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VIA FEDERAL eRULEMAKING PORTAL AND EMAIL

Lance Smith
Assistant Regional Administrator
Protected Resources Division
National Marine Fisheries Service
Pacific Islands Regional Office
1601 Kapiolani Boulevard, Suite 1110
Honolulu, HI 96814

Re: Hawaiian insular false killer whale proposed listing
Docket No. 0912161432-0453-02; RIN 0648-XT37

Dear Lance:

We write on behalf of the Hawaii Longline Association ("HLA") to provide comments in response to the National Marine Fisheries Service's ("NMFS") proposed listing of the "insular population of Hawaiian false killer whales" (*Pseudorca crassidens*) (the "insular stock") as an endangered species under the federal Endangered Species Act ("ESA"). We submit these comments in response to the notice and proposed rule published by NMFS at 75 Fed. Reg. 70169 (Nov. 17, 2010) ("Proposed Rule").

HLA's comments are organized below into five sections. Initially, our comments are broadly summarized in Section I. The subsequent sections provide a discussion of context (Section II), followed by more detailed discussion of ESA listing issues (Section III), distinct population segment ("DPS") issues (Section IV), and critical habitat issues (Section V). HLA appreciates your consideration of these comments.

I. SUMMARY

For the reasons explained below, respectfully, HLA comments to NMFS on its proposal to list the insular stock as an "endangered" species as follows:

1. The available information regarding stock structure, range, and abundance of false killer whales in the vicinity of the Hawaii Islands is significantly limited, contains substantial

data gaps, and is low in confidence and high in uncertainty. On balance, the data are inadequate to support the designation of the insular stock of false killer whales as a DPS at this time.

2. The Proposed Rule does not comply with applicable law requiring NMFS in this instance to specifically address and interpret – in its proposed rule – the ESA's "endangered" definition and to then apply the record evidence to that interpretation. Specifically, applicable law requires that NMFS, at a minimum: (i) provide its interpretation of the "endangered" definition; (ii) explain how its interpretation conforms to the text, structure, and legislative history of the ESA; (iii) explain how its interpretation is consistent with judicial interpretations of the ESA; (iv) explain how its interpretation serves ESA policy objectives; and (v) addresses whether its interpretation could undermine those policy objectives. 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 finding that listing is not warranted) that complies with the law and that can be meaningfully commented upon by the public.

3. NMFS makes a number of false statements regarding the Hawaii commercial longline fisheries that must be corrected. Specifically, NMFS misstates the nature of the fisheries' alleged interactions with the insular stock, or, more correctly, the lack thereof, and reaches inaccurate conclusions based upon those misstatements. These conclusions are unreasonable, arbitrary, and contrary to the best available information.

4. In concluding that the insular stock has "declined," NMFS has effectively drawn a single conclusion based on limited, uncertain, and unverified data from which a number of other reasonable conclusions could be drawn. The Proposed Rule does not present a balanced assessment that recognizes the high uncertainty concerning historical abundance data or that gives equal weight to all reasonable interpretations. The result is that NMFS significantly grounds its Proposed Rule in biased[1] conclusions that, at every turn, are selective of data and

[1]We use the term "bias" here and elsewhere in this letter in the scientific sense – i.e., systematic favoritism present in data collection, analysis, and reporting of quantitative and qualitative research regarding false killer whales and the Hawaii longline fisheries. We do not use the term "bias" in this letter to imply intentional misconduct or any ill-will on the part of any NMFS personnel or its contracted scientists. We sincerely hope that no such implications are drawn from our comments. As set forth in this comment letter, we do not, however, believe that the analyses and conclusions of the Proposed Rule are consistent with the principles of scientific integrity to which federal agencies are bound. *See* Memorandum for the Heads of Executive Departments and Agencies Regarding Scientific Integrity (December 17, 2010) (available at:

(continued . . .)

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.

5. NMFS generally asserts that competition for prey with fisheries is a threat, but fails to make any causal connection establishing that fisheries compete with the insular stock for prey or that insular stock animals are nutritionally distressed or otherwise suffering from a supposed lack of prey. The best available information shows that prey competition, if any, between the commercial longline fisheries and the insular stock poses no risk to the insular stock.

6. While we do not believe a listing of the insular stock or designation of critical habitat is warranted, at a minimum, any proposed critical habitat designation must (i) take into account the potential regulatory and economic impacts on commercial fishing and (ii) assess and consider habitat that has actually been demonstrated to be occupied and used by false killer whales. Moreover, NMFS should consult with and utilize the resources of the Western Pacific Regional Fishery Management Council ("Council"), the Pacific Islands Fishery Science Center ("PIFSC"), and the fisheries (HLA) as it gathers and assesses information regarding potential economic and regulatory impacts. Representatives from each of the Council, PIFSC, and the fishery should participate in the peer review of any proposed critical habitat rule.

(. . . continued)
http://www.whitehouse.gov/sites/default/files/microsites/ostp/scientific-integrity-memo-12172010.pdf.

II. CONTEXT[2]

A. Factual Background

1. The Hawaii-based longline fisheries

The Hawaii-based commercial longline fisheries are well known to NMFS, particularly the Pacific Island Regional Office ("PIRO"). In brief, the Hawaii-based commercial longline fleet consists of two separately operated and managed fisheries: the shallow-set (swordfish target) gear configuration fishery (the "shallow-set fishery") and the deep-set (tuna-target) gear configuration fishery (the "deep-set fishery") (collectively the "Hawaii-based longline fisheries" or the "fisheries").

The Hawaii-based longline fisheries are limited access fisheries authorized and managed, principally by NMFS, but with notable involvement by the U.S. Coast Guard, the U.S. Fish & Wildlife Service and the U.S. Department of State, under an extraordinarily rigorous and diverse regulatory regime encompassing both international fisheries treaties and organizations (*e.g.,* Western and Central Pacific Fisheries Commission; Inter-American Tropical Tuna Commission), and numerous federal laws (*e.g.,* the MSA, the ESA, the MMPA, the National Environmental Policy Act, the Migratory Bird Treaty Act, and the Western and Central Pacific Fisheries Commission Implementation Act). Collectively, the Hawaii-based longline fisheries are among the most rigorously and reliably regulated, monitored, observed and reported commercial fisheries in the world.

One laudable consequence of the intense regulatory attention associated with these fisheries is the well-documented, dramatic, and sustained reductions in impacts to sensitive species achieved in the past decade. The Hawaii-based longline fisheries have, among other things, reduced incidental mortality and injury to sea turtle species, and to albatross species, by approximately 90 percent or more in comparison with historical bycatch effects. A second laudable consequence is that gear innovations (*e.g.,* circle hooks and seabird avoidance

[2] In this section, we comment to inform NMFS and the administrative record of important factual and legal context. It is not HLA's contention here that context alters the statutory listing factors specified by Congress in Section 4 of the ESA. However, we do believe that context may provide relevant information that helps inform the agency's exercise of professional and scientific judgment in areas of limited data and uncertainty.

measures) pioneered by NMFS, the Council, and the Hawaii-based longline fisheries now serve as state-of-the-art methods being promoted internationally by the United States, the Council, and by HLA as a means of responsibly and sustainably reducing bycatch in the large and virtually unmonitored commercial longline fisheries of other Pacific nations. A third laudable consequence is that HLA partners with NMFS and the Council to promote and support sustained conservation measures that are believed to more than offset the consequences of incidental take of sea turtles. Finally, as described in more detail below, HLA was an instrumental participant in the development of a consensus-based "take reduction plan" ("TRP") that proposes the implementation of various measures, including gear and operational changes and fishery closures, to reduce the rate of fishery interactions with false killer whales. HLA has already begun to voluntarily implement some of the measures contemplated by the TRP even though NMFS has not yet issued formal regulations adopting the TRP.

One additional consequence of the past decade of rigorous attention paid to the fisheries has been a clear demonstration that regulatory measures implemented as unilateral actions to restrict fishing effort in the Hawaii-based fisheries in order to reduce incidental take of sensitive species can, and paradoxically have, resulted in unintended adverse conservation consequences. Accordingly, for example, severe restrictions placed on the shallow-set fishery in the early part of this decade caused more harm than good. *See, e.g.,* Rausser, G., S. Hamilton, M. Kovoch and R.Siftner. 2008. *Unintended Consequences: The spillover effects of common property regulations*. Marine Policy, doi:10.1016/j.marpol.2008.03.020; NMFS, Biological Opinion, Management Modifications for the Hawaii-based Shallow-set Longline Swordfish Fishery – Implementation of Amendment 18 to the Fishery Management Plan for Pelagic Fisheries of the Western Pacific Region, p. 50 (Oct. 15, 2008). Closure of the shallow-set fishery by NMFS in 2001 was intended to reduce impacts to Pacific sea turtle populations, but instead resulted in a shift of fishing effort to foreign fisheries, which in turn resulted in dramatic increases in sea turtle bycatch and mortality. In sum, the Hawaii-based longline fisheries are a part of a complex commercial, economic, political, regulatory, and biological web. In this complicated context, there is a substantial and very real risk, confirmed by actual experience in the shallow-set fishery, of unintended adverse conservation consequences from overzealous and inadequately considered unilateral regulatory actions.

2. Why the listing petition was filed and why it matters to HLA

Although the Hawaii-based fisheries are rigorously regulated and observed, and despite both the significant reductions in incidental take, and the ongoing positive contributions of conservation measures, virtually every significant regulatory action regarding these fisheries taken by NMFS (or delayed by NMFS) in the past decade has resulted in federal court litigation.

This litigious history is the result of a determined long-term campaign by national conservation advocacy groups to regulate or otherwise drive the Hawaii-based longline fisheries out of existence.

The current issue *de jure* for those groups seeking to continue their misguided campaign against the Hawaii-based longline fisheries is interactions with false killer whales stocks, and the current focus of this effort is the insular stock.[3] Prior to 2008, this stock was unrecognized by NMFS. Despite limited information, the insular stock has in a few short years catapulted from non-existent, to "stocklet" status, to identification as a separate MMPA stock of limited range, to a stock of increasingly expanded range. Although the recognized abundance of the stock has not changed since its discovery, the Proposed Rule characterizes the insular stock as a discrete population exhibiting a sustained population decline for much or all of the past 20 years. Moreover, although there is no evidence of any actual interactions between this stock and the Hawaii-based longline fisheries, despite sustained high observer coverage and genetic sampling, efforts persist within and without the agency to infer such interactions. Unfortunately, the Proposed Rule adopts these inferences as fact and makes conclusions based upon misinformation.

HLA desires a regulatory environment that is more predictable and stable, that treats the fisheries fairly, that relies upon scientific decisions made by unbiased, neutral scientists, and that conserves protected resources through a proper and balanced application of federal laws such as the ESA, the MSA, and the MMPA. HLA and its members recognize the direct relationship between a healthy ocean ecosystem, predictable regulatory programs, and sustainable commercial fisheries. In the past decade, the fisheries HLA represents have demonstrated that they are able to adapt, innovate, dramatically reduce bycatch impacts, conserve species, manage regulatory obligations, defend against advocacy litigation, and still succeed in highly competitive fisheries dominated by large industrial high seas Asian fleets that are essentially unmonitored and unregulated. Whatever the outcome of this listing process, HLA will continue to work in good faith with NMFS under the applicable regulatory constraints to sustainably and responsibly

[3]For ease of comparison with the Proposed Rule, we use the term "insular stock" throughout this letter. However, as indicated above and in Section IV below, we do not agree that the best available science and information supports a conclusion that an "insular DPS" exists or that the term "stock" is otherwise appropriate with reference to false killer whales observed near the main Hawaiian Islands.

engage in commercial fishing. We ask that NMFS's consideration of the fisheries in any final rule that is issued be similarly undertaken in a responsible, fair, and factually-correct manner.

B. ESA Statutory, Regulatory, and Policy Provisions

We appreciate that NMFS has special expertise in, and knowledge of, application of the ESA in general, and the ESA Section 4 listing criteria in particular. At the same time, the regulatory scheme established in the ESA has proven to be very litigious. The ESA listing judgments of both NMFS and the U.S. Fish & Wildlife Service have frequently been overturned by federal courts on the basis that agency decisions were either arbitrary and capricious, or contrary to the provisions of the ESA. The Proposed Rule arises in an adversarial context, and the threat of litigation in this instance is high. Accordingly, and respectfully, we briefly discuss the application of the ESA's statutory provisions in the present context.

The listing criteria applicable under Section 4 of the ESA, 16 U.S.C. § 1533(a)(1), are well-known to NMFS and accurately set forth in the Propose Rule. *See also* 50 C.F.R. § 424.11(c). In addition to the listing criteria, two related legal principles warrant special mention in connection with NMFS's listing analysis: (i) use of the "best scientific and commercial data available"; and (ii) misapplication of the precautionary "benefit of the doubt" principle in the ESA listing context.

First, the ESA requires listing decisions to be made "solely on the basis of the best scientific and commercial data available." 16 U.S.C. § 1533(b)(1)(A); 50 C.F.R. § 424.11(c). The U.S. Supreme has emphasized that the best available science requirement was intended by Congress to prohibit reliance upon speculation as the premise for well-intended but overzealous regulatory action:

> The obvious purpose of the requirement that each agency 'use the best scientific and commercial data available' is to ensure that the ESA not be implemented haphazardly, on the basis of speculation or surmise. While this no doubt serves to advance the ESA's overall goal of species preservation, we think it readily apparent that another objective (if not indeed the primary one) is to avoid needless economic dislocation produced by agency officials zealously but unintelligently pursuing their environmental objectives.

Bennett v. Spear, 520 U.S. 154, 176-177 (1987).

Second, the ESA was enacted by Congress as an action-forcing conservation statute designed to ensure real protections for species that are, in fact, either currently in peril or foreseeably threatened with peril. The ESA was not intended to provide protections for species for which actual – not uncertain – current or foreseeable danger has not been affirmatively determined by the management agency. Consequently, the "benefit of the doubt" standard that is referenced by some courts in connection with ESA Section 7 cases does *not* apply in the Section 4 listing context:

> Under Section 4, the default position for all species is that they are not protected under the ESA. A species receives the protections of the ESA only when it is added to the list of threatened species after an affirmative determination that it is 'likely to become endangered within the foreseeable future.' Although an agency must still use the best available science to make that determination, *Conner* cannot be read to require an agency to 'give the benefit of the doubt to the species' under Section 4 if the data is uncertain or inconclusive. Such a reading would require listing a species as threatened if there is any possibility of it becoming endangered in the foreseeable future. This would result in all or nearly all species being listed as threatened. Instead, Congress vested the NMFS with discretion to make listing decisions based on consideration of the relevant statutory factors using the best scientific information available.

Trout Unlimited v. Lohn, 645 F. Supp. 2d 929, 947 (D. Or. 2007); *see Ctr. for Biological Diversity v. Lubchenco*, No. C-09-04087, 2010 U.S. Dist. LEXIS 135030, *24-25 (N.D. Cal. Dec. 21, 2010); *Natural Resources Defense Council v. Kempthorne*, 506 F. Supp. 2d 322, 360 (E.D. Cal. 2007) ("*Conner* does not directly support the broader interpretation urged by Plaintiffs, that the agency should err on the side of the species when evaluating uncertain evidence."). Both of the principles set forth above have particular relevance here because, as described below, the proposed listing of the insular stock is based, in large part, on "uncertain or inconclusive" information. As the authorities above make clear, ESA listings are not to be made on the basis of uncertain information or speculation.

Finally, NMFS's listing decisions are subject to review under the Administrative Procedure Act ("APA"). *See, e.g., Am. Wildlands v. Kempthorne*, 530 F.3d 991, 997 (D.C. Cir. 2008). Under the APA, federal agency actions are unlawful if they are "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law." 5 U.S.C. § 706(2)(A). In

determining whether an agency's action is unlawful under this standard, a court must determine whether the agency "considered the factors relevant to its decision and articulated a rational connection between the facts found and the choice made." *Keating v. FERC*, 769 F.3d 427, 433 (D.C. Cir. 2009) (citing *Balt. Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 105 (1983)).

III. ESA LISTING ISSUES

Should NMFS ultimately conclude that the insular stock meets the DPS criteria, we offer the following comments regarding the ESA listing issues.[4]

A. The Proposed Rule Does Not Meet Applicable Legal Standards

As set forth below, the Proposed Rule does not comply with applicable law requiring NMFS in this instance to specifically address and interpret – in its proposed rule – the ESA's "endangered" definition and to then apply the record evidence to that interpretation. Because the Proposed Rule fails to engage in this analysis, NMFS must reconsider the Proposed Rule under the applicable authorities described below and re-issue a new proposed rule (or a finding that a listing is not warranted) that complies with the law and that can be meaningfully commented upon by the public.

The Proposed Rule concludes that the insular stock qualifies as "endangered." An "endangered" species is defined as "any species which is in danger of extinction throughout all or a significant portion of its range." 16 U.S.C. § 1532(6). The primary question posed by the Proposed Rule, then, is whether the insular stock "is" – i.e. currently or presently – "in danger" of extinction. However, in the Proposed Rule, NMFS does not explain what it means to be "in danger of extinction" and whether and how the record evidence supports NMFS's undisclosed interpretation of the meaning of that phrase. *See* 75 Fed. Reg. at 70184 (summarily concluding, with no interpretation or analysis of the phrase "in danger of extinction," that "the Hawaiian insular false killer whale DPS is presently in danger of extinction"). Recent case law makes clear that this deficiency renders the Proposed Rule – if finalized – subject to remand and vacatur.

[4] We do not agree that the insular stock meets the ESA's strict DPS criteria and our comments regarding DPS are set forth in Section IV below.

The federal district court for the District of Columbia recently held that the ESA's definition of "endangered" is ambiguous. *See In re Polar Bear Endangered Species Act Listing and §4(d) Rule Litigation*, No. 08-764, 2010 U.S. Dist. LEXIS 117439, *27-28 (D.D.C. Nov. 4, 2010) ("the Court finds that the overall structure of the ESA suggests that the definition of an endangered species was intentionally left ambiguous.... The definition of an 'endangered species' is, therefore, inherently ambiguous."). Consequently, an agency must, in a listing rule that considers "endangered" status, address the ambiguity and "[at] a minimum, the agency must explain how its interpretation of the statute conforms to the text, structure and legislative history of the ESA; how its interpretation is consistent with judicial interpretations of the ESA (if there are any on point); and how its interpretation serves the ESA policy objectives." *Polar Bear*, 2010 U.S. Dist. LEXIS 117439 at *36. The agency "must also address any legitimate concerns that its interpretation could undermine those policy objectives." *Id*. If the agency's rule follows these requirements, a court normally is required to defer a "permissible" construction of the statute under the *Chevron* analysis. However, where, as here, the agency has "not purported to interpret the statutory definition of an endangered species in the Listing Rule itself," there is no permissible construction to which the Court can defer. *Id*. at *33, 36-37, n.17; *see Humane Soc'y of the U.S. v. Kempthorne*, 579 F. Supp. 2d 17, 19 (D.D.C. 2008).[5]

An agency's obligation to acknowledge, interpret, grapple with, and apply an ambiguous statute it is charged with administering is "fundamental":

> First, while the Final Rule's deficiency is procedural, it is also fundamental: FWS failed to acknowledge crucial statutory ambiguities, and failed to explain how its interpretation of the ESA comports with the policy objectives of the Act. For that reason, the Court cannot be sure that the agency will arrive at the same conclusion after further consideration – let alone whether, on further judicial review, this or a similar Final Rule will withstand challenge under the APA.

[5] If NMFS has reached an opposite conclusion than the D.C. district court – i.e., that the term "endangered" is not ambiguous – that conclusion should have been explained in the Proposed Rule. Our comments here are premised on the assumption that the definition of "endangered" is ambiguous because this is consistent with the conclusion of the only court that has addressed this specific issue.

Kempthorne, 579 F. Supp. 2d at 21 (vacating final rule); *see Polar Bear*, 2010 U.S. Dist. LEXIS 117439 at *35-36 ("The Court therefore will remand the Listing Rule to FWS for the agency to provide a reasonable interpretation of the definition of an 'endangered species,' as applied to its listing determination for the polar bear.").

Without the required analysis described above, it is not possible for interested parties to meaningfully comment on whether NMFS's conclusion that the insular stock is "endangered" is reasonable or arbitrary. Moreover, it is entirely possible that NMFS could reach a different conclusion after it has engaged in the proper analysis. To remedy the Proposed Rule's defect, NMFS must reconsider the Proposed Rule and issue a new proposed rule (or finding that listing is not warranted) in which the agency at a minimum: (i) provides its interpretation of the "endangered" definition, (ii) explains how its interpretation conforms to the text, structure and legislative history of the ESA; (iii) explains how its interpretation is consistent with judicial interpretations of the ESA; (iv) explains how its interpretation serves the ESA policy objectives; and (v) addresses whether its interpretation could undermine those policy objectives. Only with this explanation and analysis may interested parties meaningfully comment on any rule proposed by the agency.

As one example of how the Proposed Rule's legal deficiency precludes meaningful analysis, the Proposed Rule accepts the BRT's modeling results that allegedly forecast a 50 percent or greater chance that the insular stock will face "near extinction" in 75 years. However, the Proposed Rule nowhere explains how or why this necessarily translates into a conclusion that the insular stock is presently "in danger of extinction" (as opposed to "likely to become endangered in the foreseeable future" or not likely to become endangered in the foreseeable future). Without the agency's interpretation of the "endangered" definition and the application of the record facts to that interpretation, it is not possible for interested parties to meaningfully comment on whether the conclusions of the BRT support an "endangered," "threatened," or "not warranted" finding. This is precisely the reason courts have held that an agency must "grapple with" the ambiguity of the statutory standard that is being applied in an administrative rule. Without the required analysis and interpretation, as set forth in the *Kempthorne* and *Polar Bear* cases, there is no "rational connection" between the agency's decision and record facts, and the decision, issued in final, is subject remand and vacatur.

B. The Proposed Rule Presents an Incorrect Assessment of Alleged Interactions Between the Commercial Longline Fisheries and the Insular Stock

The Proposed Rule concludes, based on the Status Review (NOAA Technical Memorandum NMFS-PIFSC-22), that supposed interactions with commercial longline fisheries

pose a "high level of current and/or future risk" to insular stock animals. This conclusion is – quite literally – based on no evidence showing that the commercial longline fisheries have ever had an interaction with an insular stock animal. However, the Proposed Rule contains a number of statements that improperly infer such interactions and that, taken as a whole, present a biased, unfair, and incorrect assessment of the effect, if any, of commercial longline fisheries on the insular stock. This flawed assessment is relied upon by NMFS as a basis for the "endangered" finding and, as such, renders that finding arbitrary and capricious.

The following summarizes what is currently known about fishery interactions, if any, with the insular stock:

- There has never been a documented interaction between the Hawaii-based longline fisheries and an animal from the insular stock, despite high rates of observer coverage (100% in the shallow-set fishery and 20% in the deep-set fishery). Indeed, NMFS has acknowledged that there are "no documented serious injuries or mortalities of [insular stock] animals incidental to Hawaii's longline fisheries." 75 Fed. Reg. 2853, 2854 (January 19, 2010); *see also* 2009 Stock Assessment Report ("SAR") and 2008 SAR.[6]

- In the history of recorded interactions between the longline fisheries and false killer whales, there has been only one documented interaction with a false killer whale that occurred in or near the geographic "range"[7] that NMFS has identified for the insular stock. *See* Draft 2010 SAR. That single interaction was classified as "non-serious." Moreover, that interaction most likely involved an animal from the pelagic false killer

[6] The SARs referenced in this letter are available at http://www.nmfs.noaa.gov/pr/sars/. For ease of reference, we simply use "SAR" as the citation and, in doing so, we refer to the Hawaii false killer whale SARs.

[7] In identifying the outer boundary of the insular stock's "range," NMFS has used the furthest distance traveled by one telemetry-tagged false killer whale to the leeward side of the main Hawaiian Islands ("MHI") (~110 kilometers), added approximately 30 kilometers to that distance as a "cushion," and then transcribed a line around the entire MHI at that distance. It is notable that on the windward side of the MHI, no false killer whales have been tracked within miles of that outer boundary – likely because the oceanographic, biological, and physical properties of the environment on the windward side of the MHI are very different than the leeward side.

whale stock, not the insular stock (no genetic sample was obtained). The interaction occurred well to the north of the MHI, in a set that we understand straddled the outer boundary of the "range," and in an area many miles away from the nearshore areas in which insular false killer whales have actually been observed in telemetry studies. The best available science simply does not reasonably support the conclusion that the interaction involved an insular stock animal.[8]

- There is anecdotal (i.e., word-of-mouth) evidence that there have been insular stock interactions, including alleged shootings, with nearshore shortline fisheries and other small-scale fishers. None of this information is documented or otherwise reported. HLA believes that any such acts, if proven, should be prosecuted to the full extent of applicable law. However, the fact is that the allegations are not proven, are speculative, and, from an ESA perspective, are therefore irrelevant to NMFS's consideration of the "best available scientific and commercial information." Moreover, the allegations do not concern the longline fisheries.

- Baird and Gorgone (2005) reported fin disfigurements in some false killer whales in the nearshore waters around the MHI from 2000-2004. The authors recognize that possible causes of fin disfigurements include shark bites, boat strikes, and fishery interactions. However, the authors go on to speculate that the "most likely" cause of the fin disfigurements is fishery interactions, despite the fact that none of the disfigurements were confirmed in any way to have resulted from fishery interactions. Moreover, the authors summarily dismiss boat strikes as a cause, ignoring the fact that the observations occurred in nearshore waters where boat traffic is substantial. Additionally, the fact that the authors observed healthy animals with disfigurements – a few of which were described as "major" – shows that the animals survive these interactions. Finally, insofar as the authors suggest that the fin disfigurements are due to fishery interactions, there is no evidence that any such interactions were with longline fisheries, which do not operate in the areas in which insular stock animals have been observed.

[8] NMFS's attribution of that interaction to the insular stock both in its draft 2010 SAR and in certain portions of the Proposed Rule directly contradicts its statement 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." 75 Fed Reg at 70174 (emphasis added).

The above information summarizes the extent of the available information regarding alleged fishery interactions with insular false killer whales. The short conclusion from this evidence is that there is no documented evidence of any take of an insular stock animal by any fishery. Consequently, NMFS's conclusion that longline fisheries pose a "high risk" to the insular stock can only be based on evidence of one false killer whale interaction over a period of six years (i) that occurred on the outer boundary of the insular stock "range," (ii) in an area miles away from where any insular animals have ever been scientifically observed, and (iii) for which no genetic sample was obtained. NMFS's conclusion directly contradicts the best available information.[9]

Moreover, NMFS's conclusion is supported in the Proposed Rule by a number of direct and indirect inferences regarding alleged fishery interactions that also are not supported by the available data. For example, the Proposed Rule states that "[t]he 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." 75 Fed. Reg. at 70184. Respectfully, this statement is untrue. First, there is literally no documentation of any interactions between the commercial longline fishery and the insular stock "since 1992." Second, no interactions "have still been documented" since 1992 – as detailed above, there has never been any documented interaction between the longline fisheries and any insular stock animal. Finally, NMFS's statement implies that the longline fisheries are somehow responsible for the supposed decline of the insular stock. Here, NMFS reaches the astounding conclusion, based on zero documented interactions between longline fisheries and the insular stock, that not only do longline fisheries interact with the insular stock but that they do so to a degree that has caused, and still causes, a decline in the population. This conclusion is factually incorrect, arbitrary, and reflective of bias.[10]

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[9] In the Status Review, the BRT rated interaction with commercial longline fisheries (as opposed to troll, handline, kaka line, and shortline fisheries) as a low overall threat level currently and into the future (see page 100 of the Status Review). In contrast, in the Proposed Rule, interactions with commercial longline fisheries are described as being "rated as a high level of current and/or future risk to Hawaiian insular false killer whales." In this respect, a key finding of the Proposed Rule is directly contrary to the Status Review's finding.

[10] NMFS makes a number of other inferences regarding fishery interactions that are unsupported by actual data. *See e.g.*, 75 Fed. Reg. at 70180 ("a few interactions closer to the Hawaiian Islands may have involved insular animals"; "[h]istorically, more frequent interactions

(continued . . .)

Finally, as recognized in the Proposed Rule, in July 2010, the false killer whale TRT agreed upon a "take reduction plan" that addresses the longline fisheries and pelagic and insular false killer whales. One component of that plan provides, as a preventative measure, for the extension of the longline exclusion zone to essentially the full range of what NMFS has identified as the "range" of the insular stock. The TRT – comprised of scientists, conservationists, agency personnel, fishermen, and attorneys – concluded that this measure "effectively eliminates any risk the deep and shallow-set longline fisheries may pose to the insular stock of false killer whales, and, therefore, that the deep-set and shallow-set fisheries operating pursuant to this Plan would not affect, or are not likely to adversely affect, the insular false killer whale stock." *See* False Killer Whale Take Reduction Plan at 60. The findings made by NMFS in the Proposed Rule directly contradict this well-considered finding of the TRT. *See* 75 Fed. Reg. at 70179 (the proposed expansion does not change NMFS's conclusion that longline fishery interactions pose a "high risk threat"). NMFS has offered no reasonable explanation that rationalizes the Proposed Rule's findings with the findings of the TRT.

In sum, NMFS makes no "rational connection between the facts found and the choice made" with respect to the Proposed Rule's conclusions about the alleged risk posed by commercial longline fisheries. The Proposed Rule makes findings that directly contradict the best available data, the Status Review, and the findings of the TRT. With respect to longline 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." NMFS's conclusions and inferences to the contrary are arbitrary, capricious, and inconsistent with the best available scientific data and information.

(. . . continued)
may have occurred"), 70183 (with reference to the longline exclusion zone, "decline of the insular DPS has still occurred"), 70184 ("The greatest threats to the insular population are small population effects and hooking, entanglement, or intentional harm by fishermen"). Each of these statements is speculative and lacks factual support.

C. The Proposed Rule Presents an Unbalanced Assessment of the Best Available Science Concerning the Abundance of the Insular Stock

The conclusions reached regarding the supposed past and present abundance of the insular stock are indicative of the biased manner with which NMFS approaches Hawaiian false killer whale issues. In concluding that the insular stock has "declined" since 1989, NMFS has effectively drawn a single conclusion based on limited, uncertain, and unverified data from which a number of other reasonable conclusions could be drawn. However, the Proposed Rule does not present a balanced assessment that recognizes the high uncertainty concerning historical abundance data or that gives equal weight to all reasonable inferences and conclusions. The result is that NMFS significantly grounds its Proposed Rule in biased conclusions that, at every turn, are dependent upon the resolution of uncertainty in favor of assuming the worst possible circumstance for the insular stock (i.e., a steep decline). This methodology is not factually or scientifically credible, nor is it consistent with well-established case law holding that (i) the "benefit of the doubt" concept does not apply in the ESA listing context and (ii) that the best available science requirement ensures that the ESA is not to be implemented haphazardly, "on the basis of speculation or surmise," and serves to advance the goal of species preservation while protecting against "needless economic dislocation produced by agency officials zealously but unintelligently pursuing their environmental objectives." *Trout Unlimited*, 645 F. Supp. 2d at 947; *Lubchenco*, 2010 U.S. Dist. LEXIS 135030 at *24-25; *Bennett*, 520 U.S. at 176-177.

Below, we address the uncertainties and flawed assumptions that are inherent in the Proposed Rule's discussion of the alleged historical decline of the insular stock. We also submit the attached memorandum prepared by Dr. Doug S. Butterworth of the University of Cape Town, which we hereby incorporate into our comments on the Proposed Rule. Dr. Butterworth's memorandum raises a number of technical concerns regarding assumptions made in the BRT's calculations supporting the risk assessment. In most instances, the concerns raised by Dr. Butterworth imply that extinction risk has been estimated to be unduly high. Dr. Butterworth concludes that the estimates of extinction risk presented by the BRT are premature. We do not intend for Dr. Butterworth's memorandum to be our comprehensive critique of the BRT results – indeed, we believe there are a number of other flaws in the BRT's assessment. Rather, Dr. Butterworth's memorandum simply points out some of the technical flaws in the BRT's assessment of risk.

1. Current insular stock status and actual abundance estimates

The insular stock was recently recognized by NMFS as a separate stock in its 2008 SAR for false killer whales. In both the 2009 SAR and the Draft 2010 SAR, NMFS estimates the

current abundance of the insular stock at 123 animals. This estimate is based on the most recently published scientific information regarding insular stock abundance (Baird et al. 2005) and is based on data collected from 2000 to 2004. The previous published abundance of false killer whales near the MHI was provided in Mobley et al. (2000), which estimated a population size of 121 based on data collected in 1993, 1995, and 1997. In addition, the insular stock is not designated as depleted or strategic under the MMPA, which indicates the absence of scientific data or consensus that the insular stock is currently threatened or in significant decline.

There have been a number of recent unpublished estimates of insular stock abundance. Most recently, Baird et al. (2009) (unpublished) reanalyzed their updated mark-recapture data and arrived at an estimated population size of 162 for the 2000-2004 period. Baird et al. (2009) also estimated an abundance based on 2006-2009 data of 151 or 170 (if Kauai data is included). Taken together these two estimates, based on comparable methodology, hardly suggest any decline over the last decade or associated risk of extinction. In November 2009, NMFS also presented line-transect survey data collected in 2009 from which NMFS had estimated a population size of 635, most of which was attributable to believed insular stock sightings. However, NMFS has now discounted this estimate due to the "likely" attraction of false killer whales to the survey vessel. 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.

The above comprises the whole of the best available science concerning actual abundance estimates of the insular stock. The most recent sources of information regarding the possible abundance of the size of the insular stock are Baird's ongoing mark-recapture work and the 2009 NMFS vessel survey. To infer a decline in the insular stock, NMFS goes beyond the published data and the most recent unpublished estimates of abundance by drawing certain inferences from old, uncertain, and unpublished information. This information is discussed below.

2. The 1989 sightings and the Mobley data

NMFS's conclusion that the insular stock has declined since 1989 is based on limited surveys conducted in 1989 for the purpose of obtaining a minimum count to support a live-capture permit. The results of the 1989 surveys were not published; however, 20 years later, a paper has now been published that purports to analyze the 1989 data and that makes several assertions regarding the supposed historical abundance of the insular stock and the assumed (and unsubstantiated) effects of the Hawaii-based longline fisheries on that stock. *See* Reeves et al. (2009). The conclusions of Reeves et al. (2009) and the inferences that NMFS draws from the

paper are based on significant uncertainty and unsupported assumptions. The following summarizes some of these errors:

- Reeves et al. (2009) re-examines two months of aerial survey data taken in a single year (June and July of 1989). The paper presents no data regarding false killer whale abundance or distribution in any years prior to 1989 or during other months of 1989. The paper also presents no data linking the 1989 observations to false killer whale sighting data produced in the mid-1990s (Mobley et al. 2000) or in 2000 to 2004 (Baird et al. 2005). No subsequent surveys were performed and no traditional population estimation techniques were employed to analyze the 1989 data.

- There is no evidence establishing that the animals sighted in 1989 were members of the insular stock. Reeves et al. (2009)'s sole explanation for its assumption that the animals observed in 1989 were members of the insular stock is that "[g]iven the repeated sightings in 1989 of large groups over a number of days at distances of approximately 4.5 to 11 km from the island of Hawai'i, it is likely that those groups belonged to the island-associated population rather than an offshore population." (Emphasis added). The fact is that we, 20 years later, have no idea what animals were observed in the 1989 live-capture permit surveys, a purpose of which was not stock identification. Considering the false killer whale's broad range throughout the Pacific Ocean, the presence of the animals observed in 1989 could be explained by a number of factors, such as the migration of animals from the pelagic stock or another stock, environmental or climatological conditions, or changes in prey distribution. The fact that these large groups were never sighted again (not even in the Mobley 1993 surveys that occurred only four years later) supports a conclusion that the animals were not insular false killer whales. However, this conclusion is given no weight in the Proposed Rule.

- Indeed, NMFS has acknowledged that there is good reason to question whether false killer whales observed in Hawaiian inshore waters are actually members of what NMFS has defined as the "insular stock." For example, NMFS is hesitant to conclude that animals observed in waters near Kauai are members of the insular stock because, according to NMFS, "[t]hese animals may come from the pelagic population, may come from another undocumented population in the Northwestern Hawaiian Islands, or may represent a portion of the insular population that has not been previously documented photographically." 75 Fed. Reg. at 70173. This same rationale is relevant to the 1989 sightings. The undeniable fact is that no one knows what animals were sighted in 1989

and the uncertainty surrounding those estimates is substantial.[11] Nonetheless, as detailed below, the Proposed Rule reaches conclusions that are inherently based upon an assumption that this 20-year old data in fact involved only insular false killer whales.

- There is no evidence of a massive mortality event of the type implied by Reeves et al. (2009). One would expect a precipitous decline from hundreds (suggested by Reeves et al. 2009 based upon the 1989 data) to just 121 a few years later (suggested by Mobley et al. 2000 based on 1990s data) to produce at least some evidence of mortality, such as strandings or sightings of carcasses or otherwise. However, no such evidence exists.

- NMFS's findings are inconsistent and this inconsistency is not explained. For example, early in the Proposed Rule NMFS recognizes that the "historical population size [of the insular stock] is unknown." 75 Fed. Reg. at 70173. In other words, it is unknown whether the stock has increased or decreased from "historical" levels because there is no historical abundance from which any increase or decrease can be inferred. NMFS also recognizes that the limited available data merely "suggests" (as opposed to "shows" or "demonstrates" or "establishes") a decline. However, it becomes clear in later sections of the Proposed Rule that NMFS works from the assumption that a decline has, in fact, been established and, further, that the Proposed Rule is based on this assumption:[12]

    - "The Longline Prohibited Area Not Reversing the Decline of the DPS" (75 Fed. Reg. at 70179) (emphasis added)

    - "there is no evidence that existence of the prohibited area is reversing, or will reverse, the decline of the DPS" (*Id.*)

[11] We understand that all of the photographic evidence from those surveys has gone missing. We also understand 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 in the survey as to the species of the observed animals. The fact that the results were not published upon completion of the study compounds the uncertainty surrounding the species identification issue.

[12] These statements from the Proposed Rule are also 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."

- "Uncertainty as to the causes of the recent decline, the current threats, and current viability of the population increases concern for this group of whales." (*Id*. at 70182)

- "The decline in abundance of Hawaiian insular false killer whales likely resulted from a number of factors acting synergistically." (*Id*.)

- "Since implementation of the prohibited area, however, decline of the insular DPS has still occurred." (*Id*. at 70183).

- "The longline prohibited area has also been effective by reducing interactions... yet interactions have still been documented and the total population size of the insular DPS has declined since then." (*Id*. at 70184).

- "Current trends and projections in abundance indicate that the Hawaiian insular false killer whale DPS is in danger of extinction throughout all of its range." (*Id*. at 70185).

See Bennett, 520 U.S. at 176-177 ("The obvious purpose of the requirement that each agency 'use the best scientific and commercial data available' is to ensure that the ESA not be implemented haphazardly, on the basis of speculation or surmise.")

- In conjunction with the discussion of the 1989 sightings, the Proposed Rule relies upon Mobley et al. (2000) and Mobley (2004) for the proposition that the insular stock has experienced a decline in abundance because five data points over a 10-year period indicate a decline in sighting rates. However, neither Mobley et al. (2000) nor Mobley (2004) provide any analysis of sighting rates and the goal of the study in question was to assess abundance and distribution of marine mammals generally around the main Hawaiian Islands. Moreover, it is scientifically tenuous to assume a decline based on studies that employed different methods, at different times, by different personnel, with different goals. As NMFS itself has recognized: "A recent study (Reeves et al. 2009) summarized information on false killer whale sightings near Hawaii between 1989 and 2007, based on various survey methods, and suggested that the insular stock of false killer whales may have declined during the last two decades. However, because of differences in survey methods, no quantitative analysis of the sightings data and population trend has been made." 2009 SAR (emphasis added). NMFS's findings and conclusions in the Proposed Rule are not consistent with express findings made by NMFS as recently as October 2009.

- The Mobley et al. (2000) results were based on three aerial surveys conducted during February to April in each of the years 1993, 1995, and 1998. Two additional surveys performed by Mobley in 2000 and 2003 are reported in Mobley (2004). However, the analysis and results of those last two surveys were never published and have not been subjected to peer review. The comparability of the results from the last two surveys in the early 2000s (which each yielded no sightings of false killer whales, and are strongly influential to NMFS's estimates of decline from the whole Mobley series) with those from the surveys that occurred in the 1990s is certainly open to question. Baird et al. (2009) use photo-id recapture analyses to estimate abundance in the early 2000s of about 160, which is more than Mobley estimated for the late 1990s from his survey results. Mobley's results for the early 2000-2004 surveys with no false killer whale sightings thus become difficult to reconcile with the fact that Baird and colleagues clearly show that a reasonable number of the animals were present, suggesting that a more likely explanation is that, for some reason, the conditions or false killer whale spatial distribution at the time of the Mobley surveys in the 2000s differed from those when his surveys were conducted in the 1990s. However, this reasonable explanation is not considered in the Proposed Rule.

3. Use of Palmyra data

NMFS uses the estimated density of false killer whales in the Palmyra Atoll EEZ to extrapolate and estimate "plausible historical abundance" for the insular stock. In so doing, NMFS has selected the false killer whale population with the single highest identified population density in the world as a proxy for determining historical insular stock abundance. Also, in so doing, NMFS ignores the reasons why the density of the insular stock could have been – and most likely was – very different from that observed at Palmyra. These differences between the two stocks and their habitats have been recognized by NMFS and some examples are as follows:

- While we do not agree with the conclusion (as discussed in Section IV below), it has been suggested that Hawaiian insular false killer whales are genetically distinguishable from pelagic false killer whales (conversely, Palmyra false killer whales have been found to be genetically similar to pelagic false killer whales). Status Review at iii.

- "The BRT concluded that Hawaiian false killer whales are a distinct population segment of the global false killer whale taxon. The BRT found that Hawaiian insular false killer whales are discrete from other false killer whales, based on uniqueness of their behavior related to habitat use patterns and their existence in a unique ecological setting." Status Review at v.

- "Palmyra Atoll is located in the Intertropical Convergence Zone (ITCZ), an area of high rainfall… Palmyra Atoll has a higher diversity of corals, anemones, and fishes that other Pacific Remote Islands…." Status Review at 19.

- "The Hawaiian Archipelago lies in this NPSG (North Pacific Subtropical Gyre), which rotates clockwise in response to trade wind and westerly wind forcing." Status Review at 21.

- "Habitat for the Hawaiian insular false killer whales is likely related to the abundance of deep reef slope habitat fringing all of the emergent islands since their range appears to be limited to waters extending out to only approximately 112 km from shore, with a core range that is much smaller." Status Review at 26.

- "The BRT expressed strong support for a finding that Hawaiian insular false killer whales are discrete from other false killer whales. The team found that Hawaiian insular false killer whales are markedly separated from other false killer whales based on behavioral and ecological factors." Status Review at 54.

- "… Hawaiian insular false killer whales are significant because they persist in an ecological setting unique for the taxon." Status Review at 56.

- "The estimated density of false killer whales in the Palmyra EEZ is higher than in areas that have been previously studied and is approximately seven times higher than in the non-Palmyra regions of the 2005 study area." Barlow and Rankin (2005).

- "The density of false killer whales in the Palmyra EEZ (0.38 animals per 100 km squared) is the highest value that has been measured for this species or SWFSC surveys." Barlow and Rankin (2005)

- "The Palmyra stock remains a separate stock, because comparisons amongst false killer whales sampled at Palmyra Atoll and those sampled from the insular stock of Hawaii and the pelagic ENPP revealed restricted gene flow,…." Draft SAR 2010.

NMFS's selection of the Palmyra stock's density as a proxy for the possible historical density of the insular stock is yet another example of the biased manner with which NMFS has assessed the current status of the insular stock. NMFS effectively chose the density that would

result in the highest historical population estimate possible while ignoring other parameters that could have been used.[13] Because the Palmyra stock and its habitat are very different from the insular stock, NMFS chose uninformative data on which to base its historical estimate. The following table, which highlights the arbitrariness of NMFS's data selection, was presented by NMFS in 2009 as an explanation for why NMFS believes it is not proper to use "uninformative" density estimates from other false killer whale stocks for purposes of estimating the abundance of a given stock:

False killer whale densities		
	Latitude range	Density
HICEAS (200nmi) - Barlow & Rankin 2007	N15-N32	0.0002
Ferguson & Barlow 2003; Mex/CA (15-35N)	N15-N35	0.0003
Ferguson & Barlow 2003; Baja (20N-35N)	N20-N25	0.0004
PICEAS (International waters & Johnston)	N2-N10	0.0005
Ferguson and Barlow 2003 (all ETP)	S15 - N20	0.0016
Mobley et al 2000 (25nmi @ MHI)	N18-N23	0.0017
Wade and Gerrodette 1993 (all ETP)	S15 - N20	0.0021
Ferguson & Barlow 2003; N5-20, W of 120	N5-N20	0.0033
PICEAS (Palmyra)	N10-N20	0.0038

[14]

[13] Moreover, NMFS suggests that the Palmyra-based estimate is only a "conservative" estimate of historical density because "known long-lining [occurs] in the Palmyra area, and the fact that false killer whales are known to become seriously injured or die as a result of interactions with longlines, the possibility that current densities are lower than historical densities cannot be discounted." 75 Fed. Reg. at 70173. In reaching this erroneous conclusion, NMFS conveniently fails to disclose that, as reported in NMFS's 2009 SAR, there was only <u>one</u> observed fishery serious injury interaction in the Palmyra EEZ from 2004 to 2008 and that the estimated annual interaction rate in the Palmyra EEZ is <u>0.3 animals per year</u>, which is far below the Palmyra stock's potential biological removal rate of 6.4. The 2009 SAR concludes that "[t]he total fishery mortality and serious injury for Palmyra Atoll false killer whales is less than 10% of PBR and, therefore, can be considered to be insignificant and approaching zero." Again, the Proposed Rule directly contradicts previous findings, which further reflects the strong bias that underlies the entirety of the Proposed Rule.

[14] From Barlow (2009) (presentation at 2009 meeting of the Pacific Scientific Review Group).

D. The Proposed Rule Overstates the Alleged Prey Competition Risk Regarding Commercial Longline Fisheries

The Proposed Rule states that "[c]ompetition with commercial fisheries is rated as a medium level of risk to current and future Hawaiian insular false killer whales." This statement, insofar as it applies to commercial longline fisheries, is contrary to the best available scientific data and information. The best available information shows that prey competition, if any, between the commercial longline fisheries and the insular stock poses no risk to the insular stock.

There are no data or information linking alleged overfishing or prey reduction to the conservation status of the insular stock (or to any other false killer whale stock). The Proposed Rule generally references alleged declines in predatory fish populations worldwide. However, the Proposed Rule provides no data or information (because there is none) showing, or even suggesting, that any such declines impact cetacean predators, let alone the insular stock. No evidence is presented of a documented decline of any cetacean predator population attributable to, or even coincident with, declines in predatory fish populations. In addition, the Proposed Rule references a few studies about fish populations in and near Hawaii over the past 20 years, but does not link these data to the insular stock or to current or foreseeable threats to the stock.

The following additional points highlight the arbitrariness of NMFS's conclusions regarding alleged prey competition with the commercial longline fisheries:[15]

- There is no data or information suggesting that animals from the insular stock are suffering from nutritional stress or other effects related to an alleged lack of prey.

- The commercial longline fisheries fish almost exclusively outside the "range" NMFS has identified for the insular stock. Moreover, the commercial longline fisheries fish entirely outside of the areas in which false killer whales have been observed through satellite tracking studies.

[15] Some of these points summarize information presented in the February 3, 2010 letter submitted by the Council in response to NMFS's 90-Day Finding on the petition to list the insular stock. The Council's comments do not appear to have been considered in the Status Review or in the Proposed Rule.

- The Proposed Rule suggests that competition for bigeye tuna is a threat to the insular stock. However, no animal from the insular stock has ever been observed feeding on bigeye tuna, the species primarily targeted by the deep-set longline fleet. *See* Baird (2009) (reporting that in Hawaii the species has been reported feeding on yellowfin tuna, broadbill swordfish, mahi mahi, skipjack tuna, wahoo and mongchong). This is consistent with data showing that bigeye tuna are not abundant in the nearshore areas inhabited by the insular stock. It is entirely unknown whether and to what extent the insular stock relies upon bigeye tuna (or swordfish) as part of its diet.

- The Status Review states that stock assessments "clearly outline a similar pattern of substantially declining biomass in the 1960s and 1970s" for bigeye tuna and yellowfin tuna. However, this statement refers to western and central Pacific tuna stocks generally and says nothing about the abundance or presence of those species in the nearshore waters inhabited by the insular stock.

In sum, the suggestion of a link between prey reduction allegedly caused by the longline fisheries and the insular stock is not based upon any scientific data or information and to suggest that alleged competition with the longline fisheries poses a "medium risk" is directly contrary to the best available science. *See Bennett*, 520 U.S. at 176-177 ("The obvious purpose of the requirement that each agency 'use the best scientific and commercial data available' is to ensure that the ESA not be implemented haphazardly, on the basis of speculation or surmise."). Again, NMFS has not drawn a "rational connection" between its conclusion and the available data.

IV. DPS ISSUES

The available information regarding stock structure, range and abundance of false killer whales in the vicinity of the Hawaii Islands is significantly limited, contains substantial data gaps, and is low in confidence and high in uncertainty. On balance, the data are inadequate to support the designation of the insular stock of false killer whales as a DPS at this time.

A. DPS Designation is an ESA Tool to be Used "Sparingly"

When Congress added the phrase "distinct population segment" to the ESA's species definition, it intended that the Service's would designate DPSs "sparingly." *See Nat'l Assn. of Homebuilders v. Norton*, 340 F.3d 835, 844 (9th Cir. 2003) (citing S. Rep. No. 96-151, at 7 ("[T]he committee is aware of the great potential for abuse of this authority [to list DPSs] and expects the FWS to use the ability to list populations sparingly and only when the biological evidence indicates that such action is warranted.")); *see also* 61 Fed. Reg. 4722, 4724 (Feb. 7,

1996) (Service's DPS policy stating that "[t]he Services believe that application of the policy framework announced in this document will lead to consistent and sparing exercise of the authority to address DPSs, in accord with congressional instruction."). Consequently, DPS designation of the insular stock requires careful and prudent consideration, and must be justified by established scientific information.

B. The Best Available Evidence is Too Uncertain to Designate the Insular Stock as a DPS

False killer whales are generally known worldwide as a pelagic species. In fact, up until just a few years ago, there were no recognized island-associated false killer whale stocks anywhere in the world. However, the Proposed Rule concludes that in the span of a few short years, the knowledge about Hawaiian false killer whales has progressed so rapidly that it is now possible to conclusively reach the unprecedented determination that an exceptional island-associated stock exists in Hawaii. The fact is that the science regarding Hawaiian false killer whales is still developing and is not conclusive. The science may, in the future, develop to a point at which it can be determined with reasonable scientific certainty that an insular stock of Hawaiian false killer whales exists as a DPS. Until that point is reached, NMFS should not rush to a DPS judgment based on developing and uncertain scientific information.

The hypothesis that a separate island-associated insular false killer whale stock exists derives from the initial assumption that insular animals are geographically separated from pelagic animals. However, as the science continues to develop, this assumption has begun to erode. For example, according to NMFS's Draft 2010 SAR, recent satellite telemetry studies, boat-based surveys, and photo-identification analyses of false killer whales around the island of Hawaii yielded a maximum offshore extent of about 112 km for insular false killer whales. Conversely, while similar data for pelagic animals is sparse, existing data has documented pelagic animals as close as 42 km to the Hawaiian Islands (Baird et al. 2008b,c). In sum, as the science continues to develop, it is becoming more apparent that the so-called insular and pelagic stocks overlap and intermingle throughout a significant geographic range.

In addition, the genetic data concerning Hawaiian false killer whales is similarly uncertain and, despite NMFS's characterization of that data, is in the early stages of development. *See* Chivers et al. (2010) ("However, we first caution the reader that considerable uncertainties remain for several reasons, including large gaps in the sample distribution, small sample sizes in all strata except the Hawai'i insular stratum, and many samples collected from only a few groups…. Given the low genetic diversity in false killer whales, data for additional microsatellite loci and the full mitogenome could enhance our ability to draw conclusions about

the evolutionary relationships among populations."). While Chivers et al. (2010) found that limited mtDNA samples provided some suggestion of discreteness, the microsatellite DNA (nDNA) data does not suggest such discreteness. Chivers et al. (2010) ("Despite finding strong significant differences between the Hawai'i insular false killer whales and all other strata, the nDNA results (Tables 11 and 12) are all well below this value…. Understanding the apparently different magnitude of signals between mtDNA and nDNA with respect to the potential evolutionary significance of the Hawai'i insular false killer whales will remain speculative until sample gaps are filled and more is understood about the social structure of false killer whales and the behavior of the differentiation statistics for microsatellites….").[16]

In these circumstances, we urge NMFS to carefully consider DPS designation in light of Congress's direction that it be used "sparingly," taking into account established ESA principles described in Section II.B above and the uncertainty in the best available science.

V. CRITICAL HABITAT

The Proposed Rule solicits information regarding the potential designation of critical habitat for the insular stock. While, as set forth above, we do not believe a listing of the insular stock or designation of critical habitat is warranted, we offer the following regarding a potential designation:

- Any proposed critical habitat designation must take into account the entire realm of the potential regulatory and economic impacts on commercial fishing. NMFS should consult with and utilize the resources of the Council, the fisheries scientists at PIFSC, and the fishery (HLA) as it gathers and assesses information regarding potential economic and regulator impacts. In this regard, representatives from each of these groups should participate in the peer review of any proposed critical habitat rule.

- Any proposed critical habitat designation should assess and consider only habitat that has been demonstrated to be used by false killer whales and should not start from the incorrect assumption that the false "range" used by NMFS for management purposes constitutes the extent of the habitat actually used by the species. There is no justification for designating areas not demonstrated to be occupied or used by insular false killer

[16] NMFS's statement that microsatellite DNA data "support discreteness" is not consistent with the findings of Chivers et al. (2010). *See* 75 Fed. Reg. at 70175.

whales, particularly because there is no data or information suggesting that the range of the stock decreased over time.

VI. CONCLUSION

The general premise of the Proposed Rule is that an unprecedented, unique population of "insular" false killer whales exists around the MHI that once numbered in the hundreds or thousands and that has been dramatically reduced, largely due to fisheries, to between 100 and 200. This premise, and the various inferences and conclusions used by NMFS to support it, is based on assumptions that are grounded in either no actual data or highly uncertain data. NMFS's analyses of the threats to the insular stock nowhere draw a causal connection between the alleged threats and the supposed negative impacts to the stock. The reason for this simply is that no such information exists. NMFS cannot and does not point to a single study – published or unpublished – that evaluates one of the threats alleged in the Proposed Rule and proceeds to draw a scientifically-supported connection between that threat and any decline in fitness, range, or abundance of the insular stock. This crucial connection is a fundamental aspect of all listing rules; yet, it is not present here. This shortcoming of the Proposed Rule is particularly true with respect to its treatment of the alleged effects of the commercial longline fisheries.

As a whole, the Proposed Rule presents an unbalanced assessment of the available data and, at every turn, deals with uncertainty in a narrow and biased manner. The result is that single conclusions are drawn that assume the worst for the species and attribute unjustified fault to fisheries, to the exclusion of other conclusions that can be reached based on other reasonable interpretations of the available data. This approach is unsound factually, scientifically, and legally. *See* Section II.B *supra*. Compounding the lack of any causal connection between the assumed threats and any impacts to the insular stock is NMFS's complete failure to provide its interpretation of what the phrase "in danger of extinction" means in this context and to then apply the record evidence to that interpretation. As demonstrated by recent applicable case law, this is a fundamental legal flaw that renders the Proposed Rule, if finalized, subject to remand and vacatur.

We appreciate NMFS's consideration of these comments and urge the agency to seriously reconsider the proposed listing of the insular stock.

Sincerely,

Ryan P. Steen

cc: Michael Tosatto, NMFS-PIRO
Alecia Van Atta, NMFS-PIRO
Kitty Simonds, Western Pacific Regional Fisheries Management Council
Paul Dalzell, Western Pacific Regional Fisheries Management Council
Asuka Ishizaki, Western Pacific Regional Fisheries Management Council
Sean Martin, Hawaii Longline Association
Jim Cook, Hawaii Longline Association

Enclosure

SOME COMMENTS ON THE CALCULATION OF EXTINCTION RISK FOR HAWAIIAN INSULAR FALSE KILLER WHALES IN NOAA TECHNICAL MEMORANDUM NMFS-PIFSC-22

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Inferences of an overall downward trend over the last two decades, and associated estimates of extinction risk for a postulated Hawaiian insular false killer whale population in Memorandum NMFS-PIFSC-22 (NMFS Memorandum) arise primarily from two sources of information:

a) an estimate of minimum abundance from a 1989 survey (Reeves *et al.*, 2009) which is much greater than later estimates of abundance from aerial surveys and photo-id based mark-recapture estimates; and
b) the declining trend in sighting rates from a series of aerial surveys reported by Mobley *et al.* (2000) and Mobley (2004).

This information is converted into extinction risk estimates using the methodology set out in Appendix B of that Memorandum. However, I consider that further analyses are needed before such extinction risk estimates could be accepted, particularly as the sources of concern raised below suggest possibly appreciable sources of positive bias in these estimates.

1) Reeves *et al.* (2009, pg 258) acknowledge the possibility that their minimum estimates include offshore animals. This is acknowledged in the NMFS memorandum (pgs 104 and 115) as well. However in calculating extinction risk using a Bayesian approach, no consideration is given to this possibility. It is not included in any way in the "prior" options listed on pgs A-11 to A-13. Sensitivity 3 (pg B-13) with a broader distribution for the 1989 abundance prior might appear to account for this, but the results for that test are heavily influenced by the Mobley survey sighting rate time series, concerning which some questions arise below. A more appropriate sensitivity would use a much lower range.

2) The relative weights given to different realisations from the priors constructed depend on the likelihood evaluated for the abundance-related information. Here a number of queries arise.

   a) The formula given at the top of pg B-11 for the contribution from the photo-id based mark-recapture estimates is wrong. The *cv* should be squared and there is a multiplicative factor of 0.5 missing. It is unclear whether these are simply typos or whether this calculation has been performed incorrectly.

   b) Information detailing how the Baird *et al.* (2009) (unpublished) photo-id based mark-recapture estimates listed on pg B-6 were computed does not seem to be publically available, but the text there seems to suggest common factors for the estimates for the two different periods (2000-2004 and 2006-2009), in which case a (likely positive) covariance should be computed and incorporated in a modified formula to that at the top of pg. B-11.

c) While the change to a Poisson distribution for the likelihood component from the Mobley time series of sighting rate estimates (middle of pg. B-11) is appropriate, no attempt seems to have been made to take account of what might be substantial overdispersion in these distributions, leading to over-weighting of this information.

3) Put another way, point c) above might be re-expressed as a concern about the compatibility of Baird's (probably somewhat negatively biased due to neglect of heterogeneity effects) abundance estimate for the 2000-2004 period, and the absence of sightings by Mobley in the 2000 and 2003 surveys. The three earlier Mobley surveys in the 1990s provide an estimate of the survey "efficiency" parameter q. This allows a calculation to be made of whether the subsequent absence of sightings on these surveys is consistent with the Poisson distributional assumptions made, given the known abundance at the time. If there is not such consistency, the comparability of these surveys over time becomes questionable, which would be contrary to the current assumptions underlying the likelihood formulation.

4) Questions also arise about the CVs of the more recent Baird *et al.* (2009) estimates from mark-recapture used in the likelihood (typically about 20%), 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. Why such an enormous difference (and one with consequences for the weight accorded to these data in the extinction risk analysis)? The extent of compatibility of the estimates is unclear, given absence of detail on the methodology used for the later estimates. The earlier estimate comprised a likelihood-weighted average over a number of alternative models for including interactions in the computation of the abundance estimates. The two most heavily weighted of the eight alternative models considered in this process have non-overlapping 95% credibility intervals, which does raise questions about the defensibility of the averaging approach used. How has the issue of interactions been dealt with in the later Baird *et al.* abundance estimates?

5) A quite elaborate population model incorporating a number of different effects has been used for the extinction risk estimation within a Bayesian framework. However a Bayesian approach makes the underlying assumption of compatibility of the model assumed and the data input. That assumption becomes open to question in this case given, for example, the issue raised in 3) above. A particular concern is that a Bayesian approach can give an answer even if mutually inconsistent data are input, when that answer would clearly be wrong. Rather models and data inputs must be consistent, with if necessary different model-data combinations (each mutually consistent within themselves) computed, followed by consideration of relative plausibility.

I recommend that before the extinction risk estimates of NMFS Memorandum are considered, diagnostic checks be carried out on simpler models fit 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. This exercise should also seek to include further reality checks. For example, the NMFS Memorandum suggests that fishing effects may have caused the population of the postulated insular stock to have declined since 1989. This would then imply that the fishing before 1989 also caused some decline – but if one back-projects on that basis, taking account of changing levels of fishing effort for which data would presumably be available, is the result compatible with the estimates quoted in the NMFS Memorandum for the likely maximum "pre-disturbance" population in the region? Only once

firm conclusions about model, assumption and data choices had been drawn from such an exercise, would it seem to me to be appropriate to move further to the Bayesian framework to attempt to quantify extinction risk.

While my comments above do not pretend to be a comprehensive critique of the approaches taken in the NMFS Memorandum, I consider that until the concerns which I have addressed are addressed, the conclusions drawn in the Memorandum about extinction risk should be considered premature.

References

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