

**Pelagic FMP Amendment 18
Final SEIS**

Appendix VII

**NMFS' Responses to Comments Received on the DSEIS
And the Public Comment Letters**

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A= Comments from Baird, R. (Cascadia Research Collective). October 6, 2008.
 B = Comments from Goforth, K. (U.S. EPA). September 26, 2008.
 C= Comments from Leppo, J. (HLA), October 1, 2008
 D = Comments from Polhemus, D. (State of Hawaii DAR), October 6, 2008

E = Comments from Port, P. (U.S. DOI), October 6, 2008
 F = Comments from Treece, A., et al. (Multi-NGO groups: October
 G = Letter providing input from Namu'o, C. (OHA), October 9, 2008.

No.	Topic	Comment	Response
A1 CRC	False-killer whale populations	The statement that the Hawaii-based shallow-set longline fishery has not been observed to interact with false killer whales (FKW) is incorrect as Forney and Kobayashi (2007) report two interactions.	Information on these interactions has been added to Sections 3.3.3.2.1 and 4.4.2.2.1 of the FSEIS.
A2 CRC	Interactions between the shallow-set fishery and FKW have the potential to jeopardize the Hawaii insular population of FKW	<p>Interactions between the shallow-set fishery and FKW have the potential to jeopardize the Hawaii insular population of FKW, contrary to statements made in the DSEIS. The commenter bases this on the following pieces of information: 1) NMFS' 2008 Draft Stock Assessment Report (SAR) for the species divides the FKW Pacific Islands Region Stock Complex into three stocks: the Hawaii insular stock, the Hawaii pelagic stock, and the Palmyra Atoll stock; 2) Tag and photo-ID data indicate that individual FKW from the Hawaii insular stock have been observed 44-51 nm offshore of the MHI; 3) Pictures of scarring and dorsal fin disfigurement suggest that interactions with the Hawaii insular stock and the Hawaii longline fishery occur ; and 4) the potential biological removal (PBR) of the Hawaii insular population is less than one per year.</p> <p>The commenter also provided a research article (Reeves et al. in press) that suggests a population decline of the Hawaii insular stock of FKW.</p>	<p>The National Marine Fisheries Service (NMFS) recognizes the three stock complexes described. Based on sighting locations and genetic analysis of tissue samples, the NMFS Draft 2008 SAR applies an insular FKW stock boundary corresponding to the 25-75 nm longline exclusion zone around the MHI to recognize the insular FKW population as a separate stock for management.</p> <p>Based on the best available scientific information and as described in the draft SAR, interactions between the Hawaii-based longline fleet (both the shallow-set and deep-set fisheries) and the Hawaii insular population of FKW are unlikely due to the existence of the longline exclusion zone that surrounds the Hawaiian Islands.</p> <p>Less than 25 percent of 2004-2007 average annual shallow-set effort took place in EEZ waters around Hawaii and no sets were made within the longline fishing exclusion zone. The majority of this EEZ fishing effort takes place in the summer months as the fishery follows southerly-migrating swordfish.</p> <p>The statement that scarring and dorsal fin disfigurement of FKW around Hawaii resulted from interactions with longline vessels is based upon pre-existing scarring</p>

			<p>observed in a single photograph and was not based on an observed interaction with the shallow-set fishery. Baird and Gorgone (2005) documented four individual FKW with “major” dorsal fin disfigurements. As Baird and Gorgone report, while such injuries could result from interactions with the longline fisheries, they could also result from boat strikes, other fisheries, shark attacks, gunshot wounds, or other sources. Although not enumerated by Baird and Gorgone, additional possibilities include entanglements with marine debris, fish cage moorings, or FAD cables which have been identified as areas of concern for marine mammals around the Hawaiian Islands.</p> <p>Reeves et al. (in press) does not establish that the Hawaii-based longline fishery has contributed to the purported decline of the Hawaii insular stock of FKW, and furthermore, that the shallow-set fishery interacts with the Hawaii insular stock. NMFS does not agree that the shallow-set fishery has the potential to jeopardize this stock under any of the alternatives, as that term is commonly used. (“Jeopardy” is specifically defined under the ESA and is used in making determinations for species, subspecies, or distinct population segments listed under that statute. FKW are not listed as threatened or endangered under the ESA. Therefore, NMFS has not conducted a jeopardy analysis on FKW and accordingly makes no ESA jeopardy determination here). NMFS will continue to monitor and examine interactions with FKW and will take appropriate action as new information becomes available.</p>
A3 CRC	Preferred alternative would increase potential for FKW bycatch	The DSEIS’ preferred alternative that would remove existing shallow-set effort limits could more than double the amount of sets compared to the average over the last seven years, greatly increasing the potential for bycatch of both the insular and pelagic	The data relied on in the DSEIS, from the time period between 2004 and the first quarter of 2008 indicated no interactions between FKW and the shallow-set fishery. In the second quarter of 2008, an interaction between a shallow-set longline boat and a FKW was observed

		populations of FKW within the Hawaii EEZ.	<p>within EEZ waters around Hawaii approximately 150 nm northeast of Molokai. Based on the location of the interaction, it is unlikely to have involved an animal from the FKW insular stock.</p> <p>The addition of the second quarter interaction to the data set will increase projected annual interactions with FKW under the preferred alternative (assuming 5,500 shallow-sets are made each year) to approximately 0.53 interactions. This result is analogous to that for Bryde's whales in Table 54 of the DSEIS for which a single interaction was recorded in the dataset. Based on the limited shallow-set fishing effort that occurs in the EEZ waters around Hawaii, this will not "greatly" increase impacts to FKW. NMFS observers will continue to be carried onboard of 100% of shallow-setting trips and will continue to collect scientific information to further our understanding of the causes and types of interactions that occur. The information about the 2008 interaction and modifications to projected impacts of the alternatives has been added to Tables 26, 42, 46, 50, and 54; and Sections 3.3.3.2.1, 4.0 and 4.4.2.2.1 of the FSEIS.</p>
B1 EPA	EPA Rating (Overall)	The Environmental Protection Agency (EPA) rated the DSEIS as "Environmental Concerns- Insufficient Information (EC-2)" stating concerns about sea turtles population trends and requesting additional information on the impact assessment methodology and cumulative impacts to sea turtles, including those associated with global climate change.	NMFS acknowledges the EPA rating and provides responses below to the EPA's detailed comments.
B2 EPA	Impacts to sea turtles – Methodology	The DSEIS impact assessment uses a methodology which measures susceptibility to quasi-extinction (SQE) to make a determination that the preferred alternative is not expected to result in significant adverse impacts to Pacific leatherback and loggerhead populations. The SQE methodology is difficult for the	Text has been added to Section 4.4.2.1.5 to further explain the SQE analysis' main features, limitations and assumptions. In addition, Appendix II of the DSEIS fully describes the SQE analysis and its results.

		lay-reader and the DSEIS would be improved with greater discussion of the SQE methodology, including its limitations and assumptions. In regards to the SQE model the FSEIS should discuss which conditions are assumed to remain the same, the probability that these will remain the same over the time period of the projection (three generations), and how the cyclic nature of populations factors into the model.	
B4 EPA	Impacts to sea turtles – Assumptions	The FSEIS should include an evaluation of the sufficiency of data from only two full years of fishing.	Section 4.0 of the DESIS and FSEIS includes a description of the analytical methodology used in the analysis. The analyses use complete shallow-set fishery catch and effort data collected during the fourth quarter of 2004, all of 2005, the first quarter of 2006, all of 2007, and the first quarter of 2008. This resulted in a dataset containing a total of 4,638 shallow-sets (with 100 percent observer coverage). NMFS believes that the data utilized in the analysis is sufficient to present the potential impacts of the alternatives considered.
B5 EPA	Impacts to sea turtles – Assumptions	The DSEIS provides leatherback adult equivalences and states that the equation used considers early age at maturity for leatherbacks (p. 113), but the DSEIS identifies recent studies for Atlantic leatherbacks suggesting maturity may not be reached until 29 years of age (p. 77).	<p>The DSEIS acknowledges that a recent study indicates that western North Atlantic leatherbacks may not reach maturity until 29 years of age and that the confirmation of this parameter remains important. The SQE analysis (Appendix II to the DSEIS), uses 14 years as the average age at maturity for western Pacific leatherbacks. This is based on a 1996 study (Zug and Parham) that used skeletochronological data to develop age at maturity.</p> <p>The majority of shallow-set fishery leatherback interactions are believed to be with adult western Pacific leatherback turtles. Curved carapace lengths (CCLs) of leatherback turtles obtained by onboard observers following longline interactions, range from 100 to 192 cm, with a mean CCL of 139. The mean size of nesting western Pacific leatherback females at onset of maturity is estimated at 163 cm CCL. Considering uncertainties</p>

			associated with the estimates of growth, survival rates and fecundity parameters, a mean adult equivalent value of 0.85 (which represents the mean CCL of turtles observed following interactions divided by the mean CCL at which maturity is believed to occur - or 139/163) was used to account for the fact that most, but not all of the interactions likely involve adults. This information has been added to Section 3.3.1.7 of the FSEIS.
B6 EPA	Impacts to sea turtles - Analysis	The DSEIS does not discuss the SQE analysis in terms of its validation with actual conditions to assess its prediction accuracy.	The diffusion approximation method in the SQE analysis takes into account environmental and demographic variability to enhance its prediction accuracy. The SQE analysis is based on the diffusion approximation method detailed in Snover and Heppell (in press) which takes into account exponential population growth in a randomly varying environment. The model uses two key parameters: 1) the arithmetic mean of the log population growth rate; and 2) the variance of the log population growth rate which accounts for sources of variability including environmental and demographic stochasticity and observation error. This information has been added to Section 4.4.2.1.5 of the FSEIS.
B7 EPA	Impacts to sea turtles – Methodology	The DSEIS is unclear on how the impact assessment methodology considers factors other than the measure of SQE. The DSEIS identifies substantial exogenous threats affecting sea turtles (p. 216-217), but it is not clear how these impacts are factored into the impact assessment conclusions.	As described in the DSEIS, quantitative analyses of direct impacts to sea turtles were conducted via the SQE model. This model considers trends in sea turtle nesting coupled with direct effects of interactions with the fishery. Many exogenous factors, such as climate change, global fishing pressure, ship traffic, marine debris have unpredictable or unquantifiable impacts on sea turtle populations, and are therefore necessarily assessed qualitatively. Section 4.4 has been revised to more fully describe the qualitative exogenous impacts and how they were factored into the study.
B8 EPA	Sea turtles - baseline information – leatherback vulnerability	The DSEIS does not present a clear picture of the status of leatherback and loggerhead turtles. For leatherbacks in the western Pacific Ocean, the DSEIS describes a lack of consistent and long-term	The current status of leatherback and loggerhead sea turtles is discussed in the DSEIS in Section 3.3. This section includes general description of sea turtle biology, distribution, nesting trends, and global status.

		<p>monitoring and the challenges associated with working in the region (p. 79). The DSEIS does not address the apparent vulnerability of the fact that 75% of nesting activity by affected leatherback turtle populations is on four beaches in Indonesia and makes no statement describing the anticipated outlook for the leatherback population due to a lack of trend data. The FSEIS should include clarifying information on the global status of loggerheads and leatherbacks and present this information with reference to the recovery criteria identified in the specie's Recovery Plans. This information should also address the expected impacts of global climate change on sea turtles.</p>	<p>NMFS agrees that the geographical concentration of nesting by affected leatherback populations may increase their vulnerability to place-based impacts such as typhoons, disease and climate change, but it is not possible to quantify this vulnerability. This information has been added to Section 4.4.2.1.5 of the FSEIS.</p> <p>Information is included in the DSEIS that describes nesting trends for the nesting sites in Jumursba-Medi (Table 15) and along the Huon Coast (Figure 15). The DSEIS acknowledges that there are no trend data for other affected sites including those newly described in Dutton (2007).</p> <p>In their 2007 5-year reviews of the status of leatherback and loggerhead turtles, NMFS and FWS found that, based on the recovery criteria and the best available information, neither species should be delisted or reclassified under the Endangered Species Act (ESA). In addition, the available information is not sufficient to determine the status or trend of the global leatherback population. The discussion of the global status of leatherback and loggerhead populations has been expanded in Sections 3.3.1.1 and 3.3.1.2 of the FSEIS.</p> <p>Information regarding impacts to sea turtles associated with climate change can be found in Section 3.3.1.6 of the FSEIS.</p>
B9 EPA	Caution in allowing for additional mortality of a species with cumulative risk, need to balance economic and sustainability considerations.	<p>Caution should be used in decisions that allow for additional mortality of species with such substantial cumulative risks, including cumulative and unknown risks from climate change.</p> <p>Decisions should be made using an approach that ties the economic conditions of the fishers to the long-term</p>	<p>NMFS agrees that it is in the economic interest of fishery participants to ensure long-term sustainability and believes that the proposed action will allow increased opportunities for sustainable fishing by the Hawaii-based shallow-set longline fleet, without jeopardizing the continued existence and recovery of listed sea turtles or other species. The preferred alternative in the FSEIS,</p>

		sustainability of the resource.	which is consistent with NMFS' 2008 Biological Opinion, allows 46 annual loggerhead interactions and 16 annual leatherback interactions (rather than the 19 leatherback interactions in the DSEIS). This presents a more conservative approach in establishing interaction limits that consider cumulative and unknown risks.
B10 EPA	Fishing Gear Loss - Accountability measures and proper disposal of fishing gear.	A report on marine debris by the National Research Council (NRC) suggests that ghost-fishing losses due to hook and line gear are poorly documented but could be substantial for longline gear. The FSEIS should identify what measures are being taken to prevent gear loss and NMFS should consider incorporating regulatory revisions to clearly identify and prohibit preventable losses of fishing gear. Additional incentives to collect derelict fishing gear could be identified and implemented as additional mitigation measures for increased take of sea turtles. Consideration should be given by NMFS and the Council to gear accountability and other measures to remove and reduce marine debris, especially plastics which sea turtles can mistake for jellyfish.	NMFS has insufficient evidence to conclude that gear loss in the shallow-set fishery presents an unreasonable risk to protected species. Hawaii longline fishermen attach radio buoys to the mainline of the longline gear at intervals and at either end which allows fishermen to relocate the line at the start of the haul or in the event of a break in the line. Therefore, NMFS disagrees with the proposal to implement in this action incentives to collect derelict fishing gear as "additional mitigation measures for increased take of sea turtles." However, it should be noted that the Hawaii longline fleet currently participates in an existing voluntary derelict fishing net gear and marine debris retrieval program.
B11 EPA	Sea turtle conservation projects	The DSEIS does not describe the funding or time frame for the sea turtle conservation projects, whether or how long they will continue, nor whether additional projects are expected for the future. The FSEIS should discuss the status of conservation projects and plans for continuing involvement or development of additional projects.	Section 1.4 of the FSEIS was clarified to identify the proposed federal regulatory action as well as other council recommendations related to Amendment 18 to the Pelagics FMP. The Council's sea turtle conservation projects are not included in the proposed federal regulatory action. While the Council has recommended maintaining these projects well into the future, funding is dependent on Congressional appropriations provided to the Department of Commerce, NOAA, and NMFS.
B12 EPA	Time-area closures	The FSEIS should consider the possibility of exploring time-area closures as a research component of the proposed action.	NMFS does not believe that research on time-area closures is warranted as a component of this proposed action. NMFS has a number of ongoing studies related to sea turtles, including research on preferred habitat and fishery interactions.

			Consistent with the 2008 Biological Opinion, NMFS has recommended the continuation of the TurtleWatch program. Additional descriptive information on this program and other NMFS sea turtle programs and research has been added to Section 4.4.2.1.2 of the FEIS.
C1 HLA	Overall Support for Preferred Alternative 1(F)	The Hawaii Longline Association (HLA) supports the adoption of the Preferred Alternative, Alternative 1(F) and the scientific and public reviews associated with its development and recommendation.	Comment acknowledged.
C2 HLA	Sea turtle effects analysis	The effects analysis is conservatively biased (i.e., indicates a greater expected effect from the action than is demonstrated by the best available data and information) and assumed mortality rates for loggerhead and leatherback sea turtles in the shallow-set fishery do not reflect the best available data. Available information specific to the Hawaii-based longline fleet indicate that mortality rates are likely half or less than those used in the effects analysis.	<p>Section 3.3.1.7.1 of DSEIS describes the post hooking mortality rates used in the analysis. These rates were derived from a 2006 NMFS report that developed criteria, based upon expert participation and data from several studies and data sources for assigning post-hooking mortality values based upon identified variables, including hook placement, degree of entanglement, and physical condition.</p> <p>As described in Section 3.3.1.7.1 of the DSEIS, results of one recent research study indicate that loggerhead sea turtle post-hooking mortality rates may be approximately half of those used in the DSEIS' effects analysis. Given the study's wide confidence intervals, which overlapped the post-hooking mortality values used in the effects analysis, NMFS relied on a conservative and established approach for applying its guidance on sea turtle post-hooking mortality rates in developing the DSEIS. NMFS will continue to review all relevant data and research and will consider updating this guidance as appropriate.</p>
C3 HLA	Sea turtle effects analysis – treatment of conservation benefits	The DSEIS does not adequately consider both the adverse and beneficial impacts of the proposed action, which includes the continuation of the Council's sea turtle conservation projects.	The proposed federal action was clarified in section 1.4. Although the Council recommends the continuation of its sea turtle conservation projects, such projects are not part of this proposed federal regulatory action. In addition, text was added to section 4.4.2.1.5 of the

		While the analysis by Dr. Snover addresses the adverse consequences of direct take and mortality (and finds them to be at acceptable levels), and while the DSEIS discusses the benefits of the Council's conservation programs, it does not appear that the ultimate effects analysis in the DSEIS accords quantitative or qualitative significance to the documented beneficial consequences of the conservation measures included as part of the proposed action (Section 3.3.1).	FSEIS to include a more detailed discussion of the Council's sea turtle conservation projects in relation to overall cumulative impacts.
C4 HLA	Sea turtle effects analysis – NMFS ignores offsetting conservation benefits	Whether or not NMFS has a policy regarding the consideration of offsetting benefits is not relevant and the absence of a viable quantitative assessment model does not justify ignoring their documented benefits. Both NEPA and NMFS' ESA Consultation Handbook and implementing regulations require consideration of beneficial conservation actions taken by the Federal agency or applicant as part of the proposed action.	NMFS recognizes the beneficial impacts of the Council's sea turtle conservation projects as described in Sections 3.3.1.1.3, 3.3.1.2.1.1, 3.3.1.2.2.1 and 4.4.1 of the DSEIS. When evaluating the status of a species affected by a federal regulatory action under both NEPA and the ESA, NMFS considers the beneficial impacts of conservation activities that may improve the species status. Such measures must be reasonably likely to occur and NMFS must make a quantitative or qualitative assessment of their expected impacts. NMFS maintains that these projects cannot be considered as fishery offsets due to a lack of specific information regarding their population benefits in terms of offsetting fishery impacts.
C5 HLA	Sea turtle effects analysis	Even if the most conservative 0.001% hatchling survival rate provided in the DSEIS is used, the data clearly document that qualitatively, if not quantitatively, the adult female leatherbacks and loggerheads conserved by the Council's sea turtle conservation projects exceed by a considerable margin the anticipated mortalities from direct takes by the fishery.	NMFS agrees that the Council's sea turtle conservation programs are successful and important for conservation and recovery of sea turtle populations. However NMFS does not include these in the federal regulatory action under consideration (see above response to comment C4) and therefore does not include them as offsetting actions in its analysis or decision making. Text has been added to section 4.4.2.1.5 of the FSEIS to include a more detailed discussion of the Council's sea turtle conservation projects in relation to overall

			cumulative impacts.
C6 HLA	Sea turtle impacts analysis – transferred effects	The DSEIS’ effects analysis does not appear to specifically take into account the adverse impacts that could occur due to the transferred effects described on pages 212-214 of the DSEIS. Consideration of transferred effects would further emphasize the scientific and policy rationality of selecting the Preferred Alternative over alternatives that directly or indirectly constrain fishing effort.	NMFS agrees that transferred effects under the proposed action are expected to benefit loggerhead and leatherback populations. Transferred effects on sea turtles are discussed in section 4.4.2.1 (“Transferred Effects of Regulatory Regimes”, pages 212-214 of the DSEIS). An example of an adverse transferred effect is the additional sea turtle mortalities that could occur if domestic consumption switches to swordfish imported from areas with fewer or less effective protected species monitoring and management programs. Text has been added to section 4.4.2.1.5 of the FSEIS to include a more detailed discussion of transferred effects on cumulative impacts.
C7 HLA	Seabird effects – no take of a short-tailed albatross in the Hawaii longline fisheries	There has never been an observed take of a short-tailed albatross in either sector of the HI-based longline fishery. HLA does not object to the analysis of potential short-tailed albatross takes in the DSEIS, but states that the use of black-footed albatross as a proxy species for the analysis is highly conservative.	Comment acknowledged.
C8 HLA	Seabird effects – MBTA compliance	The MBTA is not applicable to Hawaii’s longline fisheries because NMFS has interpreted it to apply only to nearshore waters from 0-3 miles from shore (70 FR 75075), which are closed to longline fishing. In addition, because the U.S. Fish and Wildlife Service (FWS) does not issue permits under the MBTA for incidental takes of migratory birds during otherwise lawful activities, requiring such permits would represent a legal obligation with which compliance is impossible.	Comment acknowledged.
C9 HLA	Seabird effects – transferred effects	Rausser et al. (2008) and Sarmiento (2006) have demonstrated that effort restrictions on the shallow-set fishery result in a shift of fishing effort to less regulated foreign fisheries [which may not have seabird conservation measures] and this can result in an	Comment acknowledged.

		increased adverse impact on seabirds.	
C10 HLA	Sea turtle impact analysis	The DSEIS does not appear to provide an early or obvious explanation for using the adult female equivalents in its estimates of impacts to sea turtles. The FSEIS should explain the scientific and policy rationale for focusing on adult female equivalents.	The best available population data for the affected turtle populations are nest counts. The SQE analysis relies upon nesting beach trends (i.e. numbers of nesting adult females) to determine the status of sea turtle populations. The SQE analysis modeled the trajectory of the adult female component of each affected population in the absence of the proposed action. Then, in order to determine the effect of the proposed action on the adult female component of each population, the effect of x number of adult female mortalities annually was modeled. Adult females are the only component of the affected populations for which data are available to build a population model, such as the SQE analysis. This information was added to the Executive Summary and Sections 3.3.1.7 and 4.4.2.1.5 of the FSEIS.
C11 HLA	Misc. typographic error	The predicted mortality of more than five million lbs of "other tunas" in Table 41 is not correct.	The predicted catch of "other tunas" under Alternative 1 in terms of pounds of fish is unavailable. This error was corrected in Table 41 of the FSEIS.
C12 HLA	Misc. typographic error	Page 188 incorrectly refers to Alternative 1E instead of Alternative 1F.	The reference was corrected in Section 4.1.6.3.1 of the FSEIS.
D1 HDAR	Analysis of sea turtle interaction rates	The analysis of the sea turtle interaction rates in the Hawaii-based longline-swordfish fishery is premature and the data used is inadequate to draw accurate and reliable conclusions. The data collected since 2004 represent three unique ecosystem-fishery-turtle interaction scenarios, which are not properly replicated. This is akin to sampling three different ponds and mixing the data as if all samples came from one habitat. The data cannot be used to estimate the reliability of the turtle interaction rates under any of the fishery interaction scenarios as the data represents three unreplicated statistical blocks. No changes should be made to the Hawaii based longline swordfish fishery until data from appropriate numbers of replicate years is gathered and a complete analysis	As described in Section 4.0 of the DESIS, expected sea turtle interaction rates were estimated using quarterly interaction rates observed between 2004 and early 2008. This methodology was used to allow explicit consideration of the observed differences in quarterly sea turtle interaction rates which are believed to result from seasonal variations in environmental and ecosystem conditions. The fact that the available data includes years in which relatively few sea turtle interactions occurred as well as years in which a sea turtle interaction hard cap was reached means that the analysis is more likely to be representative of the range of conditions that may occur in future years. Further the continued use of turtle hard

		is completed.	caps ensures that sea turtle populations will not be jeopardized, regardless of the actual interaction rates that occur. NMFS believes that this approach provides valid and sufficient information on which to base its analysis.
D2 HDAR	Does not support proposed action	HDAR supports alternatives 1A, 2A, and 3A.	Comment acknowledged.
E1 DOI	Impacts to seabirds analysis – methods used to predict impact rates underestimates interaction rates	The DSEIS analyzes the expected number of sets instead of the expected number of hooks. Given that the number of used hooks per set has steadily increased and is expected to increase by 15 percent annually, the number of seabird interactions per set is also likely to increase.	The Department of Interior's (DOI) expectation that hooks per set would increase by 15 percent annually is not supported by available fishery data. The number of hooks per shallow-set has been relatively stable since 1991, due to in part to practical considerations (e.g. the weight of too many hooks on a longline would lower its depth out of range of the highest swordfish catch rates) as well as regulatory constraints (e.g. limits on vessel size and restrictions on setting and hauling times). This information was added to Section 3.5.1 of the FSEIS as well as Figure 32 that illustrates the number of hooks per set used in the Hawaii shallow-set fishery from 1991 through 2007.
E2 DOI	Seabird drop-offs	The evaluation [of impacts on seabirds] did not incorporate the estimated 31% drop-off rate for seabird bycatch (Gilman et al. 2003, USFWS 2004). Incorporating the drop-off rate would increase the number of expected seabird interactions.	The DOI cites studies that were conducted prior to existing requirements for shallow-setting vessels to use relatively large circle-hooks with mackerel type bait, which may have reduced drop-off rates. No scientific studies have been conducted to assess drop-off rates in the current shallow-set fishery. Nevertheless, as discussed in Section 4.0.1 of the DSEIS, anticipated effects on endangered short-tailed albatrosses under each alternative include the 31 percent drop-off rate assumed by Gilman et al.
E3 DOI	Citing DSEIS predicted albatross interaction rates 2, 6	The DSEIS predicts that under the preferred alternative of 9,925 sets [Alternative 1E] there will be 26.54 interactions with black-footed albatrosses and 107.66 interactions with Laysan albatrosses. If the expected increase of 15 percent hooks per set is	The DOI has incorrectly identified Alternative 1E as the preferred alternative instead of Alternative 1F [up to 5,500 sets anticipated]. See response to comment E1 above regarding expected increases in hooks per set.

		included there would be expected to be 50.17 black-footed interactions and 317.75 interactions with Laysan albatrosses in the first year and more in the fifth year.	
E4 DOI	Compounding effects of increasing number of hooks per set	The seabird interaction data should be re-analyzed and re-evaluated in the FSEIS to include expected increases in hooks per set.	See response to comment E1 above regarding expected increases in hooks per set.
E5 DOI	Potential loss of breeding productivity	The DSEIS does not address loss of breeding productivity, especially to the extensive black-footed and Laysan albatross breeding populations in the Northwestern Hawaiian Islands (NWHI). Because albatross interactions occur in the first half of each year when albatrosses are feeding and rearing chicks, the analysis should account for reductions in breeding success and recruitment due to the loss of parent birds as well as breeding adults.	NMFS agrees that interactions with adult albatrosses that result in serious injury or death during the time when chicks are being fed and reared may also result in chick mortality. This information has been added to Sections 4.1.1.3.3, 4.1.2.3.3, 4.1.3.3.3, 4.1.4.3.3, 4.1.5.3.3, 4.1.6.3.3, and 4.4.2.3.4 of the FSEIS. The impacts to existing populations of black-footed and Laysan albatrosses from the relatively few serious interactions (and subsequent chick mortalities) predicted are unlikely to adversely affect the population trends of these species.
E6 DOI	Impact to MBTA protected seabirds	The DSEIS is unclear whether the association of the interaction reduction is based on reduced effort or mitigation measures.	Due to the low levels of observer coverage on shallow-sets prior to the implementation of current seabird mitigation measures, as well as the low numbers of annual interactions that have occurred since these measures were implemented, NMFS has not published a quantitative analysis of their efficacy in terms of interaction rates. However as described in the DSEIS, during 2007 the shallow-set fishery made 1,497 sets with 47 interactions observed with black-footed or Laysan albatrosses combined (0.031 interactions per set). This can be compared to the 1994-1998 combined interaction rate of 0.758 interactions per set used by the USFWS in their 2004 Biological Opinion, yielding a 96 percent reduction in the combined black-footed and Laysan albatross interaction rate per set. This information has been added to Sections 3.4.1 and

			4.4.3.3.1.
E7 DOI	Efficacy of existing seabird interaction avoidance measures	The DSEIS should analyze the efficacy of existing seabird interaction avoidance and minimization measures to determine if these measures are adequate or if they could be enhanced or augmented with new measures to further reduce interaction rates.	Existing seabird measures were implemented In 2002 and 2005 and each action was accompanied by an Environmental Impact Statement which included complete analysis of a wide range of alternatives designed to reduce and mitigate seabird interactions. Laysan, black-footed and short-tail albatross populations all appear to have remained stable (Laysan) or increased (black-footed and short-tailed) since that time and NMFS is not aware of any new information that would warrant a reexamination at this time.
F1 Joint- NGO	Overall comment	NMFS should maintain and/or strengthen the conservation and bycatch mitigation measures currently required in the shallow-set longline fishery.	NMFS believes the proposed action, including the continuation of existing and proven sea turtle and seabird mitigation measures and 100% observer coverage, will not jeopardize the continued existence and recovery of any protected species populations or result in overfishing or overfished conditions of any target or non-target stocks. In addition, Council-sponsored sea turtle conservation projects appear to have had beneficial effects on sea turtle populations, and the Council has recommended their continuation.
F2 Joint- NGO	Expansion of shallow-set fishery is inappropriate	Any expansion of the Hawaii shallow-set fishery is inappropriate given the current fishery's unsustainable impacts on non-target species and lack of data.	NMFS believes that there are sufficient data to conclude that the proposed action, including the continuation of existing and proven sea turtle and seabird mitigation measures and 100% observer coverage, will not jeopardize the continued existence and recovery of any protected species populations or result in overfishing or overfished conditions of any target or non-target stocks.
F3 Joint- NGO	Expansion of the Hawaii shallow-set fishery is inconsistent with the ESA	Expansion of the Hawaii shallow-set fishery is inconsistent with the ESA as it would likely jeopardize the continued existence of at least two ESA-listed species, the Pacific leatherback and loggerhead sea turtles.	In October 2008, NMFS issued a Biological Opinion that examined the preferred alternative under section 7 of the ESA. Relying on the best information available, the Biological Opinion concluded that the DSEIS preferred alternative including limiting annual interactions to 46 loggerheads and 19 leatherbacks would not jeopardize the continued existence and recovery of leatherback and loggerhead sea turtle populations. However, due to

			<p>uncertainty in the status and population trend of the non-Jamursba-Medi component of the western Pacific leatherback population the Biological Opinion authorizes no more than 16 annual leatherback interactions (and 46 loggerhead interactions). Following the release of the Biological Opinion, the Council reconsidered this issue and at its 143rd meeting (October 2008) revised its preferred alternative to conform to the authorized interactions contained in the Biological Opinion. This information has been added to the Executive Summary, new Section 1.5 and Section 2.1.1, and the Biological Opinion has been added to the FSEIS as Appendix VI.</p>
F4 Joint- NGO	Status of WP leatherback population	<p>The DSEIS inaccurately asserts that the status of nesting female leatherback populations in the southwestern Pacific region appears to be better than previously stated. This assumption in the DSEIS ignores the explicit caution given by Dutton et al. that the study's estimates of the number of nesting females "should not be used for management purposes" because of substantial uncertainty in the data used to derive the estimates. Dutton et al. (2007). The study authors (Dutton et al. 2007) note that while the number of leatherbacks nesting at western Pacific rookeries is larger than previously thought, the population appears to be declining. Rather than hinging its analysis on the hope that nesting populations are larger than previously thought, the Council and NMFS must implement protective measures to address the long-term, continuing decline of the Pacific leatherback, as well as the loggerhead. The ESA requires not only that fishery managers prevent the extinction of these species, but that they facilitate species recovery. It would irresponsible and unlawful to allow this fishery to take more turtles from a population that is already dangerously small and getting smaller. If anything, fishery managers must consider additional measures,</p>	<p>NMFS agrees that the DSEIS statement referring to the "status" of western Pacific female leatherback population is inaccurate and that the status of the western Pacific leatherbacks cannot be inferred from higher estimates of nesting females.</p> <p>In fact it is the <u>number</u> of nesting female leatherbacks in the southwestern Pacific region that appear to be greater than previously stated in Spotila (1996) or NMFS (2004). This clarification has been made to Section 4.4.2.1.5 of the FSEIS.</p> <p>Note that Section 4.4.2.1.5 of the FSEIS maintains the DSEIS' cautionary statement regarding the use of this information as follows: "Though greater numbers of nesting female leatherbacks have been discovered in the western Pacific region, trend information is not available for these newly described nesting sites, thus no statements can be made describing the anticipated outlook (i.e. status) for these populations for which there is no trend data."</p> <p>NMFS agrees with the commenter that leatherback populations appear to be in decline from historical</p>

		including reduced longline effort, to offer greater protection to leatherbacks and loggerheads.	<p>levels, and that the continuation of proven regulatory measures and associated conservation efforts is necessary. However, NMFS disagrees that the proposed action is inappropriate as there will be no change in the number of authorized interactions with leatherbacks (16) and the expected resultant adult female mortalities (up to two per year) cannot be distinguished from the effects of natural mortality.</p> <p>NMFS believes that continuing existing non-regulatory protective measures such as the Council's sea turtle conservation projects is important to leatherback conservation and survival. In addition, several important conservation recommendations were identified in the 2008 BiOp and include supporting the Inter-American Convention for the Protection and Conservation of Sea Turtles; committing to sea turtle conservation and management measure for commercial longline fisheries operating in the western Pacific under the Western and Central Pacific Fisheries Commission; continued implementation of NMFS' Sea Turtle Handling Guidelines that increase post-hooking turtle survivorship; and technical assistance workshops to assist other fleets and nations to reduce and mitigate sea turtle interactions (see Appendix VI of the FSEIS).</p>
F4 Joint- NGO	Continued from F4 above	Continued from F4 above	<p>NMFS disagrees that the proposed action will jeopardize the continued existence or recovery of loggerhead populations as authorized interactions with loggerhead (46) and the expected resultant adult female mortalities (up to three per year) cannot be distinguished from the effects of natural mortality.</p> <p>NMFS disagrees that the North Pacific loggerhead population is declining. Nesting beach data from 2008 indicate a 55 percent increase in loggerhead nesting as compared to 2007. This information has been added to</p>

			<p>Table 19 of the FSEIS. Figure 18 was also added to Section 3.3.1.2.1 to show the trend in loggerhead nesting.</p> <p>NMFS believes that continuing existing non-regulatory protective programs such as the Council's sea turtle conservation projects are important to loggerhead conservation and survival. In addition to those described above in response to comment F3, the 2008 BiOp includes the following conservation recommendations specifically for loggerhead sea turtles: continuation of ongoing studies on the ecological, habitat use, and genetics of loggerhead turtles occurring in nearshore waters around Baja California, Mexico: gear mitigation studies for fisheries operating in these waters; implementation of a trans-Pacific international agreement that would include relevant Pacific Rim nations in the conservation and management of sea turtle populations - specifically a Japan-U.S.A.-Mexico agreement for North Pacific loggerhead turtles; and regional partnerships to implement long-term sea turtle conservation and recovery programs for critical nesting, foraging and migratory habitats.</p>
F5 Joint- NGO	Consistency with MMPA	Both the existing fishery and any expanded fishery are inconsistent with the MMPA. The Hawaii pelagic longline fishery is known to seriously injure and kill marine mammal species, including at least two strategic stocks, humpback whales and false killer whales, and NMFS must convene a take reduction team to develop take reduction plans for any of these species.	NMFS disagrees that either the existing fishery or the fishery expected to occur under the preferred alternative are inconsistent with the MMPA. In 2006, the Council established a Marine Mammal Advisory Committee (MMAC) consisting of national and international experts on marine mammal biology and fishery interactions. The MMAC formally met on two occasions and, after reviewing the available commercial and scientific data, made recommendations for management measures and continued research to address issues of FKW bycatch. NMFS, the Council, and the scientific community have implemented many of those recommendations. NMFS will develop and implement a take reduction plan when

			<p>sufficient funding becomes available.</p> <p>Although the Hawaii longline fishery (combined shallow-set and deep-set components) is currently listed as a Category I fishery under the MMPA, NMFS has found that it is appropriate to separate the two sectors as they have differing impacts on marine mammals. The 2009 Final List of Fisheries was published on December 1, 2008 (73 FR 73032). The shallow set portion was re-categorized to Category II, and the deep-set (tuna target) fishery remains as a Category I fishery.</p>
F6 Joint NGO	ESA-listed marine mammals	The pelagic longline fishery is currently operating without any take authorization for ESA-listed marine mammals despite documented injuries to humpback and sperm whales.	<p>NMFS has initiated the humpback whale MMPA 101(a)(5)(e) authorization process for the Hawaii-based longline shallow-set fishery. As described in the DSEIS at Section 4.1.5.3.1, it is expected that under the preferred alternative the fishery would interact with up to two humpback whales per year. Using annual interaction rates (vs. the quarterly interaction rates used in the DSEIS) the 2008 Biological Opinion predicted the proposed action would result in up to three interactions between humpback whales and the shallow-set fishery each year. Based on mortality estimates used in the 2008 Biological Opinion, Chapter 4 of the FSEIS has been revised to include an estimated 25 percent post-interaction mortality rate, resulting in up to one humpback whale mortality every year. As discussed in its 2008 Biological Opinion, NMFS does not expect this to jeopardize the continued existence or recovery of the North Pacific humpback whale population. This population is currently estimated at 18,000 animals and available information indicates that it is increasing by at least 6.8 percent per year as result of international and federal protections.</p> <p>NMFS is currently collaborating with its regional partners on the Structure of Populations, Levels of Abundance</p>

			<p>and Status of Humpbacks (SPLASH) project which provided the above information.</p> <p>Since the shallow set fishery was re-opened in 2004 (with 100% observer coverage), no interactions with sperm whales have been observed or documented in the shallow-set fishery. Accordingly, NMFS has determined that they are not likely to be affected by the proposed action.</p>
F7 Joint- NGO	MBTA	Both the existing fishery and any expanded fishery are inconsistent with MBTA	<p>The MBTA applies only within the United States and nearshore waters, i.e., from the shoreline seaward to three nautical miles offshore. Accordingly, the Hawaii pelagic longline fleet does not operate in waters covered by the MBTA. In addition, the MBTA contains no provision for the incidental (i.e., inadvertent) take of migratory birds during commercial fishing activities, and NMFS does not believe that the MBTA was intended to proscribe otherwise lawful activity merely because it has the potential to interact with migratory birds. In the absence of a permitting process to address potential conflicts between commercial fishing activities and migratory birds, NMFS will continue to promote mitigation strategies and best management practices, including workshops and the use of streamer lines and side-setting, to reduce and eliminate potential interactions with migratory birds. See Section 6.7 of the FSEIS.</p>
F8 Joint- NGO	Magnuson-Stevens Act (MSA) requirements, scientific recommendations, and international resolutions	Increasing fish effort on pelagic fish populations is inconsistent with scientific recommendations, international resolutions, and the requirements of the MSA regarding impacts to target and non-target fish.	<p>The scientific recommendations and international resolutions cited by the commenter apply to southwest Pacific swordfish. The Hawaii fleet targets North Pacific swordfish which have been found by NMFS (or any international management organizations) to not be overfished or subject to overfishing, nor approaching either condition. As described in Section 3.2.1.3 of the DSEIS, definitive stock structure remains uncertain, however the best available information indicates that</p>

			there are separate Pacific swordfish stocks. The most recent applicable stock assessment for North Pacific swordfish indicates that this stock is not overfished or subject to overfishing, nor approaching either condition.
F9 Joint- NGO	MSA requirement, scientific recommendations, and international resolutions	Pacific bigeye and yellowfin tuna populations that are caught by shallow-setting vessels are overfished and subject to overfishing and increased fishing pressure under the preferred alternative would be unlawful and inconsistent with scientific recommendations and domestic law.	<p>Neither bigeye nor yellowfin tuna are in an overfished condition.</p> <p>As described in the DSEIS, the highest expected fishing levels under the preferred alternative (5,500 sets) 412,628 lbs of bigeye tuna would be caught by the shallow-setting fishery. This is 0.35 percent of estimated maximum sustainable yield for WCPO bigeye. For yellowfin tuna, the highest expected fishing levels under the preferred alternative (5,500 sets) would yield 29,672 lbs of yellowfin or approximately 0.004 percent of WCPO yellowfin MSY.</p> <p>Pacific-wide bigeye was determined by NMFS to be subject to overfishing (not overfished) in December 2004 (69 FR 78397). In that determination NMFS recognized that Pacific bigeye tuna occur in the waters of multiple nations on the high seas and is fished by the fleets of other nations in addition to those of the U.S. Thus the capacity for unilateral action by the U.S., as required under the Magnuson-Stevens Act, is limited, as is the capacity for action taken by Councils to end overfishing. Multilateral action is essential to ensure that overfishing of bigeye tuna in the Pacific Ocean ends because U.S. fisheries comprise a very small portion of Pacific-wide bigeye tuna harvests (less than three percent in 2004). Furthermore, the proposed action will likely increase participation in the shallow-set fleet thereby shifting effort away from bigeye and yellowfin (deep-setting) and to swordfish (shallow-setting).</p> <p>Western and Central Pacific yellowfin were determined</p>

			by NMFS to be subject to overfishing in 2006 (71 FR 14837), however based on recent stock assessments it is no longer considered to be subject to overfishing. In 2004 ,U.S. fisheries were estimated to be responsible for less than four percent of all Western and Central Pacific Ocean yellowfin harvests, with the majority of these made by purse seine vessels. Given the above, in 2007 NMFS approved the Council’s recommendation to develop, support and implement recommendations made by international regional fishery management organizations (RFMOs such as the Western and Central Pacific Fisheries Commission and the Inter-American Tropical Tunas Commission) to address overfishing of bigeye and yellowfin tuna. This information has been added to Sections 3.2.2.1 and 3.2.2.2 of the FSEIS.
F10 Joint- NGO	MSA requirement, scientific recommendations, and international resolutions	In 2005 the IATTC and WCPFC adopted resolutions identifying North Pacific albacore populations as experiencing overfishing and requiring member nations to cap current levels of effort. The action alternatives included in the DSEIS propose to increase annual albacore mortality from current levels (64,645 lbs) to anywhere between 91,479 lbs and 267,667 lbs/year. This is inconsistent with the United States’ obligations under international agreements, disregards science and the law, and undermines our role as leaders in international fishery management.	As described in Section 4.1.4.1 of the DSEIS at the highest expected fishing levels under the preferred alternative (5,500 sets) 188,150 lbs of albacore would be caught by the shallow-setting fishery. This represents less than one half of one percent of the 2006 spawning stock biomass (165,800 mt) for the North Pacific stock and is minimal in terms of its contribution to overfishing.
F11 Joint- NGO	Range of Alternatives	The DSEIS’ objective is rather narrow and the DSEIS fails to consider an appropriate range of alternatives. Alternatives that decrease effort and reduce unsustainable impacts to protected sea turtles, marine mammals, sea birds, and target and non-target fish stocks must be considered given the DSEIS’ objective to provide increased opportunities for sustainable harvests of swordfish and other species without jeopardizing the continued existence and recovery of listed and protected species.	The fishery currently operates under rigorous requirements to ensure optimum yields without overfishing or jeopardizing protected species. The purpose, need and range of alternatives considered are appropriate. As described here and in the DSEIS. The data indicate that the preferred alternative will not lead to overfishing of swordfish as North Pacific swordfish are currently considered to be healthy and incidental catches of bigeye, yellowfin, and albacore tuna will be negligible in relation to other fisheries targeting these

			stocks. NMFS' 2008 Biological Opinion concluded that the preferred alternative will not jeopardize sea turtle populations or other listed species. Section 2.1.1.2 of the DSEIS considers an alternative to reduce or prohibit shallow-set fishing, but this was not considered in detail as it is inconsistent with National Standard 1 of the MSA. The purpose of National Standard 1 is to achieve optimum yields from domestic fisheries without overfishing.
F12 Joint- NGO	Topic 1-Fishing effort alternatives	The level of turtle take authorized in the 2004 Biological Opinion was based on expected fishing effort related to the annual cap of 2,120 shallow sets, and if the turtle take limits rather than the effort limits are being reached consistently, then more turtles are being taken than estimated for the approved level of fishing effort. Instead of increasing the turtle hard caps, the effort limits should be reduced to levels consistent with the amount of fishing effort in recent years.	The annual sea turtle interaction hard cap was reached one time (2006) since 2004 and the fishery was closed for the remainder of the year. Because circle hooks and mackerel-style bait had not been used in domestic Pacific fisheries at the time the previous BiOp was issued, the NMFS 2004 Biological Opinion based the predicted interaction rates upon interaction rates from Atlantic gear experiments coupled with historic operating patterns for the Hawaii-based fishery. As north Pacific swordfish is not subject to overfishing, the preferred alternative achieves optimum yield while preventing jeopardy to protected species. Therefore, reducing shallow-set fishing effort as proposed by the commenter would be inconsistent with MSA National Standard 1.
F13 Joint- NGO	Topic 1- consideration of sea turtle hard caps	It is inappropriate for the Council to consider turtle take levels in its consideration of alternatives. This approach is completely inconsistent with the ESA and must be rejected. Takes of threatened and endangered species may only be authorized if incidental to an otherwise lawful activity.	Consideration of alternatives that include hard caps on turtle interactions along with other mitigation measures (e.g. circle hooks and mackerel-type bait) and 100 percent observer coverage are appropriate requirements that the Council may recommend to manage the fishery under the Magnuson-Stevens Fishery Conservation and Management Act. Magnuson-Stevens requires the Council to consider and recommend conservation and management measures applicable to the fishery and the marine environment that are consistent with the national standards and other applicable law (including Endangered Species Act.)

			Existing turtle hard caps were approved by NMFS and have successfully restricted interactions by the Hawaii-based shallow-setting fishery.
F14 Joint- NGO	Cumulative effects and actions outside action area	The cumulative effects analysis should include actions taking place outside the action area (such as foreign fishing on the Pacific high seas) as these can also injure sea turtles.	Exogenous impacts to sea turtles are discussed in Section 4.4.2.1.3 of the DSEIS and include descriptions of coastal and high seas fisheries (both foreign and domestic) believed to impact sea turtles.
F15 Joint- NGO	Previous court proceedings and current measures	The document should acknowledge that the 2,120 set limit and existing hard caps were implemented as a result of court proceedings and these should not be portrayed as voluntary measures.	A series of court orders regarding Hawaii's longline fishery were issued between 1999 and 2001. In general these focused on restricting or suspending the deep-setting and/or shallow-setting sectors while the Council developed long-term fishery management measures and NMFS completed an associated Environmental Impact Statement (EIS). That EIS was completed in 2004 and its preferred alternative was the Council's recommendation of a 2,120 set effort limit, set certificates, sea turtle interaction limits, large circle hooks, mackerel-style bait, and 100% observer coverage. These provisions are all in effect today and have successfully reduced interactions.
F16 Joint- NGO	SQE analysis	The SQE analysis only considers the risk of extinction and fails to consider the likelihood of recovery, and thus does not meet the ESA's management requirements.	The SQE analysis is a tool to estimate sea turtle population impacts from fishery interactions. The 2008 Biological Opinion, which considered the results of the SQE analysis as well as other best available information, concluded that the proposed action will not jeopardize the continued existence (including recovery) of any ESA-listed species. See Appendix VI of the FSEIS for the 2008 Biological Opinion.
F17 Joint- NGO	SQE analysis	It is not clear whether the SQE analysis takes into account increases in turtle mortality from other sources such as the potential development of longline fisheries of the West Coast of the United States. This reasonably foreseeable effect should be considered.	The SQE analysis examines the impact of the DSEIS' preferred alternative and does not attempt to predict or analyze future impacts. These are considered in Section 4.4.2.1.2 of the DSEIS and include a discussion of the potential re-initiation of a U.S. West Coast shallow-set longline fishery.

F18 Joint- NGO	Status of leatherback and loggerhead populations	Given that both leatherback and loggerhead populations are declining even under status quo conditions, it is difficult to see how any increase in the mortality of either species could be consistent with its recovery or with the ESA.	<p>NMFS does not believe that the Japan loggerhead population trend is declining. Nesting beach data from 2008 indicate a 55 percent increase in loggerhead nesting as compared to 2007. This information has been added to Table 19 of the FSEIS. Figure 18 was also added to Section 3.3.1.2.1 to show the increasing trend in loggerhead nesting.</p> <p>The only western Pacific nesting beach (Jamursba-Medi, Papua, Indonesia) where long-term nesting has been monitored, the nesting beach trend is in decline. Other leatherback nesting beaches in the western Pacific may also be in decline, but long-term nesting beach data are lacking for these areas.</p> <p>NMFS' 2008 Biological Opinion examined the preferred alternative under section 7 of the ESA and relying on the best information available, concluded that the proposed action limiting annual interactions to 46 loggerheads and maintaining the current interaction limit of 16 leatherbacks would not jeopardize the continued existence and recovery of leatherback and loggerhead sea turtle populations. Furthermore, NMFS believes transferred effects from the proposed action will benefit global sea turtle populations by reducing domestic consumption of fish harvested from fisheries without proven turtle mitigation measures.</p>
F19 Joint- NGO	Format of ITS	It is inappropriate for the DSEIS to address the format of the Incidental Take Statement (ITS) in NMFS' Biological Opinion. However if such an approach [a 3-year ITS] is taken, it must include 100 percent observer coverage, an annual cap to close the fishery, and real time reporting that will close the fishery immediately upon hitting the cap.	As described in the DSEIS, the proposed action continues existing 100 percent observer coverage and establishes annual hard caps to close the fishery immediately upon notification by NMFS. Real time reporting and potential immediate closure will continue to be achieved via the onboard observers.
F20 Joint-	Observer coverage costs	The estimated costs of 100 percent observer coverage for each of the alternatives should be clarified in the	As described in Section 4.0 of the DSEIS, projected impacts of Alternatives A-E were based on the

NGO		FSEIS, specifically why the no effort limit alternative [the preferred alternative 1F] is projected to cost only \$5.1 million while the 9,925 set effort limit [Alternative 1E] would cost \$12.7 million.	assumption that all available sets will be utilized. In the case of preferred alternative (1F – No set limit), Section 4.1.6 explains that anticipated fishing effort is expected to gradually increase to historic averages (approximately 5,500 sets per year). Section 4.1.6.1 goes on to clarify that observer costs under the preferred alternative are expected to fall between those anticipated under Alternatives 1A (2,120 set limit at \$1.9 million in observer costs) through 1D (5,500 set limit at \$5.1 million).
F21 Joint- NGO	Topic 2- Set certificate program	The transferable set certificate program should be continued as it guards against potential overages in allowable effort and may provided fishermen with flexibility as well as financial returns.	<p>As described in the DSEIS, fishing effort limits and associated set certificates have been used to indirectly control turtle interactions. NMFS believes that the use of hard caps for turtles, in conjunction with other existing regulatory measures, have proven to be effective in reducing interactions. NMFS will continue to monitor the fishery with 100 percent observer coverage and is confident that this will provide complete fishery information. Continuation of the set certificate program may unnecessarily limit fishery effort which would be inconsistent with National Standard 1.</p> <p>The proposed action will enable the fishery to achieve optimum yield while at the same time avoiding jeopardy to protected species.</p>
F22 Joint- NGO	Topic 3- Time/area closures	The time area closures in Alternative 3B and/or Alternative 3C should be implemented to minimize interactions and to develop a better understanding of relationships between the temporal/spatial distribution of turtles, oceanographic conditions and fishery interaction rates.	As described in section 4.3 of the DSEIS, NMFS believes there is insufficient data to conclude that time area closures in Alternatives 3B and 3C will reduce the number of sea turtle interactions due to the potential displacement of fishing effort. Although the loggerhead hard cap was reached in the first quarter of 2006, 2008 data indicates that no loggerhead turtle interactions and one leatherback interaction occurred during the same time period. The difficulty in managing time area closures based on largely transient ocean temperature bands, as well as the inherent uncertainty in predicting

			with reasonable confidence whether turtle interactions will occur at higher rates within these bands, make the benefits of time area closures speculative in relation to the impacts on fishery yields. Moreover, the implementation of time area closures deprives the agency of observation data that is helpful to understanding sea turtle distribution and behavior. NMFS believes that the use of proven turtle mitigation measures and hard caps contained in the preferred alternative will provide appropriate protection to sea turtles.
F23 Joint- NGO	Data collection	Improved data collection and monitoring and a greater scientific understanding about the relationship between protected species, longlining and oceanographic conditions are necessary prerequisites to fishery expansion.	NMFS believes that there is sufficient data to conclude that the proposed action, in combination with the continuation of existing and proven sea turtle and seabird mitigation measures and 100% observer coverage, will not jeopardize the continued existence and recovery of any protected species populations or result in overfishing or overfished conditions of any target or non-target stocks. Moreover, NMFS intends to continue existing monitoring, research and recovery programs and will consider proposing new or revised management measures if justified by the circumstances.
F24 Joint- NGO	Turtle interactions	There is evidence that some fishing vessels actively conceal turtle interactions from onboard observers by jettisoning them on branch lines. If true, this should be accounted for and halted.	NMFS continues to have confidence in the accuracy of observer data. NMFS remains committed to investigating any violations of applicable law and will take appropriate enforcement action.
F25 Joint- NGO	Hard caps for all sea turtles	The scope of the hard cap provision should be expanded to include <u>all</u> sea turtles that interact with pelagic longlines.	As described in the DSEIS the shallow-set fishery interacts with olive ridley and green sea turtles, in addition to loggerheads and leatherbacks. However given the low interaction rates with olive ridley and green turtles and the status of affected populations, NMFS does not believe that hard caps are an essential management measure to protect these species from impacts in the shallow-set fishery. Interactions with these and all other listed species will continue to be

			subject to the requirements of the ESA and if the ITS for a species is exceeded NMFS will take appropriate action as required by the ESA.
F26 Joint- NGO	Gear requirements for deep-set longline fishery	The deep-set longline fishery should also be required to use large circle hooks, eliminate shallow branch lines and use weighted lines to reduce sea turtle bycatch	The commenter's suggestion is outside the scope of the proposed action which considers modifications to the shallow-set fishery, however as described and recommended in NMFS' 2005 Biological Opinion on the deep-set fishery, NMFS is continuing to evaluate mitigation strategies, including gear modifications that would reduce sea turtle interactions in the deep-set fishery.
F27 Joint- NGO	Potential West Coast shallow-set fishery	A coordinated management framework for pelagic fisheries with the Pacific Fishery Management Council must be a precondition of expanding fishery effort.	The Pacific Council has been kept apprised of the research, development and recommendations of the Western Pacific Council. To date the Pacific Council has not taken final action on any specific recommendation to allow the establishment of a West coast-based shallow-set longline fishery, with the exception of issuing one experimental fishing permit. Section of the 4.4.2.1.2 of the FSEIS has been revised to incorporate information on shallow-set fishery actions taken by the Pacific Council since publication of the DSEIS. If and when the Pacific Council recommends the establishment of a shallow-set longline fishery NMFS will evaluate the likely impacts to sea turtles and other target and non-target species.
F28 Joint- NGO	Fishery offsets	Offsetting fishery-related mortality of protected species with non-fishery conservation measures would be inconsistent with section 7(a)(2) of the ESA.	The 2008 Biological Opinion on the proposed action did not consider the Council's sea turtle conservation projects as fishery offsets.
G1 OHA	Data used	There is insufficient data on which to judge the proposals [alternatives] being considered, as shown by the recent annual sets in Table 14.	Section 4.0 of the DESIS and FSEIS includes a description of the analytical methodology used in the analysis. The analyses use complete shallow-set fishery catch and effort data collected during the fourth quarter of 2004, all of 2005, the first quarter of 2006, all of 2007, and the first quarter of 2008. This resulted in a dataset containing a total of 4,638 shallow-sets (with 100 percent observer coverage). NMFS believes that

			the data utilized in the analysis is sufficient to present the potential impacts of the alternatives considered.
G2 OHA	Sea turtle interaction rates	Reductions in sea turtle interactions observed since 2004 could have resulted from reduced effort rather than the new techniques and gear restrictions (page v).	As described in Section of 1.2.3 of the DSEIS, Gilman and Kobayashi (2007) conducted a scientific evaluation of fishery interactions with sea turtles before and after the current requirements and found that leatherback interaction rates (interactions per thousand hooks set) had been reduced by approximately 90 percent and loggerhead interaction rates had been reduced by approximately 83 percent.
G3 OHA	Turtle hard caps	If the gear restrictions are so effective, there should be no need for turtle hard caps.	Although interaction rates are significantly lower than in the past, no single mitigation measure is completely effective. The proposed action follows a layered approach to ensure protection of sea turtles. Hard caps provide an additional level of confidence that fishery interactions do not exceed authorized levels.
G4 OHA	Turtle hard caps	Increased hard caps will increase impacts to sea turtles.	See response to comment F18.
G5 OHA	Hard caps and jeopardy to populations	It is less than helpful to say that existing hard caps are not the upper limit of interactions that would constitute significant adverse impacts to these species (pages one and 11) given the stated goal of avoiding jeopardy. The hard caps may not represent critical tipping points; however they are not a good thing to be exceeding and were put in place to help achieve the goal of avoiding jeopardy. The reason why the turtle caps are in place should be clarified.	See response to comment G3 above regarding text explaining why the turtle caps are in place.
G6 OHA	Time/area closures	Removing the set limit and increasing the leatherback cap by 119 percent and the loggerhead cap by 271 percent without any new time area closures is a dramatic departure from current careful management techniques. The specific data and best available science should be provided to show how the proposals [alternatives] are justified.	The proposed action will allow optimum yield to be achieved from the shallow-set fishery with no increase in leatherback interactions, while utilizing proven sea turtle mitigation measures, 100 percent observer coverage, and hard caps to ensure no jeopardy to the continued existence of protected species. All relevant and available fishery and scientific information, datasets, analyses and conclusions have been described in the DSEIS and FSEIS.

G7 OHA	Sea turtle interactions	The DSEIS contradicts itself by saying that interactions are highest in the first quarter of each year (page ix) but there were no interactions in January of 2007.	As shown in Table 5 of Appendix III to the DSEIS, there were 12 interactions with loggerheads and two interactions with leatherbacks during the first quarter (January-March 31) of 2007. However, those 12 interactions occurred between February 1 st and March 31 st .
G8 OHA	Loggerhead nesting trends	The DSEIS notes that the 2008 Japanese loggerhead nesting data is positive (page x), but the two previous years were down. One year of increased nesting is not enough to make up for past declines and is unlikely to "positively affect the North Pacific" population in its entirety.	As described in Section 3.3.1.2.1 of the DSEIS, loggerhead nest counts in Japan were down in 2006 and 2007 but from 1999 to 2005 annual nests on monitored beaches more than doubled. Preliminary data from 2008 indicate at least as many nests as were recorded in 1990 (approximately 6,500 nests). This information has been added to Table 19 of the FSEIS. Figure 18 was also added to Section 3.3.1.2.1 of the FSEIS to show the trend in loggerhead nesting.

October 6, 2008

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Submitted by e-mail to HIswordfish@noaa.gov

Dear Mr. Robinson,

I am writing to provide comments on the Draft Supplemental Environmental Impact Statement (DSEIS) included in Amendment 18 to the Fishery Management Plan (FMP) for Pelagic Fisheries of the Western Pacific Region, as part of the public comment period. The purpose of these comments is to address whether this amendment to the FMP may put the Hawai'i insular population of false killer whales at risk.

The preferred alternative (1E) of this Amendment proposes removing the effort set limit for the shallow-set swordfish fishery, and instead implements new loggerhead and leatherback sea turtle interaction "hard caps". Under this alternative, the DSEIS states that "anticipated fishing effort is expected to gradually increase to historic levels between 4,000 and 5,000 sets per year" (page 187), rather than the current limit of 2,120 sets per year. The DSEIS states that "the Hawaii shallow-set fishery rarely fishes within the Hawaiian EEZ, but rather, targets swordfish in the central North Pacific approximately 600-1,000 nm north of Hawaii" (page 123), and bases its conclusions that "the impact of Alternative 1E on marine mammals is not likely to cause a significantly adverse effect on the marine mammal populations" (page 188) in part on this premise. The DSEIS notes that the Hawai'i-based longline fishery (both deep-set and shallow-set) is listed as a Category I fishery primarily due to interactions between the deep-set fishery and false killer whales within the Hawaiian EEZ, and states that "the shallow-set fishery has not been observed to interact with false killer whales" (page 231).

The basis for the conclusion that there is not likely to be a significantly adverse effect on marine mammal populations, particularly false killer whales in the Hawai'i EEZ, is incorrect. Forney and Kobayashi (2007) illustrate considerable fishing effort with sets targeting swordfish or using swordfish-style (shallow-set) effort within the Hawaiian EEZ (their Figures 4 and 5), and also document two cases where false killer whales within the Hawaiian EEZ were hooked and considered to be seriously injured in either swordfish sets or swordfish-style (shallow) sets (their Table 2). These cases were documented in 1997 and 1998, when observer coverage for swordfish sets was estimated to only be 22.7% and 15.2%, respectively, of all swordfish sets (their Table 1), with only 7.2% and 8.2% observer coverage of the swordfish sets within the Hawaiian EEZ. In addition, Forney and Kobayashi (2007) note that the observer program does not always positively identify hooked individuals to species, and two additional possible false killer whales were recorded hooked in swordfish sets outside of the Hawai'i EEZ (their Table 2). While no cases of false killer whale bycatch in the swordfish fishery has been documented since 1998, swordfish fishing effort since 2001 has been extremely limited (see Figure 26 in the DSEIS).

A single stock of false killer whales within the Hawaiian EEZ is currently recognized by NMFS, although the draft stock assessment report (SAR) for false killer whales for the Pacific Islands Region Stock Complex (Federal Register 73(135):40299-40300) divides the single Hawaiian EEZ stock of false killer whales into two stocks, a Hawai'i insular stock and a Hawai'i pelagic stock, as well as adding a new stock for Palmyra Atoll. The primary justification for the division of the Hawaiian EEZ stock into an insular and pelagic stock is the availability of genetic data from biopsy samples collected from around the main Hawaiian Islands and from larger areas of the central and eastern tropical Pacific (Chivers et al. 2007).

While the draft SAR sets the boundary between the insular and pelagic stocks to equal the long-line exclusion zone (noted as a 25-75 nm boundary in the draft SAR), there is evidence that insular false killer whales do move far enough offshore to interact with the long-line fishery. At the January 2008 Pacific Scientific Review Group (PSRG) meeting at which the draft SAR was originally reviewed by the PSRG, I presented information on movements of a false killer whale (known from photo-identification to be part of the insular population, see Baird et al. 2008a) that was satellite tagged in August 2007 that traveled as far as 96 km (~51 nm) from the main Hawaiian Islands (Baird et al. 2008b). In September 2008 a different false killer whale (also known based on photo-identification to be from the insular population) satellite tagged in July 2008 traveled as far as 83 km from the main Hawaiian Islands (Baird et al. unpublished). A GIS analysis of the long-line boundary indicates that between October 1 and January 31 approximately 25% of the long-line fishery boundary falls between 45-50 km from shore, and thus individuals from the insular population may overlap with the long-line fishery. Photographic evidence of scarring and dorsal fin disfigurement of individuals from the insular population supports that such interactions occur (Baird and Gorgone 2005).

The population estimate for the insular stock noted in the draft SAR is 123 individuals (CV = 0.72), based on a mark-recapture estimate by Baird et al. (2005). The potential biological removal (PBR) level for the insular population is less than one individual per year (draft SAR). There is evidence of a large population decline for the insular population (Reeves et al. in press). While the PBR level for the pelagic population is greater (2.2 individuals per year in the draft SAR), current estimates of bycatch for that stock is greater than PBR (5.7 animals/year). Given the small population size of the insular stock and the evidence of a decline, any bycatch in the swordfish longline fishery has the potential to jeopardize this population, contrary to the conclusion of the DSEIS. The DSEIS preferred alternative removing the effort limits could more than double the amount of sets compared to the average over the last seven years, greatly increasing the potential for bycatch with both the insular and pelagic populations of false killer whales within the Hawai'i EEZ.

Sincerely,



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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
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September 26, 2008

William L. Robinson
Pacific Islands Regional Administrator
National Marine Fisheries Service
1601 Kapiolani Boulevard, Suite 1110
Honolulu, HI 96814

Subject: Draft Supplemental Environmental Impact Statement (DSEIS) for Amendment 18 to the Fishery Management Plan, Pelagic Fisheries of the Western Pacific Region, Management Modifications for the Hawaii-based Shallow-set Longline Swordfish Fishery, Proposal to Remove Effort Limits, Eliminate the Set Certificate Program and Implement New Sea Turtle Interaction Caps (CEQ # 20080320)

Dear Mr. Robinson:

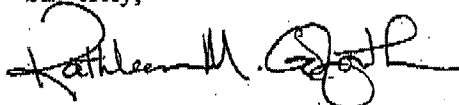
The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. Our detailed comments are enclosed.

The project is an amendment to the Pelagic Fisheries Fishery Management Plan (FMP) proposing regulatory changes to the Hawaii-based shallow-set fishery. This fishery primarily targets swordfish, and the proposal would expand participation in the fishery now that interactions with threatened and endangered sea turtles have been substantially reduced due to gear and bait modifications. The document evaluates alternatives related to fishing effort, fishery participation, and time-area closures. The Western Pacific Regional Fishery Management Council's proposed action and preferred alternative is to: 1) remove the existing effort set limit and increase loggerhead and leatherback sea turtle interaction hard caps to 46 and 19 respectively; 2) eliminate the set certificate program; and 3) not implement any time-area closures.

Based on our review, we have rated the DSEIS as Environmental Concerns – Insufficient Information (EC-2) (see enclosed "Summary of Rating Definitions"). We have concerns regarding the additional take of threatened and endangered sea turtles without a clear understanding of current sea turtle population trends. We request additional information regarding the impact assessment methodology and how cumulative impacts to sea turtles, including those associated with global climate change, were factored into the document's conclusions. We also recommend that the National Marine Fisheries Service (NMFS) use this opportunity to ensure the regulations clearly identify and prohibit preventable losses of fishing gear.

EPA appreciates the opportunity to review this DSEIS. When the Final SEIS is released for public review, please send one copy to the address above (mail code: CED-2). If you have any questions, please contact me at (415) 972-3521, or contact Karen Vitulano, the lead reviewer for this project, at 415-947-4178 or vitulano.karen@epa.gov.

Sincerely,



Kathleen M. Goforth, Manager
Environmental Review Office (CED-2)

Enclosure: Summary of EPA Rating Definitions
EPA's Detailed Comments

cc: Kitty M. Simonds, Executive Director, Western Pacific Regional Fishery
Management Council

SUMMARY OF EPA RATING DEFINITIONS

This rating system was developed as a means to summarize EPA's level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the EIS.

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

ADEQUACY OF THE IMPACT STATEMENT

Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

EPA DETAILED COMMENTS ON DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (DSEIS), MANAGEMENT MODIFICATIONS FOR THE HAWAII-BASED SHALLOW-SET LONGLINE SWORDFISH FISHERY, PROPOSAL TO REMOVE EFFORT LIMITS, ELIMINATE THE SET CERTIFICATE PROGRAM AND IMPLEMENT NEW SEA TURTLE INTERACTION CAPS, SEPTEMBER 26, 2008

Expanding the Fishery

The Hawaii-based shallow-set longline fishery targeting swordfish reopened in 2004, after a 3-year closure due to impacts on threatened and endangered sea turtles. The fishery opened on a limited basis (a maximum of 2,120 shallow-sets per year) under new regulations designed to test the use of gear and bait modifications to reduce interactions with sea turtles. The use of circle hooks with mackerel-type bait has since reduced sea turtle interactions significantly. As a result, the Western Pacific Regional Fishery Management Council (Council) is proposing to open the fishery to greater participation.

The existing fishery includes sea turtle interaction hard caps for loggerhead and leatherback sea turtles of 17 and 16 respectively. Once either of these is reached, the fishery is closed for the remainder of the year. The Council is proposing removal of effort limits (i.e. no maximum number of shallow-sets per year) and an increase in sea turtle interaction hard caps to 46 and 19 for loggerheads and leatherbacks respectively. The DSEIS notes that the existing hard caps were not set to represent the upper limit of allowable interactions that, if exceeded, would constitute a significant impact, but were based on interaction rates occurring in the Atlantic using circle hooks with mackerel bait. The Council chose these new cap increases based on information that these interaction levels appear not to jeopardize the continued existence and recovery of loggerheads and leatherbacks (p. 188).

Assessment methodology

The DSEIS concludes that the proposed action is not expected to result in significant adverse impacts to Pacific leatherback and loggerhead populations (p. 229-230). The impact assessment uses a methodology which measures susceptibility to quasi-extinction (SQE) to make this determination. This methodology is difficult for the lay-reader to understand; and the Final SEIS (FSEIS) would be improved with a greater discussion of this methodology, including limitations and assumptions. For example, one assumption of the methodology is that current conditions remain the same over the time period of the projection, which is 3 generations (p. 228). The FSEIS should discuss which conditions are assumed to remain the same, the probability that these conditions will remain the same over 3 generations, and how the cyclic nature of populations factors into this assumption¹. Another factor to discuss is an evaluation of the sufficiency of data from only two full years of fishing (p. ix). Regarding the estimates of adult equivalencies, the equation considers early age at maturity for leatherbacks (p. 113), but the DSEIS identifies recent studies for Atlantic leatherbacks suggesting maturity may not be reached until 29 years of age (p. 77). The SDEIS also does not discuss this type of analysis in terms of its validation with actual conditions to assess its prediction accuracy.

In addition, it is unclear how the impact assessment methodology considers factors other than the

¹ Appendix II states that Japanese loggerhead trends have historically been cyclic with periods of increases alternating with declines (p. 17).

measure of SQE. The SQE analysis (Appendix II) acknowledges that caution needs to be applied in interpreting the results since the analysis only applies to the nesting female segment of the population, and that management decisions must be made with consideration of other threats to the populations which may not be apparent from the nesting beach trends. Indeed, the DSEIS identifies substantial exogenous threats affecting sea turtles (p. 216-227), including directed takes for human use, predation, coastal development affecting nesting and marine environments, marine debris, incidental capture in fisheries, fluctuations in the ocean environment, and climate change. It is not clear how these other impacts were factored into the impact assessment conclusions that will inform management decisions.

Recommendation: EPA recommends additional information be included in the Final SEIS (FSEIS) regarding the impact assessment methodology as described above. Identify how the exogenous threats identified in the DSEIS were considered in the impact assessment methodology and conclusions.

Population health and trends

The DSEIS does not present a clear picture of the status of leatherbacks and loggerheads. The DSEIS states that there has been uncertainty over the status of leatherback turtles in the western Pacific Ocean (the population that interacts with the Hawaii-based longline fishery based on genetic analysis), due to a lack of consistent and long-term monitoring and the challenges associated with working in the region (p. 79). A recent 2007 estimate suggests a larger population than was identified in 1996, but reveals that 75% of the nesting activity of females in the western Pacific is concentrated at 4 sites along the northwest coast (Bird's Head Peninsula) of Papua, Indonesia. This dependence of leatherbacks on a relatively small geographic area is a vulnerability for the population. The DSEIS indicates that it makes no statement describing the anticipated outlook for the leatherback population since there are no trend data (p. 228).

Regarding loggerheads, census data provide composite information on longer term trends in the Japanese nesting assemblage. Using information collected on Japanese beaches, one researcher concluded that a substantial decline (50-90%) in the size of the annual loggerhead nesting populations in Japan (the population that interacts with the Hawaii-based longline fishery) has occurred in recent decades (p. 98). While there have been some substantial increases in nesting in recent years on two important beaches in Japan where almost a third of loggerhead nesting occurs, there are substantial threats to the juveniles once they migrate to Baja Mexico where gillnet fisheries represent the leading source of loggerhead mortality in the North Pacific. The Council's sea turtle conservation project in this area is helping, and has been estimated to save 700-900 loggerheads per year; however the gillnet fisheries in Baja are killing 1,000 to 2,000 turtles per year. Because of this, the SQE analysis cautions that the population could be declining at a much more rapid rate than the analyses represent (App. II, p. 17).

The DSEIS also concludes that global warming may result in significant impacts to loggerheads from changes to hatchling sex ratios from increased temperatures, loss of nesting beaches from sea level rise, nesting behavior changes, and altered foraging habitats and prey abundance (p. 97-98). Increasing storm-related erosion is also a concern and was seen to be an issue at one of the Council's conservation project sites in Papua New Guinea, where 40% of nests were lost to

erosion during the 2004-2005 season, all 28 nests were lost at one location the following season, and there were indications that many of the 181 nests were periodically inundated (p. 93).

Recommendation: EPA recommends clarifying information be included in the FSEIS regarding the global status of protected sea turtles, primarily leatherbacks and loggerheads. Presenting this information with reference to the recovery criteria identified in the species' respective Recovery Plans would be helpful. We understand that the DSEIS focused on the specific populations that interact with the Hawaii-based longline fishery, but this additional information is important to help readers understand potential impacts on recovery of the species as a whole.

EPA urges caution in decisions that allow for additional mortality of species with such substantial cumulative risk, including cumulative risks from climate change, the extent of which are unknown. Wherever possible, we recommend an approach that ties the economic interest of the fishers with the long-term sustainability of the resource.

Derelict Fishing Gear and Marine Debris

The National Academy of Science, National Research Council (NRC) recently compiled a report regarding the issue of marine debris². This report indicates a growing concern about the contribution of fishing vessels to marine debris, and the lack of accountability measures for gear loss in current regulations. The NRC report states that ghostfishing losses to hook and line gear are poorly documented but could be substantial for longline gear (NRC report, p. 29). The report notes that fishers and fisheries management organizations have few incentives and several disincentives to take responsibility for the impacts and cleanup. It recommends that fishery regulations be revised to clearly identify and prohibit preventable losses of fishing gear and advises that fishery management councils should incorporate gear accountability measures and facilitate proper disposal of fishing gear.

The shallow-set fishery operates within ocean current convergence zones, an area known to accumulate large amounts of marine debris including derelict fishing gear (p. 205). Entanglement and ingestion of marine debris provide a potentially serious source of mortality in sea turtle populations and there are numerous reports of abandoned gear with large numbers of dead turtles and other species entangled in the gear (p. 220).

The DSEIS states that Hawaii longline fishermen make efforts to prevent gear loss as well as participate in a voluntary derelict fishing net retrieval program where retrieved derelict nets are brought back to Honolulu Harbor and placed in a receptacle. It does not appear that there are many incentives to participate in this program, aside from good stewardship. Since this fishery is operating in a convergence zone, it seems appropriate to further encourage retrieval of derelict fishing gear.

Recommendation: The FSEIS should identify what measures are being taken to prevent gear loss. In addition, EPA recommends that NMFS consider incorporating regulatory revisions to clearly identify and prohibit preventable losses of fishing gear. Even if

² Tackling Marine Debris in the 21st Century, prepublication draft, September 2008. Available: http://www.nap.edu/catalog.php?record_id=12486

longline gear is not the most significant contributor to ghostfishing of sea turtles, the proposed regulatory update provides an appropriate opportunity to address this issue.

Additional incentives to collecting derelict fishing gear could be identified and implemented as additional mitigation measures for increased take of sea turtles. The Council's sea turtle conservation projects may want to consider a project that addresses derelict fishing net retrieval or even marine debris removal in general since turtles can consume debris, especially plastics they confuse for jellyfish, which cause death.

Sea Turtle Conservation Projects

The DSEIS describes the Council's sea turtle conservation projects and provides estimates of quantified benefits. The benefits of these programs are used as justification for expanding the fishery. The DSEIS does not describe the funding or time frame for these projects, whether or how long they will continue, nor whether additional projects are expected for the future. These are important to know in order to understand the stated benefits.

Recommendation: In the FSEIS, discuss status of conservation projects and plans for continuing involvement or development of additional projects.

Time-Area Closures

Topic 3 of the proposed action and alternatives considers time-area closures as a way to increase annual fishery profits through potential reduction in the number of sea turtle interactions in the first quarter of each year when interaction rates for loggerheads are the highest. This would reduce the risk of exceeding a turtle hard cap early in the year and would close the area with sea surface temperature band of 17.5 to 18.5 degrees C. In January, this area is generally located near 31-32 degrees N latitude. This area may be a sea turtle hotspot.

The DSEIS preferred alternative does not include this option; and the analysis simply states that no additional impacts from not having it will occur (p. xiv). However, the document does not address whether including this option might yield additional benefits to protected species. We understand there may be difficulty in administration and enforcement of time-area closures based on sea surface temperatures; but this approach appears to have some value as an area of study. Perhaps area locations and temperature data can be collected to correlate with turtle interactions. The Hawaii Longline Association recognized that there are no data documenting conservation benefits (Appendix I - Scoping Report); but it is unclear whether this can be remedied as a side study to the proposed action. The DSEIS discusses the patchy distribution of sea turtles both geographically and temporally, and indicates that, as more information on sea turtle habitat preference becomes available, it should be easier to anticipate fishery turtle interaction rates (p. 223).

Recommendation: EPA recommends the issue of time-area closures be explored as a research component of the proposed action, and that this possibility be discussed in the FSEIS.



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Re: Swordfish DSEIS - Amendment 18 to the FMP for Pelagic Fisheries of the Western Pacific Region

Dear Bill:

We are writing on behalf of the Hawaii Longline Association ("HLA") to comment on the August 12, 2008 draft Supplemental Environmental Impact Statement ("DSEIS") addressing Amendment 18 to the Fishery Management Plan ("FMP") for Pelagic Fisheries of the Western Pacific Region. Your consideration of and response to these comments is appreciated.

I. HLA Supports Adoption of the Preferred Alternative (1F)

Amendment 18 and the DSEIS are an outgrowth of HLA's February 2007 proposal to modify the current management regime for the Hawaii-based commercial shallow-set longline fishery ("shallow-set fishery"). The public processes engaged in to this point have been lengthy, involving numerous public scoping meetings, as well as a year-and-a-half of quarterly public meetings of the Western Pacific Regional Fishery Management Council (the "Council" or "WPRFMC") and its Scientific and Statistical Subcommittee ("SSC"). HLA very much appreciates the time and effort devoted to Amendment 18 by the SSC, the Council and its staff, the Pacific Islands Regional Office ("PIRO") of the National Marine Fisheries Services ("NMFS"), and the Pacific Islands Fisheries Science Center ("PIFSC").

From the broadest perspective, HLA supports the proposed action (Alternative 1F) as identified in the DSEIS. HLA commends WPRFMC and PIRO for their comprehensive environmental review and assessment in the DSEIS. Having actively participated in the public processes regarding development of Amendment 18 and the DSEIS, our overall support for the proposed



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changes to the management regime for the shallow-set fishery, as well as our interim concerns about various alternatives, data and analyses, are already well-documented in the administrative record. We look forward to completion of the Magnuson-Stevens Fishery Conservation and Management Act (“MSA”), Endangered Species Act (“ESA”), Marine Mammal Protection Act (“MMPA”) and National Environmental Policy Act (“NEPA”) processes, to a final decision by the Council and NMFS, and to implementation of Amendment 18 in its final form in 2009.

II. Sea Turtle Effects Analysis

HLA supports the Council’s policy choice – reflected in Alternative 1F – to responsibly maximize sustainable commercial fishing consistent with minimizing incidental bycatch, and consistent with the conservation needs and requirements of other laws and regulations. Moreover, HLA appreciates the generally transparent process that the Council, the SSC, PIRO and the PIFSC have engaged in regarding analysis of the action originally proposed by HLA and the broad range of alternatives identified in the DSEIS. We are not modeling experts and, accordingly, are ill-equipped to evaluate the scientific merit of the assessment methodology developed by Dr. Melissa Snover of PIFSC and relied upon in the DSEIS. However, the fact that Dr. Snover’s assessment has been vetted in various drafts over a period of nearly two years with the SSC, the scientists on the Council’s Turtle Advisory Committee (“TAC”), the Council and its staff, PIRO, PIFSC and HLA, among others, is a strong endorsement of both the underlying public administrative process and the integrity of the science upon which Dr. Snover’s work is based.

That said, we have three related concerns, all of which indicate that the effects analysis, while supportive of the Preferred Alternative, is conservatively biased (i.e., that indicates a greater expected effect from the action than is demonstrated by the best available data and information).¹ First, respectfully, we do not believe that the assumed mortality rates for loggerhead and leatherback sea turtles in the shallow-set fishery reflects the best available data. Data identified in the DSEIS that is specific to the Hawaii-based longline fisheries (along with other mortality data for sea turtles), rather than conclusions inferred from application of NMFS’s informal sea turtle mortality guidance, indicates that mortality rates are likely half or less than those used in the effects analysis.

¹ In using the term “biased” here, we do not intend to imply improper motive or ill-will by anyone.



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Second, we very strongly disagree with the overall treatment of documented conservation benefits resulting from the proposed action. It is well-established that the effects of a proposed action consist of the sum total of the adverse and beneficial impacts. The proposed action here consists of *both* the proposed shallow-set fishery, with resulting take and mortality levels, *and* ongoing Council conservation measures adopted beginning in 2004 for the express purposes of offsetting sea turtle incidental mortality, while contributing to sea turtle survival and recovery. *See, e.g.*, DSEIS § 1.4 (“The proposed action also includes the continuation of the Council’s sea turtle conservation projects.”). While Dr. Snover’s analysis addresses the adverse consequences of direct take and mortality (and finds the effect to be at acceptable levels), and while the DSEIS discusses the benefits of the Council’s conservation programs, it does not appear that the ultimate effects analysis in the DSEIS accords quantitative or qualitative significance to the documented consequences of the conservation measures included as part of the proposed action. *See, e.g.*, DSEIS § 3.3.1 (“This section also describes the Council’s sea turtle conservation projects that were implemented to offset impacts of the Hawaii-based longline fishery on sea turtles and to bolster populations recovery. Currently, NMFS does not have a policy nor a viable model to consider the results of the projects in terms of offsetting the impacts of the fishery on turtle populations.”).

Respectfully, we disagree that NMFS policy (or the lack of a NMFS policy) is controlling, and we further disagree that the absence of a quantitative model justifies ignoring the documented fact that there are offsetting benefits. NEPA regulations *require* consideration of beneficial effects of a proposed action. *See, e.g.*, 40 C.F.R. 1508.8 (NEPA regulations defining “effects” to include “both beneficial and detrimental” consequences). Moreover, NMFS regulations and policies implementing the ESA also require consideration of beneficial conservation effects. *See* 50 C.F.R. § 402.14(g)(8) (NMFS must “give appropriate consideration any beneficial actions taken by the Federal agency or applicant” as part of the proposed action); *id.* § 402.02 (defining “action” broadly to include conservation measures); Endangered Species Consultation Handbook at 4-19 (proposed action includes any conservation measures proposed as part of the action), 4-25 (biological opinions may discuss beneficial effects if applicant so requests).

Moreover, the DSEIS provides specific data for female leatherback hatchling survival rates (*e.g.*, DSEIS § 3.3.1.1 (between 0.004 % and 0.02 %)), a more general but very conservative leatherbacks and loggerheads hatchling survival rate (*e.g.*, DSEIS § 3.3.1.1.3 (0.001 %)), and specific data for leatherback and loggerhead hatchlings conserved through Council conservation measures. *See* DSEIS §§ 3.3.1.1.3 (results of Council’s leatherback conservation measures), 3.3.1.2.1 (results of Council’s loggerhead conservation measures). Using the more conservative and general figure of 0.001 % hatchling survival, the data clearly demonstrate that qualitatively, if not quantitatively, the adult female leatherbacks and loggerheads conserved exceed by a



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considerable margin the anticipated mortalities from direct take. *Compare, e.g.*, DSEIS pp. 190-191 (anticipated annual adult female loggerhead mortalities of 2.51 and adult female leatherback mortalities of 2.40), *with id.* pp. 90 (Wermon Beach conservation project has resulted in 397 adult leatherbacks produced since 2004), 94 (Kamiali beach conservation project has resulted in conservation of 24 adult leatherbacks since 2004), 100 (Japanese beach conservation projects have resulted in 181 adult loggerheads since 2004), 103 (Baja conservation project Santa Rosa agreement estimated to save 700-900 adult loggerheads annually). It does not require a refined modeling exercise to demonstrate from these data that: (1) the effect of the Council's conservation projects is beneficial (i.e., is adding sea turtles to the involved populations even assuming conservative hatchling survival rates); and (2) the qualitative magnitude of the benefit is reasonably likely to exceed (i.e., more than offset) the magnitude of the mortality resulting from incidental takes in the shallow-set fishery by a meaningful margin.

Third, while the DSEIS documents the adverse consequences from the transferred effects of fishery effort restrictions (e.g., DSEIS pp. 212-214), it does not appear that the effects analysis specifically takes this indirect effect into account. Were the effects analysis to do so, consideration of transferred effects would further emphasize the scientific and policy rationality of selecting the Preferred Alternative over alternatives that directly or indirectly constrain fishing effort. *See* DSEIS p. 214 ("As documented by Rausser, et al. (2008) and Sarmiento (2006), the paradoxical result of such regulatory restrictions imposed in the interest of sea turtle conservation is, conservatively, hundreds of additional sea turtle mortalities per year.").

III. Seabird Effects

Under the current management regime, including rigorous seabird management measures, the observed incidental take of seabirds in the shallow-set fishery has been reduced to rare and uncommon events. *See* DSEIS at Table 27. This information is highly reliable as a result of 100 percent federal observer coverage. In this context, HLA has three comments regarding the discussion of seabird effects in the DSEIS.

First, there has never been an observed take of a short-tailed albatross in either sector of the Hawaii-based shallow-set fishery. Since 2004, with 100 percent observer coverage, it is known to the highest possible degree of human reliability that no take of a short-tailed albatross has *ever* occurred in the existing shallow-set fishery. Under these circumstances, while we do not object *per se* to the analysis of potential short-tailed albatross take, which concludes that the take of one short-tailed albatross is expected every 5 to 24 years, we do observe that the use of black-footed albatross as a proxy species for the analysis, and the calculation of any level of projected take of short-tailed albatross, is highly conservative.



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Second, given past efforts (and recent comments) of advocacy groups opposed to Hawaii-based commercial fisheries, HLA feels it is important to elaborate upon the discussion of compliance with the Migratory Bird Treaty Act (“MBTA”) in the DSEIS. *See* DSEIS § 3.3.1.6.1.² A very wide range of governmental, industrial, commercial and residential activities predictably result in significant levels of incidental migratory bird mortality, including the permitting, construction and maintenance of most structures, particularly tall commercial buildings, communications towers, power lines and wind energy turbines, the permitting and operation of military, commercial and private airplanes and airports, the licensing and operation of motor vehicles, operation of commercial fisheries and, perhaps most significantly, the licensing and ownership of pets cats.³ However, there is no incidental take permit issued by the U.S. Fish & Wildlife Service (“FWS”) pursuant to the MBTA that authorizes incidental take of migratory birds during otherwise lawful activity. Accordingly, comments submitted by opponents to the fishery that contend that the fishery is unlawful unless it obtains an MBTA incidental take permit are an effort to set up a legal obligation with which compliance is impossible.

² NMFS has interpreted the MBTA to apply only in “nearshore waters,” meaning from the shoreline seaward to the three nautical mile limit. *See* DSEIS § 6.7; 70 Fed.Reg. 75075, 75076 (Dec. 19, 2005). Because nearshore areas are closed by regulation to all longline fishery from Hawaii, this interpretation renders the MBTA inapplicable to the current and proposed shallow-set longline fishery.

³ Studies have concluded, for example, that annually in the U.S., wind generation facilities are responsible for 10,000 to 40,000 bird deaths, communication towers cause 4 to 50 million bird deaths, utility transmission and distribution lines are responsible for up to 174 million bird deaths, collisions with cars and trucks result in 60 and 80 million bird deaths, and collisions with tall building and residential windows results in 98 million to 980 million bird deaths. *See, e.g., Avian Collisions With Wind Turbines: A Summary of Existing Studies and Comparisons to Other Sources of Avian Collision Mortality in the United States*, National Wind Coordinating Committee (<http://www.nationalwind.org/publications/wildlife.htm>). In addition, scientists estimate that domestic and feral cats kill over 100 million birds annually in the United States. *See Domestic Cat Predication on Birds and Other Wildlife*, American Bird Conservancy (<http://www.abcbirds.org/abcprograms/policy/cats/faqs.html>). By comparison, in 2007, the last full year of fishery data, the shallow-set fishery resulted in the observed take of 8 black-footed albatrosses and 39 Laysan albatrosses. In over 80 percent of these observed takes, the albatrosses were released alive. *See* DSEIS at Table 27.



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The occurrence of incidental take regarding migratory birds does not presumptively render operation of the shallow-set fishery inconsistent with the MBTA or otherwise unlawful. *Newton County Wildlife Ass'n v. U.S. Forest Serv.*, 113 F.3d 110 (8th Cir. 1997) (“[I]t would stretch [the MBTA] far beyond the bounds of reason to construe it as an absolute criminal prohibition on conduct . . . that *indirectly* results in the death of migratory birds.”). After conducting public processes under the MSA and NEPA, and after consulting with FWS regarding the potential for incidental take of short-tailed albatross, the Council and NMFS have implemented specific seabird conservation measures that remain applicable, which require monitoring and reporting of seabird incidental take, and use of reasonable and effective methods to minimize seabird incidental rates in the shallow-set fishery. These measures would remain applicable under all of the action alternatives analyzed in the DSEIS. As implemented, these measures have dramatically reduced incidental take of seabirds in the shallow-set fishery to levels that are not reasonably expected to have a discernable adverse effect on affected seabird populations. As with the many other lawful activities that result in incidental take, but for which no MBTA permit may be obtained, FWS retains the discretion to pursue a MBTA enforcement action should circumstances warrant it.

Third, and finally, transferred effects further demonstrate the conservative nature of the seabird effects analysis performed in the DSEIS. Rausser et al. (2008) and Sarmiento (2006) have demonstrated that effort restrictions on the shallow-set fishery result in a shift of fishing effort to less regulated foreign fisheries. Just as the effect of this transfer of effort has been to increase sea turtle takes where fishing effort in the Hawaii-based shallow-set fishery is constrained, it is reasonable to expect that the same consequence holds true for albatross and other seabirds. Stated more directly, it is reasonably likely that as the market share of the Hawaii-based shallow-set fishery grows, the total impact of fishery bycatch of seabirds is reduced because the Hawaii-based fishery is rigorously and successfully managed to reduce seabird bycatch. Conversely, as the market share of the Hawaii-based fishery is decreased, and the effort level of other unregulated longline fisheries increases, the total impact of fishery bycatch of seabirds increases.

IV. Miscellaneous Comments

The clear focus of the sea turtle effects analysis is on adult female equivalents. We accept that this is appropriate; however, it does not appear to us that the DSEIS provides an early or obvious explanation for this approach. Indeed, some of the DSEIS text and tables report mortality as adult female equivalents, while other text and tables address absolute mortality rates. We request that the SEIS text be revised, or that a detailed response to this comment be included in the final SEIS, which explains the scientific and policy rationale for focusing on adult female equivalents.



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Finally, during review of the DSEIS, we noted the following typographical errors:

- Table 41 on page 157 of the DSEIS presents predicted annual catch and fishing mortality, including in the last row the estimated total annual mortality of “other tunas.” In Table 41, the total is listed as more than 5 million pounds. No other table with similar information (e.g., Tables 45, 49, 53 and 57) projects such a total and, indeed, the figure is not correct.
- On page 188, in § 4.1.6.3.1 (Impacts to Marine Mammals), the text addresses marine mammal impacts of Alternative 1F. However, the last sentence refers to “Alternative 1E” by mistake.

Your consideration of our comments is appreciated. Please do not hesitate to call if you have any questions of HLA or concerns regarding the matters addressed in this letter or, more generally, the DSEIS and FMP Amendment 18.

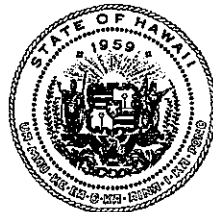
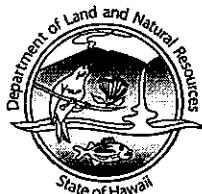
Very truly yours,



Jeffrey W. Leppo

cc: Kitty Simonds, Executive Director WPRFMC
Eric Kingma, NEPA Coordinator WPRFMC
Lance Smith, Section 7 Coordinator - NMFS/PIRO
Alvin Katekaru, Asst. RA for Sustainable Fisheries - NMFS/PIRO

LINDA LINGLE
GOVERNOR OF HAWAII



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CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

October 6, 2008

Mr. William L. Robinson, Regional Administrator
Pacific Islands Regional Office
National Marine Fisheries Service
1601 Kapiolani Boulevard, Suite 1110
Honolulu, HI 96814

Dear Mr. Robinson:

SUBJECT: Swordfish DSEIS comment

Thank you for this opportunity to provide our comments on the draft Amendment 18 to the Fishery Management Plan for Pelagic Fisheries of the Western Pacific Region. The State of Hawaii believes the analysis of the sea turtle interaction rates from the Hawaii based longline-swordfish fishery to be premature and the data used to be inadequate to draw accurate and reliable conclusions. The data collected since the resumption of the swordfish harvesting represents three unique ecosystem-fishery-turtle interaction scenarios, which are not properly replicated akin to sampling three different ponds and mixing the data like all samples came from one habitat (i.e. a statistical block problem where statistical blocks are treated as replicates). The available data cannot be used to estimate the reliability of turtle interaction rates under any of the fishery interaction scenarios as the data represents three unreplicated statistical blocks. Additionally, the analysis fails to determine the likelihood of the different scenarios (blocks) occurring in the future and therefore fails to properly weight data from each of the sample years to project future interactions. As the data is inadequate and the analysis incomplete and premature the State of Hawaii recommends holding-off on any changes in Hawaii based longline-swordfish fishery until data from appropriate numbers of replicate years is gathered and a complete analysis is conducted. The State of Hawaii supports the no Action Alternatives 1A, 2A, and 3A.

Thank you once again for the opportunity to provide comments on the document. State of Hawaii personnel look forward to the time when adequate data is available to reconsider fishery management changes.

Sincerely,

A handwritten signature in black ink, appearing to read "Dan Polhemus", is written over a horizontal line.

DAN POLHEMUS
Administrator



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Pacific Southwest Region
1111 Jackson Street, Suite 520
Oakland, California 94607

IN REPLY REFER TO:
ER# 08/852

Electronically and Hardcopy

October 6, 2008

Mr. William L. Robinson
Regional Administrator
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Pacific Islands Regional Office
1601 Kapiolani Boulevard, Suite 1110
Honolulu, Hawaii 96814-4700

Subject: Review of the DSEIS for Amendment 18 to the Fishery Management Plan for Pelagic Fisheries of the Western Pacific Region: Management Modifications for the Hawaii-Based Shallow-Set Longline Swordfish Fishery (**ER 08/852**)

Dear Mr. Robinson:

The Department of the Interior has received and reviewed the subject document and has the following comments to offer.

The Pacific Island Fish and Wildlife Service Office (Service) has reviewed this document, received on August 27, 2008. These comments are provided in accordance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*; 83 Stat. 852) (NEPA) and other authorities mandating Federal oversight of environmental resources, the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*), as amended (ESA); the Migratory Bird Treaty Act (16 U.S.C. 703 *et seq.*), as amended (MBTA), and other authorities mandating Federal oversight of environmental resources. Our evaluation for effects to the endangered short-tailed albatross (*Phoebastria albatrus*) pursuant to the ESA was addressed in a letter dated September 24, 2008, to National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) Pacific Islands Regional Office (Service File 2008-I-0323).

The preferred alternative outlined in the DSEIS includes: (1) removal of set limits and implementation of new loggerhead sea turtle (*Caretta caretta*) and leatherback sea turtle (*Dermochelys coriacea*) interaction hard caps at 46 and 19, respectively; (2) elimination of the

set-certificate program; and (3) no implementation of time/area fishery closures. Other existing regulations would remain in place.

The shallow-set fishery currently operates under regulations intended to reduce bycatch of non-target species, especially those listed as threatened or endangered under the ESA. These measures include a maximum effort of 2,120 sets per year, the use of circle hooks to minimize interactions with turtles, and 100 percent observer coverage of all fishing trips.

To minimize interactions with albatross and other seabirds, measures such as side-setting, employing strategic offal discards, and setting at night will be continued. The seabirds that are most likely to interact with this fishery are the black-footed albatross (*Phoebastria nigripes*), the Laysan albatross (*Phoebastria immutabilis*), both protected under the MBTA, and the endangered short-tailed albatross (*Phoebastria albatrus*), collectively referred to as albatrosses for purposes of this letter.

In addition to information contained in the DSEIS, findings and recommendations in this letter are based on conversations with Alvin Katekaru and Lewis Van Fossen of the National Marine Fisheries Service (NMFS) Pacific Islands Regional Office; data provided by NMFS Pacific Islands Regional Office; recent scientific literature; and information contained in our files.

The DSEIS evaluated five alternative fishing efforts and the potential impacts to albatrosses. An interaction rate per 1,000 hooks for black-footed albatross and Laysan albatross was developed by summarizing information collected by Federal observers aboard all Hawaii-based swordfish longline vessels between 2005 and the first quarter of 2008. The predicted number of interactions for each of the proposed alternative fishing efforts (measured as the number of sets per year) was summarized and presented in a table.

However, by analyzing number of sets, instead of number of hooks, the evaluation failed to extrapolate the interaction rates over time. The number of hooks per set has steadily increased each year, and is expected to increase by approximately 15 percent annually, which is likely to increase the number of avian interactions per set. In addition, the evaluation did not incorporate the estimated 31 percent drop-off of seabird bycatch (Gilman *et al.* 2003, USFWS 2004). By incorporating the drop-off rate and the expected increase in the number of hooks into the analysis, predicted interaction rates are much greater than those represented in the DSEIS.

For example, in year one of the preferred alternative (9,925 sets per year, or approximately 8,446,175 hooks per year), the DSEIS predicts 26.54 black-footed albatrosses and 107.66 Laysan albatrosses would be affected by the fishery. Our calculations (including projected increase in number of hooks) indicate that 50.17 black-footed albatrosses and 317.75 Laysan albatrosses would be affected. Following this analysis through, 100.91 and 639.11 black-footed and Laysan albatrosses, respectively, would be affected in year five of the preferred alternative.

The compounding effect of an increase in hooks-per-set over time is not adequately represented in the DSEIS analysis. Please re-analyze these data and evaluate these additional impacts in the final document.

In addition, the DSEIS did not address loss of breeding productivity to the black-footed albatross and Laysan albatross populations. The Northwestern Hawaiian islands support 95 percent and 99 percent of the breeding population of black-footed and Laysan albatrosses, respectively (ACAP 2008a, 2008b). The breeding season of both species extends from November through July, with chick provisioning beginning in January and extending through July.

Albatross are monogamous and maintain a pair bond from year to year. In addition, a single albatross cannot rear a nestling alone (Whittow 1993). Table 34 on page 148 of the DSEIS shows the quarterly interaction rates for black-footed and Laysan albatrosses, and all of the albatrosses are taken during the first two quarters of the year (January through June), when albatrosses are feeding and rearing their chicks. The impact analysis addresses only the loss of adult birds. The actual impact of the proposed action to these two species is greater than described; as the DSEIS does not account for the reduction in breeding success and recruitment to the albatross populations resulting from the loss of breeding adults.

The impact analysis should evaluate anticipated loss of recruitment due to loss of adults that are provisioning chicks, which will result in failed breeding during the current year and subsequent failure to breed and produce offspring for two years or longer while the remaining adult seeks a new mate. Please address these effects in the analysis in the final document.

We are concerned that the DSEIS did not fully address impacts to seabirds protected under the MBTA. Seabird interactions with the shallow-set longline fishery have been reduced. However, it is unclear if this reduction is associated with reduced fishing effort or the implementation of conservation measures to minimize interactions.

Further, the DSEIS does not propose implementing additional measures to reduce or offset predicted increase in seabird interactions. The DSEIS should analyze the efficacy of existing seabird interaction avoidance and minimization measures to determine if these measures are adequate or if they could be enhanced or augmented with new measures to further reduce interaction rates.

Short-tailed albatross

The analysis evaluated potential effects to short-tailed albatross by applying current data to a model used in the previous biological opinions issued by our office. The short-tailed albatross population is small (~2,700 birds) and data are insufficient to model interaction rates for this species; therefore the black-footed albatross was used as a surrogate species to model the interaction rate. Other parameters in the model include population size of the short-tailed albatross, the area overlap between the range of short-tailed albatross and the fishery, and the extent of the proposed action.

National Marine Fisheries Service evaluated the extent of the action based upon expected change (increase) in the number of sets per year and concluded that take of one short-tailed albatross every 5-24 years is expected. The proposed rule changes have no time limits for the fishery; therefore the fishery could extend past 24 years.

Because the number of hooks per set has increased each year and the short-tailed albatross population is increasing, we ran the model for a five-year time period and evaluated the expected

15 percent increase in hooks per year and the current 7 percent annual increase in the short-tailed albatross population (ACAP 2008c). Our model projected at the maximum fishing effort expected under the proposed amendment (9,925 sets or approximately 8,446,175 hooks per year), probability is very low that a short-tailed albatross would be taken by the fishery in year one. We determined it is unlikely that the fishery will reach the projected maximum number of sets within the first year of the rule change.

However, projection of effects of the increased fishing effort over time, in combination with population growth of the short-tailed albatross, increases the probability of take such that we can not consider it discountable past the first year of the implementation of the proposed rule change. It is our understanding that NMFS will initiate section 7 consultation to address potential impacts to short-tailed albatross from long-term implementation of the Hawaii-based pelagic fisheries.

Conclusion

We recommend NMFS re-evaluate the effects of the proposed action to species protected under the ESA and MBTA to address loss of recruitment of albatross, efficacy of existing conservation measures to reduce interactions, and the need for additional measures to further reduce albatross mortality.

We are available to assist in developing conservation measures to minimize impacts to black-footed, Laysan, and short-tailed albatross. If you have any questions regarding this letter, please contact Megan Laut, Fish and Wildlife Biologist, at 808-792-9400.

Thank you for the opportunity to review this project.

Sincerely,

A handwritten signature in black ink that reads "Patricia Sanderson Port". The signature is written in a cursive, flowing style.

Patricia Sanderson Port
Regional Environmental Officer

cc:

Director, OEPC
Field Supervisor, FWS, HI

References

Agreement on the Conservation of Albatrosses and Petrels (ACAP). 2008a. Species information – black-footed albatross (*Phoebastria nigripes*).

Agreement on the Conservation of Albatrosses and Petrels (ACAP). 2008b. Species information – Laysan albatross (*Phoebastria immutabilis*).

Agreement on the Conservation of Albatrosses and Petrels (ACAP). 2008c. Species information – short-tailed albatross (*Phoebastria albatrus*).

Gilman, E. C.H. Boggs, and N. Brothers. 2003. Performance assessment of an underwater setting chute to mitigate seabird bycatch in the Hawaiian pelagic longline tuna fishery. *Ocean and Coastal Management* 46: 985-1010.

U.S. Fish and Wildlife Service. 2004. Biological opinion on the effects of the reopened shallow-set sector of the Hawaii-based longline fishery on the short-tailed albatross (*Phoebastria albatrus*). 129pp.

Whittow, G. Causey. 1993. Laysan Albatross (*Phoebastria immutabilis*), *The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/066>



October 6, 2008

William L. Robinson
Regional Administrator
Pacific Islands Regional Office
National Marine Fisheries Service
National Oceanic and Atmospheric Administration
1601 Kapiolani Blvd., Suite 1110
Honolulu, Hawaii 96814-4700

RE: Swordfish DSEIS

Dear Mr. Robinson:

On behalf of the Caribbean Conservation Corporation, the Center for Biological Diversity, Defenders of Wildlife, Ocean Conservancy, and Turtle Island Restoration Network, we respectfully submit the following comments regarding draft Amendment 18 to the Fishery Management Plan (“FMP”) for Pelagic Fisheries of the Western Pacific Region and urge the National Marine Fisheries Service (“NMFS”) to maintain and/or strengthen the conservation and bycatch mitigation measures currently required in the shallow set longline fishery.

As fishery managers are well-aware, sea turtles throughout the Pacific are hovering on the brink of extinction due in large part to incidental mortality associated with fishing operations. Fisheries mortality has been especially problematic for Pacific loggerhead and leatherback sea turtles, with nesting population reductions in excess of 80-percent over the last three generations. Both species are protected under the Endangered Species Act (“ESA”), and the World Conservation Union (“IUCN”) has listed Pacific loggerheads as “Endangered” and Pacific leatherbacks as “Critically Endangered” on the Red List of Threatened Species. While fisheries mortality is but one in a long list of threats impacting imperiled turtle populations, an evaluation of the relative impact of longline fishing concluded that pelagic longlining is an important source of mortality for sea turtle populations that must be mitigated. Crowder, L. B and R.I. Lewison.

Putting Longline Bycatch of Sea Turtles into Perspective. 2007. Conservation Biology, Volume 21, No.1, p.79.

While the number of sea turtle interactions has decreased since sea turtle bycatch mitigation measures were imposed on the HI-based swordfish fishery in 2004, sea turtle populations remain in critical condition. Given the precarious state of these endangered populations, a continued precautionary management approach is warranted. In addition, NMFS must ensure protections for the other wildlife species it manages, including marine mammals, migratory birds, and fish populations, all of which are impacted by the Western Pacific pelagic longline fisheries. Rather than yielding to industry pressure to rollback effective conservation measures, fishery managers are obligated to base their management decisions on the best available scientific information and enact measures that are consistent with the statutory requirements of the Endangered Species Act, the Marine Mammal Protection Act, the Migratory Bird Treaty Act, the Magnuson-Stevens Act and the National Environmental Policy Act. Moreover, the agency should be actively investigating strategies to fish more selectively, enhance post-release mortality and gain a greater understanding of all of these protected resources. Toward that end, we provide the following comments and recommendations on the proposed regulatory changes:

Any Expansion of the Hawaii Shallow-Set Longline Fishery Is Inappropriate Given the Current Fishery's Unsustainable Impacts on Non-Target Species and Lack of Data

Expansion of the Hawaii Shallow-Set Longline Fishery is Inconsistent with the Endangered Species Act (ESA)

The ESA establishes that it is "...the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act." 16 U.S.C. § 1531(c)(1). The ESA defines "conservation" to mean "...the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary." 16 U.S.C. § 1532(3). Similarly, Section 7(a)(1) of the ESA directs that the Secretary review "...other programs administered by him and utilize such programs in furtherance of the purposes of the Act." 16 U.S.C. § 1536(a)(1). Rolling back measures critical to the protection of threatened and endangered species – particularly when available evidence indicates that fishery bycatch poses a serious threat their existence – would violate the ESA's statutory directive to conserve listed species. Indeed, if anything, the ESA requires that NMFS do *more* to ensure that species on the brink, such as the Pacific leatherback, not only continue to survive but recover.

Any expansion of shallow-set pelagic longlining effort would likely jeopardize the continued existence of at least two ESA-listed species, the Pacific leatherback and loggerhead sea turtles. Section 7(a)(2) of the ESA requires federal agencies to "insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the adverse modification of [critical habitat]." 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(a). To accomplish this goal, agencies must consult with the designated agency of the Secretary of Commerce or Interior

whenever their actions “may affect” a listed species. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(a). Where, as here, NMFS is both the action agency and the delegated wildlife agency for purposes of many of the listed species in question, including sea turtles and marine mammals, different branches of NMFS must undertake internal consultation with each other. Additionally, NMFS must consult with the U.S. Fish and Wildlife Service regarding impacts to the endangered short-tailed albatross.

At the completion of consultation NMFS issues a Biological Opinion that determines if the agency action is likely to jeopardize the species. If so the opinion must specify a Reasonable and Prudent Alternative (“RPA”) that will avoid jeopardy and allow the agency to proceed with the action. 16 U.S.C. § 1536(b). An agency’s duty to avoid jeopardy is continuing, and “where discretionary Federal involvement or control over the action has been retained or is authorized by law,” the agency must, in certain circumstances, reinstate formal consultation. 50 C.F.R. § 402.16.

The Hawaii longline fishery has had a long history with the requirements of Section 7 and additional conservation measures required to meet the ESA’s mandates. In 2001, NMFS determined that the operation of the western Pacific pelagic longline fishery would jeopardize the continued existence of leatherback, loggerhead, and green sea turtles. NMFS, Biological Opinion on Authorization of Pelagic Fisheries Under the Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Region (2001) at 120-24, 136 (green turtles); 124-29, 136 (leatherbacks); 129-32, 136 (loggerheads). As a result, NMFS prohibited shallow-set longline fishing north of the equator and placed additional restrictions on deep-set longlining, including time-area closures. *Id.* at 138-40.

NMFS reopened the Hawaii-based swordfish fishery in 2004 by requiring large circle hooks and mackerel bait, as well as an annual effort limit of 2,120 sets, and 100% observer coverage on those sets. Based on this effort level, the Biological Opinion estimated and established take limits of 17 loggerheads or 16 leatherbacks, either of which, if met, would result in the immediate closure of the fishery. 72 Fed. Reg. 46608, 46609. Contrary to the notion set forth in the DSEIS, these measures are not merely experimental. Rather, NMFS determined that the only way the Hawaii shallow-set longline fishery could operate without jeopardizing loggerheads and leatherbacks would be to operate under these restrictions. Later that year, the U.S. Fish and Wildlife Service issued a “no jeopardy” opinion on the impacts to short-tailed albatross of the shallow-set longline fishing operations permitted under the sea turtle biological opinion. FWS, Biological Opinion on the Effects of the Reopened Shallow-Set Sector of the Hawaii-Based Longline Fishery on the Short-Tailed Albatross (2004) at 65.

Data from 2004-2007 indicate that the protective measures required by NMFS’s 2004 biological opinion have reduced turtle interactions in the Hawaii shallow-set longline fishery. It is important to note that the measures to which the decline is attributed include not just the use of circle hooks and mackerel bait, but effort limits and specific turtle take limits enabled by 100% observer coverage on each shallow-set fishery trip. It is quite likely that turtle interactions would have been significantly greater absent the current turtle take limits, since the fishery was shut down after just 3 months in 2006 after reaching the take limit for loggerheads and came very near reaching the loggerhead take limit in 2007. In addition, while we hope that the observed

decline in interactions is in fact attributable to the current management measures' effectiveness, the possibility also exists that it is an artifact of the fact that populations of leatherback and loggerhead sea turtles in the Pacific continue to decline and there are simply few turtles in the water for the fishery to interact with. In any case, a decrease in number of turtles caught by the fishery does not demonstrate that more stringent protective measures are unnecessary or that existing measures are no longer necessary. In fact, available data on the status of sea turtle species, especially the Pacific leatherback and North Pacific loggerhead, show that strong protective measures have never been more critical to ensuring the species' survival.

The North Pacific loggerhead population, the females of which nest in Japan, is small and declining. See Petition to Reclassify the North Pacific Distinct Population Segment of the Loggerhead Sea Turtle (*Caretta caretta*) from a Threatened to an Endangered Species Under the ESA (July 12, 2007) at 5-6 and sources cited therein. Due to the difficulty assessing population size in the water, the principle assessments have focused on nesting data. According to current estimates, approximately 1,500 females remain in the population and nesting populations have declined by 50-90 percent in the last 50 years. Most beaches studied showed the lowest nesting numbers during the period from 1997 to 1999. For example, in the 1990s, Hiwasa beach experienced an approximately 89 percent decline in nesting and Minabe a 74 percent decline. This significant decrease in nesting populations is correlated with an increase in high seas fisheries in the North Pacific. The North Pacific population continues to decline as the threats to the loggerheads have yet to be managed. Alarming, current trends indicate a high probability that North Pacific loggerheads will be quasi-extinct within about 50 years. *Id.*

On November 16, 2007, NMFS announced that it found that the petition by the Center for Biological Diversity and Turtle Island Restoration Network to change the status of the North Pacific loggerhead from threatened to endangered "may be warranted" and commenced a status review. 72 Fed. Reg. 64585. NMFS also found that the petitioners' request that critical habitat be designated for this species, including areas around Hawaii warranted further review. *Id.* In light of NMFS's own findings that the North Pacific loggerhead could be quasi-extinct within a few decades and may warrant significantly greater protection, a proposal that nearly triples the number of these turtles allowed to interact with the Hawaii shallow-set longline fishery is inappropriate to say the least.

Like the North Pacific loggerhead, the western Pacific leatherback population is in a precarious state. The Pacific leatherback has experienced a rapid decline since the 1980s. In 2000, an article published in the preeminent scientific journal *Nature*, predicted extinction of leatherbacks in the Pacific within decades. Spotila, J.R., Reina, R.R., Steyermark, A.C., Plotkin, P.T. & Paladino, F.V. 2000. Pacific leatherback turtles face extinction. *Nature*, 405, 529-530, June 2000. The primary cause of the leatherback decline, and the greatest threat to its continued existence, is entanglement and drowning in longline fishing gear. *Id.* The leatherback sea turtle is listed as endangered under the ESA throughout its range.

In its 2001 longline biological opinion, NMFS concluded that the mortality of up to 57 leatherbacks per year in the Hawaii longline fishery would

appreciably reduce the leatherback sea turtles' likelihood of surviving and recovering in the wild, particularly given the status and trend of leatherback turtle

populations in the Pacific basin. Based on published estimates of nesting female abundance, leatherback populations have collapsed or have been declining at all major Pacific basin nesting beaches for the last two decades.

NMFS 2001 BiOp at 125.

In another relevant biological opinion concerning the impacts of fishing on Pacific leatherbacks, NMFS found that Pacific leatherback populations have continued their worrisome decline and concluded that

...*any* additional impacts to the western Pacific leatherback stocks are likely to maintain or exacerbate the decline in these populations. This would further hinder population persistence or attempts at recovery as long as mortalities exceed any possible population growth, which appears to be the current case, appreciably reducing the likelihood that western Pacific leatherback populations will persist. Additional reductions in the likelihood of persistence of western Pacific leatherback stocks are likely to affect the overall persistence of the entire Pacific Ocean leatherback population by reducing genetic diversity and viability, representation of critical life stages, total population abundance, and metapopulation resilience as small sub-populations are extirpated. *These effects would be expected to appreciably reduce the likelihood of both the survival and recovery of the Pacific Ocean population of the leatherback sea turtle.*

NMFS, Biological Opinion on CA-OR Drift Gillnet Fishery (2000) at 94 (emphasis added).

Current studies estimate that the western Pacific leatherback population – the population most impacted by the Hawaii longline fishery – has as few as 2,000 nesting females to a maximum of just 5,700 nesting females. Dutton, P. *et al.* (2007) Status and Genetic Structure of Nesting Populations of Leatherback Sea Turtles (*Dermochelys coriacea*) in the Western Pacific, *Chelonian Conservation and Biology* 6(1):47-53 (estimating 2,100-5,700 nesting females or 2,700-4,500 nesting females, depending on methodology used); Lewison, R. *et al.*, (2004) Quantifying the effects of fisheries on threatened species: the impact of pelagic longlines on loggerhead and leatherback sea turtles, *Ecology Letters* 7:221 (estimating approximately 2,000-5,000 nesting females).

These studies undermine the DSEIS's assertion that "[r]ecent information (Dutton *et al.* 2007) reveals that the status of nesting female leatherback populations in the south western Pacific region appears to be better than previously stated in Spotila (2000) or [NMFS's 2004 biological opinion]." Indeed, this assumption ignores the explicit caution given by Dutton *et al.* that the study's estimates of the number of nesting females "should not be used for management purposes" because of substantial uncertainty in the data used to derive the estimates. Dutton *et al.* (2007). The study authors also noted that while the number of leatherbacks nesting at western Pacific rookeries is larger than previously thought, the population appears to be declining. *Id.* Rather than hinging its analysis on the hope that nesting populations are larger than previously thought, the Council and NMFS must implement protective measures to address the long-term, continuing decline of the Pacific leatherback, as well as the loggerhead. The ESA requires not only that fishery managers prevent the extinction of these species, but that they facilitate the

species' recovery. See, e.g., *Nat'l Wildlife Fed'n v. NMFS*, 481 F.3d 1224, 1236-38, (9th Cir. 2007). It would be irresponsible and unlawful to allow this fishery to take *more* turtles from a population that is already dangerously small and getting smaller. If anything, fishery managers must consider additional measures, including reduced longline effort, to offer greater protection to leatherbacks and loggerheads.

Both the Existing Fishery and Any Expanded Fishery Are Inconsistent With the Marine Mammal Protection Act

The current Hawaii-based pelagic longline fishery hooks, entangles and kills ESA-listed marine mammals as well as numerous non-listed marine mammal species. It must therefore be operated in a manner consistent with the procedural and substantive mandates of the ESA and MMPA or not at all. The pelagic longline fishery has been operating in violation of both these statutes for quite some time, however. This situation must be remedied before NMFS considers any expansion of the Hawaii-based fishery.

Under the MMPA, NMFS must develop and implement a take reduction plan ("TRP") for any strategic marine mammal stock that interacts with a commercial fishery known to cause frequent or occasional incidental mortality and serious injury to marine mammals. 16 U.S.C. § 1387(f)(1). The TRP must aim to reduce incidental mortality and serious injury of marine mammals in both the short- and long-term. The plan must contain measures to reduce incidental mortality and serious injury within six months of its implementation to levels less than the PBR level established for the particular stock under MMPA section 117. The plan must also aim to reduce, within five years of implementation, incidental mortality and serious injury of the marine mammal stock to insignificant levels approaching zero. 16 U.S.C. § 1387(f)(2). Though the Hawaii pelagic longline fishery is known to seriously injure and kill numerous marine mammal species, including at least two strategic stocks, humpback whales and false killer whales, NMFS has yet to convene a take reduction team to develop take reduction plans for any of these species.

By continuing to operate the fishery without a TRP, it is not surprising that takes of marine mammals remain well above both the PBR and zero rate mortality goal levels ("ZMRG").¹ For example, in the 2007 Pacific Stock Assessment Reports the fishery was estimated to seriously injure or kill 4.9 false killer whales each year, in excess of the PBR of 2.4 animals per year. Indeed, the Hawaii longline fishery is classified under the MMPA as a Category I fishery based on its impact on false killer whales, meaning that this fishery causes annual mortality and serious injury of false killer whales in excess of 50 percent of the stock's PBR. 2008 List of Fisheries, 72 Fed. Reg. 66048, 66049, 66068. Similarly, take of the short-finned pilot whale both above ZMRG, and almost at PBR. Take of humpback whales also remains well above 10% of PBR, thereby exceeding the definition of ZMRG.

Given that the existing fishery already causes serious injury and mortality in excess of ZMRG and PBR, any proposed expansion would also violate the unambiguous command of the MMPA that all fisheries "shall reduce incidental mortality and serious injury of marine mammals to insignificant levels approaching a zero mortality and serious injury rate" by April 30, 2001. 16 U.S.C. § 1387(b)(1). Indeed, the DSEIS acknowledges that increased effort in Hawaii

¹ NMFS has defined ZMRG by regulation as ten percent of Potential Biological Removal ("PBR").

shallow-set longline fishery will increase serious injury and mortality of multiple marine mammal stocks. Yet under the MMPA, management requirements for this fishery may not be altered in such a way as to increase serious injury or mortality of the affected marine mammal stocks.

In addition, the pelagic longline fishery is currently operating without any take authorization for ESA-listed marine mammals. Take can be authorized via an Incidental Take Statement issued pursuant to the ESA only if such take is also authorized pursuant to Section 101 of the MMPA. No such take authorization has ever been granted for this fishery. Nevertheless, observer data from 2005-2007 documents the serious injury or death of humpback whales in the fishery. DSEIS at 159. In previous years, sperm whales have also been injured or killed by the fishery. None of this take was authorized under the ESA or the MMPA and therefore occurred in violation of those statutes. Continued operation of the longline fishery, and certainly any changes allowing an increase in effort, violates the provisions of the ESA and MMPA prohibiting such take.²

Both the Existing Fishery and Any Expanded Fishery Are Inconsistent With the Migratory Bird Treaty Act (MBTA)

Even without any relaxation of protective measures, the current Hawaii-based pelagic longline fishery operates in violation of the MBTA. Section 2 of the MBTA provides that “it shall be unlawful at any time, *by any means or in any manner*,” to, among many other prohibited actions, “pursue, hunt, take, capture, [or] kill” any migratory bird included in the terms of the treaties. 16 U.S.C. § 703 (emphasis added). The term “take” is defined as to “pursue, hunt, shoot, wound, kill, trap, capture, or collect.” 50 C.F.R. § 10.12 (1997). A number of species included in the list of migratory birds protected by the MBTA are taken in the Hawaii-based pelagic longline fishery, including Laysan’s albatross and black-footed albatross. See DSEIS at 159 (species noted in 2005-2007 observer data); 50 C.F.R. § 10.13 (list of protected migratory birds). The MBTA imposes strict liability for killing migratory birds, without regard to whether the harm was intended. Its scope extends to harm occurring “by any means or in any manner,” and is not limited to, for example, poaching. See *e.g.*, *U.S. v. Moon Lake Electric Association*, 45 F. Supp. 2d 1070 (1999) and cases cited therein. Indeed, the federal government itself has successfully prosecuted under the MBTA’s criminal provisions those who have unintentionally killed migratory birds. *E.g.*, *U.S. v. Corbin Farm Service*, 444 F. Supp. 510, 532-534 (E. D. Cal. 1978), *aff’d*, 578 F.2d 259 (9th Cir. 1978); *U.S. v. FMC Corp.*, 572 F.2d 902 (2nd Cir. 1978). The MBTA applies to federal agencies such as NMFS as well as private persons. See *Humane Society v. Glickman*, No. 98-1510, 1999 U.S. Dist. LEXIS 19759 (D.D.C. July 6, 1999), *affirmed*, *Humane Society v. Glickman*, 217 F.3d 882, 885 (D.C. Cir. 2000) (“There is no exemption in §703 for farmers, or golf course superintendents, or ornithologists, or airport officials, or state officers, or federal agencies.”).

Following *Glickman*, FWS issued Director’s Order No. 131, confirming that it is FWS’s position that the MBTA applies equally to federal and non-federal entities, and that “take of

² The current fishery is also known to injure and kill numerous marine mammal species that are not listed under the ESA, including Risso’s, spotted, spinner, and bottlenose dolphins, Bryde’s whales, short-finned pilot whales, and false killer whales. DSEIS at 159; 2008 List of Fisheries, 72 Fed. Reg. 66048, 66068.

migratory birds by Federal agencies is prohibited unless authorized pursuant to regulations promulgated under the MBTA.” MBTA Section 3 authorizes the Secretary of the Interior to “determine when, to what extent, if at all, and by what means, it is compatible with the terms of the conventions to allow hunting, take, capture, [or] killing . . . of any such bird.” 16 U.S.C. § 704. FWS may issue a permit allowing the take of migratory birds if consistent with applicable treaties, the statute, and FWS regulations. However, NMFS has not even applied for, much less obtained, such a permit authorizing any take by the Hawaii-based pelagic longline.

Clearly, this fishery kills birds protected under the MBTA. We believe that until such take is permitted, NMFS cannot lawfully allow any fishing that is likely to result in death of such species. NMFS’s contention that “the MBTA applies only in nearshore waters, i.e., from the shoreline seaward to three nautical miles offshore” does not withstand legal scrutiny. 70 Fed. Reg. 75075, 75076 (December 19, 2005) (response to comments on measures to reduce bycatch of sea birds in Hawaii pelagic longline fishery). In fact, a 2001 Interior Solicitor’s Opinion concluded that the MBTA does, in fact, apply in the U.S. EEZ. NMFS must obtain a permit in order to bring the fishery into compliance with the MBTA before allowing *any* fishing that would result in the take of MBTA-listed sea birds. (Moreover, the effects of any changes to existing management requirements on ESA-listed sea birds such as short-tailed albatross must be analyzed by FWS in a new biological opinion before those changes are implemented.) Such take is certain to occur under every alternative considered in the DSEIS, with increased effort resulting in increased levels of sea bird take. *See, e.g.*, DSEIS at 159, 178, 183.

Increasing fishing effort on pelagic fish populations is inconsistent with scientific recommendations, international resolutions and the requirements of the Magnuson-Stevens Act.

In addition to potential negative interactions between shallow-set longline gear and vulnerable sea turtle, marine mammal, and seabird populations, we are concerned about the impact of increased fishing effort on pelagic fish populations. Of the eleven pelagic fish species and families identified as target species of the fishery, a number are overfished, experiencing overfishing and/or data poor. Consequently, it is inappropriate to be amending the management framework for the shallow set longline fishery to allow for an increase in fishing effort.

Despite uncertainty regarding stock structure and distribution, the most recent stock assessment of swordfish indicates that current catch-per-unit-effort (“CPUEs”) may be greater than the CPUEs that correspond to the average maximum sustainable yield. Indeed, the DSEIS notes that in recent years, swordfish landings by the Hawaii-based shallow-set longline fishery have been “substantially lower than historic levels.” DSEIS at 34. Until estimates of stock status are more certain, the Scientific Committee of the Western and Central Pacific Fisheries Commission (“WCPFC”) recommends as a precautionary measure that there be no increases in fishing mortality on this stock, as it is likely to drive the stock towards an overfished state. Davies, N., R. Campbell, and D. Kolody.(2006); CASAL Stock Assessment for South-West Pacific Broadbill Swordfish 1952-2004. WCPFC-SC 2; ME WP-4. Kolody, D., R. Campbell, and N. Davies (2006a); Multifan-CL Stock Assessment for South-West Pacific Broadbill Swordfish 1952-2004; WCPFC-SC2; ME WP-3. Kolody, D., N. Davies, and R. Campbell. (2006b). SW Pacific Swordfish Stock Status Summary from multiple assessment models.

WCPFC-SC2; SA WP-7. The DSEIS projects that, under the action alternatives being considered, swordfish mortality could range from roughly 4.6 million lbs to as much as 19.1 million lbs annually. DSEIS at 157 and 182. This is nearly a 5-fold increase from current levels that could have disastrous consequences on swordfish populations and limit fishing opportunities in the future. We recommend that NMFS heed scientific warnings and cap effort at current levels – unless further reductions are called for – to guard against overfishing of the target swordfish population.

While swordfish is the primary target species for the shallow-set longline fleet, the DSEIS also lists bigeye and yellowfin tuna as target species in the fishery. Both the Inter-American Tropical Tuna Commission (“IATTC”) and U.S. stock assessment scientists have identified Pacific bigeye and yellowfin tuna populations as being overfished and subject to overfishing. 2005 HMS Stock Assessment and Fishery Evaluation Report, Table 5-1, p. 111. The IATTC passed a resolution which states that “bigeye stocks are below the level that would produce the average maximum sustainable yield (AMSY)” and directs member nations to implement a seasonal closure for commercial purse seine and longline vessels targeting bigeye (and yellowfin) tuna. Resolution C-06-02, IATTC, June 2006. Likewise, the IATTC passed a resolution in June 2006 which concluded that absent mitigating measures, yellowfin stocks will decline below the level necessary to produce maximum sustainable yield. Pursuant to the requirements of the Magnuson-Stevens Fishery Conservation and Management Act, fishery managers are obligated to end overfishing immediately and rebuild overfished populations as quickly as possible. Therefore, the Council’s proposal to modify the management regime for the Hawaii-based shallow-set longline fishery to eliminate set limits and increase bigeye and yellowfin tuna catch levels is unlawful and inconsistent with scientific recommendations and domestic law. DSEIS at 187.

North Pacific albacore are also identified in the DSEIS as a target species in the shallow-set longline fishery. While North Pacific albacore are generally distributed between 35° and 50° North latitude, they are known to migrate as far south as Hawaii, the southern edge of their range. In fact, the current level of annual mortality for albacore in the Hawaii-based shallow-set longline fishery amounts to 64,645 lbs. DSEIS at 152. In 2005, both the IATTC and WCPFC adopted resolutions identifying North Pacific albacore populations as experiencing overfishing and requiring member nations to cap current levels of effort. PROP IATTC-73-C1, June 2005. The first Stock Assessment and Fishery Evaluation (“SAFE”) Report for the U.S. West Coast Highly Migratory Species (“HMS”) Fishery Management Plan (“FMP”) echoed this conclusion and warned that “[t]he current fishing mortality rate is high...and may be cause for concern regarding the current stock status of North Pacific albacore.” 2005 HMS Stock Assessment and Fishery Evaluation Report, Section 5.3.1, page 106. The action alternatives included in the DSEIS propose to increase annual albacore mortality from current levels (64,645 lbs) to anywhere between 91,479 lbs and 267,667 lbs/year. DSEIS at 182. Increasing albacore catches by even a modest amount is inconsistent with the United States’ obligations under international agreement. Quadrupling albacore catches indicates a flagrant disregard for science and the law and undermines our role as leaders in international fishery management.

Given of the vulnerable status of these tuna populations as well as other target fish species, including striped marlin, increasing fishing effort in the shallow-set longline fishery is

not consistent with international directives, domestic regulations, the best available science and the principles of precautionary management. As such, we recommend that NMFS maintain, reduce or eliminate effort in the shallow set longline fishery to guard against overfishing, rebuild depleted fish populations and ensure the long term sustainability of fishery.

Analysis of Alternatives

The DSEIS Fails to Consider an Appropriate Range of Alternatives

The range of alternative analyzed in the DSEIS is insufficient to meet the purpose of the proposed Amendment 18 – a purpose that in itself is rather narrow. The stated purpose of the proposed action is “to provide increased opportunities for the Hawaii-based shallow-set longline fishery to sustainably harvest swordfish and other species, while continuing to avoid jeopardizing the continued existence and recovery of threatened and endangered sea turtles as well as other protected species.” DSEIS at 13. While NEPA grants an agency reasonable discretion in defining the purpose and need of a proposed project, it does not allow the agency to restrict its analysis to only the alternatives by which the applicant or agency can achieve its predetermined ends. *See City of Carmel-By-The-Sea v. U.S. Dept. of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997) (“[t]he stated goal of a project necessarily dictates the range of ‘reasonable’ alternatives and an agency cannot define its objectives in unreasonably narrow terms.”); *see also City of New York v. U.S. Dept. of Transp.* 715 F.2d 732, 743 (2nd Cir. 1983) (holding that “an agency may not narrow the objective of its action artificially and thereby circumvent the requirement that relevant alternatives be considered”); *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 196 (D.C. Cir. 1991) (finding that the Corps may not define the alternative site criteria so narrowly “that only one alternative from among the environmentally benign ones in the agency’s power would accomplish the goals of the agency’s action, and the EIS would become a foreordained formality.”).

In this case, the Council has chosen only to analyze alternatives that maintain or significantly increase effort in the Hawaii shallow-set longline fishery, notwithstanding evidence that even the current level of effort has unsustainable impacts on protected sea turtles, marine mammals, sea birds, and target and non-target fish stocks. This artificially narrow range of alternatives fails to meet the stated project purpose of “sustainably” harvesting swordfish and other species while avoiding jeopardy to sea turtles and other species. The DSEIS does not present any credible analysis to support its assumption that the status quo achieves this end, much less that increasing effort would do so. Indeed, one of the driving factors behind the proposed Amendment 18 is the fact that the fishery was closed after only 3 months in 2006 because it exceeded take limits for loggerheads set in the 2004 Biological Opinion and because it had been threatened with similar closures.

As our groups expressed during the scoping process, any reasonable range of alternatives for this proposal must include alternatives that *decrease* effort in the fishery. While the Council has chosen as its preferred alternative the extreme option of removing effort limits altogether, it has failed to entertain alternatives at the other end of the spectrum including a reduction in allowable effort or an immediate moratorium on pelagic longline fishing in the Pacific until

measures can be implemented that effectively threatened and endangered sea turtles, an alternative which has received significant support from concerned scientists.

Topic 1: Shallow-Set Longline Fishing Effort Limits

The Hawaii shallow-set longline fishery was allowed to reopen in 2004 on the condition that the fleet adopt a suite of conservation measures designed to minimize and account for sea turtle interactions and mortality. Since then, fishery managers have touted the Hawaii-based longline fleet as a “model fishery” to be emulated by other longline fleets worldwide. Current protective measures required in this fishery include circle hooks, mackerel-type bait, limits on the number of sets that may be fished, 100-percent observer coverage on all shallow-set trips, and hard caps on the numbers of turtles that NMFS determined, based on available information at the time, might be taken by the fishery without jeopardizing the species’ continued existence.

The alternatives listed in the DSEIS under “Topic 1” propose to maintain, increase or eliminate set limits altogether. Despite industry complaints, the current set limit of 2,120 sets is not the constraining factor as the fishery has not reached the set limit since the regulations were imposed. Indeed, according to the Hawaii Longline Association’s (“HLA”) proposal submitted February 13, 2007, only 2,631 shallow sets have been fished since the May 3, 2004 fishery management regulations became effective. Rather, the constraining factor is the turtle take cap which is calculated based on projected levels of effort. The limit on turtle takes, which was incorporated into the 2004 Biological Opinion’s reasonable and prudent alternative (“RPA”) necessary to avoid jeopardy to loggerhead and leatherback sea turtles, closed the fishery in 2006.

Thus, rather than increasing the effort cap, fishery managers should be looking to lower the effort cap to levels consistent with the amount of fishing effort in recent years. The level of turtle take authorized in the 2004 Biological Opinion is based on expected fishing effort related to the annual cap of 2,120 shallow sets, and if the turtle take limits rather than the effort limits are being reached consistently, then more turtles are being taken than estimated for the approved level of fishing effort. As noted above, to allow consideration of a full range of alternatives as required by NEPA, the Council and NMFS should consider a lower effort cap that is more in line with actual fishing effort in recent years.

It is critical to note that the process of determining authorized levels of take does not authorize a turtle kill “quota” for the fishery. For that reason, it is entirely inappropriate for the Council to be considering turtle take levels in its consideration of alternatives. Takes of threatened and endangered species may only be authorized if incidental to an otherwise lawful activity. The EIS reads in several places as if the take of turtles is actually part of the activity the Council is seeking to authorize, especially in its consideration of the alternative that would remove all effort limits. This approach is completely inconsistent with the ESA and must be rejected. Rather, the fishery must be analyzed based on expected effort levels to determine whether those levels of effort and expected interaction rates are likely to jeopardize the continued existence of the species. Only if jeopardy is avoided may take incidental to an otherwise lawful activity be authorized.

In looking ahead to the analysis that will be performed in the Biological Opinion on the fishery management plan amendment, it is important for NMFS and the Council to be aware of the ESA's requirements related to the proposed increase in effort and accompanying increase in take. The ESA prohibits NMFS from permitting increased impacts to a species when doing so would appreciably reduce the likelihood of the species' survival *or* recovery. *Nat'l Wildlife Fed'n v. NMFS*, 481 F.3d 1224, 1236-38, (9th Cir. 2007) ("jeopardy" includes impacts to recovery as well as survival and NMFS may not permit further impacts to a species already in jeopardy, regardless of whether the activity at issue is the cause of the baseline jeopardy).

However, instead of analyzing the effects of increasing turtle takes on recovery as well as survival, the DSEIS bases its substantially increased turtle interaction caps on a susceptibility to quasi-extinction analysis ("SQE") designed to assess how different levels of fishery interactions may affect the extinction risk of sea turtle populations. While the SQE analysis may be a useful scientific exercise, it falls short of meeting ESA management requirements because it only considers the risk of extinction rather than the likelihood of recovery.³

The proposed increase in allowable turtle take under the DSEIS's preferred alternative is quite significant. As discussed above, available data indicate that Pacific leatherback and North Pacific loggerhead populations are declining even under status quo conditions, including take limits of 16 leatherbacks and 17 loggerheads per year. Yet the Council proposes to allow 19 leatherback interactions and 46 loggerhead interactions per year – nearly triple the current cap for loggerheads. NMFS's biological opinion for Amendment 18 must determine based on the best available science and the ESA's recovery mandate whether the proposed turtle take caps will jeopardize the species, as well as calculate any acceptable take limit. Given that both leatherback and loggerhead populations are declining, it is difficult to see how any increase in the mortality of either species could be consistent with its recovery – or with the plain requirements of the ESA.

The DSEIS also inappropriately discusses the format of the ITS to be included in the Biological Opinion. As noted above, this is an inappropriate element for consideration in the DSEIS and is properly considered only in the Biological Opinion. However, we note here that if such an approach is taken, it must include 100% observer coverage, an annual cap to close the fishery, and real time reporting that will close the fishery immediately upon hitting the cap.

Finally, we note that although 100% observer coverage is considered in all alternatives regarding effort levels, the agency does not adequately explain what the economic impact of these alternatives will be. The EIS states that current costs with a set limit of 2120 is \$1.8 million, and that annual cost is likely to range from \$3.9-5.1 million depending on the fishing effort alternative chosen. The agency does not explain, however, how no limit on effort will cost only \$5.1 million, while a limit of 9925 sets would cost \$12.7 million. It seems impossible for

³ In addition, it is not clear whether the SQE analysis takes into account increases in turtle mortality from other sources. In addition to Amendment 18, NMFS is considering two other proposals to expand shallow-set longline fishing effort: an application for an exempted fishing permit to allow shallow-set longline fishing in the exclusive economic zone off California and Oregon and a proposal to establish a high seas shallow-set longline fishery outside the West Coast EEZ. Both of these fisheries, if approved, would injure and kill turtles from the same populations of loggerhead and leatherback sea turtles affected by the Hawaii fishery. Thus far, it appears that there has been no real coordination regarding these proposals, as further evidenced by the DSEIS's failure to include these reasonably foreseeable effects in its analysis.

greater expenditure of funds will come at a lower expenditure of agency personnel resources. Also, the agency should make clear in its FEIS what the economic projections for the fishery will be and whether an expanded fishery might result in less than 100% observer coverage. In 2004, the agency was clear that the fishery was an observer-limited fishery and that boats could not leave the dock without an observer on board. We believe that given the imperiled status of the species, this provision must be retained.

Topic 2: Fishery Participation

The set certificate program serves an important tracking and accounting function. Under the present management regime, the set certificate program guards against potential overages in allowable effort by requiring vessels to possess and submit a valid shallow-set certificate for each shallow set made. As noted in the DSEIS, the set certificate program allows fishery managers “to track participation through the fishery year, thus ensuring that expected effort is not exceeded, and unconsidered impacts are not realized.” Draft A. 18 and DSEIS, Section 4.2.1.1, p. 195 (August 2008).

The set certificate program functions similar to an individual transferable quota system whereby access is limited to those fishery participants with set certificates which may be bought, sold, traded and transferred amongst participants. This system, which may provide fishermen with additional flexibility and financial return, may also “reduce a race to fish and extend fish landings throughout the year.” Draft A. 18 and DSEIS, Section 4.2.1.4, p. 195 (August 2008). As such, we strongly urge NMFS to select Alternative 2A and maintain the existing set certificate program along with conservative set limits as noted in our comments above.

Topic 3: Time-Area Closures

At their April 2007 meeting, the WPRFMC’s Pelagics Plan Team (“PPT”) enumerated a list of outstanding issues that they recommended be investigated prior to amending current suite of management measures in place for the shallow-set longline fishery. Among the concerns they highlighted was the role that changes in the physical oceanography of fishing grounds might play in influencing the rate of interactions between sea turtles and longline vessels. An examination of the oceanographic factors (i.e., sea surface temperature, oceanic fronts or gyres, topography, etc.) related to the occurrence of sea turtles in the region may help identify and characterize important sea turtle foraging habitats and bycatch hotspots. Such information can also inform management decisions regarding appropriate time/area closures and facilitate successful recovery of these critically endangered species. Alternative 3C, which would authorize a conditional closure based on loggerhead catch rates in the first quarter and sea surface temperature analyses and trends, is an important, precautionary management strategy that should be incorporated along with other bycatch mitigation measures.

Studies have also shown that there is substantial temporal and spatial variability with sea turtle bycatch rates. Gear configurations and fishing practices influence this variability as do turtle and vessel movement. Crowder, L. B and R.I. Lewison. Putting Longline Bycatch of Sea Turtles into Perspective. Conservation Biology 2007, Volume 21, No.1, p. 81. To better understand these variations and develop appropriate and effective bycatch avoidance strategies,

the PPT recommended that scientists and fishery managers explore alternatives to adjust the temporal and spatial distribution of swordfish fishing effort in order to avoid turtle takes. Specifically, they asked whether there would be an effect on the temporal distribution of swordfish fishing effort and turtle takes if the start and stop date of the swordfish calendar year were changed. Catch data indicates that swordfish CPUE and sea turtle interaction rates are greatest during the first quarter of the year in areas where the sea surface temperature is between 17.5° and 18.5° C. Notably, the shallow set longline fishery was shut down after only 3 months when it reached its turtle take cap. Therefore, Alternative 3B, which proposes a January time/area closure corresponding to a latitudinal sea surface temperature band, is an appropriate and precautionary closure based on the best available science.

Both Alternatives 3B and 3C represent positive first steps in minimizing longline/sea turtle interactions and developing a better understanding of the temporal/spatial distribution of sea turtles and the relationship between fishery interaction rates and oceanographic conditions. Whether closures implemented in-season and/or pre-season are more appropriate depends largely on the capacity and resources of scientists and fishery managers to make real time adjustments to management and communicate those closures to fishery participants. Using the two types of closure in conjunction with one another would be a precautionary approach and would compensate for the uncertainty associated with each strategy. For instance, if a January closure was implemented but a high level of turtle interactions were concentrated later in the first quarter, then the in-season closure provided for under Alternative 3C could help ensure that the turtle take cap would not be met or exceeded during that period. We believe that time/area closures, used together with other conservation strategies (i.e., appropriate hard caps, 100% observer coverage, set limits, etc.), are an important tool for fisheries management and the conservation of protected and endangered species. We recommend that NMFS select Alternatives 3B and/or 3C and implement precautionary, science-based time/area closures.

Additional Issues

Improved data collection and monitoring and a greater scientific understanding about the relationship between protected species, longlining and oceanographic conditions are necessary prerequisites to fishery expansion.

As we noted previously, efforts to rollback protections and increase fishing effort in the shallow-set longline fishery are misguided, premature, and not based on the best scientific information available. Prior to amending the pelagics FMP and weakening bycatch mitigation measures, fishery managers should further compile and analyze data regarding the age composition of sea turtles taken in pelagic longline fisheries. Studies have shown that pelagic longline fisheries negatively influence sea turtle population growth due to the disproportionate impact on older, reproductively valuable age classes. Crouse, D.T., L.G. Crowder, and H. Caswell. 1987. A stage-based population model for loggerhead sea turtles and implications for conservation. *Ecology* 68: 1412-1423; Heppell, S.S. 1998. An application of life history theory and population model analysis to turtle conservation. *Copeia* 1998: 367-375. "Although bycatch rates from individual longline vessels are extremely low, the amount of gear deployed by longline vessels suggests that cumulative bycatch of turtles from older age classes is substantial." Crowder, L. B and R.I. Lewison. Putting Longline Bycatch of Sea Turtles into Perspective. 2007.

Conservation Biology, Volume 21, No.1, p.79. Indeed, an estimated 200,000 loggerheads and 50,000 were taken as bycatch in pelagic longline fisheries in 2000. Lewison, R.L., S.A. Freeman and L.B. Crowder.2004. Quantifying the effect of fisheries on threatened species: the impact of pelagic longlines on loggerhead and leatherback sea turtles. Ecology Letters 7:221-231.

Likewise, we support ongoing efforts to investigate means to understand and reduce post-release mortality of sea turtles caught on longlines. At the same time, we urge fishery managers to focus on minimizing takes since we still do not fully understand the effects of non-fatal captures and the associated health issues that may arise as a result of multiple recapture. The Atlantic longline fishery recently moved to more of a mortality-based approach based largely on unverified and unenforceable assumptions about the amount of gear fishermen would remove from the turtles. With 100% observer coverage, this sort of methodology is more tenable, but still unwarranted given the need for a precautionary approach

Agency resources should be allocated towards projects that investigate additional sea turtle avoidance strategies. Indeed, recent studies indicate that the probability of catching sea turtle is greater in a set that follows a set where a turtle was caught. Gilman, A.B., D. Kobayashi, T. Swenarton, N. Brothers, P. Dalzell, I. Kinan-Kelly. Reducing sea turtle interactions in the Hawaii-based longline swordfish fishery. 2007. Biological Conservation 139, 19-28. This suggests that enhancing fleet communication and coordination and establishing protocols to guide individual vessel behavior following interactions with sea turtles would be effective sea turtle avoidance strategies. As such, we recommend that fishery managers prioritize the evaluation and development of such a system over efforts to weaken existing conservation measures.

To avoid the incidental capture of seabirds, the Hawaii shallow-set fishery is required to employ seabird bycatch mitigation measures including blue-dyed bait and night-setting. Whether these seabird avoidance strategies also influence sea turtle interaction rates requires further investigation, however initial observations indicate that while blue-dyed bait does not significantly influence the rate of turtle capture, the night setting requirement may affect turtle capture rates. As such, we recommend that fishery managers evaluate the impact of seabird bycatch mitigation measures on sea turtle capture rates.

Of even greater concern is evidence that suggests that some fishing vessels actively conceal turtle interactions from on-board observers by jettisoning them on branch lines. If there is in fact a greater level of turtle take and mortality than is captured by observer records, it is crucial that scientists and fishery managers incorporate that information into their assessments and management evaluations. Moreover, if observers are failing to report turtle interactions, willfully withholding data, and/or undermining data collection and monitoring efforts, immediate steps must be taken to restore the integrity and effectiveness of the observer program.

The scope of the hard cap provision should be expanded to include all sea turtles that interact with pelagic longlines.

In the 2004 Proposed Rule, NMFS considered two variations on sea turtle interaction limits for the shallow-set fishery: (1) a hard cap option for *all* species that would close the

fishery when ITS levels were reached or (2) a no-limit option that would only require reinitiation of consultation when ITS levels were reached.¹ 69 Fed. Reg. 4098, 4102/2 (Jan 28, 2004). While the agency properly rejected the no-limit option because it “might fail to adequately minimize adverse impacts on sea turtles,” it improperly narrowed its protection to only leatherbacks and loggerheads on the asserted justification that a broader hard cap “would likely result in the shallow-set component of the fishery being closed more often than is needed to adequately mitigate adverse impacts on sea turtles.” *Id.* Rather than provide a justification for limiting the hard cap to leatherbacks and loggerheads, this statement highlights the risk the action agency sees as inherent in operating the fishery and signals the need to invoke the same mechanisms to protect each of these endangered and threatened species. We recommend that the Council develop and evaluate alternatives that strengthen and apply the same level of protection to *all* species of sea turtles that may interact with pelagic longlines in Hawaii.

Bycatch mitigation measures should apply to the Hawaii deep-set long line fishery.

Scientists caution that “[e]ven if pelagic longlines are not the largest single source of fisheries-related mortality, longline bycatch is certainly high enough to warrant management action in *all* fleets that encounter vulnerable turtles.” Crowder, L. B and R.I. Lewison. Putting Longline Bycatch of Sea Turtles into Perspective. *Conservation Biology* 2007, Volume 21, No.1, p. 83. (*Emphasis added*). While we recognize that fishery managers took the necessary steps to protect loggerhead turtles through the emergency closure of the shallow-set fishery in 2006, we remain concerned that the current suite of sea turtle bycatch mitigation measures does not extend to the deep-set longline fleet. Although the interaction rate for the deep-set fishery is lower than that for the shallow-set fishery, the high levels of mortality for those turtles that are taken in this expanding fishery is cause for concern. In 2005, more 9.3 million hooks were retrieved in the deep set fishery, as compared with 1.3 million hooks that year in the shallow set fishery. Indeed, predictions of leatherback takes increased from the 2001 Biological Opinion estimate of 8 interactions and 3 mortalities to 18 interactions and 7 mortalities in the 2004 Biological Opinion. Such an increase in the take of a species that NMFS called “critically endangered” and assessed as having “either high risks of extinction in a single human generation...or...a high risk of declining to levels where more precipitous declines become almost certain” is not justifiable. 2004 Draft BiOp at 90.

We recommend that the deep-set fishery be required to use large circle hooks to reduce sea turtle interactions and post-release mortality, as the majority of sea turtles perish when captured at depth. In addition, the fishery should eliminate shallower branch lines on its deep-set gear and incorporate new deep setting techniques to reduce sea turtle bycatch. Recent studies which employed a new deep-setting technique using weighted lines to eliminate shallow set hooks (< 100m) in the deep set longline fishery have proven successful at reducing bycatch without jeopardizing bigeye tuna catch rates. Beverly, S., C. Curran, and M. Musyl, Reducing bycatch with a deep set longline technique in Hawaii’s Tuna Fishery, Presented at the 58th Tuna Conference “Regime shifts and effective management in a pelagic ecosystem,” May 2007.

A coordinated management framework for pelagic fisheries with the Pacific Fishery Management Council must be a precondition of expanding fishing effort.

In 2004, NMFS imposed a moratorium on pelagic longline fishing east of 150 degrees West longitude to guard against jeopardy to loggerheads even after the Pacific Fishery Management Council banned longlining west of 150 degrees West longitude. These far reaching closures demonstrate just how vulnerable sea turtles are to the impacts of longline fishing. The conservation community has repeatedly called for more coordinated management between the Western Pacific and Pacific fishery management councils and a comprehensive evaluation of the impacts of all U.S. longlining in the Pacific on imperiled sea turtle populations, yet these essential steps still have not occurred. The Hawaii and California based fleets fish in the same manner, often in the same area, and catch the same turtles. 2004 Draft BiOp at 90

In addition, the fleets consist of many of the same boats as they have had a history of moving back and forth to avoid the closures to protect sea turtles that have alternated between Hawaii and California in recent years. Indeed, scientists warn that, “[t]he critical issue for an individual turtle is the likelihood of capture across an ocean region, not capture by a particular nation. With multiple fleets deployed the cumulative effects of pelagic longlines across fleets in large ocean regions must be taken into account.” Crowder, L. B and R.I. Lewison. Putting Longline Bycatch of Sea Turtles into Perspective. *Conservation Biology* 2007, Vol. 21, No.1, 81.

At the same time that fishery managers in the Western Pacific are considering rolling back critical bycatch mitigation measures in their swordfish fleet, fishermen and fishery managers are actively pursuing the establishment of shallow-set longline fisheries within the U.S. EEZ and on the high seas off the U.S. west coast. Should these efforts be successful, the likely result would be a net increase in longline fishing effort Pacific-wide and jeopardy determinations for many species of sea turtles. Any proposed changes to the status quo management regime for longlining in Hawaii and along the U.S. west coast, should be well-vetted by NMFS and by both Councils before time and resources are expended. Absent better communication and coordination, pelagic longline fisheries will be subject to even greater constraints and the sea turtle recovery efforts may be irreversibly compromised.

In a July 2008 letter to Dr. Don McIsaac, the executive director of the Pacific Fishery Management Council, Dr. James Balsiger, Acting Assistant Administrator for Fisheries echoed this call for greater coordination and indicated his intent to explore options for collaboration between the Pacific and the Western Pacific Regional Fishery Management Councils. He further commented that “this collaboration will focus on ensuring that fishing opportunities are equitable for the existing Hawaii-based fishery and for the proposed U.S. West Coast-based fishery, while providing necessary safeguards for protected species.” The Administrators of the Pacific Islands and Southwest regional offices have also been notified. As such, it is incumbent upon Western Pacific fishery managers to heed this call and not undertake efforts to expand the Hawaii shallow set longline fishery without first consulting with the PFMC and the Southwest regional office to ensure that the standards of equity and sustainability are met.

Non-fishery conservation measures may not offset fishery-related mortality of protected species.

Under the ESA, NMFS has a duty to use its authority and all of its programs to provide for the conservation of endangered and threatened species. In light of this statutory command, we strongly support both domestic and international conservation measures that will help reverse the decline of Pacific sea turtle populations and promote their recovery. Conservation measures may take the form of nesting beach and foraging ground protection, education, and community involvement in conservation, all of which have been endorsed by WPFMC.

It would not, however, be appropriate (or consistent with Section 7(a)(2) of the Endangered Species Act) to consider these conservation measures as offset measures or otherwise justify a higher level of authorized incidental take. Despite strong scientific backing for research in this area, the ultimate effect of such measures on turtle populations is, at this point, entirely speculative. If anything, scientific analysis has shown that, while all life stages must be protected, the protection of reproductive adults has the greatest effect on the population. While we certainly hope that nest conservation will result in larger populations of turtles in the future, predictions that larger numbers of nests and eggs will be saved cannot be used to allow takes of *any* existing turtles, let alone mature animals. For example, the recovery of the Kemp's Ridley turtle is the result of decades of conservation of primary nesting habitat in Mexico *and* full implementation of measures to protect these animals from drowning in shrimp trawls. Only by focusing on reducing mortality throughout the range of these species and at all stages of life will we be able to affect recovery.

If current fishing practices continue, scientists predict that the extinction of Pacific leatherback sea turtles within the next 10-30 years is imminent. Spotila, J.R., Reina, R.R., Steyermark, A.C., Plotkin, P.T. & Paladino, F.V. 2000. Pacific leatherback turtles face extinction. *Nature*, 405, 529–530. More selective fishing practices can help avert the alarming decline in population of these ancient reptiles, but it will depend on efforts at both the national and international level. The United States has an important leadership role to play in the global fishing community. Whether researching and developing more selective and innovative fishing practices and gear technologies or compelling greater international and regional collaboration, the United States, indeed Hawaii, plays an important leadership role in the global fishing community. Therefore, we strongly encourage NMFS to lead by example and to develop strong conservation measures that promote ecosystem health and ensure the recovery vulnerable sea turtle populations. We appreciate your consideration of these comments and your efforts to protect threatened and endangered sea turtle populations.

Sincerely,

Andrea A. Treece
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Meghan Jeans
Pacific Fish Conservation Manager
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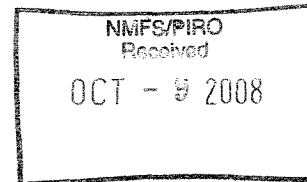


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HRD08/3788

October 1, 2008

William Robinson
Regional Administrator
Pacific Islands Regional Office
National Marine Fisheries Service
National Oceanic and Atmospheric Administration
1601 Kapi'olani Blvd., Suite 1110



RE: Request for comments on the proposed management modifications for the Hawai'i-based shallow-set longline swordfish fishery, Western Pacific Regional Fishery Management Council (WESPAC).

Aloha e William Robinson,

The Office of Hawaiian Affairs (OHA) is in receipt of the above-mentioned letter dated August 12, 2008. OHA has reviewed the project and offers the following comments.

OHA recognizes that fish is the last wild food in the human diet and roughly two thirds of the world's major stocks are fished at or beyond their capacity. Another ten percent have been so over-fished that their populations will take years to recover. In 2004, marine scientists estimated that industrial fleets have fished out at least 90 percent of all large ocean pelagic predators including tuna, marlin, swordfish, sharks, cod, skates, halibut and flounder- in just the past 50 years.¹ The Worldwatch Institute 2007-2008 Vital Signs report states that in 2004 (the last year for which data is available) worldwide consumption of seafood was 156 million tons. In 2003 people ate 9 million tons. The fish catch per person has steadily declined in the last ten years.² "Analysis of the most important fisheries indicates that about thirty-five percent of these fisheries are in decline, twenty-five percent are fully exploited, and only forty percent are considered developing."³ However, we also realize that many of our beneficiaries participate in or benefit from the Pacific fishery.

OHA is the "principal public agency in this State responsible for the performance, development, and coordination of programs and activities relating to native Hawaiians and

Hawaiians.”¹ It is our duty to “[a]ssess[] the policies and practices of other agencies impacting on native Hawaiians and Hawaiians, and conduct[] advocacy efforts for native Hawaiians and Hawaiians.”² OHA clearly understands that this fishery is an important industry, food source and culture for our beneficiaries and the rest of the state. Annual fish consumption in the Hawai‘i region is at least twice the national average with this state averaging over ninety pounds per person annually.⁴ A record number of 27 million hooks were set in 2002 and a record number of 478,885 fish were caught by the American Samoa longline fishery in 2002.⁵

The demand for this resource has perhaps never been greater and as a result, the pressures upon these resources and their environment have likewise been magnified. The pressures on turtles are many. Nesting populations in the Pacific area have reportedly dropped by eighty percent, global populations of adult females may have been reduced by seventy percent in one generation with Pacific nesting female annual mortality rates estimated at thirty percent, and some rookeries nearly disappearing altogether.⁶ Habitat loss, beach erosion, predation by cats, rats, dogs and humans, pollution, plastics, disease- all these things affect the turtles. New diseases are appearing such as fibropapillomatosis in green sea turtles which results in cancerous like tumors that impede movement externally and result in starvation internally. There are also other types of fishing besides longlining that result in huge sea turtle takings in various stages of their development.⁷ OHA notes that this fishery is but one impact from a long list of cumulative impacts that must be considered when assessing these endangered and threatened species.

Cumulative effects are “those effects of future State or private activities, not involving Federal activities that are reasonably certain to occur within the action area of the Federal action subject to consultation.”⁸ OHA urges that the scope of injury assessed to these animals be broadened beyond the action area. It is reasonable to do so because the animals within the action area are heavily impacted because of injuries done outside the action area. Further, the effects of an action refers to, “direct and indirect effects of an action on the species” and “effects of other activities that are interrelated or interdependent with that action.”⁹

All of the world’s sea turtles are listed as either endangered or threatened:

Green turtle (*Chelonia mydas*) Endangered/Threatened
Hawksbill turtle (*Eretmochelys imbricata*) Endangered
Leatherback turtle (*Dermochelys coriacea*) Endangered
Loggerhead turtle (*Caretta caretta*) Threatened
Olive ridley turtle (*Lepidochelys olivacea*) Endangered/Threatened

Green turtles and olive ridley turtles on the Pacific coast of Mexico are listed separately as endangered species, rather than the threatened status assigned to the remainder of their global populations. They are considered to be a genetically distinct population and, therefore, receive a separate determination.¹⁰

¹ Hawaii Revised Statutes (HRS) § 10-3(3).

² HRS § 10-3(4).

There are also numerous impacts from international fleets in Pacific waters. There are fleets from all Polynesia, Micronesia, Japan, Korea, Taiwan, Spain, Chile, and Ecuador to name a few. Estimates are that the Hawaiian fleet makes up for less than five percent of the total catch in the Western Pacific area. A 1990 study estimated that the Japanese fleet that operated in the western Pacific killed about 12,300 turtles annually.¹¹ That is approximately one turtle taking for every 10,000 hooks with a forty two percent mortality rate in the Japanese fleet.¹²

OHA recognizes that the Hawaiian fleet is heavily regulated and is probably the most regulated fleet in the world. All Hawaii-based longline ships are required to employ sea turtle handling measures which include mitigation gear, sea turtle resuscitation, and sea turtle release procedures.¹³ OHA appreciates the training and effort of the Hawaiian fleet all across the Pacific area. However, we still recognize that the chances of a leatherback dying after initial contact are still about thirty-three percent.¹⁴ We further understand that the Hawaiian fishery is limited by permit to 164 (with 121 boats). There is also a maximum effort set limit 2,120 administered through the set certificate program. Further, there is a requirement for 100 percent observer coverage with certain gear restrictions. Additionally, an annual cap on turtle takings is set at 17 loggerhead and 16 leatherback sea turtle interactions.

The August 12, 2008 Management Modifications on page 13 state that these regulations are “designed to test the use of gear and bait technologies that had proven in Atlantic experiments to be successful at reducing both sea turtle interaction rates and the severity of such interactions.” OHA assumes that the applicant is here referring to 2002 when National Marine Fisheries Service (NMFS) via the Office of Protected Resources issued a Scientific Research Permit which authorized NMFS to try some experimental longlining techniques designed to minimize turtle interaction. This permit was done under the Endangered Species Act (ESA) section 10(a), which allows for incidental take of turtles as long as there is a conservation plan designed to minimize impacts and show that the action will not reduce the survival and recovery of the turtles in the wild.

OHA points out that this was done as a result of the swordfish fishery being closed by a court order from 2001-2004 as a result of the ESA jeopardy findings. Further court action in federal court invalidated a 2002 NMFS biological opinion and associated regulations. OHA clearly sees that this fishery was and is operating with lawsuit-driven restrictions. In fact, in its 2004 draft biological opinion, NMFS stated that there was a no jeopardy finding in regards to any turtle species.¹⁵ However, since 2004 there has been an annual fishery-wide cap of 2,120 sets or until caps on turtle interactions are reached, whichever cap is reached first.¹⁶ In 2006 the fishery reached a cap on loggerhead sea turtles after three months.¹⁷ These fishery restrictions were a result of the lawsuits.

These lawsuit driven changes and restrictions remain in place today and certainly WESPAC would rather not be operating under them, which is why WESPAC proposes to remove them. Therefore, OHA objects to such statements offered in this document that suggest

otherwise. For example, on page one, "The 2,120 set effort limit and sea turtle interaction hard caps were instituted as measures to control fishing effort and sea turtle interactions while information was being gathered on the model fishery." These restrictions were not voluntary or done for information gathering; they were principally put in place by court proceedings to avoid jeopardizing the continued existence and recovery of threatened and endangered species.

OHA additionally urges that there cannot possibly be enough data generated in some three years of dramatically reduced fishery effort to justify these proposals. Most of what WESPAC knows about turtles comes from observations of their interactions with more economically valuable species such as tuna. Staff working with the turtle program coordinator for WESPAC had 120 turtles with transmitters of four different species to base their findings on in 2005.¹⁸ The 2005 NOAA Biological Opinion based its no jeopardy finding for the Hawai'i based longline fleet on only a total of 158 turtle interactions.¹⁹ Table 14 of the August 12, 2008 Management Modifications shows that 2005 had the most sets made since 2004 through now, more than 12 times than in 2004 and the 2008 fishery closed after only three months in 2008. Because there was significantly less fishing done in recent years, this means that there is even less data available on turtle interactions from which to base these significant proposals. In fact, the reduced rates of turtle interaction and mortality could reasonably result from the reduced effort, rather than the new techniques and gear restrictions as the August 12, 2008 Management Modifications proposes on page v.²⁰

Further, if the gear restrictions are so effective at reducing sea turtle interactions, then it should not matter how many turtle hard caps are in place. OHA points out that these proposals actually testify to the opposite; for example, by advocating to increase the loggerhead hardcap by nearly three times, it actually shows that there will be more, not less adverse effects to these species as a result of applicant action. To claim that turtle interaction has been reduced by some 90 percent as a result of the new gear requirements and ask for dramatically increased turtle interaction hardcaps (as well as other things) in the same document does not make sense.

Furthermore, pointing to the idea that the existing sea turtle cap limits do not represent the upper limit of interactions that would constitute significant adverse impacts to these species as this document does in numerous places (pages one and 11, for example), is less than helpful. OHA reminds the applicant that part of the stated goal of this document is to avoid jeopardizing the continued existence and recovery of threatened and endangered sea turtles as well as other protected species. These hard caps may not represent the critical tipping point for the species' existence; however, they are not good things to be exceeding and were put in place to help the applicant achieve part of their stated goal. OHA seeks clarification from the applicant as to why they feel these turtle caps are in place.

OHA asks for specific data and best available science that shows how these proposals are justified.²¹ Clearly WESPAC is interested in fishing more, which we recognized as part of their mission and many of our beneficiaries benefit from increased fishery effort. However, WESPAC is obligated to avoid jeopardizing the continued existence and recovery of threatened

and endangered species. Removing effort set limit entirely, increasing the turtle interaction hardcaps by 271 percent for loggerhead and 119 percent for leatherback turtles and eliminating the set-certificate program altogether all while not having any time or area closures is a dramatic departure from the careful management techniques being implemented today.

The August 12, 2008 Management Modifications on page v states that this document:

is premised upon three sources of data and information that were not available in 2004 when the current shallow-set fishery was implemented: 1) the actual sea turtle interaction and mortality rates experienced by the Hawaii-based fishery since the 2004 implementation of new gear requirements, 2) the beneficial effects of ongoing sea turtle conservation measures undertaken to offset sea turtle interactions occurring in the combined Hawaii-based longline fisheries, and 3) the adverse transferred effects on sea turtle conservation from shallow-set fishing effort restrictions in Hawaii.

As we stated above, OHA does not see enough data best available science presented in this document from 2004 to warrant these extreme proposals. OHA recognizes that a worst-case scenario was presented by the applicant because "interactions are highest in the first quarter of the year."²² However, the fishery was closed in March of 2006.²³ It interacted with eight loggerhead turtles in January of 2006 alone and by March had to be closed.²⁴ By contrast, in January of 2007, there were no sea turtle interactions at all and the fishery wasn't closed in the first quarter.²⁵ Even the limited data set that the applicant provides is inconsistent with itself.

However, given what we do not know about these species in terms of even basic biological patterns, these increased proposals do not seem warranted in OHA's view compared to what we do know about them: they are a valued cultural resource and are endangered or threatened and in need of protection.

OHA additionally points out that either the gear restrictions truly do work and turtle hardcaps are, therefore, rendered less meaningful or despite the gear restrictions interactions do still occur and so we need to increase the hardcaps to match increased fishing effort or leave them and the effort at status quo. It cannot be both ways at the same time as the August 12, 2008 Management Modifications now states.

OHA sees that the applicant's susceptibility to quasi-extinction (SQE) analysis on page x of the August 12, 2008 Management Modifications relies on only one year (2008) of increased nesting in Japan. The August 12, 2008 Management Modifications on page x states:

Recent information, however, indicates that Japan loggerhead nesting in 2008 is approximately 2.5 times greater than in 2007, which should positively affect the North Pacific loggerhead population as well as further evaluation of the fishery's impact on North Pacific loggerhead turtles.

William Robinson
October 1, 2008
Page 6

OHA notes that these species are in need of protection due to decades of impacts from a variety of sources. Basing even modest proposals on one year of data is never good science, let alone these ambitious proposals that require the best available science available. As evidence of this, the previous two years of nesting data for these beaches were in decline. OHA points out that one year of increased nesting rates is not enough to make up for the previous two years of decline, the previous decades of decline nor is it enough to believe that this one year will "positively affect the North Pacific" population in its entirety.

Thank you for the opportunity to comment. If you have further questions, please contact Grant Arnold by phone at (808) 594-0263 or e-mail him at granta@oha.org.

'O wau iho nō me ka 'oia'i'o,

A handwritten signature in black ink, appearing to read "Clyde W. Nāmu'o". The signature is fluid and cursive, with a prominent flourish at the end.

Clyde W. Nāmu'o
Administrator

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- ¹ David hunter, International Environmental Law and Policy, Third Edition, 2007, page 22.
- ² Ibid., page 19.
- ³ Donna R. Christie and Richard G. Hildreth, Coastal and Ocean Management Law 375 (West Group ed.,
- ⁴ Final Strategic Plan.<http://www.wpcouncil.org/documents/FinalStrategicPlan.pdf> last visited on 12-21-05.
- ⁵ NOAA Biological Opinion 2004 p.14 and NMFS unpublished data, 2004.
- ⁶ IUCN Redlist for Threatened Species website, <http://www.redlist.org> last visited on 10-01-08.
- ⁷ NOAA Draft Biological Opinion, 2-20-04, p.32-37.
- ⁸ 50 C.F.R. § 402.02
- ⁹ Id.
- ¹⁰ Biological Opinion on Western Pacific Pelagics FMP – 2004 p.41 and August 12, 2008 proposed management modifications, page 75.
- ¹¹ Brief for Earthjustice submitted by Paul Achitoff 11-26-07 p.14 and NOAA Biological Opinion, 2-20-05 p.127.
- ¹² NOAA Draft Biological Opinion, 2-20-04, p.68
- ¹³ Biological Opinion on Western Pacific Pelagics FMP – 2004 p.7.
- ¹⁴ NOAA Biological Opinion, 2005. p.135.
- ¹⁵ NOAA Draft Biological Opinion, 2-20-04, p.196
- ¹⁶ Shark Depredation and Unwanted Bycatch in Pelagic Longline Fisheries Industry Practices and Attitudes, and Shark Avoidance Strategies, 2007, page 11.
- ¹⁷ Ibid.
- ¹⁸ Phone call with staff, NOAA Turtle Program, Honolulu, HI.
- ¹⁹ NOAA Biological Opinion, 2005. p.135.
- ²⁰ OHA would like to see a comparison of similar averaged set numbers from the historical fishery to Table 14. Otherwise, the information on page 12, *Results of the 2004 regulations* is not very useful.
- ²¹ The Magnuson-Stevens Fishery Conservation and Management Act § 301, 16 U.S.C. § 1851 (1996), has always required that a Fishery Management Plan and WESPAC use the best science available.
- ²² August 12, 2008 Management Modifications, page ix.
- ²³ August 12, 2008 Management Modifications, page ix.

²⁴ Ibid., at page 20.

²⁵ Ibid.

