Dated: March 28, 2014

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Deputy Assistant Administrator for Operations, National Marine Fisheries Service.

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[Docket No. 0810061318–4050–02]

RIN 0648 –XL10

Endangered and Threatened Wildlife and Plants; Endangered Species Act Listing Determination for Southeast Alaska Pacific Herring

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

ACTION: Notice of a listing determination; availability of status review report.

SUMMARY: We, NMFS, have completed a comprehensive status review of the Southeast Alaska Distinct Population Segment (DPS) of Pacific herring (*Clupea pallasii*) under the Endangered Species Act (ESA). Based upon the best scientific and commercial data available, we conclude that listing the Southeast Alaska DPS of Pacific herring is not warranted at this time. We also announce the availability of the status review report.

DATES: This finding is made as of April 2, 2014.

ADDRESSES: The Status Review of Southeast Alaska Pacific Herring, Extinction Risk Analysis report, as well as this listing determination, can be obtained via the internet at *http://alaskafisheries.noaa.gov/* or from Kate Savage, NMFS Alaska Region, Protected Resources Division, P.O. Box 21668, Juneau, AK 99802–1668.

FOR FURTHER INFORMATION CONTACT: Kate Savage, NMFS Alaska Region, (907) 586–7312; Jon Kurland, NMFS Alaska Region, (907) 586–7638; or Dwayne Meadows, NMFS Office of Protected Resources, (301) 427–8403.

SUPPLEMENTARY INFORMATION:

Background

On April 2, 2007, we received a petition from the Juneau Group of the Sierra Club to list the Lynn Canal stock of Pacific herring as a threatened or endangered species under the ESA and to designate critical habitat. We determined that the petition presented substantial information indicating that the petitioned action may be warranted and published a 90-day finding (72 FR51619; September 10, 2007) that initiated a status review. We convened a Biological Review Team (BRT) composed of Federal scientists with expertise in Pacific herring biology and ecology to conduct the status review. The BRT reviewed existing research and information, including both published and unpublished literature and data on herring stocks throughout the eastern North Pacific. Based on information contained in the status review report produced by the BRT, we published a finding (73 FR 19824; April 11, 2008) that listing the Lynn Canal Pacific herring as threatened or endangered under the ESA was not warranted because the population does not constitute a listable entity (species, subspecies, or DPS) under the ESA. We concluded that the Lynn Canal Pacific herring stock is part of a larger Southeast Alaska DPS, extending from Dixon Entrance in the south, where the Southeast Alaska stock is genetically distinguished from the British Columbia stock, to Cape Fairweather and Icy Point in the north, where the stock is limited by physical and ecological barriers. We further concluded that the DPS to which Lynn Canal Pacific herring belong should be considered a candidate species under the ESA. Consequently, we initiated a status review of the Southeast Alaska DPS and published a request for information, data, and comments pertinent to a risk assessment (73 FR 66031; November 6, 2008).

Listing Determinations Under the ESA

Two key tasks are associated with conducting an ESA status review. The first is to identify the taxonomic group under consideration, and the second is to conduct an extinction risk assessment to determine whether the species, subspecies, or DPS is threatened or endangered.

Section 3 of the ESA defines a ''species'' as ''any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.'' Section 3 of the ESA further defines an endangered species as ''any species which is in danger of extinction throughout all or a significant portion of its range'' and a threatened species as one ''which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.'' Thus, we interpret an ''endangered species'' to be one that is presently in danger of extinction. A ''threatened species,'' on the other hand, is not presently in danger of extinction, but is likely to become so in the foreseeable future (that is, at a later time). In other words, the primary statutory difference between a threatened and endangered species is the timing of when a species may be in danger of extinction, either presently (endangered) or in the foreseeable future (threatened). The determination of whether a species should be listed as endangered or threatened must be based solely on the best scientific and commercial data available.

NMFS and the U.S. Fish and Wildlife Service (USFWS) have a joint policy on recognizing distinct vertebrate population segments to outline the principles for identifying and managing a DPS under the ESA (61 FR 47222; February 7, 1996). Under the DPS policy, both the discreteness and significance of a population segment in relation to the remainder of the species to which it belongs must be evaluated. A population segment of a vertebrate species may be considered discrete if it satisfies any 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.

(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 Act.

If a population segment is discrete, we will evaluate its biological and ecological significance in light of Congressional guidance (see Senate Report 151, 96th Congress, 1st Session) that the authority to list DPSs be used ''sparingly'' while encouraging the conservation of genetic diversity. The significance consideration may include, but is not limited to, the following:

(1) Persistence of the discrete population segment in an ecological setting unusual or unique for the taxon,

(2) Evidence that 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, or

(4) Evidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics.

Following the delineation of the species, the extinction risk assessment must be of sufficient scope and depth for us to determine whether the species is in danger of extinction or likely to become so in the foreseeable future throughout all or a significant portion of its range. Based on the information below, the foreseeable future in this case was determined to be approximately 3 generations or about 30 years for herring, as equivalent to the time frame over which predictions in making determinations about the future conservation status of the species can be reasonable relied upon (NMFS 2013). There are many possible quantitative and qualitative approaches to assessing extinction risk. Regardless of the approach, an extinction risk analysis for potential ESA listing must include an analysis of whether a species is threatened or endangered because of any one or a combination of the following ESA section 4(a)(1) factors: The present or threatened destruction, modification, or curtailment of its habitat or range; overutilization for commercial, recreational, scientific, or educational purposes; disease or predation; inadequacy of existing regulatory mechanisms; or other natural or human-made factors affecting its continued existence. An extinction risk analysis also usually includes an analysis of demographic trends, if available, of the species relative to identified threats. Threats to a species' long-term persistence are manifested demographically as trends in abundance, productivity, spatial structure, diversity, and/or other relevant factors. Trends in these parameters may provide the most direct indices or proxies of extinction risk.

On December 16, 2004, the Office of Management and Budget (OMB) issued a Final Information Quality Bulletin for Peer Review (Bulletin) 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 (Public Law 106–554), is intended to enhance the quality and credibility of scientific information disseminated by the Federal Government, and applies to influential and highly influential scientific information disseminated on or after June 16, 2005. The status review for Pacific herring qualifies as influential scientific information. To satisfy our requirements under the OMB Bulletin, we obtained independent peer review of the status review from three peer reviewers. Their comments were incorporated in the final version of the status review report.

Species Information and Delineation

We developed a status review report for the Southeast Alaska DPS of Pacific herring. The report (NMFS, 2014) is a compilation of the best scientific and commercial data available concerning the status of Pacific herring in Southeast Alaska, including identification and assessment of the past, present, and foreseeable threats to the species, as well as taxonomy, life history, and ecology of Pacific herring. Numerous fishery scientists and managers provided information that aided in preparation of the status review report. Below we summarize the key life history and species information from the status review report (NMFS, 2014).

Pacific herring are a small, mobile, planktivorous forage fish belonging to the Clupeidae family. The range of Pacific herring includes coastal regions along the eastern and western Pacific, with a northerly range extending into the Beaufort Sea and Arctic Ocean (Hart, 1973; Mecklenburg *et al.,* 2002). Pacific herring are also found in many large and small aggregations, or schooling groups, throughout the Alexander Archipelago of Alaska. Habitat requirements for the species are diverse and partially a function of life stage. The most visible, and crucial, event in the herring life cycle is spawning, which generally occurs at predictable times (typically in the spring/early summer in Southeast Alaska) and in predictable locations (Hay and Outram, 1981). During spawning events, adult herring congregate along shorelines protected from ocean surf. Within these established spawning grounds, female herring deposit eggs onto a variety of different substrate types, including eelgrass, kelp, rockweed and other seaweed as well as on inorganic material such as rocks or pilings (Hart, 1973). Male herring then fertilize the eggs externally.

Following the spawning event, eggs usually hatch to a larval stage in about 2–3 weeks, depending upon the water temperature (Outram, 1955). Within a week of hatching, larvae must begin feeding to ensure survival, although they may be passively advected away from feeding areas (McGurk, 1984). Once the larvae become nektonic (free-swimming), they move to favorable habitats where they metamorphose into juveniles and form schools. Preferred habitat for adult and juvenile Pacific herring includes a variety of nearshore habitat types, such as bedrock outcrops, eelgrass, kelps, and sand-gravel beaches (Johnson and Thedinga, 2005). Juveniles begin recruiting to the adult population at age 3 (Williams and Quinn, 2000; Hay *et al.,* 2001). Adults live in schools that undergo diurnal and seasonal movements. Seasonally, adult herring tend to migrate between summer feeding areas on shelf waters to overwintering areas, often in deep, protected nearshore water, and then to spawning locations (Hay *et al.,* 2001).

The evidence for the delineation of the Southeast Alaska Pacific herring DPS was presented in the Status Review of Lynn Canal Herring (Carls *et al.,* 2008), which we made available for public review on April 11, 2008 (73 FR 19824). Several sources of data were considered in evaluating the DPS structure and discreteness of Southeast Alaska herring populations. This information included: Geographic variability in life-history characteristics, physiology, and morphology; ecosystem and oceanographic conditions; spawn timing and locations, tagging and recapture studies that would indicate the extent of migration and intermingling among stocks; and studies of genetic differentiation among stocks that would suggest some degree of reproductive isolation. After analyzing the best available scientific and commercial information, the Southeast Alaska DPS was determined to extend from Dixon Entrance northward to Cape Fairweather and Icy Point and includes all Pacific herring stocks in Southeast Alaska.

The delineation of the southern boundary was based on genetic differences between herring in Southeast Alaska and those in British Columbia, as well as differences in recruitment and average weight-at-age, parasitism, spawn timing and locations, and the results of tagging studies conducted in British Columbia (Carls *et al.,* 2008). The northern boundary is defined by physical and ecological features that create migratory barriers, as well as large stretches of exposed ocean beaches that are devoid of spawning and rearing habitats.

Given the large scope of this geographic area and the large number of stocks found throughout Southeast Alaska, we determined that the Southeast Alaska Pacific herring population is significant to the taxon as a whole. Specifically, the Southeast population exists in a unique ecological setting, and the extirpation of this population of Pacific herring would result in a significant gap in the range of the taxon (Carls *et al.,* 2008). The status review report (NMFS, 2014) found no new information to change the basis for those conclusions.

The BRT also recognized the possibility that there may be subdivisions within the Southeast Alaska DPS. Data released since the 2008 DPS determination may support this possibility. A study assessing whether the Lynn Canal stock is genetically distinct from other eastern Gulf of Alaska herring found that the genetic structure of samples from the fjord system of Berners Bay and Lynn Canal was significantly different from samples taken from Sitka Sound/outer coast Pacific herring (Wildes et al., 2011). Hobart Bay, considered an interior water body on a main waterway bisecting Southeast Alaska, shared genetic features of both areas, while Hoonah Sound herring were found to be genetically distinct from Lynn Canal and Berners Bay herring (Wildes *et al.,* 2011). Their fatty acid signature also differed from other areas tested in Southeast Alaska (Otis *et al.,* 2010). Although Wildes *et al.* (2011) recommended a larger, multi-year sampling, results also showed genetic differences between samples from Southeast Alaska and Prince William Sound. Another study using microsatellites to assess the genetic population structure of Pacific herring in British Columbia and adjacent regions found differentiation between herring that spawned in more inland waters and those that spawned in more seaward locations (Beacham *et al.,* 2008); a difference possibly related to life history, because resident herring spawn in mainland inlets and adjacent inland waterways, while migratory herring spawn in coastal areas and move to offshore summer feeding grounds. While the same study found distinctions between herring of California, Washington, and subgroups of herring in British Columbia, primarily due to spawn timing and geographic isolation, less differentiation existed between Southeast Alaska and British Columbia. Very little differentiation was noted between the Southeast Alaska herring stocks, which included: (1) Combined samples from Mary Island and Kirk Point; (2) combined samples from north and south Sitka Sound; and (3) samples from Seymour Canal (Beacham *et al.,* 2008).

Although these studies indicate that environmental differences may have reduced the gene flow in some regions of southeast Alaska, and that corresponding adaptations have occurred in herring in outer coastal as compared to interior waterways, the data do not contradict the 2008 DPS delineation (NMFS, 2014).

Summary of ESA Section 4(a)(1) Factors Affecting the Southeast Alaska DPS of Pacific Herring

The following sections discuss threats to Southeast Alaskan herring under each of the five factors specified in Section 4(a)(1) of the ESA and 50 CFR 424.11(d), with more detailed discussion included in Section 6 of the status review report (NMFS, 2014). Threats were assessed singly, collectively and also relative to herring abundance, growth rate/productivity, spatial structure/connectivity, and diversity.

Present or Threatened Destruction, Modification, or Curtailment of Habitat or Range

In Southeast Alaska, there does not appear to be a single acute threat to Pacific herring habitat. Instead, the localized abundance of herring may be affected by modifications in the immediate environment, including changes associated with increasing anthropogenic activity such as shoreline development, pollution, or marine traffic and noise. While no large projects currently pose a substantial threat to herring habitat, it is clear that the cumulative effect of chronic habitat alteration may decrease habitat suitability for herring over time. Coastal development activities in Southeast Alaska have increased with human population growth and may have contributed to changes in regional stocks of herring. At present, both the resident and seasonal non-resident human population of Southeast Alaska is increasing, with the latter primarily through growth in the cruise ship industry (ADCCED, 2011). These vessels are authorized to discharge various amounts of waste water depending upon the ship size and location (ADEC, 2010), though specific effects from such discharges on herring are unknown. Other vessels such as Alaska Marine Highway ferries, dry freight barges, freight cargo barges, as well as boats fishing for herring and other species also contribute to marine traffic and noise in Southeast Alaskan waters (Nuka, 2012). However, while herring have been documented to respond to vessel movement and noise (Schwarz and Greer, 1984; Misund *et al.,* 1996; Wilson and Dill, 2002), the extent to which vessel traffic affects herring populations in Southeast Alaska has not been documented. Another method by which herring habitat may be modified is through the introduction of invasive species, such as the colonial tunicate *Didemnum vexillum* in waters around Sitka, which has the potential to smother herring spawning habitat (Valentine *et al.,* 2007; Morris *et al.,* 2009; L. Shaw, pers. comm., NMFS).

Defining the consequences of habitat modification for herring populations is challenging because sufficient information is not available to understand the reliance of herring on particular habitats or the cumulative effects of habitat loss and degradation. It is probable that a synergy of both identified and unidentified factors link herring biology and the surrounding environment, and habitat modification could eventually lead to changes in herring populations. The decline of herring at Auke Bay, for example, was probably a result of multiple stressors, perhaps including permanent changes in the shoreline due to coastal development and consequent changes in water quality and substrate (NMFS, 2014). Conversely, herring abundance in Sitka Sound, which has also experienced growth in shoreline activity and associated infrastructure, has shown an increasing trend for several decades (NMFS, 2014).

In summary, the destruction, modification, or curtailment of habitat or range may have affected Southeast Alaska Pacific herring over time and may continue to do so as coastal development progresses, although the magnitude of such effects is unclear. The vast majority of shoreline and spawning habitat in Southeast Alaska is sparsely developed and is likely to remain so for the foreseeable future, although incremental losses of herring habitat will likely continue. We conclude that based on the available information, habitat loss and degradation are not likely to cause the Southeast Alaska Pacific herring to become in danger of extinction within the foreseeable future throughout all or a significant portion of its range (see below for consideration of the significant portion of its range issue).

Over-Utilization of the Species for Commercial, Recreational, Scientific or Educational Purposes

The biggest direct anthropogenic influence on Southeast Alaska Pacific herring for the past century has been commercial fishing. Large-scale commercial fishing for herring in Southeast Alaska began predominantly with the reduction fishery (a fishery that reduces the catch into meal or oil) in the early 1900s, which continued until the 1960s (Reid, 1972; Larson *et al.,* 2000). Throughout this time, technological improvements and increased efficiency of the fishery led to concerns about overexploitation, with the consequent establishment of catch limits (Rounsefell, 1930; Reid, 1971). In the

1960s, the volume of biomass removed by the reduction industry was surpassed by the spawn-on-kelp fishery (the harvest of herring eggs deposited on vegetation), which was then eventually surpassed by the sac roe (egg) fishery (Pritchett and Hebert, 2008). Currently, the sac roe fishery accounts for over 90 percent of all herring harvested in Southeast Alaska. For the 2010–2011 season, for example, the total regional commercial harvest of herring was 23,805 tons, which included 19,778 tons harvested in the sac roe fishery (Hebert, 2011).

In the status review report, data collected from the Alaska Department of Fish and Game (ADF&G) commercial herring fisheries since 1980 was evaluated using a variety of fishery and biological reference points as indices to define or indicate overfishing. These include:

(1) The ratio of fishing mortality to natural mortality. A ratio of fishing mortality to natural mortality less than or equal to 0.67 has been associated with sustainable fisheries (Patterson, 1992; Pikitch *et al.,* 2012). Since the 1980s, available data from Sitka Sound, Seymour Canal, and Craig indicate that this ratio remained less than or equal to 0.67 over 90 percent of the time.

(2) Abundance relative to threshold. Overfishing may be defined as harvest levels that drive abundance below a prescribed threshold (Quinn *et al.,* 1990; Rosenberg, 2009; NMFS, 2009). Since 1980, the percentage of managed Pacific herring stocks with estimated biomass above threshold levels has either remained consistent or increased.

(3) Harvest levels relative to the Guideline Harvest Level (GHL) and exploitation rates. GHLs are benchmark levels of allowable harvest. While it is not uncommon for harvest levels to exceed the GHL, on average, harvest levels have been fairly close to the GHL. Furthermore, exceeding the GHL does not generally lead to an exploitation rate that is greater than the maximum exploitation rate set at 20 percent. Historically, exploitation rates for both the harvest in Sitka Sound and the combined harvest of other stocks have been substantially lower than the 20 percent rate. Because forecast estimates of stock abundance used to set the GHL are typically lower then hindcast estimates of actual abundance (S. Dressel, personal communication, ADF&G, 5/2/2012), the GHL and subsequent exploitation rates tend to be conservative. Harvest levels over 20 percent, which have generally been due to hindcast estimates which were lower than forecast estimates, have occurred rarely throughout the Southeast Alaska DPS (NMFS, 2014).

(4) Trends in abundance. Based on ADF&G data since the 1980s, the combined biomass of Southeast Alaska managed herring has been increasing, with Sitka Sound herring markedly influencing the positive rate of growth. Estimates of the combined biomass ranged from a low of approximately 45,000 tons of herring in 1995 to 253,000 tons in 2011. Individual aggregations within the DPS have either increased or fluctuated, but are not generally declining.

(5) Recruitment. An increasing trend in combined recruitment of immature and mature age-3 herring is apparent in Sitka Sound and Seymour Canal data available since 1980. According to data available since 1988, the combined number of immature and mature age-3 herring being recruited into the Craig stock has been decreasing slightly from approximately 750 million fish in 1988 to 550 million fish in 2010 (NMFS, 2014).

(6) Size-based Indicators. Size-based indicators, such as age, length, and weight, may be used as indices for overexploitation (Rickman *et al.,* 2000; Longhurst, 2002; Hsieh *et al.,* 2006; 2008; Anderson *et al.,* 2008; Perry, 2010). There is no evidence under current management that herring in Southeast Alaska are exhibiting age truncation associated with depletion. Maximum length and weight has increased in Sitka herring, while slightly decreasing in other combined stocks. No marked trends are apparent in weight-at-age or length-at-age data from Sitka Sound or other combined stocks. While age-at-maturity appears to be increasing over the last few decades in Seymour Canal, modeling of Craig herring indicates a trend towards earlier maturation, and modeling of Sitka herring indicates no change in maturity over similar time periods.

(7) Spawning ground distribution. It is possible that the distribution and extent of spawning grounds as well as the abundance of herring throughout Southeast Alaska has decreased since the advent of the reduction fishery in the early 1900s (Rounsefell, 1930; Rounsefell and Dahlgren, 1935; Skud *et al.*, 1959; 1960; Brock and Coiley-Kenner, 2009; Thornton *et al.*, 2010a; 2010b). While this decline may signify that herring are currently being managed in a depleted state, other interpretations are equally plausible. All areas in southeast Alaska have not been surveyed within recent history and records may not be complete. It is also possible that human-caused mortality of large whales, and to a lesser extent Steller sea lions, especially through the first half of the 20th century, may have reduced predation in Southeast Alaska enough to inflate the abundance of herring, which was then available to the reduction fishery, meaning that that era may have actually represented an unnaturally high level of distribution and abundance of Pacific herring.

We conclude that overutilization is not likely creating a threat of extinction to the Southeast Alaska Pacific herring throughout all or a significant portion of its range within the foreseeable future. Although overutilization has occurred in the history of commercial herring fishing in Southeast Alaska, especially during the reduction era, neither fishery nor biological reference points indicate that herring in Southeast Alaska are currently being over-utilized or are in an overfished state. Evidence may indicate that herring abundance was historically greater and spawning locations more widespread and, under certain circumstances, this may be a cause for concern. However, this evidence is outweighed by (1) the potential for significant gaps in spawning location data; (2) the impacts on herring populations resulting from the historical decline of significant predators, including the humpback whale and Steller sea lion; and (3) the increasing biomass of the DPS as a whole.

Disease or Predation

Both recruitment and population abundance of Pacific herring can be influenced by disease. Disease may significantly impact a stock or spawning group when the population has had no previous exposure to a disease agent and environmental factors promote the presence of disease synergistically with other stressors. The chronic presence of disease may also prevent full recovery following a population decline (Marty *et al.,* 2010). Disease occurrence may occur on a broad, metapopulation scale given necessary predisposing conditions. However, in Southeast Alaska disease epizootics have thus far only been reported in specific stocks or localized areas (Meyers *et al.,* 1986; 1999; Hershberger, 2009 from T.R. Myers, unpublished accession reports). Consequently, while disease may currently be a periodic threat to individual herring stocks in Southeast Alaska, there is no evidence to indicate that disease presents a population-level threat to Southeast Alaska Pacific herring, either now or in the foreseeable future.

Predation is a consistent source of mortality through all herring life stages and may be the primary source of mortality for some cohorts (McGurk,

1989; Stokesbury *et al.,* 2000; 2002; Tyrell, 2008). Many different species prey upon herring in Southeast Alaska, including marine mammals, birds, invertebrates and piscivorous fishes. These predator-prey relationships undergo persistent shifts and may be challenging to characterize on temporal or spatial scales. Furthermore, accurate trends in abundance are often not available for many bird, marine mammal, and fish species known to prey upon herring.

Two major marine mammal predators of herring, the humpback whale and Steller sea lion, are increasing in abundance in Southeast Alaska and it is uncertain when these species will reach their respective carrying capacities in the region. These marine mammal species may contribute significantly to the natural mortality of herring. Humpback whales in particular have been cited as potentially equivalent to a fishery in terms of herring biomass removal and have also been cited as causing delayed or suppressed recovery of some depleted herring stocks (Rice *et al.,* 2011).

Although the interactions between herring and bird species that prey upon herring are complex, there is no evidence to suggest that avian predation is an increasing threat to Southeast Alaska Pacific herring.

A multitude of fish species prey upon herring. Some of these species, such as halibut and sablefish, appear to be declining in Southeast Alaska, while others, such as arrowtooth flounder, appear to have increased in abundance (Guenette *et al.,* 2006; Carroll and Brylinsky, 2010; Hare, 2010). Salmon populations have also significantly increased over the past several decades, including wild runs and fish from hatcheries (Pryor *et al.,* 2009; Duckett *et al.,* 2010). The direct or indirect effects of these trends in abundance on herring biomass in Southeast Alaska is uncertain.

In summary, positive population size trends indicate that disease and/or predation are not creating a risk of extinction for Southeast Alaska Pacific herring, nor are they likely to do so in the foreseeable future, throughout all or a significant portion of its range. While disease may be a constant threat to herring stocks in Southeast Alaska, the incidence of disease does not appear to be increasing. Predation is a significant source of mortality throughout herring life history and predation by marine mammals, birds, fishes and invertebrates can be a major influence on herring abundance. Given the assumption that the magnitude of predation increases with predator population, which does appear to be the case with humpback whales, then at least two herring predators, humpback whales and Steller sea lions, are likely to be increasing the predation pressure on herring in Southeast Alaska, at least in localized areas. However, trophic interactions, including predation and competition, are not easily characterized. Herring predation by some species, such as marine mammals, has been characterized more fully than with others, such as invertebrates and piscivorous fishes. The overall impact of the various predator species on the abundance of Southeast Alaska herring is uncertain, but again, we have no information to suggest it will place the herring in danger of extinction throughout all or a significant portion of its range within the foreseeable future.

Inadequacy of Existing Regulatory Mechanisms

Existing regulatory mechanisms offer some degree of protection for herring and their habitat in Southeast Alaska. Temporary mechanisms include Alaska Department of Fish & Game (ADF&G) review of projects requiring state authorization with subsequent recommendations to avoid, minimize, and mitigate impacts to herring (K. Kanouse, personal communication, ADF&G), such as timing windows relative to herring spawning events for coastal construction projects (established in Alaska Statutes, Title 16, Chapter 05, Section 871, Protection of Fish and Game). The Alaska Department of Environmental Conservation also implements Water Quality Standards which may indirectly affect herring habitat and biology (ADF&G 2010).

Existing regulatory mechanisms for fishing are in the form of fishery management measures defining the limitations of commercial harvest. Assessment of the effectiveness of these regulatory mechanisms in protecting herring is limited by uncertainties in our understanding of herring biology and ecology.

Regulations pertaining to the herring fishery are adopted by the Alaska Board of Fisheries, after consideration of social, political, and economic factors, as well as scientific input from ADF&G. The current Herring Management Plan (codified in the Alaska Administrative Code, Title 5, Chapter 27, Article 4, Section 190) gives ADF&G the authority to:

(1) Identify stocks based upon spawning areas. ADF&G manages nine separate spawning stocks of herring. While ADF&G considers the incidence of fish migration between stocks to be low (S. Dressel, personal communication, ADF&G, 5/2/2012) the movement of herring may be a complicated function of density-dependent processes, geographic scale, environmental conditions, and conspecific influence.

For example, a density-dependent spawning ground selection, expanding when the population is large and contracting to the most suitable sites at smaller population sizes, appears to be a common trend in Pacific, Atlantic and Baltic herring (Ivshina, 2001; Norcross and Brown, 2001). Herring may disappear en masse from previous spawning grounds, with smaller aggregations having a higher probability of disappearance, and potentially reappear as a result of conspecific attraction or possibly when suitable conditions return to a vacant habitat (Ware and Tovey, 2004).

(2) Establish a minimum spawning biomass threshold, below which fishing will not occur. Initial thresholds were based on historical knowledge, biologists' judgment, and/or a quantitative method involving age-structured analysis. ADF&G set the thresholds at 25 percent of the modeled average unfished biomass (Blankenbeckler and Larson, 1985; Carlile, 1998a; 1998b; 2003). However, with the potential for significant shifts in herring populations and trophic level dynamics throughout the period of the reduction fishery and commercial whaling, it is difficult to ascertain how accurately these adopted thresholds reflect a historical equilibrium. In either case, given the significant shifts in herring populations and trophic level dynamics that were probable throughout the reduction fishery and commercial whaling, it is possible that the adopted thresholds are not necessarily an accurate reflection of a historical equilibrium;

(3) Assess the abundance of mature herring for each stock before allowing fishing to occur. ADF&G mainly uses modeling, based upon data collected from spawn deposition and other surveys, to forecast the following year's abundance of mature herring for each stock. Inaccuracies and uncertainties may arise from many different sources in this process, and discrepancies have occurred in the past between forecasted estimates and hindcast estimates, based on actual spawning events. ADF&G relies on real-time assessment by biologists on the fishing grounds to recognize these discrepancies and modify the fishery accordingly.

(4) Except as provided elsewhere, allow a harvest of herring at an exploitation rate between 10 and 20 percent of the estimated spawning

biomass, when that biomass is above the minimum threshold level. Regulatory measures in place do not preclude an exploitation rate above 20 percent in certain circumstances; however, the incidence of exploitation rates above 20 percent has been uncommon.

(5) Identify and consider sources of mortality in setting harvest guidelines.

ADF&G uses modeling to estimate natural survival as a single parameter averaged across the years for which age-specific data on herring abundance are available. These survival estimates may be adjusted or renewed according to trends that occur over time with indices, but the model does not apportion predation and disease as separate components of natural mortality, nor does it forecast upcoming conditions.

(6) By emergency order, modify fishing periods to minimize incidental mortalities during commercial fisheries. Managers are expected to minimize incidental, non-regulated herring mortality by assessing field conditions, recognizing potential catastrophic stock changes as they occur, and modifying limits accordingly (Pritchett, 2008).

In summary, regulatory mechanisms that define limits of commercial exploitation incorporate uncertainty regarding: Understanding of herring biology, including migration, recruitment, and natural mortality, which affects the accuracy of abundance assessment methods relative to true abundance; the accuracy of values for historical or baseline biomass; and the biological validity of thresholds and exploitation rates relative to an unknown extinction threshold. It is likely that these uncertainties are inherent in the regulatory mechanisms of most commercial fisheries and not limited to ADF&G management of herring in Southeast Alaska. Current regulatory mechanisms also lack provisions for ongoing habitat protection specifically for herring. Despite these concerns, current trends in abundance discussed above and other demographic factors indicate that existing regulatory measures appear sufficient. We find no indication that an inadequacy of existing regulatory mechanisms has created a risk of extinction for Southeast Alaska Pacific herring, or is likely to do so within the foreseeable future, throughout all or a significant portion of its range.

Other Natural or Man-Made Factors

Southeast Alaska Pacific herring could potentially be affected by other natural factors, such as regime shifts, or other anthropogenic factors, such as global climate change. Regime shifts are defined as low frequency, high amplitude, and sometimes abrupt, changes in species abundance, community composition, and trophic organization that occur concurrently with physical changes in a climate system (McKinnell et al., 2001), which have likely occurred throughout history. While regime shifts appear to be a natural phenomenon in marine ecosystems, the potential threat to herring lies primarily through the challenge to stock sustainability, with trophic shifts and fishing serving as synergistic stressors. Anthropogenic climate change is considered a result of increased carbon dioxide emissions associated with human activity. Possible physical outcomes include an increase in marine temperature and ocean acidification (IPCC, 2007; Guinotte and Fabry, 2008). The effect of both regime shifts and anthropogenic climate change are highly uncertain; much of the uncertainty is associated with information gaps as well as a corresponding uncertainty which arises from multiple sources:

(1) The inability to accurately predict the temporal and spatial effects of ocean warming and acidification and the adaptability of species to those effects.

(2) The inability to accurately predict future climate, the difficulty of recognizing long-lived regime shifts at the time they occur, and the likelihood that each regime shift will present a new set of conditions (Mantua et al., 1997; Benson and Trites, 2002; Mantua and Hare, 2002; Polovina, 2005; Mueter *et al.,* 2007) where biological variability may not be a linear function of decadal variations in climate forcing (Miller and Schneider, 2000).

(3) The magnification of risks when the productivity of multiple stocks may be affected similarly and simultaneously (Beamish and Bouillon, 1995; Mueter *et al.,* 2007), including changes in predator abundance, distribution, and impact (McFarlane *et al.,* 2001; Benson and Trites, 2002).

(4) The unknown accuracy of management models and decisions, including stock recruitment relationships and the assumption of a baseline community or virgin unfished biomass (Steele 1996; Benson and Trites 2002). In a population that is maintained at too low a level, the effects of climate change may result in critical depensation, whereby the population is no longer self-sustaining.

(5) The unknown accuracy of underlying assumption of a stable equilibrium condition for a stock and ecosystem (May 1977).

(6) The inability to forecast the potential interplay of stressors such as climate change, fishing pressure, and habitat loss on populations (Chavez, 2003).

Traditionally, fishery management aims to maintain populations at fixed levels with yields considered sustainable for an indefinite period of time. However, in the face of continuing ocean change, sustainability may be relative only to the current set of conditions so management may be more challenging with less precise and predictable outcomes.

In summary, both anthropogenic climate change and regime shifts are associated with a great deal of uncertainty relating both to physical and biological change as well as herring adaptability to change. The threat of regime shifts lies primarily through the challenge to stock sustainability, with trophic shifts and fishing serving as multiple, synergistic stressors. Anthropogenic climate change includes ocean warming and acidification, both of which have the potential to affect herring abundance. Given the overall positive population trends for the Southeast Alaska Pacific herring DPS, the short generation times, and the observed resilience of the DPS (NMFS, 2014), we conclude that the available evidence is not sufficient to indicate that other natural or man-made factors, such as regime shifts or anthropogenic climate change, have created a risk of extinction for Southeast Alaska Pacific herring, or are likely to do so within the foreseeable future, throughout all or a significant portion of its range.

Cumulative and Synergistic Effects

Pacific herring is a keystone species in Southeast Alaska, playing a central role in marine food webs and it is also of significant importance as a commercial and subsistence species in many communities. While the threats addressed above have been considered separately, herring population depletion may result from a series of compounded threats interacting within the environment (Schweigert *et al.,* 2010). For example, the multiple facets of both anthropogenic climate change and regime shifts present serious challenges to sustainable fishery management. While natural systems have adapted to climatic changes throughout history, the rate of climate change has accelerated as have concurrent pressures, including fishing efficiency and habitat modification. Variations in ocean climate can moderate herring recruitment by alternating both predator and food abundance (Ware 1991). Similarly, disease in the ocean can increase predation and contribute to population declines (Harvell et al., 1999; 2002). Links have been

established between temperature and herring disease (Hedrick, 2003; Gregg *et al.,* 2011), which may then influence recruitment and adult population abundance of herring (Marty *et al.,* 2010). All of the factors impacting herring, including the five factors discussed above, may synergistically compromise resilience, yet, based on the population trend and other data discussed above, we find no information to suggest that the cumulative effects of these factors have created a risk of extinction for Southeast Alaska Pacific herring, or are likely to do so within the foreseeable future, throughout all or a significant portion of its range.

Summary of Extinction Risk Analysis

In assessing risk, it is important to include both qualitative and quantitative information. The threats section of the status review report, summarized above, supplied qualitative information on potential risks to Southeast Alaska herring. A quantitative assessment was then made through a risk matrix method, as described in detail by Wainright and Kope (1999). This method was used to organize and summarize the professional judgment of an Extinction Risk Assessment (ERA) team composed of a panel of four knowledgeable scientists with expertise in Pacific herring biology and ecology. In the risk matrix approach, the ERA team assessed the condition of Southeast Alaska herring populations and summarized the species status according to the following demographic risk criteria: Abundance, growth rate/productivity, spatial structure/connectivity, and diversity as well as other modifying factors. These viability criteria, outlined in McElhany *et al.* (2000), reflect concepts that are well-founded in conservation biology and that individually and collectively provide strong indicators of extinction risk. After reviewing all the relevant commercial and biological data supplied in the threats section, the ERA team used these criteria to estimate the extinction risk of the Southeast Alaska DPS of Pacific herring based on current demographic risks. The team scored each criterion on a scale of 1 (no or very low risk of extinction) to 5 (very high risk of extinction) and team members offered their best professional judgment regarding population status and extinction risks.

The ERA team scores for abundance, growth rate/productivity, diversity, and other modifying factors ranged from 1 to 2 with a modal and median score of 1. A score of 1 means that it is unlikely that this factor contributes significantly to risk of extinction, either by itself or in combination with other factors. A score of 2 means that it is unlikely that this factor contributes significantly to risk of extinction by itself, but some concern that it may, in combination with other factors.

The ERA team agreed that between 1980 and 2011, the period for which consistent data is available, the DPS has been demonstrating a positive trend in abundance as indicated by changes in the combined biomass of the nine ADF&G managed stocks as described above. Individual aggregations within the DPS have either increased or fluctuated, but are not generally declining.

The team was also in general agreement that the DPS is exhibiting positive trends in growth rate and productivity. Based on modeled estimates of recruitment and size-based parameters discussed above, productivity appears to be above replacement for assessed Southeast Alaska aggregations. However, the potential for periods of low recruitment that may occur when conditions do not support rapid population increases was a concern.

Although the ERA team agreed that it was unlikely that the DPS is at risk of extinction due to changes in spatial structure/connectivity, the team was slightly less certain in characterizing this demographic risk. ERA team scores for the spatial structure/connectivity of the DPS ranged from 1 to 3, with a modal score of 1 and a median score of 1.5. A score of 1 means that it is unlikely that spatial structure/connectivity contributes significantly to risk of extinction, either by itself or in combination with other factors. A score of 3 represents a moderate risk, which means that it is likely that spatial structure/connectivity in combination with other factors contributes significantly to risk of extinction. A DPS may be at moderate risk of extinction due to declining trends in spatial structure/connectivity and current threats that inhibit the reversal of these trends. While herring in the Southeast Alaska DPS are widespread, there is some concern relative to the importance of current versus historical patterns as herring spawning locations do not appear to be as widespread as they once were. Furthermore, several spawning stocks are concentrated near urban areas, and habitat constriction is a possibility. However, while urbanization is more likely to destroy rather than create herring habitat, it is also probable that many suitable, unused spawning locations currently exist. Furthermore, while the spatial structure among different life history stages of Pacific herring in Southeast Alaska is not well defined, evidence suggests there is some intermixing among populations, which may serve to maintain the viability of each (Wildes *et al.,* 2011). There is also little evidence to suggest the existence of a critical source population or that migration among stocks is unidirectional, whereby the viability of a single population or stock determines the viability of multiple stocks or populations. Although local spawning aggregations may periodically exhibit low levels of biomass and abundance, these aggregations appear to rebuild in time, possibly due to immigration from other spawning aggregations. There are also indications of intermingling on a broader scale. Fish from Sitka Sound appear to be more similar to herring in Prince William Sound rather than herring in the inside waters of northern southeast Alaska, suggesting that when the migratory stocks on the outer coast move offshore to feed in the summer, there could be some dispersal or connectivity (Wildes *et al.,* 2011). On the southern border, there are spawning stocks of herring in relatively close proximity and the coastline is comprised of herring habitat, including many protected bays and passageways. While natural rates of dispersal are unknown, dispersal is also possible to the south.

The ERA team scores for current diversity ranged from 1 to 2 with a modal and median score of 1. While not all spawning aggregations are monitored, there is currently no evidence to suggest a substantial change or loss of variation in life-history traits, population demography, morphology, behavior or genetic characteristics.

With respect to relevant modifying factors, ERA team scores also ranged from 1 to 2 with a modal and median score of 1. The team cited a number of relevant modifying factors. While herring are considered resilient, low recruitment, likely stemming from infrequent conditions that support rapid population increases, was a consideration. The potential for increased disease prevalence with herring pounds was also of concern as was site fidelity in areas of no habitat protection and increased urbanization and development.

To inform our consideration of threats to Southeast Alaska Pacific herring under section 4(a)(1) of the ESA (as discussed above), the ERA team also completed a threats assessment by scoring the severity of current threats to the DPS as well as predicting whether each threat will increase, decrease, or stay the same in the foreseeable future.

Based on the information provided in the status review document, the major categories of threats as described by section 4(a)(1) were further subdivided and quantitative assessments made on the following topics: predation, disease, shoreline modification/urbanization, invasive species, pollution, marine traffic and noise, habitat protection, anthropogenic climate change, regime shifts, commercial fishery regulations, fishery, fishery reference points and biological reference points.

ERA team scores for all threats to the DPS ranged from 1 to 3, with both modal and median scores between 1 and 2.5. A score of 1 signifies no or very low risk, meaning that it is unlikely the evaluated factor contributes significantly to risk of extinction, either by itself or in combination with other factors. A score of 2 represents low risk, which means that it is unlikely that this factor contributes significantly to risk of extinction by itself, but there is some concern that it may in combination with other factors. A score of 3 represents a moderate risk, which means that it is likely that this factor in combination with others contributes significantly to risk of extinction. The ERA team assigned greatest risk to habitat protection followed by predation, shoreline modification, and commercial fishery regulations. All threats had a low to moderate (habitat protection, predation) or low (shoreline modification, commercial fishery regulations) median and modal scores with a range from no/very low risk to moderate risk. The ERA team was concerned with the legal protection of spawning and nursery habitats, both currently and in the foreseeable future, especially relative to increased urbanization and other stressors associated with human activity, and noted that no such specific regulatory protections currently exist. The ERA team recognized that populations of several large predators, and consequently potential impacts on herring, are increasing, but considered it likely that prey bases would shift before local extinction could occur. The ERA team also expressed concern about the probability of increased disease prevalence with herring pounds (enclosures where live herring may be held before harvesting).

The ERA team used the accumulated information to determine the DPS' overall level of extinction risk through a final scoring exercise that included the ability for each team member to express uncertainty through the distribution of 10 ''likelihood point'' votes. They used the same 5 category risk scale as above. The team assigned 67.5 percent of the likelihood points to the ''no/low'' level of extinction risk, meaning that it was considered unlikely that the DPS is at risk of extinction due to projected threats or trends in abundance, productivity, spatial structure, or diversity. Thirty percent of the points were put in the ''low'' risk of extinction category and 2.5 percent (1 vote) was placed in the moderate risk category.

Based on all of the considerations described above, the ERA team concluded that the Southeast Alaska DPS of Pacific herring is not currently at risk of extinction throughout its range, nor is it likely to become so within the foreseeable future. We concur with the findings of the ERA team.

A final task included considering whether the Southeast Alaska DPS of Pacific herring is at risk of extinction throughout a significant portion of its range. NMFS and USFWS published a draft policy to clarify the interpretation of the phrase ''significant portion of the range'' in the ESA definitions of ''threatened'' and ''endangered'' (76 FR 76987; December 9, 2011). The draft policy consists of the following four components:

(1) If a species is found to be endangered or threatened in only a significant portion of its range, then the entire species would be listed as endangered or threatened.

(2) The range of a species is ''significant'' if its contribution to the viability of the species is so important that, without that portion, the species would be in danger of extinction.

(3) The range of a species is considered to be the general geographical area within which the species, including all or any part of its life cycle, can be found at the time the status determination is being made.

(4) If a species is not endangered or threatened throughout all its range but is endangered or threatened within a significant portion of the range, and the population in that significant portion is a valid DPS, we will list the DPS rather than the entire taxonomic species or subspecies.

NMFS and USFWS are currently reviewing public comment received on the draft policy. We therefore consider the draft policy as non-binding guidance in evaluating whether to list the Southeast Alaska DPS of Pacific herring based on threats within a significant portion of the range of the DPS. Lost historical range would not constitute a significant portion of a species' range (and a species cannot be listed solely on the basis of loss of historical range), but the causes and consequences of loss of historical range on the current and future viability of the species must be considered and are an important component of determining the risk of extinction.

The ERA team did not find any portion of the range within the Southeast Alaska DPS to warrant a different level of extinction risk. Also, as discussed previously, we have no new information since the Status Review of Lynn Canal Herring (Carls *et al.*, 2008) to suggest that any subset of Pacific herring in Southeast Alaska should be considered a DPS. Therefore, the team concluded that the Southeast Alaska DPS of Pacific herring is not at risk of extinction throughout a significant portion of its range. We concur with this conclusion.

Conservation Efforts

When considering the listing of a species, section 4(b)(1)(A) of the ESA requires consideration of efforts by any state, foreign nation, or political subdivision of a state or foreign nation to protect the species. Such efforts would include measures by Native American tribes and organizations, local governments, and private organizations. Also, Federal, tribal, state, and foreign recovery actions (16 U.S.C. 1533(f)), and Federal consultation requirements (16 U.S.C. 1536) constitute conservation measures.

Conservation efforts may include habitat protection or measures defining the limitations and extent of exploitation. The State of Alaska is the managing body for herring fisheries in Alaska. Consequently, conservation measures in place that regulate human impacts on herring in Southeast Alaska are primarily in the form of mandates to state agencies based on state legislation. Article 8 Section 4 of the Alaskan Constitution concerns the goal of sustainable yield, whereby '' Fish . . . shall be utilized, developed and maintained on the sustained yield principle, subject to preferences among beneficial uses.'' State regulatory measures for herring fisheries are designed to conserve herring stocks on a sustained yield principle and have been described and evaluated above. State habitat protection and conservation occurs through State project review and subsequent recommendations to avoid, minimize, and mitigate impacts to herring while in spawning grounds. The Alaska Department of Environmental Conservation also implements Water Quality Standards which may indirectly conserve herring habitat.

Conclusion

We have reviewed the status of the Southeast Alaska DPS of Pacific herring, fully considering the best scientific and commercial data available, including the status review report. We have reviewed the threats to herring in Southeast Alaska, as well as other relevant factors, and given consideration to conservation efforts.

Our review of the information pertaining to the five ESA section 4(a)(1) factors and ERA team evaluation of the current and projected status of herring in Southeast Alaska does not support a conclusion that there are threats acting on the species or its habitat that have rendered herring in Southeast Alaska in danger of extinction, or likely to become so in the foreseeable future, throughout all or a significant portion of its range. Therefore, listing the Southeast Alaska DPS of Pacific herring as threatened or endangered under the ESA is not warranted at this time.

References Cited

A complete list of all references cited in this notice can be found on our Web site at *http://alaskafisheries.noaa.gov* and is available upon request (see **ADDRESSES**).

Authority

The authority for this action is the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Dated: March 27, 2014.

Samuel D. Rauch III,

Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

[FR Doc. 2014–07368 Filed 4–1–14; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XC325

Endangered Species; File No. 15809

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

ACTION: Issuance of permit.

SUMMARY: Notice is hereby given that Paul Jobsis, Ph.D., University of the Virgin Islands, Department of Biology, 2 John Brewers Bay, St Thomas, VI 00802, has been issued a permit to take green (*Chelonia mydas*) and hawksbill (*Eretmochelys imbricata*) sea turtles for purposes of scientific research.

ADDRESSES: The permit and related documents are available for review upon written request or by appointment in the following offices:

Permits and Conservation Division, Office of Protected Resources, NMFS, 1315 East-West Highway, Room 13705, Silver Spring, MD 20910; phone (301) 427–8401; fax (301) 713–0376; and

Southeast Region, NMFS, 263 13th Ave South, St. Petersburg, FL 33701; phone (727) 824–5312; fax (727) 824–5309.

FOR FURTHER INFORMATION CONTACT: Kristy Beard or Amy Hapeman, (301) 427–8401.

SUPPLEMENTARY INFORMATION: On November 9, 2012, notice was published in the **Federal Register** (77 FR 67341) that a request for a scientific research permit to take green and hawksbill sea turtles had been submitted by the above-named individual. The requested permit has been issued under the authority of the Endangered Species Act of 1973, as amended (ESA; 16 U.S.C. 1531 *et seq.*) and the regulations governing the taking, importing, and exporting of endangered and threatened species (50 CFR parts 222–226).

A 5-year permit was issued to conduct research on sea turtles around protected bays of St. Thomas and St. John, U.S. Virgin Islands. The purpose of the research is to assess the ecological movements of juvenile green and hawksbill sea turtles. Researchers are authorized to directly capture up to 40 sea turtles using tangle nets and up to 40 hawksbill sea turtles by hand or using dip nets each year. No more than 40 total sea turtles (both species combined) may be captured in a year. The following procedures may be conducted on sea turtles: Count/survey, attach flipper and passive integrated transponder tags, attach acoustic transmitters using epoxy or a combination of wire and epoxy, measure, photograph, weigh, and sample tissue.

Issuance of this permit, as required by the ESA, was based on a finding that such permit (1) was applied for in good faith, (2) will not operate to the disadvantage of such endangered or threatened species, and (3) is consistent with the purposes and policies set forth in section 2 of the ESA.

Dated: March 24, 2014.

Donna S. Wieting,

Director, Office of Protected Resources, National Marine Fisheries Service.

[FR Doc. 2014–07315 Filed 4–1–14; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XC632

Marine Mammals; File No. 14809

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

ACTION: Notice; issuance of permit.

SUMMARY: Notice is hereby given that a permit has been issued to Douglas Nowacek, Ph.D., Duke University—Marine Laboratory, 135 Duke Marine Lab Rd, Beaufort, NC 28516, to conduct research on 34 cetacean species for scientific research.

ADDRESSES: The permit and related documents are available for review upon written request or by appointment in the following offices: See **SUPPLEMENTARY INFORMATION**.

FOR FURTHER INFORMATION CONTACT: Amy Hapeman or Courtney Smith, (301) 427–8401.

SUPPLEMENTARY INFORMATION: On April 23, 2013, notice was published in the **Federal Register** (78 FR 23908) that a request for a permit to conduct research on 34 cetacean species, including three endangered species: humpback (*Megaptera novaeangliae*), sperm (*Physeter macrocephalus*), and southern right (*Eubalaena australis*) whales, had been submitted by the above-named applicant. The requested permit has been issued under the authority of the Marine Mammal Protection Act of 1972, as amended (16 U.S.C. 1361 *et seq.*), the regulations governing the taking and importing of marine mammals (50 CFR part 216), the Endangered Species Act of 1973, as amended (ESA; 16 U.S.C. 1531 *et seq.*), and the regulations governing the taking, importing, and exporting of endangered and threatened species (50 CFR parts 222–226).

Dr. Nowacek has been issued a permit to conduct comparative research on cetaceans in the North Atlantic, North Pacific and Southern Oceans. Authorized activities include suction cup tagging, acoustic playbacks, passive acoustics, biopsy sampling, photo-identification, behavioral observations, and incidental harassment during vessel surveys. The primary research objectives are to: (1) Document baseline foraging and social behavior of cetacean species under different ecological conditions; (2) place these behaviors in a population-level context; and (3) determine how these species respond to various natural sound sources. The