4 February 2010

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

Dear Ms. Van Atta:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the National Marine Fisheries Service's 5 January 2010 *Federal Register* notice (75 Fed. Reg. 316) requesting information for a status review of the insular population of false killer whales in Hawaii. The purpose of the review is to determine if the population warrants listing as an endangered or threatened species under the Endangered Species Act. The Commission offers the following recommendations and rationale.

RECOMMENDATIONS

The Marine Mammal Commission recommends that the National Marine Fisheries Service—

- (1) ensure that, whenever possible, longline observers collect samples from all false killer whales that are caught in Hawaiian waters and (2) expedite genetic analyses of those samples;
- use all available photo-identification records to evaluate associations among individual false killer whales in Hawaii and to provide a more powerful assessment of the likelihood of interbreeding between pelagic and insular populations;
- err on the side of caution by acting on the basis of the multiple-stock hypothesis unless the Service can make a strong case that the insular and pelagic whales are part of a single breeding population;
- either find this population to be a significant ecological and genetic component of the species or provide a rationale for why the only known insular population of false killer whales in U.S. waters is not significant to the species; and
- include the short-line, kaka, and other fisheries likely to take members of the insular population of false killer whales within the scope of the Hawaiian False Killer Whale Take Reduction Team.

RATIONALE

The Natural Resources Defense Council petitioned the National Marine Fisheries Service to list the insular population of Hawaiian false killer whales (*Pseudorca crassidens*) as endangered under the Endangered Species Act. The Service concluded that the petitioned action may be warranted, and it is proceeding with a biological status review to determine if the population constitutes a

distinct population segment that warrants listing. The Marine Mammal Commission has reviewed the petition and concurs with the Service's decision to proceed with the status review.

With regard to the request for relevant information, the Marine Mammal Commission recently received a report from Dr. Robin Baird entitled "A Review of False Killer Whales in Hawaiian Waters: Biology, Status, and Risk Factors" (copy enclosed). The report also is available on the Commission's Web site (www.mmc.gov). The Commission believes this report contains a thorough review of the existing information on the subject population.

The Three Elements of a Distinct Population Segment

In 1996 the National Marine Fisheries Service and the Fish and Wildlife Service established a joint policy for determining when to list distinct population segments. That policy is based on a review of three criteria: discreteness, significance, and conservation status. The Marine Mammal Commission believes that each of those three criteria has been satisfied with regard to this insular population of false killer whales.

Discreteness: Based on information cited in the enclosed Baird report, genetic and photo-identification analyses indicate that the insular population is a discrete group of animals that rarely mixes with either the pelagic population of false killer whales in Hawaiian waters or any other population elsewhere in the Pacific. A recent comparison of mitochondrial haplotypes in Pacific populations concluded that Hawaiian false killer whales found inshore (<30 km from shore) and offshore (>139 km from shore) are demographically isolated (Chivers et al. 2007, Baird et al. 2008). Although the sample size of genetic material from the insular population is large (i.e., 74 individuals), the sample size from the pelagic population (9 individuals) is small, and analysis of additional samples would provide a stronger basis for characterizing the relatedness of these populations. The Commission understands that fishery observers can collect additional genetic samples from offshore animals and that other samples from whales near shore (< 30 km) already have been collected but not analyzed. If so, and if it is not already being done, the Marine Mammal Commission recommends that the National Marine Fisheries Service (1) ensure that, whenever possible, longline observers collect samples from all false killer whales that are caught in Hawaiian waters and (2) expedite genetic analyses of those samples. These analyses should be completed in time for consideration by the Service's biological review team.

The Baird report also described photo-identification studies that analyzed associations between individual whales and indicated that members of the insular and pelagic populations rarely, if ever, mix. Here, too, the Commission understands that additional photo-identification data have been collected recently by Dr. Baird and perhaps other researchers. Again, analysis of those additional data could strengthen conclusions about the relatedness of the two populations. For that reason, the Marine Mammal Commission recommends that the National Marine Fisheries Service use all available photo-identification records to evaluate associations among individual false killer whales in Hawaii and to provide a more powerful assessment of the likelihood of interbreeding between pelagic and insular populations.

If the Service is unable to conduct the additional genetic and photo-identification analyses, or if it conducts those analyses and they do not bring greater clarity to this question of discreteness, then the Marine Mammal Commission also recommends that the Service err on the side of caution by acting on the basis of the multiple-stock hypothesis unless the Service can make a strong case that the insular and pelagic whales are part of a single breeding population.

Significance: With regard to the significance of a population to a species, the Services' joint policy requires that at least one of four criteria be satisfied: (1) the population occurs in an unusual or unique ecological setting, (2) its elimination would leave a significant gap in the taxon's range, (3) it is the only population outside a range in which the taxon is more abundant, or (4) it has marked genetic differences from other populations of the taxon. Concerning the first criterion, only two stocks of false killer whales are recognized in U.S. waters—the Hawaiian stock and a Gulf of Mexico stock. The Gulf of Mexico stock is poorly understood, but the sightings described in the Service's most recent stock assessment report suggest that it is distributed primarily in pelagic waters. In contrast, the false killer whales in question are top predators in Hawaii's nearshore ecosystem that, for this species, constitutes a unique ecological setting. Loss of this population also would leave a significant gap in the species' range inasmuch as pelagic false killer whales do not appear to approach the islands closely. Indeed, this population represents the taxon's only known insular population. Although other insular groups may be identified with further research, the unusual adaptation of this population to Hawaii's insular environment—which itself is unique in U.S. waters—would seem to make it significant on evolutionary grounds. As noted previously, the existing genetic information also suggests that this insular population differs significantly from other populations of the taxon. From both an ecological and evolutionary perspective, the Marine Mammal Commission believes that this insular population satisfies three of the criteria (1, 2, 4) for significance. Accordingly, the Marine Mammal Commission recommends that the National Marine Fisheries Service either find this population to be a significant ecological and genetic component of the species or provide a rationale for why the only known insular population of false killer whales in U.S. waters is not significant to the species.

Conservation Status: If the biological review team finds the insular population to be both discrete and significant, then it must consider conservation status to determine whether the population qualifies as endangered or threatened under the Endangered Species Act. The Marine Mammal Commission believes that information referenced in the enclosed report is sufficient to support a designation as endangered. As a general matter, data on abundance and trends for this population are poor. Still, aerial surveys in June 1989 recorded sightings of false killer whale groups in excess of 300 whales on three separate flights (Reeves et al. 2009). All three sightings were within 4.5 to 11 kilometers of the Kohala peninsula off the Island of Hawaii. The largest group, at least 470 animals, was four times greater than the current abundance estimate for the entire population. Recent satellite telemetry studies described in the enclosed report indicate the location of groups seen in 1989 were clearly within the range of the insular population and well outside of the range of the pelagic population. Other aerial surveys conducted between 1993 and 2003 by J. R. Mobley, as well as recent shipboard surveys, also suggest significant declines in both sightings per unit of survey effort and group size. In the Commission's opinion, this information on abundance and trends,

together with high risk of extinction for such small populations, justify its designation as endangered under the Endangered Species Act.

The status review requires examination of five threat factors described in section 4(a)(1) of the Endangered Species Act. The petition lists potential threats to the insular population, including incidental take in longline fisheries, depletion of prey resources by fishing, and effects of contaminants, ocean acidification, and anthropogenic noise. The information provided suggests that the present or threatened destruction, modification, or curtailment of the habitat or range, inadequacy of existing regulatory mechanisms, and other natural or manmade factors are the three most pertinent considerations. Existing information is not yet sufficient to confirm that any one threat is the cause for the apparent population decline. However, the evidence of interactions between false killer whales and longline fishing in Hawaii provides a reasonable basis for concluding that incidental take in longline type fisheries (e.g., "short line" or "kaka" fisheries) operating within the range of the insular population has caused the injury or death of some whales and could therefore be an important factor contributing to the apparent decline.

To date, management activities to investigate and minimize such fishery interactions have been limited. Recently, however, the Service began forming a take reduction team that will draft a take reduction plan to reduce the incidental take of pelagic and insular false killer whales in Hawaii-based shallow-set and deep-set longline fisheries. This was an appropriate and needed action, and the Commission commends the Service for taking it. However, the team's scope, as we understand it, does not include the short-line and kaka fisheries that may pose a risk because they (1) occur in inshore waters where the insular stock is found and (2) are similar to other long line-fisheries known to take false killer whales. Therefore, the Marine Mammal Commission recommends that the Service include the short-line, kaka, and other fisheries likely to take members of the insular population of false killer whales within the scope of the Hawaiian False Killer Whale Take Reduction Team.
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I hope these recommendations and rationale are helpful. Please contact me if you have questions.

Sincerely,

Timothy J. Ragen

Timothy J. Ragen, Ph.D.
Executive Director

Enclosure

cc with enclosure: Ms. Nancy Young

Literature Cited

Baird, R. W., G. S. Schorr, D. L. Webster, D. J. McSweeney, A. M. Gorgone, and S. J. Chivers. 2008. A survey to assess overlap of insular and offshore false killer whales (*Pseudorca crassidens*) off the island of Hawai'i. Report prepared under Order No. AB133F07SE4484 for the Pacific Islands Fisheries Science Center, National Marine Fisheries Service, Honolulu, HI. Available at www.cascadiaresearch.org/robin/hawaii.htm.

Chivers, S. J., R. W. Baird, D. J. McSweeney, D. L. Webster, N. M. Hedrick, and J. C. Salinas. 2007. Genetic variation and evidence for population structure in eastern North Pacific false killer whales (*Pseudorca crassidens*). Canadian Journal of Zoology 85:783–794.

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Reeves, R. R., S. Leatherwood, and R. W. Baird. 2009. Evidence of a possible decline since 1989 in false killer whales (*Pseudorca crassidens*) around the main Hawaiian Islands. Pacific Science 63:253–261.