Billing Code 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 224

[Docket No. 0912161432-2630-04]

RIN 0648-XT37

Endangered and Threatened Wildlife and Plants; Endangered Status for the Main Hawaiian Islands Insular False Killer Whale Distinct Population Segment

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule.

SUMMARY: In response to a petition from the Natural Resources Defense Council, we, the NMFS, issue a final determination to list the Main Hawaiian Islands insular false killer whale (Pseudorca crassidens) distinct population segment (DPS) as an endangered species under the Endangered Species Act (ESA). We intend to consider critical habitat for this DPS in a separate rulemaking. The effect of this action will be to implement the protective features of the ESA to conserve and recover this species.

DATES: This final rule is effective on [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: National Marine Fisheries Service, Pacific Islands Regional Office, Protected Resources Division, 1601 Kapiolani Blvd., Suite 1110, Honolulu HI, 96814.

FOR FURTHER INFORMATION CONTACT: Krista Graham, NMFS, Pacific Islands Regional Office, 808-944-2238; Lisa van Atta, NMFS, Pacific Islands Regional Office, 808-944-2257; or

Dwayne Meadows, NMFS, Office of Protected Resources, 301-427-8403. The final rule, references, and other materials relating to this determination can be found on our website at http://www.fpir.noaa.gov/PRD/prd_false_killer_whale.html.

SUPPLEMENTARY INFORMATION:

Background

On October 1, 2009, we received a petition from the Natural Resources Defense Council requesting that we list the insular population of Hawaiian false killer whales as an endangered species under the ESA and designate critical habitat concurrent with listing. The petition considered the insular population of Hawaiian false killer whales and the Hawaii insular stock of false killer whales recognized in the 2008 Stock Assessment Report (SAR) (Carretta et al., 2009) (available at http://www.nmfs.noaa.gov/pr/pdfs/sars/), which we completed as required by the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361 et seq.), to be synonymous. However, in light of new information in the draft 2012 SAR (Carretta et al., 2012b) that identifies a third stock of false killer whales associated with the Northwestern Hawaiian Islands (discussed later), for the purposes of this listing decision we now refer to the Hawaiian insular false killer whale as the Main Hawaiian Islands (MHI) insular population of false killer whales.

On January 5, 2010, we determined that the petitioned action presented substantial scientific and commercial information indicating that the petitioned action may be warranted, and we requested information to assist with a comprehensive status review of the species to determine if the MHI insular false killer whale warranted listing under the ESA (75 FR 316). A biological review team (BRT; Team) was formed to review the status of the species and the report (Oleson et al., 2010) (hereafter "status review report") was produced and used to generate the proposed rule. Please refer to our website (see FOR FURTHER INFORMATION

CONTACT) for access to the status review report and the reevaluation of the DPS designation (discussed later), which details MHI insular false killer whale biology, ecology, and habitat, the DPS determination, past, present, and future potential risk factors, and overall extinction risk.

On November 17, 2010, we proposed to list the MHI insular false killer whale DPS as an endangered species under the ESA (75 FR 70169), and solicited comments from all interested parties including the public, other governmental agencies, the scientific community, industry, and environmental groups. Specifically, we requested information regarding: (1) habitat within the range of the insular DPS that was present in the past, but may have been lost over time; (2) biological or other relevant data concerning any threats to the MHI insular false killer whale DPS; (3) the range, distribution, and abundance of the insular DPS; (4) current or planned activities within the range of the insular DPS and their possible impact on this DPS; (5) recent observations or sampling of the insular DPS; and (6) efforts being made to protect the MHI insular false killer whale DPS. The proposed rule also provides background information on the biology and ecology of the MHI insular false killer whale.

Since the publication of the proposed rule in November 2010, we have identified a previously unrecognized Northwestern Hawaiian Islands (NWHI) population of false killer whales and have received updated satellite tagging information and other new research papers on the MHI insular population. The new NWHI population has been identified as a separate stock for management purposes in the draft 2012 SAR (Carretta et al., 2012b). Because this new information could be relevant to the final determination of whether the MHI insular false killer whale qualifies as a DPS for listing under the ESA, on September 18, 2012, we published a Notice of Availability in the Federal Register (77 FR 57554) announcing the availability of this new information and the reopening of public comment for a 15-day period pertaining to the new information. We received comments from 15 commenters during this reopened period. Summaries of these comments are included below along with public comments received in response to the proposed rule.

Determination of Species Under the ESA

The ESA defines "species" to include subspecies or a DPS of any vertebrate species which interbreeds when mature (16 U.S.C. 1532(16)). The FWS and NMFS have adopted a joint policy describing what constitutes a DPS of a taxonomic species (61 FR 4722; February 7, 1996). The joint DPS policy identifies two criteria for making DPS determinations: (1) the population must be discrete in relation to the remainder of the taxon (species or subspecies) to which it belongs; and (2) the population must be significant to the remainder of the taxon to which it belongs.

A population segment of a vertebrate species may be considered discrete if it satisfies either one of the following conditions: (1) "it is markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors. Quantitative measures of genetic or morphological discontinuity may provide evidence of this separation"; or (2) "it is delimited by international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D)" of the ESA.

If a population segment is found to be discrete under one or both of the above conditions, its biological and ecological significance to the taxon to which it belongs is evaluated. Considerations under the significance criterion may include, but are not limited to: (1) "persistence of the discrete population segment in an ecological setting unusual or unique for the taxon; (2) evidence that the loss of the discrete population segment would result in a significant gap in the range of a taxon; (3) evidence that the discrete population segment represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside its historical range; and (4) evidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics" (61 FR 4725; February 7, 1996).

The ESA defines an "endangered species" as one that is in danger of extinction throughout all or a significant portion of its range, and a "threatened species" as one that is likely to become an endangered species in the foreseeable future throughout all or a significant portion of its range (16 U.S.C. 1532 (6) and (20)). The statute requires us to determine whether any species is endangered or threatened because of any of the following factors: (A) the present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence (16 U.S.C. 1533(a)(1)). We are to make this determination based solely on the best available scientific and commercial information after conducting a review of the status of the species and taking into account any efforts being made by states or foreign governments to protect the species.

Re-evaluation of DPS Determination

The ESA requires that we make listing determinations based solely on the best available scientific and commercial information (16 U.S.C. 1533(b)(1)(A)). Upon consideration of comments raised during the first and second public comment period, and upon review of the new NWHI stock information and the new research papers identified in the Federal Register notice reopening public comment on the proposed rule, and to ensure that the best available information was considered, we reconvened the BRT. As we did in the original status review, we asked them to use the criteria in the joint NMFS-U.S. Fish and Wildlife Service DPS policy (61 FR 4722; February 7, 1996), to evaluate whether, in light of this new information regarding the NWHI population, and other information, the proposed Hawaiian insular false killer whale DPS, as previously described, continues to meet the criteria of a DPS. The BRT defined a DPS finding as support for discreteness and significance by at least five of the eight Team members, and at least 50 percent of the plausibility points (see the status review report for formal methods used for the DPS assessment). The BRT updated and reevaluated the original findings with respect to the discreteness and significance criteria in light of the new information available since the 2010 status review.

Following an evaluation of all available information on MHI insular, NWHI, and pelagic false killer whales, the BRT found that the MHI insular population of false killer whales continues to meet the discreteness and significance criteria to be considered a DPS under the ESA. The BRT's determination of ESA discreteness and significance are summarized below. The complete decision analysis can be found in the Reevaluation of the DPS Designation for Hawaiian (now Main Hawaiian Islands) Insular False Killer Whales (Oleson et al., 2012). Please see our website (see FOR FURTHER INFORMATION CONTACT) to access this document.

The BRT found that MHI insular false killer whales continue to meet the discreteness criteria due to marked separation from other false killer whales based on behavioral and genetic factors. This finding is supported by evaluation of new information on individual association patterns, genetics, phylogeographic analysis, and telemetry data in addition to the original information detailed in the proposed rule. In particular, MHI insular false killer whales form a tight social network, with most identified individuals linked to all others through at least two distinct associations and with none of the identified individuals linking to animals outside of the nearshore areas of the MHI. These association data are strong and relate directly to the mating patterns and the resulting genetic patterns that have been observed. Further, phylogeographic analysis indicates that the MHI insular population is nearly isolated with little, if any, emigration of females between adjacent island-associated populations. Additionally, significant differences occur in mitochondrial (mtDNA) and nuclear DNA (nDNA) between the MHI insular population and the other populations, indicating there is little male-mediated gene flow. Finally, telemetry studies show all 27 satellite-tagged MHI insular false killer whales have remained within the MHI (Baird et al., 2012), and consist of three primary social clusters with different primary habitats.

Several BRT members noted that there is still uncertainty about false killer whale behavior and the association of the MHI insular and NWHI populations; however, the BRT concluded that the weight of the evidence continues to strongly support recognition of MHI insular false killer whales as behaviorally discrete from other false killer whales in the taxon (Oleson et al., 2012).

Unlike in the original DPS determination the BRT found only weak support for finding discreteness based on ecological factors. Although movement data continues to indicate that MHI insular false killer whales have adapted to a different ecological habitat than their pelagic conspecifics, BRT members were less persuaded that this ecological setting is unique under the DPS policy, given the existence of an island-associated population within the NWHI.

As for the significance criteria, the BRT again found support for the conclusion that MHI insular false killer whales are significant to the taxon to which they belong. Significance to the taxon was based primarily on marked genetic characteristic differences, although weaker support for existence in a unique ecological setting and maintenance of cultural diversity was also evident. Further, the BRT continued to find slightly stronger support for significance based on all three factors taken together (Oleson et al., 2012).

Based on new genetic samples from the MHI, the NWHI and nearby central North Pacific areas (Chivers et al., 2011; Martien et al., 2011), the BRT found stronger support that MHI insular false killer whales differ markedly from other populations of the species in their genetic characteristics. The magnitude of mitochondrial (mtDNA) differentiation is large enough to infer that time has been sufficient and gene flow low enough to allow adaptation to MHI insular habitat and that the area would not be readily repopulated by pelagic whales without such adaptation. MHI insular false killer whales exhibit strong phylogeographic patterns that are consistent with a founding event for island-associated false killer whales, followed by local evolution of a mitochondrial haplotype unique to the MHI insular population. Although NWHI false killer whales share one haplotype with MHI insular false killer whales, each population is also characterized by its own unique daughter haplotype. Occurrence of a unique daughter haplotype within a relatively small sample from the NWHI population is significant as nearly two-thirds of individuals in the MHI insular population have been sampled without any evidence of this haplotype in that population. The nDNA also continue to suggest strong differentiation of the MHI insular population, perhaps even stronger than in the initial evaluation because of new information on whales in the NWHI. A Bayesian analysis (using the software program STRUCTURE) using all sampled false killer whale populations (Chivers et al., 2011) indicated separation into two populations - the MHI insular population and all others, including the NWHI island-associated animals. The same STRUCTURE analysis indicates that male-mediated gene flow into the MHI insular population from false killer whales in other areas, including island-associated animals in the NWHI, is at a very low level (Oleson et al., 2012). The nDNA results suggest very low gene flow from other populations, such that individually sampled MHI insular false killer whales can be genetically assigned to the MHI insular population with high likelihood.

The BRT acknowledged that uncertainty remains in the genetic comparisons of the MHI insular population to other Pacific false killer whales. Although the MHI insular population is very well sampled with roughly two-thirds of the individuals represented, pelagic false killer whale genetics contain large sampling gaps to both the west and east of Hawaii, and uncertainty remains about the structure of the NWHI population. Low levels of male-mediated gene flow were identified based on genetic results. Despite these uncertainties, the available sample size from Hawaiian false killer whales (MHI, NWHI, and pelagic) is substantial and overall the Team felt that significant differences based on multiple measures were noteworthy and that it is unlikely that new samples will significantly alter the overall story toward more similarity between these groups. Therefore, the weight of the evidence available was in favor of marked differentiation in genetic characteristics between the discrete MHI insular false killer whale population and other populations of the species, thus making the MHI population significant to the taxon (Oleson et al., 2012).

In the 2010 status review, the BRT found reasonably strong support for significance based on persistence in a unique ecological setting and for significance of cultural uniqueness. Both of these factors still provide support for the significance determination; however, they are weaker than in the initial evaluation, primarily because of uncertainties raised with the existence of another island-associated population in the NWHI. Factors that support ecological significance include the influence of different oceanographic factors, such as leeward eddies and freshwater input, which result in localized higher productivity in the MHI but which do not occur in the NWHI. Habitat analyses indicate that clusters of false killer whales preferentially use the northern coast of Molokai and Maui, the north end of the Big Island, and a small region southwest of Lanai (Baird et al., 2012). This behavior suggests that whales may seek out areas where prey are concentrated by local oceanographic conditions. The MHI insular false killer whales appear to generally occur closer to land and in shallower water than the whales in the NWHI population, which may be related to differences in oceanographic conditions in the two locations. The BRT noted uncertainty with regard to the relationship between these seemingly unique MHI oceanographic processes and the ecology of a pelagic predator such as false killer whales. The BRT assigned plausibility points in favor of significance based on ecological setting, but noted the greater uncertainty about this factor than in the original DPS evaluation (Oleson et al., 2012).

The BRT still found that culture (knowledge passed through learning from one generation to the next) is likely to play an important role in the evolutionary potential of false killer whales because transmitted knowledge may help whales adapt to changes in local habitats. However, the finding was weaker than in the previous evaluation due to the lack of information on cultural differences between the MHI insular and NWHI populations. While some Team members noted that cultural transmission is a strong force in social odontocetes, playing a significant role in population structure and persistence, others thought that there was insufficient evidence of specific differences in cultural aspects of the MHI and NWHI populations. Uncertainty was represented within the BRT's evaluation of culture, though overall the Team did find weak support for cultural significance (Oleson et al., 2012).

The BRT discussed that while there is independent support for ecological and cultural factors for significance, they concluded that these factors taken alone do not provide strong support for significance of the DPS. However, the combination of ecological and cultural factors, taken together with the stronger genetic evidence, provided slightly greater support for significance of the DPS than the genetics alone by increasing the Team's confidence that the population is unique. As in the 2010 status review, the BRT separately evaluated the significance criteria based on all of the factors taken together and found that the particular combination of qualities makes this population unique; the MHI insular population has adapted to this particular environment in a way that likely has not and cannot occur with this species anywhere else in the world. The BRT emphasizes that, even without considering ecological and cultural factors, the significance factor is met because MHI insular false killer whales differ markedly from other populations of the species in their genetic characteristics (Oleson et al., 2012).

One BRT member dissented on both discreteness and significance. The dissenting opinion (documented in full in the Reevaluation of the DPS Designation (Oleson et al., 2012)) was that the recommendation for a DPS finding gave too much weight to genetic evidence, and that the genetic evidence was not sufficiently convincing due to substantial uncertainties in the data. In particular, the dissent noted that only four NWHI false killer whales had been genetically sampled, which could be an insufficient sample to establish whether the differences in genetics indicate a true separation of the NWHI population from the MHI insular population. The dissent also noted that there are also large sampling gaps in the pelagic population. The dissent noted that the mitochondrial DNA haplotypes found in the MHI insular population could be found elsewhere in the inadequately sampled areas. Further, inadequate sampling may also create bias in the data against detecting male-mediated gene flow, which could reduce the likelihood that the MHI insular population adapted to the local habitat.

Summary of Evaluation of DPS Determination

The ESA instructs us to rely on the best available science, even when that information is uncertain or incomplete. While we acknowledge the data gaps detailed in Oleson et al. (2012), we believe that the BRT has appropriately considered uncertainty in reaching the DPS finding. The data relied upon represents the best available information to NOAA in making this determination. Although the dissenting BRT member notes that the mitochondrial DNA haplotypes found in the MHI insular could be found elsewhere in other unsampled populations, we do not find that the mere possibility of such countervailing data is sufficient to overcome the DPS finding. We conclude that the evidence supporting discreteness and significance based on behavioral and genetic factors, marked genetic characteristic differences, existence in a unique ecological setting, and maintenance of cultural diversity, respectively, between MHI insular false killer whales and their conspecifics supports a DPS designation.

The BRT was not charged to reconsider its earlier extinction risk analysis (Oleson et al., 2010), and we have no reason to disturb that analysis.

The public may wish to visit our website (see FOR FURTHER INFORMATION CONTACT) for a copy of the Reevaluation of the DPS Designation for Hawaiian (now Main Hawaiian Islands) Insular False Killer Whales (Oleson et al., 2012). This reevaluation summarizes the new scientific information available since the completion of the status review report in 2010, provides an update on Hawaiian false killer whale taxonomy, biology, and ecology, and includes a DPS determination, evaluation, and scores.

Relevant Background Information Pertaining to the Marine Mammal Protection Act

Hawaiian insular false killer whales are marine mammals and thus protected under the MMPA. Some comments on the proposed rule reference issues related to the MMPA and our evaluation of conservation efforts considers a number of MMPA programs, so this section briefly provides relevant background information. More detailed information on the MMPA can be found on our website at http://www.nmfs.noaa.gov/pr.

The MMPA requires stock assessments for each marine mammal stock that occurs in U.S. waters. As of the publication of this final rule, the most recent stock assessment reports (SARs) are the final 2011 SAR and the draft 2012 SAR (Carretta et al., 2012a; 2012b). The final 2012 SAR is anticipated to be published in the Federal Register in the spring or summer of 2013.

The MMPA requires NMFS to develop and implement take reduction plans to assist in the recovery or prevent the depletion of strategic marine mammal stocks. Strategic stocks are those for which the level of direct human-caused mortality exceeds the potential biological removal (PBR) level, which is declining and is likely to be listed as a threatened species under the ESA within the foreseeable future, or which is listed as a threatened species or endangered species under the ESA. PBR is the maximum number of animals, not including natural deaths, that can be removed annually from a stock, while allowing that stock to reach or maintain its optimum sustainable population level. The immediate goal of a take reduction plan is to reduce, within six months of its implementation, the incidental mortality or serious injury (M&SI) of marine mammals from commercial fishing to levels less than the PBR level established for that stock. The long-term goal is to reduce, within five years of its implementation, the incidental M&SI of marine mammals from commercial fishing operations to insignificant levels approaching a zero M&SI rate (50 CFR 229.2 establishes a default insignificance value of 10 percent of the PBR for a stock of marine mammals). On July 18, 2011, NMFS published a proposed False Killer Whale Take Reduction Plan (proposed FKWTRP; 76 FR 42082) to reduce serious injuries and mortalities of false killer whales in the Hawaii-based deep-set and shallow-set longline fisheries. A final Take Reduction Plan and implementing regulations are expected shortly.

Summary of Comments Received in Response to the Proposed Rule

On November 17, 2010, we solicited public comments on the proposed listing of the MHI insular false killer whale DPS for a total of 90 days (75 FR 70169). A public hearing on the proposed rule was held on January 20, 2011, in Honolulu, Oahu, Hawaii. We received comments on the proposed rule from 53,408 commenters; over 53,000 of these submissions were substantially identical form letters. As previously mentioned, new information on a NWHI population became available before our MHI population final listing determination was made and on September 18, 2012, we solicited public comments on that new data (77 FR 57554). We received comments on the new information from 15 commenters. Public comments on the proposed rule and on the new information are available at: www.regulations.gov (search on ID NOAA-NMFS-2009-0272-0022). Summaries of the substantive comments received, and our responses, are provided below, organized by category.

In December 2004, the Office of Management and Budget (OMB) issued a Final Information Quality Bulletin for Peer Review establishing minimum peer review standards, a transparent process for public disclosure, and opportunities for public input. Similarly, a joint NMFS/FWS policy for peer review in ESA activities requires us to solicit independent expert review from at least three qualified specialists, concurrent with the public comment period (59 FR 34270; 1 July 1994). In accordance with these policies, we solicited technical review of the proposed rule from three qualified specialists. Comments were received from one of the independent experts and those substantive comments are addressed below.

Independent Peer Reviewer Comments

Comment 1: The discussion of threats, specifically pollutants, anthropogenic noise, disease from environmental contaminants, and climate change, is extremely speculative. These are threats faced by most cetacean populations and for most there is little or no direct evidence linking any of them to a cetacean population decline.

Response: We believe that because the threats referenced by the commenter are faced by all cetacean populations they must be acknowledged and evaluated in order to fully assess the risk of extinction for this population of MHI insular false killer whales. Moreover, there is ample evidence that pollutants, anthropogenic noise, and environmental contaminants represent a risk to cetacean populations. Cetaceans have been found stranded with plastic bags or other forms of plastic blocking their airways or in their stomach. Shipping noise and military sonar have been repeatedly shown to disrupt foraging and communication, as well as cause disorientation or death for a variety of species. Environmental contaminants have been shown to occur at very high levels in insular false killer whales and are known to cause immune system dysfunction in the closely related species, killer whales. Therefore, even though individually these factors may not be a significant threat to this population, we consider the cumulative impact of the threats to be a risk factor based on the best available information.

Comment 2: Mitochondrial DNA (mtDNA) differences between Hawaii pelagic and insular populations are quite high. However, the amount of nuclear differentiation presented in Chivers et al. (2010) is quite low. Furthermore, the nDNA analysis did not correct for multiple pairwise tests and when that is done, there is no significant differentiation between these two stocks. This suggests there may be quite a lot of male-mediated gene flow between these two stocks, reducing the support for the discreteness determination. Finally, while there is disagreement on the use of the Bonferroni technique for controlling for multiple pairwise comparisons, there is little disagreement on the need to apply some correction for multiple tests.

Response: We agree that the amount of nuclear differentiation presented in Chivers et al. (2010) is low. Moreover, whether F-st (Fixation index- a measure of population differentiation due to genetic structure) and its analogs actually measure genetic differentiation is currently being debated in the literature. However, the levels detected were reasonably within the range of what would be expected from the level of mtDNA genetic differentiation detected, when corrected for mutation rate. With respect to correcting for multiple pairwise tests, the application of a correction factor was not considered appropriate because pairwise comparisons of putative populations were considered independent and they effectively reduce the Type I error rate. The tradeoff of the latter is to increase Type II error rates, and thus the risk of erroneously interpreting test statistics. Furthermore, Chivers et al. (2011) conducted a Bayesian analysis (STRUCTURE) using all sampled false killer whale populations and the results indicated separation into two populations – the MHI insular population and all others, including the newly recognized NWHI island-associated animals. The same STRUCTURE analysis indicates that male-mediated gene flow into the MHI insular population from false killer whales in other areas, including island-associated animals in the NWHI, is at a very low level. The nDNA results suggest very low gene flow from other populations, such that individually sampled MHI insular false killer whales can be genetically assigned to the MHI insular population with high likelihood. Please refer to our responses to Comments 8 and 9 for further information.

Public Comments from the First Public Comment Period

Nearly all public comments received during the first public comment period on the proposed rule (75 FR 70169; November 17, 2010) were some form of a form letter or petition and were in favor of listing the MHI insular false killer whale DPS as an endangered species. With respect to the remaining public comments, which were substantive, we have responded to these through our general responses below. Substantive comments were received from seven groups: two research, conservation, and education groups; the Humane Society; the Marine Mammal Commission; the State of Hawaii; the Western Pacific Regional Fishery Management Council; and the Hawaii Longline Association.

In the proposed rule, we solicited information from the public to inform the designation of critical habitat in the event the DPS was listed. The comments received concerning critical habitat are not germane to this listing decision and will not be addressed in this final rule. They will instead be addressed during any subsequent rulemaking on critical habitat for the MHI insular false killer whale DPS.

Scientific and Legal Standards Pertaining to the Main Hawaiian Islands Insular False Killer Whale DPS

Comment 3: One commenter questioned the legal standards of the proposed rule, stating that applicable law requires NMFS, at a minimum, to provide its interpretation of the "endangered" definition; explain how its interpretation conforms to the text, structure, and legislative history of the ESA; explain how its interpretation is consistent with judicial interpretations of the ESA; explain how its interpretation serves policy objectives; and address whether its interpretation could undermine those policy objectives. The commenter stated that because the proposed rule fails to engage in this analysis, NMFS must reconsider the proposed rule and re-issue a new proposed rule or a not warranted finding.

Response: Section 4 of the ESA requires us to determine whether any species is an endangered species or a threatened species because of any of the ESA section 4(a)(1) listing factors. An "endangered species" is "any species which is in danger of extinction throughout all or a significant portion of its range." A "threatened species" is "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." In the proposed rule, we explained the present demographic risks establishing that the [MHI] insular false killer whale is "in danger of extinction" and therefore should be listed as "endangered."

We disagree that case decisions, including In re Polar Bear Endangered Species Act Listing and Section 4(d) Rule Litigation, 748 F. Supp. 2d 19 (D.D.C. 2010), indicate that the proposed rule was insufficient with respect to defining "endangered" and "threatened." The legislative history of the ESA indicates Congress left to the discretion of the Services (NMFS and the U.S. Fish and Wildlife Service; collectively "Services") the task of giving meaning to the terms through the process of case-specific analyses that necessarily depend on the Services' expertise to make the highly fact-specific decisions to list species as endangered or threatened. The polar bear decision confirmed this interpretation and specifically noted that the inherent ambiguity in the definition of "endangered species" affords the listing agency flexibility when adapting the policy to fit "infinitely variable conditions," based on its technical expertise in the area and on the specific facts of the case. Id. at 27 (quoting Lichter v. United States, 334 U.S. 742, 785 (1948)). Far from requiring an agency to set forth a particular definition, the court noted that the agency has broad discretion to determine species' status in light of the five statutory listing requirements of ESA section 4. Id. at 28.

Although Congress did not seek to make any single factor controlling when drawing the distinction, Congress included a "temporal element to the distinction between the categories." In Re Polar Bear Endangered Species Act Listing and Section 4(d) Rule Litigation, 794 F. Supp. 2d

65, 85 n.24, 89 & n.27 (D.D.C. 2011). Accordingly, in the context of the ESA, we interpret an "endangered species" to be one that is presently at risk of extinction. A "threatened species," on the other hand, is not currently at risk of extinction, but is likely to become so. In other words, a key statutory difference between a threatened and endangered species is the timing of when a species may be in danger of extinction, either now (endangered) or in the foreseeable future (threatened).

In this case, we applied a case-specific interpretation of "endangered" and utilized the best available data to analyze the ESA section 4 factors in light of the MHI insular false killer whale's particular circumstances. This approach conforms with the ESA's requirement for species-specific status reviews (16 U.S.C. 1533(b)(1)(A)). Whether a species is ultimately listed as an endangered species depends on the specific life history and ecology of the species, the nature of the threats, the species' response to those threats, and population numbers and trends.

In the proposed rule, we explained that the [MHI] insular false killer whale population is presently in danger of extinction due to a number of currently-existing ESA section 4 risk factors. For example, we noted that its small population size when compared to historical data indicates that the population has declined over the last two decades, and small populations are particularly susceptible to environmental threats and inbreeding depression. The population is genetically isolated from both the Hawaiian pelagic and the NWHI false killer whales, with little gene flow into the MHI insular population from other areas. The MHI insular false killer whale exhibits strong habitat specialization and social structure, rendering the population vulnerable to competition for resources and habitat in relatively shallow waters, and to loss of individual members with corresponding loss of knowledge transfer within the population. Competition with fisheries, interactions with fisheries, the impacts of reduced total prey biomass, and contaminants are also risk factors for the population and its habitat.

In light of the foregoing, we believe that MHI insular false killer whales have experienced a decline in numbers as a result of factors that have not been abated, that show no evidence of stabilization, and currently place the population in danger of extinction. Any event that reduces survival (e.g., disease outbreak, oil spill) can adversely affect the entire group because: the whales reproduce only every 6 or 7 years and become reproductively senescent in their mid-40s; the estimated effective population size is only about 50 breeding adults (Chivers et al., 2010; Martien et al., 2011); they are genetically isolated from the pelagic and the NWHI population; and because individual false killer whales are usually near their group and in close association with one another. Moreover, the DPS historically has faced or currently/in the future faces 29 potential threats, 15 of which are significant and 2 of which are most significant (including small population effects, and hooking, entanglement, and acts of prohibited take by fishers).

Finally, the BRT determined, and we agree, that the small population size and evidence of a decline in the species, combined with several factors that are likely to continue to have, or have the potential to adversely impact the population in the near future, describe a population that is at high risk of extinction. High risk of extinction was defined by the BRT as within 3 generations (75 years) or the maximum age, whichever is greater, that there is at least a 5 percent chance of the population falling below a level where recovery is not likely. Because false killer whales are highly social animals, this level was set at 20 animals, which is about the average group size.

The imminence of these threats is just one factor to be weighed in this process. Although we find a high risk of extinction where there is at least a 5 percent chance of the population falling below a level where recovery is not likely, in this case we found that most Population Viability Analysis (PVA) models exceeded the 5 percent chance of extinction in 75 years by a very wide margin, with most indicating a greater-than-90 percent chance of extinction within 3 generations (Oleson et al., 2010). This population level would result in functional extinction beyond the point where recovery is possible. Accordingly, we have determined that this DPS warrants listing as an endangered species under the ESA because it is currently in danger of becoming extinct within three generations.

Comment 4: One commenter questioned the use of the best available scientific and commercial data, stating that the proposed listing of the Hawaiian insular false killer whale is based, in large part, on "uncertain or inconclusive" information. The commenter noted that available information regarding stock structure, range, and abundance of Hawaiian insular false killer whales is significantly limited, contains substantial data gaps, and is low in confidence and high in uncertainty.

Response: Listing decisions under ESA section 4 are to be made utilizing the best scientific and commercial data available (16 U.S.C. 1533(b)(1)(A)). This standard ensures that the agency will not disregard available scientific evidence that is in some way better than the information it relies upon. However, scientific uncertainty is present in nearly every listing decision, and NMFS is not foreclosed from making a decision that is based on, in whole or in part, incomplete or imperfect scientific information.

NMFS acknowledges that while there are substantial data gaps for some aspects of MHI insular false killer whale ecology and abundance, the available data do allow a proper assessment of whether this population is a DPS. Uncertainty and alternative viewpoints are explicitly acknowledged by the BRT in the original DPS analysis and are described in Appendix A of the status review report, as well as in the Reevaluation of the DPS Designation for Hawaiian (now Main Hawaiian Islands) Insular False Killer Whales (Oleson et al., 2012). The best available data shows that the DPS is presently in danger of extinction because of meeting four of the five ESA section 4(a)(1)(b) factors, including significant demographic risks as explained in our Response to Comments 3 and 9. As such, we find that the DPS warrants listing as endangered.

Status of the Main Hawaiian Islands Insular False Killer Whale DPS

Comment 5: The State of Hawaii was concerned about the profound effects to state programs from listing the Hawaiian insular false killer whale DPS as an endangered species.

Response: We acknowledge that listing the Hawaiian insular false killer whale DPS as an endangered species could potentially affect State of Hawaii programs, and we would work with the State to minimize associated impacts.

We are working with the State of Hawaii through an ESA section 6 cooperative agreement and grant funding to prevent and document nearshore fishery interactions with Hawaiian monk seals and sea turtles. The State is evaluating fishery interactions in mainly shore-based hook-and-line gear and gillnets, and is characterizing these fisheries in terms of their effort, gear, target species, and likelihood of impacts to protected species. Through the cooperative agreement, the State is developing a pilot take reporting and monitoring system, and assessing current and future regulatory and non-regulatory alternatives for fishery take reduction and monitoring. The State, in coordination with the NMFS Pacific Island Regional Office and NMFS Pacific Islands Fisheries Science Center, also provides education and outreach to Hawaii’s fishermen on protected species, including communication with sport and commercial fishing organizations and clubs, as well as environmental groups. Through listing the MHI insular false killer whale under the ESA there is the potential to expand the scope of Hawaii's ESA section 6 cooperative agreement to include this species.

We will continue to work with the State of Hawaii and other partners to assess and address marine mammal interactions in state-managed fisheries.

Comment 6: One commenter asserted that as the science continues to develop, it is becoming more apparent that insular and pelagic false killer whales overlap and intermingle throughout a significant portion of their range. Thus, the best available evidence is too uncertain to designate the insular population as a DPS.

Response: NMFS disagrees that the data are too uncertain to designate the MHI insular population as a DPS. NMFS does acknowledge, however, that recent satellite-telemetry studies, and as stated in the draft 2012 SAR (Carretta et al., 2012b), the insular and pelagic populations of false killer whales do overlap in their geographic range from 40 km to 140 km off the Main Hawaiian Islands. Additionally, the draft 2012 SAR (Carretta et al., 2012b) identifies a new island-associated population of false killer whales that inhabits the NWHI, and photo-identification and satellite tagging results suggest that false killer whales from the NWHI population geographically overlap with MHI insular false killer whales near Kauai (Baird et al., 2012; Carretta et al., 2012b). Despite the geographic overlap, significant differences in the populations exist as described in the DPS reevaluation discussed above and in Oleson et al. (2012). Therefore, although insular and pelagic populations may geographically "intermingle" with one another (as well as with the NWHI population), the assertion that insular and pelagic false killer whales genetically "intermingle" is not supported (nor do they genetically "intermingle" with NWHI false killer whales), and this is further discussed in response to Comment 7 (below).

Comment 7: Similar to Comment 2 made by the peer reviewer, one public commenter asserted that nDNA purportedly supporting discreteness is not consistent with Chivers et al. (2010), stating that while the authors found that limited mtDNA samples provided some suggestion of discreteness, the nDNA data does not suggest discreteness.

Response: NMFS disagrees with the commenter's characterization of the Chivers et al. (2010) data. Chivers et al. (2010) (and also Chivers et al., 2011) does show strong differentiation in maternally-inherited mtDNA between the MHI insular and the other adjacent NWHI and pelagic populations. This indicates there is little, if any, emigration of females between these populations. Additionally, Chivers et al. (2011) found that there are significant differences in nDNA between the MHI insular and the other populations, indicating there is little male-mediated gene flow (either emigrating or mating), from any other population including island-associated NWHI animals. The MHI population is as different from the NWHI population as it is from the other more distant strata (supported by both F-st and Structure results). These data are consistent with the notion of two insular Hawaiian populations that now have little gene flow and that represent a mtDNA lineage that has been separated from all other false killer whale populations for a substantial period of time (Oleson et al., 2012).

Threats to the Main Hawaiian Islands Insular False Killer Whale DPS

Comment 8: One commenter included five recommendations for protecting Hawaiian insular false killer whales from fisheries interactions: 100 percent observer coverage in the Hawaii-based longline fisheries; the required use of circle or weak hooks; prohibiting longline fishing within the entire range of the Hawaiian insular population of false killer whales;

establishing a false killer whale sightings reporting system; and addressing potential impacts of inshore fisheries through the False Killer Whale Take Reduction Team (FKWTRT).

Response: This action concerns the listing decision for the MHI insular false killer whale under the ESA; the development of conservation and management measures for protecting the DPS from fisheries interactions is beyond the scope of this rulemaking. However, NMFS is finalizing a take reduction plan to reduce commercial fishery impacts on Hawaii's pelagic and MHI insular whales. The public may access a copy of the proposed plan and proposed implementing regulations from our website (see FOR FURTHER INFORMATION CONTACT). We will also prepare a recovery plan for the species after the species is listed.

Comment 9: One commenter felt that while it is difficult to address threats posed by reduced genetic diversity or the as yet unquantified impacts from climate change, the degree to which these threaten the DPS should be further studied.

Response: The ongoing and potentially changing nature of pervasive threats, in particular, effects from climate change, potential limits on prey availability, and reduced genetic diversity, certainly need to be further studied especially given uncertain future ocean conditions. These and other risks are unlikely to decline (and are likely to increase in the future). And while the population may not be naturally large compared to other cetaceans, the population has decreased, and thus the intensity of the threats is increased by the small number of animals currently in the population. The combination of factors responsible for past population declines are uncertain, may continue to persist, and could worsen before conservation actions are successful, which could potentially preclude a substantial population increase. In sum, we concur that all threats should continue to be further studied.

Comment 10: One commenter felt that a biased interpretation of prey abundance and competition based on fishery-dependent catch-per-unit-effort (CPUE) data resulted in exaggerated threats. The commenter felt that alternative explanations of changes in CPUE and prey size were not considered or analyzed by NMFS.

Response: This commenter's suggested alternative explanations of CPUE changes (e.g., altered handline targeting) are not supported by any existing analysis or publications, and are speculative. All information and interpretation of Hawaii pelagic fish abundance come from CPUE data and commercial fish catch size data. No independent analysis of biomass is possible, given the data currently available, except the more thorough stock-wide assessments that include Hawaii fish. Stock-wide assessments also use semi-independent tagging data, and evaluate alternative analyses of CPUE changes with various CPUE standardizations, all suggesting reduced population biomass. The level of risk is assigned based on credibility, with acknowledged high uncertainty. We therefore disagree that the interpretation of prey abundance and competition based on use of CPUE metrics is exaggerated.

Comment 11: Several commenters asserted that the proposed rule unjustifiably assigns the commercial longline fishery as having a higher risk to insular false killer whales, compared to the risk assigned to it in the status review report completed by the BRT. Another commenter stated there is an incorrect assessment of alleged interactions between commercial longline fisheries and insular false killer whales, stating there is no evidence showing that commercial longline fisheries have ever had an interaction with an insular animal, despite high rates of observer coverage; that there has been only one documented interaction with a false killer whale that occurred in or near the geographic range identified for the insular stock and that interaction was classified as non-serious; and that the interaction, for which no genetic sample was obtained, likely involved a pelagic animal since the best available science does not reasonably support the conclusion that the interaction involved an insular population animal. Finally, this commenter stated that NMFS' attribution of that interaction to the insular stock directly contradicts a statement (from what we assume is from the status review report, although the exact quote is not in the status review report) that "false killer whale bycatch or sightings by observers aboard fishing vessels cannot be attributed to the insular population when no identification photographs or genetic samples are obtained."

Response: NMFS disagrees that only one interaction has occurred and that it is outside the insular population boundary. In the shallow-set fishery between 2000 and 2011, there were no interactions with false killer whales or "blackfish" in the insular-pelagic overlap zone. However, in the deep-set longline fishery between 2000 and 2011 there were three observed interactions with false killer whales within the insular-pelagic stock overlap zone (two serious injuries in 2003, and one non-serious injury in 2006). There have also been three observed interactions within the overlap zone with unidentified "blackfish" (serious injuries in 2003 and 2006, and one in 2005 where injury severity could not be determined (McCracken, 2010a; 2010b; 2011; Forney, 2010; 2011; NMFS, unpublished data). Blackfish interactions are now prorated to species and counted in mortality and serious injury estimates for false killer whales and pilot whales in the draft 2012 SAR (Carretta et al., 2012b). Based on these data, the most recent estimate of total annual interactions with the MHI insular population between 2006 and 2010 is estimated at 0.50 animals per year (Carretta et al., 2012b).

It is correct, however, that no genetic samples are available from animals that have interacted with the fishery within the insular-pelagic population overlap zone. Genetic sampling provides a useful and reliable method for positively accounting for marine mammal interactions, but like identification photographs, the method is available for only a small fraction of bycaught individuals. Accordingly, the lack of genetic evidence raises uncertainty in the estimates of actual interaction rates; it does not suggest that interactions with the MHI insular stock are not occurring. The average annual rate of mortality and serious injury (M&SI) of insular false killer whales over the past 5 years of available data is 0.50 animals per year as of the draft 2012 SAR (based on data from 2006-2010, Carretta et al., 2012b). The M&SI estimates are based on proration of interactions to the stock within the overlap zone where both insular and pelagic stocks are known to exist, as well as proration of "blackfish" interactions to false killer whales and pilot whales. (Please refer to the response to Comment 8 for information on the distribution of the populations within the overlap zone, which discusses how the populations are not uniformly distributed within the overlap zone but show a gradient.) Proration is an accepted method for assigning mortality and serious injury to a species and stock (NMFS, 2005) and reflects the best information available to us on the rate of interaction between the MHI insular stock and the deep-set longline fishery.

The potential biological removal (PBR) level for the MHI insular population was recently revised to 0.30 whales per year in the draft 2012 SAR (Carretta et al., 2012b). The estimated rate of interaction from longline fisheries alone exceeds PBR, and this stock is considered "strategic" under the MMPA. Refer to responses to Comments 14 and 15 for more information on PBR.

Finally, the statement from the status review report is taken out of context. The correct quote follows from discussion of population attribution based on aerial surveys and states "… sightings of false killer whales by observers aboard fishing vessels cannot be attributed to the insular population when no identification photographs are obtained." The statement refers only to the inability to assess population range based on fishery observer sightings, not to appropriate methods for prorating bycatch, nor to the potential for bycatch from the MHI insular stock given its occurrence within the insular-pelagic overlap zone.

Comment 12: One commenter asserted that direct and indirect inferences of commercial longline fishery interactions with the insular population are not supported. According to the commenter, each of the following statements is speculative and lacks factual support: “a few interactions closer to the Main Hawaiian Islands may have involved insular animals”; “historically more frequent interactions may have occurred”; with reference to the longline exclusion zone, “decline of the insular DPS has still occurred”; and “the greatest threats to the insular population are small population effects and hooking, entanglement, or intentional harm by fishermen.”

Response: The statement “a few interactions closer to the Main Hawaiian Islands may have involved insular animals” is factually correct. Based on the objective application of criteria in the draft 2012 SAR (Carretta et al., 2012b), meaning specifically using the location of an interaction to prorate the probability of the interaction with an insular animal within the overlap zone, we conclude that interactions are occurring with MHI insular false killer whales within the insular-pelagic overlap zone based on the geographic range of the population. Refer to response to Comment 11 for more information on interactions between the deep-set longline fishery and insular animals.

As for the quote “historically more frequent interactions may have occurred,” the statement continues with “...when there was much greater overlap between insular false killer whales and longline fisheries.” Prior to the longlining exclusion zone it is likely that there were interactions between longline fisheries and insular false killer whales, given the considerable amount of fishing effort within the population's range. There are no data available to evaluate the level of interactions before 1992, but it is not unreasonable to infer that they may have occurred.

Regarding the statement that a "decline of the insular DPS has still occurred," based on false killer whale encounter rates from the aerial survey data in the 1990s and early 2000s, a downward trend in sightings does suggest a decline in the population, even after the longline exclusion zone was enacted in 1992.

With respect to the statement "the greatest threats to insulars are small population effects and hooking, entanglement, or intentional harm by fishermen," this is the finding of the BRT and we generally concur in the risk analysis, based on all available data and appropriate consideration of uncertainty in each factor. As discussed in the response to Comment 30, although we are aware of reports alleging intentional harm by shooting, a review of agency records does not substantiate these allegations. We do, however, have records documenting unauthorized takes by fishing crew in order to discourage marine mammals from depredating catch. For example, two observer reports document the intentional discharge of diesel oil into ocean waters, which is reasonably likely to result in take of protected marine mammal species including the MHI insular false killer whale.

Comment 13: One commenter stated that the draft FKWTRP submitted to NMFS by the FKWTRT in July 2010 includes the extension of the longline exclusion zone to essentially the full range of the insular stock. The commenter concluded that this measure effectively eliminates any risk that the deep and shallow-set longline fisheries may pose to the insular population and, therefore, the fisheries operating pursuant to this draft FKWTRP would not affect, or are not likely to adversely affect, insulars and, thus, the proposed rule directly contradicts this with no reasonable explanation.

Response: NMFS disagrees that the draft FKWTRP eliminates all risk that fisheries may pose to the insular population. It is correct that the FKWTRT noted in their consensus recommendations to NMFS (draft FKWTRP) that an extension of the existing longline exclusion zone (i.e., prohibiting longline fishing year-round in the area where it was previously closed only seasonally) would "effectively eliminate any risk the deep and shallow-set longline fisheries may pose to the insular stock of false killer whales." It is important to note, however, that this was the FKWTRT's statement and not necessarily the position of the Agency.

NMFS' FKWTRP proposed rule would include the extension of the boundaries of the year-round prohibited area for longline fishing (the "Main Hawaiian Islands Longline Fishing Prohibited Area"). The objective of the FKWTRP is to reduce impacts of commercial fisheries on strategic false killer whale stocks to below each stock's PBR within six months, and ultimately to negligible levels.

However, in the FKWTRP proposed rule, NMFS did not suggest that the risk to insular false killer whales from longline fishing would be eliminated. NMFS believes that not all risk to the MHI insular population has been eliminated because longlining would still be allowed within a portion of the insular-pelagic overlap zone, and because longline fishing is not the only risk factor impacting the population, as discussed further below.

As described in the response to Comment 8 above, since 1992, longline fishing has been excluded year-round from the entire core range of the MHI insular population and part of the extended range (i.e., the area of overlap between the MHI insular and Hawaiian pelagic populations), and further excluded seasonally (February-September) in a large portion of the insular population's extended range. The proposed revised boundary of the Main Hawaiian Islands Longline Fishing Prohibited Area (via the FKWTRP) would further restrict longlining year-round within a portion of the insular population's extended range where longline fishing previously had been allowed between October and January.

Additionally, the Southern Exclusion Zone (SEZ), if triggered by a specified number of observed Hawaii pelagic false killer whale mortalities or serious injuries in the Hawaii-based deep-set longline fishery, would close an area south of the Main Hawaiian Islands within the EEZ to deep-set longline fishing. The SEZ would include a small portion of the insular-pelagic overlap zone in which longline fishing is currently allowed. This closure would offer additional protections from hooking or entanglement in the deep-set longline fishery to any MHI insular false killer whales in the overlap zone when the SEZ is closed.

As discussed above in the response to Comment 4, other measures such as the proposed use of circle hooks with a wire diameter of less than or equal to 4.5 mm (0.177 in) in the deep-set longline fishery, if implemented, are expected to further mitigate this risk.

However, the proposed revision of the Main Hawaiian Islands longline fishing prohibited area boundaries would leave approximately 26 percent of the insular-pelagic overlap zone open to longline fishing, at the offshore edges of the overlap zone (53,992 km^2 or 15,742 nm^2). Even if the SEZ were also closed, 15 percent of the overlap zone would still remain open to longline fishing. Accordingly, even though the FKWTRP is intended to increase protections for MHI insular false killer whales from interactions with longline fishing, this regulatory measure would not eliminate all risks from commercial longline fishing.

Although the objectives of MMPA section 118 complement the conservation goals of the ESA, we do not believe that the protections afforded by the FKWTRP proposed rule would be sufficient to obviate the need for ESA listing. The FKWTRP proposed rule would not address all other identified threats to insulars, even from commercial fisheries. As discussed elsewhere, the MHI insular stock also faces risk by virtue of its low population numbers, inbreeding depression, genetic isolation, contaminants, and disease, among others. We therefore conclude that listing under the ESA is appropriate and necessary.

Comment 14: One commenter felt that with respect to longline commercial fishery interactions, the best available science and information does not support a conclusion other than commercial longline fisheries do not pose a threat to insular stock animals. The commenter asserts NMFS' conclusions and inferences are arbitrary, capricious, and inconsistent with the best available science.

Response: We disagree with both assertions in the commenter's statement. Commercial longline fisheries geographically overlap with a small portion of the range of the MHI insular population, thereby posing a risk. In addition, and as discussed in response to Comments 11, 12, 13, and 16, there are takes of MHI insular false killer whales in commercial longline fisheries, and they exceed PBR. As reflected in the 2011 SAR and in the draft 2012 SAR, the stock is considered to be strategic (Carretta et al., 2012a; 2012b). Moreover, as discussed in the status review report, reduced total prey biomass and reduced prey size also pose a risk to the insular population. Although declines in prey biomass were more dramatic in the past when the insular population may have been higher, the total prey abundance remains very low compared to the 1950s and 1960s as evidenced by CPUE data from Hawaii longline fisheries and biomass estimates from tuna stock assessments (Oleson et al., 2010). Long-term declines in prey size from the removal of large fish have been recorded from the earliest records to the future (Oleson et al., 2010). As such, it is not appropriate to conclude that commercial longline fisheries pose no threat to this population.

Comment 15: One commenter quoted the proposed rule, which states that "the longline prohibited area has also been effective by reducing interactions with the insular DPS since 1992, yet interactions have still been documented and the total population size of the insular DPS has declined since then." The commenter indicated that the statement was untrue because there had been no documented interactions since 1992, and that the statement implies that longline fisheries are somehow responsible for the supposed decline. The commenter felt that despite zero documented interactions, NMFS concludes that not only do longline fisheries interact with the insular population, but that they do so to a degree that has caused, and still causes, a decline in the population.

Response: As discussed in the status review report, the intense and increased fishing activity within the known range of MHI insular false killer whales since the 1970s suggests a significant risk of fisheries interactions, even though the extent of interactions with almost all of the fisheries is unquantified or unknown. The only fishery for which there are recent quantitative estimates of hooking and entanglement of false killer whales is the commercial longline fishery. We note that the pelagic stock of false killer whales has been documented to interact with observed longline fisheries at a rate well above its PBR. Although the longline fishery has been largely excluded from the known range of MHI insular false killer whales since the early 1990s, there remains a risk of interaction in the overlap zone (see Response to Comment 14). The deep-set longline fishery does interact with MHI insular false killer whales in the overlap zone, and these interactions have been prorated to MHI insular and pelagic stocks (see Response to Comment 11). Furthermore, evidence of dorsal fin scarring and disfigurements indicates that the MHI insular false killer whales remain at risk from fisheries. These injuries cannot be definitively attributed to one specific fishery, but the possibility that the injuries are from the longline fishery cannot be discounted. Given this information, we do not agree that no interactions have occurred since 1992. We also believe that because of this information, fishery interactions, including those in longline fisheries, have played a role in the decline of the MHI insular population.

Comment 16: One commenter cautioned that the role of prey reduction in the insular population's decline and potential recovery may have been underestimated. It was recommended to further investigate fishery-related reductions of the target fish stocks and the manner in which those reductions are realized on a spatial basis, and how those reductions coincide with or may affect the foraging of insular false killer whales.

Response: We agree with this recommendation and will look at ways to further investigate prey reduction and possible effects to false killer whales.

Comment 17: One commenter submitted a number of comments relating to prey competition. The commenter stated that NMFS asserts that competition for prey with fisheries is a threat, but fails to make a causal connection establishing that fisheries compete with the insular population for prey or that insular animals are nutritionally distressed or otherwise suffering from a supposed lack of prey. The commenter asserted that the best available information shows that prey competition, if any, between commercial longline fisheries and insulars poses no risk to insulars. The commenter stated that commercial longline fisheries fish almost exclusively outside the insulars' range and entirely outside of areas in which insulars have been satellite tracked; the proposed rule suggests competition for bigeye tuna is a threat to insulars yet no animal has been observed feeding on bigeye and this is consistent with data showing that bigeye are not abundant in nearshore areas inhabited by insulars; the status review report states that "stock assessments clearly outline a similar pattern of substantially declining biomass in the

1960s to 1970s" for bigeye and yellowfin tuna, however, this statement refers to the Western and Central Pacific tuna stocks generally and says nothing about abundance and presence of those species in the nearshore insular waters. In sum, the commenter felt that the link between prey reduction allegedly caused by longline fisheries and the insular population is not based on any scientific data or information and to suggest this as a medium risk is directly contrary to the best available science. Finally, the commenter felt that comments on prey competition submitted by the Western Pacific Regional Fishery Management Council (Council) in response to the 90-day finding do not appear to have been considered in the status review report or proposed rule.

Response: As discussed in greater detail in the status review report, it is clear based on observations of fish predation by insular false killer whales that fisheries and false killer whales do target many of the same fish species. Insular false killer whales have been observed feeding on yellowfin, albacore and skipjack tuna, scrawled file fish, broadbill swordfish, mahimahi, wahoo, lustrous pomfret, and threadfin jack (Baird, 2009). Many of these fish species are highly mobile, such that large-scale fisheries impact their populations, even if no commercial longlining is occurring within the majority of the MHI insular false killer whale population's range.

Although evidence of nutritional stress is difficult to obtain, the BRT notes that prey abundance and size have been dramatically reduced over the past five decades (Oleson et al., 2010). It is also important to note that the level of fish removal by fisheries reduces the biomass of fish to a point that insular false killer whales may need to search over a greater area or for a longer period of time to find enough food, thereby expending more energy to find enough prey to meet their daily dietary needs. These dietary needs have been described in greater detail in the status review report, but to summarize, this was calculated for MHI insulars and, though it depends on the whale population age structure used, approximately 2.9 to 3.9 million pounds of fish would be consumed annually by MHI insular false killer whales. For comparison, this quantity of fish is similar to the current annual retained catch in the commercial troll fishery, which targets species such as marlin, mahimahi, wahoo, and yellowfin and skipjack tuna, and three to four times greater than the annual catch in the Main Hawaiian Islands handline fishery, which targets yellowfin tuna (Oleson et al., 2010).

As for the prey reduction "allegedly" caused by longline fisheries, the role of longline fishing in reducing yellowfin and bigeye tuna population biomass throughout the range of the populations is well documented. The substantial reduction in the population biomass of these tuna, and other prey of the MHI insular population, poses a medium risk. The lack of precision in estimates is acknowledged by the BRT and we concur. Current exclusion of the longline fishery from the majority of the MHI insular population's range does not mean that localized reductions by the longline fishery, continued fishing of highly mobile pelagic prey by commercial fisheries, or continued local reductions by nearshore fisheries would not be impacting MHI insular false killer whales.

Zimmerman (1983) reports the loss of bigeye tuna from nearshore troll and longline fisherman by a false killer whale. Although there are no photographic or genetic records from the animal with which to determine whether it is from the MHI insular or pelagic population, the report of this loss of fish occurred in Hawaiian nearshore waters, suggesting a MHI insular animal. That a false killer whale depredated bigeye from longlines indicates that bigeye is part of the diet, and therefore longline catch would be in competition with the whale for this resource. The relative proportion of MHI insular false killer whale diet that is composed of bigeye tuna is unknown.

As for the status review report, the reference to the stock assessments' "similar pattern" is in relation to the documented similarity of the decline in the CPUE data for local Hawaiian fisheries since the 1950s. The simplest explanation of long-term yellowfin and bigeye tuna CPUE declines, both local and stock-wide, is declining biomass. Other possible partial explanations for declining CPUE have been evaluated in the stock-wide assessments, which conclude that the CPUE trends do reflect substantial biomass declines. The cited assessments include Hawaii in their geographic extent, and the Hawaii longline CPUE data in their analysis. For highly mobile tuna populations, changes in the stock-wide biomass are reflected in local biomass. There are no separate tuna populations in insular Hawaiian waters.

Finally, the comments received in response to the 90-day finding from the Council were considered but were found to be inaccurate, as they did not account for a complete assessment of historical fisheries information. The Council did, however, reiterate these concerns in their comments on the proposed rule, and those comments are addressed individually throughout this document.

<u>Comment 18</u>: The State of Hawaii noted that the kaka line and shortline fisheries are assessed as high risk, although the characterization of both are further qualified and ranked as a "distant third and fourth." The State also hoped that in the formulation of requirements, that these fisheries not be lumped with the troll fishery, which has significantly more potential for interaction based on numbers of fishers and the frequency of fishing. Finally, the State of Hawaii noted that the shortline fishery is listed as a Category II fishery in NOAA's 2011 List of Fisheries (LOF), and the kaka line is categorized as a Category III fishery. The State was concerned that the proposed listing does not rely upon this fishery listing assessment to determine the level of risk that has been characterized for the stock.

Response: The above quote was misinterpreted by the commenter. The sentence refers to the amount of effort in the fisheries and not risk from the fisheries. More specifically, the quote refers to how the troll fishery has by far the greatest participation and effort in fishing days of any fishery within the known range of MHI insular false killer whales, followed by the handline fishery, with the kaka line and shortline fisheries having the third and fourth greatest amount of effort. Collectively, they all are rated as a high overall threat level.

With respect to the formulation of fishing requirements, any potential future requirements would be addressed through separate MMPA, or ESA processes.

Finally, as for relying on the NMFS 2011 LOF listing assessment to determine the level of risk that has been characterized for the Category II shortline fishery ("occasional" incidental mortality and serious injury), and the Category III kaka line fishery ("remote" incidental mortality and serious injury), the BRT did consider the category listing of both. However, the BRT decided to collectively include all nearshore commercial and recreational fisheries, including troll, handline, shortline, and kaka line, under a single threat of interactions with these fisheries as it relates to the limiting factor of hooking, entanglement, or acts of prohibited take. This decision was based on the fact that some recreational fisheries in Hawaii target the same species as commercial fisheries (e.g., tuna, billfish) and use the same or similar gear, and might also be expected to experience interactions with false killer whales. However, it is possible that some of the stationary gears such as kaka line and short longline are a much greater risk to false killer whales than the troll fishery, as interaction is not necessarily a matter of magnitude of effort or hours on the water or number of hooks. The nature of the fishery operation puts it in different categories of likely interactions. We therefore concur with the approach used by the BRT.

The Range, Distribution, and Abundance of the Main Hawaiian Islands Insular False Killer Whale DPS

Comment 19: One commenter provided information that an additional 367 identifications (i.e., including re-sightings) of false killer whales from 19 different encounters around the Main Hawaiian Islands are now available. All of these encounters were of individuals from the MHI insular population, and the high re-sighting rate and lack of matches to the pelagic population provides further support that this is a small, socially-isolated population. In addition, the commenter stated that new data from 2009 and 2010 satellite tags further demonstrate that this is an exclusively island-associated population. Further analysis of data will help provide an assessment of critical habitat. Another commenter provided sighting data from within Maui County waters and stated that gathering and sharing data about Hawaiian false killer whales is an increasing priority.

Response: We appreciate this new information and agree that collecting and sharing data is vital so that the status of the species can be reevaluated on a regular basis. The BRT has reviewed the satellite-tagging and photo-identification data, and we concur that the information supports the DPS determination.

Comment 20: One commenter provided a number of general comments on the historical abundance of insulars. Specifically, the commenter stated that there was a lack of critical evaluation of the historical abundance, particularly the 1989 aerial survey, resulting in an inflated estimate of abundance prior to 1989, thus resulting in almost all model projections leading to extinction. The commenter also felt that the results of the PVA models would be less pessimistic had the BRT provided more realistic estimates of historical abundance and had critically reviewed the aerial survey results from 1989 and 1993 to 1997.

Response: The BRT chose current false killer whale densities at Palmyra Atoll as a potential indicator of historical abundance because the oceanographic productivity there is thought to be similar to that found in the nearshore environment of the MHI. The trend in the PVA is derived using both the estimates of historical abundance, as well as the decline in encounter rates during the aerial surveys in the 1990s and early 2000s. A number of PVAs were run that considered lower historical abundance and greater uncertainty in historical abundance, with all models leading to relatively high extinction probabilities within 75 years, which is equivalent to 3 generations.

With respect to the 1989 survey, Sensitivity trial 3, detailed in Appendix 2 of the status review report, ignored the 1989 aerial survey estimate or any other derivation of historical abundance, specifying a large distribution for historical abundance. This trial indicated a 100 percent certainty of functional extinction within 75 years, higher than the probability estimated from the base model. This demonstrates a high probability of extinction even when this aerial survey data is not included in the analysis. Overall, however, the extinction risk conclusions are based upon the entirety of the evidence, not the outcome of a single PVA trial or population estimate.

Comment 21: One commenter provided a number of comments pertaining to the inadequate justification for the use of Palmyra Atoll density, which was extrapolated out to the 202,000 km^2 area within 140 km of the MHI to ascertain a plausible historical abundance of insulars. Comments included that Palmyra Atoll was used solely on the basis that it is the highest reported density of the species; Palmyra Atoll is situated in more productive equatorial waters than the sub-tropical Hawaii, but no comparison of availability and abundance of prey species around Palmyra Atoll is made with those around Hawaii; the density of Palmyra Atoll is applied uniformly to the 202,000 km^2 areas within 140 km of the MHI, even though a core range within 40 km of the MHI is acknowledged, thus resulting in an extremely inflated estimated historical abundance; it is likely that Palmyra Atoll historically has had higher densities of false killer whales than in the MHI and thus Palmyra Atoll density is likely not the appropriate density to use in estimating historical abundance; if the insular population is so distinct then a comparison to other populations cannot be made; and finally, NMFS suggests the Palmyra Atoll estimate is conservative because known longlining occurs and false killer whales are known to become seriously injured or die as a result, and in reaching this erroneous conclusion, NMFS fails to disclose that there was only one observed serious injury from 2004 to 2008 and that the estimated mortality and serious injury rate is 0.3 which is far below the Palmyra population PBR of 6.4.

Response: In addition to the response provided in Comment 20 about why the BRT chose current false killer whale densities at Palmyra Atoll as a potential indicator of historical abundance, there is some information available on tuna abundance near Palmyra, which suggests similar species composition (mix of bigeye tuna and yellowfin tuna) as around Hawaii (Howell and Kobayashi, 2006). Additionally, while it is true that equatorial productivity can be quite high, the latitude of Palmyra places it marginally northward of that primary feature of equatorial productivity.

As for the density of Palmyra Atoll applied uniformly within the 140 km of the MHI, despite there being a core range within 40 km, the current boundary of the MHI insular false killer whale population is 140 km from the MHI. And while the existence of gradients or hotpots in overall density of MHI insular animals within that boundary have not been identified, it would be inappropriate to discount potentially large numbers of animals that could reside in the overlap zone between 40 and 140 km from shore.

As for genetic similarities or differences and its relevance to comparing populations, Palmyra Atoll whales are genetically distinct from Hawaii pelagic and MHI insular whales. However, there is no evidence that the genetic differences at Palmyra affect density. Since the data from Palmyra is otherwise the best available comparison for inferring historical density, we have used it in our assessment of extinction risk.

The BRT acknowledged that the historical abundance of MHI insular false killer whales is unknown. The MHI insular population density is among the highest in the tropical Pacific for this species, such that it is inappropriate to use the density from any other lower density region as a proxy for historical abundance. Although the EEZ surrounding Palmyra Atoll is more productive than the Hawaiian EEZ, higher productivity near the MHI could support similar densities of fish and false killer whales as a similar area in the Palmyra EEZ. Overall, information from the Palmyra Atoll stock provides a proxy for what the historical population density may have been within the MHI insular stock. Even if population density information from Palmyra is ignored, it is clear that the MHI insular stock has declined. Sensitivity trials 2 and 3 of the PVA assess the extinction risk for alternative plausible scenarios that do not rely on the density estimate from Palmyra Atoll.

As for PBR at Palmyra Atoll, the 2004 and 2005 false killer whale SARs indicate that historic interaction rates at Palmyra Atoll used to be as much as an order of magnitude higher than they are now. Therefore, the Palmyra Atoll density estimate was already impacted by fisheries and thus is lower than its pristine estimate, making the current density estimate in fact conservative. Moreover, serious injury and mortality rates at Palmyra Atoll were not the subject of the status review report; however, review of historical take information for Palmyra indicates that four false killer whales have been observed to be seriously injured or killed there since 2001 (one in 2001, two in 2002, and one in 2007 (Forney, 2010)).

Comment 22: One commenter provided a number of comments questioning the large groups of false killer whales observed in the 1989 aerial surveys. The commenter cautioned against the use of these results for the following reasons: inability to confirm the species of sighted animals due to lost photographic records; lack of genetic or other evidence to conclude that the documented large groups of false killer whales were associated with the insular population; and lack of replicated results supporting the existence of large groups of false killer whales in 1989. The commenter also noted that, while it is acknowledged that there could have been a short-term influx of pelagic animals, it is not acknowledged or considered that they could have been other species, such as melon-headed whales, and that without photographic evidence, the claim is anecdotal.

Response: Although photographic records are not available to confirm the species identification for the large groups observed in 1989, the experience of the two observers during that survey is unparalleled, with one of the two observers, Dr. Stephen Leatherwood, writing the guidebook on field identification of blackfish (false killer whales, melon-headed whales, pygmy killer whales, and pilot whales) (note that "blackfish" here is different from "blackfish" taken in the Hawaii-based longline fisheries, which refers only to false killer whales and short-finned pilot whales). The BRT discussed the species identification and felt there was little reason to question the judgment of the two observers during the aerial survey given their high level of expertise. We agree.

The BRT acknowledged the possibility that the large groups observed in 1989 might have represented an influx of animals from the pelagic population. This uncertainty is represented in the BRT plausibility scores for the parameterization of the PVA, as seen in the Appendix to the status review report. No other surveys for false killer whales were conducted in the 1980s until Mobley began flying aerial surveys in 1993. Observers noted three large groups during the 1989 survey on three different days, confirming that, at least within the short period of the 1989 survey, large groups of false killer whales did occur close to the MHI.

Comment 23: In addition to the comments above (in Comments 20 and 22) about the 1989 aerial survey, a number of other comments pertained to this topic. One commenter believed the point-estimate from 1989 to be unrealistic when considering the population estimate of 121 based on the 1993 to 1997 aerial surveys. The commenter asserted that the abundance estimate of 121 appears to be simply ignored, and when it is considered, a dramatic decline of nearly 600 animals in the 4-year period from 1989 (based on the point-estimate of 769), suggests a large-scale mortality event in a very short time, for which no concrete evidence is provided. The commenter went on to state that, assuming that interaction rates have not changed over time, a simple extrapolation suggests that the estimated number of insular and pelagic false killer whales taken by longline fisheries in the U.S. EEZ around the MHI during the 4-year period from 1989 to 1993 would be no greater than 31.6 animals, which is substantially less than nearly 600 animals that supposedly disappeared. Therefore, other than questionable estimates of historical abundance, no other scientific evidence of a decline has been provided.

Response: We believe the 1993 to 1997 abundance estimate provided in Mobley (2000) is too low and presents a higher level of precision than is appropriate given the survey constraints. In other words, the Mobley (2000) abundance estimate of 121 individuals is thought to be negatively biased, meaning the abundance estimate is lower than actual abundance, because observers were not able to detect groups below the plane and no adjustment was made for this in the calculation of abundance from those surveys, as is suggested in Buckland et al. (2001) "Introduction to Distance Sampling." The 1993 to 1997 estimates also carry high uncertainty due to the unsurveyed 400 m wide strip underneath the plane. The 1993 to 1997 aerial surveys may also be negatively biased due to the small average group size reported, suggesting that the aerial observers did not see the entire group. More recent analyses by Baird et al. (2008) have indicated that group size is positively related to encounter duration and that boat-based encounters of less than two hours duration generally yield an underestimate of total group size. When circling small groups in an airplane, sub-groups on the periphery of the circled group can easily be missed, especially when observers are focused on obtaining group size estimates from the group being circled. For these reasons, the BRT felt that the 1993 to 1997 estimate of 121 animals was unreliable and chose, instead, to use the encounter rate from each individual aerial survey in its assessment of population trend and extinction risk.

Finally, it is inappropriate to assume that take rates in the late 1980s and early 1990s should be the same as the current take rate. Longline fishing was allowed within the MHI insular population range until 1992. The emplacement of the longline exclusion zone eliminated the possibility of interactions over a very broad swath of the MHI insular population's range, likely significantly reducing bycatch of that population. Further, take rates of pelagic animals have exceeded the plausible reproductive rate (Oleson et al. (2010) calculated a rough inter-birth interval, or length between two live births, for false killer whales at 8.8 years) since bycatch monitoring began, suggesting the abundance of both populations has likely declined over time and therefore the rate of interactions may have also significantly declined relative to fishing effort. There is no data with which to evaluate historical levels of false killer whale take, or whether other causes of mortality such as a disease outbreak may have impacted the population in the late 1980s or early 1990s.

Comment 24: Two commenters stated that they understood that individuals associated with the 1989 surveys have suggested that the sightings in question involved melon-headed whales, not false killer whales, and therefore there is reasonable disagreement among those involved as to the species identification. In addition, with respect to Mobley's 2000 to 2004 surveys which had no false killer whale sightings compared to Baird's early 2000 surveys, which showed 160 insulars, there is no way to reconcile the difference. For example, perhaps the conditions or false killer whale spatial distribution at the time of the Mobley surveys in the early 2000s differed from those when his surveys were conducted in the 1990s.

Response: We have consulted with Dr. Randall Reeves, the one surviving scientist involved, who confirmed that the individuals identified in the comment were not directly or indirectly involved in the surveys, and confirmed that the animals sighted were more likely false killer whales than melon-headed whales.

As for the lack of reconciliation between Baird's abundance estimate for the 2000 to 2004 period and the absence of sightings by Mobley in the 2000 and 2003 surveys, the data are not incompatible. False killer whales occur in large social groups, which contribute to the sampling error of estimating relative abundance from aerial and boat surveys. Given the relatively low size of the population, this means that at any given time the population may only occur in a few groups. The numbers of groups detected on the five Mobley aerial surveys were 9, 8, 1, 0, and 0. Given that the expectation of the number of encounters is quite low on the aerial survey, it is foreseeable that some surveys would detect no groups when the relative abundance was low, even if alternative methods (photo-identification from small boats) had documented that abundance was greater than zero. In conclusion, the observation of zero groups from the aerial survey is not incompatible with a low population size, but is, in fact, to be expected.

Comment 25: A few commenters cited the draft 2010 SAR estimate abundance at 123 animals, while Baird et al. (2009) estimated abundance at 151, or 170 including Kauai. Taken together, these two estimates hardly suggest any decline over the last decade or associated risk of extinction. In fact, if the 1993 to1997 aerial survey estimate is considered, the insular population has remained stable for the last 18 years despite its small population size and threats.

Response: As discussed in the status review report, the estimate of 123 insular animals by Baird (2005) is considered an underestimate because of the type of mark-recapture model used, and due to limited information on animal movement. Recent reanalysis of photographic identifications back to 2000, not available for the draft 2010 SAR, but included in the status review report, suggest that the best estimate of 2000 to 2004 abundance is 162. This is best compared with the "without Kauai" estimate for 2006 to 2009, as the previous period did not include any individuals from Kauai. The animals around Kauai have now been linked to the newly recognized NWHI population, and not to the MHI population. As stated in the status review report (Oleson et al., 2010), in Baird et al. (2012), and in the draft 2012 SAR (Carretta et al., 2012b), the most recent and best estimate without Kauai is 151 animals, suggesting that the decline continues, even if at a lower rate than prior to 2000. The 2000 to 2004 and 2006 to 2009 estimates by Baird are thought to be overestimates of population size because they do not account for known missed matches of individuals within the photographic catalog. Some iterations of the PVA did include a change in the growth rate based on the possibility that the population may have stabilized in the most recent decade. However, even these models indicated functional extinction probabilities of 35 percent or greater for most models.

With respect to the 1993 to1997 aerial survey estimate, the BRT felt that this estimate is negatively biased and unreliable and therefore chose not to use the estimate during its assessment of historical population size or trend. Encounter rates from the 1993 to 1997 aerial surveys are used instead of the abundance estimates, and these encounter rates decline from the first survey in 1993 to the last survey in 2002 (see Response to Comment 29).

Comment 26: One commenter noted that in November 2009, NMFS presented line-transect survey data which estimated the population size at 635, most of which was attributable to believed insular population sightings. However, NMFS now discounts this estimate due to the "likely" attraction of false killer whales to the survey vessel. The commenter contends that NMFS has not provided a public document that meaningfully describes or analyzes the 2009 survey data or the factors that resulted in the conclusions regarding "likely" vessel attraction.

Response: As stated in the status review report, and the notes from the 2009 Pacific Scientific Review Group meeting, the preliminary estimate of abundance from the 2009 survey is biased upward for two reasons: (1) the available data suggest significant vessel attraction, which has been shown for other species to result in overestimation of abundance by as much as 400 percent, and (2) because some of the sightings occurred in the insular-pelagic overlap zone and photographs or genetic samples are not available to assign these whales to a particular stock, the preliminary estimate includes animals from both populations. Vessel attraction can be inferred based on the observed behavior of the whales around the vessel (approaching the vessel from behind and remaining at close range next to the hydrophone array prior to moving ahead of the vessel and being detectable by the visual team) and the shape of the detection function from the line-transect analysis. This indicates significantly higher detection probabilities at very close range and at high sighting angles, supporting behavioral observations and indicating that this pattern is apparent on a broader scale than the single February 2009 survey. NMFS is analyzing the evidence for and potential magnitude of vessel attraction for false killer whales and expects to incorporate this information into stock assessments in the future.

Comment 27: With further respect to population size, one commenter argues that there are errors in the 1989 and Mobley data, stating that the conclusions of Reeves et al. (2009) and the inferences that NMFS draws from the paper are based on significant uncertainty and unsupported assumptions. Errors include: no data regarding false killer whale abundance or distribution prior to 1989 or during other months that year; no data linking the 1989 observations to sighting data in mid-1990s or in 2000 to 2004; no subsequent surveys or techniques employed to analyze the 1989 data; and no evidence that animals sighted in 1989 were from the insular population. The fact that these large groups were never sighted again supports a conclusion that they were not insulars.

Response: The commenter is correct that there is no information on abundance prior to 1989, since there is no individual photographic evidence linking the large group in 1989 to the insular population. However, as described above in the response to Comment 22, although a large group of 470 individuals has not been documented since 1989, it is incorrect to assume that none of these animals have been seen since, nor that this large group always remains together. Analysis of false killer whale social structure by Baird (2010) indicates that false killer whales occupy large social networks and may be seen with a variety of different individuals upon each encounter. The location of the 1989 sighting is well within the MHI insular population's 40 km core range, where no pelagic population animals have been observed, suggesting that the group was insular. However, the BRT acknowledged in its review of the data that this group could be from the pelagic population, and this was assessed as part of the plausibility analysis conducted to formulate the PVA. It is not clear how later surveys could be used to analyze the 1989 data.

Comment 28: One commenter proclaimed that NMFS is hesitant to conclude that animals observed near Kauai are members of the insular population. This same rationale is relevant to the 1989 sightings.

Response: The statement that we were hesitant to conclude that animals observed near Kauai were members of the insular population is true and the BRT acknowledged that the large groups seen in 1989 may be animals from the pelagic population, as might some of the Mobley sightings. These uncertainties were all taken into account when developing the PVA analyses and evaluating historical abundance and trend (see above). However, the combination of the photo-identification, movements (Baird et al., in press), and genetics data since the 2010 status review now indicate that those individuals are part of a NWHI population (Oleson et al., 2012) and not part of the MHI population. The range of this population overlaps partially with the MHI insular population, as satellite-tagged individuals from that population have been documented off the western side of Kauai and Niihau (Baird et al., 2012). Three populations of false killer whales are now recognized within Hawaiian waters: the Hawaii pelagic population, the MHI insular population, and the new NWHI population (Carretta et al., 2012). Of note now is that the base-case for the PVA analysis used recent mark-recapture abundance estimates including animals seen near Kauai, or 170 animals. Since those animals near Kauai have now been linked to the NWHI population, the best estimate for the MHI insular population is now 151.

As discussed further in the response to Comment 36, the 2010 status review did consider alternative PVA parameterizations, which assumed the lower abundance number of 151. Although those results were not heavily relied upon in the final evaluation by the BRT on extinction risk, some of the examples can be found in Appendix B of Oleson et al. (2010). The example runs using the lower abundance estimate of 151 do indicate slightly higher risk of extinction across the 50, 75, and 125-year time spans used in the PVA.

Comment 29: One commenter felt that NMFS' findings were inconsistent and are not explained. For example, "historical population size of insulars is unknown" therefore it is unknown whether the population has increased or decreased from historical levels because there is no historical abundance from which any increase or decrease can be inferred. In addition, the commenter points out that NMFS also recognizes that the limited available data merely "suggests" a decline, as opposed to shows or demonstrates. The commenter suggests it becomes clear in the proposed rule that NMFS works from the assumptions that a decline has in fact been established and the proposed rule is based on this assumption, which is inconsistent with Reeves et al. (2009). Finally, the multiple statements that the population has declined are inconsistent with Reeves et al. (2009), which never stated that a decline had in fact occurred. Rather the authors spoke of a "possible" decline that "may have occurred."

The commenter goes on to say that the proposed rule relies upon Mobley et al. (2000) and Mobley (2004) for the proposition that the insular population has experienced a decline in abundance because 5 data points over a 10-year period indicate a decline in sighting rates. However, no analysis from Mobley was provided on the sighting rates. Moreover, it is scientifically tenuous to assume a decline based on different methods, times, personnel, and goals. The 2009 SAR states "a recent study (Reeves et al., 2009) summarized information on false killer whale sightings based on various survey methods and suggested insulars may have declined in the last two decades. However, because of differences in survey methods, no quantitative analysis of the sighting data and population trends has been made." NMFS' findings and conclusions in the proposed rule are thus inconsistent with express findings made by NMFS as recently as October 2009.

Response: Although absolute historical abundance is unknown, this does not mean that no information is available with which to assess trends in abundance. Information on plausible historical density based on the current density at Palmyra Atoll is available. Declining encounter rates from the 1993 to 2002 aerial surveys suggest a decline in the population, rather than weather or other factors related to the survey platform, as encounter rates of other species with similar sighting characteristics increased or remained stable over the same period. There are no significant changes in survey methodology, personnel, or season that would preclude analysis of the Mobley aerial survey data in this way.

Reeves et al. (2009) did not attempt to reconcile differences in survey platforms to derive quantitative estimates of population trend. However, this does not mean that the seemingly disparate datasets cannot be used in a quantitative way to assess trend. Although NMFS has discounted the actual abundance estimates derived by Mobley as unreliable, the encounter rate information is still usable and can be combined with boat-based survey data by careful evaluation of the construction of the PVA, as outlined in Appendix 2 of the status review report.

The fact that Mobley himself did not analyze sighting rates is irrelevant to whether or not the sighting rates have in fact declined. Further, as of the final 2010 SAR (Carretta et al., 2011), it is true that no analysis of sighting rates or population trends had been conducted by NMFS. However, this analysis was conducted for the status review report, and the report's findings were incorporated into the final 2011 SAR and draft 2012 SAR (Carretta et al., 2012a; 2012b). The status review report summarizes the more recent analysis by Baird (2009), and treats all of the aerial survey and mark-recapture data in a quantitative framework that appropriately accounts for differences in survey methodology between the 1989 aerial survey, the Mobley aerial surveys, and Baird's mark-recapture estimates.

Comment 30: Two commenters questioned the use of a small number of unsubstantiated eyewitness reports used to support the high risk rating of interactions with non-longline commercial fisheries. In addition, the frequency of interactions with non-longline commercial fisheries is unknown. The conclusion that such activities pose a high risk to insulars is speculative at best and irrelevant to NMFS' consideration of the best available science. Finally, one commenter felt that NMFS does not have adequate scientific or commercial evidence to assign a high risk to non-longline commercial fisheries.

Response: The BRT separately evaluated severity, geographic scope, and certainty surrounding each identified threat to insular false killer whales. With respect to non-longline commercial fisheries, such as shortline and kaka-line, these fisheries use similar gear, but with a mainline length of less than 1 nmi, and target similar species to longline gear. These fisheries are also allowed to fish in nearshore waters. Based on the similarity of these fisheries to longline fisheries, and considering that the longline fisheries have a high mortality rate on false killer whales, in conjunction with anecdotal reports of interactions with cetaceans off the north side of Maui (although the species and extent of interactions are unknown (74 FR 58879, November 2009)), it is likely that interactions of these fisheries with false killer whales occur. Therefore, the BRT determined, and we agree, that a high risk rating based on interactions with non-longline commercial fisheries is valid.

The BRT also found, and we agree, that although there is no observer or monitoring program with which to quantitatively evaluate the incidence of hooking, entanglement, or acts of prohibited take of false killer whales caused by nearshore commercial fisheries, the eyewitness reports available do indicate that interactions are occurring. Evidence of dorsal fin scarring is consistent with line injuries (see response to Comment 15). Any level of interaction would yield a high cost to the population given its small size, and could occur throughout the range of the insular population. The BRT acknowledged that while the level of certainty surrounding the rate of occurrence is low, they were confident that a known threat of high severity and geographic scope could have a large impact on the population.

NOAA observer reports have documented two instances when fishing crews have discharged diesel fuel into the water around fishing lines in order to discourage damage to catch by marine mammals. These actions constitute take under the MMPA as they are reasonably likely to alter the behavior of or harm protected species, including false killer whales. There are also written reports of fishermen shooting at whales (TEC, Inc., 2009), but we are unable to substantiate those allegations based on a review of agency data.

As for the overall risk assessment, this was based on three criteria: severity of the threat, geographic scope of the threat, and level of certainty. A high level of certainty is desired, but not required for overall assignment of a potential threat as high risk. The number of eyewitness reports of entanglement and hooking by nearshore fisheries has increased in recent years. This, in conjunction with dorsal fin scarring and reports of fishing crew taking action to deter marine mammals, leads us to conclude that hooking, entanglement, and acts of prohibited take by fishermen is a high threat.

Comment 31: One commenter felt that NMFS significantly grounds its proposed rule in biased conclusions. The biased conclusions are based on selective use of data and ultimately dependent upon the resolution of uncertainty in favor of assuming the worst possible circumstance for the insular stock. This approach is not scientifically or legally credible.

Response: We disagree that the proposed rule is based on biased conclusions and this is addressed in our responses to Comments 4, 24, 26, 28, and 29. Moreover, throughout the status review process the BRT evaluated the level of uncertainty in all data available to them and then judged the most plausible scenario. The summary of the votes on individual DPS, PVA, and threats questions may be used as evidence of this consideration and the Team's attempt to weigh the various options in the face of uncertainty and produce a report based on the most plausible outcome. In sum, the BRT's scientific opinion is based on the best available scientific information, which was the basis of the proposed rule and supports this final rule. Ultimately the best available data supports our conclusion that a decline in the MHI insular population has in fact occurred and is likely to continue.

Comment 32: One commenter submitted a number of comments on the PVA analysis. Comments included: estimates of extinction risk are premature; and further analyses are needed due to positive biases in estimates. For example, (1) in calculating extinction risk, no consideration was given to the possibility that Reeves et al. (2009) minimum estimates include offshore animals. It is not included in the "prior" options. Sensitivity test 3 with a broader prior distribution for the 1989 abundance (50 to 3000) might appear to account for this, but the results for that test are heavily influenced by the Mobley survey sightings. A more appropriate sensitivity would use a much lower range of abundance. (2) The relative weights given to different realizations from the priors constructed depend on the likelihood evaluated for the abundance-related information. Here, a number of queries arise: (a) The formula at the top of page B-11 in the Appendix of the status review report is wrong. The CV should be squared and there is a multiplicative factor of 0.5 missing. It is unclear whether these are typos or incorrect calculations. (b) Information detailing how Baird et al. (2009) determined photo-identification mark-recapture estimates don't seem to be available, but the text suggests common factors for the estimates for the two different periods, in which case a likely positive covariance should be computed and incorporated in a modified formula. (c) While a change to a Poisson distribution for the likelihood component from the Mobley time series of sighting rate estimates is appropriate, no attempt seems to be made to take account of what might be substantial overdispersion in these distributions, leading to over-weighting of this info. (3) Put another way, point C above might be re-expressed as a concern about the compatibility of Baird's abundance estimate for the 2000 to 2004 period, and the absence of sightings by Mobley in the 2000 and 2003 surveys. (4) Questions arise about the CVs of Baird et al. (2009) estimates given that these are much less than the CV of 0.72 reported in Baird et al. (2005) for an estimate for the earlier period. (5) A particular concern is that a Bayesian approach can give an answer even if mutually inconsistent data are input, when that answer would be clearly wrong. Models and data inputs must be consistent, followed by consideration of relative plausibility. The commenter recommended that diagnostic checks be carried out on simpler model fits on the basis of maximum likelihood, in particular to check mutual compatibility or otherwise of the data used and the model and statistical distribution assumptions made. The BRT should also seek to include further reality checks on the fishing decline information.

Response: As detailed throughout our responses to these comments, we do not agree that there is concern about potential bias in the estimates of extinction risk or the other issues raised.

The overall result is that several evaluations of extinction risk, given different combinations of input data, all suggest the population has declined (see Appendix 2 of the status review report (Oleson et al., 2010)). The estimates of extinction risk are similar despite the choice of input parameters and excluding either of the aerial survey data sets.

It is not true that no consideration was given to examining the role of the 1989 minimum estimate from Reeves et al. (2009). As noted, Sensitivity test 3 examined the influence of the 1989 estimate by removing it from the analysis. The Reeves et al. (2009) minimum estimate in combination with the mark-recapture abundance estimates indicate the population has declined, as does the Mobley trend data. Therefore, two independent datasets both indicate that the population has declined, and the extinction probability results were examined in sensitivities that removed either set of information, with similar results. We do not understand what is meant by the commenter's statement that "a more appropriate sensitivity would use a much lower range." In Sensitivity test 3, a lower bound on 1989 abundance of 50 was used. The posterior distribution for the 1989 abundance in that case did not support an abundance of less than 50 in 1989; therefore, using a lower bound would not have changed the results.

It is correct that the equation at the top of page B-11 of the status review report has two typos. The squared term should be outside the brace (equivalent to squaring the CV) and there should be a 0.5 in front. The equation is correct in the program code used to run the analyses.

As for a likely positive covariance that should be incorporated, identical methods (POPAN open model with constant or time-varying models for capture probability and survival) were used to calculate the two abundance estimates, but no common data or parameters were shared between the two estimates. Each estimate was based on a separate estimate made from two different data sets: 2000 to 2004 and 2006 to 2009. Therefore, there is no covariance that needs to be accounted for. In both cases, the first and second best model as selected by AICc (a measure of model fit that balances the deviation between the model and input data and the number of parameters required to define the model) were the same for each data set, indicating the datasets were compatible.

With respect to the comment on substantial over-dispersion in the distributions, we see no evidence for over-dispersion in the five Mobley estimates. There is relatively little variance between estimates from nearby years. Moreover, if the Mobley data had undue influence from over-weighting of that information, evidence for that would be if the estimated trajectory was dragged away from the other data. Instead, the estimated median trajectory in every case goes right through the mark-recapture estimates, so the Mobley data are not exerting undue influence and pulling the results away from the other data. Additionally, a sensitivity test was run removing the Mobley data, and the results were still quite similar, showing that the Mobley data are not solely driving the results.

As for the concern about the compatibility of Baird's abundance estimate for the 2000 to 2004 period and the absence of sightings by Mobley in the 2000 and 2003 surveys, we address this issue in our response to Comment 24. As for CVs of Baird et al. (2009) compared to the CV of 0.72 reported in Baird et al. (2005) and why there was such a notable difference, the original Baird estimate (2005) averaged outputs from closed population models with limited information about animal movement throughout the study area and based on a smaller photographic catalog, yielding higher CVs on those estimates. The later estimates used an AIC to evaluate model fit and choose the best open-population model accounting for heterogeneity in sighting rates, reducing the uncertainty surrounding new estimates.

Regarding the commenter's concern about using a Bayesian approach because it can give an answer even if mutually inconsistent data are input, nothing about the Bayesian approach makes it particularly susceptible to this type of issue. Maximum-likelihood estimation (MLE) methods can have the same issue. However, more importantly, it is not clear what mutually inconsistent data the commenter refers to in this comment. The only data the model are fit to are the mark-recapture abundance estimates and the Mobley trend data. In combination with the prior distribution for the 1989 abundance from Reeves et al. (2009), both sets of data support a decline in the population, and are therefore consistent with one another. Moreover, sensitivities were run excluding either data set, and with a very broad prior distribution for the 1989 abundance, with similar results regarding the probability of extinction, so this issue has been thoroughly examined. A Bayesian approach was preferred given that the 1989 abundance from Reeves et al. (2009) was treated as a minimum count, so this could be easily incorporated into a prior distribution. If MLE methods were to be used, the 1989 minimum count could only be implemented by penalizing trajectories that went below that number, which would not be as straightforward an approach as the Bayesian approach.

Concerning running diagnostic checks on simpler model fits, as already expressed, the data are not mutually incompatible. Both sets of data support a decline in the population, and results regarding probability of extinction are similar if either data set is removed from the analysis. The model may appear to be complex due to the stochastic elements that are specified, but the one-rate model has only two estimated parameters, essentially the slope and intercept of an exponential model. Therefore, the model fitting itself is not complicated, and the fits to the data are relatively straightforward, so there is no need for further diagnostic checks.

Public Comments from the Second Public Comment Period

As previously indicated, we reopened the public comment period on September 18, 2012, for the limited purpose of soliciting comments on new scientific research papers and the recent NWHI false killer whale population (77 FR 57554). Comments were received from 15 commenters. Substantive comments were again received from two research, conservation, and education groups; the Humane Society; the Marine Mammal Commission; the State of Hawaii; the Western Pacific Regional Fishery Management Council; and the Hawaii Longline Association. These substantive comments are addressed below.

Comment 33: A number of commenters stated that the new information adds additional support to the MHI insular population's genetic discreteness and significance and that despite some overlap in range between the MHI and NWHI populations, photo-identification, genetic analysis, and tagging studies all indicate that the NWHI is a distinctly separate population from the MHI insular population.

Response: We agree that based on the best available data, the MHI insular population of false killer whales is a separate population from false killer whales found in the NWHI. We also agree that the information described by the commenters supports the conclusion that MHI insulars continue to meet the discreteness and significance criteria to be considered a DPS under the ESA. See Responses to Comments 35-37.

Comment 34: One commenter questioned whether the 1989 survey data misidentified 400 animals off of the Big Island, and wondered what happened to over 300 animals in the last 20 years if there are only 150 animals left. The commenter also stated that since the NWHI stock mingles and overlaps with the MHI stock, then it would seem logical to group these two populations together instead of treating them as separate groups.

Response: We assume the commenter refers to the 3 large groups (group sizes 470, 460, and 380) of false killer whales reported close to shore off the island of Hawaii on 3 different days during the 1989 aerial survey sightings (Reeves et al., 2009). We acknowledge that these observed group sizes are more than 3 times larger than the current best estimate of the size of the insular population; however, we do not believe this indicates that the animals were misidentified. As discussed in detail in the status review report (Oleson et al., 2010) and the proposed rule, the large sizes of these groups raise the possibility that the animals seen during the 1989 surveys could represent a short-term influx of pelagic animals to waters closer to the islands. However, the BRT determined, and we agree, that these sightings likely consisted of insular animals because the sighting locations remain close to shore (approximately 4.5 to 11 km from shore (Reeves et al., 2009)) and we lack evidence of pelagic animals occurring that close to the islands. Additionally, as acknowledged in our response to comment 22 this large group of false killer whales were identified by experts in "black fish" identification.

Comparison of the largest group sizes documented in the 1989 survey with recent population estimates suggest that the population has declined. Still, this is not the only evidence of decline; a regression of sighting rates from aerial surveys between 1993 and 2003 covering both windward and leeward sides of all of the MHI reveals a significant decline (Baird, 2009).

We are not able to attribute this decline to a particular source; however, the status review report discussed a number of historical factors that we believe have contributed to the decline of this population. These factors contributing to the decline include: reduced prey biomass and size; competition with fisheries; accumulation of natural and anthropogenic contaminants; live capture operations occurring prior to 1990; disease and predation because of exposure to environmental contaminants; inadequate regulatory mechanisms, such as a lack of an observer program for nearshore fisheries; interactions with commercial longline fisheries; and finally, reduced genetic diversity due to small population size (Oleson et al., 2010).

As for the comment on grouping the MHI and NWHI populations together, the MHI insular population and NWHI populations do not interbreed, such that significant genetic evidence supports separation of the population for management purposes despite a small geographic overlap in range near Kauai. See our discussion of the reevaluation of the DPS above and our Response to Comment 37.

Comment 35: Two commenters stated that the new information continued to support the uniqueness of the ecological setting that MHI insulars occupy versus that of NWHI false killer whales. Of note is the large size and high elevations of the MHI which increases local productivity in many ways, while the small size and low elevations of the NWHI do not favor these factors. In addition, although the sample size for the NWHI population is low, the animals appear to use deeper waters further from shore than MHI animals, which is consistent with such ecological differences.

Response: We agree that the information noted by the comments indicates physical and ecological differences between the MHI and NWHI habitats, and that tracking data may also indicate differences between how these animals use their respective habitats. The Reevaluation of the DPS Determination section of this rule describes how this information was considered with regards to the discreteness and significance criteria.

Comment 36: A few comments identified that the new information confirms that the population estimate for the MHI insulars should be based on the lower abundance estimates (151) presented in the status review and the proposed rule, because the higher abundance estimate (170) included individuals from the NWHI population. Since the PVA analysis relied on the 170 estimate, those analyses likely underestimated the risk to the MHI insular population. In addition, one commenter believed that the effective population size is likely an overestimate, citing that the additional genetic analyses from Martien et al. (2011) estimates the effective population size of only 50 individuals and that if the population has undergone a recent decline, as supported by observational data (Baird, 2009; Reeves et al., 2009; Oleson et al., 2010), the effective population estimate is actually likely to be an overestimate of the current effective population size.

Response: We agree that the population estimate should be based on the lower abundance estimate, which represents the best available information. The animals around Kauai have now been linked to the newly recognized NWHI population; therefore, the most recent and best estimate for the MHI insular false killer whale population is 151 (Carretta et al., 2012b). However, we note that in the 2010 status review the BRT did consider alternative PVA parameterizations, which assumed the lower abundance number of 151. Examples can be found in Appendix B of Oleson et al. (2010). The example runs using the lower abundance estimate of 151 do indicate slightly higher risk of extinction across the 50, 75, and 125-year time spans used in the PVA, further supporting the conclusion that ESA listing is warranted. Accordingly, we are satisfied that the BRT's PVA model accurately accounts for the extinction risk to a population of 151 animals.

We also agree that the new information continues to support our previous conclusions in the status review report (Oleson et al., 2010) and the proposed rule (75 FR 70169; November 17, 2011) that the effective population size may be overestimated.

Comment 37: Two commenters stated that the data supporting a DPS determination continues to be uncertain and inconclusive based on behavioral and ecological characteristics of the NWHI population, thus no longer supporting the discreteness and significance criteria. One commenter went on to say that NMFS must consider the draft policy (76 FR 76987; December 9, 2011) on the interpretation of the phrase “significant portion of its range” under the ESA, and determine whether the MHI insular component of the population would be considered "significant." The commenter further stated that should NMFS determine that the new NWHI population is actually part of the MHI population and that if this combined population qualifies as a single DPS, then NMFS must reassess the threats and extinction risk.

Response: We disagree that the data pertaining to the DPS is inconclusive. As discussed in the Evaluation of DPS Determination section of this rule, the BRT has found, and we agree, that the MHI insular population of false killer whales continues to meet both discreteness and significance criteria to be considered a DPS under the ESA. There is strong support for discreteness based on genetic and behavioral factors and there is independent support for significance based on marked genetic characteristic differences. Ecological and cultural factors also support the significance finding. Additionally, all factors when considered together strengthened the significance finding.

The ESA defines “species” to include subspecies or a DPS of any vertebrate species which interbreeds when mature (16 U.S.C. 1532(16)). As discussed in response to Comment 34, genetic evidence supports the finding that the MHI insular population and NWHI populations do not interbreed and are therefore not a single DPS. Thus, there is no need to reassess the threats and extinction risk to the MHI insular population on that basis. Consistent with the draft SPOIR Policy, because we have found this population to be a DPS that is separate from the NWHI and pelagic populations, we did not evaluate whether the MHI insular false killer whale's range constitutes a significant portion of a larger taxonomic range.

Comment 38: One commenter argued that the best available information does not support NMFS' conclusion that the insular stock has declined in abundance, because the primary support for the decline is based on the 1989 sighting data, which is unreliable, uncertain and is undermined by Bradford et al. (2012). Specifically, the commenter pointed out that quotes from Bradford et al. (2012) cautioned about creating abundance estimates based on a sighting of a single large group, because this can result in overestimates. They also asserted that the 1989 sighting data has not received the same amount of scrutiny, or skepticism as other more recent population estimates. The comment went on to indicate that it was unscientific, reflective of bias and arbitrary of NMFS to discredit data that are current and reliable, while at the same time relying on historical data that are questionable for an ESA listing.

Response: We disagree that the 1989 sighting data is unreliable or uncertain for a number of reasons as discussed in response to Comments 20, 22, 23, 24, 27, 28, and 34. As cited in the 2010 status review report, we have relied on a number of credible, peer-reviewed scientific data to support the decrease in sighting rates and therefore the decline of the MHI insular population. The Bradford et al. (2012) report does not undermine our conclusion to retain the population estimate from 1989. As the draft of Bradford et al. (2012) asserts, it is tenuous to extrapolate information from a single sighting of a large group to the entirety of the stock range, thereby, further inflating the estimate. However, the BRT did not extrapolate the 1989 group size estimates over the entirety of the stock's range, but rather used the group size estimates from that survey as a measure of the entire stock abundance in 1989. Further, Bradford et al.'s (2012) qualifying statements about the accuracy of the NWHI abundance based on a line-transect survey is irrelevant in this context, because MHI insular abundance is estimated using dozens of sightings across several years of survey effort treated within a mark-recapture framework, resulting in low uncertainty around the abundance estimate.

Comment 39: One commenter questioned the 2009 NMFS line-transect survey data that was discarded, stating that NMFS estimated 635 false killer whales, most of which were attributable to the insular stock. NMFS has apparently discarded that data without any explanation other than a cursory justification that "vessel attraction" occurred. However, NMFS has not made public any info pertaining to the 2009 survey and has provided no report or other scientific explanation that presents the data along with reasoned analyses supporting the agency's conclusion.

Response: We addressed this question in the response to the first public comment period (see Comment 26).

Comment 40: A number of comments were submitted related to peer review. One commenter stated that the BRT's status review report says, "…analyses conducted by individual team members were subjected to independent peer review prior to incorporation into the Review." However, NMFS has not presented the results of this peer review and it is not clear which analyses were peer reviewed, by whom, and in what detail. The historical decline and DPS determinations should undergo formal CIE review. The State of Hawaii cautioned the use of the new information, stating that all except one of these papers are not yet externally peer-reviewed and published and therefore the results and conclusions should be considered preliminary until full review. The State of Hawaii also stated it would like to be involved in the external peer review since a number of important decisions such as critical habitat, calculation of minimum population size, potential biological removal, and allotment of serious injury and mortality to different stocks will be based, in part, on the papers under consideration.

Additionally, the State requested to contribute membership to any "teams" that are formed to evaluate and plan for management of this species.

Response: All of the data and information presented in the 2010 status review was peer-reviewed prior to use by the BRT and the status review report was also reviewed by three anonymous external reviewers as required by the OMB Peer Review Bulletin. All of the information presented in the 2010 status review is appropriately referenced to the source material. In some cases, the PSRG (Pacific Scientific Research Group; a regional advisory group to NOAA Fisheries) served as peer-review when results had not been subject to journal review. All but one of the data sources or reports used in the Reevaluation of the DPS (Oleson et al., 2012) have been peer reviewed, either during review by independent scientific journals (e.g., Baird et al. 2012; Baird et al., in press), as part of the NMFS Science Center's publication process (e.g., Bradford et al., 2012), or by the PSRG (e.g., Bradford et al., 2012; Martien et al., 2011; Chivers et al., 2011). A field report by Baird (2012) was the only piece of information evaluated by the BRT in the recent review that was not externally peer reviewed. All of the information in all of these papers was reviewed by the BRT up to their peer-review standard and meets the criteria of best-available scientific information.

Lastly, NMFS will continue to coordinate with the State of Hawaii as we move forward with the management of the MHI insular false killer whale.

Comment 41: The State of Hawaii expressed concerns that the mtDNA analysis may not be appropriate and that the genetic analysis in general may be compromised by pseudo-replication. They claimed the effective population size estimates include an analysis of convergence that is not statistically appropriate based on their consultation with the author of the statistical program used for this analysis. The State requested that NMFS discuss these issues with their experts.

We followed up with the State of Hawaii and its experts in the Department of Land and Natural Resources (DLNR) to further clarify their comments. The subsequent follow-up comments pertained to the genetic analyses found in Martien et al. (2012) and Chivers et al. (2012) and are summarized as follows: (1) It appears that false killer whales likely are made up of several populations that are based more on social groupings than on geographical locations (2) Because the findings indicate that false killer whales stay in natal groups, multiple samples from the same groups would potentially be pseudoreplicates. (3) The NWHI samples were chosen because they had mtDNA haplotypes similar to MHI insular haplotypes, therefore it doesn't make sense to compare mtDNA as part of the analysis because NMFS has hand-picked similar DNA. (4) One-fifth of NWHI samples assigned ambiguously in STRUCTURE and sample size may be an issue in this analysis. DLNR suggests using Nm (effective population size * effective proportion of immigrants) comparisons because they can be done using the private alleles method if convergence cannot be reached in programs like LAMARC (Likelihood Analysis with Metropolis Algorithm using Random Coalescence). (5) Chivers et al. (2012) extends their 2010 paper to include NWHI samples. The 2010 paper indicates that samples were considered insular if collected from groups that had been photo-identified as part of the insular social network. Locations of these samples were near the MHI; the pelagics were further offshore. Were samples assigned as pelagic or insular based on mtDNA or location? (6) It is interesting that Mexico and Hawaii pelagic mtDNA had such small differentiation (the most common haplotype was shared between these locations). Pelagic and Mexico samples were also really similar for microsatellites, which raises some questions about what level of differentiation is meaningful in this species/populations, and DLNR suggests bootstrapping over microsatellite loci for F-st to look at variation. (7) The indication in the Bayesian analysis, STRUCTURE, seems to be that the MHI insular stock is really different from everything else, including the NWHI stock. It would be interesting to know if the K=3 plot with 2 main clusters in the insular population is broken down by social cluster 3 and clusters 1 and 2 as indicated by Martien et al.'s (2011) results. (8) The subsampling technique in Martien et al. (2012) for evaluating whether sample size was large enough is not really statistically sound. Evaluating the results in this manner make it seem as if there is less uncertainty than there really is.

Response: We respond to the issues raised as follows: (1) Evidence from photo-identification, satellite tagging, and genetics suggest that populations are geographically based. There is considerable photo-identification and satellite telemetry data showing that the MHI insular population exhibits strong site-fidelity to the near-shore waters of the MHI. Similarly, available photographic and telemetry data from the NWHI also indicates site-fidelity to the NWHI. Though the ranges of these two populations overlap around Kauai, and the MHI insular population overlaps with the pelagic population between 25 and 75 nmi offshore, the amount of time that animals spend in these areas of overlap appears to be minimal. Furthermore, there have never been any encounters that involved animals from more than one of these populations. Within the MHI insular population there are distinct social groups. MHI insular social groups have broadly overlapping ranges and have been documented associating with each other on numerous occasions. Relatedness analyses suggest that mating between MHI insular social groups is common. Thus, we believe these are social groups within a population, not independent populations. (2) Pseudoreplication refers to failing to properly replicate treatments in an experimental design and is therefore not relevant to the sampling issue raised here. It appears as though the commenter's concern is that samples taken from the same group may not be independent because they are likely to have come from related individuals, and is suggesting that the subsampling used by Chivers et al. (2007) should be used to address this concern. Chivers et al. (2007) did not limit their sample set out of concern regarding related individuals but rather to ensure that they did not include duplicate samples in their dataset. Their analysis was based exclusively on mtDNA data. Thus, they were not able to identify individuals that had been sampled multiple times. Chivers et al. (2011) and Martien et al. (2011) were able to use microsatellite data to eliminate duplicates from the dataset prior to analysis, so the subsampling conducted by Chivers et al. (2007) was not necessary. The fact that a dataset contains closely related individuals is only cause for concern if the presence of those individuals results in the dataset not being representative of the underlying population allele and haplotype frequencies. In the case of MHI insular false killer whales, approximately two-thirds of the population has been sampled, and the samples are well-distributed among the social clusters. Thus, there is no doubt that the sample is representative of the population allele and haplotype frequencies. Sampling in the NWHI is much more limited. There is currently no information available regarding social structure within this population, but it is entirely possible the NWHI samples are representative of a single social cluster, but not the entire population. (3) The NWHI samples were not hand-picked because they had haplotypes similar to the MHI insular population. Nearly all of the samples were collected from groups for which we had satellite telemetry data, indicating that they were closely associated with the islands and atolls of the NWHI and for which photo-identification data indicated long-term fidelity to the NWHI. Thus, it was the combination of the telemetry, photo-identification and mtDNA data that suggested the animals represented an island-associated population. Nonetheless, it is true that the mtDNA provides less insight into the relationship between the MHI insular and NWHI populations than does the nuclear data. The statistically significant differentiation between the two populations in the mtDNA dataset is entirely due to the lack of haplotype 2 in the NWHI, which is not very compelling given that haplotype 2 is also absent from one of the social clusters from the MHI insular population. The BRT specifically noted that in discussing the new genetic results, there were two findings that influenced the BRT's consideration: the finding of a new haplotype in the NWHI that has not been found in the MHI despite very good sampling in the MHI and the separation indicated by the microsatellite data (nuclear) that strongly suggests little gene flow between the NWHI and MHI. The Fst for the mtDNA data was down-weighted in our consideration because one of the three social groupings in the MHI has only haplotype 1 and nearly all samples from the NWHI likely originated from a single social group in which all individuals except one had haplotype 1. Thus, based on frequency comparisons of mtDNA alone, evidence for the MHI and NWHI being discrete populations is not very strong. It was, therefore, adding the nuclear data that carried the most weight with respect to whether the NWHI was another social cluster or a discrete population. (4) We acknowledge the suggestion for further analysis of the data and we plan to attempt to estimate migration rate between populations, though we anticipate that convergence may be an issue due to sample size limitations in the NWHI and pelagic populations. (5) Samples were not designated as MHI insular based on mtDNA or location. They were identified as belonging to the insular population if they were collected from groups that had been photo-identified as part of the insular social network. (6) While such analysis may be of biological interest in the future (particularly if more samples are obtained from these strata), this analysis does not bear on the question of whether the MHI is discrete from these other strata and hence would not influence our evaluation of DPS status. (7) The two main clusters in the insular population from the K=3 plot do not correlate with social clusters. (8) The author of the computer program to estimate effective population size notes correctly in the additional comments from the State of Hawaii that the results of the subsampling would be ambiguous if the effective population estimates converged at a sample size close to the total number of samples. However, as he points out in his email with the State of Hawaii, the estimates of effective population size for the MHI insular population actually converge at a sample size of 50, which is just over half of the total sample size. This result indicates that further sampling of this population is unlikely to substantially change the estimate of effective population size, as Martien et al. (2012) state. The estimate is, nonetheless, uncertain, as reflected in the 95 percent confidence intervals Martien et al. (2012) report. Martien et al. (2012) estimated effective population size for the social clusters and for the Hawaiian Archipelago as a whole specifically for the purpose of examining the impact of violating the assumption of a single, closed population. The estimates of effective population size for the social clusters and entire Hawaiian Archipelago do not influence the interpretation of the estimate for the MHI insular population, which is the only estimate with which the BRT was concerned.

Comment 42: One commenter noted that should MHI insular false killer whales be listed under the ESA, Baird et al. (2012) provides a quantitative assessment of location data from satellite-tagged MHI insulars to inform the designation of critical habitat.

Response: We acknowledge that Baird et al. (2012) provides satellite tagging data and may provide information useful for decision-making concerning designation of critical habitat. Comments on critical habitat will be evaluated during subsequent rulemaking on critical habitat.

Summary of Factors Affecting the Main Hawaiian Islands Insular False Killer Whale DPS

Overall, there were 29 threats identified to have either a historical, current, or future impact to MHI insular false killer whales. Of these, 15 threats are believed to contribute most significantly to the current or future decline of MHI insular false killer whales. The two most significant threats pertained to small population size and hooking, entanglement, or acts of prohibited take by fishers. The following discussion briefly summarizes our findings regarding these 15 threats to the MHI insular false killer whale DPS.

The discussion below is organized by the ESA section 4(a)(1) factors (A-E), including the key limiting factors within each section 4 (a)(1) factor, the corresponding risk ratings, and the threats associated with those key limiting factors and overall threat level. Key limiting factors are the physical/biological/chemical features presently experienced by the population that result in the greatest reductions in the population's ability to recover compared to the conditions experienced prior to the onset of these threats. These key limiting factors are the most significant natural and anthropogenic factors that are currently impeding the ability of the population to recover. Key limiting factors are those that, if improved, would have a marked favorable effect on the species' status. We have identified 10 key limiting factors. The threat level of 1, 2, or 3 ranks how each threat will contribute to the decline of the DPS over the next 60 years: A ranking of 1 means a threat is likely to only slightly impair the DPS in a limited portion of the species' range; a ranking of 2 will moderately degrade the DPS at some locations within the species' range; and a ranking of 3 means this threat is likely to eliminate or seriously degrade the MHI insular false killer whale population throughout its range. More details and supporting evidence can be found in the proposed rule (75 FR 70169; November 17, 2010) and the status review report (Oleson et al., 2010).

A: The Present or Threatened Destruction, Modification, or Curtailment of its Habitat or Range

The key limiting factor associated with this ESA section 4(a)(1) factor is reduced food quality and quantity. The BRT ranked this limiting factor as medium risk in that it encompasses an intermediate number of threats that are likely to contribute to the decline of the MHI insular false killer whale population or contains some individual threats identified as moderately likely to contribute to the decline of the population at many locations within its range. These threats are described below.

(1) Reduced total prey biomass. This is a threat level 2 for MHI insular false killer whales for historic, current, and future impact. Although declines in prey biomass were more dramatic in the past when the MHI insular false killer whale population may have been higher, the total prey abundance remains very low compared to the 1950s and 1960s as evidenced by CPUE data from Hawaii longline fisheries and biomass estimates from tuna stock assessments (Oleson et al., 2010).

(2) Reduced prey size. This is a threat level 2 for MHI insular false killer whales for historic, current, and future impact. Long-term declines in prey size from the removal of large fish have been recorded from the earliest records to the future, and are related to measures of reduced total prey abundance, which include prey size (Oleson et al., 2010).

(3) Competition with commercial fisheries. For competition with commercial longline fisheries, this threat is rated as a threat level 3 for its historic impact, while competition with commercial troll, handline, shortline, and kaka line fisheries is rated as a threat level 2 for its historic impact. Both commercial fishing categories are rated as a threat level 2 for current and future impact to MHI insular false killer whales. False killer whale prey includes many of the same species targeted by Hawaii's commercial fisheries, especially the fisheries for tuna, billfish, wahoo, and mahimahi.

(4) Competition with recreational fisheries. Reduced food due to catch removals by recreational fisheries was assessed to have a threat level 1 for historic as well as current and

future impact. However, the extrapolated Hawaii recreational fisheries catch totals are many times higher than the reported commercial catch totals for troll, handline, shortline, and kaka line fisheries (Oleson et al., 2010). Reported commercial catches may be under-reported, and some may be included in the recreational estimates, but if the nominal recreational estimates from the Marine Recreational Fisheries Survey (WPRFMC, 2010) are representative, then the recreational sector would represent at least as much competition for fish as the reported commercial troll, handline, shortline and kaka line fisheries.

(5) Accumulation of natural or anthropogenic contaminants. Many toxic chemical compounds and heavy metals tend to degrade slowly in the environment; therefore they tend to biomagnify in marine ecosystems, especially in lipid-rich tissues of top-level predators (McFarland and Clarke, 1989). Exposure to persistent organic pollutants, heavy metals (e.g., mercury, cadmium, lead), chemicals of emerging concern (industrial chemicals, current-use pesticides, pharmaceuticals, and personal care products), plastics, and oil, is rated as a threat level 2 for its historic impact, but a threat level 1 for current and future impact due to recent industry regulations.

B: Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

This factor may have contributed to the historical decline of MHI insular false killer whales with the threat of live-capture operations occurring prior to 1990. However, there are no current and/or future impacts identified for this section 4(a)(1) factor and the associated key limiting factor of low population density. Interactions with fisheries are discussed under Factor D: The Inadequacy of Existing Regulatory Mechanisms (below).

C: Disease or Predation

The key limiting factors associated with this listing factor are disease, predation, and competition, which the BRT ranked as medium, low, and low, respectively, in terms of the overall risk that the limiting factors will contribute to the decline of the species over the next 60 years, which is roughly the lifespan of a false killer whale. The threats associated with the medium-ranked disease limiting factor are described below.

(6) Environmental contaminants. Disease plays a role in the success of any population, but small populations in particular can be extremely susceptible to disease, as this threat can have a disproportionate effect. Anthropogenic influences can potentially increase the risk of exposure to diseases by lowering animals' immune system defenses, which may have detrimental effects to the population as a whole and result in mortality and reduced reproductive potential. Disease-related impacts from environmental contaminants are rated as a threat level 2 for its historic, current, and future impact.

(7)(a) Short and long-term climate change. Climate change is counted as a single threat but it is divided into two separate parts: in this section as it relates to an increase in disease vectors, and in Factor E (see (7)(b)) as it relates to changes in sea level, ocean temperature, ocean pH, and expansion of low-productivity areas. While not evaluated historically, climate change poses a threat level 2 for current and future impact to MHI insular false killer whales due to the possible increase in disease vectors.

D: The Inadequacy of Existing Regulatory Mechanisms

The limiting factor identified by the BRT for this section 4(a)(1) factor is incidental take, which was rated as a medium risk to MHI insular false killer whales. The section discusses: the lack of reporting/observing of nearshore fisheries interactions; and the longline fishing prohibited area as a regulatory measure.

(8) Lack of reporting/observing of nearshore fisheries interactions. A high rate of fin disfigurements (Baird and Gorgone, 2005) and other observations (described in greater detail in the proposed rule) suggest interactions between fisheries and MHI insular false killer whales. While Baird and Gorgone (2005) suggest there may be other causes for the fin disfigurements, they conclude that the injuries are most consistent with hook and line interactions. The BRT did not attribute these injuries specifically to the longline fleet; the injuries could have come from other hook-and-line fisheries as well. Only federally-managed longline fisheries are currently observed, whereas state-managed nearshore troll, handline, shortline, and kaka line fisheries are not observed. The BRT rated the continued lack of observer data for state-managed nearshore fisheries, and a lack of an independent reporting system for documenting interactions with MHI insular false killer whales, as a threat level 3 for historic impact but a threat level 2 for current and future impact to MHI insular false killer whales.

(9) Longline fishing prohibited area. We considered whether any other regulatory mechanisms directly or indirectly address what are deemed as the most significant limiting factors to the MHI insular DPS: small population size; and hooking, entanglement, or acts of prohibited take by fishermen. Small population size is considered an overall high risk because of reduced genetic diversity, inbreeding depression, and other Allee effects, but these are inherent biological characteristics of the current population that cannot be altered by existing regulatory mechanisms.

Regarding the significant limiting factor of hooking, entanglement, and acts of prohibited take, a regulatory mechanism exists to partially address interactions with commercial longline fisheries. The longline prohibited area around the Main Hawaiian Islands was implemented in 1992 through Amendment 5 to the Western Pacific Pelagic Fisheries Management Plan to alleviate gear conflicts between longline fishermen versus handline and troll fishermen, charter boat operators, and recreational fishermen. Longline fishing has thus been effectively excluded from the MHI insular DPS's entire core range (less than 40 km from the shore) and a portion of the MHI insular DPS's extended range (within the insular-pelagic overlap zone) for two decades. This longline fishing prohibited area thus indirectly benefits MHI insular false killer whales by decreasing the amount of longline fishing in MHI insular false killer whale habitat. However, the decline of the MHI insular DPS continues despite the prohibited area.

The FKWTRP proposed rule, when implemented, would modify the existing longline exclusion zone to prohibit longline fishing year-round in the portion of the exclusion zone (and the insular-pelagic overlap zone) that was previously closed only seasonally. By providing for additional separation between the MHI insular whale's range and the longline fisheries, this action is expected to reduce the risk of incidental serious injury and mortality to the MHI insular false killer whale.

We note, however, that since the proposed FKWTRP has not yet been implemented, its effectiveness has not yet been demonstrated, and there is insufficient evidence to believe that this increase in the size of the existing prohibited area will reverse or slow the decline of the DPS. Under the FKWTRP, 26 percent of the insular-pelagic overlap zone will remain open to longline fisheries. Further, the longline fishing prohibited area does not apply to other commercial fisheries, including troll, short line, and kaka line fisheries, that are believed to pose a threat to MHI insular false killer whales.

Moreover, the FKWTRP proposed rule does not address other threats to the population, including low population numbers, inbreeding depression, genetic isolation, contaminants, and disease. Accordingly, we cannot conclude that the FKWTRP proposed rule is adequate to address the risks from the existing threats identified above.

In light of the foregoing, hooking and entanglement in all commercial fisheries is considered a threat level 3 for current and future impact.

E: Other Natural or Manmade Factors Affecting Its Continued Existence

Several limiting factors were identified for this ESA section 4(a)(1) factor. The most important of these, as determined by the overall ranking, include hooking, entanglement, or acts of prohibited take by fishers, which was rated as a high risk; small population size, which was rated as a high risk; and "other," which was rated as a medium risk. Threats related to these limiting factors are discussed below. We also discuss impacts of short and long-term climate change (see also Factor C above).

(10) Interactions with commercial longline fisheries. The commercial longline fishery has been largely excluded from the core range of MHI insular false killer whales since the early 1990s, suggesting lower current and future impact from longlining (assuming the current restrictions remain in place). However, it is likely that unobserved interactions with the longline fishery represented a high impact through the early 1990s. Thus, interactions with the commercial longline fishery were rated as a threat level 3 for overall historic impact, but a threat level 1 for current and future impact.

(11) Interactions with commercial troll, handline, shortline, and kaka line fisheries. The BRT rated these commercial fisheries as a threat level 1 historically but a threat level 3 for current and future impact to MHI insular false killer whales. This level 3 or high current and future impact is assumed based on the scale and distribution of the troll and handline fisheries,

and on anecdotal reports of interactions with cetaceans, although interactions specific to false killer whales are known only for the troll fishery.

(12) Reduced genetic diversity. This threat was rated as a threat level 2 for historic, current and future impact to MHI insular false killer whales. Reduced genetic diversity, coupled with the next two threats of inbreeding depression and other Allee effects, are associated with the limiting factor of small population size and were identified as threats that independently present a medium threat level, but which together contribute to a high overall current and future risk to MHI insular false killer whales. The effective population size (the number of individuals in a population who contribute offspring to the next generation) is about 50 breeding adults (Chivers et al., 2010; Martien et al., 2011). This number is so small that small population effects could have increasingly negative effects on population growth rate and other traits, including social factors (such as reduced efficiency in group foraging and potential loss of knowledge needed to deal with unusual environmental events), and may further compromise the ability of MHI insular false killer whales to recover to healthy levels.

(13) Inbreeding depression. This threat was rated as a threat level 1 historically, but a threat level 2 for current and future impact to the DPS.

(14) Other Allee effects. This threat was rated as a threat level 1 historically, but a threat level 2 for current and future impact to the DPS.

(15) Anthropogenic noise. Anthropogenic noise, caused from sonar and seismic exploration from military, oceanographic, and fishing sonar sources, among others, is rated as a threat level 1 historically, but a threat level 2 for current and future impact to MHI insular false killer whales. Intense anthropogenic sounds have the potential to interfere with the acoustic sensory system of false killer whales by causing permanent or temporary hearing loss, thereby

masking the reception of navigation, foraging, or communication signals, or through disruption of reproductive, foraging, or social behavior.

(7)(b) Short and long-term climate change. While not evaluated historically, climate change as it relates to "other natural or manmade factors" poses a threat level 2 for current and future impact to MHI insular false killer whales and could be manifested in many ways, including changes in sea level, ocean temperature, ocean pH, and expansion of low-productivity areas (i.e., "dead zones"). (See (7)(a) for how climate change relates to an increase in disease vectors under Factor C.)

Efforts Being Made to Protect the Main Hawaiian Islands Insular False Killer Whale DPS

Section 4(b)(1)(A) of the ESA requires consideration of efforts being made to protect a species that has been petitioned for listing. Accordingly, we assessed conservation measures being taken to protect the MHI insular false killer whale DPS to determine whether they ameliorate this species' extinction risk (50 CFR 424.11(f)). In judging the efficacy of conservation efforts identified in conservation agreements, conservation plans, management plans, or similar documents, that have yet to be implemented or to show effectiveness, the agency considers the following: the substantive, protective, and conservation elements of such efforts; the degree of certainty that such efforts will reliably be implemented; the degree of certainty that such efforts will be effective in furthering the conservation of the species; and the presence of monitoring provisions that track the effectiveness of recovery efforts, and that inform iterative refinements to management as information is accrued (Policy for Evaluating Conservation Efforts (PECE); 68 FR 15100, 28 March 2003).

The conservation or protective efforts that met the aforementioned criteria and are currently in place include the following: (1) take prohibitions under the MMPA; (2)

authorization and control of incidental take under the MMPA; (3) protection under other statutory authorities (i.e., the Clean Water Act, MARPOL (Marine Pollution protocol for the International Convention for the Prevention of Pollution From Ships); (4) the longline prohibited area; (5) Watchable Wildlife Viewing Guidelines; and (6) active research programs.

The conservation or protective efforts that also met the aforementioned criteria but are not yet in place include the following: (7) the proposed rule implementing the False Killer Whale Take Reduction Plan that was published in the Federal Register on July 18, 2011 (76 FR 42082) (and detailed in the "Relevant Background Information Pertaining to the Marine Mammal Protection Act" portion of this final rule); and (8) the possible expansion of the Hawaiian Islands Humpback Whale National Marine Sanctuary. Each of these efforts is further described in the proposed rule for the listing (75 FR 70169; November 17, 2010).

We support all conservation efforts currently in effect and those that are planned for the near future, as mentioned above. However, these efforts lack the certainty of implementation and effectiveness so as to remove or reduce threats specifically to MHI insular false killer whales. Specifically, the MMPA, CWA, and MARPOL efforts are all certain regulatory measures, but they do not cover indirect or cumulative threats, such as non-point source pollution, nor do they, nor can they, address threats such as small population effects. The existing longline prohibited area around the Main Hawaiian Islands has also been effective by reducing interactions with the insular DPS since 1992, yet interactions with the longline fisheries have still been documented and the total population size of the MHI insular DPS has declined since then. The Watchable Wildlife Viewing Guidelines are only recommendations and thus are not legally enforceable. The active research programs have gathered valuable data, but many data gaps still remain and research is costly and could take decades.

As previously mentioned, NMFS published a proposed rule implementing the FKWTRP on July 18, 2011 (76 FR 42082). Once the measures in the FKWTRP are implemented, it will likely be beneficial to the MHI insular DPS. However, it will not address indirect or cumulative effects that are impacting the DPS, including threats from troll, kaka line, and short line fisheries not covered by the FKWTRP, and 26 percent of the insular-pelagic overlap zone will remain open to longline fisheries.

Finally, the possible expansion of the Hawaiian Islands Humpback Whale National Marine Sanctuary is not definite. It is not known whether false killer whales will be added as a species under protection, nor is it certain that it will be able to address indirect or cumulative threats. We also cannot say with a high level of certainty that the conservation efforts will be effective as required by the PECE policy (68 FR 15100, 28 March 2003). Therefore, we have determined that these efforts are not comprehensive in addressing the many other issues now confronting MHI insular false killer whales (e.g., small population effects) and thus will not alter the extinction risk of the species.

Final Listing Determination

Section 4(b)(1) of the ESA requires that the listing determination be based solely on the best scientific and commercial data available, after conducting a review of the status of the species and after taking into account those efforts, if any, being made by any state or foreign nation to protect and conserve the species. We have reviewed the petition, the BRT's status review report (Oleson et al., 2010), peer review, public comments, the BRT's reevaluation of the DPS (Oleson et al., 2012) and other available published and unpublished information, and we have consulted with species experts and other individuals familiar with MHI insular false killer whales.

Based on this review, and in accordance with the BRT's findings, we conclude that the MHI insular false killer whale meets the discreteness and significance criteria for a DPS (61 FR 4722; February 7, 1996). The MHI insular false killer whale population is discrete due to marked separation from other populations of the same taxon as a consequence of genetic and behavioral factors. This population is significant to the species as a whole based on marked genetic characteristic differences. Additionally, ecological and cultural factors further support the significance of this population to the species as a whole, especially when these factors are considered together with the significance of the marked genetic differences. We also agree with the BRT's assessment of possible threats and their current and/or future risk to the MHI insular DPS. The greatest threats to the insular population are small population effects and hooking, entanglement, or acts of prohibited take by fishermen.

We agree with the BRT's assessment of extinction risk because most PVA models indicated a probability of greater-than-90 percent likelihood of the DPS declining to fewer than 20 individuals within 75 years, which would result in functional extinction beyond the point where recovery is possible.

Conservation efforts that have yet to be implemented or to show effectiveness, including those to protect the pelagic population of Hawaiian false killer whales as described in previous sections, may also benefit the MHI insular population. Taken together, however, we have determined that these efforts are not holistic or comprehensive in addressing the threats now confronting MHI insular false killer whales and thus will not alter the extinction risk of the species.

Based on the best scientific and commercial information available, including the status review report, we conclude that the MHI insular false killer whale DPS is presently in danger of extinction throughout all of its range. Factors supporting a conclusion that the DPS is in danger of extinction throughout all of its range include: (1) the present or threatened destruction, modification, or curtailment of its habitat or range (reduced total prey biomass; competition with commercial fisheries; competition with recreational fisheries; reduced prey size; and accumulation of natural or anthropogenic contaminants); (2) disease or predation (exposure to environmental contaminants or environmental changes; and increases in disease vectors as a result of short and long-term climate); (3) the inadequacy of existing regulatory mechanisms (the lack of reporting/observing of nearshore fisheries interactions; and the longline prohibited area not reversing the decline of the insular DPS); and (4) other natural or manmade factors affecting its continued existence (climate change; interactions with commercial longline fisheries; interactions with troll, handline, shortline, and kaka line fisheries; small population size (reduced genetic diversity, inbreeding depression, and other Allee effects); and anthropogenic noise (sonar and seismic exploration)).

Future declines in MHI insular population abundance may occur as a result of multiple threats, particularly those of small population size, and hooking, entanglement, or acts of prohibited take by fishermen. Current trends and projections in abundance indicate that the MHI insular false killer whale DPS is in danger of extinction throughout all of its range. Given these threats, coupled with the small population size of less than 151 animals (Oleson et al., 2010; Baird et al., 2012; Carretta et al., 2012b), and the current extinction projection of the population becoming functionally extinct within 3 generations or 75 years, we are listing the MHI insular false killer whale DPS as an endangered species, as of the effective date of this rule.

Prohibitions and Protective Measures

Because we are listing this species as endangered, all of the take prohibitions of section 9(a)(1) of the ESA (and codified in 16 U.S.C. 1538 (a)(1)(B)) will apply. These include prohibitions against the import, export, use in foreign commerce, or "take" of the species. "Take" is defined under the ESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct" (16 U.S.C. 1532(19)). These prohibitions apply to all persons subject to the jurisdiction of the U.S., including in the U.S. or on the high seas.

Section 7(a)(2) of the ESA and NMFS/U.S. Fish and Wildlife Service (FWS) regulations require Federal agencies to confer with us on actions likely to jeopardize the continued existence of species proposed for listing, or that result in the destruction or adverse modification of proposed critical habitat. Once a species is listed as threatened or endangered, section 7(a)(2) also requires Federal agencies to ensure that they do not fund, authorize, or carry out any actions that are likely to destroy or adversely modify that habitat. Our section 7 regulations require the responsible Federal agency to initiate formal consultation if a Federal action may affect a listed species or its critical habitat (50 CFR 402.14(a)). Examples of Federal actions that may affect the MHI insular false killer whale DPS include, but are not limited to: alternative energy projects, discharge of pollution from point sources, non-point source pollution, contaminated waste and plastic disposal, dredging, pile-driving, water quality standards, vessel traffic, aquaculture facilities, military activities, and fisheries management practices.

Sections 10(a)(1)(A) and (B) of the ESA provide us with authority to grant exceptions to the ESA's section 9 "take" prohibitions. Section 10(a)(1)(A) scientific research and enhancement permits may be issued to entities (Federal and non-Federal) for scientific purposes or to enhance the propagation or survival of the species. The type of activities potentially requiring a section 10(a)(1)(A) research/enhancement permit include scientific research that targets the MHI insular false killer whale DPS.

ESA section 10(a)(1)(B) incidental take permits may be issued to non-Federal entities performing activities that may incidentally take listed species, as long as the taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.

Effective Date of the Final Listing Determination

We recognize that numerous parties may be affected by the listing of the MHI insular false killer whale DPS. To permit an orderly implementation of the consultation requirements applicable to endangered species, the final listing will take effect on [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

Critical Habitat

Critical habitat is defined in the ESA as: “(i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 1533 of this title, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of 1533 of this title, upon a determination by the Secretary that such areas are essential for the conservation of the species” (16 U.S.C. 1532(5)(A)).

Section 4(a)(3)(A) of the ESA requires that, to the maximum extent prudent and determinable, critical habitat be designated concurrently with the final listing of a species (16 U.S.C. 1533(a)(3)(A)). Designation of critical habitat must be based on the best scientific data available and must take into consideration the economic, national security, and other relevant impacts of specifying any particular area as critical habitat.

In determining what areas qualify as critical habitat, 50 CFR 424.12(b) requires that we consider those physical or biological features that are essential to the conservation of a given species and that may require special management considerations or protection. Pursuant to the regulations, such requirements include, but are not limited to the following: (1) space for individual and population growth, and for normal behavior; (2) food, water, air, light, minerals, or other nutritional or physiological requirements; (3) cover or shelter; (4) sites for breeding, reproduction, rearing of offspring, germination, or seed dispersal; and generally (5) habitats that are protected from disturbance or are representative of the historical geographical and ecological distributions of a species. The regulations also state that the agency shall focus on the principal biological or physical essential features within the specific areas considered for designation. These essential features may include, but are not limited to: "roost sites, nesting grounds, spawning sites, feeding sites, seasonal wetland or dryland, water quality or quantity, host species or plant pollinator, geological formation, vegetation type, tide, and specific soil types."

In our proposal to list the MHI insular false killer whale DPS, we requested information on the quality and extent of habitats for the MHI insular false killer whale DPS as well as information on areas that may qualify as critical habitat. Specifically, we requested identification of specific areas that meet the definition above. We also solicited biological and economic information relevant to making a critical habitat designation for the MHI insular false killer whale DPS. We have reviewed comments provided and the best available scientific information. We conclude that critical habitat is not determinable at this time for the following reasons: (1) sufficient information is not currently available to assess impacts of designation; (2)

sufficient information is not currently available on the geographical area occupied by the species; and (3) sufficient information is not currently available regarding the physical and biological features essential to conservation.

Information Solicited

We request interested persons to submit relevant information related to the identification of critical habitat and essential physical or biological features for this species, as well as economic or other relevant impacts of designation of critical habitat, for the Main Hawaiian Islands insular false killer whale DPS. We solicit information from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party (see ADDRESSES).

Classification

National Environmental Policy Act (NEPA)

ESA listing decisions are exempt from the requirements to prepare an environmental assessment or environmental impact statement under the NEPA. See NOAA Administrative Order 216 6.03(e)(1) and the opinions in Pacific Legal Foundation v. Andrus, 657 F. 2d 829 (6th Cir. 1981), and Douglas County v. Babbitt, 48 F.3d 1495 (9th Cir. 1995). Thus, we have determined that this final listing determination for the MHI insular false killer whale DPS is exempt from the requirements of the NEPA of 1969.

Executive Order (E.O.) 12866, Regulatory Flexibility Act, and Paperwork Reduction Act

As noted in the Conference Report on the 1982 amendments to the ESA, economic impacts cannot be considered when assessing the status of a species. Therefore, the economic analysis requirements of the Regulatory Flexibility Act are not applicable to the listing process. In addition, this rule is exempt from review under Executive Order (E.O.) 12866. This final rule does not contain a collection-of-information requirement for the purposes of the Paperwork Reduction Act.

E.O. 13132, Federalism

E.O. 13132 requires agencies to take into account any federal impacts of regulations under development. It includes specific directives for consultation in situations where a regulation will preempt state law or impose substantial direct compliance costs on state and local governments (unless required by statute). Neither of those circumstances is applicable to this final rule. In order to provide continuing and meaningful dialogue on issues of mutual state and Federal interest, the proposed rule was provided to the State of Hawaii, and the State was invited to comment. We have conferred with the State of Hawaii in the course of assessing the status of the MHI insular false killer DPS, and their comments and recommendations have been considered and incorporated into this final determination where applicable.

References

A list of references cited in this notice is available upon request (see FOR FURTHER INFORMATION CONTACT). Additional information, including agency reports, is also available via our website at http://www.fpir.noaa.gov/PRD/prd_false_killer_whale.html.

List of Subjects in 50 CFR Part 224

Endangered marine and anadromous species.

Dated: November 20, 2012

____

Alan D. Risenhoover,

Director, Office of Sustainable Fisheries, performing the functions and duties of the Deputy Assistant Administrator for Regulatory Programs,

National Marine Fisheries Service

For the reasons set out in the preamble, 50 CFR part 224 is amended as follows:

PART 224—ENDANGERED MARINE AND ANADROMOUS SPECIES

1. The authority citation for part 224 continues to read as follows:

Authority: 16 U.S.C. 1531-1543 and 16 U.S.C. 1361 et seq.

§ 224.101 [Amended]

2. Revise paragraph (b) by adding, "False killer whale (Pseudorca crassidens), Main Hawaiian Islands Insular distinct population segment;" in alphabetical order.

[FR Doc. 2012-28766 Filed 11/27/2012 at 8:45 am; Publication Date: 11/28/2012]