and NPRM). More than five years have passed since the Commission sought comment on several important matters relating to the quality and implementation of closed captioning of video programming, and a variety of changes in the closed captioning landscape warrant a refresh of the record created in response to that proceeding. For example, the benchmarks for 100% captioning of nonexempt new English and Spanish language programming have passed, the transition to digital television occurred on June 12, 2009, and advances in captioning technology and availability have occurred. The Bureau also believes that a refreshed record will help it to better understand the issues that were raised for comment in the *2008 Closed Captioning Declaratory Ruling, Order and NPRM.* Because, in the *2008 Closed Captioning Declaratory Ruling, Order and NPRM,* the Commission adopted requirements for video program distributors to make contact information available to consumers, and requirements concerning the process for filing and handling closed captioning complaints, the Commission does not seek to refresh the record with regard to those matters.

Federal Communications Commission.

Karen Peltz Strauss,

Deputy Chief, Consumer and Governmental Affairs Bureau.

[FR Doc. 2010–28718 Filed 11–16–10; 8:45 am]

BILLING CODE 6712–01–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 224

[Docket No. 0912161432–0453–02]

RIN 0648–XT37

Endangered and Threatened Wildlife and Plants: Proposed Endangered Status for the Hawaiian Insular False Killer Whale Distinct Population Segment

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

ACTION: Proposed rule; request for comments.

SUMMARY: We, the NMFS, have completed a comprehensive status review of the Hawaiian insular false killer whale (*Pseudorca crassidens*) under the Endangered Species Act (ESA) in response to a petition submitted by the Natural Resources Defense Council (NRDC) to list the Hawaiian insular false killer whale as an endangered species. After reviewing the best scientific and commercial information available, we have determined that the Hawaiian insular false killer whale is a distinct population segment (DPS) that qualifies as a species under the ESA. Moreover, after evaluating threats facing the species, and considering efforts being made to protect the Hawaiian insular DPS, we have determined that the DPS is declining and is in danger of extinction throughout its range. We propose to list it as endangered under the ESA. Although we are not proposing to designate critical habitat at this time, we are soliciting information to inform the development of the final listing rule and designation of critical habitat in the event the DPS is listed.

DATES: Comments on this proposal must be received by February 15, 2011. A public hearing will be held on Oahu, Hawaii, on Thursday, January 20, 2011, 6:30 p.m. to 9 p.m., at the McCoy Pavilion at Ala Moana Park, 1201 Ala Moana Blvd., Honolulu, HI 96814. NMFS will consider requests for additional public hearings if any person so requests by January 31, 2011. Notice of the location and time of any such additional hearing will be published in the **Federal Register** not less than 15 days before the hearing is held.

ADDRESSES: You may submit comments identified by 0648–XT37 by any one of the following methods:

- *Electronic Submissions:* Submit all electronic public comments via the Federal eRulemaking Portal: *http://www.regulations.gov*. Follow the instructions for submitting comments.
- *Mail or hand-delivery:* Submit written comments to Regulatory Branch Chief, Protected Resources Division, National Marine Fisheries Service, Pacific Islands Regional Office, 1601 Kapiolani Blvd., Suite 1110, Honolulu, HI 96814, Attn: Hawaiian insular false killer whale proposed listing.

Instructions: All comments received are a part of the public record and will generally be posted to *http://www.regulations.gov* without change. Comments will be posted for public viewing after the comment period has closed. All Personal Identifying Information (for example, name, address, etc.) voluntarily submitted by the commenter may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information. We will accept anonymous comments (enter "N/A" in the required fields if you wish to remain anonymous). Attachments to electronic comments will be accepted in Microsoft Word, Excel, WordPerfect, or Adobe PDF file formats only. The petition, status review report, and other reference materials regarding this determination can be obtained via the NMFS Pacific Islands Regional Office Web site: *http://www.fpir.noaa.gov/PRD/prd_false_killer_whale.html* or by submitting a request to the Regulatory Branch Chief, Protected Resources Division, National Marine Fisheries Service, Pacific Islands Regional Office, 1601 Kapiolani Blvd., Suite 1110, Honolulu, HI 96814, Attn: Hawaiian insular false killer whale proposed listing.

FOR FURTHER INFORMATION CONTACT: Krista Graham, NMFS, Pacific Islands Regional Office, 808–944–2238; Lance Smith, NMFS, Pacific Islands Regional Office, 808–944–2258; or Dwayne Meadows, NMFS, Office of Protected Resources, 301–713–1401.

SUPPLEMENTARY INFORMATION:

Background

On October 1, 2009, we received a petition from the NRDC requesting that we list the insular population of Hawaiian false killer whales as an endangered species under the ESA and designate critical habitat concurrent with listing. According to the draft 2010 Stock Assessment Report (SAR) (Carretta *et al.,* 2010) (available at *http://www.nmfs.noaa.gov/pr/pdfs/sars/)* that we have completed as required by the Marine Mammal Protection Act (MMPA), false killer whales within the United States (U.S.) Exclusive Economic Zone (EEZ) around the Hawaiian Islands are divided into a Hawaii pelagic stock and a Hawaii insular stock. The petition considers the insular population of Hawaiian false killer whales and the Hawaii insular stock of false killer whales to be synonymous. On January 5, 2010, we determined that the petitioned action presented substantial scientific and commercial information indicating that the petitioned action may be warranted, and we requested information to assist with a comprehensive status review of the species to determine if the Hawaiian insular false killer whale warranted listing under the Endangered Species Act of 1973 (ESA) (75 FR 316).

ESA Statutory Provisions

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

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

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

The ESA defines an "endangered species" as one that is in danger of extinction throughout all or a significant portion of its range, and a "threatened species" as one that is likely to become an endangered species in the foreseeable future throughout all or a significant portion of its range (16 U.S.C. 1532 (6) and (20)). The statute requires us to determine whether any species is endangered or threatened because of any of the following factors: (1) The present or threatened destruction, modification, or curtailment of its habitat or range; (2) overexploitation for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) the inadequacy of existing regulatory mechanisms; or (5) other natural or manmade factors affecting its continued existence (16 U.S.C. 1533). We are to make this determination based solely on the best available scientific and commercial information after conducting a review of the status of the species and taking into account any efforts being made by states or foreign governments to protect the species.

When evaluating conservation efforts not yet implemented or implemented for only a short period of time to determine whether they are likely to negate the need to list the species, we use the criteria outlined in the joint NMFS and FWS Policy for Evaluating Conservation Efforts When Making Listing Decisions (PECE policy; 68 FR 15100).

Status Review and Approach of the BRT

To conduct the comprehensive status review of the Hawaiian insular population of the false killer whale, we formed a Biological Review Team (BRT) comprised of eight federal scientists from our Northwest, Southwest, Alaska, and Pacific Islands Fisheries Science Centers. We asked the BRT to review the best available scientific and commercial information to determine whether the Hawaiian insular false killer whale warrants delineation into a DPS, using the criteria in the joint DPS policy. We asked the BRT to then assess the level of extinction risk facing the species at the DPS level, describing its confidence that the DPS is at high risk, medium risk, or low risk of extinction. The BRT defined the level of risk based on thresholds that have been used to assess other marine mammal species, and consistent with the criteria used by the International Union for the Conservation of Nature (IUCN) Red List of Threatened Species (IUCN, 2001). In evaluating the extinction risk, we asked the BRT to describe the threats facing the species, according to the statutory factors listed under section 4(a)(1) of the ESA, and qualitatively assess the severity, geographic scope, and level of certainty of each threat (Oleson *et al.,* 2010).

In compiling the best available information, making a DPS determination, and evaluating the status of the DPS, the BRT considered a variety of scientific information from the literature, unpublished documents, and direct communications with researchers working on false killer whales, as well as technical information submitted to NMFS. The BRT formally reviewed all information not previously peer-reviewed, and only that information found to meet the standard of best available science was considered further. Analyses conducted by individual BRT members were subjected to independent peer review, as required by the Office of Management and Budget Peer Review and Bulletin and under the 1994 joint NMFS/FWS peer review policy for ESA activities (59 FR 34270), prior to incorporation into the status review report.

The BRT acknowledged that considerable levels of uncertainty are present for all aspects of the Hawaiian insular false killer whale's biology, abundance, trends in abundance, and threats. Such uncertainties are expected for an uncommon species that is primarily found in the open ocean where research is expensive and knowledge is consequently poor. The BRT decided to treat the uncertainty explicitly by defining where it exists and using a point system to weigh various plausible scenarios, taking into account all of the best available data on false killer whales, but also considering information on other similar toothed whales. The BRT's objectives in taking this approach were to make the process of arriving at conclusions detailed in the status review report as transparent as possible and to provide assurance that the BRT was basing its conclusions on a common understanding of the evidence. Details of this approach can be found in Appendix A of the status review report.

The report of the BRT deliberations (Oleson *et al.,* 2010) (hereafter "status review report") thoroughly describes Hawaiian false killer whale biology, ecology, and habitat, provides input on the DPS determination, and assesses past, present, and future potential risk factors, and overall extinction risk. The key background information and findings of the status review report are summarized below.

Biology and Life History of False Killer Whales

The following section presents biology and life history information gathered from throughout the range of false killer whales. A later section focuses on information specific to the Hawaiian insular false killer whale.

Description

The false killer whale, *Pseudorca crassidens* (Owen, 1846) is a member of the family Delphinidae, and no subspecies have been identified. The species is a slender, large delphinid, with maximum reported sizes of 610 cm for males (Leatherwood and Reeves, 1983) and 506 cm for females (Perrin and Reilly, 1984). Length at birth has been reported to range from 160–190 cm, and length at sexual maturity is 334 through 427 cm in females and 396–457 cm in males (Stacey *et al.,* 1994; Odell and McClune, 1999). Estimated age at sexual maturity is about 8 to 11 years for females, while males may mature 8 to 10 years later (Kasuya, 1986). The maximum reported age has been estimated as 63 years for females and 58 years for males (Kasuya, 1986), with females becoming reproductively senescent at about age 44 (Ferreira, 2008). Both sexes grow 40 to 50 percent in body length during their first year of life, but males subsequently grow faster than females. Growth ceases between 20 and 30 years of age, and there is evidence of geographic variation in final asymptotic body size. Off the coast of Japan, asymptotic length is 46 cm (females) and 56 cm (males) longer than off the coast of South Africa (Ferreira, 2008). Large individuals may weigh up to 1,400 kg. Coloration of the entire body is black or dark gray, although lighter areas may occur ventrally between the flippers or on the sides of the head. A prominent, falcate dorsal fin is located at about the midpoint of the back, and the tip can be pointed or rounded. The head lacks a distinct beak, and the melon tapers gradually from the area of the blowhole to a rounded tip. In males, the melon extends slightly further forward than in females. The pectoral fins have a unique shape among the cetaceans, with a distinct central hump creating an S-shaped leading edge.

Global Distribution and Density

False killer whales are found in all tropical and warm-temperate oceans, generally in deep offshore waters, but also in some shallower semi-enclosed seas and gulfs (e.g., Sea of Japan, Yellow Sea, Persian Gulf), and near oceanic islands (e.g., Hawaii, Johnston Atoll, Galapagos, Guadeloupe, Martinique) (Leatherwood *et al.,* 1989). Sightings have also been reported as "common" in Brazilian shelf waters (IWC, 2007) where animals could be seen from shore from Rio de Janeiro feeding in an upwelling zone that concentrates prey. There are occasional records in both the northern and southern hemispheres of animals at latitudes as high as about 50 degrees (Stacey and Baird, 1991; Stacey *et al.,* 1994). In the western Pacific off the coast of Japan, false killer whales appear to move north-south seasonally, presumably related to prey distribution (Kasuya, 1971), but seasonal movements have not been documented elsewhere. Densities in the central and eastern Pacific range from 0.02 to 0.38 animals per 100 km^2 (Wade and Gerrodette, 1993; Mobley *et al.,* 2000; Ferguson and Barlow, 2003; Carretta *et al.,* 2007), with the lowest densities reported for waters north of about 15 degrees north off Baja California, Mexico, and within the U.S. EEZ around Hawaii, and highest densities reported in waters surrounding Palmyra Atoll. Unlike other species that can be found both along continental margins and in offshore pelagic waters (e.g., bottlenose dolphins (*Tursiops truncatus*)), false killer whale densities generally do not appear to increase closer to coastlines.

Although false killer whales are found globally, genetic, morphometric, and life history differences indicate there are distinct regional populations (Kitchener *et al.,* 1990; Mobley *et al.,* 2000; Chivers *et al.,* 2007; Ferreira, 2008). Within waters of the central Pacific, four Pacific Islands Region management stocks of false killer whales are currently recognized for management under the U.S. MMPA: The Hawaii insular stock, the Hawaii pelagic stock, the Palmyra Atoll stock, and the American Samoa stock (Carretta *et al.,* 2010).

Life History

False killer whales are long-lived social odontocetes. Much of what is known about their life history comes either from examination of dead animals originating from drive fisheries in Japan (Kasuya and Marsh, 1984; Kasuya, 1986) or strandings (Purves and Pilleri, 1978; Ferreira, 2008). The social system has been described as matrilineal (Ferreira, 2008). However, this is not consistent with two known characteristics of false killer whales: Males leave their natal group when they begin to become sexually mature; and research showing females within a single group have different haplotypes, indicating that even among females, groups are composed of more than near-relatives (Chivers *et al.,* 2010). Ferreira (2008) suggested the mating system may be polygynous based on the large testes size of males, but actual understanding of the mating system remains poor.

The only reported data on birth interval, 6.9 years between calves, is from Japan (Kasuya, 1986). However, annual pregnancy rates were reported for Japan as 11.4 percent and 2.2 percent for South Africa (Ferreira, 2008). A rough interbirth interval can be calculated by taking the inverse of the annual pregnancy rate, which yields intervals of 8.8 and 45 years for Japan and South Africa, respectively. A single stranding group where 1 out of 37 adult females was pregnant was the source of the South African data, which may not be a representative sample and could be insufficient to estimate pregnancy rates in that population.

Comparisons of the life history parameters inferred from the Japanese drive fishery samples and the South African stranding sample indicated that the whales in Japan attained a larger asymptotic body size and grew faster. Also, a suite of characteristics of the whales in Japan indicated a higher reproductive rate: The ratio of reproductive to post-reproductive females was higher and the pregnancy rate was higher than in South Africa. Possible reasons given by Ferreira (2008) for the apparently higher reproductive rate in Japan are: The Japan whales are exhibiting a density-dependent response to population reduction as a result of exploitation; the colder waters near Japan are more productive; or differences in food quality. The estimated reproductive rates in both Japan and South Africa are low compared to those of other delphinids and especially to the two species with the most similar life history: Short-finned pilot whales (*Globicephala macrorhynchus*), and Southern Resident killer whales (*Orcinus orca*) (Olesiuk *et al.,* 1990).

Little is known about the breeding behavior of false killer whales in the wild, but some information is available from false killer whales held in oceanaria (Brown *et al.,* 1966). Gestation has been estimated to last 11 to 16 months, (Kasuya, 1986; Odell and McClune, 1999). Females with calves lactate for 18 to 24 months (Perrin and Reilly, 1984). In captive settings, false killer whales have mated with other delphinids, including short-finned pilot whales and bottlenose dolphins. Bottlenose dolphins in captivity have produced viable offspring with false killer whales (Odell and McClune, 1999).

Reproductive senescence is quite rare in cetaceans but has been documented in false killer whales and other social odontocetes. The two primary reasons given for reproductive senescence are increasing survival of offspring as a result of care given by multiple females of multiple generations (grandmothering), and transmission of learning across generations allowing survival in lean periods by remembering alternative feeding areas or strategies (McAuliffe and Whitehead, 2005; Ferreira, 2008).

Wade and Reeves (2010) argue that odontocetes have delayed recovery as compared to mysticetes when numbers are reduced because of the combination of their life history, which results in exceptionally low maximum population growth rates, and the potential for social disruption. Particularly if older females are lost, it may take decades to rebuild the knowledge required to achieve maximum population growth rates.

Wade and Reeves (2010) give numerous examples, both from cetaceans (beluga whales (*Delphinapterus leucas*), killer whales, and sperm whales (*Physeter macrocephalus*) are particularly pertinent) and elephants, which are similarly long-lived social animals with reproductive senescence.

Feeding Ecology

False killer whales are top predators, eating primarily fish and squid, but also occasionally taking marine mammals (see references in Oleson *et al.,* 2010). These conclusions are based on relatively limited data from various parts of the species' range.The large, widely spread groups in which false killer whales typically occur (Baird *et al.,* 2008a; Baird *et al.,* 2010) and their patchily distributed prey suggest that this species forages cooperatively. Further evidence for the social nature of false killer whale foraging is the observation of prey sharing among individuals in the group (Connor and Norris, 1982; Baird *et al.,* 2008a). False killer whales feed both during the day and at night (Evans and Awbrey, 1986; Baird *et al.,* 2008a).

Diving Behavior

Limited information is available on the diving behavior of false killer whales. Maximum dive depth was estimated at 500 m (Cummings and Fish, 1971). Time depth recorders have been deployed on four false killer whales (R. Baird, pers. comm., Cascadia Research Collective) totaling approximately 44 hours. The deepest dive recorded during a 22-hour deployment was estimated to have been as deep as 700 m (estimate based on duration past the recorder's 234 m limit and ascent and descent rates). However, only 7 dives were to depths greater than 150 m, all of them accomplished in the daytime. Nighttime dives were all shallow (30–40 m maximum), but relatively lengthy (approximately 6–7 minutes).

Indirect evidence of dive depths by false killer whales can be inferred from prey. Mahimahi has been noted as a prominent prey item (Baird, 2009). Based on the catch rates of longlines instrumented with depth sensors and capture timers (Boggs, 1992) in the daytime, mahimahi are caught closer to the surface than other longline-caught fish, primarily in the upper 100 m. Other prey species, such as bigeye tuna, typically occur much deeper, from the surface down to at least 400 m (Boggs, 1992). The deepest dives by the instrumented false killer whales approach the daytime swimming depth limit of swordfish (*Xiphias gladius*), a prey item, near 700 m (Carey and Robinson, 1981).

Social Behavior

There is quite a bit of variance in estimates of group size of false killer whales. At least some of the variability stems from estimation methods and time spent making the group size estimate. Most group sizes estimated from boats or planes vary from 1 to over 50 animals with an average from 20 to 30, and group size estimates increase with encounter duration up to 2 hours (Baird *et al.,* 2008a). Group size tends to increase with encounter duration because the species often occurs in small subgroups that are spread over tens of square miles. It is possible that the groups seen on typical boat or plane surveys are only part of a larger group spread over many miles (see e.g., Baird *et al.,* 2010) that are in acoustic contact with one another. These widespread aggregations of small groups can total hundreds of individuals (Wade and Gerrodette, 1993; Carretta *et al.,* 2007; Baird, 2009; Reeves *et al.,* 2009). Mass strandings of large groups of false killer whales (range 50–835; mean = 180) have been documented in many regions, including New Zealand, Australia, South Africa, the eastern and western North Atlantic, and Argentina (Ross, 1984). Groups of 2–201 individuals (mean = 99) have also been driven ashore in Japanese drive fisheries (Kasuya, 1986). The social organization of smaller groups has been studied most extensively near the main Hawaiian Islands (Baird *et al.,* 2008a), where individuals are known to form strong long-term bonds. False killer whales are also known to associate with other cetacean species, especially bottlenose dolphins (Leatherwood *et al.,* 1988). Interestingly, records also show false killer whales attacking other cetaceans, including sperm whales and bottlenose dolphins (Palacios and Mate, 1996; Acevedo-Gutierrez *et al.,* 1997).

Biology and Life History of Hawaiian Insular False Killer Whales

Current Distribution

The boundaries of Hawaiian insular false killer whale distribution have been assessed using ship and aerial survey sightings and location data from satellite-linked telemetry tags. Satellite telemetry location data from seven groups of individuals tagged off the islands of Hawaii and Oahu indicate that the whales move widely and quickly among the main Hawaiian Islands and use waters up to at least 112 km offshore (Baird *et al.,* 2010; Forney *et al.,* 2010). Regular movement throughout the main Hawaiian Islands was also documented by re-sightings of photographically-identified individuals over several years (Baird *et al.,* 2005; Baird, 2009; Baird *et al.,* 2010). Individuals use both windward and leeward waters, moving from the windward to leeward side and back within a day (Baird, 2009; Baird *et al.,* 2010; Forney *et al.,* 2010). Some individual false killer whales tagged off the Island of Hawaii have remained around that island for extended periods (days to weeks), but individuals from all tagged groups eventually ranged widely throughout the main Hawaiian Islands, including movements to the west of Kauai and Niihau (Baird, 2009; Forney *et al.,* 2010). Based on locations obtained from 20 satellite-tagged insular false killer whales, the minimum convex polygon range for the insular population was estimated to encompass 77,600 km^2 (M.B. Hanson, unpublished data).

The greatest offshore movements occurred on the leeward sides of the islands, although on average, similar water depths and habitat were utilized on both the windward and leeward sides of all islands (Baird *et al.,* 2010). Individuals utilize habitat overlaying a broad range of water depths, varying from shallow (<50 m) to very deep (>4,000 m) (Baird *et al.,* 2010). Tagged insular false killer whales have often demonstrated short- to medium-term residence in individual island areas before ranging widely among islands and adopting another short-term residency pattern. It is likely that movement and residency patterns of the whales vary over time depending on the density and movement patterns of their prey species (Baird, 2009).

A genetically distinct population of pelagic false killer whales occurs off Hawaii (Chivers *et al.,* 2007). Hawaiian insular false killer whales share a portion of their range with the genetically distinct pelagic population (Forney *et al.,* 2010). Satellite telemetry locations from a single tagged individual from the pelagic population, as well as shipboard and small boat survey sightings, suggest that the ranges of the two populations overlap in the area between 42 km and 112 km from shore (Baird *et al.,* 2010; Forney *et al.,* 2010). Based on this evidence, it is clear that the region from about 40 km to at least 112 km from the main Hawaiian Islands is an overlap zone, in which both insular and pelagic false killer whales can be found. However, a small sample size of satellite-tracked individuals creates some uncertainty in these boundaries. In particular, the offshore boundary of the insular stock is likely to be farther than 112 km because their documented offshore extent has increased as sample sizes of satellite-tracked individuals have increased. It is likely that additional deployments in the future will continue to result in greater maximum documented distances for insular false killer whales. Thus, an additional geographic "buffer" beyond the present maximum distance of 112 km has been recognized out to 140 km. Moreover, 140 km is approximately 75 nmi which follows the original boundary recommendation of Chivers *et al.* (2008). Therefore, the draft 2010 SAR for false killer whales recognizes an overlap zone between insular and pelagic false killer whales between 40 km and 140 km from the main Hawaiian Islands based on sighting, telemetry, and genetic data (based on justification in Forney *et al.,* 2010; Carretta *et al.,* 2010). We recognize that boundary for this status review as well.

Life History

There is no information available to assess whether the life history of Hawaiian insular false killer whales differs markedly from other false killer whale populations. However, there is also no evidence to show they are similar. As discussed earlier, false killer whales in Japan were larger and had a higher reproductive output than those in South Africa, and these differences were attributed to one or more of the following: colder more productive waters, response to exploitation, and different food in the two regions (Ferreira, 2008). It remains uncertain whether Hawaiian insular false killer whales are more like those from Japan or those from South Africa.

Social Structure

Molecular genetic results support the separation of Hawaiian insular false killer whales from the more broadly distributed Hawaiian pelagic false killer whales (Chivers *et al.,* 2007; 2010). Matches from photo-identification of individuals in groups of insular false killer whales also suggests functional isolation of the insular population from the overlapping pelagic population of false killer whales (Baird *et al.,* 2008a). Based on 553 identifications available as of July 2009, with the exception of observations of four small groups (two observed near Kauai and two off the Island of Hawaii), all false killer whales observed within 40 km of the main Hawaiian Islands link to each other through a single large social network that makes up the insular population. A large group of 19 identified individuals of the pelagic population (or presumed to be) seen 42 km from shore and identifications from a number of other sightings of smaller groups do not link into the social network (Baird, 2009).

The social cohesion of insular false killer whales is likely important to maintaining high fecundity and survival as it is in other highly social animals. Although some aspects of the behavior and "culture" of Hawaiian insular false killer whales have been investigated or discussed, the mechanisms by which they might influence population growth rates are not well understood. The situation of this population could be analogous to those of other populations of large mammals in which females live well beyond their reproductive life spans (*e.g.,* elephants, higher primates, and some other toothed cetaceans such as pilot whales) (McComb *et al.,* 2001; Lahdenpera *et al.,* 2004). The loss of only a few key individuals—such as the older, post-reproductive females—could result in a significant loss of inclusive fitness conveyed by "grandmothering" behavior (*i.e.,* assistance in care of the young of other females in the pod). In addition, cultural knowledge (*e.g.,* how to cope with environmental changes occurring on decadal scales) could be lost, leading to reduced survival or fecundity of some or all age classes. Wade and Reeves (2010) document the special vulnerability of social odontocetes giving examples of killer whales, belugas, sperm whales, and dolphins in the eastern tropical Pacific.

Historical Population Size

Historical population size is unknown. BRT members used density estimates from other areas together with the range inferred from telemetry data (*see* above) to suggest plausible ranges for historical abundance. Using the estimated density of false killer whales around the Palmyra Atoll EEZ, 0.38 animals/100 km^2, where the highest density of this species has been reported (Barlow and Rankin, 2007), and extrapolating that density out to the 202,000 km^2 area within 140 km of the main Hawaiian Islands (proposed as a stock boundary for Hawaiian insular false killer whales in the draft 2010 SAR), a point-estimate, or a plausible historical abundance, for the insular population is around 769. Alternatively, using one standard deviation above the point-estimate of the density around Palmyra Atoll to account for uncertainty in that density estimate, the upper limit of the abundance of Hawaiian insular false killer whales could have reached 1,392 animals. The BRT placed the lower limit of plausible population size in 1989 at 470 based on the estimated number of animals observed in the 1989 aerial surveys (see above).

There are several important caveats. Even though Palmyra has a density that is high relative to other areas, it is unlikely that this represented a pristine population during the 2005 survey on which the estimate is based. Given the depredation tendencies of false killer whales, known long-lining 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. Although Palmyra is situated in more productive waters than the Hawaiian Islands, we do not understand enough about the feeding ecology, behavior, and social system(s) of false killer whales to know how or whether productivity might be related to animal density for false killer whales. This caveat is true for all other areas where population density estimates exist for false killer whales. Therefore, we used and view data from Palmyra as a conservative estimate of pristine density.

Current Abundance

The draft 2010 SAR for Hawaiian insular false killer whales (Carretta *et al.,* 2010) gives the best estimate of current population size as 123 individuals (coefficient of variation, or CV = 0.72), citing Baird *et al.* (2005). Recent reanalysis of photographic data has yielded two new estimates of population size for the 2006–2009 period. Two estimates are presented because two groups photographed near Kauai have not yet been observed to associate into the social network of false killer whales seen at the other islands. These 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. The current best estimates of population size for Hawaiian insular false killer whales are 151 individuals (CV = 0.20) without the animals photographed at Kauai, or 170 individuals (CV = 0.21) with them. As a comparison, the Hawaiian pelagic population is estimated to be 484 individuals (CV = 0.93) within the U.S. EEZ surrounding Hawaii (Barlow and Rankin, 2007).

Although the absolute abundance of Hawaiian insular false killer whales is small, the core-area (within 40 km) population density (0.12 animals/100 km^2) is among the highest reported for this species. The high density of the Hawaiian insular population suggests a unique habitat capable of supporting a larger population density than nearby oligotrophic waters.

Trends in Abundance

Aerial survey sightings since 1989 suggest that the Hawaiian insular false killer whale population has declined over the last 2 decades. A survey was conducted in June and July 1989 on the leeward sides of Hawaii, Lanai, and Oahu to determine the minimum population size of false killer whales in Hawaiian waters. False killer whales were observed on 14 occasions with 3 large groups (group sizes of 470, 460, and 380) reported close to shore off the Island of Hawaii on 3 different days (Reeves *et al.,* 2009). As described in the Current Abundance section, the current best estimates of population size for Hawaiian insular false killer whales are 151 individuals without the animals photographed at Kauai, or 170 with them. Therefore, the largest group seen in 1989 is much larger than the current best estimate of the size of the insular population. Although the animals seen during the 1989 surveys are assumed to come from the insular population based on their sighting location within 55 km of the Island of Hawaii, it is possible that they represent a short-term influx of pelagic animals to waters closer to the islands. Moreover, because photographic or genetic identification of individuals is often required to determine the population identity of false killer whales in Hawaiian waters, we cannot be absolutely certain that sightings from the 1989 or 1993 to 2003 aerial surveys came from the insular population. Similarly, 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. Nevertheless, because of the location of the sightings and lack of evidence of pelagic animals occurring that close to the islands, it is most likely that this group did consist of insular animals.

With respect to trends in group size, the average group size during the 1989 survey (195 animals) is larger than the typical average group size for the insular population (25 animals for encounters longer than 2 hours) during more recent surveys (Baird *et al.,* 2005). The 1989 average group size is also larger than the more recent average of that observed for the pelagic population (12 animals) (Barlow and Rankin, 2007).

Five additional systematic aerial surveys were conducted between 1993 and 2003 covering both windward and leeward sides of all of the main Hawaiian Islands, including channels between the islands, out to a maximum distance of about 46 km from shore (Mobley *et al.,* 2000; Mobley, 2004). A regression of sighting rates from these surveys suggests a significant decline in the population size (Baird, 2009). The large groups sizes observed in 1989, together with the declining encounter rates from 1993 through 2003 suggest that Hawaiian insular false killer whales have declined substantially in recent decades.

It is possible that weather or other survey conditions are at least partially responsible for the decline in sighting rates from 1993 through 2003; however, there was no downward trend in the sighting rates for the four most commonly seen species of small cetaceans (spinner dolphin (*Stenella longirostris*), bottlenose dolphin, spotted dolphin (*Stenella attenuata*), and short-finned pilot whale). These four species represent nearshore and pelagic habitat preferences and span a range of body sizes from smaller to larger than false killer whales. It can be inferred from this evidence that variability in sighting conditions during the survey period did not have a major effect on sighting rates and therefore the sighting rate for insular false killer whales has, in fact, declined.

A number of additional lines of evidence, summarized in Baird (2009), support a recent decline in Hawaiian insular false killer whale population size. Individual researchers in Hawaii have noted a marked decline in encounter rates since the 1980s and the relative encounter rate of false killer whales during the 1989 aerial survey was much higher than current encounter rates.

Population Structure

Chivers *et al.* (2007) delineated false killer whales around Hawaii into two separate populations: Hawaiian insular and Hawaiian pelagic. That work has recently been extended with new samples, the addition of nuclear markers, and an analysis with a broader interpretation of the data (Chivers *et al.,* 2010). The new analysis examined mitochondrial DNA (mtDNA) using sequences of 947 base pairs from the d-loop and nuclear DNA (nDNA) using eight microsatellites. These additional samples help confirm the delineation of these two populations.

Three stratifications of the mtDNA data examined genetic differentiation at different spatial scales (Chivers *et al.,* 2010). The broad-scale stratification recognized three groups: Hawaiian insular, central North Pacific, and eastern North Pacific. In the fine-scale stratification, five strata were recognized: Hawaiian insular, Hawaiian pelagic, Mexico, Panama, and American Samoa. The finest-scale stratification recognized each of the main Hawaiian Islands as strata.

All but one Hawaiian insular false killer whale had one of two closely related haplotypes that have not been found elsewhere. The presence of two distinct, closely related haplotypes in Hawaiian insular false killer whales is consistent with Hawaiian insular false killer whales having little gene flow from other areas. This pattern differs from those of Hawaiian stocks of bottlenose, spinner, and spotted dolphins that all have evidence suggesting multiple successful immigration events. The pattern of primarily closely related haplotypes shown in Hawaiian insular false killer whales is consistent with a strong social system or strong habitat specialization that makes survival of immigrants or their offspring unlikely. One single individual, a male, was found in among Hawaiian insular false killer whales with a different haplotype. Although there is no photograph of that male to connect it directly to Hawaiian insular false killer whales, it was sampled within a group with such strong connections that assignment tests could not exclude that it belongs to the insular group. Given the low power of the current assignment test (with few microsatellite markers), the possibility of immigration (permanent membership with Hawaiian insular false killer whales but with an origin outside the group) cannot be ruled out. Likewise, the possibility that this individual was a temporary visitor (*i.e.,* not a true immigrant) from the pelagic population cannot be excluded. The rare haplotype is sufficiently distantly related that it seems most plausible that this resulted from a separate immigration event (i.e., that immigrants are accepted on rare occasions).

The mtDNA data also show strong differentiation between Hawaiian insular false killer whales (n = 81) and both broad-scale strata (central North Pacific (n = 13) and eastern North Pacific (n = 39)) and fine-scale strata (Hawaiian pelagic (n = 9), Mexico (n = 19), Panama (n = 15), and American Samoa (n = 6)). Genetic divergence between the Hawaiian insular false killer whales and other strata examined showed magnitudes of differentiation that were all consistent with less than one migrant per generation. No significant differences were found among the main Hawaiian Islands with sufficient data for statistical analysis (Hawaii, Oahu, and Maui).

Nuclear DNA results also showed highly significant differentiation among the broad and fine strata (Hawaiian insular (n = 69), central North Pacific (n = 13), eastern North Pacific (n = 36), Hawaiian pelagic (n = 9), Mexico (n = 19), Panama (n = 12), and American Samoa (n = 6)). The estimates of divergence between the Hawaiian insular strata and other strata demonstrate that the magnitude of differentiation was less for nDNA than for mtDNA, indicating the potential for some male-mediated gene flow. Tests for differences between currently living males and females in level of differentiation were not significant for either mtDNA or nDNA. However, this test has no ability to detect differences in male versus female gene flow in the past. Chivers *et al.* (2010) give a number of hypotheses for the apparently different magnitude of signals between mtDNA and nDNA: (1) There is a low level of male-mediated gene flow that was not apparent because of insufficient sampling of nearby groups of false killer whales and/or the test for male-mediated gene flow can only detect first-generation male migrants; (2) the magnitude of nDNA differentiation is underestimated because of the high mutation rate of microsatellites; or (3) the magnitude of differentiation is not inconsistent with cases where selection has been shown to be strong enough for local adaptation.

The aforementioned uncertainties will best be resolved with additional sampling of nearby pelagic waters. Although the sample distribution is improved since the 2007 analysis, it remains poor in pelagic areas. The only full-scale cetacean survey of Hawaiian pelagic waters resulted in only two sightings of false killer whales in four months of effort, and the weather was too poor to obtain any high-quality identification photographs or biopsies (J. Barlow, pers. comm., NMFS SWFSC). Fisheries observers are trained to obtain identification photographs and biopsy samples; however, conditions during disentanglement usually result in photographs difficult to identify due to darkness, and prevent successful biopsy.

The strongest data with which to evaluate population structure are the mtDNA data. Approximately half of the population of Hawaiian insular false killer whales has been sampled, and all but one individual has one of two closely related haplotypes that have not been found elsewhere.

Chivers *et al.* (2010) used the analytical method of Piry *et al.* (1999) to test for evidence of a recent decline in abundance within the Hawaiian insular population. The analysis takes advantage of the fact that when the effective size of a population is reduced, the allelic diversity of the population is reduced more rapidly than its heterozygosity, resulting in an apparent excess of heterozygosity given the number of alleles detected. Chivers *et al.* (2010) detected statistically significant evidence of a recent decline in Hawaiian insular false killer whales using this method, with all eight microsatellite loci exhibiting heterozygosity excess.

The microsatellite data were also used to estimate the effective population size of Hawaiian insular false killer whales as 46 (95 percent CI = 32–69). Because this population may have recently declined and the animals are long-lived, many of those individuals still alive likely were born prior to the decline. Thus, the estimate of effective population size is likely too high. Nevertheless, domestic animals have been shown to start displaying deleterious genetic effects (lethal or semi-lethal traits) when effective population size reaches about 50 individuals (Franklin, 1980). While negative genetic effects cannot be predicted for a group of individuals that are probably naturally uncommon with a strong social structure that limits genetic diversity, the current low effective population size is a concern.

DPS Determination

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

Both mitochondrial DNA (mtDNA) and nuclear DNA (nDNA) provide support for genetic discontinuity. As explained in the Population Structure section of this proposed rule, genetic differentiation was examined at different spatial scales. The mtDNA data show strong differentiation between Hawaiian insular false killer whales and other false killer whale groups at both broad-scale strata (central North Pacific and eastern North Pacific) and fine-scale strata (Hawaiian pelagic, Mexico, Panama, and American Samoa). The strongest DNA data come from mtDNA. The Hawaiian insular false killer whales have approximately half of the population sampled, and all but one individual has one of the two closely related haplotypes that have not been found elsewhere. The BRT concluded that this pattern alone argues for a strong possibility of a high degree of separation. Nuclear DNA (microsatellite) data are also consistent with little gene flow between Hawaiian insular false killer whales and other false killer whales and support discreteness. Nuclear DNA results showed highly significant differentiation among the Hawaiian insular, North Pacific, eastern North Pacific, Hawaiian pelagic, Mexico, Panama, and American Samoa strata.

Hawaiian insular false killer whales are behaviorally unique because they are the only population of the species known to have movements restricted to the vicinity of an oceanic island group. This behavioral separation is supported by their linkage through a tight social network, without any linkages to animals outside of the Hawaiian Islands. Phylogeographic analysis also indicates an isolated population with nearly exclusive haplotypes, and telemetry data show that all 20 satellite-linked telemetry tagged Hawaiian insular false killer whales remained within the main Hawaiian Islands (Baird *et al.,* 2010; Baird *et al.,* unpublished data), in contrast with a single tagged pelagic false killer whale, which ranged far from shore. Although it is not unusual for false killer whales to be observed close to land, long-term history of exclusive use of a specific mainland or island system has not been documented elsewhere.

Hawaiian insular false killer whales are significant to the taxon based on persistence in a unique ecological setting, marked genetic characteristic differences, and cultural factors. Hawaiian insular false killer whales persist in an ecological setting unusual or unique from other false killer whale populations because they are found primarily in island-associated waters that are relatively shallow and productive compared to surrounding oligotrophic waters. The following lines of evidence supporting this unique ecological setting include: Utilization of prey associated with island habitat that may require specialized knowledge of locations and seasonal conditions that aggregate prey or make them more vulnerable to predation. In an insular habitat, such foraging grounds may occur more regularly or in more predictable locations than on the high seas. The contaminant levels found in insular animals also suggest that both insular false killer whales and their prey may be associated with the urban island environment. And despite their small population size, the density (animals per km^2) of Hawaiian insular false killer whales is high relative to other false killer whale populations, suggesting the nearshore habitat or a unique habitat-use strategy may support a higher density of animals, which may have implications for differences in social structure and interactions within the population or with the pelagic population. Additionally, movement and photographic resighting data suggest Hawaiian insular false killer whales employ a unique foraging strategy compared to other false killer whales.

Hawaiian insular false killer whales differ markedly from other populations of the species in their genetic characteristics. Hawaiian insular false killer whales exhibit strong phylogeographic patterns that are consistent with local evolution of mitochondrial haplotypes. Eighty of 81 individuals had one of two closely related haplotypes found nowhere else. These haplotypes are a sequence of a non-coding portion of the mtDNA and as such do not provide direct evidence for selection. The BRT found that the magnitude of mtDNA differentiation is large enough to infer that time has been sufficient and gene flow has been low enough to allow adaptation to the local Hawaiian habitat. The BRT noted that geneticists use one effective migrant per generation as a rule of thumb for the level of gene flow below which adaptation to local habitat is likely. Comparisons using mtDNA of the Hawaiian insular animals to those in all other geographic strata indicate less than one migrant per generation.

Finally, culture, or knowledge passed through learning from one generation to the next, is likely to play an important role in the evolutionary potential of false killer whales. The insular population contributes to cultural diversity in the species, and this may provide the capacity for different amounts of cultural capabilities such as the ability of false killer whales to adapt to environmental change. Evidence in support of the significance of cultural diversity includes: Insular false killer whales may have unique knowledge of nearshore foraging areas and foraging tactics that are transmitted through learning. Learning is a common feature of other social odontocetes. False killer whales are highly social mammals with long interbirth intervals and reproductive senescence suggesting transfer of knowledge is important to successfully persist in this unique Hawaiian habitat. Learning to persist in this unique habitat, and knowing the intricacies of localized prey distribution and prey movements, may take many generations.

Overall, the combination of genetic and behavioral discreteness coupled with ecological, genetic, and cultural significance led us to conclude that Hawaiian insular false killer whales are a DPS. There was some uncertainty in the genetic discontinuity factor of the discreteness conclusion based primarily on the lack of information on the adjacent population of pelagic false killer whales off the coast of Hawaii, and due to gaps in genetic sampling to the west of Hawaii. However, the BRT did not find this lack of information sufficient to alter the significance finding for Hawaiian insular false killer whales. We agree with the BRT's conclusion that the Hawaiian insular population of the false killer whale is a DPS.

Extinction Risk Assessment

Evaluating Threats

The BRT qualitatively assessed potential individual threats to Hawaiian insular false killer whales and organized its assessment of threats according to the five factors listed under ESA section 4(a)(1). They evaluated the potential role that each factor may have played in the decline of Hawaiian insular false killer whales and the degree to which each factor is likely to limit population growth in the foreseeable future. Within the five factors, specific threats were individually ranked by considering the severity, geographic scope, the level of certainty that insular false killer whales are affected, and overall current and future (60 years) risk imposed by that threat. Consideration of future threats was limited to 60 years duration as this corresponds roughly to the life span of a false killer whale and represents a biologically relevant time horizon for projecting current conditions into the future.

Section 4(a)(1) of the ESA and NMFS's implementing regulations (50 CFR 424) state that the agency must determine whether a species is endangered or threatened because of any one or a combination of the five factors described under the ESA Statutory Provisions. The BRT was not asked to determine whether the DPS was endangered or threatened; it was only asked to assess the risk of extinction and the impact of factors affecting the DPS. The following discussion briefly summarizes the BRT's findings regarding threats to the Hawaiian insular false killer whale DPS. More details, including how the BRT voted, can be found in the status review report (Oleson *et al.,* 2010). Overall, there were 29 threats identified to have either a historical, current, or future risk to Hawaiian insular false killer whales. Of these, 15 are believed to contribute most significantly to the current or future decline of Hawaiian insular false killer whales. The following is a summary of each of the 15 current and/or future potential threats that could result in either a high risk or medium risk of extinction, categorized according to the five section 4(a)(1) factors.

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

Reduced Total Prey Biomass and Reduced Prey Size

The impacts of reduced total prey biomass and reduced prey size represent a medium risk for insular false killer whales. Although declines in prey biomass were more dramatic in the past when the insular false killer whale population may have been higher, the total prey abundance remains very low compared to the 1950s and 1960s as evidenced by catch-per-unit-effort (CPUE) data from Hawaii longline fisheries and biomass estimates from tuna stock assessments (Oleson *et al.,* 2010). Long-term declines in prey size from the removal of large fish have been recorded from the earliest records to the future (Oleson *et al.,* 2010).

Competition With Commercial Fisheries

Competition with commercial fisheries is rated as a medium level of risk to current and future Hawaiian insular false killer whales. This risk exists because false killer whale prey includes many of the same species targeted by Hawaii's commercial fisheries, especially the fisheries for tuna, billfish, wahoo, and mahimahi.

Until 1980, distant-water longliners from Japan caught between 1,300 and 5,000 t of tuna and billfish annually within the U.S. EEZ around Hawaii (Yong and Wetherall, 1980). Since 1980 no foreign longline fishing has been legally conducted in this zone, but the U.S. Hawaii-based longline fisheries now harvest similar quantities of tuna and billfish in the EEZ. In terms of total hooks deployed by the U.S. domestic fisheries, the fisheries declined slightly in the 1960s and 1970s, and then began to grow again in the 1980s. Total hooks in the U.S. EEZ around the main Hawaiian Islands in the period of 1965 and 1977 were around 1.6 to 2.9 million hooks per year. As the domestic fisheries declined in the 1960s and 1970s, foreign fishing in the U.S. EEZ around the main Hawaiian Islands increased, and then ceased in 1980. Domestic longlining was revitalized in the 1980s based on new markets for fresh tuna and the introduction of new shallow-set swordfish fishing methods.

Hooks deployed inside the U.S. EEZ around the main Hawaiian Islands in the 1990s were double that estimated for the 1970s, and doubled again in the 2000s. Participation in the Hawaii longline fisheries approximately doubled from 37 vessels in 1987 to 75 in 1989 and doubled again to 156 (vessels with permits) by the end of 1991. As the Hawaii-based longline fisheries expanded during the late 1970s through the early 1990s, longline fishing effort increased in waters near the Hawaiian Islands and within the range of insular false killer whales. The expansion in these nearshore waters within the 40 km core habitat of the Hawaiian insular false killer whales was pronounced during an influx of new fisheries participants in the late 1980s (Ito, 1991) and this led to conflicts in the fishing areas previously dominated by troll and handline fishermen. The growing conflict between commercial longliners and near-shore troll and handliners was finally resolved in 1992 with a prohibited area limiting nearshore longlining. Although the fraction of total Pacific longline tuna catches that are from the EEZ around the main Hawaiian Islands has declined from about half to about a quarter over the last two decades, the absolute quantity caught in the EEZ continued to increase through 2005, declining moderately thereafter (WPRFMC, 2010).

The present-day Hawaiian insular false killer whale population requires an estimated 1.3 to 1.8 million kg of prey per year (Oleson *et al.,* 2010). Competition with longline fisheries for potential prey within the insular false killer whale habitat seems to have represented a higher risk prior to the early 1990s when the longline fisheries were harvesting many millions of pounds of fish per year, and where reported catch locations were almost all in what is now the longline prohibited area. In the core nearshore habitat (<40 km from shore), the troll and handline fisheries now harvest as much as is estimated to be consumed annually by the Hawaiian insular false killer whale population.

Competition With Recreational Fisheries

The potential limiting factor of reduced food due to catch removals by recreational fisheries was rated lower than for troll, handline, shortline, and kaka line fisheries in the status review report (Oleson *et al.,* 2010). The BRT did not consider the estimates of recreational fishing for pelagic species ranging from 15–25 million lbs (7–11 million kg) per year for 2003–2008 provided by the Marine Recreational Fisheries Survey (WPRFMC, 2010). Although the methods used to extrapolate statewide totals from the survey are being overhauled following a critical review, and although it is difficult to know what proportion of surveyed fishers' catch may be marketed surreptitiously, the extrapolated Hawaii recreational fisheries catch totals are many times higher than the reported commercial catch totals for the troll, handline, shortline, and kaka line fisheries considered by the BRT (Oleson *et al.,* 2010). Reported commercial catches may be under-reported, and some may be included in the recreational estimates, but if the nominal recreational estimates from the survey are even somewhat representative, then the recreational sector would represent at least as much competition for fish as the reported commercial troll handline, shortline, and kaka line fisheries. Thus, we believe competition with recreational fisheries should be rated as a medium level of current and future risk to Hawaiian insular false killer whales.

Natural or Anthropogenic Contaminants

The threat of the accumulation of natural or anthropogenic contaminants, such as exposure to persistent organic pollutants (POPs), heavy metals (*e.g.,* mercury, cadmium, lead), chemicals of emerging concern (industrial chemicals, current-use pesticides, pharmaceuticals, and personal care products), plastics, and oil, is rated as a medium level of current and future risk to Hawaiian insular false killer whales.

Many toxic chemical compounds and heavy metals degrade slowly in the environment and thus tend to biomagnify in marine ecosystems, especially in lipid-rich tissues of top-level predators (McFarland and Clarke, 1989). In marine mammals, exposure to high levels of POPs has been associated with immunosuppression (Ross *et al.,* 1995; Beckmen *et al.,* 2003), reproductive dysfunction (Helle *et al.,* 1976; Subramanian *et al.,* 1987), and morphological changes (Zakharov and Yablokov, 1990; Sonne *et al.,* 2004). Heavy metals have also been shown to accumulate in marine mammals and, in some cases, may cause deleterious biological effects, including alterations in steroid synthesis and liver damage (O'Hara and O'Shea, 2001). Many of these chemicals have been banned in the U.S. from production and use due to their toxic effects on wildlife and laboratory animals. As a result, the levels of these compounds in marine environmental samples in the U.S. have declined since the bans, including fish from Hawaii (Brasher and Wolff, 2004). However, some of these chemicals continue to be used in other regions of the world and can be transported to other areas via atmospheric transport or ocean currents (Fiedler, 2008; van den Berg, 2009). Even though these contaminants have been banned in the U.S. for more than 25 years, they continue to be measured in marine animals from Hawaii (Hunter, 1995; Kimbrough *et al.,* 2008; Ylitalo *et al.,* 2009).

Independently the threat of bioaccumulation of chemicals is a cause for concern, but when coupled with the threat of reduced prey quantities or qualities also affected by the contaminants, the risk associated with exposure to lipophilic POPs may increase. Thus, animals that are nutritionally challenged could be at higher risk as a result of increased mobilization of these compounds to other organs where damage could result. It is suspected that body condition can influence POP burdens in the blubber of marine mammals even though the dynamics of blubber POPs during changes in physiological conditions of these animals are complex and poorly understood (Aguilar *et al.,* 1999). Marine mammals can lose weight during various stages of their life cycles due to different stresses such as disease, migration, or reduced prey abundance. The mobilization of lipids associated with weight loss could result in redistribution of POPs to other tissues, or to retention of these compounds in blubber that would result in a concentration increase (Aguilar *et al.,* 1999). Thus, animals that are nutritionally challenged could be at higher risk as a result of increased mobilization of these compounds to other organs where damage could result. And although levels of POPs have decreased since their bans in the U.S., they continue to be measured in biota from the main Hawaiian Islands, including Hawaiian insular false killer whales. Recently, summed polychlorinated biphenyls (PCBs) measured in some of these whales were above a marine mammal threshold value (17,000 ng/g, lipid) associated with deleterious health effects (*e.g.,* thyroid dysfunction, immunosuppression) (Kannan *et al.,* 2009).

With human population growth and increasing commercial development, there has been an increased demand for industrial chemicals, current-use pesticides, pharmaceuticals, and personal care products. Many of these chemicals of emerging concern (CECs) are used in high volumes in various applications and, as a result, are capable of entering marine environments via various routes. Currently, it is unclear what risk CECs pose to Hawaiian insular false killer whales or their habitat as little is known about the current occurrence, fate, and transport of CECs in the main Hawaiian Island region.

Marine litter and debris has become an increasing problem in the oceans, with plastic debris being the most abundant (Derraik, 2002). Although marine litter has been identified by the BRT as a threat related to habitat, it could also be identified as a threat under disease as well as other manmade factors. For direct threats to false killer whales, ingestion of plastics can obstruct or damage the esophagus and the digestive or intestinal tracts, block gastric enzymatic secretions, and have other effects that could reduce an animal's ability to feed and ultimately its overall fitness (Derraik, 2002). Ingestion of chemical light sticks used on swordfish longlines in Hawaii may pose an additional risk of chemical contamination. There is one documented case of ingestion of a net fragment by a false killer whale on the British Columbia coast (R. Baird, pers. comm., Cascadia Research Collective). For threats related to disease, risks include exposure to environmental contaminants contained in plastic resins. For threats related to other manmade factors, risks linked to plastic debris include entanglement, and introduction of alien species (Derraik, 2002; Rios *et al.,* 2007). These threats are not only possible for false killer whales, but for their prey as well.

Oil is made up of thousands of different chemicals and some of the most toxic of these petroleum-related compounds are the polycyclic aromatic hydrocarbons (PAHs). These compounds are prevalent in coastal waters, especially in urban embayments, and have been shown to alter normal physiological function in marine biota (Varanasi *et al.,* 1989; Stein *et al.,* 1993). Concerns have been raised over the effects of exposure to PAHs, alone or in combination with other toxic contaminants, in marine mammals because of the worldwide use of fossil fuels (Geraci and Aubin, 1990) and the occurrence of oil spills in areas that support marine mammal populations. Marine mammals can be exposed to oil by various routes, such as inhalation of volatile PAHs, direct ingestion of oil, and consumption of contaminated prey (O'Hara and O'Shea, 2001). Vertebrates, such as fishes and cetaceans, rapidly take up PAHs present in the environment and quickly metabolize these compounds. The PAH metabolites are then concentrated in the bile for elimination (Varanasi *et al.,* 1989). However, if a marine mammal has been exposed to a large amount of petroleum (*e.g.,* after an oil spill) and the liver enzyme system has been overwhelmed such that it cannot efficiently metabolize the PAHs, there is the possibility that petroleum-related PAHs could pose a risk. After the *Exxon Valdez* oil spill in March 1989, several killer whales were observed to transit through oiled waters (Dahlheim and Matkin, 1994) in the region and 14 killer whales (33 percent) from the local AB pod disappeared between 1989 and 1991. There was no clear evidence to link the oil exposure to the disappearance (and presumably deaths) of these whales, but it is plausible (Matkin *et al.,* 2008). Oil spills have been reported in the main Hawaiian Islands. In May 1996, for example, an oil spill occurred in Pearl Harbor after a pipeline broke and spilled more than 25,000 gallons of oil (Honolulu Star Bulletin, 1996). The impact of this spill and other main Hawaiian Island oil spills (*e.g.,* Barbers Point in 2009) on Hawaiian insular false killer whales and their prey is not known.

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

As previously mentioned, this factor may have contributed to the historical decline of Hawaiian insular false killer whales with live-capture operations occurring prior to 1990. However, there are no current and/or future threats identified for this listing factor. Interactions with fisheries are discussed under Factor D (below).

C: Disease or Predation

Environmental Contaminants or Environmental Changes

Disease and predation play a role in the success of any population, but small populations in particular can be extremely susceptible as this threat can have a disproportionate effect on small populations. Anthropogenic influences can potentially increase the risk of exposure to these pressures by lowering animals' immune system defenses, which may have detrimental effects to the population as a whole and result in mortality and reduced reproductive potential. Disease-related impacts of individual threats, such as exposure to environmental contaminants, parasites, pathogens, and harmful algal blooms pose a medium threat to Hawaiian insular false killer whales.

Although little is known about the occurrence of parasites in Hawaiian insular false killer whales, Hawaiian monk seals from the main Hawaiian Islands were exposed to protozoan and coccidian parasites. Discharge of raw or partially treated sewage effluent and contaminated freshwater runoff into marine coastal waters can increase the risk of pathogen transmission to animals that reside in nearshore areas, such as Hawaiian insular false killer whales. Additionally, insular false killer whales may be at an increased risk for exposure to biotoxins produced during harmful algal blooms (HAB) potentially caused from eutrophication and rising ocean temperature. Several Hawaiian monk seals died in the late 1970s and these deaths were attributed to exposure to the marine biotoxins ciguatoxin and maitotoxin from a HAB. HABs appear to be increasing in frequency and geographical distribution worldwide and pose a future threat to Hawaiian insular false killer whales.

Short and Long-term Climate Change

The threats from climate change are separated into two parts: In this section as it relates to an increase in disease vectors, and in Factor E as it relates to changes in sea level, ocean temperature, ocean pH, and expansion of low-productivity areas. Climate change poses a medium threat to Hawaiian insular false killer whales due to the possible increase in disease vectors. Increased water temperature could change the composition of microbial communities in the main Hawaiian Islands. This may create an environment that could support new microbes not usually found in the region, thus exposing Hawaiian insular false killer whales to novel pathogens.

D: The Inadequacy of Existing Regulatory Mechanisms

The Lack of Reporting/Observing of Nearshore Fisheries Interactions

As described previously, a high rate of fin disfigurements (Baird and Gorgone, 2005) and other observations suggest interactions between fisheries and Hawaiian insular false killer whales. The continued lack of reporting/observing of nearshore fisheries interactions with insular false killer whales is rated by the BRT as a medium level of current and future risk to Hawaiian insular false killer whales. The State of Hawaii does not monitor bycatch of marine mammals in any of its state fisheries. The federally-managed Hawaii-based shallow-set longline fishery maintains approximately 100 percent observer coverage, and the federally-managed Hawaii-based deep-set longline fishery maintains approximately 20 percent observer coverage. Troll, handline, pole-and-line, shortline, and kaka line fisheries do not have observer coverage, whether they are state or federal. Even if all state and federal fisheries maintained 100 percent observer coverage, that would likely only eliminate possible intentional harm by fishermen; it would not necessarily reduce or eliminate incidental hooking or entanglement. Although each of these fisheries is required by law under the MMPA to report interactions with marine mammals, the low number of reports strongly suggests that interactions are occurring and are not being reported. However, there is also no way to enforce self-reporting.

The Longline Prohibited Area Not Reversing the Decline of the DPS

In addition to what the BRT identified as an inadequate regulatory mechanism as described above, we considered whether any other regulatory mechanisms directly or indirectly address what are deemed as the highest threats to the insular DPS: Small population size, and hooking, entanglement, or intentional harm by fishermen. Small population size is considered a high risk threat because of reduced genetic diversity, inbreeding depression, and other Allee effects, but these are inherent biological characteristics of the current population that cannot be altered by existing regulatory mechanisms. No legal protection is in place, nor could one be implemented, to reduce the threats of small population size.

Regarding addressing the high threat of hooking and entanglement, a regulatory mechanism exists to partially address this threat from commercial longline fisheries. The longline prohibited area around the main Hawaiian Islands was implemented in 1992 through Amendment 5 to the Western Pacific Pelagic Fisheries Management Plan to alleviate gear conflicts between longline fishermen versus handline and troll fishermen, charter boat operators, and recreational fishermen. Although characterized as a "25–75 nm" longline exclusion boundary, the boundary was not set at a precise distance from shore and in fact varies from 42.4 nm (78.6 km) to 104.4 nm (193.4 km) from shore from February through September (median distance 61.1 nm, 113.1 km). For the remaining four months of the year (October through January) approximately two-thirds (66.3 percent) of the boundary contracts towards the islands, such that the boundary ranges from 24.3 nm (45.1 km) to 104 nm from shore (median distance 48.7 nmi, 90.2 km) (Baird, 2009).

Longline fishing has thus been effectively excluded from the insular DPS's entire core range (<40 km). This prohibited area thus indirectly benefits insular false killer whales by decreasing the amount of longline fishing in insular false killer whale habitat. However, the decline of the insular DPS has occurred mostly since then, in spite of the prohibited area. In addition, and discussed further in the Protective Efforts section, the prohibited area is being proposed for complete closure to longline fishing out to the current February–September boundary, year-round. If implemented, this would exclude longline fishing from most of the geographic range of the insular stock as it is defined in the draft 2010 SAR, including most of the pelagic/insular stock overlap zone (Carretta *et al.,* 2010). Nevertheless, although the longline prohibited area and the proposed expansion, which is anticipated to protect the pelagic false killer whale, could also benefit the insular DPS by reducing incidental serious injury and mortality, there is no evidence that existence of the prohibited area is reversing, or will reverse, the decline of the DPS. Thus, this regulatory mechanism alone is inadequate to protect the insular DPS of Hawaiian false killer whales from further decline and is ranked a high risk threat.

In summary, following a review of the best available information, the greatest threats to the species are still insufficiently addressed. This is either because the efforts can't or don't address all of the threats, or because enforcement of regulatory mechanisms is limited. Protective efforts from regulatory mechanisms, such as the MMPA, Clean Water Act, etc., are discussed in a later section. However, given the size of the U.S. EEZ surrounding the main Hawaiian Islands, adequate enforcement of laws in such a vast area is difficult. Therefore, we find that existing regulations are inadequate to protect the species from further declines throughout all of its range, and thus the inadequacy of existing regulatory mechanisms is itself a high threat to the Hawaiian insular false killer whale.

E: Other Natural or Manmade Factors Affecting Its Continued Existence

Short and Long-term Climate Change

Climate change poses a medium threat to Hawaiian insular false killer whales and could be manifested in many ways, including changes in sea level, ocean temperature, ocean pH, and expansion of low-productivity areas (*i.e.,* "dead zones"). Sea level change, however, is unlikely to affect false killer whales. In contrast, ocean temperature plays a key role in determining habitat for many species, and changes in the parameter would likely have a strong impact on false killer whales. Many prey species and competitor species have ranges closely linked to ocean temperature characteristics, including isotherms and gradients. Changes in temperature regimes could have severe impacts on pelagic ecosystems, in general. For false killer whales, specifically, many of their forage species are migratory and/or mobile (*i.e.,* few benthic species) and could alter their distribution. The movement of other large predatory marine species' ranges is likely to change, which could impact competition with false killer whales. However, a much better understanding is needed of prey preferences and predator-prey dynamics before speculating on the possible impacts of warming or cooling trends on insular false killer whales. Temperature may also have a direct linkage to productivity and growth rate, but again it remains difficult to establish directionality of net effect.

Climate change related ocean acidification could alter the productivity and composition of the main Hawaiian Island ecosystem. Increases in low-productivity areas (*e.g.,* Polovina *et al.,* 2008; Brewer and Peltzer, 2009) would probably have the strongest impacts on false killer whales. Lower productivity resulting in decreases in forage abundance would have a negative impact unless mobile forage species were concentrated into smaller regions that could then be exploited more easily. Again, presumed effects are large but net directionality is difficult to predict. One of the largest unknowns is whether the insular population would remain in the same location if conditions became less favorable.

Interactions With Commercial Longline Fisheries

Interactions with commercial longline fisheries was rated as a high level of current and/or future risk to Hawaiian insular false killer whales. The BRT concluded that the intense and increased fishing activity within the known range of insular false killer whales since the 1970s suggests a high risk of fisheries interactions, even though the extent of interactions with almost all of the fisheries is unquantified or unknown. The only fisheries occurring within the range of the insular DPS for which there are recent quantitative estimates of hooking and entanglement of false killer whales are the Hawaii-based federal commercial longline fisheries. These fisheries have been largely excluded from the known range of Hawaiian insular false killer whales since the early 1990s, suggesting the current and future risk from longlining (assuming the current restrictions remain in place), although high, is somewhat lower compared to the historic risk. It is likely that unobserved interactions with these longline fisheries represented an even higher risk up until the early 1990s.

Beginning in 1994, onboard observers in Hawaii-based longline fisheries have systematically recorded information on interactions with protected species, including marine mammals. Observer coverage initially was about 4 percent for all longline effort combined, but increased beginning in 1999. Since 2004, observer coverage has been 100 percent for shallow-set trips and 20 percent for deep-set trips. Both fisheries operate on the high seas and within the U.S. EEZ. False killer whales have been the most frequently hooked or entangled cetacean, primarily during tuna-targeting longline sets (Forney and Kobayashi, 2007; McCracken and Forney, 2010). Average mortality and serious injury, based on 31 observed interactions between 1994 and 2008, has been about 13 (CV = 0.37) false killer whales per year (calculated from estimates in Forney and Kobayashi, 2007; McCracken and Forney, 2010). Eleven additional false killer whales were observed injured or killed during 2009 throughout the range of the fisheries.

Most of the observed interactions with false killer whales in the Hawaii-based longline fisheries occurred more than 140 km from the Hawaiian Islands, beyond the known range of insular false killer whales; however, a few interactions occurred closer to the Hawaiian Islands and may have involved insular animals. Following a review of insular false killer whale movements and other factors, the 2004 through 2008 takes have been prorated to insular versus pelagic animals based on geographic location (McCracken and Forney, 2010). Given current observer coverage levels, only approximately 20 percent of all takes are observed and have known locations. Annually during this 5-year period, one false killer whale was determined to have a non-serious injury within the 140 km extended range and an average of 0.60 insular false killer whales were estimated to have been killed or seriously injured (McCracken and Forney, 2010). This estimate assumes that the probability of taking Hawaiian insular versus pelagic false killer whales is proportional to the estimated density of each population in the area where the takes occurred (NMFS, 2005). There are presently no data available to evaluate this assumption or whether there are other potential differences that might cause the two populations to behave differently with respect to longline gear. Historically, more frequent takes may have occurred when there was much greater overlap between insular false killer whales and longline fisheries.

Interactions With Troll, Handline, Shortline, and Kaka Line Fisheries

A high level of current and future risk was found by the BRT for these fisheries. This is based on the large scale and distribution of the troll and handline fisheries, and on anecdotal reports of interactions with cetaceans, although interactions specific to false killer whales are known only for the troll fishery. The troll fishery has by far the greatest participation and effort in fishing days of any fishery within the known range of insular false killer whales, followed by the handline fishery, with the kaka line and shortline fisheries a distant third and fourth. The kaka line and shortline fishing methods have been implicated as a threat based on the similarity of these fishing gears and methods to longline fishing. Potential threats associated with these activities include hooking or entanglement of false killer whales in gear, gear ingestion, direct shooting or injury of false killer whales by fishermen, and competition with fisheries for prey species, such as tuna and billfish.

False killer whales have been documented taking catch or bait during non-longline commercial and recreational fishing operations around the Hawaiian Islands since at least the 1940s (Shallenberger, 1981; Nitta and Henderson, 1993), but little information is available to document the effects of these interactions on false killer whales. Animals may become hooked or entangled, and in some cases, fishermen have reported shooting at false killer whales and other dolphins or using explosives or chemicals to avoid losing catch or bait (Schlais, 1985; Nitta and Henderson, 1993; TEC, 2009). Based on photographs of Hawaiian insular false killer whales, Baird and Gorgone (2005) documented a high rate of dorsal fin disfigurements that were consistent with injuries from unidentified fishing line (3 out of 80 individuals or 3.75 percent, compared to 0–0.85 percent for other studied cetacean populations). Interactions with false killer whales have been reported for troll fisheries (Shallenberger, 1981; Zimmerman, 1983; Nitta and Henderson, 1993), and possibly shortline or kaka line fisheries (anecdotal reports of "blackfish" interactions that may have been false killer whales; cited in Baird, 2010). Some of these recreational fisheries in Hawaii target the same species as commercial fisheries (*e.g.,* tuna, billfish) and use the same or similar gear, and might also be expected to experience interactions with insular false killer whales.

Although there are only a few published reports of interactions between false killer whales and troll fisheries, anecdotal evidence indicates that false killer whales have been associated with troll fisheries for decades, often taking catch or bait from lines. It is unknown whether animals get hooked or entangled in troll gear (as they do in longline gear). Fishermen have reported shooting at animals or taking other measures to protect their bait, catch, or gear (Shallenberger, 1981), although it has been illegal to intentionally kill or injure cetaceans since the MMPA was passed in 1972.

Anecdotal reports indicate that interactions between handline fisheries and cetaceans have been common since at least the 1970s. Bottlenose dolphins or rough-toothed dolphins (*Steno bredanensis*) have generally been implicated rather than false killer whales. No information is available to determine whether handline fishermen shoot at cetaceans or take other harmful measures to try to prevent the loss of bait or catch, as has been reported for the other fisheries (Shallenberger, 1981; Zimmerman, 1983; Nitta and Henderson, 1993). No interactions with false killer whales have been reported to NMFS under the Marine Mammal Authorization Program (required for fisheries listed on the List of Fisheries (LOF)) even though the troll and handline fisheries are listed as Category III fisheries. There is currently no independent observer reporting system. Self-reporting is the only method currently available to document potential marine mammal interactions in these fisheries. The shortline fishery was added to the LOF in 2010 by analogy as a Category II fishery and the kaka line fishery is proposed to be added to the 2011 LOF as a Category III fishery. No interactions between the shortline or kaka line fishery and false killer whales have been reported to NMFS, and currently there is no independent observer program for monitoring bycatch in either the shortline or the kaka line fishery. There are anecdotal reports of interactions with cetaceans off the north side of

Maui, but the species and extent of interactions are unknown (74 FR 58879, Nov. 16, 2009). Based on the similarity of these fisheries to longline fisheries (with respect to gear type and target species), it is likely that false killer whales are involved; however, the nature and extent of any such interactions are unknown. Although there is no evidence to suggest a disproportionate threat from the shortline and kaka line fisheries compared with other, much larger fisheries operating within the known range of insular false killer whales, the 2008 increase in catch suggests that the shortline fishery could expand rapidly.

Small Population Size

Reduced genetic diversity, inbreeding depression, and other Allee effects associated with small population size represent a high risk to current and future Hawaiian insular false killer whales. The current estimated number of breeding adults (46 individuals) is so small that inbreeding depression could have increasingly negative effects on population growth rate and other traits, including social factors (such as reduced efficiency in group foraging and potential loss of knowledge needed to deal with unusual environmental events), may further compromise the ability of Hawaiian insular false killer whales to recover to healthy levels.

The processes that cause small populations to have a greater risk of extinction include genetic and behavioral problems, as well as chance processes like demographic and environmental stochasticity (Shaffer, 1981; Gilpin and Soule, 1986; Goodman, 1987; Simberloff, 1988; Lande, 1993). The decrease in per capita population growth as population size declines is often referred to as the "Allee effect" or "depensation" (see references in Oleson *et al.,* 2010) . In essence, as the number of individuals decreases there are costs from a lack of predator saturation, impaired anti-predator vigilance or defence, a breakdown of cooperative feeding, an increased possibility of inbreeding depression or other genetic issues, decreased birth rates as a result of not finding mates, or a combination of these effects. The Allee effect increases risk to small populations directly by contributing to the risk of extinction, and indirectly by decreasing the rate of recovery of exploited populations and, therefore, maintaining populations at a smaller size where extinction risk is higher for a variety of reasons (Dennis, 1989; Stephens and Sutherland, 1999).

In addition, social odontocetes (such as false killer whales) may be particularly vulnerable over and beyond the numerical loss of individuals to the population (Wade and Reeves, 2010). Some of these effects may act in a similar fashion to Allee effects or have a more pronounced effect at low population sizes. Survival and reproductive success may depend on such things as social cohesion and social organization, mutual aid in defence against predators, and possible alloparental care such as "babysitting" and communal nursing, sufficient opportunities for transfer of "knowledge" (learned behavior) from one generation to the next, and leadership by older individuals that know where and when to find scarce prey resources and how to avoid high-risk circumstances (*e.g.,* ice entrapment, stranding, predation).

False killer whales share several life history traits with killer whales and belugas that make them prone to problems associated with small population size: A low intrinsic growth rate (a consequence of late maturity and a low birth rate), strong social structure demonstrated through close associations of individuals over long time periods, the potential for high adult survival enabled by the intergenerational cultural transmission of certain types of awareness or specialized behavior, and a low effective population size compared to abundance. This last feature leads to low genetic diversity, which increases the probability that inbreeding depression will occur at a higher level of total abundance than is the case for many other species. Franklin (1980) found that inbreeding depression increases substantially when the number of reproductive animals becomes fewer than 50. The adult population of Hawaiian insular false killer whales is likely approaching the level at which the effects of inbreeding depression become a factor in determining whether the population is able to maintain itself or increase.

Anthropogenic Noise

Anthropogenic noise, caused from sonar and seismic exploration from sources including military, oceanographic, and fishing sonar, is rated as a medium level of current and future risk to Hawaiian insular false killer whales. Odontocete cetaceans, including false killer whales, have a highly evolved acoustic sensory system. False killer whales rely heavily on their acoustic sensory capabilities for navigation, foraging, and communicating with conspecifics. Potential and measured impacts of anthropogenic noise on cetaceans have been reviewed by a number of authors (Richardson *et al.,* 1995; Nowacek *et al.,* 2004; Hildebrand, 2005; Weilgart, 2007). No specific studies or observations of the impacts of noise on wild false killer whales are available. However, intense anthropogenic sounds have the potential to interfere with the acoustic sensory system of false killer whales by causing permanent or temporary hearing loss, thereby masking the reception of navigation, foraging, or communication signals, or through disruption of reproductive, foraging, or social behavior. Experiments on a captive false killer whale have revealed that it is possible to disrupt echolocation efficiency in this species with the level of disruption related to the specific frequency content of the noise source as well as the magnitude and duration of the exposure (Mooney *et al.,* 2009).

In recent years there has been increasing concern that active sonar and seismic operations are harmful to beaked whales (Cox *et al.,* 2006) and other cetaceans, including melon-headed whales (*Peponocephala electra*) (Southall *et al.,* 2006), and pygmy killer whales (*Feresa attenuata*) (Wang and Yang, 2006). The use of active sonar from military vessels has been implicated in mass strandings of beaked whales and delphinids. A 2004 mass-stranding of melon-headed whales in Hanalei Bay, Kauai, occurred during a multi-national sonar training event around Hawaii (Southall *et al.,* 2006). Although data limitations preclude a conclusive finding regarding the role of Navy sonar in triggering this event, sonar transmissions were considered a plausible, if not likely, cause of the mass stranding. False killer whales have been herded using loud sounds in drive fisheries off Japan (Kishiro and Kasuya, 1993; Brownell *et al.,* 2008), suggesting that high-intensity noise can affect the behavior of false killer whales in Hawaiian waters. The U.S. Navy's Hawaii Range Complex surrounds the main Hawaiian Islands and is regularly used for training exercises that broadcast high-intensity, mid-frequency sonar sounds (U.S. Navy, 2008). NMFS regularly reviews these exercises and the potential for exposure of mid-frequency sonar and may issue a Letter of Authorization (LOA) allowing incidental take (MMPA; 16 USC 1362(18)(B)). In 2010, NMFS authorized Level B harassment (*i.e.,* having the potential to disturb) for 51 false killer whales; no Level A harassment (*i.e.,* having the potential to injure) or mortality was authorized for false killer whales.

Population Viability Analysis

In addition to the qualitative analysis of possible threats to insular false killer whales, the BRT also conducted a quantitative analysis of extinction risk using a Population Viability Analysis (PVA), a model used to quantify extinction risk by integrating and analyzing the various risks a population may face. This PVA was conducted to evaluate the probability of actual and near extinction, with "near extinction" defined as fewer than 20 animals within 75 years, or three false killer whale generations. The PVA took into account measured, estimated, and inferred information on basic life history, population size and trends, as well as varying impacts of catastrophes, environmental stochasticity, and Allee effects. A variety of alternative scenarios were evaluated, and most models indicated a probability of greater than 50 percent likelihood of the DPS declining to fewer than 20 individuals within 75 years. Even though the evaluation of individual threats to the insular population was limited to 60 years duration (the approximate lifespan of a false killer whale), the PVA results modeled probability of reaching near extinction by 50 years (2 generations), 75 years (3 generations), and 125 years (5 generations). Although 60 years wasn't specifically modeled, the results from reaching near extinction by 50 years still showed a high risk of extinction for Hawaiian insular false killer whales. The PVA results are described in greater detail in Appendix B of the status review report (Oleson *et al.,* 2010).

Extinction Risk Assessment Conclusion by the BRT

Given the results of the PVA analysis and the possible threats to the insular population, the BRT agreed by consensus that Hawaiian insular false killer whales are at a high risk of extinction due to either small-scale incremental impacts over time (*e.g.,* reduced fecundity or survivorship due to direct or indirect effects of fisheries, and small population size) or a single catastrophic event (*e.g.,* disease outbreak). 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.

Summary of Findings

After considering all elements in the status review report and, in particular, the PVA and the five ESA section 4(a)(1) factors, we have determined that the Hawaiian insular false killer whale DPS is in danger of extinction throughout all of its range. Overall, most PVA models indicated a probability of greater than 50 percent likelihood of the DPS declining to fewer than 20 individuals within 75 years, which would result in functional extinction beyond the point where recovery is possible. The risk table provided in the status review report identifies small population size, and hooking, entanglement, or intentional harm by fishermen as the two threats that pose the most significant risk to Hawaiian insular false killer whales, while a number of other threats potentially pose a medium and high risk to this population. The decline in abundance of Hawaiian insular false killer whales likely resulted from a number of factors acting synergistically. This description of risk and the level of concern for Hawaiian insular false killer whales are similar to those described for other species of social odontocetes listed as endangered under the ESA (*e.g.,* Southern Resident killer whales and Cook Inlet beluga whales).

Protective Efforts

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

The conservation or protective efforts that met the aforementioned criteria and are currently in place include the following: (1) Take prohibitions under the MMPA; (2) authorization and control of incidental take under the MMPA; (3) protection under other statutory authorities (i.e., the Clean Water Act, MARPOL); (4) the longline prohibited area; (5) Watchable Wildlife Viewing Guidelines; and (6) active research programs. The conservation or protective efforts that also met the aforementioned criteria but are not yet in place include the following: (7) The draft False Killer Whale Take Reduction Plan; and (8) possible expansion of the Hawaiian Islands Humpback Whale National Marine Sanctuary. Each of these efforts is further described below.

(1) Take Prohibitions Under the MMPA

Various sections of the MMPA provide for protection of false killer whales. A goal of the MMPA is to maintain marine mammal species or stocks at or above their optimum sustainable population level. The MMPA established a moratorium on the taking of marine mammals by any person or vessel subject to U.S. jurisdiction. It defines "take" to mean "to hunt, harass, capture, or kill" any marine mammal or attempt to do so. Exceptions to the moratorium can be made through permitting actions for take incidental to commercial fishing and other non-fishing activities; for scientific research; and for public display at licensed institutions such as aquaria and science centers.

(2) Authorization and Control of Incidental Take Under the MMPA

In 1981, Congress amended the MMPA to provide for incidental take authorizations for maritime activities, provided NMFS found the takings would be of small numbers and have no more than a "negligible impact" on those marine mammal species not listed as depleted under the MMPA (*i.e.,* listed under the ESA or below the optimum sustainable population). These incidental take authorizations, also known as Letters of Authorization or LOAs, have requirements for monitoring and reporting, and when appropriate include mitigation measures. Incidental take from the use of sonar by the U.S. Navy (Navy) is regulated under the MMPA. In 2007, the Navy requested a 5-year LOA for the incidental harassment of marine mammals incidental to the training events within the Hawaii Range Complex (HRC) for the period July 2008 through July 2013. The LOA was sought since the training events may expose certain marine mammals that may be present within the HRC to sound from hull-mounted mid-frequency active tactical sonar or to pressures from underwater detonations. In 2010, NMFS authorized Level B harassment for 51 false killer whales; no Level A harassment or mortality was authorized for false killer whales. For military readiness activities, Level A harassment is defined in the MMPA as "any act that injures or has the significant potential to injure a marine mammal or marine mammal stock in the wild", and Level B harassment is defined as "any act that disturbs or is likely to disturb a marine mammal or marine mammal stock in the wild by causing disruption of natural behavioral patterns, including, but not limited to, migration, surfacing, nursing, breeding, feeding, or sheltering, to a point where such behavioral patterns are abandoned or significantly altered" (16 U.S.C. 1362(18)(B)).

The MMPA has various requirements related to take of marine mammals incidental to commercial fisheries. First, section 118 requires NMFS to place all U.S. commercial fisheries into one of three categories in the LOF based on the level of incidental serious injury and mortality of marine mammals occurring in each fishery. The classification of a fishery on the LOF determines whether participants in that fishery may be required to comply with certain other provisions of the MMPA. Owners of vessels or gear engaging in a Category I or II fishery are required to register with NMFS and obtain a marine mammal authorization under the Marine Mammal Authorization Program to lawfully take a non-endangered and non-threatened marine mammal incidental to commercial fishing. Participants in Category I or II fisheries are also required to carry an observer onboard if requested, and comply with any applicable take reduction plans. Participants in Category I, II, or III fisheries must report to NMFS all incidental injuries and mortalities of marine mammals that occur during commercial fishing operations.

The Hawaii-based deep-set longline fishery is classified as a Category I (frequent incidental mortality and serious injury) and has 20 percent observer coverage; the Hawaii-based shallow-set longline fishery and the Hawaii shortline fishery are both classified as Category II fisheries (occasional incidental mortality and serious injury) and have 100 percent and 0 percent observer coverage, respectively. The troll and handline fisheries are all classified as Category III fisheries (remote likelihood of/no known incidental mortality and serious injury) and the kaka line fishery is proposed to be listed as Category III; each has 0 percent observer coverage. Compliance with reporting requirements is likely low and reports provide only a minimum estimate of the number of interactions. However, without observer programs for most of the fisheries, self-reporting of incidental take is the only option currently available to document interactions.

The insular population has been designated as the Hawaii insular stock for the purposes of management under the MMPA. As of the draft 2010 SAR (Carretta *et al.,* 2010), the Hawaii insular stock is not listed as "threatened" or "endangered" under the ESA, nor is it considered "depleted" under the MMPA. In addition, the estimated average annual human-caused mortality and serious injury for this stock (0.60 animals per year) is slightly less than the potential biological removal (PBR) (0.61); therefore, the insular false killer whale stock is not considered "strategic" under the MMPA. Since the insular stock is neither "depleted" nor "strategic" under the MMPA, no conservation plan to foster recovery has been developed.

(3) Protection Under Other Statutory Authorities (i.e., the Clean Water Act, MARPOL)

Other statutory authorities, such as the Federal Clean Water Act (CWA) and MARPOL (International Convention for the Prevention of Pollution from Ships), offer some protection to Hawaiian insular false killer whales. Federal programs carried out under the CWA help to ensure that water quality is maintained or improved. Section 402 (discharge of pollutants into water bodies) regulates activities that might degrade false killer whale habitat or prey. Although programs carried out under the CWA are well funded and enforcement of this law occurs, albeit limited, it is unlikely that programs are sufficient to fully protect false killer whale habitat or prey. MARPOL was designed to minimize pollution of the seas, including dumping of debris and plastics, oil, and exhaust pollution. All ships flagged under countries that are signatories to MARPOL are subject to its requirements. Although this is an international convention with a large number of signatories, the large expanse of the oceans make enforcement of illegal marine pollution difficult to enforce.

(4) The Longline Prohibited Area

The Main Hawaiian Islands Longline Prohibited Area was implemented in 1992 through Amendment 5 to the Western Pacific Pelagic Fisheries Management Plan to alleviate gear conflicts between Hawaii-based longline fishermen versus handline and troll fishermen, charter boat operators, and recreational fishermen. The prohibited area varies from 25–75 nm offshore seasonally and excludes longline fishing in much of the range of the Hawaiian insular false killer whale for 8 months of the year. Since implementation of the prohibited area, however, decline of the insular DPS has still occurred.

(5) Watchable Wildlife Viewing Guidelines

Watchable Wildlife Viewing Guidelines exist for other species of marine mammals in Hawaiian waters, including false killer whales. The recommended distance for observation is 150 ft when on the beaches or on the water and 1,000 ft when operating an aircraft. These viewing guidelines, however, are only recommendations and are not legally enforceable.

(6) Active Research Programs

Finally, there are a number of active research programs that are currently identifying Hawaiian false killer whale data gaps and improving our understanding of possible risk factors. For example, research priorities include a need for better understanding of movements, stock structure, population genetics, contaminant levels, etc. Valuable data is being collected, however, data collection and analysis can take a considerable amount of time.

(7) Draft False Killer Whale Take Reduction Plan

The Hawaii pelagic stock of false killer whales was designated as a "strategic stock" in 2000, but is not considered "depleted" under the MMPA. Current levels of human-caused mortality and serious injury (7.3 animals per year) exceed the stocks PBR level (2.5). In 2009 NMFS convened a false killer whale take reduction team to develop a Take Reduction Plan pursuant to section 118 of the MMPA. The take reduction team submitted its consensus recommendations (draft Take Reduction Plan, or Plan) to NMFS on July 19, 2010. NMFS is currently evaluating the Plan. NMFS will then issue a proposed rule and implementing regulations based on the team's recommendations, gather public comments, and publish a final rule and implementing regulations in the **Federal Register**.

The immediate goal of the Plan is to reduce, within 6 months of its implementation, incidental mortality and serious injury occurring within the U.S. EEZ surrounding the Hawaiian Islands of the Hawaii pelagic stock of false killer whales in the Hawaii-based longline fisheries to less than the stock's PBR level of 2.5 false killer whales per year. The long-term goal of the Plan is to reduce, within 5 years of its implementation, the incidental mortality and serious injury of the Hawaii pelagic, Hawaii insular, and Palmyra Atoll stocks of false killer whales to insignificant levels approaching a zero mortality and serious injury rate.

Although there are other U.S. fisheries that may have incidental mortality and serious injury of false killer whales, such as commercial and recreational trolling and other hook-and-line fisheries, the Plan does not include recommendations for reducing bycatch in these other fisheries. Instead, the Plan focuses on the fisheries that are known to pose significant risk to the region's stocks of false killer whales.

The Hawaii insular stock, which is being proposed as the insular DPS, is known to interact or geographically (partially) overlap with the Hawaii-based longline fisheries. The draft Take Reduction Plan contains a recommendation for the year-round closure of a portion of the Longline Fishing Prohibited Area that lies to the north of the main Hawaiian Islands and is currently open to longline fishing for four months of the year. This closure of the northern Prohibited Area, if implemented, would exclude longline fishing from most of the geographic range of the Hawaii insular stock as it is defined in the draft 2010 SAR (Carretta *et al.,* 2010). It is anticipated that this proposed closure would therefore reduce the incidental serious injury and mortality of Hawaiian insular false killer whales in the Hawaii-based longline fisheries. Other Take Reduction Plan recommendations include a combination of additional area closures to the south of the Hawaiian Islands, as well as the use of circle hooks, weak hooks, increased observer coverage, and captains' education and outreach, which if instituted would primarily benefit pelagic false killer whales outside the longline prohibited area, but may also provide some benefits to the insular DPS.

(8) Possible Expansion of the Hawaiian Islands Humpback Whale National Marine Sanctuary

With respect to the State of Hawaii, the Hawaiian Islands Humpback Whale National Marine Sanctuary is currently undergoing a multi-year management plan review to assess the Sanctuary's programs and effectiveness. The plan was last revised in 2002 and the Sanctuary is required by law to periodically update it. The Sanctuary, formed by Congress in 1992, is also proposing to "expand its scope and direction to protect and conserve other living marine resources besides humpback whales." Currently, only humpback whales (*Megaptera novaeangliae*) are afforded additional Federal protections within the Sanctuary, which includes prohibiting approaches closer than 300 ft when on the water and 1,000 ft when operating an aircraft (15 CFR 922.184).

Summary of Protective Efforts

We support all conservation efforts currently in effect and those that are planned for the near future, as mentioned above. However, these efforts lack the certainty of implementation and effectiveness so as to remove or reduce threats specifically to Hawaiian insular false killer whales. Specifically, the MMPA, CWA, and MARPOL are all certain and effective regulatory measures, but they do not cover indirect or cumulative threats, such as non-point source pollution, and enforcement capacity is extremely limited in such a vast EEZ around the main Hawaiian Islands. The longline prohibited area has also been effective by reducing interactions with the insular DPS since 1992, yet interactions have still been documented and the total population size of the insular DPS has declined since then. The Watchable Wildlife Viewing Guidelines are only recommendations and thus aren't legally enforceable. The active research programs have gathered valuable data, but many data gaps still remain and research is costly and could take decades. The draft Take Reduction Plan has not yet been implemented, although it will likely be beneficial to the insular DPS. It, however, will not address indirect or cumulative effects. Finally, the possible expansion of the Hawaiian Islands Humpback Whale National Marine Sanctuary is not definite. It is unknown whether false killer whales will be added as a species under protection, nor is it certain that it will be able to address indirect or cumulative threats. Therefore, we have determined that these conservation efforts are not comprehensive in addressing the many other issues now confronting insular false killer whales (*e.g.,* small population effects) and thus will not alter the extinction risk of the species. In developing our final listing determination, we will consider the best available information concerning these efforts, and any other efforts by the State of Hawaii or local entities, for which we have information (see description of PECE above).

Proposed Listing Determination

Section 4(b)(1) of the ESA requires that the listing determination be based solely on the best scientific and commercial data available, after conducting a review of the status of the species and after taking into account those efforts, if any, being made by any state or foreign nation to protect and conserve the species. We have reviewed the petition, the report of the BRT (Oleson *et al.,* 2010), and other available published and unpublished information.

Based on this review, we agree with the BRT's assessment and conclude that the Hawaiian insular false killer whale meets the discreteness and significance criteria for a DPS (Oleson *et al.,* 2010). The Hawaiian insular false killer whale is discrete from the pelagic population based on genetic discontinuity and the uniqueness of its behavior related to habitat use patterns. This population of Hawaiian false killer whales is significant to the species as a whole based on its existence in a unique ecological setting, including diet and habitat and how it differs from that of other false killer whales, the potential for marked genetic characteristic differences leading to adaptive traits, and maintenance of cultural diversity. We also agree with the BRT's assessment of possible threats and their current and/or future risk to the insular DPS. The greatest threats to the insular population are small population effects and hooking, entanglement, or intentional harm by fishermen. Lastly, we also agree with the BRT's assessment of extinction risk analysis where most PVA models indicated a probability of greater than 50 percent likelihood of the DPS declining to fewer than 20 individuals within 75 years, which would result in functional extinction beyond the point where recovery is possible.

Proposed conservation efforts, including those to protect the pelagic population of Hawaiian false killer whales as described in the previous section, may also benefit the insular population. Taken together, however, we have determined that these conservation efforts are not holistic or comprehensive in addressing the many other issues now confronting insular false killer whales and thus will not alter the extinction risk of the species.

Based on the best scientific and commercial information available, including the status review report, we conclude that the Hawaiian insular false killer whale DPS is presently in danger of extinction throughout all of its range because of: (1) The present or threatened destruction, modification, or curtailment of its habitat or range (reduced total prey biomass; competition with commercial fisheries; competition with recreational fisheries; reduced prey size; and accumulation of natural or anthropogenic contaminants); (2) disease or predation (exposure to environmental contaminants or environmental changes; and increases in disease vectors as a result of short and long-term climate); (3) the inadequacy of existing regulatory mechanisms (the lack of reporting/observing of nearshore fisheries interactions; and the longline prohibited area not reversing the decline of the insular DPS); and (4) other natural or manmade factors affecting its continued existence (climate change; hooking, entanglement, or intentional harm by fishermen; small population size (reduced genetic diversity, inbreeding depression, and other Allee effects); and anthropogenic noise (sonar and seismic exploration)). See the "Summary of Factors Affecting the Species" section above for a description of the specific risks associated with section 4(a)(1).

In sum, future declines in insular population abundance may occur as a result of multiple threats, particularly those of small population size, and hooking, entanglement, or intentional harm by fishermen. 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. Therefore, we propose to list the Hawaiian insular false killer whale DPS as endangered.

Effects of Listing

Conservation measures provided for species listed as endangered or threatened under the ESA include recovery actions (16 U.S.C. 1536(f)), Federal agency consultation requirements (16 U.S.C. 1536), critical habitat designations, and prohibitions on taking (16 U.S.C. 1538). Recognition of the species' plight through listing promotes conservation actions by Federal and state agencies, foreign entities, private groups, and individuals. Should the proposed listing be made final, a recovery plan may be developed, unless such plan would not promote the conservation of the species.

Identifying Section 7 Consultation Requirements

Section 7(a)(2) of the ESA and NMFS/FWS regulations require Federal agencies to confer with us on actions likely to jeopardize the continued existence of species proposed for listing, or that result in the destruction or adverse modification of proposed critical habitat. If a proposed species is ultimately listed, Federal agencies must consult on any action they authorize, fund, or carry out if those actions may affect the listed species or its critical habitat. Examples of Federal actions that may affect the Hawaiian insular false killer whale DPS include, but are not limited to: Alternative energy projects, discharge of pollution from point sources, non-point source pollution, contaminated waste and plastic disposal, dredging, pile-driving, water quality standards, vessel traffic, aquaculture facilities, military activities, and fisheries management practices.

Critical Habitat

Critical habitat is defined in section 3 of the ESA as: "(i) The specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 1533 of this title, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of 1533 of this title, upon a determination by the Secretary that such areas are essential for the conservation of the species" (16 U.S.C. 1532(5)(A)). "Conservation" means the use of all methods and procedures needed to bring the species to the point at which listing under the ESA is no longer necessary (16 U.S.C. 1532(3)). Section 4(a)(3)(A) of the ESA requires that, to the maximum extent prudent and determinable, critical habitat be designated concurrently with the final listing of a species (16 U.S.C. 1533(a)(3)(A)(i)). Designations of critical habitat must be based on the best scientific data available and must take into consideration the economic, national security, and other relevant impacts of specifying any particular area as critical habitat.

Once critical habitat is designated, section 7 of the ESA requires Federal agencies to ensure that they do not fund, authorize, or carry out any actions that are likely to destroy or adversely modify that habitat. This requirement is in addition to the section 7 requirement that Federal agencies ensure that their actions do not jeopardize the continued existence of listed species.

At this time, critical habitat is not determinable for the Hawaiian insular false killer whale DPS. We are currently compiling information to prepare a critical habitat proposal for the Hawaiian insular false killer whale DPS in a separate rulemaking. Therefore, we seek public input and information to assist in gathering and analyzing the best available scientific data to support a critical habitat designation. We will continue to meet with co-managers and other stakeholders to review this information and the overall designation process. We will then initiate rulemaking with the publication of a proposed designation of critical habitat in the **Federal Register**, opening a period for public comment and the opportunity for public hearings.

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

Take Prohibitions

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

Role of Peer Review

The intent of the peer review policy is to ensure that listings are based on the best scientific and commercial data available. In December 2004, the Office of Management and Budget (OMB) issued a Final Information Quality Bulletin for Peer Review establishing minimum peer review standards, a transparent process for public disclosure of peer review planning, and opportunities for public participation. The OMB Bulletin, implemented under the Information Quality Act (Pub. L. 106–554), is intended to enhance the quality and credibility of the Federal government's scientific information, and applies to influential or highly influential scientific information disseminated on or after June 16, 2005. To satisfy our requirements under the OMB Bulletin, the BRT obtained independent peer review of the draft status review report. Independent specialists were selected from the academic and scientific community, Federal and state agencies, and the private sector for this review. All peer reviewer comments were addressed prior to dissemination of the final status review report and publication of this proposed rule.

On July 1, 1994, the NMFS and USFWS published a series of policies regarding listings under the ESA, including a policy for peer review of scientific data (59 FR 34270). The intent of the peer review policy is to ensure that listings are based on the best scientific and commercial data available. Prior to a final listing, NMFS will solicit the expert opinions of three qualified specialists selected from the academic and scientific community, Federal and state agencies, and the private sector on listing recommendations to ensure the best biological and commercial information is being used in the decisionmaking process, as well as to ensure that reviews by recognized experts are incorporated into the review process of rulemakings developed in accordance with the requirements of the ESA.

Identification of Those Activities That Would Constitute a Violation of Section 9 of the ESA

The intent of identifying those activities that would constitute a violation of section 9 of the ESA is to increase public awareness of the effect of this listing on proposed and ongoing activities within the species' range. We will identify, to the extent known at the time of the final rule, specific activities that will not be considered likely to result in violation of section 9, as well as activities that will be considered likely to result in violation. Activities that we currently believe could result in violation of section 9 prohibitions against "take" of the Hawaiian insular false killer whale DPS include, but are not limited to, the following: (1) Importation, (2) exportation, (3) take, (4) sale, and (5) delivery that directly or indirectly affect endangered species. These prohibitions apply to all individuals, organizations, and agencies subject to U.S. jurisdiction.

Public Comments Solicited on Listing

To ensure that the final action resulting from this proposal will be as accurate and effective as possible, we solicit comments and suggestions from the public, other governmental agencies, the scientific community, industry, environmental groups, and any other interested parties. Comments are encouraged on this proposal (*See* **DATES** and **ADDRESSES**). Specifically, we are interested in information regarding: (1) Habitat within the range of the insular DPS that was present in the past, but may have been lost over time; (2) biological or other relevant data concerning any threats to the Hawaiian insular false killer whale DPS; (3) the range, distribution, and abundance of the insular DPS; (4) current or planned activities within the range of the insular DPS and their possible impact on this DPS; (5) recent observations or sampling of the insular DPS; and (6) efforts being made to protect the Hawaiian insular false killer whale DPS.

Public Comments Solicited on Critical Habitat

We request quantitative evaluations describing the quality and extent of habitats for the Hawaiian insular false killer whale DPS as well as information on areas that may qualify as critical habitat for the proposed DPS. Specific areas that include the physical and biological features essential to the conservation of the DPS, where such features may require special management considerations or protection, should be identified. We also solicit biological and economic information relevant to making a critical habitat designation for the insular DPS. ESA implementing regulations at 50 CFR 424.12(h) specify that critical habitat shall not be designated within foreign countries or in other areas outside of U.S. jurisdiction. Therefore, we request information only on potential areas of critical habitat within the U.S. or waters within U.S. jurisdiction.

Section 4(b)(2) of the ESA requires the Secretary to consider the "economic impact, impact on national security, and any other relevant impact," of designating a particular area as critical habitat. For this process, section 4(b)(2) authorizes the Secretary to exclude from a critical habitat designation those particular areas where the Secretary finds that the benefits of exclusion outweigh the benefits of designation, unless excluding that area will result in extinction of the species. We seek information regarding the conservation benefits of designating areas within the main Hawaiian Islands as critical habitat. We also seek information on the economic and other benefits of excluding areas from the critical habitat designation, and the economic and other benefits of including an area as part of the critical habitat designation. In keeping with the guidance provided by the OMB (2000; 2003), we seek information that would allow us to monetize these effects to the extent possible, as well as information on qualitative impacts to economic values. We also seek information on impacts to national security and any other relevant impacts of designating critical habitat in these areas.

Data reviewed may include, but are not limited to: (1) Scientific or commercial publications; (2) administrative reports, maps or other graphic materials; (3) information received from experts; and (4) comments from interested parties. Comments and data particularly are sought concerning: (1) Maps and specific information describing the amount, distribution, and use type (e.g., foraging or migration) of the Hawaiian insular false killer whale DPS, as well as any additional information on occupied and unoccupied habitat areas; (2) the reasons why any habitat should or should not be determined to be critical habitat as provided by sections 3(5)(A) and 4(b)(2) of the ESA; (3) information regarding the benefits of designating particular areas as critical habitat; (4) current or planned activities in the areas that might be proposed for designation and their possible impacts; (5) any foreseeable economic or other potential impacts resulting from designation, and in particular, any impacts on small entities; (6) whether specific unoccupied areas may be essential to provide additional habitat areas for the conservation of this DPS; and (7) potential peer reviewers for a proposed critical habitat designation, including persons with biological and economic expertise relevant to the species, region, and designation of critical habitat. We seek information regarding critical habitat for the Hawaiian insular false killer whale DPS as soon as possible, but no later than February 15, 2011.

Public Hearings

50 CFR 424.16(c)(3) requires the Secretary to promptly hold at least one public hearing if any person requests one within 45 days of publication of a proposed rule to list a species. Such hearings provide the opportunity for interested individuals and parties to give opinions, exchange information, and engage in a constructive dialogue

concerning this proposed rule. We encourage the public's involvement in this matter and therefore have scheduled a public hearing to be held in Honolulu, Oahu, Hawaii. This public hearing will be held on January 20, 2011, at the McCoy Pavilion at the Ala Moana Park, 1201 Ala Moana Blvd, Honolulu, HI 96814 from 6:30 to 9 p.m. NMFS will consider requests for additional public hearings that are made in writing and received (see **ADDRESSES**) by January 31, 2011. If additional public hearings are requested and will be held, details regarding location(s), date(s), and time(s) will be published in a forthcoming **Federal Register** notice.

References

A complete list of all references cited herein is available upon request (see **FOR FURTHER INFORMATION CONTACT**).

Classification

National Environmental Policy Act

The 1982 amendments to the ESA, in section 4(b)(1)(A), restrict the information that may be considered when assessing species for listing. Based on this limitation of criteria for a listing decision and the opinion in *Pacific Legal Foundation* v. *Andrus,* 657 F. 2d 829 (6th Cir. 1981), we have concluded that ESA listing actions are not subject to the environmental assessment requirements of the National Environmental Policy Act (*See* NOAA Administrative Order 216–6).

Executive Order 12866, Regulatory Flexibility Act, and Paperwork Reduction Act

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

Executive Order 13132, Federalism

In accordance with E.O. 13132, we determined that this proposed rule does not have significant Federalism effects and that a Federalism assessment is not required. In keeping with the intent of the Administration and Congress to provide continuing and meaningful dialogue on issues of mutual state and Federal interest, this proposed rule will be given to the relevant state agencies in each state in which the species is believed to occur, and those states will be invited to comment on this proposal. We have conferred with the state of Hawaii in the course of assessing the status of the Hawaiian insular false killer DPS, and considered, among other things, Federal, state, and local conservation measures. As we proceed, we intend to continue engaging in informal and formal contacts with the state, and other affected local or regional entities, giving careful consideration to all written and oral comments received.

List of Subjects in 50 CFR Part 224

Endangered marine and anadromous species.

Dated: November 10, 2010.

Eric C. Schwaab,

Assistant Administrator for Fisheries, National Marine Fisheries Service.

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

PART 224—ENDANGERED MARINE AND ANADROMOUS SPECIES

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

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

§ 224.101 [Amended]

2. In § 224.101, amend paragraph (b) by adding, "False killer whale (*Pseudorca crassidens*), Hawaiian insular distinct population segment" in alphabetical order.

[FR Doc. 2010–28843 Filed 11–16–10; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 648

[Docket No. 100804323–0544–01]

RIN 0648–BA03

Fisheries of the Northeastern United States; Atlantic Mackerel, Squid, and Butterfish Fisheries; Specifications and Management Measures

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

ACTION: Proposed rule, request for comments.

SUMMARY: NMFS proposes 2011 specifications and management measures for Atlantic mackerel, squid, and butterfish (MSB). This action proposes to modify the measure that transfers *Loligo* squid (*Loligo*) quota underages from Trimester I to Trimesters II and III by limiting the Trimester II quota increase to no more than 50 percent. This action also proposes to revise the 72-hr pre-trip observer notification requirement for the *Loligo* fishery to accommodate vessels departing for multiple day trips in a week. These proposed specifications and management measures promote the utilization and conservation of the MSB resource.

DATES: Public comments must be received no later than 5 p.m., eastern standard time, on December 17, 2010.

ADDRESSES: Copies of supporting documents used by the Mid-Atlantic Fishery Management Council (Council), including the Environmental Assessment (EA) and Regulatory Impact Review (RIR)/Initial Regulatory Flexibility Analysis (IRFA), are available from: Dr. Christopher M. Moore, Executive Director, Mid-Atlantic Fishery Management Council, Room 2115, Federal Building, 300 South New Street, Dover, DE 19904–6790. The EA/RIR/IRFA is accessible via the Internet at *http://www.nero.noaa.gov.*

You may submit comments, identified by 0648–BA03, by any one of the following methods:

Electronic Submissions: Submit all electronic public comments via the Federal e-Rulemaking portal *http://www.regulations.gov;*

Fax: (978) 281–9135, Attn: Aja Peters-Mason;

Mail to NMFS, Northeast Regional Office, 55 Great Republic Dr, Gloucester, MA 01930. Mark the outside of the envelope "Comments on 2011 MSB Specifications."

Instructions: No comments will be posted for public viewing until after the comment period has closed. All comments received are a part of the public record and will generally be posted to *http://www.regulations.gov* without change. All Personal Identifying Information (for example, name, address, etc.) voluntarily submitted by the commenter may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information.

NMFS will accept anonymous comments (enter N/A in the required fields, if you wish to remain anonymous). You may submit attachments to electronic comments in Microsoft Word, Excel, WordPerfect, or Adobe PDF file formats only.

Written comments regarding the burden-hour estimates or other aspects of the collection-of-information requirements contained in this proposed