (521 mt), Guam (0 mt), and CNMI (0 mt) and the U.S. longline fisheries from Hawaii (3,554 mt) (521 + 0 + 0 + 3,554 = 4,075 mt). Without any Council-recommended specifications for catch and allocation limits for the U.S. participating territories, there would be no basis to enter into specified fishing agreements. The U.S. participating territories could not allocate bigeye tuna catch to eligible U.S. longline vessels permitted under the FEP and no funds would be available for deposit into the Western Pacific Sustainable Fisheries Fund 2016. As a consequence, there would be less monetary resources available to fund fishery development projects identified in an approved territorial MCP, and fewer opportunities for fisheries development by the U.S. participating territories, including improvements to existing fishery infrastructure.

1.3.2 Alternative 2: Specify for each U.S. participating territory a 2,000-mt catch limit and 1,000-mt allocation limit in 2016 (Status Quo/Council and NMFS Preferred)

Under Alternative 2, NMFS would specify a catch limit of 2,000 mt or 4,409,240 lb of bigeye tuna for each U.S. territory in 2016. NMFS would also authorize the three U.S. territories to each allocate up to 1,000 mt of their 2,000 mt bigeye limit to FEP-permitted longline vessels identified in a specified fishing agreement with a U.S. territory. Under this alternative, NMFS would not specify catch or allocation limits for any other pelagic species in 2016.

Expected Fishery Outcomes for Alternative 2

Under Alternative 2, longline fisheries in the U.S. participating territories would each be subject to a 2,000-mt catch limits for bigeye tuna. This catch limit is currently more restrictive than those agreed to by the WCPFC for SIDS and PTs in CMM 2014-01, which places no limits on SIDS and PTs (see Section 1.1 of the 2015 EA). Under Alternative 2, each U.S. participating territory would also be authorized to allocate up to 1,000 mt of its 2,000 mt bigeye tuna catch limit to FEP-permitted longline vessels under specified fishing agreements. Specified fishing agreements under this Alternative would support responsible fisheries development in the U.S. participating territories by providing funds for territorial MCPs.

Like Alternative 1, NMFS does not expect longline vessels in CNMI or Guam to catch bigeye tuna in 2016 because there are currently no active longline fisheries based in those islands. In American Samoa, NMFS expects bigeye tuna catches by longline vessels possessing an American Samoa limited access permit to be similar to the average annual catch in 2011-2014, which was approximately 521 mt annually. Therefore, limiting the amount of bigeye tuna a U.S. participating territory could allocate to 1,000-mt ensures that a sufficient amount of quota would remain available for Territory longline fishery participants.

Based on 2015 levels of bigeye tuna catch by vessels to which the limit applies, NMFS forecasted the 2015 U.S. bigeye tuna limit of 3,502 mt would be reached on August 5, 2015, and prohibited the retention of longline caught bigeye tuna in the WCPO through the end of the year

(80 FR 44883, July 28, 2015). NMFS forecasted the Hawaii longline fishery would reach the 2016 U.S. bigeye tuna catch limit of 3,554 mt on July 22, 2016, and published a notice in the *Federal Register* that prohibited retention of longline caught bigeye tuna in the WCPO on that date through the end of the year (81 FR 45982, July 15, 2016).

Once the prohibition occurs, NMFS expects territorial governments and/or vessels in the Hawaii longline fishery will seek to negotiate a specified fishing agreement to allocate a portion or all of a territory's 1,000 mt limit. When operating under a valid specified fishing agreement, federal regulations at 50 CFR 665.819 require NMFS to attribute bigeye tuna catches made by vessels identified in the agreement to the territory to which the agreement applies seven days before the U.S. limit is projected to be reached, or upon effective date of the agreement, whichever is later. Catches of bigeye tuna made by longline vessels identified in a specified fishing agreement are not counted toward the U.S. bigeye tuna limit because the vessels are fishing under the territory's established limit.

NMFS cannot predict the number of specified fishing agreements that the U.S. participating territories and eligible longlines vessels will negotiate and submit to NMFS 2016. Additionally, because bigeye tuna in the WCPO is currently subject to overfishing, the 2015 EA evaluated the range of impacts to the WCPO bigeye tuna stock and other fishery resources based on the Council's recommendation that one, two or three specified fishing agreements could potentially be authorized. Thus, under Alternative 2, there are four distinct possible fishery outcomes.

1.3.3 Expected Outcome A: One Specified Fishing Agreement

Under Outcome A, NMFS anticipates a single specified fishing agreement. Like Alternative 1, vessels operating in the longline fisheries of American Samoa are expected to catch 521 mt of bigeye tuna in 2016. This is the average level of catch for the period 2011-2014. As previously discussed, no bigeye tuna is expected to be caught by longline vessels in CNMI or Guam in 2016. NMFS also anticipates vessels operating in the Hawaii longline fishery to catch 3,554 mt in 2016. This is the U.S. bigeye tuna limit set forth in CMM 2015-01, and implemented by NMFS (see 81 FR 412239, June 24, 2016). As noted in Section 1.1 of the 2015 EA and the proposed rule, the U.S. bigeye limit is applicable to U.S. longline vessels operating in the WCPO; the limit does not, however, apply to the longline fisheries of the U.S. participating territories.

With one specified fishing agreement, the expected bigeye tuna catch for 2016 would be 5,075 mt. This amount represents the combined catch of bigeye tuna by the longline fisheries of the U.S. territories, American Samoa (521 mt), Guam (0 mt), and CNMI (0 mt), the anticipated catch by the U.S. longline fisheries from Hawaii (3,554 mt), plus the allocation limit of 1,000 mt to vessels in the Hawaii fleet under one specified fishing agreement.

1.3.4 Expected Outcome B: Two Specified Fishing Agreement

Under Outcome B, NMFS anticipates two specified fishing agreements. Like Alternative 1, vessels operating in the longline fisheries of American Samoa are expected to catch 521 mt of bigeye tuna 2016. This is the average level of catch for the period 2011-2014. As previously

discussed, no bigeye tuna is expected to be caught by longline vessels in CNMI or Guam in 2016. NMFS also anticipates vessels operating in the Hawaii longline fishery to catch 3,554 mt in 2016. This is the U.S. bigeye tuna limit set forth in CMM 2014-01, and implemented by NMFS (see 81 FR 412239, June 24, 2016). As noted in Section 1.1 of the 2015 EA and the proposed rule, the U.S. bigeye limit is applicable to U.S. longline vessels operating in the WCPO; the limit does not, however, apply to the longline fisheries of the U.S. participating territories.

With two specified fishing agreement, the expected bigeye tuna catch for 2016 would be 6,075 mt. This amount represents the combined catch of bigeye tuna by the longline fisheries of the U.S. territories, American Samoa (521 mt), Guam (0 mt), and CNMI (0 mt), the anticipated catch by the U.S. longline fisheries from Hawaii (3,554 mt), plus the allocation of 2,000 mt to vessels the Hawaii fleet under two specified fishing agreement.

1.3.5 Expected Outcome C: Three Specified Fishing Agreement

Under Outcome C, NMFS anticipates three specified fishing agreements. Like Alternative 1, vessels operating in the longline fisheries of American Samoa are expected to catch 521 mt of bigeye tuna in 2015 and 2016. This is the average level of catch for the period 2011-2014. As previously discussed, no bigeye tuna is expected to be caught by longline vessels in CNMI or Guam in 2016. NMFS also anticipates vessels operating in the Hawaii longline fishery to catch 3,554 mt in 2016. This is the U.S. bigeye tuna limit set forth in CMM 2015-01, and implemented by NMFS (see 81 FR 412239, June 24, 2016). As noted in Section 1.1 of the 2015 EA and the proposed rule, the U.S. bigeye limit is applicable to U.S. longline vessels operating in the WCPO; the limit does not, however, apply to the longline fisheries of the U.S. participating territories.

With three specified fishing agreement, the expected bigeye tuna catch for 2016 would be 7,075 mt. This amount represents the combined catch of bigeye tuna by the longline fisheries of the U.S. territories, American Samoa (521 mt), Guam (0 mt), and CNMI (0 mt), the anticipated catch by the U.S. longline fisheries from Hawaii (3,554 mt), plus the allocation limit of 3,000 mt to vessels in the Hawaii fleet under three specified fishing agreement.

1.3.6 Expected Outcome D: Three Specified Fishing Agreement and Full Utilization of Territorial Bigeye Tuna Catch Limits

Under Outcome D NMFS anticipates three specified fishing agreements. Outcome D also assumes that all three U.S. territories - American Samoa, Guam and CNMI - would each catch 1,000 mt of bigeye tuna (3,000 mt) in 2016, and each territory would also allocate their 1,000 mt of bigeye tuna under three specified fishing agreements (3,000 mt). NMFS also anticipates that vessels operating in the Hawaii longline fishery would catch 3,554 mt in 2016. This is the U.S. bigeye tuna limit set forth in CMM 2015-01, and implemented by NMFS (see 81 FR 412239, June 24, 2016). As noted in Section 1.1 of the 2015 EA and the proposed rule, the U.S. bigeye limit is applicable to U.S. longline vessels operating in the WCPO; the limit does not, however, apply to the longline fisheries of the U.S. participating territories.

Under Outcome D, the expected catch of bigeye tuna in 2016 would be 9,554. This amount represents all three territories' non-allocated limit combined (3,000 mt), all three territory's allocation from three specified agreements combined (3,000 mt) and the expected catch from the U.S. longliners from Hawaii (3,554 mt) (i.e., 3,000 mt + 3,000 + 3,554 = 9,554 mt).
Under Outcomes A through D, NMFS does not expect that the longline fisheries based in Hawaii and the U.S. participating territories would change the manner in which they fish, including gear types used, species targeted, area fished, seasons fished, or intensity of fishing. Additionally, the effort of these fisheries is not expected to be higher than historical levels due to existing regulatory constraints, including catch limits and limited entry programs. Table 1 in the 2015 EA provides a comparison of the features of the alternatives considered and possible fishery outcomes under each alternative, including outcomes under one, two or three specified fishing agreements in 2016. The outcomes represented in Table 1 in the 2015 EA would not differ for the 2016 fishing year.

1.4 Summary of the 2015 EA Effects Analysis

Section 4.0 of the 2015 EA evaluated the potential environmental impacts of Alternatives 1 and 2, on biological and physical resources that occur in the area where longline fishing occurs. These include fish stocks, protected marine mammals, sea turtles, sharks and sea birds, and marine habitats. The 2015 EA also evaluated the impacts of the alternatives on fishery participants and fishing communities as well as administrative and enforcement costs of implementing the alternatives.

The analysis in the 2015 EA, and associated September 29, 2016, FONSI, indicated that under Alternative 1 (No Action) and Alternative 2 (Status Quo and proposed action), the conduct of U.S. longline fisheries in the Pacific Islands is not having a significant adverse impact to the physical marine environment, target or non-target fish species, protected resources, fishery participants and communities, or state and federal enforcement or fisheries administration. In those documents, NMFS also anticipated the Hawaii longline fishery would continue to operate in accordance with provisions of the Pelagic FEP, other applicable regulations, and with authorizations undertaken in accordance with the ESA, the Marine Mammal Protected Act (MMPA) and other applicable laws. NMFS further anticipated that these regulations and authorizations would help ensure the sustainable management of the affected stocks, consistent with conservation and management objectives under applicable law and WCPFC decisions.

1.5 Supplementing the 2015 EA

The National Environmental Policy Act (NEPA) requires Federal agencies to consider the potential environmental consequences of any major Federal action, and inform and involve the public. An EA provides the basis for determining whether a proposed action is a major Federal action that would result in significant environmental impacts. When a Federal agency determines an action is not a major federal action that results in significant environmental impacts, a FONSI is prepared to document the agency's findings. If there is a finding of significant impact, an agency must prepare an environmental impact assessment (EIS) before undertaking the proposed activity. Under NOAA's and the Council on Environmental Quality's guidance, an agency is to

supplement a previous environmental analysis when, among other things, an agency determines a supplement will fulfill the objectives of the NEPA.

NMFS determined that supplementation of the 2015 EA is appropriate after receiving new information that the Hawaii-deep set longline fishery exceeded the incidental take statements (ITS) for green sea turtles, olive ridley sea turtles and the North Pacific loggerhead sea turtle distinct population segment or DPS (NMFS 2016a), as authorized in a September 19, 2014 Biological Opinion NMFS (NMFS 2014) prepared for the fishery. The NMFS FONSI dated September 29, 2015, considered the authorized level of take for all species in accordance with the 2014 BiOp. The Hawaii deep-set longline fishery's exceedance of the 2014 BiOp's ITSs for green sea turtles, olive ridley sea turtles and the North Pacific loggerhead sea turtle DPS triggered the requirement to re-consult on the fishery's effects on these sea turtle species. See Section 2 for details on sea turtle takes in the Hawaii deep-set longline fishery resulting in the fishery's exceedance of the ITS for each sea turtle species.

Additionally, on April 6, 2016, NMFS and the U.S. Fish and Wildlife Service published a final rule to list 11 DPS of green sea turtle under the ESA (81 FR 20058). The final rule removed the previous range-wide listing and, in its place, listed eight DPS as threatened and three as endangered. Six of the green sea turtle DPS may occur in the area where the Hawaii deep-set longline fishery operates and have the potential to interact with the fishery. They include the East Pacific DPS, the Central North Pacific DPS, the Central West Pacific DPS, the Central South Pacific DPS, the Southwest Pacific DPS, and East Indian-West Pacific DPS. The April 6, 2016, listing of the green sea turtle DPS also triggered the requirement to consult on the fishery's effects on these populations. Please consult the final rule for more details on the new listing.

Re-initiation of ESA Consultation for the Hawaii Deep-set Longline Fishery

On April 13, 2016, NMFS reinitiated consultation under section 7(a)(2) of the ESA for the Hawaii deep-set pelagic longline fishery, as managed under Pelagic FEP. Specifically, NMFS reinitiated consultation on the fishery's potential impacts on the olive ridley sea turtles, the North Pacific loggerhead sea turtle DPS and the 11 green sea turtle DPS under the current management regime, including the proposed action (NMFS 2016a). In re-initiating consultation, NMFS determined that the Hawaii deep-set longline fishery may adversely affect six of the newly listed green sea turtle DPS through unintentional hooking and entanglement and vessel collisions. NMFS did not reinitiate consultation for ESA-listed species where none of the reinitiation triggers under 50 CFR 402.16 were met. NMFS expects fishing effort under the proposed action in 2016 to be within the scope of the 2014 BiOp. Therefore, the 2014 BiOp for the Hawaii deep-set longline fishery remains valid for leatherback sea turtles, humpback whales, sperm whales, the MHI insular false killer whale, and the Indo-West Pacific DPS of scalloped hammerhead shark. NMFS expects to complete the ESA section 7 consultation and issue a new biological opinion for the fishery within six months of April 13, 2016 (on or before October 12, 2016).

Also on April 13, 2016, NMFS made a second determination under section 7(d) of the ESA Specifically, NMFS determined that during the six-month period of consultation, the Hawaii deep-set longline fishery, including operations under the proposed action, would not jeopardize the continued existence of any ESA-listed species under NMFS jurisdiction or result in

irreversible or irretrievable commitments of resources that would foreclose the formulation or implementation of any reasonable and prudent alternative measures for the fishery, and would not violate ESA section 7(a)(2) and 7(d).[1]

The analysis in this SEA will assist NMFS in determining whether, in light of new information, the Hawaii-deep set longline fishery operating under the proposed action in 2016 would result in significant environmental impacts to the human environment. The SEA does not re-evaluate the effects of the proposed action on the longline fisheries operating in the three U.S. territories because there is no additional information that changes the environmental baseline or impacts associated with these fisheries as described in the 2015 and, therefore, the effects analyses for these fisheries in the 2015 EA remain valid.

1.6 Preparers

This Supplemental EA was prepared by NMFS PIRO Sustainable Fisheries Division (SFD):

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1.7 Public Coordination

On July 7, 2016, NMFS published the proposed 2016 catch and allocation limit specifications, and request for public comments on the action and on a draft of this SEA dated June 22, 2016 (81 FR 44249); the comment period ended July 22, 2016. NMFS received comments from individuals, the fishing industry, and non-governmental organizations on the proposed specifications and on the draft SEA. NMFS received comments requesting the agency evaluate the potential direct and cumulative impacts of the proposed expansion of the Papahanaumokuakea Marine National Monument on Hawaii's pelagic fisheries, and ecosystem resources, including the coral reefs, tunas, other highly migratory fish stocks, and protected species. NMFS has revised the SEA to include a discussion on this topic in Section 2.5.4. NMFS also received comments requesting the agency evaluate the effects of the Rose Atoll, Mariana Trench and Pacific Remote Islands Marine National Monuments on tuna stocks and other highly migratory species. NMFS has revised the SEA to include a discussion on this topic in Section 3.

[1] The April 13, 2016, ESA section 7(d) analysis referenced above relies on a different estimated level of sea turtle take than the level of take analyzed in this NEPA document. Under ESA, a federal agency generally may proceed with a federal action during the period of reinitiated consultation, provided the requirements of ESA section 7(a)(2) and 7(d) are satisfied. On the other hand, NEPA requires federal agencies to evaluate the direct and reasonably foreseeable indirect effects of a federal action, together with other past, present, and reasonably foreseeable future actions, to determine whether the proposed action either individually or cumulatively will result in significant effects to the human environment. Here, for purposes of determining compliance with ESA sections 7(a)(2) and 7(d), NMFS took a more conservative approach in estimating the adverse impacts to protected species during the period of reinitiated consultation.

NMFS considered public comments in finalizing the SEA, and in making its decision on the proposed action, and also responds to comments in the final 2016 catch and allocation limit specification. The reader may find copies of the final specifications under regulatory identification number (RIN) 0648-XE284 at www.regulations.gov, or by contacting the responsible official or Council at the above address.

2 NEW INFORMATION SINCE THE 2015 EA AND SUPPLEMENTAL ENVIRONMENTAL ANALYSES

This section summarizes the 2014 BiOp effects analysis for sea turtle species that NMFS relied on in developing the environmental impact analysis contained in the 2015 EA and the September 29, 2015 FONSI. This section also describes the information NMFS received after the publication of the 2015 EA and FONSI, as well as a supplemental environmental impact analysis that considers the additional information. Since the publication of the 2015 EA, NMFS received the following information:

1. The Hawaii-deep set longline fishery exceeded the incidental take statements (ITS) for green sea turtles, olive ridley sea turtles and the North Pacific loggerhead sea turtle distinct population segment (DPS), as authorized in the 2014 BiOp; and
2. The listing of 11 green sea turtle DPS under the ESA, six of which, may occur in the area where the Hawaii deep-set longline fishery operates and have the potential to interact with the fishery.

2.1 Overview of the 2014 Biological Opinion for the Hawaii Deep-set Longline Fishery

NMFS completed a section 7 ESA consultation for the Hawaii deep-set longline fishery and issued a no-jeopardy biological opinion (2014 BiOp) on September 19, 2014 (NMFS 2014). In its 2014 BiOp, NMFS considered the potential impacts of the continuation of the Hawaii deep-set longline fishery on sea turtles, along with impacts to other ESA listed species that may occur in the area where the fishery operates. The 2014 BiOp anticipated the deep-set fishery to continue operating largely unchanged from what had occurred in the last several years under specified fishing agreements with the U.S. territories, in terms of fishing location, the number of vessels that deep-set, catch rates of target, non-target, and bycatch species, depth of hooks, or deployment techniques in setting longline gear.

In the 2014 BiOp, NMFS estimated 128 vessels to make approximately 1,305 trips, with 18,592 sets, and 46,117,532 hooks annually. NMFS also anticipated that the total number of hooks set would not change substantially because of either physical limitations of how much gear fishermen can deploy and retrieve during a period and/or diminishing returns of catch per unit of effort. NMFS also anticipated that the deep-set fishery would continue to operate under specified fishing agreements with U.S. Pacific Island territories, fish sustainably, and utilize proven bycatch mitigation measures to manage impacts to ESA-listed species as required under regulations in 50 CFR parts 229 and 665.

As described in the 2015 EA, the 2014 BiOp for the deep-set longline fishery authorizes over a three-year period, the incidental take of green, leatherback, North Pacific loggerhead, and olive

ridley sea turtles shown in Table 1 below. There are two measures for incidental take in the fishery: the estimated number of individuals taken by the fishery and the number of takes that result in mortality. These values are based on the number of observed takes and take-associated mortality data from 2006 through June 30, 2014.

Table 1. The number sea turtles estimated to be captured and/or killed in the Hawaii deep-set longline fishery over three consecutive years (3-year ITS) in the 2014 BiOp.

Sea turtle species	**3-year ITS in the 2014 BiOp**	
	Takes	**Take-related Mortalities**
Green	9	9
Leatherback	72	27
North Pacific Loggerhead	9	9
Olive Ridley	99	96

Source: NMFS 2014.

As described in the 2014 BiOp, NMFS determines the effects of a federal action (e.g., continuation of the Hawaii deep-set longline fishery) on ESA listed species using a sequence of steps. The first step identifies stressors (or benefits) associated with the action with regard to listed species. The second step identifies the magnitude of stressors (e.g., how many individuals of a listed species will be exposed to the stressors; *exposure analysis*). In this step of the analysis, NMFS identifies the number, age (or life stage), and gender of the individuals that are likely to be exposed to a proposed action's effects, and the populations or subpopulations those individuals represent. The third step describes how the exposed individuals are likely to respond to these stressors (e.g., the mortality rate of exposed individuals; *response analysis*). The final step in determining the effects of a federal action is establishing the risks those responses pose to listed resources. Based on methods described in the 2014 BiOp, NMFS concluded that the continuation of the Hawaii deep-set longline fishery as managed under the Pelagic FEP, including under specified fishing agreements, is not likely to jeopardize the continued existence or recovery of any sea turtle species. Relying on this information, NMFS, in its September 29, 2015, FONSI concluded that the proposed action in 2015 and 2016 is not reasonably expected to adversely affect ESA listed sea turtles and other ESA listed species or the critical habitat of these species.

2.2 Green Sea Turtles

2.2.1 Summary of the 2014 BiOp Effects Analysis for Green Sea Turtles

According to genetic samples obtained from green turtles incidentally caught in the Hawaii deep-set fishery, NMFS, in the 2014 BiOp, determined that the fishery is taking green sea turtles from the eastern, central, and western pacific green sea turtle nesting populations. The 2014 BiOp anticipated that the Hawaii deep-set longline fishery could take up to three green sea turtles annually or nine green sea turtles over a three-year period. Using NMFS post-hooking mortality criteria described in Ryder et al. (2006), the 2014 BiOp estimated that 92.3 percent of all takes would result in mortality. Applying this post-hooking mortality rate, NMFS estimated that all three annual takes would result in mortality, and anticipated nine mortalities over a three-year

period. Based on genetic information from green sea turtle takes in the Hawaii deep-set longline fishery, NMFS anticipated that two of the three individuals killed annually would be from the eastern Pacific population, while the remaining individual could be from either the central pacific population or the western Pacific population.

2014 BiOp Effects Analysis for the Eastern Pacific Population

In the 2014 BiOp, NMFS estimated that the number of nesting females for the eastern Pacific nesting aggregation is 20,112 and increasing. In order to analyze the impact to the adult female population, the 2014 BiOp assumed that the two mortalities would be adults and would have a 50 percent chance of being a female. Therefore, one mortality from 20,112 nesting females represented 0.005 percent of the population (1/ 20,112 * 100= 0.005 percent). NMFS concluded that this was barely detectable and, therefore, negligible to the overall nesting aggregation.

2014 BiOp Effects Analysis for the Central and Western Pacific Populations

In the 2014 BiOp, NMFS considered green sea turtles in the central Pacific to be comprised of one nesting aggregation located in Hawaii with 3,846 nesting females. NMFS also anticipated that there could be one mortality from the Hawaii nesting aggregation annually. This one mortality would be from any age or sex. In order to analyze the impact to the adult female population, NMFS assumed that the mortality would be an adult and would have a 50 percent chance of being a female. Therefore, a 0.5 mortality from 3,846 nesting females represented 0.013 percent of the population (0.5/3,846 *100=0.013). NMFS concluded that this was barely detectable and, therefore, negligible to the overall nesting population, and was likely an overestimate because NMFS did not expect a mortality from this population every year, but anticipated up to one mortality from one of four different nesting aggregations.

In the 2014 BiOp, NMFS considered green sea turtles in the western Pacific to be comprised of three nesting aggregations, the central west Pacific nesting aggregation (with 6,518 nesting females), the Southwest Pacific nesting aggregation (with 83,058 nesting females), and the central south Pacific nesting aggregation (with 2,902 nesting females). Based on the methods described in the 2014 BiOp, NMFS assumed that for each nesting aggregation, the one mortality would be an adult and would have a 50 percent chance of being female, resulting in an adult nester equivalent (ANE) of 0.5 for each nesting aggregation. Therefore, NMFS concluded one mortality from central west Pacific population represented 0.0077 percent of the population (0.5/6,518 * 100=0.0077); one mortality from the Southwest Pacific population represented 0.0006 percent of the population (0.5/83,058 * 100=0.006); and one mortality from the central south Pacific population represented 0.0017 percent of the population (0.5/2,902 * 100=0.0017).

NMFS considered the level of take associated mortality for each of the central and western Pacific populations was negligible to the overall nesting populations and likely an overestimate. NMFS reached this conclusion because NMFS did not expect a mortality from the central or western Pacific population every year, but rather anticipated up to one mortality from only one of the four different nesting aggregations annually. Based on this information, the 2014 BiOp concluded that the incidental take and resulting mortality of green turtles associated with the direct effects of the continued operation of the Hawaii deep-set longline fishery, when

considered together with the environmental baseline and cumulative effects, were not reasonably expected to cause an appreciable reduction in the likelihood of survival or recovery of the eastern Pacific, western Pacific, or central Pacific green sea turtle nesting aggregations individually, or the species as a whole in the wild.

2.2.2 New Information on Green Sea Turtles

Recent Green Sea Turtle Takes in the Hawaii Deep-Set Longline Fishery

As part of the management of the fishery, NMFS places observers on Hawaii deep-set longline vessels to, among other things, monitor fishery takes with protected species. NMFS maintains an annual observer coverage rate of approximately 20 percent, although the specific rate may vary somewhat by quarter. Therefore, NMFS derives fleet-wide take estimates based on calculations that expand the observed takes to a fleet-wide total. When available, NMFS relies on fleet-wide take estimates generated by the Pacific Islands Fisheries Science Center (PIFSC) using methods described in McCracken (2009a, 2009b, 2011, 2012, 2013, 2014). When estimates from McCracken are not available, NMFS expands observed takes, based on observer coverage rates to develop a fleet-wide takes estimate (NMFS 2014). For example, if quarterly observer coverage for the fishery is 20 percent, NMFS multiplies each observed take by a factor of 5 to estimate fleet-wide takes (100/20 = 5). For purposes of tracking takes against the ITS in near-real time, NMFS uses quarterly take rates to expand observed takes to a fleet-wide total and round fractional takes up to a whole number to be conservative in our estimates of fleet-wide takes.

On December 8, 2014, and November 7, 2015, NMFS observers on deep-set longline vessels documented two fishery takes with green sea turtles, both of which resulted in mortalities. Observer coverage in the fourth quarter of 2014 was 19.8%, resulting in an expansion factor of 5.05 (100/19.8 = 5.05) (NMFS 2015b). Observer coverage in the fourth quarter of 2015 was 19 percent, resulting in an expansion factor of approximately six (100/19 = 5.26) (NMFS 2016b). These two takes result in an estimated expanded fleet-wide total of 11 takes since July 2014. These 11 takes exceed the three-year ITS of 9 takes authorized in the 2014 BiOp and triggered the requirement for NMFS to consult on the fishery's effects on green sea turtle species.

Listing of 11 Green Sea Turtle DPS under the ESA

As mentioned above, on April 6, 2016, NMFS and the U.S. Fish and Wildlife Service published a final rule that removed the previous range-wide listing of green sea turtles under the ESA and, in its place, listed eight DPS as threatened and three as endangered. Six of the green sea turtle DPS – the East Pacific DPS, the Central North Pacific DPS, the Central West Pacific DPS, the Central South Pacific DPS, the Southwest Pacific DPS, and East Indian-West Pacific DPS – may occur in the area where the Hawaii deep-set longline fishery operates and have the potential to interact with the fishery (NMFS 2016a). This listing triggered the requirement for NMFS to consult on the fishery's effects on these DPS. Table 2 provides the status for each green sea turtle DPS as well as the estimated number of nesting sites and nesting population size as reported in the March 2015 Status Review of the green Sea Turtles under the ESA (Seminoff et al., 2015).

Table 2. Estimated green sea turtle nesting sites and nesting population by DPS.

Green Sea Turtle DPS	ESA Status	Number of Nesting Sites	Nesting Population Size
East Indian-West Pacific DPS	Threatened	58	77,009
Central West Pacific DPS	Endangered	51	6,518
Southwest Pacific DPS	Threatened	12	83,058
Central South Pacific DPS	Endangered	59	2,677
Central North Pacific DPS	Threatened	13	3,846
East Pacific DPS	Threatened	39	20,062

Source: Seminoff et al., (2015)

For more information on the status of the green sea turtles and the environmental baseline, see the 2014 BiOp (NMFS 2014), the 2015 Status Review of the Green Sea Turtles under the ESA (Seminoff et al., 2015), and the green sea turtle DPS final rule (81 FR 20058, April 6, 2016).

2.2.3 Supplemental Effects Analysis for Green Sea Turtle DPS

Between 2008 and 2015, NMFS observers recorded a total of seven green sea turtle takes in the Hawaii deep-set longline fishery (Table 3). As noted in Section 2.2.2, NMFS relies on fleet-wide take estimates generated by PIFSC using methods described in McCracken (2009a, 2009b, 2011, 2012, 2013, 2014), when available. When this data are not available, NMFS estimates fleet-wide by expanding observed takes using an expansion factor based on the observer coverage rate. In applying these expansion methods, NMFS estimates that the fishery could take between zero and 15 sea turtles in any given year. Based on an annual average of turtle takes per 1,000 hooks, NMFS anticipates the fishery could take up to four green sea turtles annually in the future (Table 3 and NMFS 2016a).

Table 3. Estimated green sea turtle takes in the Hawaii deep-set longline fishery.

Year	Observed	Estimated McCracken	% Observer Coverage	Expansion Factor[a]	Estimated Take[b]	Total Hooks	Take Rate (Turtles per 1,000 hooks)
2008	0	0	-	-	0	41,580,233	0
2009	0	0	-	-	0	37,770,913	0
2010	1	1	-	-	1	37,244,654	0.0000268
2011	1	5	-	-	5	40,022,142	0.0001249
2012	0	0	-	-	0	44,163,002	0.0000000
2013	1	5	-	-	5	46,769,514	0.0001069
2014	3[c]	NA	20.80	4.81	15	45,646,747	0.0003286
2015[d]	1	NA	20.60	4.85	5	9,393,234	0.0001065
Total	7				31		
Average	0.875				3.88		0.0000867
Future	46,117,532*0.00008672/1000= 4.0 annually						

[a] 100/ observer coverage. For example, for 2014, 100/20.80 = 4.81.

[b] (Observed interactions) x (Expansion factor). For example, for 2014, 3 x 4.81 = 14.43 (rounded to 15).

[c] For 2015: Used total observed hooks, percent observer coverage, and total observed interactions from the Pacific Islands Regional Observer Program Deep-set Annual Status Report, 2015. Interaction rate is based on observed data, not a fleet-wide total (expansion).

[d] For 2016: Used total observed hooks from the Pacific Islands Regional Observer Program Deep-set Quarterly Status Report, Q1 2015. Percent observer coverage is as reported by the PIRO Observer Program on February 11, 2016. Interaction rate is quarterly, not annual, and is based on observed data, not a fleet-wide total (expansion). Average interaction rate is sum of interaction rates divided by 8.25 to take into account Q1 2016.

The NMFS Southwest Fisheries Science Center conducted genetic analyses based on samples from 13 green sea turtles caught in the deep-set longline fishery (including turtles caught prior to 2008) using two different approaches: (1) a mixed stock analysis (MSA) of pooled data, and (2) a direct count of individual assignments based on haplotype that incorporated photo identification. Both approaches resulted in similar estimates in attributing each turtle to a DPS.

The Bayesian MSA indicated that the 13 turtles originated mainly from rookeries in the East Pacific DPS (mean=68%; 95% CI=41-91%). NMFS estimated approximately 13 percent (mean=13%; 95% CI=0-36%) belong to the Central North Pacific DPS and eight percent (mean=8%; 95% CI=0-27%) belong to each the East Indian-West Pacific DPS and the Southwest Pacific DPS. Attribution to the Central West and Central South Pacific DPS can be considered statistical artifacts of the MSA, with estimates of two percent and one percent respectively (mean=2%, CI=0-12% and mean=1%, CI=0-8% respectively).

Using the direct assignment approach, NMFS assigned nine of the 13 samples to the East Pacific DPS and one each to the East Indian-West Pacific DPS and the Southwest Pacific DPS. The remaining two turtles had haplotypes most commonly found in rookeries of the Central North Pacific DPS, but also found more rarely in a rookery of the East Pacific DPS. However, NMFS assigned these two samples to the Central North Pacific DPS based on photo identification (they did not have the characteristic eastern Pacific morphotype), and the relative rookery haplotype frequencies. Therefore, of the 13 samples analyzed, the direct assignment approach attributes nine (69%) to nesting populations in the East Pacific DPS, two (15%) to nesting populations in the Central North Pacific, one (8%) to the East Indian-West Pacific DPS and one (8%) to the Southwest Pacific DPS (Dutton, NMFS, pers. comm. 2/11/2016).

NMFS has chosen to use the direct approach for assigning individual green sea turtle takes to the DPS because the sample set is relatively small, and the uncertainty of the ambiguous genetic assignments is minimized by incorporating secondary photo evidence. In comparison, the MSA has inflated statistical uncertainty introduced by the shared haplotypes and small sample size.

Because take of green sea turtles in the Hawaii deep-set longline fishery is a rare occurrence, NMFS cannot accurately predict the total number of sea turtles that the fishery will take in any given year. As shown in Table 3, NMFS estimates that the fishery may take zero turtles in one year and as many as 15 in another. Although the take rate methodology shown in Table 3 above suggests the fishery could take on average up to four green sea turtle takes annually, NMFS believes that additional green sea turtle takes are reasonably certain to occur. This is because applying the genetic percentages from the direct assignment approach above to the four estimated green sea turtle takes results in three takes attributed to the Eastern Pacific DPS (4 x

0.69 = 2.76 rounded to 3) and one take attributed to the Central North Pacific DPS (4 x 0.15 = 0.6 rounded to 1). As a result, the four annual takes do not allow NMFS to account for takes of green sea turtles from the East Indian-West Pacific DPS and the Southwestern DPS, which genetic analysis confirmed has occurred in the fishery.

NMFS believes that future interactions with the East Indian-West Pacific DPS and the Southwestern DPS, though less frequent, are still reasonably certain to occur. Although the haplotypes associated with these DPS were distinct for the two samples analyzed, there are other haplotypes associated with these DPS that have a high degree of overlap, making identification to the precise DPS potentially challenging. To account for this uncertainty, NMFS anticipates up to two takes annually from either the East Indian-West Pacific or the Southwest Pacific DPS.

NMFS also anticipates additional takes of green sea turtle due to the uncertainty associated with DPS assignment for haplotypes common to both the Central North Pacific and East Pacific DPS. As discussed above, two of the 13 green sea turtle samples had haplotypes most commonly found in rookeries of the Central North Pacific DPS, but also found more rarely in a rookery of the East Pacific DPS. Examination of photographs of turtles that had these haplotypes indicated that they were probably from the Central North Pacific DPS, making it more likely that future interactions with turtles that have these shared haplotypes will also be attributed to the Central North Pacific DPS rather than the East Pacific DPS. Due to the uncertainty with assigning DPS for these haplotypes and the likelihood that future interactions with these haplotypes will be from the Central North Pacific DPS, NMFS anticipates a second interaction with the Central North Pacific DPS.

There has never been a genetically-confirmed take from the Central West Pacific or Central South Pacific DPS. However, NMFS anticipates takes with turtles from these two DPS are reasonably certain to occur because their distribution overlaps with areas where the Hawaii-deep set longline fishery operates. Additionally, NMFS does not collect genetic samples from turtles incidentally caught on trips without a NMFS observer onboard (80 percent of all deep-set trips). Therefore, NMFS has only conducted genetic testing on a small number of turtles taken in the fishery because only 20 percent of Hawaii deep-set longline trips carry NMFS observers.

Because the number of genetic samples from turtles taken in the Hawaii deep-set longline fishery is small (n = 13), there is uncertainty in the proportions estimated from these samples. To account for that uncertainty, NMFS used the Wilson Score Method (Wilson 1927, Newcombe 1998) to estimate 95% confidence intervals to estimate the proportion of green sea turtle takes that could come from either the Central South Pacific or Central West Pacific DPS. This method, which makes it possible to estimate upper confidence intervals for proportions even when a series of trials have resulted in zero outcomes, produced upper confidence intervals of 22.81% for both the Central South Pacific and Central West Pacific DPS. In plain language, the sample size of green sea turtle genetic samples is so small that even though zero samples were assigned to the Central South Pacific and Central West Pacific DPS, there is up to a 22.81% chance of future take coming from those DPS. Apply this proportion to the annual take of 4 greens, up to 1 of the 4 annual takes could be from the Central South Pacific DPS, and up to 1 of the 4 annual takes could also be from the Central West Pacific DPS. This supports the anticipated annual take of one (1) green sea turtle from either the Central West Pacific or the Central South Pacific DPS.

NMFS expects the NMFS Southwest Fisheries Science Center to continue to analyze all tissue samples collected by observers from green sea turtles incidentally taken in the fishery to aid identification to a distinct DPS.

In summary, NMFS anticipates that the Hawaii deep-set longline fishery could take up to eight green sea turtles annually, with potentially three from the Eastern Pacific DPS, two from the Central North Pacific DPS, two from either the East Indian-West Pacific or Southwest Pacific DPS and one from either the Central West Pacific or Central South Pacific DPS. Table 4 summarizes the genetic results discussed above and the allocation of the eight annual takes to each of the DPS.

Table 4. Estimated annual takes by green sea turtle DPS.

Green Sea Turtle DPS	Number of samples assigned (percent of total samples)	Estimated annual interactions based on Table 2[a]	Additional estimated annual interactions
East Pacific	9 (69%)	3	0
Central North Pacific	2 (15%)	1	1
East Indian-West Pacific	1 (8%)	0	2 (East Indian-West Pacific or Southwest Pacific)
Southwest Pacific	1 (8%)	0	
Central West Pacific	0 (0%)	0	1 (Central West Pacific or Central South Pacific)
Central South Pacific	0 (0%)	0	
TOTAL		**4**	**4**

[a] Based on Table 2, we anticipate four interactions annually. By applying the genetic percentages to the 4 annual interactions, we anticipate 3 annual interactions with the East Pacific DPS (0.69*4 = 2.76) and 1 annual interaction with the Central North Pacific DPS (0.15*4 = 0.6).

When taking into account all observed green sea turtle takes since 1998, the post-hooking mortality rate for green sea turtles in the Hawaii deep-set longline fishery is 94.1 percent (previously 92.3 percent), based on NMFS post-hooking mortality criteria (Ryder et al. 2006). Therefore, NMFS estimates that all eight green sea turtle takes would result in mortality (8*0.941= 7.25, rounded up to 8).

The Council has not yet recommended catch and allocation limits for beyond 2016. However, NMFS believes it reasonably foreseeable that the Council may recommend the 2016 proposed catch and allocation limits in 2017 and again in 2018. Therefore, NMFS anticipates the fishery could take up to 24 green sea turtles over a three-year period. To estimate the risk that the Hawaii deep-set longline fishery poses to sea turtle populations, NMFS estimates the number of adult females (termed the adult nester equivalent or ANE) harmed through injury or death. To do this, NMFS applies two adjustment factors (1) the proportion of females in the population, and (2) the adult equivalent represented by juvenile sea turtle interactions with the fishery. Based on

discounting methods described in Van Houtan (2013, 2014), and considering the potential for up to 24 takes over a three-year period (8*3=24), NMFS calculated an ANE of 0.32 for the three-year period (T. Jones, NMFS, pers. comm., 5/12/2016).

As previously noted, NMFS cannot accurately predict the total number of sea turtles that the fishery will take in any given year, nor accurately predict which DPS a turtle will originate. We do expect the NMFS Southwest Fisheries Science Center to continue to analyze all tissue samples collected by observers from green sea turtles incidentally taken in the fishery to aid identification to a distinct DPS. Therefore, taking a conservative approach, which anticipates all take could come from a single DPS, we assign the full ANE of 0.32 to each DPS that could interact with the fishery to derive the proportion of the nesting population that may result in a mortality over a three-year period. For each DPS, the ANE represents between 0.00039 percent and 0.01235 percent of adult female nesters (Table 5). These numbers, proportionally adjusted to an annual basis, are analogous to the fishery causing a single adult female mortality every 9.34 years. For each DPS, this is an insubstantial fraction of the overall nesting population. Thus, the level of take over a three-year period would have an insubstantial impact on green sea turtle DPS (T. Jones, NMFS, pers. comm., 5/12/2016).

Given this information, the best available scientific and commercial information indicates that under all alternatives considered, the Hawaii deep-set fishery is not expected to have a substantial effect on the overall size of any nesting population and is not likely to reduce appreciably the likelihood of both survival and recovery of any of the six DPS of green sea turtles in the wild. Therefore, under the proposed action, NMFS expects the overall DPS to remain large enough to maintain genetic heterogeneity, broad demographic representation, and successful reproduction, and to retain the potential for recovery.

Table 5. Assignment of ANE to nesting populations of the six green sea turtle DPS.

Species	Total Estimated Annual Takes	Total Takes over 3 yrs.	ANE	Proportion of Nesting Population	Years to Female Mortality	Significant Impact to Population
All Green DPS Combined	**8**	24	0.32	n/a	9.34	n/a
- Eastern Pacific DPS	3	n/a	0.32	0.0000161	9.34	No
- Central North Pacific DPS	2	n/a	0.32	0.0000845	9.34	No
- East Indo-west Pacific DPS	2	n/a	0.32	0.0000042	9.34	No
- Southwest Pacific DPS		n/a	0.32	0.0000039	9.34	No
- Central West Pac. DPS	1	n/a	0.32	0.0000845	9.34	No
- Central South Pac. DPS		n/a	0.32	0.0001235	9.34	No

Source: NMFS unpublished data.

2.3 North Pacific Loggerhead Sea Turtle DPS

2.3.1 Summary of the 2014 BiOp Effects Analysis for North Pacific Loggerhead Sea Turtle DPS

The 2014 BiOp anticipated the Hawaii deep-set longline fishery could take up to three North Pacific loggerhead sea turtles annually or nine over a three-year period. Using NMFS post-hooking mortality criteria described in Ryder et al. (2006), the 2014 BiOp also estimated that 72 percent of all takes would result in mortality. Applying this post-hooking mortality rate, the 2014 BiOp estimated that three annual takes would result in three mortalities annually (rounded up from 2.16), or nine mortalities over a three-year period.

To estimate the risk that the Hawaii deep-set longline fishery poses to the North Pacific loggerhead DPS, the 2014 BiOp estimated the number of adult females (termed the adult nester equivalent or ANE) harmed through injury or death. To do this, the 2014 BiOp applied two adjustment factors: (1) the proportion of females in the population, and (2) the adult equivalent represented by each juvenile sea turtle interactions with the fishery.

In the 2014 BiOp, NMFS estimated the number of nesting females for the eastern Pacific nesting aggregation was 6,637. Based on the methods described in the 2014 BiOp, NMFS estimated the annual incidental take associated mortality in the fishery was equivalent to an ANE of 0.18. This ANE estimate represented under 0.003 percent of breeding females (6,673) in the North Pacific loggerhead DPS (0.18/6,637*100= 0.003), which is analogous to incurring a single adult female mortality every 5.4 years. In terms of population level significance, the 2014 BiOp found that this take-associated mortality had a negligible population influence.

2.3.2 New Information on North Pacific Loggerhead Sea Turtle DPS

On February 18, 2015, October 12, 2015, January 31, 2016, and February 1, 2016, NMFS observers on deep-set longline vessels documented four fishery interactions with loggerhead sea turtles, three of which resulted in mortalities; the fourth turtle was released injured. Observer coverage in the first quarter of 2015 was 19.8%, resulting in an expansion factor of 5.05 (100/19.8 = 5.05) (NMFS 2015b). Observer coverage in the fourth quarter of 2015 was 19 percent, resulting in an expansion factor of 5.26 (100/19 = 5.26) (NMFS 2016b). An estimate of 20% observer coverage in the first quarter of 2016, results in an expansion factor of five. These four takes result in an estimated expanded fleet-wide total of 21 takes since July 2014. These 21 takes exceed the three-year ITS of 9 takes authorized in the 2014 BiOp and triggered the requirement for NMFS to consult on the fishery's effects on the North Pacific loggerhead DPS.

2.3.3 Supplemental Effects Analysis for North Pacific Loggerhead Sea Turtle DPS

Between 2008 and March 30, 2016, NMFS observers have recorded a total of seven North Pacific loggerhead sea turtle takes in the Hawaii deep-set longline fishery (Table 6). As noted in Section 2.2.2, NMFS relies on fleet-wide take estimates generated by PIFSC using methods described in McCracken (2009a, 2009b, 2011, 2012, 2013, 2014), when available. When this data are not available, NMFS estimates fleet-wide by expanding observed takes using an

expansion factor based on the observer coverage rate. In applying these expansion methods, NMFS estimates the fishery could take between zero and 11 sea turtles in any given year. Based on an annual average of turtle takes per 1,000 hooks, NMFS anticipates the fishery could take up to five (rounded up from 4.77) North Pacific loggerhead sea turtles annually in the future (Table 6 and NMFS 2016a).

Table 6. Estimated loggerhead sea turtle takes in the Hawaii deep-set longline fishery.

Year	Observed	Estimated McCracken	% Observer Coverage	Expansion Factor[a]	Estimated Take[b]	Total Hooks	Take Rate (Turtles per 1,000 hooks)
2008	0	0	-	-	0	41,580,233	0
2009	0	0	-	-	0	37,770,913	0
2010	1	6	-	-	6	37,244,654	0.0001611
2011	0	0	-	-	0	40,022,142	0.0000000
2012	0	0	-	-	0	44,163,002	0.0000000
2013	2	11	-	-	11	46,769,514	0.0002352
2014	0	NA	20.80	4.81	0	45,646,747	0.0000000
2015[c]	2	NA	20.60	4.85	10	9,393,234	0.0002129
2016[d]	2	NA	23.08	4.33	9	2,050,902	0.0002438[e]
Total	7				36		
Average	0.85				4.36		0.0001034
Future	46,117,532*0.0001034/1000= 4.77 annually						

[a] 100/ observer coverage. For example, for 2015, 100/20.80 = 4.85.

[b] (Observed interactions) x (Expansion factor). For example, for 2015, 2(4.85) = 9.7 rounded to 10).

[c] For 2015: Used total observed hooks, percent observer coverage, and total observed interactions from the Pacific Islands Regional Observer Program Deep-set Annual Status Report, 2015.

[d] For 2016: Used total observed hooks from the Pacific Islands Regional Observer Program Deep-set Quarterly Status Report, Q1 2015 as a proxy for effort in Q1 2016. Percent observer coverage is as reported by the PIRO Observer Program on February 11, 2016.

[e] Interaction rate is quarterly, and divided by four, and is based on observed data, not a fleet-wide total (expansion). Average interaction rate is sum of interaction rates divided by 8.25 to take into account Q1 2016.

When taking into account all observed loggerhead sea turtles takes in the North Pacific since 2002, the post-hooking mortality rate for the North Pacific loggerhead sea turtle DPS in the Hawaii deep-set longline fishery is 73.4 percent (previously 72 percent), based on NMFS post-hooking mortality criteria (Ryder et al. 2006). Therefore, NMFS estimates that four of the five loggerhead sea turtle takes would result in mortality (5*0.734=3.67, rounded up to four).

The Council has not yet recommended catch and allocation limits for beyond 2016. However, NMFS believes it reasonably foreseeable that the Council may recommend the 2016 proposed catch and allocation limits in 2017, and again in 2018. Therefore, NMFS anticipates that the fishery could take up to 15 loggerhead sea turtle from the North Pacific DPS over a three-year period.

To estimate the risk that the Hawaii deep-set longline fishery poses to sea turtle populations, NMFS estimates the number of adult females (termed the adult nester equivalent or ANE) harmed through injury or death. To do this, NMFS applied two adjustment factors: (1) the proportion of females in the population, and (2) the adult equivalent represented by juvenile sea turtle interactions with the fishery. Based on discounting methods described in Van Houtan (2013, 2014), and considering the potential for up to 15 takes over a three-year period (5*3=15), NMFS calculated an ANE of 0.81 for North Pacific loggerhead sea turtles for the three-year period (T. Jones, NMFS, pers. comm., 5/12/2016).

NMFS then compared the full ANE of 0.81 to the estimated number of 8,897 total nesters, all of which nest in Japan. NMFS estimated total nesters by adding the total nest count from 2009, 2010, and 2011 (Matsuzawa 2010, 2011, 2012), which reflects a 2.7-year remigration interval (Conant et al. 2009), and dividing by an average clutch frequency of 3 nests per female per year (Conant et al. 2009). This ANE estimate represents under 0.0091 percent of nesting females in the North Pacific loggerhead DPS (0.81/8,897*100 = 0.0091), which is analogous to incurring a single adult female mortality every 3.7 years. This level of take is an insubstantial fraction of the overall nesting population. Thus, the level of take over a three-year period would have an insubstantial impact on the North Pacific loggerhead sea turtle DPS (T. Jones, NMFS, pers. comm., 5/12/2016).

Given this information, the best available scientific and commercial information indicates that under all alternatives considered, the Hawaii deep-set fishery is not expected to have a substantial effect on the overall size of the North Pacific loggerhead nesting population and is not likely to reduce appreciably the likelihood of both survival and recovery of any of the species in the wild. Therefore, under the proposed action, NMFS expects the overall DPS to remain large enough to maintain genetic heterogeneity, broad demographic representation, and successful reproduction, and to retain the potential for recovery.

2.4 Olive Ridley Sea Turtles

2.4.1 Summary of the 2014 BiOp Effects Analysis for Olive Ridley Sea Turtles

The 2014 BiOp anticipated the Hawaii deep-set longline fishery could take up to 33 olive ridley sea turtles annually or 99 olive ridley sea turtles over a three-year period. Using NMFS post-hooking mortality criteria described in Ryder et al. (2006), the 2014 BiOp also estimated that 94.7 percent of all takes would result in mortality. Applying this post-hooking mortality rate, the 2014 BiOp, estimated that 33 annual takes would lead to 32 (rounded up from 31.25) olive ridley mortalities or 96 mortalities over a three-year period.

Based on genetic samples from olive ridley sea turtles incidentally caught in the Hawaii deep-set longline fishery, NMFS, in the 2014 BiOp, determined that 77 percent of turtles caught could be from the eastern Pacific population and 23 percent from the western pacific population. Based on this breakdown, NMFS anticipated that each year 25 turtle mortalities from the eastern Pacific population (32*77 percent=24.64 rounded up to 25), and 8 turtle mortalities from the western Pacific population (32*23 percent=7.36 rounded up to 8) would occur as a result of fishery takes.

To estimate the risk that the Hawaii deep-set longline fishery poses to olive ridley sea turtle populations, the 2014 BiOp estimated the number of adult females (termed the adult nester equivalent or ANE) harmed through injury or death. To do this, the 2014 BiOp applied two adjustment factors: (1) the proportion of females in the population, and (2) the adult equivalent represented by juvenile sea turtle interactions with the fishery.

2014 BiOp Effects Analysis for the Eastern Pacific Population

In the 2014 BiOp, NMFS estimated the eastern Pacific population had at least one million adult nesting females. Based on the methods described in the 2014 BiOp, NMFS assumed that fifty percent of the adult mortalities are female and concluded that the impact would be 0.0000013 percent of the adult female population that would be affected. The 2014 BiOp considered this level of take associated mortality of the eastern Pacific nesting population to be extremely small.

2014 BiOp Effects Analysis for the Western Pacific Population

In the 2014 BiOp, NMFS estimated that the western Pacific population had at least 33,500 adult nesting females. Based on the methods described in the 2014 BiOp, NMFS assumed that fifty percent of the adults killed are female and concluded that the impact would be 0.012 percent of the adult female population that would be affected. The 2014 BiOp concluded that this level of take associated mortality of the western Pacific nesting population to be extremely small. Therefore, the 2014 BiOp considered the risk to both the eastern and western Pacific populations from the Hawaii-based longline fishery to be negligible and, therefore, negligible to the species as a whole.

2.4.2 New Information on Olive Ridley Sea Turtle

Since July 2014, NMFS observers on deep-set longline vessels documented 23 interactions with olive ridley sea turtles, most of which resulted in mortalities. Quarterly observer coverage between July 2014 and February 2016 ranged between 19 and 25.6 percent resulting in an expansion factor of approximately ranging between 3.91 and 5.26 depending on the quarter (NMFS 2016b). See Table 7 for more details on observed interactions, percent observer coverage, expansion factor and fleet-wide total takes by quarter. These 23 observed takes result in an estimated expanded fleet-wide total of 116 takes since July 2014. These 116 takes exceed the three-year ITS of 99 takes authorized in the 2014 BiOp and triggered the requirement for NMFS to consult on the fishery's effects on olive ridley sea turtles.

Table 7. Olive ridley sea turtle takes in the Hawaii deep-set longline fishery since July 2014.

Quarter	Observed Interactions [b]	Observer Coverage (Percent)	Expansion Factor	Fleet-wide Total
Q3 2014	1	25.6	3.91	4
Q4 2014	2	19.8	5.05	10
Q1 2015	4	19.8	5.05	20
Q2 2015	7	19.7	5.08	36

Quarter	Observed Interactions [b]	Observer Coverage (Percent)	Expansion Factor	Fleet-wide Total
Q3 2015	0	24.3	4.12	0
Q4 2015	3	19.0	5.26	16
Q1 2016	13	21.4	4.67	61
Total	30	-	-	147

Source: NMFS (2015b, 2015c, 2015d, 2015f, 2016b, 2016c).
Note: Observed interactions based on interaction date.

2.4.3 Supplemental Effects Analysis for Olive Ridley Sea Turtles

Between 2008 and March 30, 2016, NMFS observers have recorded a total of 61 olive ridley sea turtle takes in the Hawaii deep-set longline fishery (Table 8). As noted in Section 2.2.2, NMFS relies on fleet-wide take estimates generated by PIFSC using methods described in McCracken (2009a, 2009b, 2011, 2012, 2013, 2014), when available. When this data are not available, NMFS estimates fleet-wide by expanding observed takes using an expansion factor based on the observer coverage rate. . In applying these expansion methods, NMFS estimates the fishery could take between nine and 64 sea turtles in any given year. Based on an annual average of turtle takes per 1,000 hooks, NMFS anticipates the fishery could take up to 39 (rounded up from 38.22) olive ridley sea turtles annually in the future (Table 8 and NMFS 2016a).

Table 8. Estimated olive ridley sea turtle takes in the Hawaii deep-set longline fishery.

Year	Observed	Estimated McCracken	% Observer Coverage	Expansion Factor[a]	Estimated Take[b]	Total Hooks	Take Rate (Turtles per 1,000 hooks)
2008	3	18	-	-	9	41,580,233	0.0004329
2009	4	18	-	-	19	37,770,913	0.0004766
2010	4	10	-	-	19	37,244,654	0.0002685
2011	7	36	-	-	34	40,022,142	0.0008995
2012	6	34	-	-	29	44,163,002	0.0007699
2013	9	42	-	-	44	46,769,514	0.0008980
2014	8	NA	20.80	4.81	39	45,646,747	0.0008544
2015[c]	13	NA	20.60	4.85	64	9,393,234	0.0013840
2016[d]	7	NA	23.08	4.33	31	2,050,902	0.0008533
Total	61				288		
Average	7.39				34.91		0.0008287
Future	46,117,532*0.0008287/1000= 38.22 annually						

Source: NMFS 2016a.
Note: Observed interactions based on date vessel arrived at port.
[a] 100/ observer coverage. For example, for 2015, 100/20.89 = 4.85
[b] (Observed interactions) x (Expansion factor). For example, for 2015, 13(4.85) = 63.05 rounded to 64.
[c] For 2015: Used total observed hooks, percent observer coverage, and total observed interactions from the Pacific Islands Regional Observer Program Deep-set Annual Status Report, 2015. Interaction rate is based on observed data, not a fleet-wide total (expansion).

[d] For 2016: Used total observed hooks from the Pacific Islands Regional Observer Program Deep-set Quarterly Status Report, Q1 2015. Percent observer coverage is as reported by the PIRO Observer Program on February 11, 2016. Interaction rate is quarterly, not annual, and is based on observed data, not a fleet-wide total (expansion). Average interaction rate is sum of interaction rates divided by 8.25 to take into account Q1 2016.

When taking into account all observed olive ridley sea turtles takes since 1995, the post-hooking mortality rate for olive ridley sea turtles DPS in the Hawaii deep-set longline fishery is 94.87 percent based on NMFS post-hooking mortality criteria (Ryder et al. 2006). Therefore, NMFS estimates 37 of the 39 takes would result in mortality (39*0.9487= 36.9 rounded up to 37).

The Council has not yet recommended catch and allocation limits for beyond 2016. However, NMFS believes it reasonably foreseeable that the Council may recommend the 2016 proposed catch and allocation limits in 2017 and again in 2018. Therefore, NMFS anticipates the fishery could take up to 117 olive ridley sea turtles over a three-year period.

To estimate the risk that the Hawaii deep-set longline fishery poses to sea turtle populations, NMFS estimates the number of adult females (termed the adult nester equivalent or ANE) harmed through injury or death. To do this, NMFS applied two adjustment factors: (1) the proportion of females in the population, and (2) the adult equivalent represented by juvenile sea turtle interactions with the fishery. Based on discounting methods described in NMFS (2016b), which considers measured observer interaction data giving the turtles' straight carapace lengths, and estimating time to maturity based on published age and growth estimates from Zug et al. 2006, and individual mortality estimates (based on Ryder et al. 2006) for each turtle provided by NMFS observers (i.e., demographic matching), NMFS estimates that 39 takes annually or 117 over a three-year period (39*3=117), would result in an ANE of 32.62 for this population using exact demographic matching, described by Van Houtan (2015).

As noted above, genetic samples from olive ridley sea turtles incidentally caught in the Hawaii deep-set longline fishery indicate that 77 percent of turtles caught could be from the eastern Pacific nesting aggregation and 23 percent from the western pacific nesting aggregation (NMFS 2014). Thus, NMFS divides the ANE of 32.62 proportionately to each nesting aggregation resulting in an ANE of 25.12 for the eastern Pacific aggregation and an ANE of 7.50 for the western Pacific aggregation (T. Jones, NMFS, pers. comm. 5/24/2016).

Supplemental Effects Analysis for the Eastern Pacific Population

The eastern Pacific population of olive ridley sea turtles has over 1,000,000 nesters (NMFS & USFWS 2014) annually and in the scenarios above we assigned the ANE of 25.12 to the eastern Pacific population. This ANE estimate represents under 0.002512 percent of nesting females (25.12/1,000,000*100 = 0.002512), which is analogous to incurring a single adult female mortality every 0.12 years. This level of take is an insubstantial fraction of the overall nesting population. Thus, the level of take over a three-year period would have an insubstantial impact on the olive ridley sea turtle population (T. Jones, NMFS, pers. comm., 5/24/2016).

Supplemental Effects Analysis for the Western Pacific Population

In the 2014 BiOp, NMFS estimated that the western Pacific population has at least 33,500 adult nesting females. However, additional information from Shankar et al. (2003), Whiting et al. (2007) and SWOT (2009-2010) suggest nesting aggregations in the western Pacific are much greater than 33,500. As of 1999, over 200,000 turtles were known to nest per year in the greater Orissa area of India and, as of 2005, the northern Australian nesters ranged from 1,000 to 4,000 nesters per year. Throughout the rest of India and Southeast Asia there are several thousand additional nesters (data 1999 – 2007). For the purpose of this analysis, NMFS estimates the western Pacific aggregation of olive ridley sea turtles is approximately 205,000 (females nesting per year).

Applying the ANE estimate of 7.50 represents under 0.002512 percent of nesting females (7.50/205,000*100 = 0.003659), which is analogous to incurring a single adult female mortality every 0.4 years. This level of take is an insubstantial fraction of the overall nesting population. Thus, the level of take over a three-year period would have an insubstantial impact on the overall olive ridley sea turtle population (T. Jones, NMFS, pers. comm., 5/24/2016).

Given this information, the best available scientific and commercial information indicates that under all alternatives considered, the Hawaii deep-set fishery is not expected to have a substantial effect on the overall size of the olive ridley nesting populations and is not likely to reduce appreciably the likelihood of both the survival and recovery of the species in the wild. Therefore, under the proposed action, NMFS expects the overall population to remain large enough to maintain genetic heterogeneity, broad demographic representation, and successful reproduction, and to retain the potential for recovery.

As noted above, NMFS expects to complete the ESA section 7 consultation and issue a new biological opinion for the fishery within six months of April 13, 2016 (on or before October 12, 2016). If the information in that biological opinion indicates the continued operation of the Hawaii deep-set longline fishery, including under the proposed action, would result in impacts to sea turtle species that are substantially different from the analysis in this document, NMFS would evaluate that information and prepare additional environmental analyses, as warranted.

2.5 Other Relevant Information

This section briefly describes other information relevant to the proposed action that NMFS received after the agency finalized the 2015 EA and issued a FONSI on September 29, 2016. This information is not further analyzed here because it does not represent information that is substantially different from the information used in the environmental effects analysis of the proposed action, and/or the information does not change the scope of the original environmental review contained in the 2015 EA.

2.5.1 Fishery Performance of the Hawaii Deep-set Longline Fishery in 2015

The 2015 fishing year for the Hawaii deep-set longline fishery began on January 1, 2015. On August 5, 2015, NMFS restricted the retention, transshipment and landing of bigeye tuna

captured by longline gear in the western and Central Pacific Ocean (WCPO) as a result of the U.S. longline fishery reaching the 2015 U.S. bigeye tuna limit of 3,502 mt (80 FR 44883, July 28, 2015).

In a final rule published on, October 14, 2015, NMFS specified a 2015 limit of 2,000 metric tons (mt) of longline-caught bigeye tuna for the Northern Mariana Islands, and allowed the territory to allocate up to 1,000 mt to U.S. longline fishing vessels identified in a specified fishing agreement that meets established criteria (80 FR 61767). As a result, the Governor of the CNMI entered into a specified fishing agreement with vessels in the Hawaii longline fishery and allocated 1,000 mt of CNMI's 2,000 mt bigeye tuna limit to vessels listed in the agreement. NMFS determined that the specified fishing agreement was consistent with the criteria set forth in 50 CFR 665.819 and Hawaii based longline vessels again began fishing for bigeye tuna in the WCPO under the fishing agreement. NMFS forecasted vessels listed in the specified fishing agreement would reach the 1,000 mt allocation limit on November 30, 2015, and issued a notice that it would restrict retention of bigeye tuna by vessels identified in the CNMI agreement on that date (80 FR 74002, November 27, 2015).

In a final rule published on November 6, 2015, NMFS specified a 2015 limit of 2,000 metric tons (mt) of longline-caught bigeye tuna for Guam and allowed the territory to allocate up to 1,000 mt to U.S. longline fishing vessels identified in a specified fishing agreement that meets established criteria (80 FR 68778). As a result, the Governor of Guam entered into a specified fishing agreement with vessels in the Hawaii longline fishery and allocated 1,000 mt of Guam's 2,000 mt bigeye tuna limit to vessels listed in the agreement (80 FR 75437, December 2, 2015). NMFS determined that the specified fishing agreement was consistent with the criteria set forth in 50 CFR 665.819 and Hawaii based longline vessels began fishing for bigeye tuna in the WCPO under the Guam fishing agreement on November 25, 2015. As noted above, NMFS did not implement catch and allocation limits for American Samoa in 2015.

Preliminary data from the Pacific Islands Fisheries Science Center (PIFSC) indicate that Hawaii longline vessels caught the entire 2015 U.S. longline bigeye tuna quota of 3,502 mt, plus an additional 1,000 mt bigeye tuna provided by the CNMI specified fishing agreement, but did not reach the 1,000 mt allocation limit provided by the Guam specified fishing agreement before the end of the 2015 fishing year on December 31, 2015. Preliminary data from PIFSC also indicate that the American Samoa longline fishery caught less than 1,000 mt of bigeye tuna in 2015, and no bigeye tuna was harvested by longline vessels in Guam or the CNMI in 2015. Therefore, total bigeye tuna caught by U.S. longline vessels in 2015 remained below the maximum levels analyzed in the 2015 EA. For this reason, NMFS believes that the bigeye tuna impact analysis contained in the 2015 EA remains valid for 2016. NMFS has no additional information on 2015 catches of other pelagic species caught in the Hawaii longline fishery.

2.5.2 Evaluation of CMM 2014-01

Summary of Prior Evaluation of CMM 2013-01 (precursor to CMM 2014-01 and relationship to CMM 2015-01)

At the 11th Regular Session of the WCPFC held December 1-5, 2014, in Apia, Samoa, the Secretariat of the Pacific Community (SPC), which is the scientific services provider to the WCPFC, presented a stochastic evaluation of the effects of CMM 2013-01 (the precursor to CMM 2014-01) on bigeye tuna stock status assuming the conservation and management measures were fully implemented (SPC 2014a). Like CMM 2014-01 (and now CMM 2015-01), the objective of CMM 2013-01 was to reduce fishing mortality of bigeye tuna to a level no greater than the fishing mortality that produces maximum sustainable yield or F_{MSY}, (i.e., $F/F_{MSY} \leq 1$).

To achieve this, CMM 2013-01 required WCPFC members with purse seine fisheries to implement in 2014, a 4-month fish aggregation device (FAD) closure, or 3-month FAD closure, plus a flag-based FAD set limits shown in Attachment A of the measure. For years 2015 and 2016, WCPFC members with purse seine fisheries could either choose to restrict their vessels to a 5-month FAD closure, plus limiting their vessels to their 2010-2012 FAD set average, or restrict their vessels to a 3-month FAD closure, plus restrict their vessels to FAD set limits shown in Attachment A of the measure. For 2017, WCPFC members are to follow the purse seine options available for 2015 and 2016, in addition to prohibiting their vessels from FAD sets on the high seas for the entire calendar year. Under CMM 2013-01, implementing the fifth month of FAD closure was conditional upon the WCPFC determining that the extra month FAD closure did not place a disproportionate conservation burden on SIDS. To date, the fifth month FAD closure has not been implemented by the WCPFC as the potential SIDS disproportionate burden issue remains unresolved.

To address impacts to bigeye by longline fisheries, CMM 2013-01 established flag-based bigeye catch limits through 2017 representing a 15% reduction from the limits established in CMM 2012-01, and approximately a 40% reduction from limits established under CMM 2008-01. The measure also requires any overage of a catch limit by a WCPFC member country to be deducted from the catch limit for the following year. As previously mentioned, U.S. territories for the purposes of WCPFC membership and decisions are considered a Participating Territory to the WCPFC, and are, accordingly, not subject to the U.S. bigeye tuna limit.

The SPC (2014) evaluation, which utilized average recent recruitment estimates, estimated the median F_{2032}/F_{MSY} value in 2032 would be 0.99, assuming full implementation of CMM2013-01. This analysis demonstrates that bigeye tuna would not be subject to overfishing in 2032. With respect to spawning biomass and total biomass in 2032, SPC (2014a) did not calculate those values. Based on these projections, fishing mortality would be reduced through 2032, and concomitantly an increase to both the spawning and total biomass estimates. For the full results of the 2014 SPC Evaluation of CMM 2013-01, see Appendix B of the 2015 EA.

Utilizing the SPC's stochastic methodology (SPC 2014a), Council staff and the PIFSC, with the assistance from the SPC, conducted an evaluation of the two alternatives described in Section 1.3

above (hereafter referred to as the Council/PIFSC stochastic analysis). For a description of the Council/PIFSC stochastic analysis, see Appendix C in the 2015 EA. The Council/PIFSC stochastic analysis applied the SPC (2014a) assumptions for future catch under CMM 2013-01, but assumed various allocation scenarios of bigeye tuna from the U.S. territories under 2015 specified fishing agreements.

As described in the 2015 EA, the Council/PIFSC stochastic analysis indicated that under the two Alternatives, WCPO bigeye tuna would not be subject to overfishing in 2032 and the stock would not be overfished under the status determination criteria set forth in the Pelagic FEP[2] (See Table 9). Using the distribution of model runs, the Council/PIFSC analysis also provided the level of risk associated with the two Alternatives with respect to overfishing and overfished reference points (See Table 10).

Table 9. Median values of F/F_{MSY}, SB/SB_{MSY}, B/B_{MSY} values in 2032 based on stochastic projections.

	2012 Baseline	Alternative 1	Alternative 2			
			Outcome A 1 fishing agreement and 1,000 mt allocation	***Outcome B 2 fishing agreement and 2,000 mt allocation***	***Outcome C 3 fishing agreement and 3,000 mt allocation and partial utilization of BET limit in U.S. territories***	***Outcome D 3 fishing agreement and 3,000 mt allocation and full utilization of BET limit in U.S. territories***
F/F_{MSY}	0.983	0.978	0.983	0.987	0.993	1.007
SB/SB_{MSY}	1.568	1.580	1.568	1.556	1.545	1.515
B/B_{MSY}	1.554	1.565	1.555	1.545	1.535	1.510
$SB/SB_{F=0}$	0.330	0.332	0.330	0.328	0.326	0.320

Source: NMFS 2015a

[2] Contrary to the Pelagic FEP, the WCPFC uses a different limit reference point for an overfished status determination and considers bigeye tuna to be overfished when the spawning biomass is below 20 percent of the biomass in absence of fishing ($SB/SB_{F=0}$). However, even under the WCPFC overfished reference point, the stock would not be overfished under Alternative 2 as all spawning biomass projections are above the 0.20 threshold.

Table 10. Level of risk associated with the Alternatives in exceeding the overfishing and overfished reference points under the Pelagic FEP.

Risk	2012 Baseline	Alternative 1	Alternative 2			
			Outcome A 1 fishing agreement and 1,000 mt allocation	***Outcome B 2 fishing agreement and 2,000 mt allocation***	***Outcome C 3 fishing agreement and 3,000 mt allocation and partial utilization of BET limit in U.S. territories***	***Outcome D 3 fishing agreement and 3,000 mt allocation and full utilization of BET limit in U.S. territories***
Risk of overfishing $F/_{FMSY}$ >1.0	40%	37%	40%	43%	45%	55%
Risk of SB/SB_{MSY}<0.6	0%	0%	0%	0%	0%	0%
Risk of B/B_{MSY}<0.6	0%	0%	0%	0%	0%	0%
Risk of $SB/SB_{F=0}$ <0.20[1]	0%	0%	0%	0%	0%	0%

Source: NMFS 2015a.

[1] The reference point of $SB/SB_{F=0}$ <0.20, is the overfished limit reference point adopted by the WCPFC and is not the same as the overfished reference point of B/B_{MSY}<0.6 in the Pelagic FEP.

With the exception of Outcome D, none of the other Outcomes under Alternative 2 would result in more than a 45 percent probability of overfishing bigeye tuna by 2032.

Evaluation of CMM 2014-01

At the 12th Regular Session of the WCPFC held December 3-8, 2015, in Kuta, Bali, the SPC presented a stochastic evaluation of the effects of CMM 2014-01 on bigeye tuna stock status assuming the provisions in CMM 2014-01 were fully implemented (SPC 2015). CMM 2014-01, which the WCPFC adopted at its 11th Regular session in 2014, includes purse seine and longline restrictions identical to those contained in CMM 2013-01 and described above. Note: The SPC conducts evaluations of conservation and management measures typically the year after adoption by the Commission. CMM 2015-01, which is identical CMM 2014-01 in terms of longline and purse seine measures, will be evaluated in 2016 by the SPC, and using data on 2015 fishery conditions, including longline catch and purse seine effort.

SPC (2015) noted that it is difficult to define precisely what levels of purse seine effort and longline bigeye catch will result from implementation of CMM 2014-01 by individual members and cooperating non-members. This is due to the presence of "either/or" choices, exemptions, exclusions, and decisions yet to made that are allowed under the measure (SPC 2015). The SPC (2015) found that purse seine FAD set numbers are within 1% of the predicted impact of the

Measure in 2014, based upon the CCM FAD set options selected in that year, and hence appear almost 'on track'. Likewise, longline catches appear to be a qualified 'on track', mostly due to the combined catch of those fleets with specified catch restrictions being well below their 2014 limit (SPC 2015).

In this regard, the SPC (2015) made several assumptions to represent 'Pessimistic', '2015 Choices', and 'Optimistic' scenarios associated with implementation of the CMM 2014-01. To evaluate the effectiveness of the measure on future bigeye, SPC (2015) applies scalars on 2012 purse seine FAD effort and 2012 longline bigeye catch according to the three scenarios listed above. The results of the SPC (2015) analysis is shown in Table 11.

Table 11. Projected Bigeye stock status as a result of implementation of CMM 2014-01.

Scenario	Scalars relative to 2012		Average F_{2032}/F_{MSY}	Average $SB_{2032}/SB_{F=0}$	Risk that SB_{2032} exceeds $SB_{F=0}$
	Purse Seine	Longline			
Status quo	1	1	1.21	0.24	32%
Pessimistic	1.02	0.97	1.18	0.25	28%
2015 choices	0.95	0.84	1.06	0.29	11%
Optimistic	0.76	0.84	0.93	0.33	2%

Source: SPC 2015

The 'pessimistic' scenario is the least plausible of the three scenarios analyzed by SPC, as it relies on purse seine vessels maximizing their annual FAD sets and the flag-based longline limits being fully utilized, which has not occurred in the past. The '2015 choices' scenario, while plausible, is mitigated somewhat by reduced purse seine fishing effort that was realized in the fishery that occurred in the last quarter of 2015 and in the first quarter of 2016. Preliminary data indicates that 2015 purse seine fishing effort was the lowest for the last several years and may have been as low as 2010 (Peter Williams, SPC, pers. comm. April 2016). Purse seine effort may return to higher levels in the future, but that is contingent on several factors including fishing access, operating costs and fish prices. For example, in the first quarter of 2016, the US purse seine fleet only operated on a minimal basis in the WCPO due to restructuring the amount of fishing effort authorized in 2016 under the South Pacific Tuna Treaty. Major changes may be occurring to the US purse seine fleet that may influence its ability to operate in the WCPO in 2017. In January 2016, the US Department State provided formal notice to the Forum Fisheries Agency of the United States' intent to withdraw from the South Pacific Tuna Treaty. Although negotiations on restructured terms of access under the Treaty continue, if withdrawal were to occur in January 2017, over 35 US purse seine vessels, representing over 10% of the total purse seine vessels operating in the WCPO, would lose access under the Treaty to many Pacific Island Party zones in the South Pacific, and the U.S. fleet would unlikely fish at recent average effort levels. Even if restructured access terms are agreed upon, it is expected that increases in vessel day costs and application of the PNA vessel day scheme would further constrain fishing effort, as occurred in the 2016 interim arrangement.

Another potential measure that may reduce FAD sets is the development of the PNA FAD-pricing mechanism that is expected to be initiated in 2016, and further implemented in 2017. The mechanism involves charging a fee to conduct a purse seine set on a FAD.

For the reasons stated above, the most likely scenario, as a result of implementation of CMM 2014-01 in combination with other factors, is likely somewhere between the '2015 choices' (i.e., $F_{2032}/F_{MSY} = 1.06$) and the 'optimistic' scenarios (i.e., $F_{2032}/F_{MSY} = 0.93$).

The next WCPO bigeye tuna assessment is scheduled to be completed in July 2017 and will include an additional three years of data or up to December 2015. NMFS anticipates the SPC will use that information to evaluate the effectiveness of CMM 2015-01. Because CMM 2015-01 (which continues the same purse seine and longline measures contained in CMM 2014-01), includes further reductions in longline bigeye tuna catch limits in 2017, and FAD closures for purse seine fisheries on the high seas in 2017, the SPC's evaluation of CMM 2015-01 is expected continue to demonstrate the effectiveness CMM 2015-01 in ending overfishing by 2032 as previously projected in SPC (2014a) described in the 2015 EA, and summarized in Section 2.5.2 above.

2.5.3 Hawaii Shallow-set Longline Fishery Take of Pinnipeds

In December 2015, NMFS observers reported that vessels in the Hawaii shallow-set pelagic longline fishery interacted with six pinnipeds on the high seas in the eastern Pacific Ocean, seaward of the U.S. Exclusive Economic Zone (EEZ) off the west coast. Pinniped experts reviewed the observer's video and confirmed that one pinniped was a Guadalupe fur seal. This species is listed as a threatened species under the ESA. The animal was hooked in the mouth, which was subsequently removed and the observer reported that there was no gear remaining on the animal. This is the first record of a fishery interaction with a Guadalupe fur sea. Thus, this event triggered the requirement for NMFS to consult on the Hawaii shallow-set fishery effects on this species. NMFS is currently preparing a biological evaluation to re-initiate consultation on the fishery.

Pinniped experts believe that the two of the other observed pinnipeds interactions were sea lions, but could not identify the specific species. These experts could not identify the three other pinnipeds, and thus, they remain unidentified. These five pinnipeds were hooked in the mouth and the observer reported that there was gear remaining on all individuals at the end of the observed interaction.

While vessels in the shallow-set longline fishery have been included in specified fishing agreements in the past, the specified fishing agreements only apply to vessels fishing for bigeye tuna in the WCPO. Therefore, longline vessels engaged in shallow-set fishing in the eastern Pacific Ocean are not operating under a specified fishing agreement and, therefore, are not part of the proposed action.

2.5.4 Proposal to Expand the Papahanaumokuakea Marine National Monument

On June 16, 2016, U.S. Senator Brian Schatz submitted a proposal to President Obama, requesting the President consider using his authority under the Antiquities Act of 1909 to expand the current boundaries of the Papahanaumokuakea Marine National Monument (PMNM) to the full extent of the EEZ. The Obama Administration is currently evaluating this proposal, and is seeking public input on the issue through a separate process. Specifically, NOAA and the U.S.

Fish and Wildlife Service PMNM website at http://www.papahanaumokuakea.gov/news/pmnm_expansion.html and accessed on August 16, 2016, notes that the agencies held two public meetings on August 1 and 2, 2016, "seeking input from all interested parties to ensure that *any* expansion of the Monument protects the unique features of the NWHI for future generations while recognizing the importance of sustainable ocean-based economies" (emphasis added). The website invited the public to "join us at our listening session to share your comments, concerns, and visions regarding the proposed expansion." The notice notes that the Obama Administration continues to evaluate the proposal. See Appendix B for the public meeting notice.

The National Environmental Policy Act (NEPA) requires Federal agencies to consider an action's cumulative impacts together with past, present, and reasonably foreseeable Federal, state, and private actions. However, in the absence of a concrete proposal, NEPA does not require Federal agencies to speculate about future events. In this case, an individual Senator's letter to the President does not constitute a concrete proposal by the President, who under the Antiquities Act, could exercise authority to designate a Monument or not. Additionally, the NOAA and USFWS listening sessions do not trigger any obligations under NEPA. The above reference to "*any* expansion of the Monument" certainly does not express support for, or opposition to the proposal, but anticipates a range of possible responses, including a decision to expand or not to expand, the Monument.

We note that the President's actions on previous citizens group proposals, including the 2008 proposal to establish the marine national monument in the Marianas Archipelago (Iverson, 2008), and the proposal to expand the Pacific Remote Islands Marine National Monument in 2014 (Salas et al. 2014), reflected significant changes from the original proposals, in both size and conservation objectives, after taking into account the input of various Federal, state, territory, and private stakeholders. Even if we were to agree that Monument expansion is likely, we cannot predict the range of conservation and management measures or boundaries that the President may ultimately decide are necessary to protect Monument resources and recognize the importance of sustainable ocean-based economies.

We anticipate that input received during scheduled listening sessions will help inform the President's eventual decision whether or not, to expand the PMNM. For these reasons, this SEA does not evaluate the potential direct or cumulative impacts of the proposed PMNM expansion on Hawaii pelagic fisheries, and ecosystem resources.

3 CUMULATIVE IMPACTS

Section 4.6 of the 2015 EA, which is incorporated herein by reference, describes the cumulative effects of the alternatives on the human environment in light of past, present and reasonably foreseeable management actions, as well as external factors, including non-fishing anthropogenic environmental impacts and climate change. In summary, the 2015 EA concluded that NMFS has not identified any new information suggesting that implementation of bigeye tuna territory catch and transfer limit specifications in 2015 or potentially again in 2016 would have a substantial cumulative effect on a bigeye tuna or any non-target species. The proposed action would allow the limited transfer of available bigeye tuna from U.S territories to eligible U.S. fisheries,

consistent with the conservation and management needs of the stock, as determined by the WCPFC and NMFS. The Hawaii longline fishery will continue to operate in accordance with regulations intended to prevent and reduce adverse impacts to the environment. NMFS evaluated the potential for cumulative effects of the proposed action on target and non-target stocks, ocean productivity related to climate change, protected species, catch rates of albacore, and fishing communities. NMFS does not expect the proposed action to result in cumulative impacts that could have substantial effects on the human environment.

With the exception of the new information on green, loggerhead and olive ridley sea turtles described in Section 2 of this SEA, there is no new information on any other component of the environment that would affect the cumulative effects analysis contained in the 2015 EA. Therefore, this SEA supplements only the cumulative effects analysis in the 2015 EA with respect to green sea turtles, olive ridley sea turtles and North Pacific loggerhead sea turtle DPS, in light of new information described and analyzed in Section 2.3 of this document.
As discussed in Section 2, NMFS analyzed the potential impacts to sea turtle populations over a three-year period. Table 10 summarizes the annual estimated takes annually and over a three-year period, and associated population level impact for each sea turtle population resulting from the continued operation of the Hawaii deep-set longline fishery as managed under the Pelagic FEP, including under specified fishing agreements in 2016.

Table 12. Estimated takes and associated ANE and population level impacts to green, North Pacific loggerhead and olive ridley sea turtle populations resulting from the continued operation of the Hawaii deep-set longline fishery.

Sea Turtle	Est. Annual Takes	Est. Takes over 3-years	ANE	Proportion of Nesting Population Level Impacted over a 3-year period
All Green Sea Turtle DPS Combined	8	24	0.32	n/a
Green Sea Turtle – East Pacific DPS	3	n/a	0.32	0.0000161
Green Sea Turtle – Central North Pacific DPS	2	n/a	0.32	0.0000845
Green Sea Turtle – East Indian-West Pacific DPS	2 (East Indian-West Pacific or Southwest Pacific)	n/a	0.32	0.0000042
Green Sea Turtle – Southwest Pacific DPS		n/a	0.32	0.0000039
Green Sea Turtle – Central West Pacific DPS	1 (Central West Pacific or Central	n/a	0.32	0.0000845
Green Sea Turtle –		n/a	0.32	0.0001235

Sea Turtle	Est. Annual Takes	Est. Takes over 3-years	ANE	Proportion of Nesting Population Level Impacted over a 3-year period
Central South Pacific DPS	South Pacific)			
North Pacific loggerhead DPS	5	15	0.81	0.0009100
Olive Ridley	39	117	32.62	0.00003262
Olive Ridley – Eastern Pacific	n/a	n/a	25.12	0.00002512
Olive Ridley – Western Pacific	n/a	n/a	7.50	0.00003659

As highly migratory, wide-ranging organisms that are biologically tied to temperature regimes, sea turtles are vulnerable to effects of climate change in aspects of their physiology and behavior (Van Houtan 2011). Climate refers to average weather conditions, as well as associated variability. The term climate change refers to any distinct change in measures of climate lasting a long period of time, which means major changes in temperature, rainfall, snow, or wind patterns lasting for decades or longer. Climate change may result from: natural factors, such as changes in the Sun's energy or slow changes in the Earth's orbit around the Sun; natural processes within the climate system (e.g., changes in ocean circulation); and human activities that change the atmosphere's makeup (e.g., burning fossil fuels) and the land surface (e.g., cutting down forests, planting trees, building developments in cities and suburbs, etc.), also known as anthropogenic climate change (U.S. Environmental protection Agency). Impacts to marine turtle populations resulting from climate change may occur at different rates or at different levels between marine turtle species based on a number of factors. The 2014 BiOp, NMFS evaluated the continuation of the Hawaii deep-set longline fishery as managed under the Pelagic FEP, including under specified fishing agreements on all ESA-listed species. A summary of the 2014 BiOp's analysis on the potential climate change-related impacts on green, loggerhead and olive ridley sea turtles is provided below.

Green Sea Turtle

Although green turtles are probably already beginning to be affected by impacts associated with anthropogenic climate change in several ways no significant climate change-related impacts to green turtle populations have been observed to date. However, impacts from climate change are likely to influence biological trajectories in the future over the long-term, on a century scale (Paremsan and Yohe 2003). For example, increasing temperatures at nesting beaches may impact sex ratios of hatchlings (many rookeries already exhibit strong female bias (Binckley et al. 1998, Chan and Liew 1995, Godfrey et al. 1996, Godfrey et al. 1999, Godley et al. 2001, Kaska et al. 2006, Marcovaldi et al. 1997, Oz et al. 2004) and/or increase embryonic mortality (Matsuzawa et al. 2002). Increased nest mortality has also been linked to erosion due to increased typhoon frequency (Van Houtan and Bass 2007) and intensity, a predicted consequence of climate change (Webster et al. 2005). Seagrasses are a major food source for green turtles worldwide and habitat may suffer from decreased productivity and/or increased stress due to sea level rise and salinity

and temperature changes (Short and Neckles 1999, Duarte 2002). Climate change induced shifts in ocean productivity linked to temperature changes (Harwood 2001; Edwards and Richardson 2004; Hays et al. 2005) may affect foraging strategies and, therefore, reproductive capacity for green turtles (Solow et al. 2002) similar to what has been observed during El Nino events in the western Pacific (Limpus and Nicholls 1994, Chaloupka 2001). While there are some available data on past trends, these data are limited, and current scientific methods are not able to reliably predict the future magnitude of climate change and associated impacts or the adaptive capacity of this species.

Loggerhead Sea Turtles

Increasing temperatures at nesting beaches may impact sex ratios of hatchlings and/or increase embryonic mortality (Matsuzawa et al. 2002). The North Pacific DPS is estimated to have a 1:1 male to female ratio (NMFS and USFWS 2007a), and while nest temperatures in Japan may be within survival thresholds, high beach incubation temperatures have also occurred resulting in mortality of pre-emergent hatchlings in Japan (Matsuzawa 2006). This population may be less vulnerable to increases in sand temperature than those already highly skewed toward female or at the high end of thermal tolerance, but limited data are available on past trends and current scientific methods are not able to reliably predict the future magnitude of climate change and associated impacts or the adaptive capacity of this species. In the future, increasing temperatures, sea level rise, changes in ocean productivity, and increased frequency of storm events are expected as a result of climate change and are all potential threats for loggerheads.

Another factor when considering the effects of future anthropogenic climate change is the role the Pacific Decadal Oscillation (PDO) plays in influencing turtle populations. A recent study mentioned above combined two factors of climate variability, changes in ocean circulation and sea surface temperatures (SST) on two different life stages of loggerhead sea turtles, (neonates[3] and adult females) to see how they influence population trends (Van Houtan and Halley 2011).

This study found that changes in loggerhead nesting over at least the last several decades are strongly correlated with ocean oscillations due to environmental influences on juvenile recruitment (Van Houtan and Halley 2011, Van Houtan 2011). In the next 22 years, loggerheads are projected to decrease due to unfavorable conditions in the PDO in recent years. Beyond this time we do not have information to predict what the population will do (NMFS 2011, Van Houtan 2011). Arendt et al. (2013) found that historical climate forcing on the oceanic habitat of neonate sea turtles in the Atlantic explained only two-thirds of interannual variability and concluded that annual nest count trends are more influenced by remigrants than neophytes; however the same analysis has not been done for loggerheads in the Pacific. Juvenile recruitment appears to be strongly correlated with the PDO in the Kuroshio Bifurcation Extension Region where juveniles congregate (Polovina et al. 2006) as they are most susceptible to oceanographic variability given their limited ability to exploit their environment for food (Van Houtan and Halley 2011). SST in the months preceding nesting has been demonstrated to influence whether females nest due to the need for sufficient nutrients for yolk production (Van Houtan and Halley 2011). Additional studies that simulated changes in physical ocean properties in northern

[3] Neonates are defined as hatchlings up to six months of age for the purpose of this study (Van Houtan, pers. Comm., in NMFS 2014).

hemisphere westerly's in response to various future CO_2 emission scenarios predict that the area and primary production of the temperate oceanic biome in the North Pacific is anticipated to decrease by 34 percent over the next century (Polovina et al. 2011). The extent of the impact on species in the region, such as loggerheads, is unknown because we do not know how species may or may not adapt to changes over the long-term (Chaloupka et al. 2009).

Olive Ridleys

As with the other species discussed above, no significant climate change-related impacts to olive ridley turtle populations have been observed to date. However, over the long-term, climate change-related impacts will likely influence biological trajectories in the future on a century scale (Paremsan and Yohe 2003). Only limited data are available on past trends and current scientific methods are not able to reliably predict the future magnitude of climate change and associated impacts or the adaptive capacity of this species. However, olive ridleys in the east Pacific Ocean are highly migratory, and seemingly adaptable to fluctuating environmental conditions. They possess the ability to shift from an unproductive habitat to one where the waters are biologically productive, which may minimize the impacts of climate change (Plotkin 1994 and 2010 in NMFS and USFWS 2014). As with leatherback turtles nesting in the eastern Pacific, olive ridley's may also be affected by the occurrence of El Nino events. It is possible that the variation in numbers of turtles in the Ostional arribadas are also affected by changes in productivity in their foraging areas, because olive ridley females also need time to amass sufficient nutrients to support their metabolic, migratory, and reproductive activities (Valverde et al. 2012).

It is likely that annual Territory limits and allocation limits for bigeye tuna will be proposed again in 2017 and 2018. Any such proposal will be subject to separate NEPA analysis when the details of the proposal are known. However, for purposes of this analysis NMFS considered the impacts of fishing effort under the proposed action for each sea turtle species over the next three years. NMFS concludes that the level of annual take and take over the three-year period represents an insubstantial fraction of the overall nesting population, and indicates overall sea turtle populations will remain large enough to maintain genetic heterogeneity, broad demographic representation, and successful reproduction, and to retain the potential for recovery. The information analyzed in this supplemental EA indicates that none of the alternatives are expected to result in appreciable adverse impacts to protected species when considered together with the environmental baseline, past, present and reasonably foreseeable management actions and external factors.

Effects of Marine National Monuments

During the public comment period for the proposed action, NMFS received comments requesting the agency evaluate the effects of the Rose Atoll, Mariana Trench and Pacific Remote Islands Marine National Monuments on tuna stocks and other highly migratory species. The implementation of the Presidential Proclamations designating the Rose Atoll (74 FR 1577, January 12, 2019), Mariana Trench (74 FR 1557, January 12, 2009), and Pacific Remote Islands (74 FR 1565, January 12, 2009) Monuments was a prior Federal action, and is not part of this proposed action. There is currently a lack of available data to meaningfully analyze the

conservation benefits of these marine national monuments to tuna stocks and other highly migratory species as part of the environmental baseline. The available information on pelagic fishery resources is primarily in the form of fisheries data, which are insufficient to allow us to evaluate and determine conservation benefits of these monuments. In evaluating the potential impacts of the action on bigeye tuna stocks and other highly migratory species, NMFS relies on stock assessments developed by the scientific providers to the WCPFC, as described in the 2015 EA. However, the analyses in the stock assessments do not explicitly account for the impacts of large marine protected areas on highly migratory fish populations. Without direct information on fish stocks inside and outside the monument boundaries, before and after the implementation of the monuments, NMFS cannot quantify or assess the potential conservation benefits of the marine national monuments.

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Appendix A Final Regulatory Impact Review

1. Introduction

This document is a regulatory impact review (RIR) prepared under Executive Order (E.O.) 12866, "Regulatory Planning and Review." The regulatory philosophy of E.O.12866 stresses that, in deciding whether and how to regulate, agencies should assess all costs and benefits of all regulatory alternatives and choose those approaches that maximize the net benefits to the society. To comply with E.O. 12866, NMFS prepares an RIR for regulatory actions that are of public interest. The RIR provides an overview of the problems, policy objectives, and anticipated impacts of regulatory actions. The regulatory philosophy of E.O. 12866 is reflected in the following statement:

> *In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory Alternatives, including the Alternative of not regulating. Costs and benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nevertheless essential to consider. Further, in choosing among Alternative regulatory approaches, agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages, distributive impacts; and equity), unless a statue requires another regulatory approach.*

This RIR is for a proposed measure to specify a catch limit of 2,000 metric tons (mt) of longline-caught bigeye tuna for each of the pelagic longline fisheries of American Samoa, Guam and the Northern Mariana Islands in 2016. Along with the proposed specification, NMFS also proposes to authorize each U.S. territory to allocate and transfer, up to 1,000 mt of its 2,000 mt bigeye tuna limit to a U.S. longline fishing vessel or vessels identified in a specified fishing agreement.

2. Problem Statement and Management Objective

The purpose of this action is to establish a bigeye tuna catch limit for longline fisheries of each U.S. territory (American Samoa, Guam and the CNMI), and support the development of fisheries in those territories consistent with Amendment 7 to the Pelagic FEP and fishery development provisions of the Magnuson-Stevens Act. The proposed catch limits for 2016 are needed because bigeye tuna is currently subject to overfishing and the Council has determined that a catch limit of 2,000 mt should apply to American Samoa, Guam, and the CNMI as a proactive management measure, because the WCPFC has not implemented bigeye tuna limits for SIDS or PTs, if engaged in responsible fishery development.

The proposed 2016 allocation limits would help U.S. territories to responsibly develop their fisheries under specified fishing agreements. Enabling each U.S. participating territory to allocate a portion of its bigeye tuna catch limit provides economic support for NMFS-approved fisheries development projects identified in the participating territory's Marine Conservation Plan. The proposed allocation limits would also potentially allow the Hawaii longline fishery to

harvest a portion of a U.S. territory's bigeye tuna limit, which would help ensure a plentiful supply of fresh bigeye tuna to Hawaii markets, even after the U.S. bigeye tuna limit has been reached.

A detailed description of the problem and the management objective in Sections 1.3 and 1.4 of the EA for Specification of Bigeye Tuna Catch and Allocation Limits for Pelagic Longline Fisheries in U.S. Pacific Island Territories in 2015 and 2016, including a Regulatory Impact Review, hereinafter, the 2015 EA.

3. Description of the Fisheries

Section 3.2 of the EA provides an overview of the pelagic fisheries of the U.S. territories and Hawaii. These include the American Samoa longline fishery (Section 3.2.2), Mariana Archipelago longline fishery (Section 3.2.1), Hawaii-based longline fisheries (Section 3.2.3), and the WCPO Purse Seine Fisheries (Section 3.2.5). Section 3.2.4 presents specific information on U.S. longline catches of bigeye tuna in the Pacific.

In 2015, 142 vessels made approximately 1,448 trips, with 18,469 sets, and 47,489,544 hooks, a slight increase in active vessels, trips and hooks considered in the 2014 BiOp and 2015 EA. In 2015, the U.S. longline fishery was subject to a catch limit of 3,502 mt. The fishery was closed on August 5, 2015, as a result of the fishery reaching the limit (80 FR 46515, July 28, 2015). Effective October 9, 2015, NMFS specified the 2015 catch limit of 2,000 mt for the CNMI and authorized the CNMI to allocate 1,000 mt of its limit to U.S. longline vessels in a specified fishing agreement. Effective on October 9, 2016, all vessels in the Hawaii longline fleet entered into a specified fishing agreement with the CNMI. NMFS forecasted vessels listed in the CNMI specified fishing agreement would reach the 1,000 mt allocation limit on November 30, 2015 and issued a notice that it would restrict retention of bigeye tuna by vessels identified in that agreement on that date (80 FR 74002, November 27, 2015). Effective November 25, 2015, NMFS specified the 2015 catch and allocation limit for Guam and Hawaii longline vessels immediately entered into a second specified fishing agreement with Guam on that date. Preliminary data from PIFSC indicate that Hawaii longline vessels caught the entire 1,000 mt bigeye tuna allocation provided by the CNMI specified fishing agreement, but did not reach the 1,000 mt allocation limit provided by the Guam specified fishing agreement before the 2015 fishing year ended on December 31, 2015 (NMFS PIFSC unpublished data; Preliminary 2015 U.S. Part 1 annual report to the WCPFC).

For 2016, U.S. longlie fishery was subject to a catch limit of 3,554 mt. The fishery was closed on July 22, 2016, as a result of reaching the limit (81 FR 45982, July 15, 2016).

4. Description of the Alternatives

This section describes the alternative longline bigeye tuna catch and allocation limits for American Samoa, Guam, and the CNMI for 2016. Please see Section 2 of the EA for more details on each of the alternatives that were analyzed.

Alternative 1: No Specification of Territorial Catch or Allocation Limits (No Action)

Under Alternative 1, NMFS would not specify a bigeye tuna catch or allocation limit for any U.S. participating territory in 2016.

Alternative 2: Specify for each U.S. participating territory, a 2,000-mt catch limit and 1,000-mt allocation limit in 2016 (Status Quo/Council Preferred)

Under Alternative 2, NMFS would specify the Council's recommended catch limit of 2,000 mt (4,409,240 lb) of longline caught bigeye tuna for each U.S. participating territory in 2016. NMFS would also authorize each of the three U.S. territories to allocate or transfer up to 1,000 mt (2,204,620 lb) of its 2,000 mt limit to a FEP-permitted longline vessels identified in a specified fishing agreement with a U.S. territory. NMFS implemented the same bigeye tuna catch and allocation limits in 2014 and 2015.

5. Analysis of Alternatives

This section describes potential economic effects of alternatives that were considered and evaluates the impacts of the action alternative relative to the no-action alternative. The analysis considers four types of effects in particular: changes in net benefits to the nation; distributional changes in net benefits; changes in income and employment; and cumulative impacts.

Alternative 1: No Specification of Territorial Catch or Allocation Limits (No Action)

Under Alternative 1, NMFS would not specify a bigeye tuna catch or allocation limit for any U.S. participating territory in 2016. Longline fisheries of American Samoa, Guam, and the CNMI would not be subject to a bigeye tuna catch limit in either year. Furthermore, none of the U.S. participating territories could allocate or transfer bigeye tuna catch to eligible U.S. longline vessels permitted under the Fisheries Ecosystem Plan for Pelagic Fisheries of the Western Pacific Region (Pelagics FEP).

For 2016, U.S. longline fishery was subject to a catch limit of 3,554 mt. NMFS closed on July 22, 2016, in anticipation of the fishery reaching the limit on that date (81 FR 45982, July 15, 2016).Without the option of receiving an allocation of catch through an agreement with any participating territory, vessels in this fishery can no longer retain bigeye tuna caught in the WCPFC upon reaching the catch limit.

During the closure in the WCPO, fishery participants may have the option of deep-setting in the Eastern Pacific Ocean (EPO) if allowed under regulations implementing the decisions of the IATTC. Longline vessels greater than 24 m in length are subject to bigeye catch limit of 500 mt in 2016. In 2015, these large vessels reached the 500 mt limit on August 12, eliminating an alterntive fishing opportunity for these larger boats one week after the fishery was closed in the WCPO. In 2016, the NMFS forecasted the fishery would reach the limit on July 25, 2016, and closed the fishery to longline vessels greater than 24 m on that date (81 FR 46614, July 18, 2016).

Owners and operators of vessels in the Hawaii fleet that also have an American Samoa longline limited access permit, however, would be able to catch and retain bigeye tuna as long as it is caught outside the U.S. EEZ surrounding the Hawaiian Archipelago.

The 2016 U.S. bigeye tuna limit of 3,554 mt is approximately 3.3 percent of the stock's estimated maximum sustainable yield of 108,520 mt. Assuming other foreign fishing nations also abide by their catch and effort limits set forth in CMM 2014-01, the analysis indicates this would result in a positive impact to bigeye tuna stock status and, by 2032, the stock would no longer be subject to overfishing.

American Samoa, Guam, and the CNMI longline fisheries:

Bigeye catch by longline vessels based in American Samoa, Guam, and the CNMI, as U.S. participating territories, would not be subject to a bigeye tuna catch limit in 2016. Recent fishery performance and the current lack of active longline vessels in the CNMI and Guam, suggest that longline vessels based in CNMI and Guam are unlikely to fish for bigeye tuna in 2015. The American Samoa longline fishery sees more activity by comparison. Bigeye tuna catches by longline vessels possessing an American Samoa limited entry permit averaged 521 mt from 2011 through 2014; final numbers for 2015 are not yet available. These landings included those that possessed limited entry permits for both American Samoa and Hawaii (dual AS/HI longline permitted vessels). Possessing both permits enabled these dual AS/HI longline permitted vessels to attribute fish landed in Hawaii, but caught outside of the EEZ around Hawaii, to American Samoa. Of the average 521 mt caught by American Samoa longline vessels between 2011 through 2014, dual AS/HI longline permitted vessels fishing on the high seas accounted for an average 394 mt, while vessels possessing a single American Samoa permit accounted for 127 mt. landings Once the Hawaii longline vessels are no longer able to retain bigeye tuna caught in the WCPO, dual AS/HI longline permit holders might expect to earn a higher price per pound of bigeye tuna as compared to what they might earn for that same fish prior to the limit being reached. They might also increase fishing effort and/or number of trips to land more bigeye tuna in Hawaii with the potential to earn additional revenue.

Hawaii longline fisheries:

Under Alternative 1, once the U.S. reaches the bigeye catch limit of 3,554 mt in U.S. longline vessels based in Hawaii may no longer retain bigeye tuna caught in the WCPO, although they would still be able to land other species or fish for bigeye tuna outside of the WCPO. Under current predictions, the closure is expected to occur in early August and continue through the remainder of the calendar year, for a time period of almost five months. If a Hawaii longline vessel also possesses an American Samoa longline permit, it may continue to land bigeye tuna in Hawaii, as long as it was caught outside of the U.S. EEZ surrounding Hawaii.

Markets, consumers, and wholesalers:

Alternative 1 would result in a drop in the supply of fresh bigeye tuna in Hawaii if the fishery experienced a closure and remained closed through the rest of the year. Consumers and wholesalers may be expected to pay higher price per pound for fresh (and possibly frozen)

bigeye tuna provided by other sources. The drop in this supply can be offset by dual AS/HI longline permit holders' bigeye tuna landings, and landings from longline vessels fishing in the EPO. The offset will not be enough to completely meet demand for fresh tuna, especially at the end of the year, when demand for fresh bigeye tuna peaks. Because of this, bigeye tuna imports into Hawaii will likely increase to help offset U.S. demand.

Fisheries fund:

As any agreement leading to the allocation or transfer of catch would in return provide contribution into the Western Pacific Sustainable Fisheries Fund to fund fisheries development projects as identified through an approved MCP for each territory, no funds would be deposited into this fund in 2016. As a result, there would be fewer opportunities for fisheries development in the U.S. participating territories, including improvements to fishery infrastructure.

Administration and Enforcement:

Under Alternative 1, with the lack of Territory bigeye specifications and specified fishing agreements for 2016, actions associated with tracking and assigning catches made under Territory arrangements would not be required.

Alternative 2: **Specify for each U.S. participating territory, a 2,000-mt catch limit and 1,000-mt allocation limit in 2015 and 2016 (Status Quo/Council Preferred)**

Under Alternative 2, longline fisheries in the U.S. participating territories would each be subject to a 2,000 mt catch limit for bigeye tuna. Each territory would also be able to allocate up to 1,000 mt of its 2,000 mt catch limit to FEP-permitted longline vessels under specified fishing agreements. Specified fishing agreements under this Alternative would support responsible fisheries development in the U.S. participating territories by providing funds for approved MCPs.

Under Alternative 2, several potential scenarios may occur, depending on the number of specified fishing agreements developed and submitted to and approved by NMFS in 2016. U.S. participating territories could enter into specified fishing agreements with U.S. pelagic permitted vessels, up to three total, one for each territory. The possible outcomes under the varying number of agreements are discussed more fully in the EA. With the fishery currently closed as of July 22, 2016, a single fishing agreement allocating 1,000 mt of catch is not likely to allow the U.S. longline vessels to fish and supply locally caught bigeye tuna through the end of the year, whereas three (and possibly two) specified fishing agreements may.

The proposed allocation would provide up to 3,000 mt of bigeye tuna to the U.S. longline fleet based in Hawaii through specified fishing agreements, in addition to the 3,554 mt provided under the U.S. bigeye tuna limit. Assuming other foreign fishing nations also abide by catch and effort limits set forth in CMM 2015-01, the environmental impact analysis indicates that this level of increase would have a negligible effect on bigeye tuna stock status, and like under Alternative 1, the stock would no longer be subject to overfishing in 2032.

Section 4.2.2 of the EA contains greater detail on the impacts to the U.S. participating territories and Hawaii longline fisheries.

American Samoa, Guam, and the CNMI longline fisheries:

Impacts to the Guam and CNMI longline fisheries should be the same as under the no action alternative, because of the lack of recent longline activity and no currently active longline vessels based in those islands. As mentioned under Alternative 1, dual AS/HI longline permit holders might earn higher price per pound for bigeye tuna, with any potential gap in demand for bigeye tuna. They might also increase fishing effort to partially offset the reduced supply of fresh bigeye tuna in Hawaii. As the number of fishing agreements increase, it becomes less likely that this increase in fishing effort by dual AS/HI longline vessels will occur. If only one agreement is implemented, one might expect overall fishing effort by dual AS/HI longline permit holders to be higher in that year, compared to the case where two or three agreements are implemented. American Samoa limited entry permit holders that are not dual permit holders, are expected to fish about the same as in recent years; these longliners target albacore to sell to canneries.

With the potential increase in fishing effort by American Samoa longline vessels, if U.S. vessels enter into a specified fishing agreement with American Samoa, and with an early enough closure of the U.S. fishery, American Samoa longline fishery may possibly reach the limit of 1,000 mt.

Hawaii longline fisheries:

Under Alternative 2, participants in the Hawaii deep-set longline fishery listed on any specified fishing agreement would expect to see positive benefits, while those that are not listed, would see the impacts similar to the no action. Since most participants in this fishery primarily fishes for bigeye tuna in the WCPO, rather than the EPO, or fishing for swordfish, enabling many of these participants to fish in this area throughout the year would allow them to continue to earn higher revenues than if they were no longer able to do so (as under the no action alternative). The net gain to this fishery would depend on the number of approved specified fishing agreements.

Markets, consumers, and wholesalers:

Compared with Alternative 1, Alternative 2 would yield a higher supply of fresh bigeye tuna to consumers in Hawaii. If the number of specified fishing agreements enables the Hawaii deep-set longline fishery to fish for and supply bigeye tuna throughout the year, then markets would not be disrupted. Consumers, wholesalers, retailers and restaurants would not have to rely on imports, dual AS/HI longline permit holders' bigeye tuna landings, landings from longline vessels fishing in the EPO and landings by troll and handline boats to help meet market demand for bigeye tuna, and/or pay a higher price per pound for the same quality of bigeye tuna.

Fisheries fund:

Specified fishing agreements under this alternative would help provide financial support for responsible fisheries development projects identified in the MCPs for U.S. participating territories by providing funds for these projects. If more agreements are executed, more monies

may be available through the Western Pacific Sustainable Fisheries Fund to support fishery development projects.

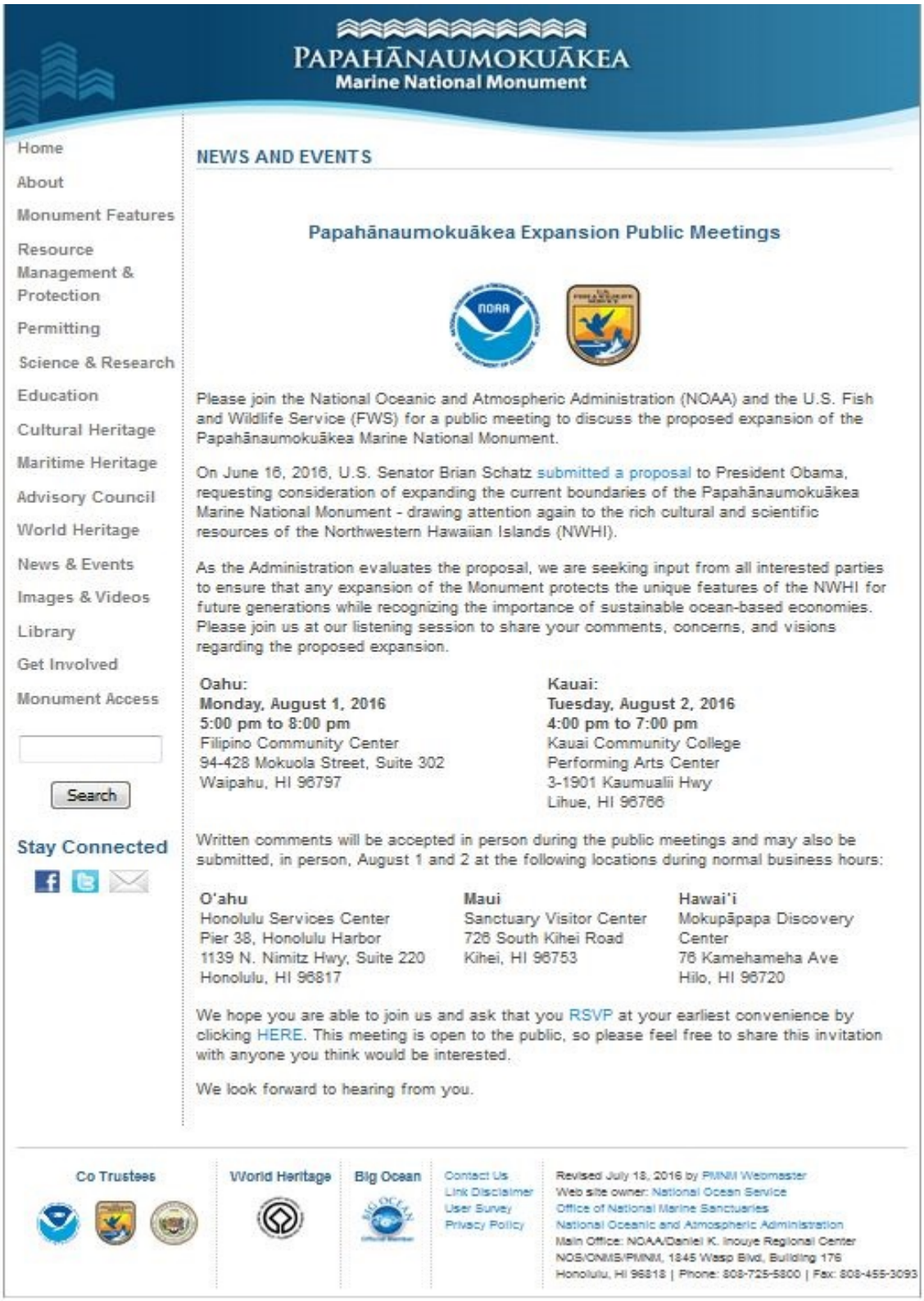
Administration and Enforcement:

Administrative costs under Alternative 2 would be slightly higher than under Alternative 1. Administrative costs may be generated from activities such as in-season monitoring of the WCPO longline catch limits for bigeye tuna by NMFS, regulatory and management costs associated with announcements and notifications of catch prohibition, as well as additional costs from monitoring and attributing catches made by vessels identified in a specified fishing agreement with the U.S. participating territory to which the agreement applies. Enforcement costs should be about the same as under Alternative 1.

Comparing Net Benefits between alternatives:

Implementing the proposed action may generate a positive net benefit relative to the no action. The proposed action would result in a very small potential negative impact to bigeye tuna stocks and possibly to some domestic fishing entities such as dual permitted vessels and troll and handline boats that might receive higher prices for bigeye tuna. But these may be offset by the incremental benefits to the U.S. longline fishery based in Hawaii as a whole, consumers, and to fisheries development in territories that are party to the specified fishing agreement through the end of the calendar year.

Appendix B Papahanaumokuakea Expansion Public Meetings



PAPAHĀNAUMOKUĀKEA
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NEWS AND EVENTS

Papahānaumokuākea Expansion Public Meetings

Please join the National Oceanic and Atmospheric Administration (NOAA) and the U.S. Fish and Wildlife Service (FWS) for a public meeting to discuss the proposed expansion of the Papahānaumokuākea Marine National Monument.

On June 16, 2016, U.S. Senator Brian Schatz submitted a proposal to President Obama, requesting consideration of expanding the current boundaries of the Papahānaumokuākea Marine National Monument - drawing attention again to the rich cultural and scientific resources of the Northwestern Hawaiian Islands (NWHI).

As the Administration evaluates the proposal, we are seeking input from all interested parties to ensure that any expansion of the Monument protects the unique features of the NWHI for future generations while recognizing the importance of sustainable ocean-based economies. Please join us at our listening session to share your comments, concerns, and visions regarding the proposed expansion.

Oahu:
Monday, August 1, 2016
5:00 pm to 8:00 pm
Filipino Community Center
94-428 Mokuola Street, Suite 302
Waipahu, HI 96797

Kauai:
Tuesday, August 2, 2016
4:00 pm to 7:00 pm
Kauai Community College
Performing Arts Center
3-1901 Kaumualii Hwy
Lihue, HI 96766

Written comments will be accepted in person during the public meetings and may also be submitted, in person, August 1 and 2 at the following locations during normal business hours:

O'ahu
Honolulu Services Center
Pier 38, Honolulu Harbor
1139 N. Nimitz Hwy, Suite 220
Honolulu, HI 96817

Maui
Sanctuary Visitor Center
726 South Kihei Road
Kihei, HI 96753

Hawai'i
Mokupāpapa Discovery Center
76 Kamehameha Ave
Hilo, HI 96720

We hope you are able to join us and ask that you RSVP at your earliest convenience by clicking HERE. This meeting is open to the public, so please feel free to share this invitation with anyone you think would be interested.

We look forward to hearing from you.

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Revised July 18, 2016 by PMNM Webmaster
Web site owner: National Ocean Service
Office of National Marine Sanctuaries
National Oceanic and Atmospheric Administration
Main Office: NOAA/Daniel K. Inouye Regional Center
NOS/ONMS/PMNM, 1845 Wasp Blvd, Building 176
Honolulu, HI 96818 | Phone: 808-725-5800 | Fax: 808-455-3093

Source: http://www.papahanaumokuakea.gov/news/pmnm_expansion.html, accessed 8/16/2016

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Pacific Islands Regional Office
1845 Wasp Blvd. Bldg.176
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Final Supplemental Environmental Assessment

Specification of Bigeye Tuna Catch and Allocation Limits for Pelagic Longline Fisheries in U.S. Pacific Island Territories in 2016, including a Regulatory Impact Review

(RIN 0648-XE284)

August 17, 2016

Responsible Agency:
Pacific Islands Regional Office (PIRO)
National Marine Fisheries Service (NMFS)
National Oceanic & Atmospheric Administration
1845 Wasp Blvd., Bldg. 176
Honolulu, HI 96818

Responsible Council:
Western Pacific Fishery Management Council
1164 Bishop St., Suite 1400
Honolulu, HI 96813
Tel: (808) 522-8220
Fax: (808) 522-8226

Responsible Official:
Michael D. Tosatto
Regional Administrator
Tel: (808) 725-5000
Fax: (808) 725-5215

Location: U.S. Exclusive Economic Zone and High Seas around Hawaii, American Samoa, the Commonwealth of the Northern Mariana Islands, and Guam

Supplements the Environmental Assessment for:

Specification of Bigeye Tuna Catch and Allocation Limits for Pelagic Longline Fisheries in U.S. Pacific Island Territories in 2015 and 2016, including a Regulatory Impact Review (RIN 0648-XD998). September 29, 2015.

Summary: NMFS prepared this Supplemental Environmental Assessment (SEA) pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality Regulations at 40 Code of Federal Regulations 1500-1508, and agency guidance on preparing NEPA documents. The SEA supplements the environmental assessment (EA) that NMFS completed on September 29, 2015, entitled "EA for Specification of Bigeye Tuna Catch and Allocation Limits for Pelagic Longline Fisheries in U.S. Pacific Island Territories in 2015 and 2016, including a Regulatory Impact Review," hereinafter, the 2015 EA. Specifically, this SEA describes new information relevant to sea turtles in the action area since September 2015, and provides additional analysis to help NMFS determine whether the Hawaii-deep set longline fishery operating under the proposed action in 2016 would result in significant environmental impacts to the human environment. We incorporate the 2015 EA by reference.

In the 2015 EA, NMFS evaluated the potential environmental impacts of specifying a catch limit of 2,000 metric ton (mt) of longline-caught bigeye tuna for each of the three U.S. territories (i.e., American Samoa, Guam and the Northern Mariana Islands) in 2015, and potentially again in 2016. The 2015 EA also analyzed the impacts of allowing each U.S. territory to allocate in each year up to 1,000 mt of its 2,000 mt bigeye tuna limit to a U.S. longline fishing vessel(s) permitted under the Fishery Ecosystem Plan for Pelagic Fisheries of the Western Pacific (Pelagic FEP), and identified in a specified fishing agreement applicable to the territory. The analysis in the 2015 EA indicated that the specification of catch and allocation limits for each of the three U.S. territories in 2015 and potentially again in 2016 is not expected to result in substantial effects to the long-term sustainability of bigeye tuna, other non-target species, bycatch species, protected species, or adversely affect marine habitats. After considering public comments received on the proposed catch and allocation limit specifications, and a draft version of the 2015 EA, NMFS finalized the 2015 EA and issued a Finding of No Significant Impact (FONSI) determination on September 29, 2015.

For calendar year 2016, NMFS is again proposing to specify catch and allocation limits for the three U.S. territories that are identical to those analyzed in the 2015 EA. However, NMFS has received new information relevant to the 2015 EA. Specifically, the Hawaii-deep set longline fishery has exceeded the incidental take statements (ITS) for green sea turtles, olive ridley sea turtles and the North Pacific loggerhead sea turtle distinct population segment (DPS), as authorized in a NMFS 2014 Biological Opinion (BiOp) for that fishery. Additionally, on April 6, 2016, NMFS and the U.S. Fish and Wildlife Service published a final rule to list 11 DPS of green sea turtle under the Endangered Species Act or ESA (81 FR 20058). The final rule removed the previous range-wide listing and, in its place, listed eight DPS as threatened and three as endangered. Six of the green sea turtle DPS may occur in the area where the Hawaii deep-set longline fishery operates, and have the potential to interact with the fishery. Thus, NMFS determined that supplementation of the 2015 EA was appropriate.

The analyses in this SEA indicates that the Hawaii-deep set longline fishery operating under the proposed action in 2016 is not expected to result in substantial effects to sea turtle populations and, therefore, the conclusion reached in the 2015 EA remains valid for fishing year 2016. The reader may find copies of this SEA, the 2015 EA and the final 2016 catch and allocation limit specifications under regulatory identification number (RIN) 0648-XE284 at www.regulations.gov, or by contacting the responsible official or Council at the above address.

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Pacific Islands Regional Office
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FINDING OF NO SIGNIFICANT IMPACT

Final Supplemental Environmental Assessment

Specification of Bigeye Tuna Catch and Allocation Limits for Pelagic Longline Fisheries in U.S. Pacific Island Territories in 2016

(RIN 0648- XE284)

August 17, 2016

The National Marine Fisheries Service (NMFS) prepared this Finding of No Significant Impact (FONSI) according to the guidelines in NMFS Instruction 30-124-1, "Guidelines for the Preparation of a FONSI," and dated July 22, 2005 (renewed August 2014). National Oceanic and Atmospheric Administration's (NOAA) Administrative Order (NAO) 216-6, "Environmental Review Procedures for Implementing the National Environmental Policy Act," dated May 20, 1999, as preserved by NAO 216-6A, "Compliance with the National Environmental Policy Act, Executive Orders 12114, Environmental Effects Abroad of Major Federal Actions; 11988 and 13690, Floodplain Management; and 11990, Protection of Wetlands," dated April 22, 2016, requires all proposed actions to be reviewed with respect to environmental consequences on the human environment. This FONSI also considers the Council on Environmental Quality (CEQ) significance criteria at 40 C.F.R. §1508.27(b).

NMFS prepared the attached Supplemental EA (SEA), dated August 17, 2016, in accordance with the requirements of NEPA and agency guidelines. The SEA supplements the September 29, 2015, Environmental Assessment (EA) NMFS developed for the proposed action entitled, Specification of Bigeye Tuna Catch and Allocation Limits for Pelagic Longline Fisheries in U.S. Pacific Island Territories in 2015 and 2016, including a Regulatory Impact Review, hereinafter, the 2015 EA. This FONSI considers the information and environmental impact evaluation in the 2015 EA as well as new information and/or circumstances described and analyzed in the SEA. Based on the analyses in the 2015 EA and 2016 SEA, NMFS finds that implementing the proposed action would not constitute a major Federal action that would significantly affect the quality of the human environment, within the meaning of NEPA. Therefore, the preparation of an Environmental Impact Statement is not required, and NMFS is issuing this FONSI. The environmental effects analysis in the attached 2015 EA and 2016 SEA support this FONSI.

Background and Federal Action

NMFS proposes to specify a catch limit of 2,000 mt of longline-caught bigeye tuna for each U.S. territory (i.e., American Samoa, Guam and the Northern Mariana Islands) in 2016. NMFS would also authorize each territory to allocate and transfer up to 1,000 mt of its 2,000 mt bigeye tuna limit to eligible U.S. longline fishing vessels identified in a valid specified fishing agreement,

following the procedures in 50 CFR 665.819. NMFS would take this action under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) and the framework established under Amendment 7 to the Fishery Ecosystem Plan for Pelagic Fisheries of the Western Pacific (Pelagic FEP). NMFS would monitor catches of longline-caught bigeye tuna. When NMFS projects that a fishery will reach a territorial catch or allocation limit, NMFS would, as an accountability measure (AM), prohibit the retention of bigeye tuna by longline vessels in the applicable territory (if the territorial catch limit is projected to be reached), and/or by vessels operating under the applicable specified fishing agreement (if the allocation limit is projected to be reached). The 2015 EA and draft SEA analyzes the effects of the federal action in 2016.

Outline of the 2015 EA

Chapter 1 provides an overview of domestic and international authorities governing fisheries for bigeye tuna in the western Pacific Ocean, including the catch and allocation limit specification process established through Amendment 7 to the Pelagic FEP. Chapter 1 also describes the proposed action, the purpose and need for the action, decision-making, and the public review process. Chapter 2 describes alternatives considered. Alternative 2 - Specify for each U.S. participating territory a 2,000-mt catch limit and 1,000-mt allocation limit in 2015 and 2016 – is the selected alternative. Chapter 3 describes the environmental baseline. Chapter 4 contains the environmental impact analysis, including consideration of climate change, cumulative impacts, and a review of Environmental Justice considerations. Chapter 5 provides a summary of compliance with applicable laws. Chapter 6 lists literature cited.

On August 24, 2015, NMFS published the proposed specifications for 2015, and solicited public comments on the action and a draft version of the 2015 EA (80 FR 51193); the comment period ended September 8, 2015. NMFS received comments on the proposed 2015 specifications and on the draft EA from individuals, businesses, and non-governmental organizations. NMFS considered public comments in finalizing the 2015 EA and making its decision on the 2015 specifications for the Northern Mariana Islands (80 FR 61767, October 14, 2015) and Guam (80 FR 68778, November 6, 2015).

After the end of the 2015 fishing year, NMFS received new information relevant to the environmental analysis in the 2015 EA. Specifically, the Hawaii-deep set longline fishery exceeded the incidental take statements (ITS) for green sea turtles, olive ridley sea turtles and the North Pacific loggerhead sea turtle distinct population segment (DPS), as anticipated and authorized in a NMFS 2014 Biological Opinion (BiOp) for that fishery. Additionally, on April 6, 2016, NMFS and the U.S. Fish and Wildlife Service published a final rule to list 11 distinct population segments (DPSs) of green sea turtle under the Endangered Species Act or ESA (81 FR 20058). The final rule removed the previous range-wide listing for green sea turtles and, in its place, listed eight DPSs as threatened and three as endangered. Six of the green sea turtle DPSs may occur in the area where the Hawaii deep-set longline fishery operates, and have the potential to interact with the fishery. These events triggered the agency's requirement under section 7 of the ESA to consult on the fishery's effects on ESA-listed species. NMFS re-initiated consultation on April 13, 2016. NMFS expects to complete ESA consultation within six months of reinitiation. In a memorandum dated April 13, 2016, NMFS determined that during the period of

reinitiated consultation, the continued operation of the Hawaii deep-set longline fishery, including operations under the proposed action, would not violate ESA section 7(a)(2) and 7(d). NMFS documented its determination in a memorandum dated April 13, 2016.

In light of the above, NMFS determined that supplementation of the 2015 EA was appropriate and will assist the agency in determining whether the Hawaii-deep set longline fishery operating under the proposed action in 2016 would result in significant environmental impacts to the human environment. NMFS has no significant new information requiring supplementation of the analyses for the three Territory longline fisheries.

Outline of the 2016 SEA

The SEA (attached) incorporates the 2015 EA by reference and supplements the analysis by considering the potential impacts of the alternatives in light of new information. Chapter 1 of the SEA provides background information including the purpose and need, proposed Federal Action, alternatives considered, expected fishery outcomes of the alternatives, the need for the SEA, and list of preparers. Chapter 2 describes new information and updates the analysis of the potential impacts of the alternatives on protected sea turtles. Chapter 3 updates the cumulative effects analysis in light of the new information.

Public Coordination

On July 7, 2016, NMFS published the proposed specifications, and request for public comments on the action and a draft of the SEA dated June 22, 2016 (81 FR 44249); the comment period ended July 22, 2016. NMFS received comments from individuals, the fishing industry, and non-governmental organizations on the proposed specifications and on the draft SEA. NMFS considered public comments in finalizing the SEA and in making its decision on the proposed action, and responds to comments in the final specification.

Significance Analysis

NAO 216-6 contains criteria for determining the significance of the impacts of a proposed action. In addition, the Council on Environmental Quality (CEQ) regulations at 40 CFR, §1508.27 state that the significance of an action should be analyzed in terms of both "context" and "intensity." Each criterion listed below is relevant in making a finding of no significant impact and has been considered individually and in combination with the others. The significance of this action is analyzed based on the NAO 216-6 criteria and CEQ's context and intensity criteria. These include:

1) Can the proposed action reasonably be expected to jeopardize the sustainability of any target species that may be affected by the action?

No. The U.S. longline fishing vessels primarily target bigeye tuna. The 2015 EA analyzes potential impacts to the sustainability of bigeye tuna stocks by evaluating the effect of the alternatives, under multiple potential outcomes. As described in the 2015 EA, overfishing occurs when the fishing mortality rate (F/F_{MSY} ratio) is greater than 1.0 for one year or more. NMFS

considers a stock overfished when the total stock biomass (B/B_{MSY} ratio) falls below the minimum size stock threshold (MSST). For bigeye tuna, MSST is breached if the B/B_{MSY} ratio falls below 0.6.

The analysis of the potential outcomes under Alternative 2 (selected alternative) considered varying numbers of fishing agreements, and corresponding allocations, as well as partial or full utilization of the bigeye limit set for the U.S. territories.

In the 2015 EA, Outcome D represents the maximum potential impact of the action. Outcome D assumes all three U.S. territories would enter into a fishing agreement and each allocate 1,000 mt of their 2,000-mt bigeye tuna catch limit to U.S. fishing vessels through the agreements. Outcome D also assumes that each of the three U.S. territories would catch 1,000 mt of bigeye tuna (3,000 mt) in 2015 and 2016, and that U.S. pelagic fisheries would harvest each of the territory's allocation limit of 1,000 mt of bigeye tuna under three specified fishing agreements (another 3,000 mt).[1] If NMFS did not allow any U.S. territory to allocate any tuna to Hawaii longline vessels, and with full implementation of the measures set forth in WCPFC CMM 2014-01, the analysis in the 2015 EA projects an end to overfishing of bigeye by 2032 (F_{2032}/F_{MSY} =0.93). As explained in Section 4.1 of the 2015 EA, 2032 is the year the Secretariat of the Pacific Community (SPC), which is the scientific provider to the WCPFC, projected that bigeye tuna stock would reach equilibrium under WCPFC management measures. That is, fishing mortality and biomass would be equal to the level that produces MSY (i.e. $F/F_{MSY} = 1.0$ and $B/B_{MSY} = 1.0$).

Under Outcome D, the projected median mortality would be $F_{2032}/F_{MSY} = 1.007$. This mortality rate is associated with a 55 percent probability of overfishing and is virtually indistinguishable from the overfishing threshold of $F/F_{MSY} >1.0$. Under Outcome D, median total biomass would be $B_{2032}/B_{MSY} = 1.510$ and is associated with a zero percent probability of overfishing.

NMFS expects Outcome C is the more likely outcome to occur in 2016. Outcome C assumes each territory would not fully utilize the remaining 1,000 mt of its catch limit, which is consistent with the current state of the territorial longline fisheries (currently neither Guam nor the Commonwealth of the Mariana Islands has longline fisheries capable of targeting bigeye and the American Samoa longline fishery primarily targets albacore). Under Alternative 2-Outcome C, bigeye tuna would not be subject to overfishing or overfished because the projected median fishing mortality would be $F_{2032}/F_{MSY} = 0.993$ and the median total biomass would be $B_{2032}/B_{MSY} = 1.535$. These projections are associated with a 45 percent risk of overfishing and a zero risk of becoming overfished.

Based on these analyses, NMFS does not expect the proposed action to jeopardize the sustainability of the target species. As noted in Section 2.5 of the 2016 SEA, there is no new information available on target species that is substantially different from the information used in

[1] NMFS does not consider Outcome D to be the most likely outcome because out of the three Territories, only American Samoa currently has a longline fishery, which primarily targets albacore, and none of the Territories has the demonstrated capacity to harvest the full amount of its authorized bigeye limit. Nevertheless, because we authorize the amount under Outcome D, we have analyzed its potential impact on the conservation of bigeye tuna.

the environmental effects analysis of the proposed action, or that would change the scope of the original environmental review contained in the 2015 EA.

2) Can the proposed action reasonably be expected to jeopardize the sustainability of any non-target species?

No. Under this action, U.S. longline fisheries in Hawaii and the U.S. territories will continue to comply with all federal regulations implementing international conservation and management measures adopted by WCPFC, and domestic conservation and existing management under the Pelagic FEP to ensure that fishing is sustainable. Catches of non-target species in the Hawaii longline fishery are driven by the fishing effort for bigeye tuna. If fishing effort for bigeye tuna increases, the catches of other target and non-target stocks would be expected to increase commensurate with the increases in fishing effort. The predicted level of fishing effort by the U.S. participating territories and the Hawaii longline fishery under Alternatives 1 and 2 are expected to result in catches of non-target species within historical baseline levels, although there could be slightly less effort by Hawaii-based fisheries under Alternative 1 compared to Alterative 2.

NMFS will continue to monitor all longline fisheries for information on catch, bycatch, and discards, and interactions with protected species. Fishery monitoring allows NMFS and the Council to respond to potential needs to reduce bycatch and mortality of bycatch. Longline vessels that fish under specified fishing agreements under the action will still be required to submit logbooks, carry observers when requested by NMFS, and carry and operate a vessel monitoring system (VMS) unit. In addition, all longline vessels are required to follow strict protected species mitigation measures that reduce interactions with these species.

As noted in Section 2.5 of the 2016 SEA, there is no new information available on non-target species that is substantially different from the information used in the environmental effects analysis of the proposed action, or that would change the scope of the original environmental review contained in the 2015 EA.

3) Can the proposed action reasonably be expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat as defined under the Magnuson-Stevens Act and identified in FMPs?

No. Section 4.4 of the 2015 EA describes the impacts on marine habitats and Essential Fish Habitat (EFH). Neither Alternative 1 nor Alternative 2 would adversely impact the marine habitat, particularly critical habitat, EFH, HAPC, marine protected areas (MPAs), marine sanctuaries, or marine monuments. NMFS knows of no western Pacific pelagic fishery that has large adverse impacts to habitats, and so none of the Alternatives is likely to lead to substantial physical, chemical, or biological alterations to the habitat. Longline fishing activities do not occur in identified critical habitat, so NMFS does not expect the proposed action to impact critical habitat. Longline fishing does not occur in MPAs, marine sanctuaries, or marine monuments, so the proposed action would not impact marine protected areas.

Longline fishing involves suspending baited hooks in the upper surface layers of the water column, which does not materially impact benthic marine habitat under typical operations. Derelict longline gear may impact marine benthic habitats, especially substrate such as corals if carried by currents to shallow depths; however, the loss of longline gear during normal fishing operations is not believed to be at levels that result in significant or adverse impacts to EFH, HAPC, or the marine habitat.

As noted in Section 2.5 of the 2016 SEA, there is no new information available on marine or coastal habitats that is substantially different from the information used in the environmental effects analysis of the proposed action or that would change the scope of the original environmental review contained in the 2015 EA.

4) Can the proposed action be reasonably expected to have a substantial adverse impact on public health or safety?

No. This action might have some positive benefits to safety-at-sea for the Hawaii longline fishery by allowing fishery participants to enter into territory agreements to fish in the WCPO after the WCPFC-mandated longline limit is reached. On August 5, 2015, NMFS closed the U.S. longline fishery for bigeye tuna because of the fishery reaching the 2015 bigeye tuna limit. NMFS closed the fishery again on July 22, 2016, because the fishery reached the 2016 bigeye tuna limit. The opportunity for longline vessels to enter into fishing agreements with the U.S. territories and fishing in the WCPO under territorial bigeye tuna allocation limits might possibly benefit small vessels in the Hawaii longline fishery because when the U.S. WCPO catch limit for bigeye tuna is reached, all vessels must either stop fishing or fish for bigeye tuna in the Eastern Pacific Ocean (EPO), which is further from Hawaii than some fishing grounds in the WCPO. In November and December, which are months in which a closure of the bigeye tuna has in the WCPO has occurred in the past, the North Pacific may experience more frequent storm activity (2015 EA, Section 4.2).

5) Can the proposed action reasonably be expected to adversely affect endangered or threatened species, marine mammals, or critical habitat of these species?

No. Impacts to endangered or threatened species, marine mammals, or critical habitat of these species are described in Section 4.3 of the 2015 EA, and supplemented in Section 3 of the 2016 SEA. Specifically, Section 3 of the SEA supplements the information in the Section 4.3 of 2015 EA by incorporating new information on green and olive ridley sea turtles and the distinct population segment (DPS) of north Pacific loggerheads, and updating the potential impacts of the action on these species. The impact analysis in the SEA and EA are based on a detailed review of the operation of the Hawaii deep-set longline fishery, expected level of activity (effort), and its potential impact on these listed species. The SEA incorporates by reference the environmental impact analysis on all protected species, including seabirds, marine mammals, cetaceans, sharks and sea turtles, other than green, olive ridley and loggerhead sea turtles, and their critical habitat.

The information in the 2015 EA and SEA indicates that under all alternatives considered, the Hawaii deep-set fishery is not expected to have a substantial effect on the overall size of any protected species and is not likely to reduce appreciably the likelihood of both survival and

recovery of the species in the wild. Under the proposed action, NMFS expects overall populations to remain large enough to maintain genetic heterogeneity, broad demographic representation, and successful reproduction, and to retain the potential for recovery.

As noted above, NMFS expects to complete the ESA section 7 consultation addressing the Hawaii deep-set longline fishery's interactions with green, olive ridley and loggerhead sea turtles and issue a new biological opinion for the fishery within six months of April 13, 2016 (on or before October 12, 2016). If the information in that biological opinion indicates the continued operation of the Hawaii deep-set longline fishery, including under the proposed action would result in impacts to sea turtle species that are substantially different from the analysis in the 2015 EA and SEA. NMFS would evaluate that information and prepare supplemental environmental analyses, if warranted.

6) Can the proposed action be expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?

No. The western Pacific pelagic fisheries are not known to impact marine habitats, and the selected Alternative 2 will not change any fishery in any way so there will be no adverse impact to the marine habitats including areas designated as essential fish habitat (EFH), habitat areas of particular concern (HAPC), or marine sanctuaries or monuments. NMFS is not aware of Pacific pelagic fisheries having large adverse impacts to habitats (2015 EA, Section 4.4). There are no known studies that show impacts to species fecundity or negative predator/prey relationships that result in significant adverse changes to food web dynamics. Without management to ensure fishing is sustainable, the removal of top predator pelagic species such as bigeye tuna, yellowfin tuna, and billfish above natural mortality rates, that is, when fishing is occurring, has the potential to cause major imbalances or wide ranging change to ecosystem functions and habitats. However, as described in the 2015 EA, both international and domestic fishery managers are controlling catches throughout the Pacific. NMFS expects such control to improve stock status and prevent imbalances or wide-ranging changes to ecosystem function.

As noted in Section 2.5 of the 2016 SEA, there is no new information available on biodiversity or ecosystem function that is substantially different from the information used in the environmental effects analysis of the proposed action or that would change the scope of the original environmental review contained in the 2015 EA.

7) Are significant social or economic impacts interrelated with natural or physical environmental effects?

No. Section 4.2 of the 2015 EA describes the economic and social impacts to fishery participants and fishing communities. As occurred from 2011-2013, under the authority of Section 113, and in 2014, under Amendment 7 specifications, this action will allow territories to enter into fishing agreements in exchange for deposits into the WP SFF for fishery development projects listed in a territories Marine Conservation Plan approved by the Secretary of Commerce. Thus, NMFS expects fishing communities may benefit from fishery development projects funded by WP SFF

in the future. NMFS expects benefits to vary, and will be subject to separate NEPA analysis when project details are known.

Territories may also benefit economically and socially from the attribution of bigeye tuna under agreements. For example, Guam and the CNMI do not currently have the domestic fishing capacity to participate in the bigeye tuna fishery, and American Samoa has domestic longline capacity with only a history of albacore fishing. The authorization of territory agreements allows for improvement in fishing capacity and support infrastructure that may enable U.S. territories to participate in the larger, internationally managed fisheries in the WCPO.

Under this action, Hawaii longline fishery participants will realize positive benefits from being able to continue to enter into fishing agreements with territories. This action will also allow the Hawaii longline fleet to optimize their fishing schedule by choosing to fish in certain areas. Fishing in the EPO for bigeye tuna during a closure of the WCPO requires more fuel, longer transit times, and results in fewer sets, and potentially reduced quality of fish. Profits can also be variable due to the seasonal variation in the availability of bigeye tuna in the EPO. The action is not expect to have a significant adverse effect on any fish stock that would result in depletion that could have a significant secondary impact on members of fishing communities that rely on seafood for sustenance.

8) Are the effects on the quality of the human environment likely to be highly controversial?

No. Amendment 7, its implementing framework regulations, and the 2014 catch and allocation limit specifications (which are identical to the 2016 proposed action), were previously the subject of litigation (*Conservation Council for Hawai'i, et al., v. NMFS (D. Hawaii 2015)*). In December 2015, the U.S. District Court of Hawaii ruled in favor of NOAA, finding that NMFS' approval of both the framework rule implementing Amendment 7 and the 2014 specifications was consistent with WCPFC decisions and applicable law.

The effects of the action, as analyzed in the 2015 EA and 2016 SEA, are not likely to be highly controversial. The analysis of the potential outcomes under Alternative 2 (selected alternative) considered a varying numbers of fishing agreements, and corresponding allocations, as well as partial or full utilization of the bigeye limit set for the U.S. territories. In the 2015 EA, Outcome D represents the full impact of the action.

As described in response to Question 1, NMFS does not expect the potential impacts of Outcome D to be controversial because it would not impede WCPFC objectives to eliminate overfishing of the bigeye tuna stock. Similarly, the analysis in the 2015 EA indicates in catches of non-target species, including protected marine species would remain within historical baseline levels, although there could be slightly less effort by Hawaii-based fisheries under Alternative 1 compared to Alterative 2.

Additionally, the Hawaii longline fishery will continue to operate in accordance with regulations intended to prevent and reduce adverse impacts to the environment. NMFS will base future catch, effort, and transfer limits on the best available scientific and commercial information

about stock status, and will develop the limits considering applicable international conservation and management measures for highly migratory species. Future catch and effort limit and transfer limit specifications will be subject to additional environmental review under NEPA, ESA, Magnuson-Stevens Act, and other applicable law, to ensure the sustainability of target and non-target stocks, the conservation of protected species and the human environment, and consistency with all applicable international obligations.

9) Can the proposed action reasonably be expected to result in substantial impacts to unique areas, such as historic or cultural resources, parkland, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas?

No. NMFS does not expect substantial physical, chemical, or biological alterations to habitat. Longline fishing does not occur in marine protected areas, marine sanctuaries, or marine monuments and existing longline fishing practices will not change under the proposed action so no impacts are anticipated (2015 EA, Section 4.4).

As noted in Section 2.5 of the 2016 SEA, there is no new information available on historic or cultural resources, or other sensitive areas that is substantially different from the information used in the environmental effects analysis of the proposed action or that would change the scope of the original environmental review contained in the 2015 EA.

10) Are the effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

No. The 2015 EA and 2016 SEA did not identify impacts to the human environment that are likely to be highly uncertain or involve unique or unknown risks. Under the preferred alternative, the Hawaii fishery should continue to fish within historical effort levels. U.S. fisheries will continue to comply with all applicable international conservation and management measures and will continue to fish in accordance with provisions of applicable laws intended for the conservation of fish stocks and protection of the environment. Under the preferred alternative, the Hawaii longline fishery will continue to comply with existing observer and reporting requirements; NMFS will be able to identify and address any unanticipated impacts to fish stocks or protected species. We will include new information regarding stock status and impacts to the environment in annual reviews of fishing effort and transfer specifications, as appropriate.

11) Is the proposed action related to other actions with individually insignificant, but cumulatively significant impacts?

No. The impacts of the Hawaii longline fishery fishing under the 2016 specification will not have cumulatively significant impacts when considered together with past, present and reasonably foreseeable actions by NMFS, Hawaii-managed fisheries, or by others. NMFS evaluated the potential for cumulative effects of the action on target and non-target stocks, ocean productivity related to climate change, protected species, catch rates of target and non-target species, and fishing communities. NMFS does not expect the proposed action to result in cumulative impacts that could have substantial effects. (2015 EA, section 4.6, 2016 SEA, Section 3).

12) Is the proposed action likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural or historical resources?

No. We have not identified such resources in the areas affected by commercial longline fishing.

13) Can the proposed action reasonably be expected to result in the introduction or spread of a non-indigenous species?

No. This action would not change the conduct of longline fisheries, and these fisheries likely do not spread or introduce non-indigenous species.

14) Is the proposed action likely to establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration?

No. The proposed action would specify a catch limit of 2,000 mt of longline-caught bigeye tuna for each U.S. territory (i.e., American Samoa, Guam and the Northern Mariana Islands) in 2015. NMFS would also authorize each territory to allocate and transfer up to 1,000 mt of its 2,000-mt bigeye tuna limit to U.S. longline fishing vessels identified in a valid specified fishing agreement. The Hawaii longline fishery will continue to operate in accordance with regulations intended to prevent and reduce adverse impacts to the environment. Future catch, effort, and transfer limits will be based on the best available scientific and commercial information on stock status. NMFS and the Council will annually develop and review these limits considering applicable international conservation and management measures for highly migratory species. Future catch and effort limit and transfer limit specifications will also be subject to annual environmental review and approval under NEPA, ESA, Magnuson-Stevens Act, and other applicable law, to ensure the sustainability of target and non-target stocks, the conservation of protected species and the human environment, and consistency with all applicable international obligations. This action would not automatically lead to approval of future actions that could have significant impacts.

15) Can the proposed action reasonably be expected to threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment?

No. The Council, which includes representatives from American Samoa, Guam, the CNMI, and Hawaii, developed this action, in accordance with the Magnuson-Stevens Act, and other applicable laws. The Council deliberations took place in public forums and the Council provided opportunities for public comments during the development of its recommendations. The draft specification and 2015 EA document was developed by NMFS in coordination with the Council staff and coordinated with territory and state government natural resource agencies and the public, and was not found to be inconsistent with applicable laws (2015 EA, Section 1.6 and 5). Further, after consultation with Hawaii and the Pacific Territories, NMFS determined that this action is consistent to the maximum extent possible with all relevant approval coastal zone management policies.

16) Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?

No. NMFS has not identified any new information suggesting that implementation of the final rule establishing 2016 bigeye tuna territory catch and transfer limit specifications would have a substantial cumulative effect on a bigeye tuna or any non-target species. The proposed action would allow the limited transfer of available bigeye tuna from U.S territories to eligible U.S. fisheries, consistent with the conservation and management needs of the stock, as determined by the WCPFC and NMFS. The Hawaii longline fishery will continue to operate in accordance with regulations intended to prevent and reduce adverse impacts to the environment. NMFS evaluated the potential for cumulative effects of the proposed action on target and non-target stocks, ocean productivity related to climate change, protected species, catch rates of albacore, and fishing communities. NMFS does not expect the proposed action to result in cumulative impacts that could have substantial effects (2015 EA, section 4.6.1, 2016 SEA, Section 3).

Summary and Other Findings

NMFS also considered the effects of the proposed action on climate change and climate change impacts on the feasibility of the proposed action (2015 EA, Section 4.6.6, 2016 SEA, Section 3). Monitoring of stock status would continue, and allow detection of impacts to stocks that might be occurring because of climate change. NMFS and the Council could modify fishery management provisions to ensure that all fisheries remain sustainably managed. NMFS does not expect the action to result in a change in the fishery's conduct, so there would be no change in greenhouse gas emissions.

NMFS does not expect the conduct of U.S. longline fisheries in the Pacific Islands under the proposed action to have significant adverse impacts to the physical marine environment, target or non-target fish species, protected resources, fishery participants and communities, or state and federal enforcement or fisheries administration. The Hawaii longline fishery will continue to operate in accordance with provisions of the FEP, other applicable regulations, and with authorizations undertaken in accordance with the ESA and MMPA. These regulations and authorizations will help ensure the sustainable management of the affected stock, consistent with conservation and management objectives under applicable law and WCPFC decisions.

Determination

Based on the information in this document and the analysis contained in the 2015 EA and 2016 SEA, I have determined that the impact of implementing the proposed action will not have significant effects on the quality of the human environment. We have addressed all relevant potential beneficial and adverse impacts of the action to reach the conclusion of no significant impacts. Accordingly, preparation of an Environmental Impact Statement for this action is not necessary.

AUG 17 2016

Michael D. Tosatto
Regional Administrator

Date

Attachment