



**Western
Pacific
Regional
Fishery
Management
Council**

December 15, 2020

Mr. Michael D. Tosatto
Pacific Islands Regional Office
NOAA Inouye Regional Center
1845 Wasp Boulevard, Building 176
Honolulu, HI 96818

Re: Draft Recovery Plan, Draft Recovery Implementation Plan, and Status Review for the Main Hawaiian Islands Insular False Killer Whale Distinct Population Segment (NOAA-NMFS-2020-124)

Dear Mike:

The Western Pacific Regional Fishery Management Council (Council) appreciates the opportunity to provide comments to the National Marine Fisheries Service (NMFS) on the Draft Recovery Plan, Draft Implementation Plan, and Status Review for the main Hawaiian Islands (MHI) insular false killer whale (IFKW) distinct population segment (DPS)¹. The Council and its advisory bodies reviewed the draft plan and associated documents at its November and December meetings, and this letter incorporates recommendations from those meetings.

Since the initial listing petition for this DPS, the Council has been troubled by the overreliance on anecdotal information and unsubstantiated assumptions regarding the population and the associated threats, and the limited scientific information available to assess population status. As described in further detail below, NMFS has continued this pattern in the Draft Recovery Plan and associated documents.

It is worth noting that several of the issues that the Council identified in earlier public comment responses have now been verified through more recent research. For example, the Council had questioned the validity of the 1989 aerial survey sightings of 300-400 false killer whales close to the island of Hawaii due to lost photographic records preventing independent confirmation of species, lack of genetic evidence, and lack of replicated large group sightings. Since then, genetic and satellite tracking data have confirmed that pelagic stock false killer whales come close to shore, and NMFS now acknowledges in the Recovery Status Review that the large group sizes observed in 1989 are unlikely to have been comprised exclusively of IFKWs. Copies of the Council's earlier comment letters are enclosed for reference.

NMFS should Prioritize Information Gathering to Verify Assumptions and Anecdotal Information regarding Non-longline Fisheries

Of the three most significant threats to the IFKW DPS that guide the focus of the Draft Recovery Plan, two are related to threats from non-longline commercial and recreational fisheries. Specifically, these threats are incidental take (hooking or entanglement) in non-longline commercial and recreational fisheries (e.g., troll, handline, shortline, kaka line); and inadequate regulatory

¹ See 86 Fed. Reg. 65791 (October 16, 2020)

mechanisms for non-longline commercial and recreational fisheries. As NMFS' categorization of the threats indicates, the evidence of potential incidental take in non-longline fisheries remain limited, and based on indirect and anecdotal information. The high level of uncertainty associated with the limited evidence available for potential fishery interactions with IFKW animals was emphasized by participants of the 2016 Recovery Planning Workshop. However, mouthline and dorsal fin disfigurements continue to be attributed to fishery interactions without reliable direct evidence. The indirect and anecdotal evidence are also biased toward information that confirm that a threat exists, rather than being balanced with other evidence such as fishermen avoiding false killer whales or blackfish by moving away from the area due to their knowledge that fish stop biting when these species show up².

The Draft Recovery Plan also classifies the trend of incidental take in non-longline fisheries as "increasing". The only evidence presented in the Recovery Status Review for the apparent increase is the comparison of mouthline and dorsal fin injury numbers between two studies, with mouthline injuries from a 2015 study reporting 22% (16 out of 72 individuals) and a 2017 study reporting 23.3% (17 out of 73 individuals), and similarly marginal differences for dorsal fin injuries. These numbers are based on small sample sizes with greater focus on gathering photographic evidence of these injuries over time, and do not represent sufficient evidence to conclude that there is an increasing trend. NMFS indicate that data from IFKW are not sufficient to assess overall population trend; thus the interaction trend for non-longline fishery threat should also be classified as "unknown".

NMFS' heavy reliance and bias toward anecdotal and indirect information to assert that a high and increasing threat exist for incidental take in non-longline fisheries is counter-productive to establishing trust with fishermen to gather more information to characterize the extent and mechanism of potential interactions.

The Council recommends that NMFS prioritize information gathering to verify assumptions and anecdotal information regarding potential non-longline fisheries impacts to ensure that recovery actions are based on robust scientific evidence. In doing so, NMFS should ensure that the Draft Recovery Plan and associated documents provide unbiased representation of available information, and to do so in any communication to its stakeholders and public. The Council also encourages NMFS to work with social scientists to better characterize potential for interactions between non-longline fisheries and insular false killer whales.

NMFS should identify the Council as a Partner in Recovery Actions related to Non-longline Fisheries

The Draft Recovery Plan currently identifies the Council as a potential partner on a limited number of recovery actions related to longline fisheries. The Council requests NMFS to include the Council as a potential partner and work with the Council on matters related to non-longline fisheries that target pelagic management unit species under the Pelagic Fishery Ecosystem Plan, including actions to address data gaps and reduce impacts.

Over the years, the Council has worked closely with the State of Hawaii to co-manage the bottomfish fishery and address data and management gaps for the non-longline pelagic fisheries.

² Madge, L. 2016. Exploratory study of interactions between cetaceans and small-boat fishing operations in the main Hawaiian Islands (MHI). NOAA Fisheries Pacific Islands Fisheries Science Center Administrative Report H-16-07. doi:10.7289/V5/AR-PIFSC-H-16-07

Recently, the Council has worked to review and evaluate the non-longline pelagic fisheries around Hawaii to determine if existing measures are adequate or if new measures are needed. This review included public scoping sessions and a virtual Fishers Forum in 2020 that continued to identify the need for better fishery data. Efforts to look at mandatory data collection and reporting necessitated a broader look at federal and state management issues. At an October 2020 meeting between the Council, State of Hawaii, NMFS PIRO and NMFS PIFSC, an agreement was made to work collaboratively on Hawaii fishery management issues.

NMFS should Remove Unsubstantiated Assumptions about Longline Vessels and Associated Recovery Actions

One of the recovery actions for longline fisheries is based on an unsubstantiated assumption that longline vessels have been switching over to shortlining to fish inside the SEZ or in other longline exclusion zone areas (recovery action 6.6.1 in the Draft Recovery Implementation Strategy). This assumption was expressed at the 2016 recovery planning workshop, at which a long-time Hawaii longline vessel owner and industry leader indicated that he is not aware of such gear switching by Hawaii longline vessels. However, the Recovery Status Review only cites an unsubstantiated personal communication from a researcher, and does not provide the counterpoint provided by a prominent industry rep attending the workshop. A voting Council member representing the Hawaii longline industry at the 184th Council meeting convened December 2-4, 2020, also indicated that such gear switching is not likely to occur. NMFS should verify assumptions and speculations about fishery operations using available fishery data as well as information from fishermen, industry representatives, Council, State of Hawaii, and other fishery experts, so that resources may be focused on appropriate recovery actions.

The Council recommends that NMFS remove this unsubstantiated assumption of gear conversion from the Recovery Status Review, as well as any associated recovery actions in the Draft Recovery Plan and Implementation Strategy.

Other Specific Comments regarding Delisting Criteria and Recovery Actions

The Council provides the following additional specific comments regarding delisting criteria and recovery actions:

- *Threat-based delisting criteria 2.A: “Incidental take in non-longline commercial and recreational fisheries: There is sufficient evidence that incidental take caused by hooking or entanglement in non-longline commercial and recreational fisheries, as evidenced by known interactions as well as dorsal fin injuries and mouthline injuries, is not limiting the recovery of MHI IFKWs. This can be measured by data showing that the rate of new interactions/injuries is decreasing.”*
 - *Comment: This criterion assumes that fishery-related threats are currently preventing population growth and limiting recovery. Mouthline and dorsal fin injuries are assumed to be impacting the population, but there is currently no data or direct evidence that these injuries are negatively impacting population trend. Identifying the rate of injuries as a proxy for the degree to which non-longline fisheries may be impacting the recovery of IFKWs is premature.*

- *Threat-based delisting criteria 2.B: “Incidental take in commercial longline fisheries: Incidental take caused by hooking or entanglement in commercial longline fisheries continues to be regulated by the False Killer Whale Take Reduction Plan (FKWTRP) and*

there is sufficient evidence that incidental take in the fisheries is not limiting the recovery of MHI IFKWs. This can be measured by data showing that the estimate of mortality and serious injury to MHI IFKWs continues to be below the potential biological removal and/or is considered insignificant and approaching zero, as it is less than 10% of potential biological removal.”

- *Comment:* This criterion should be defined solely in terms of mortality and serious injury being below the 10% potential biological removal threshold, rather than aiming for the FKWTRP to regulate the longline fishery in perpetuity. The FKWTRP primarily addresses Hawaii longline fishery impacts on the pelagic stock of false killer whale, and there is only an insignificant amount of spatial overlap between the longline fishery and the IFKW population. The FKWTRP therefore has little bearing on the survival or recovery of the IFKW population. This criterion is also counter-intuitive in that the continued need for the FKWTRP would mean that the impacts of the longline fishery remain. This is akin to having a recovery criterion that specifies that an ESA-listed species continue to be protected under the ESA.

- *Recovery action 1.5: “Initiate efforts to develop trigger-dependent emergency management action(s) to implement if demographic information indicates that the MHI IFKW is in decline” “Examples of emergency management measures to prevent extinction could include closing hot spot area(s) to fishing or implementing time-area closures to certain activities (e.g., military training exercises, fishing). Once the population indicates it has stabilized and/or rebounded and is no longer at risk of extinction, re-opening measures could include the beginning of a new calendar year, or when specified demographic data indicate it is safe to resume normal activities.”*
 - *Comment:* Such emergency measures should only be considered if adequate scientific evidence is available on the direct causal link between the decline and the threat to be managed, and upon scientific evaluation of the potential effects of the emergency measure on the population trend. Additionally, false killer whales do not stay in one place, and thus hot-spot or time-area closures are not likely to be effective, as shown in the example of the Southern Exclusion Zone under the FKWTRP.

Thank you for considering the Council’s comments on this matter. Please contact the Council’s protected species coordinator Asuka Ishizaki (asuka.ishizaki@noaa.gov) if you would like to discuss these comments in further detail.

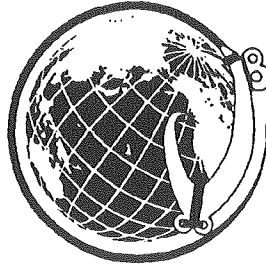
Sincerely,



Kitty M. Simonds
Executive Director

Enclosures

Cc: Sam Rauch, Deputy Assistant Administrator for Regulatory Programs
Ann Garrett, Assistant Regional Administrator for Protected Resources, PIRO
Krista Graham, PIRO Protected Resources Division



**Western
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Council**

October 31, 2013

Ms. Irene Kelly
National Marine Fisheries Service
Pacific Islands Regional Office
1601 Kapiolani Blvd., Suite 1110
Honolulu, HI 96814

Re: Notice of Intent to Prepare a Recovery Plan for the Main Hawaiian Islands Insular False Killer Whale and Request for Information

Dear Ms. Kelly:

The Western Pacific Regional Fishery Management Council (Council) appreciates this opportunity to provide comments to the National Marine Fisheries Service (NMFS) in response to the Notice of Intent to prepare a recovery plan for the main Hawaiian Islands (MHI) insular false killer whales¹. Specifically, the Council requests that NMFS (1) convene a Recovery Team to develop the plan; and (2) focus on scientific data collection to assess and determine the level of impacts of threats on the population.

NMFS Should Convene a Recovery Team to Develop the Plan

In accordance with Section 4(f)(2) of the Endangered Species Act (ESA), NMFS may appoint recovery teams to assist in the development and implementation of recovery plans. NMFS' Interim Recovery Planning Guidance² provides detailed guidance on the recovery planning process, including the process of convening a team. The guidance indicates that recovery teams may be appropriate when there is greater public interest or if there are controversial issues involved. The guidance also specifies that team members should be selected for their knowledge of (1) the species; (2) threats contributing to the status of the species (e.g., resource extraction operations); and (3) various elements of recovery plan design or implementation (land-use planning or knowledge of alternatives to reduce socioeconomic effects of implementation).

The Council recommended at its 158th Meeting held October 15-18, 2013 that NMFS convene a Recovery Team to develop the recovery plan for the MHI insular false killer whales, and that the Recovery Team include fishery representatives from the Council, the State of Hawaii, and members of commercial and non-commercial sectors of Hawaii's fisheries. Fishery representatives should also be consulted early in the process to assist NMFS in determining the appropriate team composition. The inclusion of fishery representatives in the recovery planning process will be critical given that over half of the threats NMFS believes are contributing to the current or future decline of the population are related to fisheries.

¹ See 78 Fed. Reg. 60850 (October 2, 2013)

² NMFS. 2010. Interim Endangered and Threatened Species Recovery Planning Guidance, Version 1.3. Available at: www.nmfs.noaa.gov/pr/recovery/

Commercial and non-commercial fishing activities hold economic, social and cultural importance in Hawaii. The commercial fishing industry generated \$629 million in sales, \$184 million in income and approximately 7,300 full- and part-time jobs in 2009³. In 2012, the Port of Honolulu had the fifth highest landing value in the nation at approximately \$100 million⁴. The recreational or non-commercial fishery sector was estimated to have 87,000 participants in 2011⁵, supported approximately 4,300 jobs and generated \$442 million in sales³. Fishing is also a tradition and lifestyle for the people in Hawaii, and provision of marine resources for family, neighbors and community through subsistence and expense fishing play a critical role in the local culture and society as well as for the long-term food security of the island state⁶.

Recovery actions of MHI insular false killer whales have the potential to impact the livelihood, lifestyle and traditions of those who depend on the ocean in Hawaii. Addressing fisheries and their potential impacts to false killer whales in the process of developing a recovery plan is a matter of significant public interest. It is also in NMFS' best interest to involve stakeholders early in the process to ensure that the plan has public support. Hawaii's fishing community has had recent negative experiences with the lack of public involvement in ESA issues such as the Hawaiian monk seal critical habitat revision and the proposed listing of 66 coral species in which the perception that the public had no say in the agency's decisions resulted in substantial controversy. Therefore, the plan should be developed in a transparent manner with the thorough involvement of stakeholders.

In addition to convening the Team, NMFS should work with the Council and the State of Hawaii throughout the process of developing the recovery plan and provide opportunities for these entities to conduct technical review of the draft recovery plan. The existing regulatory mechanisms under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) provide for a transparent participatory process for managing federal fisheries in waters surrounding the MHI. In addition, nearshore fisheries are managed by the State of Hawaii, although nearshore fisheries that operate in federal waters are also covered under the Council's Fishery Ecosystem Plans. The Council and the State can provide necessary fishery expertise to NMFS in evaluating potential threats to insular false killer whales. Furthermore, coordination with the Council and the State of Hawaii will ensure the recovery plan is consistent with state and federal fishery management and any recommended management action for the recovery of MHI insular false killer whale is feasible, effective, and based on the best available science.

Recovery Plan should Focus on Scientific Data Collection

According to the listing final rule⁷, over half of the 15 threats believed to contribute to the endangered status of the MHI insular false killer whales are related to fisheries. These threats include:

- Reduced total prey biomass;
- Reduced prey size;
- Competition with commercial fisheries;

³ NMFS. 2010. Fisheries Economics of the United States, 2009. U.S. Dept. Commerce, NOAA Tech. Memo. NMFS-F/SPO-118, 172p. Available at: www.st.nmfs.noaa.gov/st5/publication/index.html

⁴ NMFS. 2013. Fisheries of the United States 2012. Current Fishery Statistics No. 2012. Available at: www.st.nmfs.noaa.gov/commercial-fisheries/fus/fus12/index

⁵ NMFS. 2012. Fisheries of the United States 2011. Current Fishery Statistics No. 2011. Available at: www.st.nmfs.noaa.gov/commercial-fisheries/fus/fus11/index

⁶ Allen, S. 2013. Carving a niche or cutting a broad swath: Subsistence fishing in the Western Pacific. *Pacific Science*, 67(3): 477-488.

⁷ See 77 Fed. Reg. 70915 (November 28, 2012)

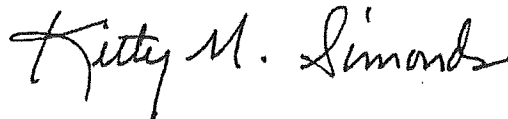
- Competition with recreational fisheries;
- Lack of reporting/observing of nearshore fisheries interactions;
- Interactions with commercial longline fisheries; and
- Interactions with commercial troll, handline, shortline and kaka line fisheries.

With the exception of the Hawaii-based longline fishery for which observer data are available, most of the fishery-related threats are based on assumptions, anecdotal information or inferences from similar fisheries or species⁸. Data on interactions with non-longline fisheries are lacking, and scientific studies linking potential threats to impacts on the MHI insular false killer whale population have not been conducted. The same can be said for impacts of non-fishery threats such as contaminants and climate change on the DPS, as the extent to which these threats have contributed to the population status are unknown. Without the understanding of the extent to which and mechanisms of how each of these threats contribute to the status of the MHI insular false killer whales, it would be difficult to develop effective recovery actions.

Therefore, the recovery plan should focus on scientific data collection to assess and determine the level of impacts of each threat on the population in the near-term. The abundance estimate of this population has not changed for at least a decade, and thus continued monitoring of abundance to detect any rapid declines should be a critical component of the plan. In the absence of evidence of decline, the focus of the plan should be on data collection and risk assessment to better determine the population status of this DPS and identify appropriate recovery actions.

The Council requests that NMFS take into consideration our comments as you move forward with the recovery planning process. Please do not hesitate to contact me or my staff Asuka Ishizaki (asuka.ishizaki@noaa.gov) to discuss these comments in more detail.

Sincerely,

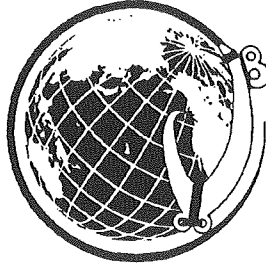


Kitty M. Simonds
Executive Director

Enclosures

Cc: Sam Rauch, Acting Assistant Administrator of Fisheries
 Donna Wieting, Director, NMFS Office of Protected Resources
 Michael Tosatto, Regional Administrator, NMFS Pacific Islands Regional Office
 Lisa Van Atta, Assistant Regional Administrator, NMFS Pacific Islands Regional Office
 Senator Brian Schatz, State of Hawaii
 Senator Mazie Hirono, State of Hawaii
 Representative Colleen Hanabusa, State of Hawaii
 Representative Tulsi Gabbard, State of Hawaii

⁸ Leading up to the ESA listing of the MHI insular false killer whales, the Council identified a number of serious concerns regarding NMFS' assumptions linking potential threats to the status of the insular false killer whales. The Council has also expressed, and continues to express concerns over the scientific evidence that led to the designated this population as a DPS and the determination that this population is facing immediate threat of extinction. These concerns have been detailed in previous communications to NMFS, and copies of these are enclosed with this letter.



**Western
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October 1, 2012

Lance Smith
Regulatory Branch Chief
Protected Resources Division
National Marine Fisheries Service
Pacific Islands Regional Office
1601 Kapiolani Blvd., Suite 1110
Honolulu, HI 96814
Attn: Hawaiian insular false killer whale proposed listing

Re: Reopening of Public Comment Period on Proposed Endangered Status for the Hawaiian Insular False Killer Whale Distinct Population Segment [NOAA-NMFS-2009-0272]

Dear Lance:

The Western Pacific Regional Fishery Management Council (Council) is encouraged to learn that the National Marine Fisheries Service (NMFS) has reopened public comment period¹ on the proposed rule to list the Hawaiian insular false killer whale distinct population segment (DPS) as endangered throughout its range under the Endangered Species Act (ESA).

The Council made a request to NMFS in a letter dated June 25, 2012, prior to the reopening of the comment period, to consider new scientific information regarding a previously unrecognized Northwestern Hawaiian Islands (NWHI) population of false killer whales prior to making the final determination for the ESA listing of the insular population. We are enclosing a copy of the letter here to ensure that our comments are included in the administrative record².

As described in the Council's letter dated June 25, 2012, the new information indicates that the NWHI population shares similar behavioral and ecological factors that were previously thought to be unique to the Main Hawaiian Island (MHI) insular population that was proposed for ESA listing as a "Hawaiian insular" DPS. In proposing the designation of the Hawaiian insular population as a DPS, NMFS noted:

"We have determined that Hawaiian insular false killer whales are discrete from other false killer whales based on genetic discontinuity and behavioral factors (the uniqueness of their behavior related to habitat use patterns). We have also determined that Hawaiian insular false killer whales are significant to the taxon, based on their unique ecological setting, marked genetic characteristic differences, and cultural factors." (75 Fed. Reg. 70175).

¹ See 77 Fed. Reg. 57554 (September 18, 2012)

² The Council letter dated June 25, 2012 included four attachments (Baird et al. 2011; Bradford et al. 2012; Chivers et al. 2011; Martien et al. 2011), which have been omitted for the current submission as NMFS acknowledged these reports and publications in the FR notice dated September 18, 2012.

Regarding the genetic factor in determining whether the insular population met the discreteness and significance criteria, NMFS further noted:

“There was some uncertainty in the genetic discontinuity factor of the discreteness conclusion based primarily on the lack of information on the adjacent population of pelagic false killer whales off the coast of Hawaii, and due to gaps in genetic sampling to the west of Hawaii. However, the BRT did not find this lack of information sufficient to alter the significance finding for Hawaiian insular false killer whales.” (75 Fed. Reg. 70176).

This suggests that NMFS found the behavioral and ecological factors to be critical in the DPS determination, and that genetic evidence was not the primary factor in evaluating the discreteness and significance criteria. The Council therefore believes that, based on the behavioral and ecological characteristics of the NWHI population, the Hawaiian insular population, as proposed, no longer meets the discreteness and significance criteria under the ESA DPS determination.

Should NMFS determine that the new NWHI population is a part of the Hawaiian insular population and that the populations combined qualify as a single DPS, the Council requests that the NMFS also consider the following:

- 1) Conduct a full reanalysis of the five listing factors under ESA Section 4(a)(1) and reassess extinction risk; the NWHI population currently is estimated at 552 false killer whales, mostly inhabiting protected waters within the Papahānaumokuākea Marine National Monument.
- 2) Consider the draft policy on the interpretation of the phrase “significant portion of its range” under the ESA³, and determine whether the MHI insular component of the population would be considered “significant”.

The Council appreciates this opportunity to provide additional comments regarding the proposed ESA listing of the Hawaiian insular false killer whales. Please feel free to contact Asuka Ishizaki, Protected Species Coordinator at (808) 522-8224 if you have any questions concerning the comments.

Sincerely,

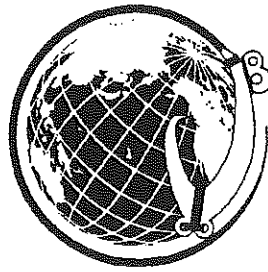


Kitty M. Simonds
Executive Director

Enclosure

Cc: Michael Tosatto, Regional Administrator, NMFS Pacific Islands Regional Office

³ See 76 Fed. Reg. 76987 (December 9, 2011)



**Western
Pacific
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June 25, 2012

Lance Smith
Regulatory Branch Chief
Protected Resources Division
National Marine Fisheries Service
Pacific Islands Regional Office
1601 Kapiolani Blvd., Suite 1110
Honolulu, HI 96814
Attn: Hawaiian insular false killer whale proposed listing

Dear Lance:

The Western Pacific Regional Fishery Management Council (Council) requests that the National Marine Fisheries Service (NMFS) consider substantial new scientific information regarding false killer whales prior to making the final determination for the listing of Hawaiian insular false killer whale distinct population segment (DPS) under the Endangered Species Act (ESA).

Since the publication of the proposed rule in November 2010, a previously unrecognized Northwestern Hawaiian Islands (NWHI) population of false killer whales has been identified, and several reports¹ have been published on this population. Based on data collected during the 2010 Hawaiian Cetacean Ecosystem Assessment Survey (HICEAS), the NWHI population of false killer whales is separate from the pelagic stock, thought to occupy insular waters of NWHI, and estimated to number around 552 individuals. Preliminary analysis of available satellite tagging data, photographic identification, and genetics suggest some separation between the NWHI population and the main Hawaiian Islands (MHI) insular population. However, these

¹ The Council is aware of at least four reports containing new information regarding the NWHI population: Martien, K.K., Baird, R.W., Chivers, S.J. et al. 2011. Population structure and mechanisms of gene flow within island-associated false killer whales (*Pseudorca crassidens*) around the Hawaiian Archipelago. Report submitted to the Pacific Scientific Review Group, PSRG-2011-14.

Chivers, S.J., Baird, R.W., Martien, K.K., Oleson, E.M., and Taylor, B.L. 2011. Genetic differentiation of Hawaii insular false killer whales: analyses updated with new samples from the northwest Hawaiian Islands. Report submitted to the Pacific Scientific Review Group, PSRG-2011-15.

Baird, R.W., Oleson, E.M., Barlow, J. et al. 2011. Photo-identification and satellite tagging of false killer whales during HICEAS II: evidence of an island-associated population in the Papahānaumokuākea Marine National Monument. Report submitted to the Pacific Scientific Review Group, PSRG-2011-16.

Bradford, A.L., Forney, K.A., Oleson, E.M., and Barlow, J. 2012. Line-transect abundance estimates of false killer whales (*Pseudorca crassidens*) in the pelagic region of the Hawaiian Exclusive Economic Zone and in the insular waters of the Northwestern Hawaiian Islands. Pacific Islands Fish. Sci. Cent., Natl. Mar. Fish. Serv., NOAA, Honolulu, HI 96822-2396. Pacific Islands Fish. Sci. Cent. Admin. Rep. H-12-02, 23 p.

reports have yet to be published in peer-reviewed journals and thus independent review of the analyses has not yet occurred.

NMFS determined in the proposed rule that the Hawaiian insular false killer whale population qualifies as a DPS. Specifically, NMFS determined that insular false killer whales are discrete from other populations based on genetic discontinuity and behavioral factors, and that they are significant to the taxon based on their unique ecological settings, marked genetic characteristic differences, and cultural factors. However, examination of new information regarding the NWHI population suggests that the MHI insular population may not be as unique as it was previously thought. For example:

- *Genetic Discontinuity:* Chivers et al. (2011) examined the genetic differentiation of the Hawaii insular false killer whales, incorporating new genetic samples collected from the NWHI population during the 2010 HICEAS survey. The analysis of mitochondrial DNA did find statistically significant genetic divergence between the MHI insular population and the NWHI population, but the divergence between the two populations was found to be the lowest compared to all other populations (Mexico, Panama, Hawaii Pelagic, and American Samoa). Further, all but one sample from the NWHI population had one of two haplotypes that was thought to be unique to the MHI insular population. It is uncertain whether the genetic divergence between the NWHI and MHI populations are discrete enough compared to other populations in the Pacific to warrant a separate DPS determination under the ESA.
- *Behavioral Factors:* The proposed rule noted that “Hawaiian insular false killer whales are behaviorally unique because they are the only population of the species known to have movements restricted to the vicinity of an oceanic island group.” However, based on two satellite tags deployed during the 2010 HICEAS survey, Baird et al. (2011) reported that NWHI false killer whale movements were restricted mostly to nearshore areas of the NWHI. Further, photo-identification data revealed matches between NWHI false killer whales and those encountered off Kauai in 2008. The Kauai group had not been seen in association with the MHI insular population, but appears to be included in the DPS proposed for ESA listing.
- *Unique Ecological Setting:* The proposed rule noted that “Hawaiian insular false killer whales persist in an ecological setting unusual or unique from other false killer whale populations because they are found primarily in island-associated waters that are relatively shallow and productive compared to surrounding oligotrophic waters.” As noted above with respect to the behavioral factors, NWHI false killer whales appear to be associated with similar ecological settings to the previously identified MHI insular population.

In addition to the preliminary analyses of genetic, photographic, and satellite tag data noted above, the acoustic data from the 2010 HICEAS survey are still under analysis. Taken as a whole, the new information described above suggests that the Hawaiian insular false killer whale DPS may not be restricted to waters around the MHI and that the insular population may be a combination of the MHI and NWHI populations, resulting in a much higher population than

previously thought. Although recent unpublished reports suggest some separation between the NWHI population and the MHI insular population, the reports are preliminary in nature and do not reach firm conclusions. In any event, the new available data are certainly relevant to the question of whether the MHI insular stock is a DPS for purposes of the ESA and, for that reason alone, should be considered before a listing decision regarding the MHI insular stock is made.

ESA listing of Hawaiian insular false killer whales will likely have significant implications for fishermen and other ocean users in the MHI. NMFS's recent discovery of a new NWHI false killer whale population that is estimated to number 552 animals, that may have some genetic overlap with the MHI insular stock, and that is also "island-associated" could have significant ramifications on the agency's evaluation of the listing status of island-associated Hawaii false killer whales. Therefore, the Council requests that NMFS conduct a rigorous review of all new information available regarding NWHI false killer whales and revisit the analyses of DPS determination and extinction risk to ensure the best available scientific data are used in the listing determination of false killer whales under the ESA. Further, consistent with established ESA-listing practices, NMFS should ensure that analysis of genetic, photographic, and satellite tag data are independently reviewed by qualified scientists as part of the revisited analysis. Lastly, the Council requests that this letter as well as all attachments be included in its administrative record for the final decision on the Hawaiian insular false killer whale listing petition.

Please feel free to contact Asuka Ishizaki, Protected Species Coordinator at (808) 522-8224 if you have any questions concerning the comments.

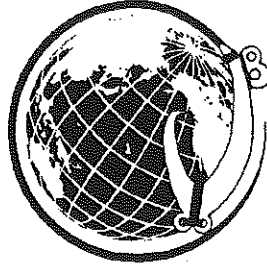
Sincerely,

A handwritten signature in cursive script that reads "Kitty M. Simonds". The signature is written in black ink and is positioned above the printed name and title.

Kitty M. Simonds
Executive Director

Enclosures

Cc: Michael Tosatto, Regional Administrator, NMFS Pacific Islands Regional Office



**Western
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February 11, 2011

VIA ELECTRONIC FILING AND EMAIL

Lance Smith
Regulatory Branch Chief
Protected Resources Division
National Marine Fisheries Service
Pacific Islands Regional Office
1601 Kapiolani Blvd., Suite 1110
Honolulu, HI 96814
Attn: Hawaiian insular false killer whale proposed listing

Re: Proposal to List the Hawaiian Insular False Killer Whale Distinct Population Segment as Endangered (RIN 0648-XT37)

Dear Lance:

The Western Pacific Regional Fisheries Management Council (the Council) appreciates this opportunity to provide comments to the National Marine Fisheries Service (NMFS) on the proposed listing of the Hawaiian insular false killer whale distinct population segment (DPS)¹. The Council has serious concerns about the scientific basis and assumptions made to arrive at the proposed endangered listing of the Hawaiian insular false killer whale DPS, and our comments are focused on that issue.

Overview

Various features of NMFS's proposed rule regarding the Hawaiian insular false killer whale and the status review² conducted by the Biological Review Team (BRT) are likely to have resulted in exaggerated estimates of threats and risks to the population. In particular, the Council reiterates the following concerns expressed in our comment letter in response to the 90-day finding of the petition (February 3, 2010, Appendix A):

¹ See 75 Fed. Reg. 70169 (November 17, 2010).

² Oleson, E. M., C. H. Boggs, K. A. Forney, M. B. Hanson, D. R. Kobayashi, B. L. Taylor, P. R. Wade, and G. M. Ylitalo. 2010. Status review of Hawaiian insular false killer whales (*Pseudorca crassidens*) under the Endangered Species Act. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-PIFSC-22, 140 p. + Appendices.

- a) Biased interpretation of prey abundance and competition based on fishery-dependent CPUE data resulted in exaggerated threats to the proposed Hawaiian insular false killer whale DPS.
- b) Lack of critical evaluation of the historical abundance, particularly of the 1989 aerial survey, resulted in an inflated estimate of abundance prior to 1989. These estimates of historical abundance provided the baseline population in the Population Viability Analysis (PVA), thus resulting in almost all model projections leading to extinction.

Further, the Council expresses additional concerns regarding the NMFS status review and proposed rule:

- c) Interpretation of the level of extinction risk from interactions with commercial longline fisheries is inconsistent between the status review and proposed rule, with no justification provided for the higher risk attributed to commercial longline fisheries in the proposed rule than the status review.
- d) The status review and proposed rule uses a small number of unsubstantiated anecdotal reports to support the high risk rating of interactions with non-longline commercial fisheries.

For these reasons, the Council requests that NMFS reconsider the review and analysis conducted by the BRT, and in particular, the assumptions made and anecdotal information used in arriving at the conclusion that the Hawaiian insular false killer whale DPS is in danger of extinction throughout all of its range.

Additionally, the Council offers comments regarding the critical habitat designation rulemaking process.

Biased Interpretation of Prey Abundance and Competition

The status review makes the assumption that trends in catch-per-unit effort (CPUE) reflect trends in abundance of the fish species (Oleson et al. 2010, p.51). Further, a similar assumption appears to be made in the discussion of prey size, which uses fishery-dependent data to imply the available prey sizes for false killer whales. The Council offered alternative explanations to variations in CPUE and prey size in our comment letter in response to the 90-day petition (Appendix A). In addition to the assumption made in the status review and proposed rule, changes in CPUE and prey size may reflect changes in the fishery dynamics such as the shift of target species depending on landed value of the time and changes in fishing techniques.

These alternative explanations of changes in CPUE and prey size were not considered or analyzed by NMFS. Further, NMFS does not include any independent analysis of prey abundance, yet concludes that competition with fisheries, reduced total prey biomass, and reduce prey size pose medium to high risk to insular false killer whales. The Council believes that such conclusions are merely speculative without further analysis and assessment of fish stocks, and that the risk placed on prey competition is exaggerated.

Lack of Critical Evaluation of Estimated Historical Abundance

Given the unknown historical population of Hawaiian insular false killer whales, the BRT estimated the plausible historical abundance (point-estimate) around 769 based on the estimated density of false killer whales in the U.S. EEZ around Palmyra Atoll, where the highest density of the species has been reported (Oleson et al. 2010, p.49). The lower limit of the plausible population in 1989 was placed at 470 based on the estimated number of animals observed in the 1989 aerial surveys, and an upper limit was placed as 1,392 animals based on one standard deviation above the point-estimate of the density around Palmyra Atoll. The Council has several concerns regarding the methods used to estimate historical abundance.

Use of Palmyra Atoll Density Not Adequately Justified

First, the use of estimated density around Palmyra Atoll to calculate plausible historical abundance of the Hawaiian insular DPS is not adequately justified. It appears that the Palmyra Atoll is used solely on the basis that it is the highest reported density of the species. Elsewhere in the status review, the BRT acknowledges that Palmyra Atoll is situated in more productive equatorial waters than the sub-tropical Hawaiian Islands, but makes no attempt to compare availability and abundance of prey species in the waters around Palmyra Atoll with those around the Hawaiian Islands. In addition, the density around Palmyra Atoll is uniformly applied to the entire 202,000 km² area within 140 km of the main Hawaiian Islands (MHI), even though a “core range” within 40 km of the MHI is acknowledged elsewhere in the status review and proposed rule. We believe that the simplified application of the Palmyra Atoll stock density resulted in an extremely inflated estimated historical abundance of Hawaiian insular false killer whales.

Further, the proposed rule notes that the data from Palmyra is viewed as a “conservative estimate for pristine density” on the basis that longline fishery is known to occur in the Palmyra area and may have had an impact on the false killer whale density over time. This is an unsubstantiated claim with no reference to actual data or evidence suggesting the impacts of longline fishery on the population of false killer whales in the waters surrounding Palmyra Atoll. In fact, the draft 2010 Stock Assessment Report (SAR)³ estimated the mean annual takes as 0.3 animals in the Palmyra Atoll stock, which is substantially lower than the Potential Biological Removal (PBR) of 6.4 animals per year in a stock with an estimated population of 1,329. As such, the draft 2010 SAR suggests that the impact of the longline fishery on the Palmyra Atoll stock is minimal, and the likelihood that the current Palmyra Atoll stock is not a “pristine density” is low. It is likely that the Palmyra Atoll historically has had higher densities of false killer whales than the MHI, and thus the Palmyra Atoll density is likely not the appropriate density to use in estimating historical abundance of the Hawaiian insular false killer whales.

³ Carretta, J.V., K.A. Forney, M.S. Lowry, J. Barlow, J. Baker, D. Johnston, Brad Hanson, Robert L. Brownell Jr., Jooke Robbins, David. K. Mattila, Katherine Ralls, M.M. Muto, Deanna Lynch, and Lilian Carswell. 2010. U.S. Pacific Marine Mammal Stock Assessments: 2009. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-SWFSC-453. 336p.

Large Groups Observed in the 1989 Aerial Surveys Questionable

Second, the Council continues to be skeptical of the 1989 aerial survey results, as described in our earlier comment letter dated February 3, 2010 (Appendix A). Specifically, we cautioned the use of the 1989 aerial survey results for the following reasons:

- a) Inability to confirm the species of sighted animals due to lost photographic records;
- b) Lack of genetic or other evidence to conclude that the documented large groups of FKW were associated with the insular population; and
- c) Lack of replicated results supporting the existence of large groups of FKW in 1989.

The proposed rule acknowledges that the large groups seen during the 1989 surveys may have been a short-term influx of pelagic animals, and that the lack of photographic or genetic evidence makes it uncertain these animals belonged to the insular group. Nevertheless, the proposed rule concludes that “because of the location of the sightings and lack of evidence of pelagic animals occurring that close to the islands, it is most likely that this group did consist of insular animals.” What is not acknowledged or considered, however, is the possibility of these large groups observed in the 1989 surveys to be other species, particularly melon-headed whales.

At the most recent meeting of the Council’s Scientific and Statistical Committee on October 6-8, 2010, a question was raised to Erin Oleson, the lead scientist on the BRT, regarding this issue. Oleson responded that one of the BRT members who was involved in the 1989 survey claimed that the large groups were false killer whales, and the issue was not investigated any further. However, the Council has also received anecdotal information from its Marine Mammal Advisory Committee member Paul Nachtigall that two individuals who were involved in the survey claim that the large groups were in fact melon-headed whales. Given the lack of photographic or genetic evidence, both claims are equally anecdotal as well as contradictory. The Council suspects that the BRT incorporated anecdotal information convenient to confirm the decline of the Hawaiian false killer whale, but did not do their best in critically examining evidence in a scientific manner.

Point-Estimate of Historical Abundance Unrealistic

Finally, we believe that the point-estimate of 1989 is unrealistic, when considering the population estimate of 121 animals in the Hawaiian insular range based on the 1993-1997 aerial surveys (Mobley et al. 2000). In the status review, the BRT includes discussion regarding the 1993-1997 abundance estimate of 121 animals, but only in the context of current abundance. In this discussion, the BRT notes that the 1993-1997 estimate is considered out-of-date by NMFS standards, and references the 2005 Revisions to Guidelines for Assessing Marine Mammal Stocks (GAMMS II) (Oleson et al. 2010, p.51). According to GAMMS II, current abundance estimates based on surveys older than 8 years are considered out-of-date (NMFS 2005⁴, p.6):

⁴ NMFS. 2005. Revisions to Guidelines for Assessing Marine Mammal Stocks. 24 pp.

Clearly, projections of current abundance estimates become less dependable with time after a survey has occurred. When abundance estimates become many years old, at some point estimates will no longer meet the requirement that they provide reasonable assurance that the stock size is presently greater than or equal to that estimate. Therefore, unless compelling evidence indicates that a stock has not declined since the last census, the minimum population estimate of the stock should be considered unknown if 8 years have transpired since the last abundance survey of a stock.

GAMMS II does not, however, dismiss the use of abundance estimates from old surveys as a measure of historical abundance. Nevertheless, the 1993-1997 survey estimate of 121 animals never appears in the BRT's discussions regarding historical abundance or trends in abundance, and appears to be simply ignored. When the 1993-1997 survey estimate is considered, this places an abundance of minimum of 121 animals⁵ as early as 1993, suggesting a dramatic decline of nearly 600 animals in the 4-year period from 1989 (based on the point-estimate of 769). This type of dramatic decline would suggest a large-scale mortality even in a very short time frame, for which no concrete evidence is provided in the proposed rule.

Based on the BRT's evaluation of threats, one possible cause of the dramatic decline would have been the expansion of longline fishery in the insular false killer whale range from the late 1980s until the 50 nm longline exclusion zone was implemented in 1992. Based on information provided in the BRT's status review or otherwise by NMFS, and making several simple assumptions, one could estimate the maximum number of false killer whales taken in the commercial longline fishery in the 4-year period from 1989 to 1993:

- According to the data on total number of hooks set in the longline fishery over time (Oleson et al. 2010, p.61), total hooks set annually in the entire Hawaii longline fleet between 1988-1993 is around 7-13 million hooks, as opposed to the recent 2003-2008 total hooks set annually inside the U.S. EEZ around the MHI (Hawaii logbook data) of 10-15 million hooks. In other words, the number of hooks set within the Hawaii insular false killer whale range from late 1980s to early 1990s (the period when the longline effort was increasing) was similar to or less than the recent effort around the MHI.
- The current mean estimated annual takes (mortalities and serious injuries, which do not necessarily result in the removal of animal from the population) in the Hawaii pelagic and insular stock combined is 7.9 animals (draft 2010 SAR).
- Assuming that interaction rates have not substantially changed over time, a simple extrapolation would suggest that the estimated number of insular and pelagic false killer whales taken by longline fisheries in the U.S. EEZ around the Hawaiian Islands during the 4-year period from 1989 to 1993 would be no greater than 31.6 animals.

⁵ The BRT also notes that the "estimate was likely negatively biased because the survey aircraft did not allow detection of cetaceans directly below the plane, and no adjustment was made for availability bias", suggesting that the estimated population for 1993-1997 could be higher.

The result of this estimate (which we believe is equally simplistic and no less scientific than the method used to estimate historical abundance based on the Palmyra Atoll density) is substantially less than the nearly 600 animals that supposedly disappeared between the 1989 and 1993 aerial surveys. Neither the BRT nor the proposed rule offers any convincing evidence that the Hawaii insular false killer whales experienced a significant decline between 1989 and 1993, other than to provide scientifically questionable estimates of historical abundance.

The Council expresses these concerns because the assumptions made to estimate historical abundance largely influenced the Population Viability Analysis (PVA), as the historical abundance was used as the starting population size in 1989 in the models. The analyses resulted in most models “indicating a probability of greater than 50 percent likelihood of the DPS declining to fewer than 20 individuals within 75 years.” We believe that the results of these PVA models would have been less pessimistic had the BRT provided more realistic estimates of historical abundance, and had critically reviewed the aerial survey results from 1989 and 1993-1997. Further, if the 1993-1997 aerial survey estimate is considered, the Hawaiian insular false killer whale population has remained stable for the last 18 years despite its small population size and existence of other threats described by NMFS.

Inconsistent Risk of Interactions with Commercial Longline Fisheries

In reviewing the proposed rule and the BRT’s status review, we found inconsistencies in the risk evaluation of interactions with commercial longline fisheries. In the status review, the BRT rated interaction with commercial longline fisheries as a medium level severity, moderate spread in geographic scope, low level of certainty that species is affected, and low overall threat level currently and into the future (Oleson et al. 2010, p.100). In the proposed rule, however, interactions with commercial longline fisheries “was rated as a high level of current and/or future risk to Hawaiian insular false killer whales” (emphasis added). There is a discrepancy between the BRT’s conclusion and what is stated in the proposed rule, and no explanation or justification is made regarding this change.

The BRT did rate, however, “hooking, entanglement, or intentional harm”, including those from commercial longlines, troll, handline, shortline, and kaka line, as well as with aquaculture facilities, to have a “high” overall ranking of limiting factor. However, taken individually, interactions with commercial longline fisheries were clearly rated to have low overall threat level currently and into the future, whereas interactions with troll, handline, shortline, and kaka-line fisheries were rated to have a high overall threat level currently and into the future.

We believe that NMFS unjustifiably placed higher risk on the commercial longline fishery in the proposed rule. As noted elsewhere in the proposed rule, commercial longline fishery has been largely excluded from the Hawaiian insular false killer whale range since the early 1990s, with additional exclusions likely to be implemented as a result of the Take Reduction Plan produced in 2010 under the Marine Mammal Protection Act (MMPA).

Use of Anecdotal Reports to Assign High Risk to Non-Longline Commercial Fisheries

Interactions with troll, handline, shortline, and kaka-line fisheries is the only threat rated by the BRT to have a high overall threat level currently and into the future (Oleson et al. 2010, p.100). However, this rating is based on a limited number of anecdotal reports and no actual confirmed takes. Most of the anecdotal reports of fishery interactions with false killer whales as referenced in the proposed rule⁶ are in the form of depredation on bait or catch, and not of false killer whale take or bycatch by the fisheries.

In addition, reports of interactions are from troll fisheries, and NMFS acknowledges in the proposed rule that “it is unknown whether animals get hooked or entangled in troll gear (as they do in longline gear).” Incidents where fishermen reported shooting at animals to protect bait, catch, or gear also do not confirm whether these were warning shots fired or resulted in injury or mortality. Further, the frequency in which interactions with non-longline commercial fishery occur are unknown, and the conclusion that such activities pose a high risk to the Hawaiian insular false killer whale DPS is highly speculative at best. Therefore, the Council believes that NMFS does not have adequate scientific or commercial evidence to assign a high risk to non-longline commercial fisheries.

Rulemaking Process for Critical Habitat Designation

NMFS also requested comments on the critical habitat designation of the proposed Hawaiian insular false killer whale DPS, undertaken as a separate rulemaking process. The Council does not believe that a critical habitat designation for the proposed DPS is warranted at this time, as “physical and biological features that are essential to the conservation” of Hawaii insular false killer whales, aside from the general features such as range and prey, are unknown. Any critical habitat, if proposed, should consider the potential significant socioeconomic impacts to non-longline commercial and recreational fisheries in Hawaii. We request that NMFS work with the Council in gathering and reviewing fisheries-related information prior to the publication of the proposed critical habitat designation.

NMFS requested comments concerning “potential peer reviewers for a proposed critical habitat designation, including persons with biological and economic expertise relevant to the species, region, and designation of critical habitat. We offer the following recommendations for reviewers with expertise in socioeconomic impacts and non-longline commercial fisheries:

Socioeconomic Impacts

- Michael Mahmnett, University of Hawaii, Manoa
- Craig Severance, University of Hawaii, Hilo (retired)
- David Fluharty, University of Washington

⁶ These include:

Shallenberger, E. W. 1981. The status of Hawaiian cetaceans. Marine Mammal Commission Report No. MMC-77/23.

Zimmerman, B. 1983. Hawaii- Kona log. Hawaii Fishing News 8(3): 25.

Nitta, E. T. and J. R. Henderson. 1993. A review of interactions between Hawaii's fisheries and protected species. Marine Fishery Review 55(1): 83-92.

Non-longline Commercial Fisheries

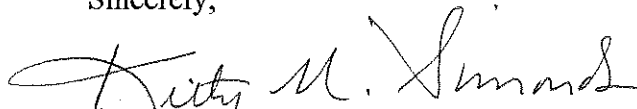
- Kim Holland, Hawaii Institute of Marine Biology
- David Itano, Pelagic Fisheries Research Program
- Lindsay Chapman, Secretariat of the Pacific Community, Coastal Fisheries Program

Conclusions

As outlined above, the Council has serious concerns regarding the scientific basis and assumptions made by NMFS to arrive at the conclusion that the proposed Hawaiian insular false killer whale DPS is in danger of extinction throughout all of its range. We believe that the BRT conducted the review and analysis with the preconceived assumption that the DPS has in fact declined, instead of critically examining the evidence. The ESA Section 4(b)(1) requires that the listing determination be based solely on the best scientific and commercial data available, but we believe that much of the conclusions were based on anecdotal and unsubstantiated non-scientific information. The Council therefore requests that NMFS revisit the analysis conducted by the BRT, and in particular, the assumptions made in arriving at estimated historical abundance of Hawaiian insular false killer whales, and consider the results prior to decision-making and publication of the final rule.

Please feel free to contact Asuka Ishizaki, Protected Species Coordinator at (808) 522-8224 if you have any questions concerning the comments.

Sincerely,



Kitty M. Simonds
Executive Director

Cc: Michael Tosatto, Regional Administrator, NMFS Pacific Islands Regional Office
Alecia Van Atta, Assistant Regional Administrator, NMFS Pacific Islands Regional Office
Manuel Duenas, Chair, Western Pacific Regional Fishery Management Council
Sean Martin, President, Hawaii Longline Association
Ryan Steen, Stoel Rives LLP

Enclosure:

Appendix A – Council Comment Letter in Response to the 90-Day Finding on a Petition to List the Insular Population of Hawaiian False Killer Whales as an Endangered Species (February 3, 2010)



**Western
Pacific
Regional
Fishery
Management
Council**

February 3, 2010

VIA ELECTRONIC SUBMISSION

Ms. Lisa Van Atta
Assistant Regional Administrator
Protected Resources Division
NMFS Pacific Islands Regional Office
1601 Kapiolani Boulevard Suite 1110
Honolulu, HI 96814

Re: Public Comment Following the 90-Day Finding on a Petition to List the Insular Population of Hawaiian False Killer Whales as an Endangered Species (RIN 0648-XT37)

Dear Lisa:

The Western Pacific Regional Fishery Management Council (Council) offers the following information in response to the public information solicitation period on the National Marine Fisheries Service ("NMFS") 90-day finding on a petition to list the insular population of Hawaiian false killer whales (FKW) as an endangered species¹.

Specifically, we provide comments on two major issues: (1) Claims regarding prey reduction and its suggested impacts to FKW based on inaccurate interpretation of fishery data; and (2) historical estimate of FKW population based on the 1989 aerial survey that may lack scientific reliability.

I. Abundance of Prey Species

In their petition, the Natural Resource Defense Council ("NRDC") lists overfishing and prey reductions as a potential factor impacting the insular population of Hawaiian FKW, and references several published reports to support their claims. Additionally, a recent report to the Marine Mammal Commission (Baird 2009)² makes similar claims regarding the changes in prey base of FKW and suggests potential impacts to the FKW population. We reviewed the referenced reports and provide additional interpretation of the data used to support the claims made by NRDC and in the report by Baird (2009).

¹ See 75 Fed. Reg. 316 (January 5, 2010).

² Baird, R.W. 2009. A review of false killer whales in Hawaiian waters: Biology, status, and risk factors. Report prepared for the U.S. Marine Mammal Commission under Order No. E40475499.

Issue 1: Bigeye tuna is currently overfished in the Pacific (NMFS 2009)³

NRDC makes the claim in reference to the NMFS Status of U.S. Fisheries report (2009). However, the cited report classifies the Pacific bigeye tuna as being currently experiencing *overfishing*, but does not classify the species as being *overfished* or approaching overfished condition. Overfishing means that the biomass of the stock has not declined below the biomass which would generate Maximum Sustainable Yield (MSY), but that the biomass is being fished at a fishing mortality which is greater than that which would generate MSY. The most recent stock assessment (Harley et al. 2009)⁴ shows that the stock is subject to overfishing but is not overfished. However, regardless of the condition of Pacific bigeye tuna, this species is not a major component of FKW diets, and are not included in the list of prey species documented for FKW in Hawaiian waters (Baird 2009). In addition, the insular population of the Hawaiian FKW is found primarily in the coastal zone where bigeye tuna are not typically abundant.

Issue 2: Biomass of yellowfin tuna in the Pacific in general has declined (Sibert et al. 2006)⁵

The report by Sibert and colleagues (2006), referenced by NRDC in their petition, is now considered to be out of date. The new stock assessment (Langley et al. 2009)⁶ shows that yellowfin tuna is not overfished or subject to overfishing at this time.

Issue 3: Catch-per-unit-effort (CPUE) data from the Main Hawaiian Islands (MHI) troll and handline fishery for yellowfin tuna from 1987-2006/2007 show a significant declining trend (WPRFMC 2007, 2009)^{7,8}

Both NRDC and Baird (2009) make similar claims regarding the declining yellowfin tuna CPUE in the Hawaii troll and handline fishery using data included in the Council's Pelagic Fisheries Annual Reports (WPRFMC 2007, 2009). However, their interpretation of these fishery data ignores the pattern of the apparent decline in CPUE and do not take into consideration data for other species or fisheries.

The observed decline in the troll fishery CPUE data is not a steady decrease during the time period. The large decline in the troll CPUE occurred between 1987 and 1991, when the CPUE decreased from about 80 lb/day fished to 20 lb/day fished (Figure 1). After 1991, the CPUE is remarkably stable. Further, the high CPUE recorded in 1987 could be indicative of an

³ National Marine Fisheries Service. 2009. 2009 Status of U.S. Fisheries. Second quarter update.

http://www.nmfs.noaa.gov/sfa/statusoffisheries/2009/secondquarter/fssi_non_fssi_stock_status_cy_q2_2009.pdf

⁴ Harley, S.S. Hoyle, A. Langley, J. Hampton, and P. Kleiber. 2009. Stock assessment of bigeye tuna in the Western and Central Pacific Ocean. Western & Central Pacific Fisheries Commission Scientific Committee Fifth Regular Session August 10-21 2009, Port Vila, Vanuatu WCPFC-SC5-2009/SA-WP-4.

⁵ Sibert, J., J. Hampton, P. Kleiber, and M. Maunder. 2006. Biomass, size and trophic status of top predators in the Pacific Ocean. *Science* 314:1773-1776.

⁶ Langley, A., S. Harley, S. Hoyle, N. Davies, J. Hampton, P. Kleiber. 2009. Stock assessment of yellowfin tuna in the western and central Pacific Ocean. Fifth Regular Session August 10-21 2009, Port Vila, Vanuatu WCPFC-SC5-2009/SA-WP-03.

⁷ Western Pacific Regional Fishery Management Council. 2007. Pelagic fisheries of the western Pacific Region. 2006 Annual report. Western Pacific Regional Fishery Management Council, Honolulu, HI.

⁸ Western Pacific Regional Fishery Management Council. 2009. Pelagic fisheries of the western Pacific Region. 2007 Annual Report. Western Pacific Regional Fisheries Management Council, Honolulu, HI.

exceptionally good fishing year. The Council urges NMFS to review troll CPUE data prior to 1987 as part of the status review for the insular population of Hawaiian FKW.

In addition, the MHI handline yellowfin tuna CPUE does show a gradual decline over the period of 1987-2007 (WPRFMC 2009). However, CPUEs of albacore and bigeye tuna show an increasing trend over the same time period (WPRFMC 2009), which may be indicative of a change in targeting by MHI handline fishermen for species with a higher landed value.

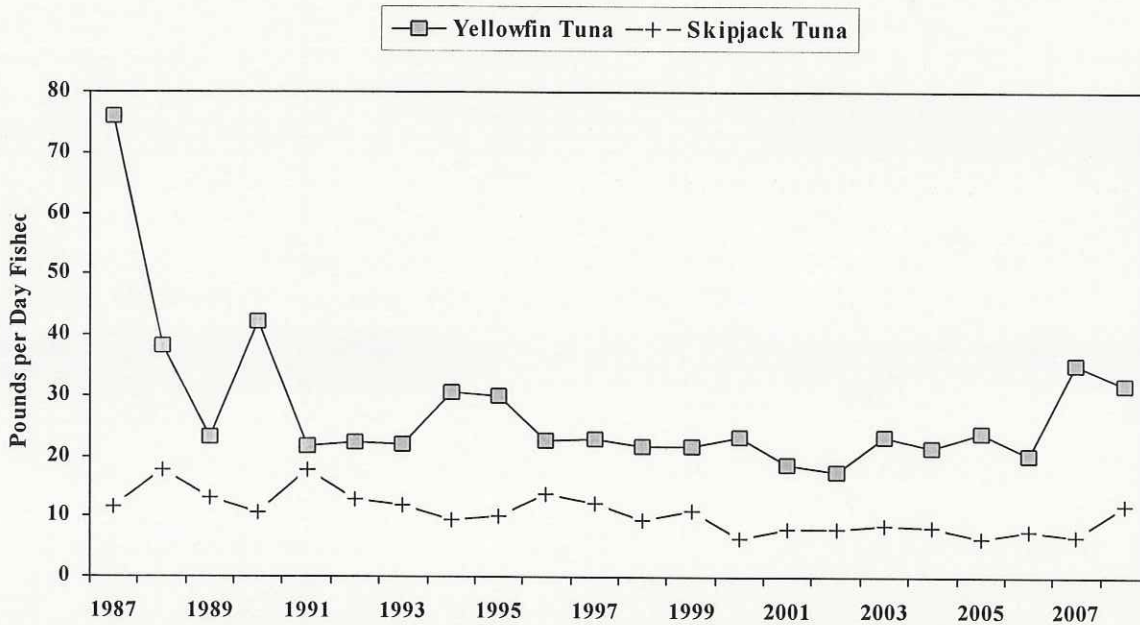


Figure 1: Main Hawaiian Islands troll tuna CPUE (in landings per day fished), 1987-2008.
 Source: 2008 Pelagic Fisheries Annual Report (presented at the WPRFMC Pelagic Plan Team Meeting, April 29-May 1, 2010).

Issue 4: Mean body weight of yellowfin tuna declined from an average of 48kg from 1987 to 1991 to 30kg from 2003 to 2007 (WPRFMC 2009); Average body weight of mahimahi caught in the Hawaiian longline fishery has declined since 1987 (WPRFMC 2007)

Both NRDC and Baird (2009) make similar claims regarding the reduced average body weight of yellowfin tuna and mahimahi caught in the Hawaii longline fishery. As with the CPUE data presented in the previous section, the declines in average body weight of yellowfin tuna and mahimahi in the longline fishery are not steady declines. The decrease in average weight occurred when the fishery was changing from a sampan-style, wooden vessel near-shore tuna fishery to a large steel-hulled vessel fishery primarily targeting swordfish. For yellowfin tuna, the decline ceases in 1999 (Figure 2), when the longline fishery was subject to a battery of management changes, culminating with the complete cessation of swordfish fishing between 2001 and 2004. Despite the large increase in the tuna fishery in response to the reduced swordfish fishery, the average body weight of yellowfin tuna has remained relatively stable since 1999 and is not showing signs of decline (Figure 2).

For longline-caught mahimahi, majority of the decline in average body weight occurred between 1987 and 1993, again as a result of the shift in the fishery from sampan-style near-shore

tuna fishery to a swordfish fishery. After the peak of the swordfish fishery in 1993, the average size of mahimahi landed in the longline fishery has been stable (Figure 2).

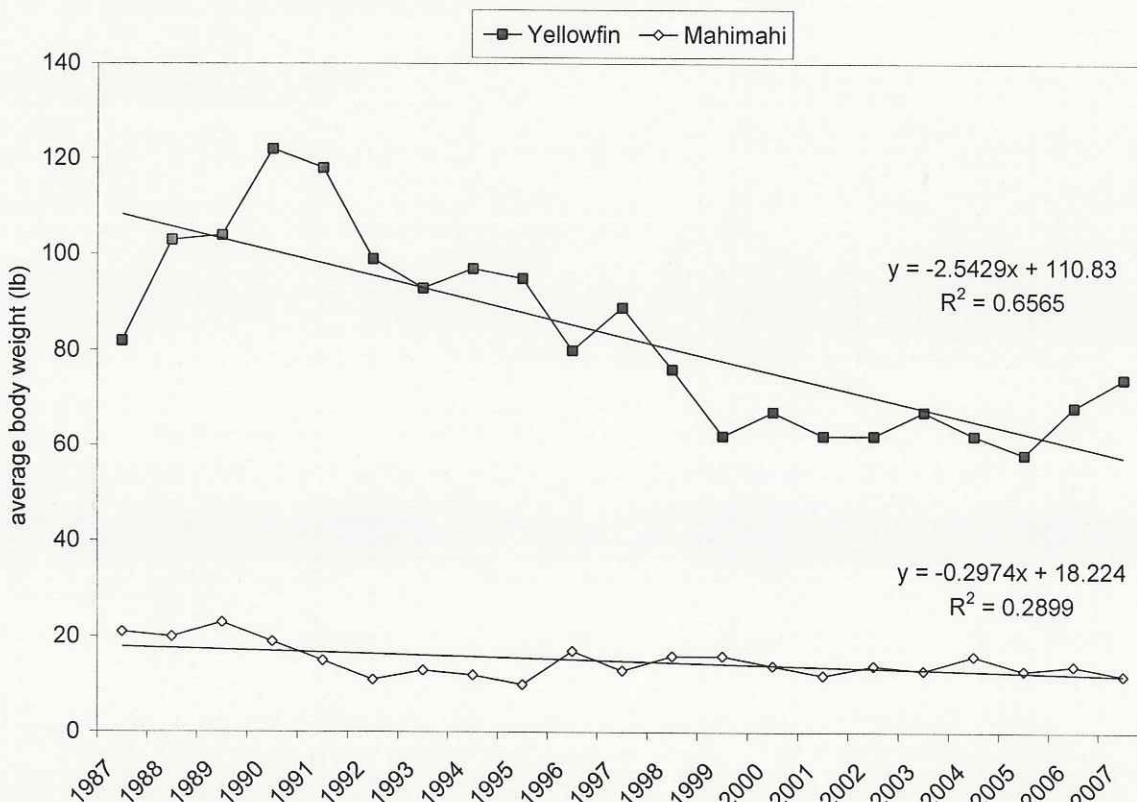


Figure 2: Average weight of yellowfin tuna and mahimahi in the Hawaii-based longline landings, 1987-2007.

Source: 2007 Pelagic Fisheries Annual Report (WPRFMC 2009)

Regardless of the average body weight of yellowfin and mahimahi landed in the longline fishery, it may be more appropriate to consider average weight data for these species from troll and handline fisheries. The stock segments targeted by troll and handline fisheries are more likely to represent those preyed upon by the insular population of Hawaiian FKW, as longline fishing has been prohibited within 75 nm of the MHI (with some boundaries extending to 50 nm) since 1992. According to the data included in the 2007 Pelagic Fisheries Annual Report (WPRFMC 2009), there are no significant declines in the average body weight of yellowfin and mahimahi landed by the Main Hawaiian Islands troll and handline fishery (Figure 3).

Further, Polovina and colleagues (2009)⁹ reported that catch rates for the 13 most abundant species caught in the Hawaii deep-set longline fishery over the past decade (1996–2006) provide evidence of a change among the top predators of the subtropical North Pacific. Catch rates for apex predators such as blue shark, bigeye and albacore tunas, shortbill spearfish, and striped marlin declined by 3% to 9% per year, while catch rates for mid-trophic species such as mahimahi, sickle pomfret, escolar, and snake mackerel increased by 6% to 18% per year. The

⁹ Polovina, J.J., M. Abecassis, E.A. Howell and P. Woodworth. 2009. Increases in the relative abundance of mid-trophic level fishes concurrent with declines in apex predators in the subtropical North Pacific, 1996-2006. *Fishery Bulletin* 107:523-531.

mean trophic level of the catch for these 13 species declined 5%, from 3.85 to 3.66. A shift in the ecosystem to an increase in midtrophic-level, fast-growing and short-lived species is indicated by the decline in apex predators in the catch (from 70% to 40%) and the increase in species with production to biomass values of 1.0 or larger in the catch (from 20% to 40%). Considering that mahimahi is one of the important prey species of FKW, such a shift may be beneficial as it would increase foraging opportunities for them, or at minimum compensate for any reduction in apex predator species such as albacore tuna that have also been documented as FKW prey. In their petition, NRDC does not reference this study nor its implications analyzed from a trophic perspective with respect to FKWs. Further, Baird (2009) only notes the reduction of catch rates for bigeye and albacore tunas from this study, and fails to acknowledge the increased catch rates of mahimahi and other midtrophic species from the same study.

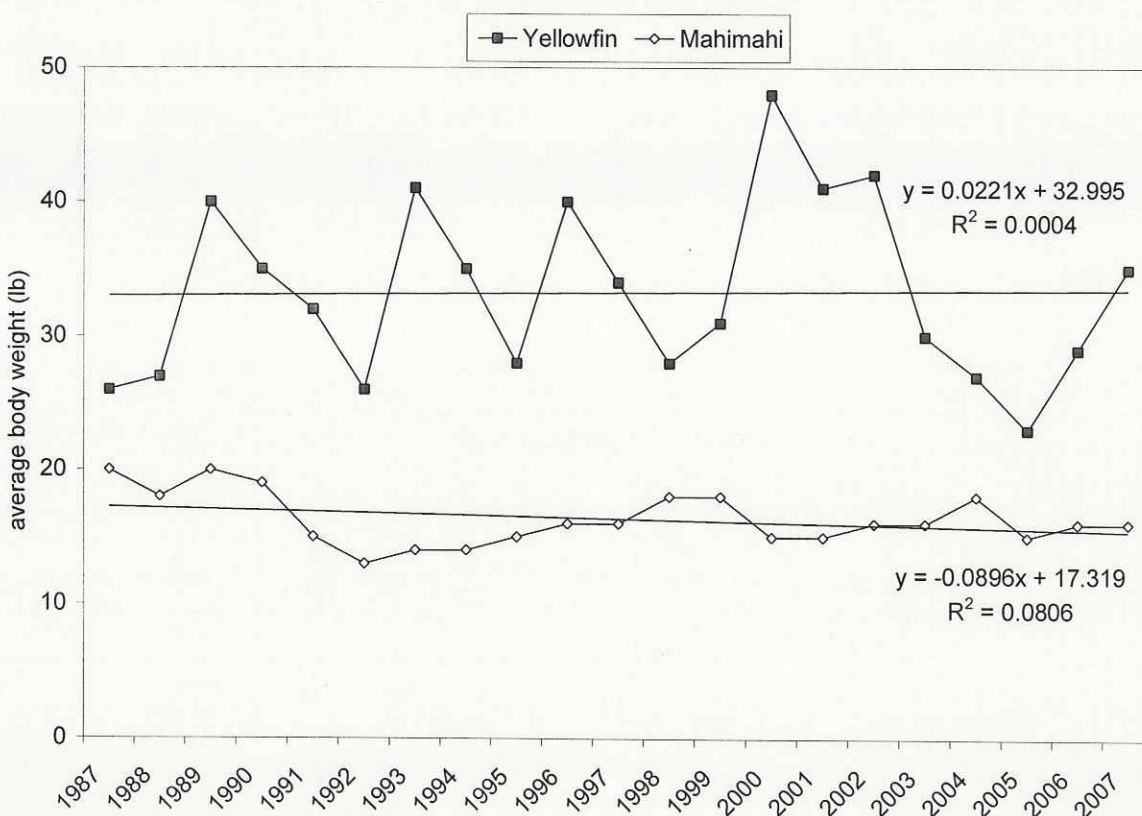


Figure 3: Average weight of yellowfin tuna and mahimahi in the Main Hawaiian Islands troll and handline landings, 1987-2007.

Source: 2007 Pelagic Fisheries Annual Report (WPRFMC 2009)

II. Population Estimate of 1989

The greatest piece of evidence supporting the claim of substantial decline in the insular population of the Hawaiian FKW is based on an eight-day, 30-hour aerial survey conducted in June-July 1989. Of the nine sightings of FKW produced from directed surveys off the island of Hawaii, three sightings produced large group estimates of 380, 460, and 470 individuals located on the western side of Kohala Peninsula, with distance from shore ranging between 4.5-11 km

(Reeves et al. 2009). The results of this 1989 aerial survey, published for the first time in 2009, is the only case of large groups of FKW ever to be documented in the Hawaiian waters. We suggest that the results from this survey be interpreted with great caution for the following reasons:

- *Inability to confirm the species of sighted animals due to lost photographic records:*
Authors of the published article summarizing the 1989 aerial survey (Reeves et al. 2009) discussed the possibility of the large groups of odontocetes documented being misidentified as FKW when they may have been melon-headed whales, which are similar to FKW but are known to occur in large groups in the area. The authors dismiss this possibility by citing the observers' extensive experience in identifying tropical odontocetes. However, the authors also note that the photographs from the 1989 aerial survey have been lost since the principal observer's death in 1997. The lack of photographic records makes it impossible for the aerial survey results to be reanalyzed today, creating great uncertainty for interpreting the results.
- *Lack of genetic or other evidence to conclude that the documented large groups of FKW were associated with the insular population:*
The large groups of FKW documented in the 1989 survey are assumed to be associated with the insular population solely on the basis of their documented location (4.5-11 km from shore), as no genetic samples were taken from these large groups of FKW. While individuals of the pelagic population have only been documented as close as 42 km from shore in recent vessel-based surveys, little is known about the movements and ranges of the pelagic population (Baird 2009). As such, the possibility of these documented large groups being associated with the pelagic population should not be eliminated on the basis of location and currently available information.
- *Lack of replicated results supporting the existence of large groups of FKW in 1989:*
No other aerial or vessel-based survey in the Hawaiian waters have ever documented large groups of FKW. Annual aerial surveys conducted in 1993-1998 produced a mean group size of 5.1 individuals based on 14 sightings (Mobley et al. 2000)¹⁰, whereas the 1989 survey produced a median group size of 195 individuals (range = 11-470 individuals) based on nine sightings (Reeves et al. 2009). More recent vessel-based surveys conducted between 2000 and 2006 produced a median group size of 15 individuals (range = 3-41 individuals) based on 369 survey days (Baird et al. 2008)¹¹. Further, systematic aerial surveys conducted in 1993, 1995, and 1998 produced an abundance estimate for FKW likely corresponding to the now known insular population of 121 individuals (CV = 0.45; Mobley et al. 2000), which is not substantially different than the most recent estimate of the insular population of 123 individuals (CV = 0.72; Baird et al. 2005)¹². These differences in observed group sizes and population estimates

¹⁰ Mobley, J.R., S.S. Spitz, K.A. Forney, R.A. Brotenfendt, and P.H. Forestell. 2000. Distribution and abundance of odontocete species in Hawaiian waters: preliminary results of 1993-1998 aerial surveys. US Natl Mar Fish Serv SWFSC Admin Rep LJ-00-14C.

¹¹ Baird, R.W., A.M. Gorgone, D.J. McSweeney, D.L. Webster, D.R. Salden, M.H. Deakos, A.D. Ligon, G.S. Schorr, J. Barlow and S.D. Mahaffy. 2008a. False killer whales (*Pseudorca crassidens*) around the main Hawaiian Islands: long-term site fidelity, inter-island movements, and association patterns. *Marine Mammal Science* 24:591-612.

¹² Baird, R.W., A.M. Gorgone, D.L. Webster, D.J. McSweeney, J.W. Durban, A.D. Ligon, D.R. Salden and M.H.

between the 1989 survey and subsequent surveys are interpreted in the NRDC's petition as evidence of decline. However, considering that all other surveys conducted in the Hawaiian waters have produced relatively small group size estimates, and that FKW are typically known to occur in groups of 10-20 (Baird 2009), coupled with the relatively stable population estimate in the last 10-15 years, the results of the 1989 survey may be considered an outlier caused by misidentification or unusual conditions resulting in large temporary aggregations.

III. Conclusions

The Council recommends that NMFS critically examine all FKW prey base information from a fisheries science perspective, and also reexamine the scientific reliability of the 1989 aerial survey results upon which most claims regarding the declining insular population are based. Information we have provided here indicate that NRDC's interpretations of fishery data are inaccurate, and that available fishery data do not suggest a decline in FKW prey base. Furthermore, we suggest that the large groups of FKW documented in the 1989 may not be the most reliable scientific data to estimate historical population size and to imply a dramatic decline in the insular population over the last 20 years.

The Council appreciates this opportunity to provide information upon the public information solicitation period in response to the 90-day finding. Please feel free to contact Asuka Ishizaki, Protected Species Coordinator at (808) 522-8224 or Paul Dalzell, Senior Scientist at (808) 522-6042 if you have any questions concerning the information discussed in this letter.

Sincerely,



Kitty M. Simonds
Executive Director

Cc: Bill Robinson, Pacific Islands Regional Administrator