DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Parts 223, 224, and 226

[Docket No. 190925–0039]

RIN 0648–BI06

Endangered and Threatened Wildlife and Plants: Proposed Rule To Designate Critical Habitat for the Central America, Mexico, and Western North Pacific Distinct Population Segments of Humpback Whales

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

ACTION: Proposed rule; request for comments.

SUMMARY: We, the NMFS, propose to designate critical habitat for the endangered Western North Pacific distinct population segment (DPS), the endangered Central America DPS, and the threatened Mexico DPS of humpback whales (*Megaptera novaeangliae*) pursuant to section 4 of the Endangered Species Act (ESA). Areas proposed as critical habitat include specific marine areas located off the coasts of California, Oregon, Washington, and Alaska. Based on consideration of national security and economic impacts, we also propose to exclude multiple areas from the designation for each DPS. We are soliciting comments on all aspects of the proposed critical habitat designations and will consider information received prior to making final designations.

DATES: Comments must be received by December 9, 2019. Requests for public hearings must be made in writing by November 25, 2019.

ADDRESSES: You may submit data, information, or comments on this document, identified by NOAA–NMFS–2019–0066, and on the supplemental documents by either of the following methods:

Electronic Submission: Submit all electronic comments via the Federal eRulemaking Portal. Go to *www.regulations.gov/#!docketDetail;D=NOAA-NMFS-2019-0066,* click the ''Comment Now!'' icon, complete the required fields, and enter or attach your comments.

Mail: Submit written comments to Endangered Species Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East West Highway (SSMC3), Silver Spring, MD 20910, Attn: Humpback Whale Critical Habitat Proposed Rule.

Instructions: Comments sent by any other method, to any other address or individual, or received after the end of the comment period, might not be considered by NMFS. All comments received are a part of the public record and will generally be posted for public viewing on *www.regulations.gov* without change. All personal identifying information (*e.g.,* name, address, etc.), confidential business information, or otherwise sensitive information submitted voluntarily by the sender will be publicly accessible. We will accept anonymous comments (enter ''N/A'' in the required fields if you wish to remain anonymous).

Documents supporting this proposed rule, which include a Draft Biological Report (NMFS 2019a), a Draft Economic Analysis (IEc 2019a), and a Draft Section 4(b)(2) Report (NMFS 2019b), are available on the Federal e-Rulemaking Portal *www.regulations.gov/#!docketDetail;D=NOAA-NMFS-2019-0066.*

FOR FURTHER INFORMATION CONTACT: Lisa Manning, NMFS, Office of Protected Resources 301–427–8466.

SUPPLEMENTARY INFORMATION: Section 3(5)(A) of the ESA defines critical habitat as (i) the specific areas within the geographical area occupied by the species, at the time it is listed, 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, 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 is defined in section 3(3) of the ESA as the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary (16 U.S.C. 1532(3)). Section 3(5)(C) of the ESA provides that, except in those circumstances determined by the Secretary, critical habitat shall not include the entire geographical area which can be occupied by the threatened or endangered species.

Section 4(b)(2) of the ESA requires the Secretary to designate critical habitat for threatened and endangered species on the basis of the best scientific data available and after taking into consideration the economic impact, the impact on national security, and any other relevant impact of specifying any particular area as critical habitat. This section also grants the Secretary of Commerce (Secretary) discretion to exclude any area from critical habitat if he determines the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat. However, the Secretary may not exclude areas if such exclusion will result in the extinction of the species (16 U.S.C. 1533(b)(2)).

Once critical habitat is designated, section 7(a)(2) of the ESA requires Federal agencies to ensure that actions they authorize, fund, or carry out are not likely to destroy or adversely modify that habitat (16 U.S.C. 1536(a)(2)). This requirement is additional to the section 7(a)(2) requirement that Federal agencies ensure their actions are not likely to jeopardize the continued existence of ESA-listed species. Specifying the geographic location of critical habitat also facilitates implementation of section 7(a)(1) of the ESA by identifying areas where Federal agencies can focus their conservation programs and use their authorities to further the purposes of the ESA. *See* 16 U.S.C. 1536(a)(1). Critical habitat requirements do not apply to citizens engaged in actions on private land that do not involve a Federal agency.

This proposed rule summarizes relevant information regarding the biology and habitat use of humpback whales, the methods used to develop the three proposed critical habitat designations, and the proposed critical habitats for the Central America (CAM), Mexico (MX), and Western North Pacific (WNP) DPSs of humpback whales. The following supporting documents provide more detailed discussions of information and analyses that contributed to the conclusions presented in this proposed rule: Draft Biological Report (NMFS 2019a), Draft Economic Impact Analysis (IEc 2019a), and Draft Section 4(b)(2) Report (NMFS 2019b). These supporting documents are referenced throughout this proposed rule.

As detailed in the sections that follow, the specific occupied areas proposed for designation as critical habitat for the WNP DPS of humpback whales contain approximately 78,690 square nautical miles (nmi^2) of marine habitat within the North Pacific Ocean, including areas within the Bering Sea and the Gulf of Alaska. Specific occupied areas proposed for designation as critical habitat for the CAM DPS of humpback whales contain approximately 48,459 nmi^2 of marine habitat within the North Pacific Ocean, specifically within the portions of the

California Current Ecosystem off the coasts of Washington, Oregon, and California. Specific occupied areas proposed for designation as critical habitat for the MX DPS of humpback whales contain approximately 175,812 nmi^2 of marine habitat within the North Pacific Ocean, specifically within portions of Bristol Bay, the Bering Sea, the Gulf of Alaska, and California Current Ecosystem.

Based on consideration of economic impacts under section 4(b)(2) of the ESA, we propose to exclude approximately 44,119 nmi^2 of marine habitat from the designation for the WNP DPS, approximately 12,966 nmi^2 of marine habitat from the designation for the CAM DPS, and approximately 30,527 nmi^2 of marine habitat from the designation for the MX DPS. Based on consideration of national security impacts under section 4(b)(2) of the ESA, we also propose to exclude approximately 48 nmi^2 of marine habitat from the critical habitat designation for the MX DPS in Southeast Alaska; and we propose to exclude about 1,522 nmi^2 of marine habitat off the coast of Washington from the designations for the CAM and MX DPSs.

Background

On September 8, 2016, we published a final rule that revised the listing of humpback whales under the ESA by removing the original, taxonomic-level species listing, and in its place listing four DPSs as endangered and one DPS as threatened (81 FR 62260). We also determined that nine additional DPSs did not warrant listing. Prior to this revision, the humpback whale had been listed as an endangered species in 1970 under the precursor to the ESA (the Endangered Species Conservation Act of 1969), and then transferred to the list of endangered species under the ESA. Although the ESA was later amended to require the designation of critical habitat for listed species, when humpback whales were originally listed, there was no statutory requirement to designate critical habitat for this species. Section 4(a)(3)(A) of the ESA now requires that, to the maximum extent prudent and determinable, critical habitat be designated at the time of listing (16 U.S.C. 1533(a)(3)(A)). Pursuant to implementing regulations at 50 CFR 424.12(g), critical habitat cannot be designated within foreign countries or in areas outside the jurisdiction of the United States. Thus, the listing of DPSs of humpback whales under the ESA in 2016 triggered the requirement to designate critical habitat, to the maximum extent prudent and determinable, for those DPSs occurring in areas under U.S. jurisdiction—specifically, the CAM, MX, and WNP DPSs.

In the proposed rule to revise the humpback whale listing, we solicited information that could inform a critical habitat designation (80 FR 22304; April 21, 2015), but we did not receive relevant data or information regarding habitats or habitat features in areas within U.S. jurisdiction. In the final rule to list five DPSs of humpback whales, we concluded that critical habitat was not yet determinable, which had the effect of extending by one year the statutory deadline for designating critical habitat (16 U.S.C. 1533(b)(6)(C)(ii)).

On March 15, 2018, the Center for Biological Diversity, Turtle Island Restoration Network, and the Wishtoyo Foundation filed a complaint seeking court-ordered deadlines for the issuance of proposed and final rules to designate critical habitat for the CAM, MX, and WNP DPSs of humpback whales. *See Center For Biological Diversity et al.* v. *National Marine Fisheries Service, et al.,* No. 3:18–cv–01628–EDL (N.D. Cal.). The parties entered into a settlement agreement with the approval and oversight of the court, and subsequently amended the dates specified in the original order. The amended settlement agreement stipulates that NMFS must submit a proposed determination concerning the designation of critical habitat for these three DPSs to the **Federal Register** by September 26, 2019, and (to the extent a proposed rule has been published) a final rule by September 28, 2020.

In 2018, a critical habitat review team (CHRT) was convened to assess and evaluate information in support of a critical habitat designation for the CAM, MX, and WNP DPSs of humpback whales, which occur within portions of U.S. waters in the North Pacific Ocean. The CHRT consisted of eight biologists from NMFS and two from the National Ocean Service (NOS), all of whom have expertise and experience in humpback whale research or management, experience in developing critical habitat designations, and/or expertise in geographic information systems (GIS, *i.e.,* mapping). To determine potential critical habitat areas for the DPSs, the CHRT reviewed available data on humpback whales, including the global assessment of humpback whales and the status review that were completed in support of the ESA listings (Fleming and Jackson 2011, Bettridge *et al.* 2015), the proposed and final listing rules for humpback whales (80 FR 22304, April 21, 2015; 81 FR 62260, September 8, 2016), recent biological surveys and reports, and peer-reviewed literature. The CHRT also convened a workshop on May 22–23, 2018, at the NMFS Alaska Fisheries Science Center (AFSC) in Seattle, Washington, that brought together the CHRT members as well as 11 additional researchers from either the AFSC or other parts of NMFS. Several other individuals from external organizations (specifically, the Cascadia Research Collective (CRC), Moss Landing Marine Laboratories, National Park Service, and Oregon State University) participated during portions of the workshop either in person or by video conference to present and discuss their relevant research. Data considered, analyses conducted, and conclusions reached by the CHRT are discussed in detail in the Draft Biological Report (NMFS 2019a). Information from that report is summarized in the sections that follow.

Species Description and Status of the DPSs

Humpback whales (*Megaptera novaeangliae* (Borowski 1781) are large, baleen whales (family Balaenopteridae) that are found in all oceans across the globe. They range in color from black to gray with varying amounts of white on their bellies, flukes, and fins. Some patterns of color variation may occur among whales found in different geographic regions, but variations also occur among individual whales. Distinctive natural markings on the underside of the fluke along with other identifying features such as scars have been used to identify individual whales for decades by cetologists around the world. Also among their distinctive traits are their long flippers, which are knobbed on the leading edge, and both flippers and fluke are scalloped on the trailing edge.

Humpback whales can weigh over 40 tons (Ohsumi 1966) and are, on average, 13–15 meters in length at maturity (Chittleborough 1965, Mikhalev 1997). Females are longer than males by about 1 to 1.5 meters (Chittleborough 1965). The oldest known humpback whale was estimated to be about 95 years old (Chittleborough 1965, Gabriele *et al.* 2010). Average generation time has been estimated to be 21.5 years (Taylor *et al.* 2007), and adult survival rate is estimated to be between 0.87–1.00, depending on location and year (Barlow and Clapham 1997, Chaloupka *et al.* 1999, Mizroch *et al.* 2004).

Humpback whales breed and calve in tropical/subtropical waters in the winter months, typically during January–May in the Northern hemisphere. Calving intervals are between 1 to 5 years but

are more commonly between 2 to 3 years (Wiley and Clapham 1993, Steiger and Calambokidis 2000). Annual calving can occur but is rare (Straley 1989). After an 11–12 month gestation period, calves are born in the low latitude breeding grounds (Matthews 1937). Lactation occurs for close to 11 months, with calves beginning to wean at around 6 months (in June or July in the Northern Hemisphere) and reaching full independence after about a year (Chittleborough 1958, 1965; Clapham and Mayo 1990).

Males produce long, complex songs during the breeding season (Payne and Mcvay 1971), possibly to communicate their location and readiness to mate or to establish social order among males, or both (Tyack 1981, Darling and Bérubé 2001). Singing is typically heard on the breeding grounds but has also been detected during migration (Norris *et al.* 1999, Noad and Cato 2007) and on feeding grounds as well (Mattila *et al.* 1987, McSweeney *et al.* 1989, Clark and Clapham 2004, Stimpert *et al.* 2012, Magnúsdóttir *et al.* 2014). While on breeding grounds, humpback whales rarely feed (Baraff *et al.* 1991).

Around springtime, the whales typically migrate to temperate, higher latitude regions to feed and build up fat and energy reserves for the return migration, lactation, and breeding. Humpback whales feed on mainly euphausiids (krill) and small pelagic fishes (Nemoto 1957, 1959; Klumov 1963; Rice 1963; Krieger and Wing 1984; Baker 1985; Kieckhefer 1992; Clapham *et al.* 1997).

Humpback whales were commercially hunted for centuries throughout their range until the 1950s/60s. Reported catches from the 20th century suggest that humpback whales were distributed extensively throughout the North Pacific (Ivashchenko *et al.* 2015). Non-subsistence whaling was first prohibited by the International Whaling Commission (IWC) in 1955 in the North Atlantic and then in the North Pacific and Southern Hemisphere in 1965 after a final commercial whaling season (NMFS 1991). The total catch of humpback whales exploited in the North Pacific in the 20th century is estimated to be just over 29,000 whales (Ivashchenko *et al.* 2017). By the time modern commercial whaling was officially ended (though not completely ceased), the total abundance of humpback whales in the North Pacific may have been as few as roughly 1,000 whales (Rice 1978). Since the moratorium on commercial whaling, populations have been steadily increasing but some have not yet returned to historical abundance levels (Zerbini *et al.* 2006, Ford *et al.* 2009, Bettridge *et al.* 2015). Despite the official end of commercial whaling, some countries continue to engage in whaling practices.

The CAM DPS is listed as endangered and has been most recently estimated to include 783 whales (CV = 0.170, Wade 2017). Entanglement in fishing gear and vessel collisions, in particular, were identified as the most significant threats to this DPS in the 2016 final listing rule (81 FR 62260, September 8, 2016). Within U.S. waters, whales of this DPS are observed off the coasts of Washington, Oregon, and California.

The MX DPS is listed as threatened and has been most recently estimated to have an abundance of 2,806 whales (CV = 0.055, Wade 2017). Entanglement in fishing gear, especially off the coasts of Washington, Oregon, and California, was identified as the primary threat to this DPS. Entanglement has been documented primarily in pot and trap gear but also in gillnets (Carretta *et al.* 2018). Other threats include ship strikes and persistent organic pollutants, although, at the time of listing, these threats were not considered to be significantly impacting the survival of this DPS (Fleming and Jackson 2011, Bettridge *et al.* 2015). More recently, Rockwood *et al.* (2017) estimated that the mortality due to ship strikes (22 per year) is greater than the estimated fishery bycatch and is equal to the potential biological removal (PBR) level for the California/Oregon/Washington stock of humpback whales (Carretta *et al.* 2018). (Humpback whales are separately identified and managed as ''stocks'' under the Marine Mammal Protection Act (MMPA, 16 U.S.C. 1361 *et seq.*), a management unit that is not necessarily coextensive with a corresponding DPS under the ESA. PBR is defined under the MMPA as the maximum number of animals (not including natural mortalities) that may be removed from the stock while allowing that stock to reach or maintain its optimum sustainable population.) Whales within the MX DPS have a broad distribution within U.S. waters and occur along the coasts of Washington, Oregon, California, and Alaska.

The WNP DPS is listed as endangered and has an estimated abundance of 1,066 whales (CV = 0.079, Wade 2017). There is a high degree of uncertainty regarding the threats to this DPS; however, entanglement in fishing gear likely represents a serious threat (Brownell *et al.* 2000, Baker *et al.* 2006). Other likely threats to this DPS include offshore energy development activities, vessel collisions, pollution, and food competition (with fisheries, Bettridge *et al.* 2015). Humpback whale meat has been identified in Korean markets, and it is possible that whaling could be posing a threat to this DPS (Brownell *et al.* 2000, Baker *et al.* 2006). Within U.S. waters, whales from this DPS have been observed in waters off Alaska, primarily the eastern Aleutian Islands.

All three of these listed DPSs overlap spatially to varying degrees with the Hawaii DPS of humpback whales, which was found to not warrant listing under the ESA in 2016 (81 FR 62260, September 8, 2016). The Hawaii DPS whales breed in waters around the Hawaiian Islands and have been observed on most of the known feeding grounds within the North Pacific (Bettridge *et al.,* 2015). This population has an estimated abundance of about 11,571 whales (Wade 2017). While these whales are no longer protected under the ESA (and critical habitat is not being designated for them), they continue to be managed under the MMPA.

Distribution and Habitat Use

Humpback whales have strong fidelity to particular breeding regions, a general pattern that contributed to how the various DPSs were delineated and listed under the ESA (Bettridge *et al.* 2015). In particular, the MX DPS includes whales that breed in the area of mainland Mexico and the Revillagigedo Islands (Bettridge *et al.* 2015, 50 CFR 223.102). Whales from the CAM DPS breed off the coasts of Costa Rica, Panama, Guatemala, El Salvador, Honduras, and Nicaragua (Bettridge *et al.* 2015, 50 CFR 224.101). Humpback whales from the WNP DPS breed in waters around southern Japan (*e.g.,* Okinawa), off the Philippines in the Kuroshio Current, and in additional breeding grounds in the Western North Pacific that were ''unknown'' at the time of listing (Bettridge *et al.* 2015, 50 CFR 224.101). As discussed in more detail later (see ''Geographical Area Occupied by the Species''), because none of the confirmed breeding areas for these DPSs are within waters under U.S. jurisdiction, we cannot propose to designate them as critical habitat.

Humpback whale breeding areas are characterized by warm, shallow waters (Clapham and Mead 1999, Ersts and Rosenbaum 2003, Rasmussen *et al.* 2007), and the whales are often found in association with islands, banks, or offshore reefs (Dawbin 1966, Whitehead and Moore 1982, Baker *et al.* 1986). These warm, tropical and subtropical breeding areas have low productivity, and thus limited food availability, and the whales do not typically feed while on the breeding grounds (Rasmussen *et*

al. 2012, Villegas-Zurita and Castillejos-Moguel 2013).

In the North Pacific Ocean, humpback whales feed in biologically productive waters along the coasts of California, Oregon, Washington, and Alaska; British Columbia, Canada; and in waters off of Russia (*e.g.,* Kamchatka, Commander Islands). Although these feeding areas have an almost continuous distribution around the North Pacific basin, multiple studies have indicated fairly high levels of fidelity of humpback whales to particular areas and limited movements of whales among feeding areas (*e.g.,* Waite *et al.* 1999, Calambokidis *et al.* 2001, Calambokidis *et al.* 2008, Witteveen *et al.* 2011, Witteveen and Wynne 2016a, Gabriele *et al.* 2017). Understanding of how humpback whale populations are spatially structured while in these feeding areas has been informed by numerous studies, and probably most notably by the results of the Structure of Populations, Levels of Abundance and Status of Humpbacks Study—referred to as the SPLASH study. This study involved the collection of both photographic and genetic data throughout the North Pacific by several hundred researchers working in over 10 countries (Calambokidis *et al.* 2008). Through the SPLASH study, photo-identification data were collected over three breeding seasons (2004, 2005, and 2006) and over two feeding seasons (2004, 2005) in known breeding and feeding areas. Through this effort, a total of 7,971 unique whales were photo-identified (Calambokidis *et al.* 2008). For most analyses, photo-identification data were grouped into six broad feeding regions: Kamchatka (Russia), Aleutian Islands/Bering Sea, Gulf of Alaska, Southeast Alaska/Northern British Columbia, Southern British Columbia/Northern Washington, and California/Oregon (Calambokidis *et al.* 2008, Barlow *et al.* 2011, Wade *et al.* 2016). Analysis of the photo-identification data revealed that both within-season and between-season movements of whales between these six feeding areas were infrequent and any such exchanges were mainly to adjacent areas (Calambokidis *et al.* 2008), which is consistent with previous findings from earlier region-wide studies (*e.g.,* Calambokidis *et al.* 1996, Calambokidis *et al.* 2001).

Genetic analyses of skin samples collected during the SPLASH study provide additional insight into the structuring of humpback whale populations across the feeding areas (Baker *et al.* 2013). Analysis of maternally inherited mitochondrial DNA (mtDNA) from 1,010 unique whales indicated highly significant differences in mtDNA haplotype frequencies among the feeding regions overall (overall $F_{ST} = 0.121$, $\Phi_{ST} = 0.178$, $p < 0.0001$), and pairwise comparisons were also significant (at $p < 0.05$) for 32 of 36 possible comparisons (excluding the western Aleutians due to low sample size, Baker *et al.* 2013). Comparisons of bi-parentally inherited microsatellite DNA indicated very weak but significant differentiation of microsatellite allele frequencies among feeding areas, suggesting male-biased gene flow (overall $F_{ST} = 0.0034$, $p < 0.001$, Baker *et al.* 2013). The high degree of differentiation in mtDNA among feeding areas reflects the influence of maternal fidelity to feeding areas. This result is consistent with findings of previous but more spatially-limited studies (*e.g.,* Baker *et al.* 1998, Witteveen *et al.* 2004). This effect likely stems from the close dependency of calves on their mothers during their first year of life, during which they travel with their mothers and thereby inherit information from their mothers about feeding destinations (Baker *et al.* 1987, Pierszalowski *et al.* 2016).

Overall, while the available photo-identification data indicate varying degrees of mixing of populations across the feeding areas, the overall pattern of structuring of populations among the feeding areas, as well as the pattern of migratory connections between particular feeding areas and breeding areas, contributed to how the various DPSs are described in the listing rule (81 FR 62260, September 8, 2016). In particular, the MX DPS is described as including whales that feed primarily off California-Oregon, northern Washington-southern British Columbia, in the Gulf of Alaska and East Bering Sea (50 CFR 223.102). The CAM DPS is described as including whales that feed along the West Coast of the United States and southern British Columbia (50 CFR 224.101). The WNP DPS is described as including whales that feed primarily in the West Bering Sea and off the Russian coast and the Aleutian Islands (50 CFR 224.101).

Although these feeding areas are broadly distributed and range widely in terms of latitude, they are usually over the continental shelf or near the shelf edge at shallow (~10 m) to moderate water depths (~50–200 m) and in cooler waters (Zerbini *et al.* 2016, Becker *et al.* 2016 and 2017). Often, feeding areas are associated with oceanographic (*e.g.,* upwelling, fronts), bathymetric (*e.g.,* submarine canyons, banks), and/or biological features (*e.g.,* spawning areas for fish) that serve to concentrate or aggregate prey (*e.g.,* Tynan *et al.* 2005, Dalla Rosa *et al.* 2012, Thompson *et al.* 2012, Friday *et al.* 2013, Chenoweth *et al.* 2017, Straley *et al.* 2018, Santora *et al.* 2018). Physical oceanographic mechanisms influencing primary productivity are subject to significant variations on seasonal, inter-annual (*e.g.,* El Niño), and decadal time-scales (*e.g.,* Pacific Decadal Oscillation (PDO) cycles; Barber and Chavez 1983, McGowan *et al.* 1998, 2003), which adds variability to humpback whale prey distributions and abundances within the feeding areas.

Satellite tagging efforts have provided some insights into the fine-scale movements of the whales while on the foraging grounds, indicating the duration, area, and variability in the areas over which the whales feed. For instance, in the summers of 2007 to 2011, Kennedy *et al.* (2014) deployed satellite tags on eight adult humpback whales in Unalaska Bay, Alaska, and tracked the whales for an average of 28 days (range = 8 − 67 days). Position data were then analyzed and categorized into one of three possible behavioral modes: Transiting; area-restricted searching (ARS), or unclassified. The slower speeds and higher turning angles during ARS behavior are considered to be indicative of active foraging (Kennedy *et al.* 2014, citing Kareiva and Odell 1987, Mayo and Marx 1990). Results indicated that whales mainly stayed over shelf and slope habitat (1,000 m or shallower) while in ARS mode, and all but one whale remained relatively close to Unalaska Bay during the tracking period. One whale, however, left Unalaska Bay 3 days after being tagged, traveling along the Bering Sea shelf towards Russia and covering almost 3,000 km in 26 days, indicating that the whales may in fact travel long distances during the feeding season (Kennedy *et al.* 2014). Satellite tags deployed on whales tagged off central California in the summer/fall of 2004–2005 and in summer of 2017 and that were tracked for a minimum of 30 days, exhibited feeding behavior (as detected by ARS data) over an area that averaged 20,435.6 km^2 (n=8, SE = 7322.8) and 17,684.4 km^2 (n=7, SE = 13,927.6 km^2), respectively (Mate *et al.* 2018). In the latter case, this average area extended from the Channel Islands in southern California to central Oregon. Similar tagging work off the Oregon coast in September/October in 2017 indicated the whales actively fed over areas of comparable size (average area = 17,215.6 km^2; n=4; SE = 8,430.6), and for the few whales tagged, the feeding area extended from Point Arena, central California, to the southwest corner of

Vancouver Island, British Columbia (Mate *et al.* 2018). The area over which whales actively feed (as indicated by ARS data over a minimum of 30-days) appears to be somewhat smaller in Southeast Alaska, where the average ARS area for whales tagged in summer of 1997 and in fall of 2014–2015 was 4,904.3 km^2 (n=3, SE = 1,728.8) and 2,862.7 km^2 (n=4, SE = 1,834.2), respectively (Mate *et al.* 2018). Differences in the area over which the whales feed between years likely reflects a seasonal shift in target prey and prey distributions (Witteveen *et al.* 2011, Straley *et al.* 2018).

Migrations of whales between their seasonal habitats have been studied indirectly using genetic data and matching of individual photo-identified whales at feeding and breeding areas, but the specific migratory routes used by the whales remains poorly understood, especially in the North Pacific. Although data are limited, telemetry data from satellite-monitored radio tags have provided additional insights into seasonal migrations. Humpback whales were initially thought to migrate along a coastal route when travelling between their seasonal habitats, but migration routes are now known to be varied, with some whales taking coastal routes and some taking pelagic routes (Fleming and Jackson 2011). For instance, Lagerquist *et al.* (2008) tagged 11 whales off of Socorro Island, Mexico (within the Revillagigedo Archipelago) in February 2003, and, after an average of 13.6 days (range = 3.8–27.0 days), seven of the whales migrated to areas north of the breeding areas in Mexico—three were adult whales without a calf and four were adult females travelling with a calf. Two of these seven whales were tracked all the way to feeding grounds—one to British Columbia (46 d migration) and one to Alaska (49 d migration). The migration routes were well offshore, averaging 444 km from the coast and ranging from 115 to 935 km from the coast (Lagerquist *et al.* 2008). One whale, which travelled the closest to shore overall, came within 41 km of Point Arena, California at the closest point along its migration. An offshore northbound migratory route between the Revillagigedo Archipelago and Alaska was also documented through visual and acoustic detections during a ship-based survey by Norris *et al.* (1999). Southbound migration routes were recorded by researchers from Oregon State University, who conducted satellite tagging efforts in multiple feeding areas during 1997–2017 (Mate *et al.* 2018). Six of 88 tagged whales were tracked along their full migration route to breeding areas, and an additional 20 whales were tracked for the early portion of their migration before transmissions ceased. These tagging efforts indicate that up to three different migration routes were taken by whales departing from Southeast Alaska, with most (n=20) heading towards Hawaii (the breeding destination for the non-listed Hawaiian population of humpback whales), one that headed west into the Gulf of Alaska, and two that headed south along the U.S West Coast. One whale that had been tagged in 2017 off the coast of Oregon was tracked southward along a route that eventually extended well offshore before heading on an eastward trajectory towards mainland Mexico. Another two whales that had been tagged off central California in 2004/2005, took much more coastal routes southward to Mexico and Guatemala.

Diet and Feeding Behaviors

Humpback whales are generalists, taking a variety of prey while foraging and also switching between target prey depending on what is most abundant in the system (Witteveen *et al.* 2015, Fleming *et al.* 2016). Within the California Current marine ecosystem (CCE), the highly productive coastal system that extends from British Columbia, Canada to the southern Baja California Peninsula, humpback whales are known to target Pacific sardine (*Sardinops sagax*), northern anchovy (*Engraulis mordax*), Pacific herring (*Clupea pallasii*), euphausiids (specifically *Thysanoessa, Euphausia, Nyctiphanes,* and *Nematoscelis*), and occasionally juvenile rockfish (*Sebastes;* Rice 1963, Kieckhefer 1992, Clapham *et al.* 1997). In waters off Alaska, the humpback diet includes: Euphausiids, capelin (*Mallotus villosus*), Pacific herring, Atka mackerel (*Pleurogrammus monopterygius*), juvenile walleye pollock (hereafter ''pollock,''*Gadus chalcogrammus* (formerly, *Theragra chalcogramm*a)), Pacific cod (*Gadus macrocephalus*), saffron cod (*Eleginus gracilis*), Arctic cod (*Boreogadus saida*), rockfish (*Sebastes*), Pacific sand lance (*Ammodytes personatus),* eulachon (*Thaleichthys pacificus*), surf smelt (*Hypomesus pretious*), Pacific sandfish (*Trichodon trichodon*), and myctophids (primarily *Stenobrachius leucopsarus;* Nemoto 1959, Klumov 1965, Tomilin 1967, Krieger and Wing 1984, Baker 1985, Witteveen *et al.* 2008, Neilson *et al.* 2015). Euphausiids consumed in Alaska are mainly from genus *Euphausia* and *Thysanoessa* (Krieger and Wing 1984). Additional prey noted in Alaska are mysids, amphipods (*Parathemisto libeelula*), and shrimps (*Eualus gaimardii* and *Pandalus goniurus*) (Tomilin 1967). There have also been observations of humpback whales feeding on hatchery-released juvenile salmon in Southeast Alaska (Chenoweth *et al.* 2017). A more detailed discussion of the humpback whale diet by feeding regions within the North Pacific is provided in the Draft Biological Report (NMFS 2019a).

Humpback whales are gulp feeders, gulping mouthfuls of prey and water at a time (Ingebrigtsen 1929), and use a variety of capture techniques while feeding, including lunges and bubble structures (bubble nets, columns, clouds, and curtains; Jurasz and Jurasz 1979, Hain *et al.* 1982). In general, humpback whales will lunge feed, both towards the surface and at depths, while alternating between periods of short, shallow dives and long, deeper dives and can execute multiple lunges in one dive (Goldbogen *et al.* 2008). Lunge types include lateral lunge feeding, vertical lunge feeding, and inverted lunge feeding (Jurasz and Jurasz 1979). Additionally, humpbacks have been observed using multiple types of bubble structure feeding techniques for capturing prey, such as bubble nets, columns, clouds, and curtains (Jurasz and Jurasz 1979, Hain *et al.* 1982) and techniques that combine clouds with surface disturbances (like lobtail feeding, Weinrich *et al.* 1992). Artificial bubble structures have been shown experimentally to constrain the spatial movement of herring, particularly large schools (Sharpe and Dill 1997), supporting the conclusion that bubble techniques are likely an effective method for herding prey. Additional feeding strategies documented include ''blaze feeding'' (flashing the white side of pectoral flipper at prey; Tomilin 1957 cited in Brodie 1977, Sharpe 2001), swimming/thrashing (roiling the surface and thrashing tail, Hain *et al.* 1982), looping, flick feeding (lashing tail at the surface, Jurasz and Jurasz 1979), vertical rise and subsidence (creates a reduced pressure zone in the water column, Hays *et al.* 1985), ''roiling'' the surface with flippers and flukes (Hain *et al.* 1982), and trap-feeding (McMillan *et al.* 2019).

Humpback whales may also work in groups to herd and capture prey. For instance, in Southeast Alaska, groups of whales have been observed to release bubbles simultaneously in the same area, and then surface through the center of the bubbles together to consume the herded herring (Jurasz and Jurasz 1979, Baker 1985, D'Vincent *et al.* 1985). Vocalizations may be important

in coordinating group feeding efforts (D'Vincent *et al.* 1985).

Feeding techniques likely vary depending on the target prey species and prey density (Jurasz and Jurasz 1979). Dive depth of foraging whales also varies depending on the target prey. In Alaska, Witteveen *et al.* (2015) reported that whales dove deeper to forage on krill than on fish (average depths of 98 m versus 80 m, respectively). Similarly, in areas off California, Szesciorka (2015) documented shallower feeding on the continental shelf where fish were more readily available, and deeper feeding on continental break/slope where krill were present. For dive depths in general, multiple authors have documented varying average and maximum dive depths, with mean depths ranging from around 66 m to 107 m and maximim depths ranging from approximately 115 m to 388 m (in Alaska, California, and Antarctica; Witteveen *et al.* 2008, Simon *et al.* 2012, Tyson 2014, Szesciorka 2015, Witteveen *et al.* 2015).

Because humpback whales only rarely feed on breeding grounds and during migrations, the buildup of fat stores while on the feeding grounds is critical to support migration and successful breeding. Given the energetic costs associated with foraging activity itself, especially at deeper depths (Goldbogen *et al.* 2008), foraging is only expected to be energetically profitable above some lower threshold for an energetic return. Evidence suggests that humpback whales will generally feed when they encounter suitable concentrations of prey. Although humpback whales have often been observed in association with, or specifically targeting, dense aggregations of prey within North Pacific feeding regions (*e.g.,* Bryant *et al.* 1981, Krieger and Wing 1986, Goldbogen *et al.* 2008, Sigler *et al.* 2012, Witteveen *et al.* 2015), minimum prey densities required to support feeding are not generally known.

Geographical Area Occupied by the Species

The phrase ''geographical area occupied by the species,'' which appears in the statutory definition of critical habitat, is defined by regulation as an area that may generally be delineated around species' occurrences, as determined by the Secretary (*i.e.,* range) (50 CFR 424.02). Such areas may include those areas used throughout all or part of the species' life cycle, even if not used on a regular basis (*e.g.,* migratory corridors, seasonal habitats, and habitats used periodically, but not solely by vagrant individuals) (*Id.*). Below, we summarize information regarding the geographical area occupied by each of the three DPSs of humpback whales, each of which is a ''species'' as defined in the ESA. *See* 16 U.S.C. 1532(16) (defining ''species'' to include any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature). Additional details on the range of each DPS are provided in the Draft Biological Report (NMFS 2019a).

Central America DPS

As discussed earlier, the CAM DPS is described as humpback whales that breed in waters off Central America in the North Pacific Ocean and feed along the west coast of the United States and southern British Columbia (50 CFR 224.101(h)). The breeding range of this DPS includes waters off the Pacific coast of Central America, from Panama north to Guatemala, and possibly into southern Mexico (Bettridge *et al.* 2015, Calambokidis *et al.* 2017). Whales from this DPS have been observed within foraging grounds along the coasts of California, Oregon, and Washington (Barlow *et al.* 2011).

In terms of distribution across their foraging range, CAM DPS whales are significantly more common in waters of southern California and occur in progressively decreasing numbers up the coast towards Washington and Southern British Columbia (Steiger *et al.* 1991; Rasmussen *et al.* 2001; Calambokidis *et al.* 2000, 2008, 2017). Of the humpback whales identified off the coast of Central America (n=31) in a photo-identification study conducted between 1981 and 1992, 84 percent were re-sighted off California (Calambokidis *et al.* 2000). This distribution pattern was also confirmed by the results of the SPLASH study, which indicated that out of 29 between-season photo-identification matches of whales from the Central America breeding areas, 26 occurred within the California/Oregon feeding region and 3 occurred within the northern Washington/southern British Columbia region (Barlow *et al.* 2011). Use of the Salish Sea by this DPS may be extremely limited, and has been indicated by the single re-sighting reported in Calambokidis *et al.* (2017), and no observations of these whales have been reported for waters off Alaska or in the Bering Sea.

Mexico DPS

The MX DPS of humpback whales is defined as humpback whales that breed or winter in the area of mainland Mexico and the Revillagigedo Islands, transit Baja California, or feed in the North Pacific Ocean, primarily off California-Oregon, northern Washington/southern British Columbia, northern and western Gulf of Alaska, and East Bering Sea (50 CFR 223.102(e)). Of the three DPSs addressed in this proposed rule, the MX DPS has the broadest distribution within the U.S. portion of their range. Through the SPLASH study, MX DPS whales were photo-identified in all five of the major feeding areas in, or partially in, U.S. waters—*i.e.,* California/Oregon (n=105 whales), northern Washington/southern British Columbia (n=27 whales), southeast Alaska/northern British Columbia (n=35 whales), the Gulf of Alaska (n=97 whales), and the Aleutian Islands/Bering Sea (n=27 whales, Barlow *et al.* 2011).

In terms of their distribution across this range, whales using different portions of the MX DPS breeding area appear to target different feeding destinations. During SPLASH surveys, whales that had been photo-identified along the Pacific coast of mainland Mexico were sighted in highest numbers off the coast of California and Oregon (97 of 164 total matches), suggesting that this is their primary foraging destination (Calambokidis *et al.* 2008, Barlow *et al.* 2011). Although whales sighted off mainland Mexico also travel to the more northern latitude feeding areas, the MX DPS whales sighted around the Revillagigedo Archipeligo had more matches overall to Alaska feeding areas and had higher match rates to the northern Gulf of Alaska feeding area in particular (44 of 87 matches; Calambokidis *et al.* 2008).

Multiple studies have reported sightings of a small number of whales in both the Mexico and Hawaii breeding areas (*e.g.,* n=1, Darling and McSweeney 1985; n=5, Calambokidis *et al.* 2001; n=17, Calambokidis *et al.* 2008). Detections of shared song composition among whales from different breeding locations along with presence of whales in mid-ocean tropical waters during the breeding season also suggest some form of contact between whales from different breeding populations (Darling *et al.* 2019a and 2019b). Overall, interchange among breeding areas appears to be rare, and remains poorly understood in terms of its biological significance.

Western North Pacific DPS

Humpback whales of the WNP DPS are listed as humpback whales that breed or winter in the area of Okinawa and the Philippines in the Kuroshio Current (as well as unknown breeding grounds in the Western North Pacific Ocean), transit the Ogasawara area, or feed in the North Pacific Ocean,

primarily in the West Bering Sea and off the Russian coast and the Aleutian Islands (50 CFR 224.101(h)). Whales from this DPS have been sighted in foraging areas off the coast of Russia, primarily Kamchatka, the Aleutian Islands, as well as in the Bering Sea and Gulf of Alaska, and off northern and southern British Columbia (Figure 13; Darling *et al.* 1996, Calambokidis *et al.* 2001, Barlow *et al.* 2011). Whales from this DPS are not thought to use the feeding areas off Washington, Oregon, and California.

Several studies have reported sightings of a small number of photo-identified whales in both the Asia (off Japan or the Philippines) and Hawaii breeding areas (*e.g.,* n=1, Darling and Cerchio 1993; n=3, Salden *et al.* 1999; n=4, Calambokidis *et al.* 2001; n=2, Calambokidis *et al.* 2008); however, the significance of these movement to either the WNP DPS or the non-listed population of humpback whales that breed around Hawaii has not been established.

In terms of their distribution across the U.S. portion of their range, whales of the WNP DPS are most likely to be found off the Aleutian Islands and in the Bering Sea (Wade *et al.* 2016, Wade 2017). Although very limited in number, photo-identified whales from the breeding areas of this DPS have also been sighted in the Kodiak and Shumagin Island regions of Alaska (Calambokidis *et al.* 2001, Witteveen *et al.* 2004, Calambokidis *et al.* 2008). During the SPLASH study (2004–2006), photo-identified individuals from this DPS were matched to the Gulf of Alaska (n=2), the Aleutian Islands/Bering Sea (n=9), and Kamchatka feeding regions (n=21, Barlow *et al.* 2011).

As indicated by the regulatory definition of this DPS, the breeding range of the WNP DPS is not fully resolved. At the time of listing, the breeding range of this DPS was known to include the waters off Okinawa and the Philippines in the area of the Babuyan Islands (Barlow *et al.* 2011, Bettridge *et al.* 2015, Wade *et al.* 2016), but additional breeding areas were suspected based on the very low match rates for whales from feeding areas used by this DPS (Calambokidis *et al.* 2008). Recent evidence suggests an additional breeding area for the WNP DPS is located off the Mariana Islands. Humpback whale song has been detected on passive acoustic recorders within the Mariana Archipelago in winter months (December–April; Fulling *et al.* 2011, Oleson *et al.* 2015). Humpback whales have also been infrequently sighted near the Mariana Islands, mainly off of Saipan (Fulling *et al.* 2011; Hill *et al.* 2016, 2017); and, although no humpback whales were sighted in this area between 2009–2013 (Fulling *et al.* 2011, Hill *et al.* 2014, Ligon *et al.* 2013), mother-calf pairs have been observed off Saipan in 2015 (n=4 pairs), 2016 (n=4 pairs), and in 2017 (n=2 pairs; Hill *et al.* 2016, 2017, 2018). Individual photo-identification data for whales sampled off Saipan within the Mariana Archipelago in February–March 2015–2018, suggest that these whales belong to the WNP DPS (Hill *et al.* in review). Specifically, comparisons with existing WNP humpback whale photo-identification catalogs showed that 11 of 41 (27 percent) whales within the Mariana Archipelago humpback whale catalog were previously sighted in WNP breeding areas (Japan and Philippines) and/or in a WNP feeding area off Russia (Hill *et al.* in review). Mitochondrial DNA analyses comparing 24 individual humpback whales sampled within the Mariana Archipelago to ones sampled in known breeding areas throughout the Pacific demonstrated significant differentiation from the Philippines, Okinawa, Hawaii, and Central America (Hill *et al.* in review). No population structure was demonstrated between the Mariana Archipelago and Ogasawara or Mexico breeding areas (Hill *et al.* in review). Comparisons of samples from the Mariana Archipelago to known foraging areas demonstrated significant differentiation from foraging areas in Northern British Columbia, the Bering Sea, California/Oregon, Southeast Alaska, and the Northern Gulf of Alaska; no population structure was demonstrated between the Mariana Archipelago and foraging areas in Russia, the Aleutian Islands, Western Gulf of Alaska, and Southern British Columbia/Washington (Hill *et al.* in review). While the available data suggest that the Mariana Archipelago may serve as humpback whale breeding habitat, and that at least some of these whales likely belong to the endangered WNP DPS, additional data are needed to fully resolve the extent to which WNP DPS whales are relying on areas around the Mariana Islands as a breeding/calving habitat and the essential features of the specific area(s) being used for breeding and calving. Thus, at this time, the best available scientific information does not support including such areas within the proposed critical habitat designation for the WNP DPS.

Physical and Biological Features Essential to the Conservation of the Species

The statutory definition of occupied critical habitat refers to ''physical or biological features essential to the conservation of the species,'' but the ESA does not specifically define or further describe these features. ESA-implementing regulations at 50 CFR 424.02 (84 FR 45020; August 27, 2019; effective September 26, 2019), however, define such features as follows:

> The features that occur in specific areas and that are essential to support the life-history needs of the species, including but not limited to, water characteristics, soil type, geological features, sites, prey, vegetation, symbiotic species, or other features. A feature may be a single habitat characteristic, or a more complex combination of habitat characteristics. Features may include habitat characteristics that support ephemeral or dynamic habitat conditions. Features may also be expressed in terms relating to principles of conservation biology, such as patch size, distribution distances, and connectivity.

To assess habitat features that may qualify as ''essential to the conservation'' of humpback whales, the CHRT discussed physical and biological features that are essential to support the life history needs and support the conservation of humpback whales within the areas they occupy within U.S. waters. The CHRT considered and evaluated various features of humpback whale habitat, such as prey, migratory corridors or conditions, and sound/soundscape. Significant considerations, CHRT discussions, and resulting conclusions are summarized below as well as in the Draft Biological Report (NMFS 2019a).

Prey as an Essential Feature

Although written for the taxonomic species and thus now outdated, the 1991 NMFS Recovery Plan for humpback whales, identified four major recovery objectives, the first of which was, ''maintain and enhance habitats used by humpback whales currently or historically'' (NMFS 1991). As part of that objective, we had identified multiple recommended actions to further the species' recovery, including ''providing adequate nutrition'' and ''monitoring levels of prey abundance'' (NMFS 1991). The Recovery Plan states that adequate nutrition is needed for the recovery of the species, and emphasized the need to maintain and optimize levels of, and access to, prey (NMFS 1991). The Recovery Plan also noted that humpback whales require access to prey over a sufficiently widespread feeding range to buffer them from local fluctuations in productivity or fisheries removals (NMFS 1991). As we discuss here, these considerations regarding adequate nutrition and prey abundance and availability are still relevant today

for the MX, CAM, and WNP DPSs of humpback whales.

Whales from each of these three DPSs travel to U.S. coastal waters specifically to access energy-rich feeding areas, and the high degree of loyalty to specific locations indicates the importance of these feeding areas. Although humpback whales are generalist predators and prey availability can very seasonally and spatially, substantial data indicate that the humpback whales' diet is consistently dominated by euphausiid species (of genus *Euphausia, Thysanoessa, Nyctiphanes,* and *Nematoscelis*) and small pelagic fishes, such as northern anchovy (*Engraulis mordax),* Pacific herring (*Clupea pallasii),* Pacific sardine (*Sardinops sagax),* and capelin (*Mallotus villosus;* Nemoto 1957, Nemoto 1959, Klumov 1963, Rice Krieger and Wing 1984, Baker 1985, Kieckhefer 1992, Clapham *et al.* 1997, Neilson *et al.* 2015; See ''Diet and Feeding Behavior'' and Appendix A in NMFS 2019a).

Because humpback whales only rarely feed on breeding grounds and during migrations, humpback whales must have access to adequate prey resources within their feeding areas to build up their fat stores and meet the nutritional and energy demands associated with individual survival, growth, reproduction, lactation, seasonal migrations, and other normal life functions. Essentially, while on feeding grounds, the whales must finance the energetic costs associated with migration to breeding areas, reproductive activities, as well as the energetic costs associated with their return migration to high-latitude feeding areas. Fat storage has been linked to reproductive efficiency in other species of large, migratory, baleen whales (Lockyer 2007), and some evidence suggests that variation in prey availability during summer is directly connected to variation in annual reproductive rates for humpback whales in the following year (Clapham 1993). Calf condition has also been significantly correlated with female body condition (low calf body condition with lower female condition) for humpback whales in Australia (Christiansen *et al.* 2016), and, of all life stages, lactating females have the highest energy demands (McMillan 2014).

Given the energetic demands of lunging and other prey capture techniques, foraging is only expected to be profitable above some lower threshold for an energetic return, and evidence suggests that humpback whales will only feed when they encounter suitable concentrations of prey. Within their North Pacific feeding areas, humpback whales have often been observed in association with, or specifically targeting, dense aggregations of prey (*e.g.,* Bryant *et al.* 1981, Krieger and Wing 1986, Goldbogen *et al.* 2008, Sigler *et al.* 2012, Witteveen *et al.* 2015), but the precise range of prey densities required to support feeding are not generally known and therefore cannot be described quantitatively on the basis of the best scientific data available. Thus, it is essential that the whales not only have reliable access to prey within their feeding areas, but that prey are of a sufficient density to support feeding and the build-up of energy reserves.

Given that each of three humpback whale DPSs very clearly rely on the feeding areas while within U.S. waters, the CHRT identified a prey biological feature that is essential to the conservation of the whales. The prey essential feature was specifically defined as follows:

> Prey species, primarily euphausiids and small pelagic schooling fishes of sufficient quality, abundance, and accessibility within humpback whale feeding areas to support feeding and population growth.

Migratory Corridors and Passage Features

Given the known migratory behaviors of humpback whales and the very significant concerns regarding entanglement and ship strikes of humpback whales, especially along the U.S. West Coast, the CHRT explored the possibility of defining a migratory corridor or a passage-related essential feature. The CHRT considered the best available data and also consulted with biologists with expertise in satellite telemetry and entanglement of humpback whales. Ultimately, and for reasons summarized below, the CHRT concluded that a migratory corridor or passage feature could not be identified, either between or within the seasonal habitats occupied by humpback whales within U.S. waters.

In terms of a migratory ''corridor,'' the available satellite tagging data do not indicate a specific or consistently used route or routes for humpback whales traveling between their seasonal breeding and feeding areas in the North Pacific (Mate *et al.* 2007, Lagerquist *et al.* 2008, Mate *et al.* 2018). However, data to resolve a specific migratory routes are very limited, and, in particular, we are unaware of any telemetry data demonstrating the seasonal migration routes or corridors for whales of the WNP DPS or the CAM DPS. Satellite tagged whales from the MX DPS have been documented to use very nearshore waters, offshore waters within the U.S. Exclusive Economic Zone (EEZ), as well as waters out beyond the U.S. EEZ when transiting between winter breeding areas and summer feeding areas (Lagerquist *et al.* 2008, Mate *et al.* 2018). For MX DPS whales, when complete migratory routes have been captured, the telemetry data also indicate that the whales do not necessarily maintain a constant distance from shore, and at different points along their migration may be closer or farther from shore (D. Palacios, OSU, pers. comm., June 6, 2018, Mate *et al.* 2018). The depth or a depth range that the whales typically occupy while undergoing their seasonal migrations is also not yet resolved.

Satellite tagging of whales within the feeding range of all three DPSs has occurred, and while DPSs of origin was not necessarily confirmed in all studies, results consistently show considerable variation in the fine-scale movement patterns of the individual whales both within and across years, suggesting that the whales are each making independent decisions regarding their movements (Kennedy *et al.* 2014, Mate *et al.* 2018). Thus, the CHRT concluded it is not currently possible, on the basis of the best scientific data available, to spatially identify any consistently used migratory corridors or define any physical, essential migratory or passage conditions for whales transiting between or within habitats of the three DPSs.

The conclusion by the CHRT regarding a potential migratory corridor is consistent with previous critical habitat designations for large, migratory species such as Pacific leatherback sea turtles (77 FR 4170, January 26, 2012) and North Atlantic right whales (81 FR 4837, January 27, 2016). In these cases, NMFS concluded that while supporting and protecting the ability of these species to migrate between important habitats and areas was important to the conservation of the species, there was no clear migratory route or passage feature that could be defined. We also note that, as part of a multi-agency mapping effort (CetSound, *https://cetsound.noaa.gov/cetsound*), Biologically Important Areas (BIAs) were identified in 2015 for cetacean species or populations within the U.S. EEZ. BIAs are non-regulatory delineations that are intended to inform regulatory and management decisions; they are also not intended to be static delineations but can be updated as new data become available. While the effort to develop BIAs was not seeking to identify critical habitat and therefore

does not conclusively establish which areas should be considered to meet the statutory definition of ''critical habitat,'' the CHRT considered (and we agree) the BIA information to be very informative and important part of the best available scientific information. Of the four categories of BIAs—*i.e.,* reproductive areas, feeding areas, migratory corridors, and small and resident populations—no migratory corridor BIAs have been identified to date for any population of humpback whales in any ocean (Ferguson *et al.* 2015b, see ''Specific Areas,'' below). Although we concur with the CHRT that the best scientific data available at this time does not support identification of a migratory feature, we acknowledge the ongoing management concerns of ship strikes and entanglements in fishing gear. Humpback whales are observed regularly in and around fishing gear and in areas of high vessel traffic, and entanglement and ship strikes continue to pose threats to all three of these DPSs. We find that these threats are of a type more appropriately and more directly taken into account in the context of management of activities that pose a risk of harm to individual animals (*i.e.,* ''take'') such as in interagency consultations under section 7 of the ESA, rather than as threats to the underlying habitat. While ship strikes and entanglements will continue to be treated as ''take'' issues and managed as threats to the animals to the extent possible under the ESA and MMPA, should these threats or other activities (*e.g.,* large-scale aquaculture), either independently or in combination, prevent or impede the whales' ability to access prey, we would consider that as constituting a negative impact on the defined prey feature, which inherently includes consideration of ''accessibility.'' In other words, the whale's ability to move freely to access their prey while on the feeding grounds is inherent in the prey essential feature as proposed.

Sound or a Soundscape Feature

The CHRT considered at length the importance of sound to humpback whales and whether the best scientific data available supported the identification of a sound-related essential feature of the whales' occupied habitats. As discussed in detail in the Draft Biological Report, humpback whales generate a variety of sounds and use sound for communicating and for sensing their environment. Ultimately, although the CHRT members fully acknowledged that the whales' sensory ability to perceive and process sounds is an important aspect of their biology, the majority of the CHRT (with 2 members unsure and 1 dissent) concluded that the best available data currently do not enable us to identify particular sound levels or to describe a certain soundscape feature that is essential to the conservation of humpback whales. Reasons for this conclusion are summarized here and discussed in more detail in NMFS (2019a).

Humpback whales occur within a wide range of soundscapes, and conclusions regarding particular sound-related habitat requirements for humpback whales are difficult to draw. Anthropogenic sounds are present in all parts of humpback whale habitat; however, some areas have more sources and higher levels of anthropogenic sound than others. Sightings data clearly demonstrate that humpback whales in the North Pacific routinely use and occupy relatively quieter areas as well as some of the noisiest areas along the U.S. West Coast (*e.g.,* southern California, Redfern *et al.* 2017). Based on the best data available, the threat of anthropogenic noise received a ''low'' rating for all DPSs of humpback whales in the 2015 NMFS Status Review (out of possible ratings of ''unknown,'' ''low,'' ''medium,'' ''high,'' and ''very high;'' Bettridge *et al.* 2015). Several studies have indicated that humpback whales, which are predicted to have a low-frequency hearing range of roughly 7 Hz to 35 kHz (NMFS 2018), may even habituate to certain low-frequency noises (Sivle *et al.* 2016, Di Clemente *et al.* 2018, Teerlink *et al.* 2018)—one of the most ubiquitous sources of which is commercial vessels (Hildebrand 2009).

Behavioral responses of humpback whales to noise are highly variable across habitats and even among individual whales, and many factors can influence whether and how noise will affect a whale, including past exposure to a noise, individual noise tolerance, age, breeding status (with or without calf), and current behavioral state of the whale (*e.g.,* resting versus migrating; Malme *et al.* 1985, Krieger and Wing 1986, Richardson *et al.* 1995, Richardson and Würsig 1997, NRC 2003, Sivle *et al.* 2016, Wensveen *et al.* 2017). Responses to noise are also dependent on characteristics of the noise– *e.g.,* pulse or non-pulse, moving or stationary noise, novel or common, etc. (Richardson *et al.* 1997, Southall *et al.* 2007, Ellison *et al.* 2012). Results of several studies demonstrate that humpback whales exhibit behavioral plasticity in their communication and signaling strategies in response to increases in ambient noise (*e.g.,* Dunlop *et al.* 2010, Dunlop *et al.* 2014, Fournet *et al.* 2018), which in some cases may allow the whales to reduce acoustic interference with natural auditory signal processing (*i.e.,* acoustic masking). Adding to this overall complexity in understanding how noise impacts humpback whales is the fact that scientific understanding of humpback whale hearing remains quite limited (Houser *et al.* 2001, NMFS 2018).

Given the highly diverse and spatially broad areas occupied by humpback whales, as well as the mixed responses of humpback whales to noise, the CHRT could not define a sound-related feature that is essential to the conservation of humpback whales nor identify specific areas where such a feature could be found within the occupied ranges of the DPSs. Ambient sound or the ''soundscape'' is relevant to the whales' ability to communicate and receive sounds within the marine environment no matter where the whales occur, and sound or a soundscape *per se* does not appear to be associated with habitat use or occupancy. Instead, humpback whales appear to be highly flexible in their ability to use and occupy habitats with varying soundscapes. This flexibility may be in contrast to other cetaceans that have very limited or restricted distributions and for which noise impacts, such as habitat displacement, are likely to have measureable effects on stress, foraging success, survival, reproduction, etc. (Forney *et al.* 2017). We note, however, that substantial data gaps and various shortcomings for much of the existing, relevant literature (such as limited duration of assessments, limited geographic scale of observations, uncertainty regarding actual mechanism for observed responses, uncertainty in the received levels of noise, and other confounding factors associated with the particular study locations) prevent a clear understanding of the acoustic ecology of humpback whales. Furthermore, broader and longer-term consequences of noise on the fitness and viability of humpback whales are not yet known (NRC 2003, Wartzok *et al.* 2003, NRC 2005, Bettridge *et al.* 2015, Gomez *et al.* 2016). Thus, although the CHRT ultimately concluded that the best scientific data available do not support identifying or describing a sound-related essential habitat feature at this time, improved understanding of the acoustic ecology of humpback whales in the future may eventually lead to a different conclusion.

We agree with the CHRT's assessment and note that some effects of noise on whales are direct effects on the animals, and that NMFS already analyzes such effects in connection with evaluation of the activities that generate noise under

the MMPA and section 7 of the ESA. We also note that if data indicate that anthropogenic noise from a particular Federal action is impacting the prey such that the whales cannot capture or access prey within their feeding areas (*e.g.,* prey densities are decreased such that whales cannot feed), such an effect would constitute an impact on the proposed prey essential feature.

Special Management Considerations or Protection

A specific area within the geographic area occupied by a species may only be designated as critical habitat if the areas contains one or more essential physical or biological feature that ''may require special management considerations or protection'' (16 U.S.C. 1532(5)(A)(ii); 50 CFR 424.12(b)(iv)). ''Special management considerations or protection'' is defined as methods or procedures useful in protecting the physical or biological features essential to the conservation of listed species (50 CFR 424.02). Courts have made clear that the ''may require'' standard requires that NMFS determine that special management considerations or protection of the features might be required either now or in the future, but such considerations or protection need not be immediately required. *See Cape Hatteras Access Pres. Alliance* v. *U.S. Dept. of Interior,* 344 F. Supp. 2d 108, 123–24 (D.D.C. 2004)*; Home Builders Ass'n of N. California* v. *U.S. Fish and Wildlife Serv.,* 268 F. Supp. 2d 1197, 1218 (E.D. Cal. 2003). The relevant management need may be ''in the future based on possibility.'' *See Bear Valley Mut. Water Co.* v. *Salazar,* No. SACV 11–01263–JVS, 2012 WL 5353353, at *25 (C.D. Cal. Oct. 17, 2012. *See also Center for Biological Diversity* v. *Norton,* 240 F. Supp. 2d 1090, 1098–99 (D. Ariz. 2003) (noting that the ''may require'' phrase can be rephrased and understood as ''can require'' or ''possibly requires'').

Four broad categories of actions, or threats, were identified by the CHRT as having the potential to negatively impact the essential prey feature and the ability of feeding areas to support the conservation of listed humpback whales in the North Pacific: Climate change, direct harvest of the prey by fisheries, marine pollution, and underwater noise. Each of these threats could independently or in combination result in the need for special management or protections of the essential prey feature. The ''may require'' standard is met or exceeded with respect to management of the essential prey feature. Although we do not speculate as to what specific conservation measures might be required in the future through section 7 consultations on particular proposed Federal actions, we can point, for example, to our authorities to manage Federal fisheries under the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801, *et seq.*) to demonstrate that management of the prey feature is not only possible but is ongoing. We therefore conclude that the prey feature may require special management considerations or protection. These threat categories are summarized here and discussed in more detail in the Draft Biological Report (NMFS 2019a).

Climate Change

Multiple studies have detected changes in the abundance, quality, and distribution of species that serve as prey for humpback whales in association with climate shifts, particularly with ocean warming. The nature and extent of impacts have varied across study areas and species; however, in many cases, ocean warming has led to negative impacts on humpback whale prey species. For instance, in the California Current Ecosystem (CCE), during the anomalous warming of the upper ocean and weak upwelling from 2013–2016, often referred to as the ''blob'' or the ''warm blob,'' sharp decreases in euphausiid biomass were observed, as evidenced by declines in both abundance and body length (Harvey *et al.* 2017, Peterson *et al.* 2017). Comparisons of samples collected in the Northern California Current region during years of cool (2011, 2012), warm (2000, 2002), and intermediate (2015, 2016) conditions, also indicated that body condition of northern anchovy, Pacific herring, and Pacific sardine were better in cool years compared to warm years, and significantly so for anchovy and herring (Brodeur *et al.* 2018). During the anomalous warm blob event, sardine spawned earlier and appeared farther north within the Northern California Current than in previous years (Auth *et al.* 2018). Shifts in prey abundance and distributions may lead to corresponding shifts in marine mammal distributions (King *et al.* 2011). In Monterey Bay, California, such a response was reported for blue, fin, and humpback whales, the densities of which all declined with El Niño -associated declines in euphausiids (Benson *et al.* 2002).

Consequences of climate-driven and climate-related reductions in the quality and abundance of prey species can cascade upwardly through ecosystems by decreasing energy transfers to higher trophic levels and potentially even causing reproductive failures and die-offs of some predators (Coyle *et al.* 2011, Zador and Yasumiishi 2017 and 2018, Bordeur *et al.* 2018, Jones *et al.* 2018). Observations of whales with poor body condition, called ''skinny whales'' due to their emaciated appearance, have been reported in recent years in Prince William Sound and Glacier Bay, Alaska (Straley *et al.* 2018; and see *https://irma.nps.gov/DataStore/DownloadFile/620535*). The lowest calving rates on record (since 1985) have also been observed in recent years (2016–2018, *https://irma.nps.gov/DataStore/DownloadFile/620535*) in Southeast Alaska, and juvenile return rates to the area are also low (Gabriele and Neilson 2018). It is not yet clear whether nutritional stress or some other factor (*e.g.,* parasites, disease) is the cause of the poor body condition and observed low calving rates of these whales, but some researchers hypothesize that reduced prey availability and/or quality driven by the marine heat wave of 2013–2016 and other climate factors is the likely cause (Gabriele and Neilson 2018).

Direct Harvest

Within the areas under consideration for designation, a few fisheries directly target prey species that form a major part of the humpback whale diet (*e.g.,* Pacific herring, Pacific sardine, northern anchovy), and other fisheries can incidentally capture important prey species. This creates the potential for direct competition between humpback whales and certain fisheries (Trites *et al.* 1997). In fact, current management of key forage species like Pacific sardine and northern anchovy under their associated Federal fishery management plan includes a specific objective of providing adequate forage for dependent species, like whales and other higher trophic level species (PFMC 2019). Humpback whales target large, dense schools of prey, and the best available data support the conclusion that, though not yet quantifiable, there is a density threshold below which humpback whales will not feed or cannot feed effectively due to trade-offs with the energetic demands of feeding. Consequences of prey depletion as a result of fishing activities are also likely to be exacerbated in years when alternative humpback whale prey species are naturally low in abundance due to climate or environmental factors. Sufficient depletion of prey on the feeding grounds can lead to nutritional stress, which in turn can lead to decreases in body condition, size, reproductive output, and survival (as in Steller sea lions, Trites and Donnelly 2003; gray whales, Bradford *et al.* 2012; right whales, Seyboth *et al.* 2016). For

humpback whales in the Atlantic Ocean, there is some evidence that variation in prey availability during the summer may be connected to variation in annual reproductive rates in the following year (Clapham 1993).

Marine Pollution

Although pollution was not identified as a significant threat to any of the North Pacific DPSs of humpback whales in the recent status review (Bettridge *et al.* 2015), consumption of contaminated or low quality prey may negatively affect the health, population growth, and ultimately the recovery of listed humpback whales. Humpback whales are susceptible to bioaccumulation of lipophilic contaminants because they have long lifespans and large fat deposits in their tissues. Some contaminants may also be passed to young whales during gestation and lactation (as in fin whales, Aguilar and Borrell 1994). In comparisons of samples collected from Northern Hemisphere feeding grounds, Elfes *et al.* (2010) reported that concentrations of contaminants within humpback whale blubber were high in southern California and in the Northern Gulf of Maine. Marine pollution in the form of plastics is also a concern for marine systems worldwide, and microplastics in particular have entered into marine systems and food webs. Microplastics could be consumed via contaminated prey or ingested directly by whales when microplastics co-occur in the water column with target prey.

Marine pollution may also lead to secondary impacts on the whales' habitat. For instance, pollution from untreated industrial and domestic wastewater may be contributing to the occurrences of algal blooms. During some algal blooms, toxins (*e.g.,* saxitoxin, domoic acid) can become increasingly concentrated as they move up the food chain. Although much of the humpback whales' prey are lower trophic-level species, several unusual mortality events have been documented in the Atlantic Ocean, indicating that such toxins can pose a concern for humpback whales. During one event in which 16 humpback whale carcasses were found, some of the humpback whales had saxitoxin poisoning and/or contained domoic acid (Gulland 2006). In another event, 14 humpback whales were determined to have died as a result of consuming Atlantic mackerel containing saxitoxin (Geraci *et al.* 1989).

Ocean Noise

Lastly, effects of noise on fish and zooplankton species, which is a topic of increasing research attention, may range from health and fitness consequences to mortality and reductions in abundance (Popper and Hastings 2009, Kight and Swaddle 2011, Radford *et al.* 2014). For instance, there is evidence that marine seismic surveys can result in behavioral effects as well as significant injury and mortality of fishes and zooplankton (McCauley *et al.* 2017, Carroll *et al.* 2017); however, such impacts may be relatively short in duration and spatially limited (to within the survey footprint and extending out ~15 km) and may be minimized by ocean circulation (Richardson *et al.* 2017). Available research also suggests that other noises in the marine environment from sources such as impact pile driving and underwater explosives may have negative consequences on certain species of fish and invertebrates such as trauma or tissue damage, mortality (of various life stages), stress, disruptions of schooling, or reduced foraging success (Popper and Hastings 2009, Weilgart 2017). Whether and how specific humpback whale prey are currently being impacted by various noise sources and levels is not yet clear, but the available information is sufficient to indicate that ocean noise poses a management concern for many fish and invertebrate species such that they may require management considerations or protection (Hawkins and Popper 2017).

Unoccupied Areas

Section 3(5)(A)(ii) of the ESA authorizes the designation of specific areas outside the geographical area occupied by the species if those areas are determined to be essential for the conservation of the species. Recently revised regulations at 50 CFR 424.12(b)(2), similar to the regulations that were in effect prior to 2016, require that we first evaluate areas occupied by the species and only consider unoccupied areas to be essential where a critical habitat designation limited to geographical areas occupied would be inadequate to ensure the conservation of the species (84 FR 45020; August 27, 2019; effective September 26, 2019).

Within the North Pacific Ocean, humpback whales historically ranged throughout all coastal areas of Asia and North America. Although humpback whale abundances were greatly reduced throughout their range by commercial whaling (Rice 1978, Rice and Wolman 1982, Johnson and Wolman 1984), they still occur in areas where they were once targeted by commercial whaling operations, or to some degree have returned to areas where they had not been observed for many years. For instance, humpback whales are common in the former whaling grounds off Port Hobron and Akutan, Alaska, where they were once heavily exploited (Zerbini *et al.* 2006). The NMFS 2017 Marine Mammal Stock Assessments for the Western and Central North Pacific regions conclude that humpback whales are currently found throughout their historical feeding range (Muto *et al.* 2018). Because ESA-listed humpback whales are considered to occupy their entire historical range that falls within U.S. jurisdiction, we find that there are no unoccupied areas that are essential to their recovery and further conclude that a designation limited to geographical areas occupied by humpback whales would be adequate to conserve the three listed DPSs.

Specific Areas Containing the Essential Feature

To determine what areas qualify as critical habitat within the geographical area occupied by the species, we are required to identify ''specific areas'' that contain the physical or biological features essential to the conservation of the species (50 CFR 424.12(b)(1)(iii)). Delineation of the specific areas is done ''at a scale determined by the Secretary [of Commerce] to be appropriate'' (50 CFR 424.12(b)(1)). Regulations at 50 CFR 424.12(c) also require that each critical habitat area be shown on a map.

In determining the scale and boundaries for the specific areas, the CHRT considered, among other things, the scales at which biological data are available and the availability of standardized geographical data necessary to map boundaries. Because the ESA implementing regulations allow for discretion in determining the appropriate scale at which specific areas are drawn (50 CFR 424.12(b)(1)), we are not required to, nor was it possible to, determine that each square inch, acre, or even square mile independently meets the definition of ''critical habitat.'' A main goal in determining and mapping the boundaries of the specific areas is to provide a clear description and documentation of the areas containing the identified essential feature. This is ultimately crucial to ensuring that Federal action agencies are able to determine whether their particular actions may affect the critical habitat. Another goal of this effort was to delineate specific areas in a manner that would facilitate subsequent analyses for each humpback whale DPS under section 4(b)(2) of the ESA (*e.g.,* consideration of economic impacts). *See* 16 U.S.C. 1533(b)(2).

Ultimately, based on a review of the best available data, the CHRT delineated 19 specific areas along the coasts of Alaska, Washington, Oregon, and

California that meet the definition of critical habitat for one or more of the three DPSs of whales (Figure 1). Each of these areas meets the definition of ''critical habitat'' because the best available scientific data indicate that the essential feature is present, as evidenced by documented feeding behavior of the whales in these areas, humpback whale sightings data, and/or presence of humpback whale prey.

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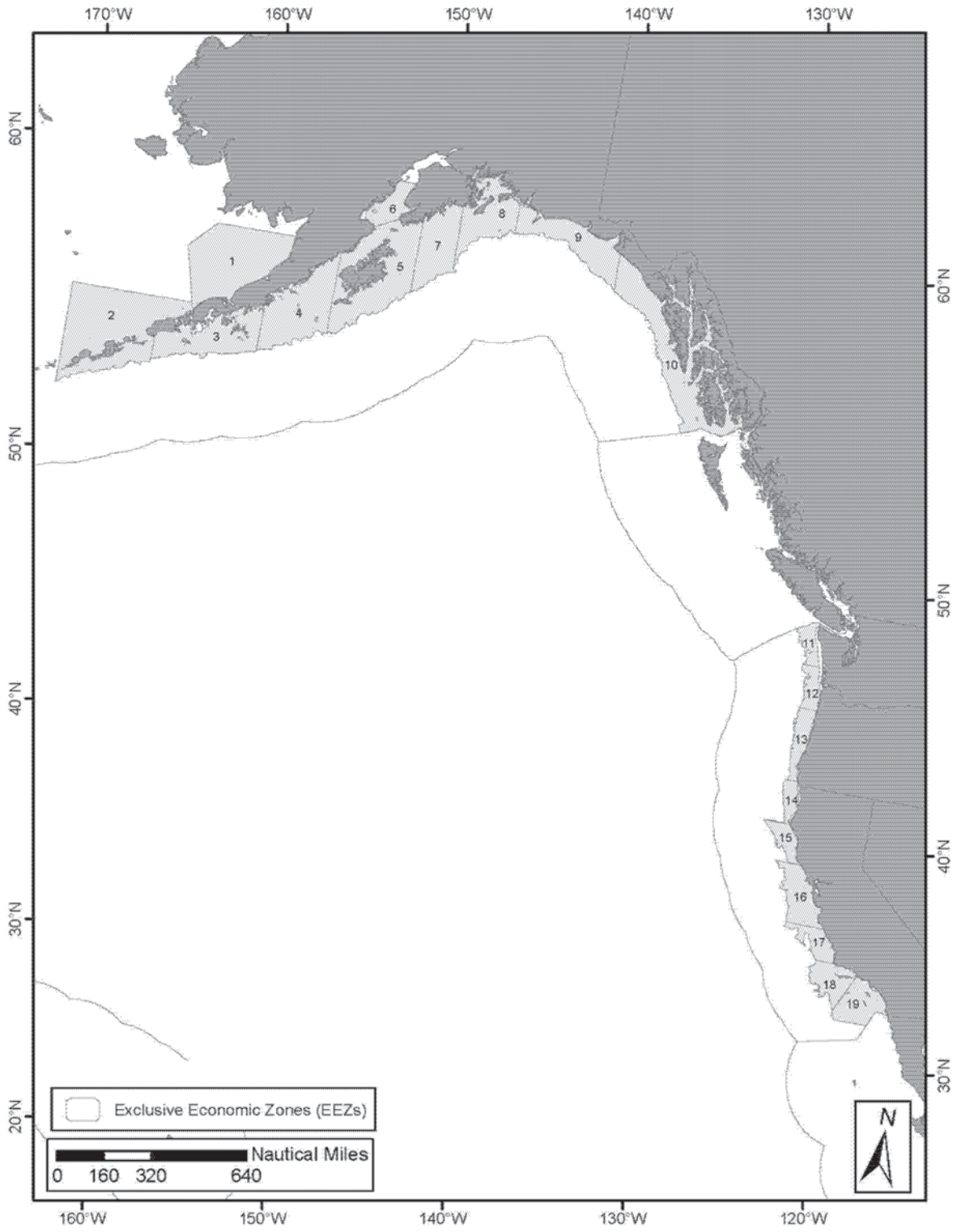

Figure 1. Specific areas (Units 1-19) occupied by one or more of the listed humpback whales DPSs. Units 1-9 are occupied by the WNP DPS; Units 1-19 are occupied by the MX DPSs; and Units 11-19 are occupied by the CAM DPS. .

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In delineating the specific areas, the CHRT applied identified datasets in a systematic way across each region and DPS to ensure consistency in how boundaries were determined. The approach and data used by the CHRT are summarized here; further detail is provided in the Draft Biological Report (NMFS 2019a). First, the CHRT considered the humpback whale BIAs and decided that the BIAs would remain intact within a given specific area unless there was a compelling reason to change or divide it. As noted earlier, the humpback whale BIAs have all been identified as ''feeding'' BIAs, which are defined as follows:

> Areas and times within which aggregations of a particular species preferentially feed. These either may be persistent in space and time or associated with ephemeral features that are less predictable but are located within a larger area that can be delineated (Ferguson *et al.* 2015b).

As discussed in Van Parijs (2015) and Ferguson *et al.* (2015b), BIAs were developed for cetacean species within all regions of the United States through rigorous reviews of survey data and habitat models by multiple teams of scientists. BIAs were identified to inform regulatory, management, and conservation decision-making by NOAA, other Federal agencies, and the public. Although the BIAs are non-regulatory, non-binding, and were not intended to be synonymous with critical habitat under the ESA, they were regarded by the CHRT as an important source of the best available data and very informative to their review of areas that meet the definition of critical habitat for humpback whales. The CHRT was also aware that humpback whale BIAs for Alaska and for the U.S. West Coast were developed by different teams and were supported by very different types and levels of data, and that, therefore, the BIAs for these two major regions were not entirely consistent in terms of how they were ultimately drawn.

For U.S. West Coast areas (Washington, Oregon, and California), the CHRT applied the results of a habitat model for the CCE that incorporated 275 humpback whale sightings from seven systematic line-transect cetacean surveys conducted in summer and fall (July–December) between 1991–2009 (Becker *et al.* 2016) and a habitat model for southern California (*i.e.,* Units 16–19) that incorporated 53 humpback whale sighting from 20 surveys conducted between 2005 and 2015 during winter and spring (January- April, Becker *et al.* 2017). Predictions from the summer/fall models were made for the entire U.S. West Coast from the coast to 300 nmi offshore (the study area was approximately 1,141,800 km^2). Predictions from the winter/spring models were made in a subset of this region: south of 38° N and east of 125° W (the study areas was approximately 385,460 km^2.) The Becker *et al.* 2016 and 2017 models summarize expected humpback whale distributions in the CCE over a long time-period and incorporate oceanographic variability observed during the surveys.

The Becker *et al.* (2016 and 2017) models predicted humpback whale abundance in approximately 10 by 10 km grid cells. Cells containing the highest 90 percent of the predicted study area abundance were used to help delineate the offshore extent of the specific areas. (All or 100 percent of the predicted abundance had a distribution that extended out to and even beyond the U.S. EEZ.) The Becker *et al.* (2016 and 2017) predictions also contributed to delineating the north/south boundaries between the specific areas. As no such coast-wide habitat model is available for Alaska, the CHRT relied on published surveys and available sightings data. Where available, humpback whale sightings data were mapped and overlaid with the BIAs to inform selection of boundaries between specific areas.

For applicable habitat units, the CHRT also considered the polygons derived from ARS data from satellite-tagged whales (Mate *et al.* 2018). These polygons provided the CHRT with additional information and support regarding where humpback whales feed and over what size area they may feed. When considering these data, the CHRT only used polygons representing the overlay of two or more individual whales (*i.e.,* data representing movements of just a single whale were not determinative of specific area boundaries).

To determine where to draw nearshore boundaries for the specific areas, the CHRT created depth-frequency histograms using sightings data from multiple studies (*e.g.,* Calambokidis *et al.* 2008, Zerbini *et al.* 2006, Baker *et al.* 2016). Collectively, the sightings datasets represent results of different types of sampling efforts (*e.g.,* targeted small boat surveys, systematic line-transect surveys), different time-periods (2001–2003, 2004, 2005), and different study locations. Rather than select any one particular data set or study over another, the CHRT generated depth frequency histograms from all these sightings in Alaska and for all sightings off of Washington, Oregon, and California to delineate the shoreward boundary for critical habitat units in each of those respective regions. Based on the depth-frequency histograms for Alaska, the 1-m depth contour (relative to mean lower low water (MLLW)) or a BIA boundary, whichever was closer to shore, was selected as the nearshore boundary for the habitat units in Alaska. Humpback whales in Alaska have frequently been observed feeding extremely close to shore during high tide (J. Moran, AFSC, pers. comm., May 23, 2018), which comports with the CHRT's selection of the 1-m depth contour (or isobath). Based on the depth frequency histograms for the U.S. West Coast, the CHRT selected the 50-m isobaths as the shoreward boundary for each specific area unless it clipped out a portion of a BIA. Cases where this occurred (*i.e.,* Units 16 and 17) and how it was addressed are discussed in more detail in the descriptions of each specific area.

In the following sections, we provide additional details regarding the boundaries of each of the 19 specific areas and briefly describe humpback whales' use of the specific area. We note that these delineations of specific units of habitat do not necessarily represent discrete feeding aggregations or populations of humpback whales—individual whales generally move across many of these boundaries. More detailed information regarding whale and prey distributions is provided in the Draft Biological Report (NMFS 2019a).

Unit 1—Bristol Bay

This unit is bounded along the northern edge by a line extending due west from Egegik (at 58°14′ N, 157°28′ W) to encompass the humpback whale BIA within Bristol Bay. The boundary then extends southwest and then southward tangentially along the BIA to the coastline at Moffet Point (55°27′ N, 162°35′ W). The nearshore boundary of this unit follows the 1-m isobath (relative to MLLW). This unit covers 19,279 nmi^2 and includes waters off Bristol Bay and Lake and Peninsula Boroughs, and a small portion of Aleutians East Borough.

Unit 1 boundaries were drawn based largely on the location of a humpback whale feeding BIA, which was in turn identified largely based on results of systematic surveys reported in Clapham *et al.* 2012, Friday *et al.* 2012, and Friday *et al.* 2013, indicating high densities of humpback whales in this area (see Ferguson *et al.* 2015c). However, Unit 1 extends farther into Bristol Bay relative to the BIA to reflect sightings from 1999 aerial surveys of Bristol Bay (Friday *et al.* 2012) and

sightings from the 2017 IWC Pacific Ocean Whale and Ecosystem Research Program (POWER) survey (Matsuoka *et al.* 2018) indicating that humpback whales may also be common in these waters. The southern, nearshore boundary was drawn to accommodate the nearshore areas (around the 50 m isobath) indicated by sightings reported in Friday *et al.* (2013). Unit 1 does not extend into the intertidal portions of northern Bristol Bay based on the lack of detections of humpbacks in the small bays along the coast of northern Bristol Bay (Friday *et al.* 2012, Matsuoka *et al.* 2018, and J. Moran, AFSC, pers. comm. May 23, 2018). Humpback whale sightings collected within North Pacific right whale critical habitat during systematic vessel and aerial surveys conducted by the National Marine Mammal Laboratory (NMML) were considered but were not determinative of the area's boundaries given the high intensity of effort represented by those surveys and the resulting significant upwards bias in the humpback whale sightings documented in this area. Surveys conducted during 2004 and 2006–2010 within the eastern Bering Sea and that overlapped with a portion of Unit 1, indicated widespread and persistent concentrations of euphausiids in the survey area (Sigler *et al.* 2012). Stomach content analyses and corresponding fish distributions indicate humpback whales may also feed on various species of schooling fish, such as capelin and sand lance, in this region (Nemoto 1959, Ormseth 2015, Andrews *et al.* 2016).

Photo-identification data are not available to validate occurrences of particular DPSs within this unit; however, the available data suggest this area is a destination for whales from the Hawaii (HI, which are not listed), WNP, and MX DPSs (Baker *et al.* 2013). Five marked whales are also documented to have moved between this general region and the WNP breeding grounds (Omura and Ohsumi 1964).

Unit 2—Aleutian Island Area

This unit includes waters along the northern side of Unimak Island, waters around Umnak and Unalaska Islands, and waters within Umnak and Unimak Pass. At its eastern edge, the northern boundary of this area extends from 55°41N/162°41′ W, tangentially along the northern edge of a humpback whale BIA west out to 169° 30' W. The western boundary extends southward through Samalga Pass to the BIA boundary on the south side of the islands, which corresponds closely to a line drawn along the 2,000-m isobath. This southern boundary follows the edge of the BIA and extends eastward to 164°25′ W. The nearshore boundary of this unit is the 1-m isobath (relative to MLLW). This unit includes waters off the Aleutian East and Aleutian West Boroughs. Unit 2 covers 28,829 nmi^2 of marine habitat.

This area encompasses a humpback whale feeding BIA, which was drawn to include high density sightings of humpback whales as reported in Zerbini *et al.* 2006, Clapham *et al.* 2012, Friday *et al.* 2012, and Friday *et al.* 2013 (See Ferguson *et al.* 2015c). Telemetry and sightings data indicate that humpback whales use the coastal waters to the north and south of the islands as well as within the passes (Zerbini *et al.* 2006, Sigler *et al.* 2012, Kennedy *et al.* 2014). The western edge of the Unit 2, however, does not include the small portion of the BIA that extends west of Samalga Pass. The reason why the boundary was selected for the critical habitat unit is that this pass coincides with an abrupt oceanographic break, and the frequency of humpback whale sightings have been very low or absent west of Samalga Pass (Zerbini *et al.* 2006; P. Wade, pers. comm., May 23, 2018). The northwestern edge of the Unit 2 also extends slightly north of the BIA, because available sightings data indicate humpback whales use waters north of Unimak Pass and along the middle and outer Bering Sea shelf and slope (Calambokidis *et al.* 2008, Friday *et al.* 2012, Friday *et al.* 2013, Matsuoka *et al.* 2018). Surveys conducted during 2004 and2006–2010 within the eastern Bering Sea indicated widespread and persistent concentrations of euphausiids in this area (Sigler *et al.* 2012), and general additive models using environmental datasets from summers 2008–2010 for the Eastern Bering Sea also predict relatively high levels of euphausiid biomass occurring within this area (Zerbini *et al.* 2016). In addition to targeting euphausiids, humpback whales also consume multiple fish species occurring in this region such as capelin, sand lance, Atka mackerel, and walleye pollock (Nemoto 1959, Ormseth 2015, 2017).

Photo-identification data indicate this area is a destination for whales from the HI, WNP, and MX DPSs (Calambokidis *et al.* 2008).

Unit 3—Shumagin Islands Area

This area extends from 164°25′ W eastward to 158°39′ W and encompasses the feeding BIA around the Shumagin Islands. The area is bounded on its southern (offshore) edge by a line drawn along the 1,000-m isobath, which also runs along the southern edge of the BIA. The nearshore boundary of this unit follows the 1-m isobath (relative to MLLW). This unit is mainly within the Aleutians East Borough but includes a small portion of the Lake and Peninsula Borough. Unit 3 covers 13,162 nmi^2 of marine habitat.

This area was drawn from the boundary of Unit 2 eastward to encompass an identified BIA (Ferguson *et al.* 2015a). This BIA is within the 1,000-m isobath, which was selected as the offshore boundary for this unit. Surveys conducted within this area indicate that feeding aggregations of humpback whales consistently occur in coastal areas south of these islands and around the Shumagin Islands (Waite *et al.* 1999, Witteveen *et al.* 2004, Zerbini *et al.* 2006, Wynne and Witteveen 2013), where the whales have been observed targeting dense schools of krill (Wynne and Witteveen 2013). During the University of Alaska's Gulf Apex Predator-Prey (GAP) Study surveys within this area, conducted across 14 feeding seasons, 654 individual humpback whales were identified out of 1,437 total sightings. Analyses of these sightings indicate a fairly high degree of site fidelity to this area, with an average annual rate of return of 37 percent (SD = 11.8%; Witteveen and Wynne 2016a). Surveys conducted in 1985 indicated that humpback whales were widely distributed throughout this area but were typically observed near island complexes, the shelf break, and banks, such as Sanak Bank, Shumagin Bank, and an additional unnamed bank, with repeated observations of whales at both Shumagin Bank and the unnamed bank (Brueggeman *et al.* 1987).

Photo-identification data indicate this area is a destination for whales from the HI, MX, and WNP DPSs (Witteveen *et al.* 2004, Calambokidis *et al.* 2008).

Unit 4—Central Peninsula Area

The western edge of this area extends along 158°39′ out to a line corresponding to the 1,000-m isobath, which marks the offshore boundary. The eastern boundary is at 154°54′ W, just east of the Shumagin Islands. The nearshore boundary of this unit follows the 1-m isobath (relative to MLLW). This unit is within the Lake and Peninsula Borough. Unit 4 covers 15,026 nmi^2 of marine habitat.

This area captures the waters between two identified feeding BIAs. Survey data indicate that humpback whales are consistently found in these waters (Brueggeman *et al.* 1989, Zerbini *et al.* 2006) and at least occasionally transit between the Shumagin Island area and Kodiak Island (5 of 171 whales; Witteveen *et al.* 2004). Results of systematic surveys conducted in the

summers of 2001, 2002, and 2003, indicate that fin whales occurred in high densities in Unit 4, and in particular around the Semidi Islands, relative to the adjacent areas (Units 3 and 5); while humpback whales had the opposite distribution pattern (Zerbini *et al.* 2006). Brueggeman *et al.* (1989) report a fairly similar pattern based on their aerial and shipboard surveys conducted in 1985 and 1987, respectively. Although these two whale species are often sympatric and have overlapping diets, previous surveys and isotope analyses have provided evidence of trophic niche partitioning between fin and humpback whales, with the latter being more piscivorous (Wynne and Witteveen 2013, Gavrilchuk *et al.* 2014, Witteveen *et al.* 2015, Witteveen *et al.* 2016).

Photo-identification data demonstrate that this area is a destination for whales from the HI and MX DPSs (Calambokidis *et al.* 2008). WNP DPSs whales have not been photo-identified in this area but their presence has been inferred based on documented occurrences in the adjacent units (*i.e.,* Units 3 and 5).

Unit 5—Kodiak Island Area

This area includes the waters around Kodiak Island and the Barren Islands. The western boundary runs southward along 154°54′ W to a line that follows the 1,000-m isobath, and then extends eastward to a boundary at 150°40′ W. The area also extends northward to the mouth of Cook Inlet where it is bounded by a line that extends from Cape Douglas across the inlet to Cape Adam. The nearshore boundary of this unit follows the 1-m isobath (relative to MLLW). This unit is within the Kodiak Island Borough but includes a small portion of the Kenai Peninsula Borough. Unit 5 covers 17,420 nmi² of marine habitat.

This area was drawn to capture the Kodiak Island BIA, as well as documented aggregations of humpback whales around the Barren Islands and in waters to the east of Kodiak (Rice and Wolman 1982, Zerbini *et al.* 2006, Ferguson *et al.* 2015a, Rone *et al.* 2017). Waters around Kodiak Islands have been surveyed extensively since 1999 as part of the GAP study. Over 17 years of GAP surveys in this area, 1,187 unique humpback whales were identified in the Kodiak region (out of 2,173 total sightings), with an average annual rate of return of 35 percent (SD = 15.2 percent, Witteveen and Wynn 2016), indicating a high degree of site fidelity to this area. Some inter-annual movement of whales has also been observed between this area and lower Cook Inlet and Prince William Sound (Waite *et al.* 1999, Witteveen *et al.* 2011). Waite *et al.* (1999) estimated that only 3 to 6 percent of the Kodiak whales also visit Prince William Sound, and the two areas are viewed as supporting largely separate feeding groups (Waite *et al.* 1999, Witteveen *et al.* 2011). Humpback whales were also historically common in this area and were taken in a commercial whale fishery that operated out of Port Hobron, off the southeastern coast of Kodiak Island (Witteveen *et al.* 2007). While the whales occur throughout this area, they appear to be most abundant off the northeastern and southern coastlines, and are less frequently observed within Shelikof Strait (Zerbini *et al.* 2006). Relative proportions of prey items within the humpback diet have been shown to vary between years, but key prey targeted by the whales within this unit include krill, capelin, juvenile pollock, sand lance (Witteveen *et al.* 2012, Wright *et al.* 2016).

Photo-identification data demonstrate this area is a destination for whales from the HI, MX, and WNP DPSs (Calambokidis *et al.* 2008).

Unit 6—Cook Inlet

This area extends from the mouth of Cook Inlet where it is bounded by a line that extends from Cape Douglas across the inlet to Cape Adam. The northern boundary is the 60°20′ N latitude line, just south of Kalgin Island. The nearshore boundary of this unit is the 1-m isobath (relative to MLLW). This area borders the Kenai Peninsula Borough. This unit covers 3,366 nmi² of marine habitat.

The southern boundary of this area approximates the ecological shift between the Kodiak Island Area (Unit 5) and Cook Inlet. Unit 6 does not include the upper portions of Cook Inlet, because humpback sightings are rare north of Kalgin Island despite extensive, routine aerial surveys of this area for Cook Inlet beluga whales (K. Sheldon, NMML, pers. comm., August 2, 2018). North of the Forelands, the inlet becomes shallow and highly turbid due to deposition of glacial silt. With its extreme tidal range, mudflats, and low visibility, the upper inlet does not provide suitable feeding habitat for humpback whales despite the presence of prey species (*e.g.,* eulachon). Humpback whales are routinely sighted in the lower portions of the inlet (NMML, unpubl. data, 1994–2018), but the density of whales and level of site fidelity of humpback whales to this feeding area has not been established. Inter-annual movements of humpback whales between lower Cook Inlet and the Kodiak Island area (Unit 5) have been observed (Witteveen *et al.* 2011), indicating that the whales feeding in this area do not comprise a completely distinct feeding aggregation. Based on stable isotope analyses of pooled skin samples collected from whales found during the feeding season (May—December) in lower Cook Inlet, Kenai Fjords, and Prince William Sound region, humpback whales in this area appear to primarily consume fish species (Witteveen *et al.* 2011).

Photo-identification data demonstrate that HI and MX DPS whales occur in this area (Calambokidis *et al.* 2008). WNP DPS whales have not been photo-identified in this specific area; however, their presence in this area has been inferred based on available data indicating that humpback whales from WNP wintering areas occur in this general region of Alaska (NMFS 2019a, Table C8).

Unit 7—Kenai Peninsula Area

This area extends eastward from 150°40′ W at the boundary with Unit 5 (Kodiak Island Area) to 148°31′ W, and extends offshore to a boundary marked by the 1,000-m isobath. The nearshore boundary of this unit is the 1-m isobath (relative to MLLW). This unit measures 8,496 nmi² and is within the Kenai Peninsula Borough.

This area captures the region separating the Kodiak Island and Prince William Sound BIAs and includes feeding areas around the Kenai Fjords. Estimated densities of humpback whales within the shelf portion of the Navy Temporary Maritime Activities Area, which overlaps with a portion of Unit 7, has ranged from 0.0930 in 2013 (CV = 0.74) to 0.0050 in 2015 (CV = 0.32, Rone *et al.* 2017). Based on results reported in Witteveen *et al.* 2011, site fidelity of humpback whales to this area can be inferred to be fairly high. Inter-annual movement of whales has also been observed between this area and the coastal waters around Kodiak Island (Witteveen *et al.* 2011). As noted previously for Unit 6, stable isotope analyses of pooled skin samples collected from whales found during the feeding season (May—December) in Kenai Fjords, lower Cook Inlet, and Prince William Sound region, suggest that humpback whales in this area primarily consume fish species (Witteveen *et al.* 2011).

Photo-identification data demonstrate this area is a destination for whales from the HI and MX DPSs (Calambokidis *et al.* 2008). Satellite telemetry data also indicate this is a destination for MX DPS whales. A calf tagged off the Revillagigedo Islands in 2003, travelled

to the Gulf of Alaska with its mother and spent 30 days feeding on Portlock Bank (located largely within Unit 7) until tracking ceased (Lagerquist *et al.* 2008). WNP DPS whales have not been photo-identified in this specific area, but presence of WNP DPS whales has been assumed based on available data indicating that humpback whales from WNP wintering areas occur within the Gulf of Alaska (NMFS 2019a, Table C8).

Unit 8—Prince William Sound Area

This area extends from 148°31′ W eastward to 145°27′ W, and extends offshore to a boundary drawn along the 1,000-m isobath. The nearshore boundary of this unit is the 1-m isobath (relative to MLLW). This unit is within the Valdez-Cordova Borough and covers 8,166 nmi² of marine habitat.

This area was drawn to encompass the Prince William Sound feeding BIA (Ferguson *et al.* 2015a), which was identified based on studies conducted mainly in the western and southern portions of the sound (*e.g.,* von Ziegesar *et al.* 2001, Rice *et al.* 2011). The BIA encompasses the portion of this unit where humpback whale densities have been documented to be high and where feeding aggregations have been consistently observed. Survey effort has been very limited in the areas outside of the BIA, especially the shelf waters. This unit was drawn to include waters beyond the boundaries of the BIA based on the additional sightings reported in Witteveen *et al.* (2011, and as detected during SPLASH surveys) and observations reported by von Ziegesar (2013) indicating that humpback whales move between the sound and the fiords along the coast. Minor aggregations of humpback whales (8–13 whales) were also observed near Middleton Island during systematic surveys conducted in summer 1980 in the Gulf of Alaska (Rice and Wolman 1982). Humpback whales occur year-round in Prince William Sound, but densities are greatest during summer and fall, and decline in late December to early January (Straley *et al.* 2018). Presence of humpback whales in the sound is strongly associated with the seasonal formation of Pacific herring aggregations (Rice *et al.* 2011, Straley *et al.* 2018, Moran and Straley 2018). Results of surveys conducted during fall/winter of 2007–2009 indicated that a small percentage of photo-identified whales (under 2 percent, n = 4) overwintered in the sound (Rice *et al.* 2011). Inter-annual movements of whales have been observed between the sound and the coastal waters around Kodiak Island (Waite *et al.* 1999, Witteveen *et al.* 2011). However, Waite *et al.* (1999) estimated that only 3 to 6 percent of the Kodiak whales also visit Prince William Sound, and the two areas are thought to support largely separate feeding groups (Waite *et al.* 1999, Witteveen *et al.* 2011).

Photo-identification data confirm this area is a destination for whales from the HI and MX DPSs (Baker *et al.* 1986, Calambokidis *et al.* 2008). WNP DPS whales have not been photo-identified in this specific area; however, presence has been assumed based on available data indicating that humpback whales from WNP wintering areas occur in the Gulf of Alaska (NMFS 2019a, Table C8).

Unit 9—Northeastern Gulf of Alaska

This area extends from 145°27′ W to 139°24′ W and to an offshore drawn along the 1,000-m isobath. The nearshore boundary of this unit is the 1-m isobath (relative to MLLW). This unit mainly borders Yakutat Borough, but also borders a small portion of Valdez-Cordova. Unit 9 covers 9,065 nmi² of marine habitat.

This area was drawn to capture a section of the Gulf of Alaska between two feeding BIAs (in Units 8 and 10). Surveys within this unit have been relatively limited. Surveys conducted in June–August of 1980 by Rice and Wolman (1982) indicated that humpback whales were sparsely distributed in the Gulf of Alaska (populations were still depleted), but they noted minor aggregations of humpback whales in Yakutat Bay (13 whales). More recently, 21 groups (33 individuals) of humpbacks were sighted in this area during an IWC-POWER survey in July/August of 2012 (Matsuoka *et al.* 2013). Sightings of humpback whales were also recorded in this area by the NMFS Southwest Fisheries Science Center (SWFSC) as part of the SPLASH surveys in 2004 and 2005 (Calambokidis *et al.* 2008; see also Witteveen *et al.* 2011). Based on limited sampling, results of stable isotope analyses suggest that whales in this area have a mixed diet of fish and zooplankton (Witteveen *et al.* 2011).

Photo-identification data confirm this area is a destination for whales from the non-listed HI DPS (Baker *et al.* 1986, Calambokidis *et al.* 2008; and SPLASH data courtesy of C. Gabriele, NPS). Satellite telemetry data indicate this area is also a destination for MX DPS whales. A calf tagged off Socorro Island (in Revillagigedo Archipelago) in 2003 travelled with its mother to this area (Lagerquist *et al.* 2008). (The mother/calf pair remained in this area for only about 4 days before travelling to other areas of Alaska (Lagerquist *et al.* 2008).) There are no reported sightings of photo-identified whales of the WNP DPS in this specific area; however, presence of these whales has been assumed based on available data suggesting that humpback whales from WNP wintering areas could occur in this general region (NMFS 2019a, Table C8). Given the increased distance of this unit from other confirmed sighting of whales from the WNP DPS, there is greater uncertainty regarding whether WNP DPS whales occur in this unit.

Unit 10—Southeastern Alaska

This area extends from 139°24′ W, southeastward to the U.S. border with Canada and encompasses a humpback whale BIA. The area also extends offshore to a boundary drawn along the 2,000-m isobath, which corresponds to the offshore extent of the BIA. The nearshore boundary of this unit also corresponds to the BIA boundary. This unit borders unorganized boroughs, but includes water off of Skagway-Hoonah-Angoon, Haines, Juneau, Sitka, Petersburg, Wrangell, and Ketchikan Gateway. Unit 10 covers 22,152 nmi² of marine habitat.

This area was drawn to encompass well established feeding grounds in southeast Alaska and an identified feeding BIA (Andrews 1909, Baker *et al.* 1985, Straley 1990, Dahlheim *et al.* 2009, Ferguson *et al.* 2015a). Humpback whales occur year-round in this unit, with highest densities occurring in summer and fall (Baker *et al.* 1985, 1986). Periods of occupancy of over 100 days have been reported for a significant portion of the whales using this area (Baker *et al.* 1985). Based on sighting data for summer months during 1985–2014 in Glacier Bay and Icy Strait, over 60 percent of the adult whales remained in this area to feed for more than 20 days, and average residency time for whales seen on more than 1 day within a season was 67 days (SD = 38.3; Gabriele *et al.* 2017). Photo-identification data collected in Southeast Alaska from 1979 to 1983 indicate a high degree of site fidelity to this area, with 47.2 percent of whales being sighted in more than one year (154 whales out of 326 unique individuals; Baker *et al.* 1986). Sightings histories for three female humpback whales in particular indicate these whales returned in each of 12 or 13 years during 1977–1992 (Straley *et al.* 1994). Evaluation of sighting histories in Glacier Bay and portions of Icy Strait from 1985 to 2013 also indicate a high degree of site fidelity with 63 percent (244 of 386 total whales identified) of non-calves returning to the survey area in more than 1-year, 17 percent (n = 66) returning every year, and an additional 10 percent (n = 39) returning in all but

1 year (Gabriele *et al.* 2017). Humpback whales are known to feed on krill, herring, capelin, sand lance, myctophids, and juvenile pollock within Southeast Alaska, but dominant prey within the diet vary among the specific locations and seasons (Bryant *et al.* 1981, Straley *et al.* 2018).

Photo-identification data confirm this area is a destination for whales from the HI and MX DPSs (Baker *et al.* 1985, 1986; Calambokidis *et al.* 2008). Although sightings of WNP DPS whales are reported for general areas to either side of this unit (Kodiak, Alaska and Vancouver Island, British Columbia, *e.g.,* Calambokidis *et al.* 2001), portions of Unit 10 have been surveyed extensively, and those survey data do not indicate that the WNP DPS occurs in Unit 10.

Unit 11—Coastal Washington

This area extends southward from the U.S. EEZ to 46°50′ N, just north of Willapa Bay, WA. The unit extends offshore to a boundary corresponding to the 1,200-m isobath, which also aligns with the seaward extent of a BIA. The unit includes waters within the U.S. portion of the Strait of Juan de Fuca to an eastern boundary line at Angeles Point (123°33′ W). The 50-m isobath forms the shoreward boundary. The unit includes waters off Clallam and Jefferson Counties, and a portion of Grays Harbor County. Unit 11 covers 3,441 nmi^2 of marine habitat.

This area was drawn to encompass the Northern Washington BIA (Calambokidis *et al.* 2015), located at the northern edge of this unit, and cells containing the highest 90 percent of the study area abundance predicted by the Becker *et al.* (2016) habitat model. The BIA typically supports humpback whale feeding aggregations from May to November. In addition to the habitat model results, clusters of humpback whale sightings just off Grays Harbor area (see Calambokidis *et al.* 2015) and movement data collected from five humpback whales with LIMPET satellite tags (Schorr *et al.* 2013) support inclusion of waters beyond the BIA in this unit. The unit also includes waters within the Strait of Juan de Fuca where whales have been observed foraging in recent years (and which falls outside of the area covered by surveys used to generate the habitat model predictions). Although humpback whales have been increasingly observed within the Salish Sea (*i.e.,* the waters of the Strait of Georgia, the Strait of Juan de Fuca, Puget Sound, and around the San Juan Islands, Calambokidis *et al.* 2017), Unit 11 does not extend beyond the strait farther into the Salish Sea. High reporting rates from areas within the Salish Sea have likely resulted in a biased understanding of humpback whale abundance in these waters; however, hundreds of whales appear to be using the strait (J. Calambokidis, CRC, pers. comm., May 23, 2018). The offshore boundary for Unit 11 was selected to follow the contour of cells containing the highest 90 percent of the study area abundance predicted by the Becker *et al.* (2016) habitat model, which generally coincided with the 1,200-m isobath. Multiple, persistent, dense aggregations (hotspots) of krill (humpback prey) occur near the Juan de Fuca canyon in this area, likely due to the canyon feature (Santora *et al.* 2018). Humpback whales have also been shown to associate with the shelf edge, particularly near submarine canyons off Washington (Green *et al.* 1992). Humpback whales also target various forage-fish species within this unit, with Pacific herring being one of the most prevalent forage fish off Washington and Northern Oregon (Brodeur *et al.* 2005, Zwolinski *et al.* 2012).

Photo-identification data confirm this area is a destination for whales from the HI, MX, and Central America (CAM) DPSs (Calambokidis *et al.* 2008).

Unit 12—Columbia River Area

This area extends southward from 46°50′ N to 45°10′ N and extends out to a seaward boundary corresponding to the 1,200-m isobath. The 50-m isobath forms the shoreward boundary. This area includes waters off of Pacific County, WA and Clatsop County, OR. This unit covers 3,636 nmi^2 of marine habitat.

This unit was drawn to capture the Columbia River plume system, which supports foraging by many predators, including concentrations of humpback whales. The unit extends both north and south of the mouth of the Columbia River to capture the spatial variation of the plume system. Within this unit, as well as others along the West Coast, hotspots with persistent, heightened abundance of krill also occur in association with submarine canyons (Santora *et al.* 2018). The area extends out to the 1,200-m isobath to capture the outer edge of cells containing the highest 90 percent of the study area abundance predicted by the Becker *et al.* (2016) habitat model. The area also encompasses areas over which humpback whales have been observed to feed based on ARS data from satellite tagged whales (Mate *et al.* 2018). The southern boundary at 45°10′ N was drawn to encompass the available ARS areas and to reflect where the habitat model predictions begin to shift farther offshore.

Photo-identification data are not available to validate occurrences of particular DPSs within this unit; however, the best available data support a conclusion that this area is a destination for whales from the MX and CAM DPSs (Calambokidis *et al.* 2000). Some available data also suggest that HI DPS whales may occur in this unit (Mate *et al.* 2018).

Unit 13—Coastal Oregon

This area extends southward from 45°10′ latitude to 42°10′, and extends offshore to a boundary at the 1,200-m isobath. The 50-m isobath forms the shoreward boundary. This area includes the BIA at Stonewall and Heceta Bay, and includes waters off of Tillamook, Lincoln, Lane, Douglas, Coos, and Curry Counties. Unit 13 covers 5,750 nmi^2 of marine habitat.

This unit includes the Stonewall and Heceta Bank BIA, which supports humpback whale feeding aggregations from May to November (Calambokidis *et al.* 2015). The northern and offshore boundaries of this unit correspond to cells containing the highest 90 percent of the study area abundance predicted by the Becker *et al.* (2016) habitat model. The southern boundary of this unit was drawn just north of another BIA. Based on surveys conducted in spring and summer of 2000 as part of the US Global Ocean Ecosystem Dynamics (GLOBEC) Northeast Pacific program, concentrations of humpback whales on Heceta Bank were shown to correspond to high densities of fish (Pacific sardine and juvenile salmon) and large, high density patches of krill (Tynan *et al.* 2005, Ressler *et al.* 2005). Within this unit, large, persistent aggregations of krill have been observed inshore of Heceta Bank, off Cape Blanco, in association with submarine canyons (Ressler *et al.* 2005, Santora *et al.* 2018).

Photo-identification data confirm this area is a destination for whales from the MX DPS (Calambokidis *et al.* 2008). Presence of CAM DPS whales in this area is indicated by genetic data as well as modelling of sightings data (Wade 2017, Mate *et al.* 2018).

Unit 14—Southern Oregon/Northern California

This area is bounded in the north at 42°10′ and extends south to the Mendocino escarpment at 40°20′. The area extends offshore to a boundary drawn along the 2,000-m isobath. The 50-m isobath forms the shoreward boundary. The area includes the marine waters off Del Norte County, CA, and most of Humboldt County, CA, and

borders a small portion of Curry County, OR. Unit 14 covers 3,412 nmi² of marine habitat.

This unit includes the Point St. George BIA, which typically supports whale feeding aggregations during July–November (Calambokidis *et al.* 2015). The northern boundary of this unit corresponds to the boundary of this BIA. The southern boundary corresponds with the Cape Mendocino/the Mendocino escarpment, where the predicted abundance from the habitat model shows a somewhat abrupt shift offshore (Becker *et al.* 2016). The seaward boundary for this unit extends out to the 2,000-m isobath to capture the habitat model predictions. ARS areas derived from satellite tracking data (n = 26 whales, Mate *et al.* 2018) indicate that feeding behavior occurs throughout this unit, and although some ARS data indicate whales feed seaward of the 2,000-m isobath, the majority of the ARS behavior is captured within the boundaries of this unit. Multiple, recurring, high density aggregations (hotspots) of krill occur off of Cape Mendocino and elsewhere in this unit, in association with submarine canyons (Santora *et al.* 2018). Within this unit and southward along the coast to Southern California (*i.e.,* Unit 19), Fleming *et al.* (2016) collected 259 skin samples from humpback whales during 1993–2012 and used stable carbon and nitrogen isotope analyses to evaluate the relative contribution of euphausiids versus fish to the diet. Shifts over the 20-year study period in isotope signatures in whale skin samples observed by Fleming *et al.* (2016) indicate trophic-level shifts in the humpback whale diet, and these shifts corresponded to shifts in relative prey abundance (krill versus anchovy and sardine) and changing oceanographic conditions within the CCE. These results suggest that the dominant prey in humpback whale diet switched from krill to fish, and back to krill during the 20-year period, depending on the relative abundance of each prey. Temporal shifts in diet composition (*e.g.,* from euphausiids and sardine in the 1920s to mainly anchovy in the 1950s and 1960s) are also reflected in historical whaling data and stomach content data from harvested whales (Rice 1963, Clapham *et al.* 1997).

Photo-identification data confirm this area is a destination for whales from the MX and CAM DPSs (Calambokidis *et al.* 2008).

Unit 15—California North Coast Area

This unit is bounded along its northern edge by the Mendocino escarpment at approximately 40°20′ N and extends southward to 38°40′ N, which corresponds to the approximate southern boundary of an identified BIA. The area extends offshore to a boundary drawn at the 3,000-m isobath. The 50-m isobath forms the shoreward boundary. This area includes marine waters off the coasts of Humboldt and Mendocino counties, CA, and covers 4,898 nmi² of marine habitat.

The northern boundary of this unit corresponds to the Mendocino escarpment and a shift farther offshore in the habitat model predictions (Becker *et al.* 2016). The offshore boundary of this unit extends out to the 3,000-m isobath to more closely correspond to cells containing the highest 90 percent of the study area abundance predicted by the Becker *et al.* (2016) habitat model. This boundary is also supported by ARS data indicating that whales are feeding farther from shore (Mate *et al.* 2018). Encompassed within this unit is a BIA that extends from Fort Bragg to Point Arena and that typically supports feeding aggregations of humpback whales from July to November (Calambokidis *et al.* 2015). The southern boundary of the unit corresponds to the northern boundary of another BIA. High-density, persistent aggregations of krill occur off Cape Mendocino and in association with canyon features within this unit (Santora *et al.* 2018). Krill hotspots, measuring about 216–320 km², have also been documented offshore of Point Arena near the 2,000-m isobath (Santora *et al.* 2011, Dorman *et al.* 2015).

Photo-identification data are not available to validate occurrences of particular DPSs within this unit; however, the available data strongly support the conclusion that this area is a destination for whales from the MX and CAM DPSs (Calambokidis *et al.* 2000).

Unit 16—San Francisco and Monterey Bay Area

This area extends from 38°40′ N southward to 36°00′ N to encompass a BIA. The seaward boundary is drawn along the 3,700-m isobath. The inshore boundary is mainly defined by the 15-m isobath, but also extends up to the Golden Gate Bridge within San Francisco Bay. This area includes waters off of the southern edge of Mendocino County, and Sonoma, Marin, San Francisco, San Mateo, Santa Cruz, and Monterey counties. Unit 16 covers 12,349 nmi² of marine habitat.

This unit encompasses the Gulf of the Farallones-Monterey Bay BIA (Calambokidis *et al.* 2015) as well as cells containing the highest 90 percent of the study area abundance predicted by the Becker *et al.* (2016) habitat model. In this unit, the habitat model predictions extend farther offshore relative to the more northern West Coast units, and extend even farther offshore based on modeled whale distributions in colder months (January–April, see Becker *et al.* 2017). Therefore, the offshore boundary was placed at the 3,700-m isobath to capture areas of higher predicted abundances in both summer and winter. (The area covered by the Becker *et al.* (2017) winter model starts at 38°00′, and we are not aware of any other models based on winter distributions for areas north of this unit.) This area also extends into the mouth of the San Francisco Bay to capture a recently recognized important foraging area for humpback whales (Calambokidis *et al.* 2017) as well as ARS data indicating that whales are feeding in and around the mouth of the bay (Mate *et al.* 2018). The highest densities of whales are seen at the entrance to San Francisco Bay, with a few extending into the Bay (J. Calambokidis pers. comm., May 23, 2018). Based on data from hydroacoustic surveys spanning multiple years between 2000–2009, persistent and recurring, high-density aggregations of krill ranging in size from about 578 km² to 950 km² have been shown to occur in multiple areas within this unit, including Bodega Head, Cordell Bank, Gulf of the Farallones, Pescadora, and Monterey Bay (Santora *et al.* 2011, Dorman *et al.* 2015, Santora *et al.* 2018).

Photo-identification data confirm this area is a destination for whales from the MX and CAM DPSs (Baker *et al.* 1986, Calambokidis *et al.* 2008).

Unit 17—Central California Coast Area

This area extends from 36°00′ N to a southern boundary at 34°30′ N, just south of an identified BIA. The nearshore boundary is defined by the 30-m isobath, and the seaward boundary is drawn along the 3,700-m isobath. This unit includes waters off of southern Monterey county, and San Luis Obispo and Santa Barbara counties. Unit 17 covers 6,697 nmi² of marine habitat.

This unit encompasses a BIA that extends from Morro Bay to Point Sal and typically supports high density feeding aggregations of humpback whales from April to November (Calambokidis *et al.* 2015). In this area, as with Unit 16, the predicted abundance extends farther offshore in the warmer months (July–December) and even more so in cooler months (January–April) relative to the northern units (Becker *et al.* 2016 and 2017).

Therefore, the offshore boundary was placed at the 3,700-m isobath to capture areas of higher predicted abundance in both summer and winter. The southern boundary for this area was drawn just south of the BIA. Based on acoustic survey data collected during 2004–2009, large krill hotspots, ranging from 700 km^2 to 2,100 km^2, occur off Big Sur, San Luis Obispo, and Point Sal (Santora *et al.* 2011). Hotspots with persistent, heightened abundance of krill were also reported in this unit in association with bathymetric submarine canyons (Santora *et al.* 2018).

Photo-identification data confirm this area is a destination for whales from the MX and CAM DPSs (Calambokidis *et al.* 2008).

Unit 18—Channel Islands Area

This area extends from a northern boundary at 34°30′ N to a boundary line that extends from Oxnard, CA seaward to the 3,700-m isobath, along which the offshore boundary is drawn. The 50-m isobath forms the shoreward boundary. This unit includes waters off of Santa Barbara and Ventura counties. This unit covers 9,799 nmi^2 of marine habitat.

This unit encompasses the Santa Barbara Channel-San Miguel BIA, which supports high density feeding aggregations of humpback whales during March through September (Calambokidis *et al.* 2015). The seaward boundary at the 3,700-m isobath encompasses cells containing the highest 90 percent of the study area abundance predicted by both the summer and winter habitat models (Becker *et al.* 2016 and 2017). The southern boundary of this unit was selected to correspond to where the habitat model predictions for both models show a clear decline in predicted densities. The area to the south (*i.e.,* Unit 19) is predicted to have much lower summer densities of whales. Based on acoustic survey data collected during 2004–2009, a krill hotspot of about 780 km^2 has been documented off Point Conception (Santora *et al.* 2011). Some additional krill hotspots have also been observed in this unit in association with bathymetric submarine canyons (Santora *et al.* 2018).

Photo-identification data confirm this area is a destination for whales from the MX and CAM DPSs (Calambokidis *et al.* 2008).

Unit 19—California South Coast Area

The northern boundary for this unit extends southwest from Oxnard, CA through the Santa Cruz Basin and out to a seaward boundary along the 3,700-m isobath. The unit is also bounded in the south by the U.S. EEZ. The 50-m isobath forms the shoreward boundary. This unit includes waters off of Los Angeles, Orange, and San Diego counties, and covers 12,966 nmi^2 of marine habitat.

This area does not contain a BIA but was drawn to capture cells containing the highest 90 percent of the study area abundance predicted by the Becker *et al.* (2017) habitat model. This area falls outside of the predicted high use area in the summer/fall months but is predicted to support high densities of whales in the winter/spring months (Becker *et al.* 2017). The higher densities of humpback whales in winter may stem from the fact that some of the whales sighted in this area are likely transiting through the area, rather than occupying the area as a feeding destination. Within this unit, krill hotspots ranging in size from about 210 km^2–430 km^2 have been observed off San Nicolas and Santa Barbara Islands (Santora *et al.* 2011), and additional hotspots have been observed in association with submarine canyons (Santora *et al.* 2018).

Photo-identification data are not available to validate occurrences of particular DPSs within this unit; however, the available data support the conclusion that this area is a destination for whales from the MX and CAM DPSs (Calambokidis *et al.* 2000, Rasmussen *et al.* 2012).

Application of ESA Section 4(a)(3)(B)(i) (Military Lands)

Section 4(a)(3)(B)(i) of the ESA precludes designating as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense (DOD) or designated for its use, that are subject to an Integrated Natural Resources Management Plan (INRMP) prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation. *See* 16 U.S.C. 1533(a)(3)(B)(i); 50 CFR 424.12(h). Where these standards are met, the relevant area is ineligible for consideration as potential critical habitat. The regulations implementing the ESA set forth a number of factors to guide consideration of whether this standard is met, including the degree to which the plan will protect the habitat of the species (50 CFR 424.12(h)(4)). This process is separate and distinct from the analysis governed by section 4(b)(2) of the ESA, which directs us to consider the economic impact, the impact on national security, and any other relevant impact of designation and affords the Secretary discretion to exclude particular areas if the benefits of exclusion outweigh the benefits of inclusion of such areas. *See* 16 U.S.C. 1533(b)(2).

After identifying specific areas that we concluded would potentially meet the definition of critical habitat for humpback whales, we contacted DOD representatives and requested information regarding relevant INRMPs. In response, the U.S. Navy (Navy) provided descriptions and locations of four areas adjacent to the humpback whale specific areas and that are managed under Sikes Act-compliant INRMPs: (1) Pacific Beach Annex, WA; (2) Naval Base Ventura County, Point Mugu, CA; (3) Naval Outlying Field, San Nicolas Island, CA; and (4) Naval Auxiliary Landing Field, San Clemente Island, CA. The Navy also provided information regarding how in their view, each of their approved INRMPs provides a conservation benefit to humpback whales and their habitat. An additional fifth INRMP, associated with the Navy's Southeast Alaska Acoustic Measurement Facility, AK (SEAFAC) was mentioned as being under development. The SEAFAC INRMP is not yet available for review; however, a draft is expected to be completed in December 2019. After reviewing the information and maps provided, we found that the Pacific Beach Annex INRMP addresses an entirely upland property and does not overlap with the areas under consideration for designation as critical habitat. Therefore, this INRMP was not considered further.

Based on our initial review of the remaining three, approved, Navy INRMPs pursuant to the considerations indicated in 50 CFR 424.12(h), the plans appeared to provide a measure of conservation benefit to humpback whales. However, because each of the areas addressed by the INRMPs were very small relative the potential critical habitat units in which they are located (Units 18 and 19), and because a few additional components of the approved INRMPs were required from the Navy to complete our review (*e.g.,* maps, appendices to an INRMP listing specific management activities), we deferred further review of these INRMPs pending conclusion of our analyses under section 4(b)(2), because that analysis could lead to proposed exclusion of the larger specific area or areas. Once we concluded our analysis under section 4(b)(2) and had developed our list of potential exclusions, we ultimately found it necessary to complete a final review of only two INRMPs—the Naval Outlying Field San Nicolas Island (SNI) and Naval Base Ventura County (NBVC), Point Mugu. These are not fully

encompassed by areas that we are proposing to exclude under 4(b)(2).

The relevant areas addressed under the NBVC Point Mugu INRMP are submerged lands and resources 3 nmi out from Point Mugu (relative to MLLW) and a zone that extends 0.25 nmi offshore around San Miguel and Prince Islands. This INRMP thus includes areas that overlap with Units 18 (*i.e.,* the area around San Miguel and Prince Islands) and 19 (*i.e.,* the area off Point Mugu). Relevant areas within the footprint of the SNI INRMP are the waters surrounding SNI and Begg Rock within the 300-foot (91-m) isobath or 1 nmi from shore, whichever is greater. This INRMP covers an area that lies mainly within Unit 19, but the area around Begg Rock extends into Unit 18. Management efforts described within both of these INRMPs, which are discussed in detail in the Draft Section 4(b)(2) Report (NMFS 2019b), include actions such as water quality monitoring within nearshore waters and storm-water management; surveys of intertidal, subtidal, and deep water habitats; and area closures to minimize impacts of noise or other disturbances on marine mammals. Based on our consideration of the activities listed in the INRMPs and their relevance to humpback whales and their habitat, the certainty that the relevant management actions would be implemented, the frequency of use of the areas by humpback whales, and the extent of humpback prey occurrences within the areas, we ultimately concluded that the areas covered by the applicable INRMPs provide a conservation benefit to humpback whales. Thus, we determined that these areas are not eligible for designation as critical habitat and removed them from Units 18 and 19.

Analysis of Impacts Under Section 4(b)(2) of the ESA

The first sentence of section 4(b)(2) of the ESA requires the Secretary to designate critical habitat for threatened and endangered species on the basis of the best scientific data available after taking into consideration the economic impact, the impact on national security, and any other relevant impact, of specifying any particular area as critical habitat. Regulations at 50 CFR 424.19(b) also specify that the Secretary will consider the probable impacts of the designation at a scale that the Secretary determines to be appropriate, and that such impacts may be qualitatively or quantitatively described. The Secretary is also required to compare impacts with and without the designation (50 CFR 424.19(b)). In other words, we are required to assess the incremental impacts attributable to the critical habitat designation relative to a baseline that reflects existing regulatory impacts in the absence of the critical habitat.

The second sentence of section 4(b)(2) describes an optional process by which, the Secretary may go beyond the mandatory consideration of impacts and weigh the benefits of excluding any particular area (that is, avoiding the economic, national security, or other relevant impacts) against the benefits of designating it (primarily, the conservation value of the area). If the Secretary concludes that the benefits of excluding particular areas outweigh the benefits of designation, he may exclude the particular area(s), so long as he concludes on the basis of the best available scientific and commercial information that the exclusion will not result in extinction of the species (16 U.S.C. 1533(b)(2)). NMFS and the U.S. Fish and Wildlife Service have adopted a joint policy setting out non-binding guidance explaining generally how we exercise our discretion under 4(b)(2). *See* Policy Regarding Implementation of Section 4(b)(2) of the Endangered Species Act (''4(b)(2) Policy,'' 81 FR 7226, February 11, 2016).

While section 3(5) of the ESA defines critical habitat as ''specific areas,'' section 4(b)(2) requires the agency to consider the impacts of designating any ''particular area.'' Depending on the biology of the species, the characteristics of its habitat, and the nature of the impacts of designation, ''particular'' areas may be—but need not necessarily be—delineated so that they are the same as the already identified ''specific'' areas of potential critical habitat. For this designation, we analyzed two types of particular areas. When we considered economic impacts, we used the same biologically-based ''specific areas'' we had identified under section 3(5)(A) (*i.e.,* Units 1–19, Figure 1). This delineation allowed us to most effectively compare the biologically-based conservation benefits of designation against economic benefits of exclusion, which we elected to do, and led us to propose excluding some units. For our consideration of impacts on national security, however, we instead used a delineation of particular areas based on DOD ownership or control of the area. As discussed below, this consideration of national security impacts led in some cases to propose excluding smaller areas from within the specific areas (units) we described, *i.e.,* redrawing the boundaries of those units. Similarly, for our consideration of other relevant impacts, such as the impacts designation of a particular area would have on Tribes, we used a delineation of particular areas that corresponded to tribal lands, associated treaty rights, and/or relevant resources.

Below, we summarize the economic, national security, and other relevant impacts of designating the areas identified as meeting the definition of critical habitat for the three DPSs of humpback whales. Additional detail is provided in the Draft Economic Analysis (IEc 2019a) and the Draft Section 4(b)(2) Report (NMFS 2019b).

National Security Impacts

To gather information on potential national security impacts of our proposed designation, we contacted representatives from DOD and the Department of Homeland Security (DHS) by letter dated October 9, 2018. We asked for information regarding impacts of a potential critical habitat designation for humpback whales on military operations and national security. Under the 4(b)(2) Policy, a requesting agency must provide a reasonably specific justification for the assertion that there is an incremental impact on national security that would result from the designation of that specific area as critical habitat (81 FR 7226, 7231, February 11, 2016). Requests for exclusion due to national security impacts were initially received from the both the Navy and the U.S. Air force (USAF); however, following subsequent discussions with USAF representatives, the USAF withdrew their requests for exclusions.

On December 5, 2018, the Navy provided a written assessment of potential national security impacts and detailed descriptions of training and testing operations occurring in the following ranges:

(1) Gulf of Alaska Temporary Maritime Activities Area (GOA TMAA), which overlaps with portions of critical habitat Units 5, 7, and 8;

(2) Southeast Alaska Acoustic Measurement Facility (SEAFAC), which lies within critical habitat Unit 10;

(3) Quinault Range Site (QRS; a component of the Naval Undersea Warfare Center Division Keyport Range Complex), which overlaps with a portion of Unit 11;

(4) Pacific Northwest Ocean Surface/Subsurface Operating Area (OPAREA, a component of the Northwest Training Range Complex and within the Northwest Training and Testing Study Area), which overlaps with portions of Units 11–15;

(5) Southern California Range Complex (SOCAL) portion of the Hawaii-Southern California Training and Testing Study Area, which overlaps with Unit 19; and,

(6) Point Mugu Sea Range (PMSR), which overlaps with portions of Unit 17, 18, and 19.

Based on their consideration of ongoing and planned Naval operations, the location of the potential critical habitat areas, and the essential prey feature, the Navy concluded that, at this time, they did not anticipate national security impacts resulting from a critical habitat destination that overlapped with the GOA TMAA, OPAREA, and PMSR. The Navy indicated that there were, however, anticipated national security impacts for operations at SEAFAC, QRS, and SOCAL, and requested that these range areas be excluded from any proposed humpback whale critical habitat designation.

SEAFAC is small area, covering 48 nmi^2 (164 km^2) in the Western Behm Canal near the city of Ketchikan, Alaska, and serves as the Navy's primary acoustic engineering measurement facility in the Pacific. This facility comprises an instrumented site that has in-water assets (such as piers, hydrophones, sensors, and in-water communication systems) that may be deployed on permanent or long-term bases, and an adjacent land-based support site located within 15 acres (0.06 km^2) on Back Island. This area is under Navy controlled restricted use, and no other Federal activities are expected to occur in this area. Public access to SEAFAC areas can be restricted by the Navy with notification in accordance with 33 CFR 334.1275. Testing activities planned for the foreseeable future include, but are not limited to, submarine sonar testing/maintenance, acoustic component testing, countermeasure testing, and hydrodynamic and submarine maneuverability testing. Although the Navy indicated they did not anticipate impacts to humpback whale critical habitat or humpback whale prey as a result of the majority of current testing activities, they expressed concern regarding future testing activities. They specifically noted that this area is used to evaluate cutting edge systems and platforms, which could affect future determinations regarding impacts on the habitat. The Navy discussed that the nature of the testing that is undertaken at this site requires prescriptive procedures and use of specific areas and that any additional mitigation resulting from a critical habitat designation has the potential to impact military readiness by impeding the testing of new systems, platforms, and capabilities. The Navy stated that any impact on the full utilization of SEAFAC would impact their ability to perform critical research, development, test and evaluation activities, thereby impacting military readiness and national security.

The QRS is a defined space off the coast of Washington that encompasses air, surface (~5,228 nmi^2 (6,924 km^2)) and subsurface space (with variable depths up to 1.8 km), as well as a surf zone area off the coast of Pacific Beach, Washington. The Navy does not own or outright control the sea space of QRS, which is largely defined by the boundaries of the special use airspace, known as W–237A, above it. The Navy has internal control of subareas for scheduling purposes only. The Navy issues notices to mariners (NOTMARs) when the Navy engages in activities that may be hazardous to vessels engaged in innocent passage, and/or recreational and commercial activities. Compliance with NOTMARS are voluntary, but help to protect public safety and prevent damage to test equipment. The QRS overlaps with approximately 44 percent of Unit 11, which covers an area of 3,441 nmi^2 of marine habitat. Access to areas within the QRS is controlled during testing events for public safety and to prevent damage to test equipment. Activities planned in the QRS to the year 2020 and beyond include activities such as at-sea sonar testing, anti-submarine warfare testing, acoustic and oceanographic research, countermeasure testing, torpedo testing, undersea warfare testing, etc. The Navy stated that use of explosives within the QRS is likely to have adverse effects on humpback prey species, although in their view these would not have effects at the population level. The Navy concluded that humpback whale critical habitat would impact the ability of the Navy to test and field new systems and platforms and thus impact national security if ESA section 7 consultations resulted in additional mitigation requirements or restrictions on testing activities in the QRS.

Subsequent to their initial request for exclusion of QRS, the Navy conducted further analysis and, in September 2019, submitted additional information relative to this particular national security exclusion. Specifically, the Navy requested that an additional 5.4-nmi (10-km) buffer around QRS be excluded to avoid impacts to ongoing and future testing activities that would result should Naval Sea Systems Command have to halt, reduce in scope, or geographically/seasonally constrain testing activities to prevent adverse effects or adverse modification of critical habitat. The Navy determined that sound and energy levels that may cause injuries to humpback whale prey species within critical habitat from the largest explosives that could be used on the range could extend beyond the QRS boundaries, and that excluding a buffer of 10-km around QRS from the critical habitat designation would avoid additional mitigation requirements. The Navy indicated that they determined this specific buffer distance after taking into account the site specific oceanographic conditions and the best available science establishing fish injury thresholds (which Navy cited as Popper *et al.,* 2014).

The SOCAL range complex is located between Dana Point and San Diego, CA and extends more than 1,111 km southwest into the Pacific Ocean. Most activities occur within the eastern portion of the SOCAL range complex, closer to shore and to the Navy's largest homeport location in the Pacific. The spatial extent of overlap between the SOCAL range and Unit 19 is 10,731.5 nmi^2 (36,808 km^2), which is approximately 54 percent of the Navy's core training area within SOCAL and approximately 83 percent of Unit 19, which measures 12,966 nmi^2 (44,472.1 km^2). A wide variety of training and testing activities occur within the SOCAL range complex on a routine and sometimes fairly high frequency basis. A few types of Navy testing activities in this area are those related to anti-submarine warfare, torpedo, mine countermeasure, gun, missile and rocket, and propulsion testing. The activities that occur in the SOCAL range complex have the potential to impact the water surface or water column, with the degree of impact depending on the nature of the particular activity. The Navy referred to the detailed discussions on particular impacts provided in the Navy's 2018 Final Environmental Impact Statement for Hawaii-Southern California Training and Testing. Ultimately, the Navy concluded that designation of Unit 19 as critical habitat could lead to requirements for additional mitigations (avoidance, limitations, etc.) that could hinder Navy testing and training activities, and thereby impact military readiness and national security. Therefore, Navy requested that we exclude Unit 19 from any critical habitat designation.

Economic Impacts

The primary impact of a critical habitat designation stems from the ESA section 7(a)(2) requirement that Federal agencies ensure their actions are not likely to result in the destruction or adverse modification of critical habitat. Determining the extent of this impact in practical terms is complicated by the fact that section 7(a)(2) contains the

associated but distinct requirement that Federal agencies must also ensure their actions are not likely to jeopardize the species' continued existence. The incremental economic impacts of a critical habitat designation stem from the additional effort to engage in consultation regarding potential adverse effects to the critical habitat as part of section 7 consultations (often referred to as administrative costs), and any conservation measures that may be necessary to avoid adverse modification and that would not otherwise be implemented (often referred to as project modification costs). Thus, the incremental impacts attributable to critical habitat stem from conservation efforts that would not already be required due to the need to avoid jeopardy to humpback whales or due to other existing protections (*e.g.,* for other listed species, other Federal, state, or local regulations). Additional economic impacts of designation would include any state and local protections that are likely to be triggered as a result of designation. However, as discussed in chapter 3 of the Draft Economic Analysis (DEA), we did not identify state or local protections that may be triggered by a proposed humpback whale critical habitat designation (IEc 2019a).

The analysis methods and the estimated, incremental, economic impacts stemming from designation of the identified specific critical habitat areas for the WNP, MX, and CAM DPSs of humpback whales are described in detail in the DEA prepared by Industrial Economics (IEc 2019a). To quantify the economic impacts associated with designating the 19 units of habitat under consideration, IEc followed the following general steps:

(1) Identify the baseline of economic activity and the statutes and regulations that constrain that activity in the absence of the critical habitat designation;

(2) Identify the types of activities that are likely to be affected by critical habitat designation;

(3) Estimate the costs of administrative effort and, where applicable, conservation efforts recommended for the activity to comply with the ESA's critical habitat provisions;

(4) Project over space and time the occurrence of the activities and the likelihood they will in fact need to be modified; and

(5) Aggregate the costs up to the particular area level and provide economic impacts as present value impacts and annualized impacts.

The first step in the economic analysis involved identifying the baseline level of protection already afforded the humpback whales in the areas being considered for designation as critical habitat. The baseline for this analysis is the existing state of regulation prior to the designation of critical habitat, including protections afforded due to the listing of the species under the ESA, and other Federal, state and local laws and guidelines, such as the MMPA, Clean Water Act, and state environmental quality laws. Next, in order to complete steps 2–4, we searched the NMFS consultation database (for 2007–2018) to compile a list of Federal actions and the projected number of those actions occurring in each of the 19 areas under consideration as critical habitat. Outreach to some Federal agencies was also conducted by IEc to obtain additional information about planned activities. As applicable and appropriate, NMFS biologists were also consulted to verify the nature and number of consultations expected to occur over the next 10 years.

The following categories of activities with a Federal nexus were identified as having the potential to affect the essential prey feature and as being expected to occur within the specific critical habitat areas under consideration: (1) Commercial fishing, (2) oil and gas activities (including seismic surveys), (3) alternative energy development, (4) in-water construction (including dredging and offshore mining), (5) vessel traffic (specifically, activities related to establishment of the shipping lanes established by the U.S. Coast Guard (USCG) (6) aquaculture, (7) military activities, (8) liquefied natural gas (LNG) terminal activities, (9) space vehicle and missile launches, (10) water quality management (including pesticide registration, establishment of water quality standards, and Clean Water Act general permits), (11) U.S. Forest Service activities (related to timber and forest management), and (12) inland activities (including power plant operations, land management pesticide/herbicide application, and National Pollutant Discharge Elimination System (NPDES) permitting). These activities have the potential to affect the essential feature by altering or reducing the quantity, quality, or the availability of the prey feature essential to the conservation of one or more of the listed DPSs of humpback whales.

As discussed in chapter 2 of the DEA, the costs quantified in the economic analysis include only the additional administrative effort associated with consideration of potential impacts to critical habitat as part of future section 7 consultations (IEc 2019a). No additional conservation measures were identified as likely to result from the projected consultations, largely due to the baseline protections in place. Depending on the specific area at issue and the Federal action, relevant baseline protections include, for example, protections for co-occurring listed species such as North Pacific right whales, Southern Resident killer whales, salmon, Southern DPS of Pacific eulachon, and the Southern DPS of green sturgeon; designated critical habitat for listed species; as well as protections for humpback whales under both the ESA and the MMPA. The number, location, and/or effects on prey of some other activities, particularly seismic surveys and alternative energy activities, are speculative at this time. Therefore, we did not identify any probable conservation recommendations that would likely be made specifically to avoid adverse modification of the humpback whale critical habitat as a result of these activities, nor was it possible to estimate the cost of any probable project modifications. However, we solicit public comments and relevant data that would further inform this analysis.

The DEA indicates that, if designated, the 19 units of critical habitat may increase administrative costs of consultations involving humpback whales by an estimated $630,000 to $720,000 over the next ten years, assuming a seven percent discount rate (IEc 2019a). This equates to an annualized cost of $72,000 to $82,000 over the next ten years (IEc 201a9). The largest portion of administrative costs are anticipated in Unit 10 (17 to 22 percent of total costs), followed by Unit 13 (11 to 12 percent) and Unit 17 (9 to 10 percent). In-water construction activities represent the largest share of estimated costs (34 to 42 percent), while 18 to 21 percent of costs are associated with commercial fishing, and 9 to 10 percent is associated with consultations regarding military activities (IEc 2019a). (See the DEA for the specific estimated impacts for each of the 19 habitat units and for each of the 12 categories of Federal activities.)

These economic impacts are largely associated with the administrative costs borne by NMFS and other Federal agencies and not by private entities or small governmental jurisdictions. However, some consultations may include third parties (*e.g.,* project proponents or landowners) that may be small entities. These third parties may bear some portion of the administrative consultation costs. Ultimately, the analysis found that consultations on in-

water and coastal construction activities may generate costs borne by small entities. All other activities are either not expected to involve small entities or are associated with no more than two consultations per year spread across the entire critical habitat. As described in chapter 5 of the DEA, the analysis anticipates approximately eight consultations on in-water and coastal construction activities per year, six of which are concentrated in proposed critical habitat Unit 10 in Alaska. This analysis estimates that the small entities involved in these consultations will incur $4,900 in annualized administrative costs (IEc 2019a). (See ''Initial Regulatory Flexibility Act'' section of this document for information regarding impacts on small entities.)

Tribal Impacts

Section 4(b)(2) of the ESA also allows for the consideration of other relevant impacts associated with the designation of critical habitat. We identified potential impacts on Federally recognized tribes as a possible source of other impacts relevant to the humpback whale critical habitat designation. A broad array of activities that occur on Indian lands may trigger ESA section 7 consultations. Indian lands are those defined in Secretarial Order 3206, ''American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act'' (June 5, 1997), and include: (1) Lands held in trust by the United States for the benefit of any Indian tribe; (2) land held in trust by the United States for any Indian tribe or individual subject to restrictions by the United States against alienation; (3) fee lands, either within or outside the reservation boundaries, owned by the tribal government; and (4) fee lands within the reservation boundaries owned by individual Indians.

In developing this proposed rule, we reviewed maps and did not find overlap between the areas under consideration as critical habitat and Indian lands. Based on this, we preliminarily found that there were no Indian lands subject to consideration for possible exclusion. However, it is not clear whether there may be some nearshore areas that could be considered for possible exclusion. In particular, we lack information regarding where boundaries of tribal-owned lands lie in relation to shoreward boundary of the specific critical habitat areas in Alaska, which are generally bounded by the 1-m isobath (relative to MLLW).

As discussed further under the Classification section of this preamble, there are Indian tribes and Alaska Native corporations that have lands that are in close proximity to areas under consideration for designation as critical habitat for humpback whales, have usual and accustomed areas that overlap with critical habitat areas, or may otherwise be affected in coastal Alaska, Washington, Oregon, and California. Thus, at an early stage in the course of developing a proposed critical habitat rule, we contacted all potentially affected tribes. Specifically, in November 2018, and in coordination with the NMFS regional tribal liaison, we reached out to 27 tribes located in Washington, Oregon, and California, and 149 tribes and tribal organizations located within Alaska to offer the opportunity to consult on critical habitat for humpback whales and discuss any concerns they may have. We provided maps and descriptions of all areas under consideration as potential critical habitat, and we (1) invited input regarding tribal resources and issues, usual and accustomed areas, or the exercise of tribal rights that may be affected by a coastal critical habitat designation for humpback whales; (2) requested any information to assist us in determining the conservation value of nearshore areas of Indian lands as well as other possible areas of interest to the tribes, such as deep-water habitats outside the nearshore areas; and (3) invited discussion on the tribal government's position regarding the designation of those areas as critical habitat.

We received no requests for consultation in response to our outreach efforts. We did, however, receive responses from two tribes in Washington, the Quinault Indian Nation and the Quileute Tribe. Both tribes expressed concern regarding the potential impact of the critical habitat designation on tribal fisheries, particularly within usual and accustomed fishing areas located in coastal marine waters. We had multiple follow-up communications with these tribes; however, neither tribe elected to submit formal comment or information regarding impacts on tribal resources or treaty rights, nor did they request additional meetings or consultation. As described in the Draft Economic Analysis (IEc 2019a), while it is possible that the critical habitat designation could result in recommendations for changes in fishery management, we consider that unlikely at this time, given the existing requirement to consider the effect of harvesting prey on the listed humpback whales and given existing Federal fisheries management measures (*e.g.,* prohibition on krill fishing). We will continue to coordinate and consult with potentially affected tribes and Native corporations as we move forward with the rulemaking process.

Analysis of the Benefits of Designation

The primary benefit of critical habitat designation—and the only regulatory consequence—stems from the ESA section 7(a)(2) requirement that all Federal agencies ensure that their actions are not likely to destroy or adversely modify the designated habitat. This benefit is in addition to the section 7(a)(2) requirement that all Federal agencies ensure their actions are not likely to jeopardize the species' continued existence. Another benefit of designation is that it provides notice of areas and features important to species conservation, and information about the types of activities that may reduce the conservation value of the habitat. Critical habitat designation may also trigger additional protections under state or local regulations.

In addition to the benefits of critical habitat designation to the whales, there may be ancillary benefits. These other benefits may be economic in nature, or they may result in improvement of the ecological functioning of the designated areas. Chapter 4 of the DEA (IEc 2019a) discusses other forms of benefits that may be attributed to the conservation and recovery of humpback whales (although not specifically attributed to the designation of critical habitat), including use benefits (*e.g.,* for wildlife viewing), non-use benefits (*e.g.,* existence values), and ancillary ecosystem service benefits (*e.g.,* water quality improvements and enhanced habitat conditions for other marine and coastal species). Humpback whales are also valued in terms of the utility gained from whale watching experiences. In Washington, Oregon, California, and Alaska, humpback whales are a target species for whale watchers (IEc 2019a). Whale watch participants in these states generate tens of millions of dollars in economic activity annually (Pendelton 2006). Although humpback whales have value to people nationally and serve as an economic engine regionally, we are unable to apply the available literature to quantify or monetize associated use and non-use economic benefits that would be attributable to a critical habitat designation. More information about these types of benefits and values may be found in chapter 4 of the DEA (IEc 2019a).

It would be ideal if the best available information allowed the benefits of designation to be monetized so they could be directly compared to the economic benefits of excluding a particular area. However, sufficient and

relevant data are not available to monetize the benefits of designation (*e.g.,* estimates of the monetary value of the protecting the feature within areas designated as critical habitat, or the monetary value of education and outreach benefits). For this reason, the ESA regulations recognize that benefits may be quantitatively or qualitatively described (50 CFR 424.19(b)). Further, we cannot isolate and quantify the effect that a critical habitat designation would have on recovery of humpback whales separate from other ongoing or planned conservation actions. In addition, it is difficult to accurately predict the future harm to the habitat that would otherwise have been realized in the absence of a critical habitat designation. Ultimately, given these challenges and lack of sufficient information, the associated incremental use and non-use economic benefits of designating particular areas of the potential designation cannot be quantified. As an alternative approach, we assessed the benefits of designation using a biologically-based analysis of the specific areas. In this particular case, the CHRT considered relevant humpback whale datasets to qualitatively rate the conservation impact or value for the DPSs if a particular area is designated as critical habitat. These qualitative conservation value ratings were then used to represent the benefits of designation. The Draft Biological Report (NMFS 2019a) provides a detailed discussion of the methods and datasets used by the CHRT to systematically assign a qualitative conservation value rating to each of the habitat units (specific areas) under consideration.

In general, the multiple datasets considered by the CHRT provided information about the importance of a given area for humpback whale feeding, the level of use of the critical habitat units by all humpback whales, and the level of use of the units by whales of each particular DPS (see Appendix C, NMFS 2019a). The first dataset contained information about the feeding BIAs that have been identified for humpback whales (see Ferguson *et al.* 2015a, c and Calambokidis *et al.* 2015). Rather than simply considering presence/absence of a BIA and to make this information comparable across units, the CHRT considered the size of the BIAs relative to the size of the particular critical habitat unit. Specifically, the CHRT calculated the percent of total area (km^2) of a unit that was covered by the BIA within that unit (see Table C4 in NMFS (2019a) for calculations).

The second dataset included data on the density of humpback whales' occurrence within each critical habitat unit (regardless of which DPS the whales belong to). For habitat units along the West Coast, density of whales was determined using the habitat model results of Becker *et al.* (2016), which allowed for calculations of predicted density within each specific critical habitat unit (*i.e.,* predicted abundance per area of the critical habitat unit). As no comparable modelling data exist for the habitat units within Alaska (*i.e.,* Units 1–10), whale density information was instead compiled from the most recent, available literature, which covered various years and time periods, and addressed study areas that did not necessarily align with the critical habitat unit boundaries (see Tables C5 and C6 for details). These non-uniform data prevented the CHRT from making any strong inferences about humpback whale densities within Units 1–10 and complicated their ability to compare densities across units. The density data pulled from the literature were therefore considered in a very qualitative way and did not directly determine any votes or conclusions.

A third dataset addressed the presence of whales from each particular DPS within each critical habitat unit. Three different pieces of information were presented in this dataset. First, using results of the SPLASH study, the CHRT calculated the percentage of whales identified to a particular DPS out of all the matched sightings within a specific unit. (Matched sightings are the total number of whales photo-identified in both the relevant breeding areas for the DPS and the critical habitat unit. Note that most whales sighted in feeding areas have not been identified as belonging to a particular DPS.) (See Table C7 in NMFS (2019a) for total matches and calculations.) Secondly, the CHRT considered the probabilities of whales from a particular DPS moving from their winter, breeding area to a feeding area (critical habitat unit) as calculated by Wade (2017). These movement probabilities were also derived from SPLASH data. The feeding areas from the SPLASH study and from Wade (2017) represent larger geographic areas than the critical habitat units, so in many cases the same movement probability applied to multiple, adjacent critical habitat units. Lastly, the CHRT compiled available documentation of whales from a specific DPS occurring in each unit (*i.e.,* confirmed presence). These data came from both the SPLASH study as well as other references, a complete list of which is provided in Table C8 of NMFS (2019a).

After reviewing the datasets as a group, each member of the CHRT independently rated the habitat unit for each relevant DPS through a structured decision-making process. To do this, each team member distributed four ''points'' across the following four conservation value categories for each of the critical habitat units:

(1) Very high—meaning areas where the available data indicate the area is very important to the conservation of the DPS;

(2) high—meaning areas where the available data indicate the area is important to the conservation of the DPS;

(3) medium—meaning the available data indicate the area is moderately important to the conservation of the DPS; and,

(4) low conservation value—meaning the available data suggest the DPS does not rely on this area for feeding.

CHRT members could place all four points for a given habitat unit and DPS in one of these qualitative categories or spread those four points across any or all of the four categories. The degree to which votes were spread across the conservation value categories thus served as a measure of uncertainty in the conservation value of a particular unit. Because the CHRT consists of 10 team members, each unit of critical habitat received a total of 40 points. However, CHRT members were permitted to forego assigning their four points for a specific critical habitat unit if they concluded the available data were either too limited to support drawing a particular conclusion or there was too much uncertainty associated with the available data. In these instances, CHRT members could instead categorize the unit as ''data deficient.'' Units receiving ''data deficient'' votes from one or more CHRT member meant those particular units received less than 40 points.

Following an initial round of scoring, the CHRT met to discuss their assessments of the data and results. Following that team discussion, CHRT members were given the opportunity to independently re-evaluate their own point distributions and make any changes (*if* they elected to do so). The CHRT's conservation ratings for each of the habitat units are provided in Tables 1–3; complete results are presented and discussed within the Draft Biological Report (NMFS 2019a).

Proposed Exclusions Based on Economic Impacts

As is clear from the preceding discussion, the conservation benefits to the humpback whale DPSs that would result from the designation of any particular critical habitat unit,

expressed as a qualitative rating, are not directly comparable to the economic benefits that would result from exclusion of the particular unit from designation, which is expressed as a quantified cost. However, to weigh the benefits of designation against the economic benefits of exclusion, we have to compare these two types of information. As noted previously, the Secretary has discretion to determine the weight to assign to the relevant factors and may exclude any particular area from the critical habitat designation upon a determination that the benefits of such exclusion outweigh the benefits of specifying the particular area as part of the critical habitat (50 CFR 424.19(c)). The Secretary, however, cannot exclude any particular area if, based on the best scientific and commercial data available, the Secretary determines that the failure to designate that area as critical habitat will result in the extinction of the species concerned (50 CFR 424.19(c)). For this analysis, we note that each of the units identified for potential designation meet the definition of critical habitat because they are in the occupied range of the species and contain the identified physical or biological feature; however, the areas vary as to the level of conservation value anticipated to result from the designation. We (exercising the delegated authority of the Secretary) determined that the conservation benefits of including areas with medium, high, or very high conservation ratings should have significant weight in this analysis.

Overall, the projected economic impacts to Federal agencies and non-Federal entities of designating each of the 19 habitat units are low, with annualized impacts ranging from $430–$18,000 per habitat unit (IEc 2019a). If all 19 units were designated, the total annualized impact is estimated to range from $72,000 to $82,000 over the next 10 years (IEc 2019a). This estimated economic impact is well below the annualized costs associated with several, large, marine critical habitats that have been previously designated in the Pacific (*e.g.,* leatherback sea turtle, 77 FR 4169, January 26, 2012; black abalone, 76 FR 66806, October 27, 2011). Relative to these other designations, the probable economic impacts projected for the humpback whale critical habitat are comparatively very low.

Results of the biological and economic analyses (see Tables 1–3) indicate that habitat units rated as having ''very high'' or ''high'' conservation value are associated with annualized impacts ranging from $430 (Unit 1, WNP and MX DPSs) to $7,500 (Unit 11, CAM and MX DPS). Habitat units rated as having ''medium'' conservation value are associated with annualized impacts ranging from $680 (Unit 4, MX DPS) to $18,000 (Unit 10, MX DPS). Lastly, specific areas rated as having ''low'' conservation value were associated with annualized impacts ranging from $680 (Unit 4, WNP DPS) to $5,200 (Unit 19, CAM and MX DPSs). After reviewing the costs and conservation values for each specific area and for each DPS, the CHRT concluded that the economic impacts for units with very high, high, and medium conservation ratings were not outweighed by the relatively low costs attributed to any of those units. Given the data-driven process by which the CHRT carefully evaluated the relative conservation value of each critical habitat unit, the CHRT was confident that areas receiving these rating classifications are all important to the conservation of their respective DPSs. In other words, these higher value feeding areas are viewed as being critical in supporting the overall life history of the whales, and their conservation value is not outweighed by the relatively low economic impacts projected to occur as a result of their designation as critical habitat. The CHRT, however, concluded that the economic impacts, though objectively low, do outweigh the benefits of designating specific areas rated as having a ''low'' conservation value. By definition, these low value habitat units are those specific areas, based on the CHRT's assessment of the best available data, upon which humpback whales of the particular DPS do not appear to rely on as extensively for feeding, given the lower density or level of occurrence of whales relative to other units with higher conservation value. Therefore, even though the estimated annualized impacts only ranged from $680–$5,200 across all of the low conservation value areas for all DPSs, the CHRT concluded that these costs outweighed the minimal conservation benefits to the whales of designating these areas. We concurred with the CHRT's assessment and note that even with the potential exclusions, the resulting designation includes extensive areas of medium, high, and very high conservation value; and therefore, we propose to exclude all low conservation value areas from the critical habitat designations. Specifically, we proposed to exclude the following five units from the critical habitat designation for the WNP DPS: Unit 4—Central Peninsula Area, Unit 6—Cook Inlet, Unit 7—Kenai Peninsula Area, Unit 8—Prince William Sound Area, and Unit 9—Northeastern Gulf of Alaska. Based on the application of this same decision rule, we also propose to exclude one specific area, Unit 19—California South Coast, from critical habitat for the CAM DPS. Lastly, we propose to exclude the three low-conservation-value habitat units from the critical habitat designation for the MX DPS: Unit 7—Kenai Peninsula Area, Unit 9—Northeastern Gulf of Alaska, and Unit 19—California South Coast. As discussed in the Draft Section 4(b)(2) Report (NMFS 2019b), we conclude that exclusion of these low conservation-value areas from the critical habitat designations will not result in extinction of any of the three humpback whale DPSs.

TABLE 1—CONSERVATION RATINGS AND ESTIMATED, INCREMENTAL, ANNUALIZED ECONOMIC IMPACTS ASSOCIATED WITH SECTION 7 CONSULTATIONS OVER THE NEXT 10 YEARS FOR THE SPECIFIC AREAS OF POTENTIAL CRITICAL HABITAT FOR THE WESTERN NORTH PACIFIC DPS OF HUMPBACK WHALES

Unit No.	Area	Conservation rating	Annualized impacts
1	Bristol Bay	high	$430
2	Aleutian Islands Area	very high	690–2,400
3	Shumagin Islands Area	very high	430–810
4	Central Peninsula Area	low	680–860
5	Kodiak Island Area	high	2,800–3,600
6	Cook Inlet	low	3,400–3,700
7	Kenai Peninsula Area	low	1,000
8	Prince William Sound Area	low	1,800

TABLE 1—CONSERVATION RATINGS AND ESTIMATED, INCREMENTAL, ANNUALIZED ECONOMIC IMPACTS ASSOCIATED WITH SECTION 7 CONSULTATIONS OVER THE NEXT 10 YEARS FOR THE SPECIFIC AREAS OF POTENTIAL CRITICAL HABITAT FOR THE WESTERN NORTH PACIFIC DPS OF HUMPBACK WHALES—Continued

Unit No.	Area	Conservation rating	Annualized impacts
9	Northeastern Gulf of Alaska	low	1,000

TABLE 2—CONSERVATION RATINGS AND ESTIMATED, INCREMENTAL, ANNUALIZED ECONOMIC IMPACTS ASSOCIATED WITH SECTION 7 CONSULTATIONS OVER THE NEXT 10 YEARS FOR THE SPECIFIC AREAS OF POTENTIAL CRITICAL HABITAT FOR THE CENTRAL AMERICA DPS OF HUMPBACK WHALES

Unit No.	Area	Conservation rating	Annualized impacts
11	Coastal Washington	high	$6,800–$7,500
12	Columbia River Area	medium/low	6,300
13	Coastal Oregon	medium	8,600–9,400
14	Southern Oregon/Northern California	high	2,300
15	California North Coast	medium	1,600
16	San Francisco/Monterey Bay	very high	2,700
17	California Central Coast	very high	7,200
18	Channel Islands	high	3,500
19	California South Coast	low	5,000–5,200

TABLE 3—CONSERVATION RATINGS AND ESTIMATED, INCREMENTAL, ANNUALIZED ECONOMIC IMPACTS ASSOCIATED WITH SECTION 7 CONSULTATIONS OVER THE NEXT 10 YEARS FOR THE SPECIFIC AREAS OF POTENTIAL CRITICAL HABITAT FOR THE MEXICO DPS OF HUMPBACK WHALES

Unit No.	Area	Conservation rating	Annualized impacts
1	Bristol Bay	high	$430
2	Aleutian Island Area	very high	690–2,400
3	Shumagin Islands Area	very high	430–810
4	Central Peninsula Area	medium	680–860
5	Kodiak Island Area	high	2,800–3,600
6	Cook Inlet	medium	3,400–3,700
7	Kenai Peninsula Area	low	1,000
8	Prince William Sound Area	high	1,800
9	Northeastern Gulf of Alaska	low	1,000
10	Southeastern Alaska	medium	12,000–18,000
11	Coastal Washington	very high	6,800–7,500
12	Columbia River Area	medium	6,300
13	Coastal Oregon	medium	8,600–9,400
14	Southern Oregon/Northern California	high	2,300
15	California North Coast	medium	1,600
16	San Francisco/Monterey Bay Area	very high	2,700
17	California Central Coast	very high	7,200
18	Channel Islands Area	high	3,500
19	California South Coast Area	low	5,000–5,200

Proposed Exclusions Based on National Security Impacts

Based on the written information provided by the Navy in December 2018 and information provided through subsequent discussions with Navy representatives, we evaluated whether there was a reasonably specific justification indicating that designating certain areas as critical habitat would have a probable incremental impact on national security. In accordance with our 4(b)(2) Policy (81 FR 7226, February 11, 2016), in instances where the Navy provided a reasonably specific justification, we deferred to their expert judgement as to: (1) Whether activities on its lands or waters, or its activities on other lands or waters, have national security or homeland-security implications; (2) the importance of those implications; and (3) the degree to which the cited implications would be adversely affected by the critical habitat designation. In conducting a review of these exclusion requests under section 4(b)(2) of the ESA, we also gave great weight to the Navy's national-security concerns. To weigh the national security impacts against conservation benefits of a potential critical habitat designation, we also considered the following: (1) The size of the requested exclusion and the percentage of the specific critical habitat area(s) that overlaps with the Navy area; (2) the relative conservation value of the specific area for each particular humpback whale DPS; (3) the likelihood that the Navy's activities would destroy or adversely modify critical habitat, and the likelihood that NMFS would require project modifications to reduce or avoid these impacts; and, (4) the likelihood that other Federal actions may occur in the site that would no longer be subject to the critical habitat provision if the

particular area were excluded from the designation.

As noted above, SEAFAC is a small installation (48 nmi²), comprising only 0.22 percent of Unit 10, which covers 22,152 nmi² of marine habitat within Southeast Alaska, and lies entirely outside of the recognized feeding BIA in this region (Ferguson *et al.* 2015). Unit 10 was found to have a medium conservation value for the MX DPS of humpback whales. Given the Navy's substantial and specific concerns regarding the potential impact of a designation on their activities within SEAFAC, the extremely small relative size of the requested exclusion, the medium conservation rating of the habitat, and fact that other Federal activities are unlikely to occur in this area, we determined that benefits of excluding this area due to national security impacts outweigh the benefits of designating this area as critical habitat for the MX DPS. Therefore, we are proposing to exclude the SEAFAC area from the designation of critical habitat for the MX DPS of humpback whales, and the boundaries of Unit 10 have been adjusted accordingly.

After considering the information provided by the Navy regarding potential impacts on national security stemming from the designation of a portion of Unit 11 as critical habitat, we found that the Navy had provided a reasonably specific justification for their requested exclusion of the area overlapping with the QRS as well the 10-km buffer surrounding the QRS. The requested exclusion comprises about 44 percent of the area of Unit 11, which was rated as having a high conservation value for the CAM DPS and a very high conservation value for the MX DPS. To get a more precise sense of the value of the specific QRS area (including the buffer) to the whales, we reviewed the overlap of the QRS with the location of the BIA and the predicted whale densities from Becker *et al.* (2016), which modeled predicted densities in approximately 10 km by 10 km grid cells. Those comparisons indicated that the QRS is entirely outside of, and south of, the BIA, and overlaps partially with the area where the highest densities of humpback whales are predicted to occur within Unit 11. In other words, an exclusion of the QRS and buffer area would not remove from the designation much of the comparatively high value locations within Unit 11. The Navy also indicated that while access to this area is not as tightly controlled as with SEAFAC, they do exert significant influence in terms of limiting other Federal activities within this the QRS. Overall, given the Navy's substantial and specific concerns regarding the potential impact of a critical habitat designation on their unique testing and training activities that occur within the QRS and the potential delay in critical missions in order to complete adverse modification analyses, we determined that the benefits of excluding the QRS and buffer due to national security impacts outweighs the benefits of designating this portion of Unit 11 as critical habitat for the MX and CAM DPSs. Thus, we propose to exclude this DOD area from the critical habitat designations for both the MX and CAM DPSs, and the boundaries of Unit 11 have been adjusted accordingly.

We considered the information provided by the Navy concerning potential impacts on national security stemming from the designation of Unit 19 as critical habitat, and found that the Navy had provided a reasonably specific justification for their requested exclusion. We considered the information provided by the Navy regarding the nature and types of training and testing activities that occur within the SOCAL range complex (*e.g.,* anti-submarine warfare, torpedo, mine countermeasure, gun, missile and rocket, and propulsion testing) to evaluate their potential to affect humpback whale critical habitat. We also reviewed the discussions about particular impacts provided in the Navy's 2018 Final Environmental Impact Statement for Hawaii-Southern California Training and Testing (*e.g.,* impacts to fish and invertebrates). We agree with the Navy's assessment that the activities that occur in the SOCAL range complex, many of which occur with high frequency, have the potential to impact humpback whale prey species, with the degree of impact depending on the nature of the particular activity. We also considered that Unit 19 had been assessed as having low conservation value to both the MX and CAM DPSs of humpback whales. Although this exclusion request extended over the entirety of Unit 19, given the low conservation value rating this area received for each DPS, we concluded that the benefit of exclusion of this particular area outweighs the benefit of including it in either designation. Overall, we concurred with the Navy that designation of Unit 19 would likely have national security impacts that outweigh the benefits of designating this low conservation value area. Thus, even though we had previously determined that Unit 19 should be proposed for exclusion based on economic impacts, we made an independent determination to propose to exclude this area as a result of national security impacts. This conclusion further supports the proposed exclusion of Unit 19 under section 4(b)(2) of the ESA.

Proposed Critical Habitat Designations

For the endangered WNP DPS of humpback whales, we propose to designate 78,690 nmi² of marine habitat off the coast of Alaska as occupied critical habitat. (The proposed designation encompasses Units 1, 2, 3, and 5 as shown in Figure 1.) The specific areas included in the proposed designation are seasonal feeding areas for humpback whales and contain the essential prey feature. A total area of 44,119 nmi² is proposed for exclusion, because the benefits of exclusion were found to outweigh the benefits of inclusion of these areas. Specifically, the limited conservation benefits of designating the relevant specific areas (*i.e.,* Units 4, 6, 7, 8, and 9) were found to be outweighed by the economic impact of designating these areas. Each of the areas recommended for inclusion in the designation for the WNP DPS (*i.e.,* Units 1, 2, 3, and 5) contains a humpback whale feeding BIA and was rated as having high or very high conservation value for the WNP DPS. Although one of the areas proposed for exclusion (*i.e.,* Unit 8) also contains a humpback whale feeding BIA, whales from the WNP DPS have not been directly observed within this unit and presence has only been inferred based on the available data. We also find that the exclusion of Units 4, 6, 7, 8, and 9 from a designation of critical habitat for the WNP DPS of humpback whales would not result in extinction of this DPS, because these whales are not expected to rely on these areas for feeding (NMFS 2019a). No other exclusions are proposed for this DPS. We have not identified any unoccupied areas that are essential to the conservation of this DPS, thus we are not proposing to designate any unoccupied areas.

For the endangered CAM DPS of humpback whales, we propose to designate 48,459 nmi² of marine habitat off the coasts of Washington, Oregon, and California as occupied critical habitat. (The proposed designation encompasses part of Unit 11 and Units 12–18 as shown in Figure 1.) The areas being proposed for designation contain the essential prey feature and serve as the only major feeding areas for the CAM DPS; thus, these areas are critical to supporting population growth and recovery of this endangered DPS. A total of 14,489 nmi² of marine habitat is proposed for exclusion, because the

benefits of exclusion were found to outweigh the benefits of inclusion of this area. Specifically, the limited conservation benefits of designating the relevant specific area (*i.e.,* Unit 19—California south Coast Area) were found to be outweighed by the economic impact of designating this area. Exclusion of this area, which is not predicted to be a high use area in the summer/fall, will not result in the extinction of this DPS. An area of about 1,522 nmi² corresponding to a Navy testing and training area off the coast of Washington (QRS and buffer) is being proposed for exclusion as a result of national security impacts. While this exclusion does fall within high to very high conservation-value feeding habitat for this DPS, it does fall outside of the recognized feeding BIA and is small relative to the total size of the proposed designation, which extends over 48,459 nmi² of marine waters off of Washington, Oregon, and California. Therefore, we conclude that this proposed exclusions will not result in the extinction of this DPS.

The boundary for Unit 18 (Channel Island Area) was also adjusted so that the footprint of the SNI INRMP (around Begg Rock) and of the NBVC Point Mugu INRMP (*i.e.,* waters around San Miguel and Prince Islands) are not included in the proposed designation, as these areas were determined to be ineligible for designation as critical habitat under section 4(a)(3)(B)(i) of the ESA. We have not identified any unoccupied areas that are essential to the conservation of the CAM DPS, thus we are not proposing to designate any unoccupied areas.

For the threated MX DPS of humpback whales, we propose to designate 175,812 nmi² of marine habitat off the coasts of Alaska, Washington, Oregon, and California as occupied critical habitat. (The proposed designation encompasses Units 1–6, 8, most of Unit 10, part of Unit 11, and Units 12–18; Figure 1.) The areas being proposed for designation are seasonal feeding areas that contain the essential prey feature, and are critical in supporting population growth and recovery of this wide-ranging threatened DPS. A total of 32,097 nmi² of marine habitat is proposed for exclusion, because the benefits of exclusion were found to outweigh the benefits of inclusion of these areas. Specifically, the limited conservation benefits of designating the relevant specific areas (*i.e.,* Unit 7—Kenai Peninsula Area, Unit 9—Northeastern Gulf of Alaska, and Unit 19—California south Coast Area) were found to be outweighed by the economic impact of designating these areas. Given the limited conservation benefits of designating these areas, exclusion of these areas will not result in extinction of this DPS. About 1,570 nmi² of marine habitat corresponding to two Navy areas, one in Southeast Alaska (SEAFAC) and one off the coast of Washington (QRS) are being proposed for exclusion as a result of national security impacts. Although these proposed exclusions are within feeding habitat of medium and high conservation value for this DPS, they are both outside of recognized BIAs, and they comprise a small area relative to the total size of the proposed designation, which includes coastal marine waters off Alaska, Washington, Oregon, and California. Therefore, we conclude that these proposed exclusions will not result in the extinction of the MX DPS.

As described above for the CAM DPS, the boundary for Unit 18 (Channel Island Area) was also adjusted so that the footprint of the SNI INRMP (around Begg Rock) and of the NBVC Point Mugu INRMP (*i.e.,* waters around San Miguel and Prince Islands) are not included in the proposed designation, as these areas were determined to be ineligible for designation as critical habitat under section 4(a)(3)(B)(i) of the ESA. We have not identified any unoccupied areas that are essential to the conservation of the MX DPS, thus we are not proposing to designate any unoccupied areas.

Effects of Critical Habitat Designations

Section 7(a)(2) of the ESA requires Federal agencies, including NMFS, to ensure that any action authorized, funded or carried out by the agency (agency action) is not likely to jeopardize the continued existence of any threatened or endangered species or destroy or adversely modify designated critical habitat. Federal agencies must consult with us on any proposed agency action that may affect the listed species or its critical habitat. During interagency consultation, we evaluate the agency action to determine whether the action may adversely affect listed species or critical habitat and issue our finding in a biological opinion. The potential effects of a proposed action may depend on, among other factors, the specific timing and location of the action relative to seasonal presence of essential features or seasonal use of critical habitat by the listed species for essential life history functions. While the requirement to consult on an action that may affect critical habitat applies regardless of the season, NMFS addresses the varying spatial and temporal considerations when evaluating the potential impacts of a proposed action during consultation. If we conclude in the biological opinion that the agency action would likely result in the destruction or adverse modification of critical habitat, we would also recommend any reasonable and prudent alternatives to the action.

Reasonable and prudent alternatives are defined in 50 CFR 402.02 as alternative actions identified during formal consultation that can be implemented in a manner consistent with the intended purpose of the action, that are consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that would avoid the destruction or adverse modification of critical habitat. The Service may also provide with the biological opinion a statement containing discretionary conservation recommendations. Conservation recommendations are advisory and are not intended to carry any binding legal force.

Regulations at 50 CFR 402.16 require Federal agencies that have retained discretionary involvement or control over an action, or where such discretionary involvement or control is authorized by law, to reinitiate consultation on previously reviewed actions in instances where: (1) Critical habitat is subsequently designated; or (2) new information or changes to the action may result in effects to critical habitat not previously considered in the biological opinion. Consequently, some Federal agencies may request reinitiation of consultation or conference with NMFS on actions for which formal consultation has been completed, if those actions may affect designated critical habitat for the WNP, CAM, or MX DPSs of humpback whales.

Activities subject to the ESA section 7 consultation process include activities on Federal lands, as well as activities requiring a permit or other authorization from a Federal agency (*e.g.,* a section 10(a)(1)(B) permit from NMFS), or some other Federal action, including funding (*e.g.,* Federal Emergency Management Agency funding). ESA section 7 consultation would not be required for Federal actions that do not affect listed species or critical habitat, and would not be required for actions on non-Federal and private lands that are not carried out, funded, or authorized by a Federal agency.

Activities That May Be Affected

ESA section 4(b)(8) requires, to the maximum extent practicable, in any proposed regulation to designate critical habitat, an evaluation and brief

description of those activities (whether public or private) that may adversely modify such habitat or that may be affected by such designation. A wide variety of activities may affect the proposed critical habitat and may be subject to the ESA section 7 consultation processes when carried out, funded, or authorized by a Federal agency. These include: (1) Federal fisheries, (2) oil and gas activities (including seismic surveys), (3) alternative energy development, (4) in-water construction (including dredging and offshore mining), (5) vessel traffic (specifically, activities related to establishment of the shipping lanes established by the USCG), (6) aquaculture, (7) military activities, (8) LNG terminal activities, (9) space vehicle and missile launches, (10) water quality management (including pesticide registration, establishment of water quality standards, and Clean Water Act general permits), (11) U.S. Forest Service activities (related to timber and forest management), and (12) inland activities (including power plant operations, land management pesticide/herbicide application, and NPDES permitting).

Private or non-Federal entities may also be affected by the proposed critical habitat designation if there is a Federal nexus in that a Federal permit is required, Federal funding is received, or the entity is involved in or receives benefits from a Federal project. These activities would need to be evaluated with respect to their potential to destroy or adversely modify humpback whale critical habitat. As noted in the solicited comments section below, NMFS also requests information on the types of non-Federal activities that may be affected by this rulemaking.

Public Comments Solicited

To ensure the final action resulting from this proposed rule will be as accurate and effective as possible, we solicit comments and information from the public, other concerned government agencies, Federally recognized tribes and organizations, the scientific community, industry, non-governmental organizations, and any other interested party concerning the proposed designations of critical habitat for the WNP, CAM, and MX DPSs of humpback whales. In particular, we are interested in data and information regarding the following: (1) The distribution and habitat use of whales of the WNP, CAM, or MX DPS in coastal waters within the North Pacific; (2) the relative conservation value of the 19 specific units of critical habitat to the specific, relevant DPSs of humpback whales that occur in each area; (3) how medium conservation value areas were assessed and weighed relative to the impacts associated with designating these particular areas (*i.e.,* should the designation include particular medium conservation-value areas or exclude them?); (4) the boundaries of the specific areas and of the proposed critical habitats; (5) the nearshore distribution of humpback whales in waters off Alaska, and whether the benefits of excluding areas closest to shore outweigh the benefits associated with designating these areas; and, if nearshore areas are excluded, what would be an appropriate distance; (6) information regarding potential benefits of designating any particular area as critical habitat; (7) information regarding the types of Federal actions that may trigger an ESA section 7 consultation and the possible modifications that may be required of those activities; (8) information regarding current or planned activities in the areas proposed as critical habitat, including both Federal and non-Federal activities, that may be impacted by the proposed critical habitat designation; (9) any foreseeable economic, national security, Tribal, or other relevant impact resulting from the proposed designations, including costs arising from project delays due to section 7 consultations; (10) whether any data used in the economic analysis needs to be updated; (11) additional costs arising specifically from humpback whale critical habitat that have not been identified in the Draft Economic Analysis or improved costs estimates for activities that are included in the Draft Economic Analysis; (12) additional information regarding impacts on small businesses and Federally recognized tribes that were not identified in the Draft Economic Analysis or the initial regulatory flexibility analysis; and, (13) any information relevant to potential exclusions of particular areas that are smaller than those considered (*e.g.,* a particular area encompassing the San Francisco Traffic Separation Scheme). To the extent possible, we request that the data or information provided be clearly specific to one or more of the DPS addressed in this proposed rule.

You may submit your comments and materials concerning this proposal by any one of several methods (see **ADDRESSES**). The proposed rule and supporting documentation can be found on the Federal e-Rulemaking Portal at *www.regulations.gov/#!docketDetail;D=NOAA-NMFS-2019-0066.* In preparing the final rule, we will consider all comments pertaining to the proposed designations received during the comment period. Accordingly, the final decision may differ from this proposed rule.

Public Hearings

Agency regulations at 50 CFR 424.16(c)(3) require 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 designate critical habitat. Public hearings provide the opportunity for interested individuals and parties to give comments, exchange information and opinions, and engage in a constructive dialogue concerning this proposed rule. We encourage the public's involvement in such ESA matters. Public hearings and the dates and specific locations for these hearings will be announced in a separate **Federal Register** notice. Requests for additional public hearings must be made in writing (see **ADDRESSES**) by November 25, 2019.

References Cited

A complete list of all references cited in this proposed rule can be found on the Federal e-Rulemaking Portal at *www.regulations.gov/#!docketDetail;D=NOAA-NMFS-2019-0066,* and is available upon request from the NMFS Office of Protected Resources (see **ADDRESSES**).

Classifications

National Environmental Policy Act

We have determined that an environmental analysis as provided for under the National Environmental Policy Act of 1969 for critical habitat designations made pursuant to the ESA is not required. See *Douglas County* v. *Babbitt,* 48 F.3d 1495 (9th Cir. 1995), cert. denied, 116 S.Ct. 698 (1996).

Regulatory Flexibility Act

Under the Regulatory Flexibility Act (RFA) (5 U.S.C. 601 *et seq.*), as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996, whenever an agency publishes a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (*i.e.,* small businesses, small organizations, and small government jurisdictions). We have prepared an initial regulatory flexibility analysis (IRFA), which is provided in chapter 5 of the Draft Economic Analysis (IEc 2019a). The IRFA describes the economic impact this proposed rule, if adopted, would have on small entities. The IRFA is summarized below.

As discussed previously in this preamble and in our IRFA (see chapter 5 of IEc 2019a), the designation of critical habitat is required under the ESA, and in this particular case, is also required pursuant to a court-approved settlement agreement. Section 4 of the ESA, requires us to designate, to the maximum extent prudent and determinable, the specific areas that contain the physical or biological features essential to the conservation of the species and that may require special management considerations or protections. This proposed critical habitat rule does not directly apply to any particular entity, small or large. The rule would operate in conjunction with ESA section 7(a)(2), which requires that Federal agencies ensure, in consultation with NMFS, that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species or destroy or adversely modify critical habitat. Consultations may result in economic impacts to Federal agencies and proponents of proposed actions (*e.g.,* permittees, applicants, grantees). Those economic impacts may be in the form of administrative costs of participating in a section 7 consultation and, if the consultation results in required measures to protect critical habitat, project modification costs.

This proposed rule will not impose any recordkeeping or reporting requirements on small entities. The critical habitat designations would require that Federal agencies initiate a section 7 consultation to ensure their actions do not destroy or adversely modify critical habitat. During formal consultation under the ESA, there may be communication among NMFS, the action agency, and a third party participant applying for Federal funding or permitting in an effort to minimize potential adverse impacts to the habitat or essential feature. Communication may include written letters, phone calls, and/or meetings. Project variables such as the type of consultation, the location of the activity, impacted essential features, and activity of concern, may in turn dictate the complexity of these interactions. Third party costs may include administrative work, such as cost of time and materials to prepare for letters, calls, or meetings. The cost of analyses related to the activity and associated reports may be included in these administrative costs. In addition, following the section 7 consultation process, as a requirement of the funding or permit received from the Federal action agency, entities may be required to monitor progress during the said activity to ensure that impacts to the habitat and features have been minimized.

The proposed rule will not duplicate or conflict with any other laws or regulations. However, the protection of listed species and habitat under critical habitat may overlap other sections of the ESA. The protections afforded to threatened and endangered species and their habitat are described in section 7, 9, and 10 of the ESA. A final determination to designate critical habitat requires Federal agencies to consult, pursuant to section 7 of the ESA, with NMFS on any activities the Federal agency funds, authorizes, or carries out, including permitting, approving, or funding non-Federal activities (*e.g.,* a Clean Water Act, Section 404 dredge or fill permit from USACE). The requirement to consult is to ensure that any Federal action authorized, funded, or carried out will not likely jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat. The incremental impacts contemplated in this IRFA are expected to result from the critical habitat designation and not from other Federal regulations.

While we do not here prejudge the outcome of any interagency consultation, the best available information supports the conclusion that for most, if not all, of the Federal activities predicted to occur over the time horizon of the analysis (*i.e.,* in the next 10 years), if the effects to critical habitat will be adverse and require formal consultation, those effects are also expected to constitute adverse effects to listed humpback whales or other listed species or designated critical habitat, either directly or indirectly. Thus, as discussed previously, projects that might adversely affect the proposed essential feature and proposed humpback whale critical habitat are not expected to result in incremental project modification costs. Therefore, the only costs of this class of actions that are attributable to this rule are the administrative costs of adding critical habitat analyses to a consultation that would otherwise occur anyway.

The designation of critical habitat humpback whales is expected to have a limited economic impact, on the order of $6,900–$9,700 annualized over ten years (at a 7 percent discount rate) for the WNP DPS, $42,000–$43,000 for the CAM DPS, and $64,000–$75,000 for the MX DPS. The nature of these costs are administrative efforts to consider potential for adverse modification as part of future ESA section 7 consultations. Primarily, consultations are between NMFS and Federal action agencies to evaluate the potential for projects and activities to result in adverse modification of critical habitat. Therefore, most incremental impacts are borne by NMFS and other Federal agencies and not by private entities or small governmental jurisdictions. However, some consultations may include third parties (*e.g.,* project proponents or landowners) that may be small entities.

The best available information was used to identify the potential impacts of critical habitat on small entities. However, there are uncertainties that complicate quantification of these impacts, particularly with respect to the extent to which the quantified impacts may be borne by small entities. As a result, the IRFA employed a conservative approach (*i.e.,* more likely to overestimate than underestimate impacts to small entities) in assuming that the quantified costs that are not borne by the Federal government are borne by small entities. Because the critical habitat under consideration occurs in marine waters, the analysis also focused on small entities located in counties along the Pacific Coast of California, Oregon, and Washington, and in coastal counties in Alaska.

For all activities categories relevant to this analysis except in-water and coastal construction (*i.e.,* commercial fishing, oil and gas, alternative energy, aquaculture, LNG facilities, water quality management, and inland activities), the expected costs borne by third parties in related industries is expected to be negligible. For each of these activities, two or fewer consultations are anticipated per year spread across the area that was under consideration for humpback whale critical habitat. As a result, the annualized incremental costs that may be borne by small entities in related industries is estimated to be less than $2,200. The analysis, therefore, focused on the costs of consultations on in-water and coastal construction activities, which occur more frequently within the critical habitat area. As described in chapter 5 of the DEA (IEc 2019a), approximately eight consultations per year focus on in-water and coastal construction activities. The majority of these (six per year) are concentrated within critical habitat Unit 10 in Alaska. As such, the analysis focused on the small businesses and government jurisdictions in the region surrounding critical habitat Unit 10.

Relevant businesses in North American Industry Classification

System (NAICS) included the following industry sectors: Sand, Gravel, Clay and Ceramic Mining and Quarrying; Water and Sewer Line and Related Structures Construction; Oil and Gas Pipeline and Related Structures Construction; Power and Communication Line and Related Structures Construction; Highway, Street, and Bridge Construction; Other Heavy and Civil Engineering Construction; Dredging and Surface Cleanup Activities. Along with private businesses, there also may be consultations for which small governmental jurisdictions (*i.e.,* jurisdictions with populations of less than 50,000 people) are the third parties participating in the consultations rather than businesses. The IRFA identified 21 small government jurisdictions adjacent to critical habitat units that may be involved in future consultations. Seven of these areas—Juneau Borough, Sitka Borough, Haines Borough, Ketchikan Gateway Borough, Prince of Wales-Outer Ketchikan Census Area, Skagway-Hoonah-Angoon Census Area, and Wrangell-Petersburg Census Area—are adjacent to critical habitat Unit 10.

Ultimately, based on the IRFA, up to eight small entities per year may bear costs associated with participation in consultation regarding humpback whale critical habitat. The total annualized administrative costs that may be borne by these small entities (businesses or governments) engaged in in-water and coastal construction activities is $4,900 (discounted at seven percent). Across all in-water and coastal construction NAICS codes, the average annual revenues are $1.3 million for the small businesses identified. As a result, the total estimated annualized administrative costs of $4,900 represent less than 0.4 percent of average annual revenues at these businesses.

The RFA, as amended by SBREFA, requires us to consider alternatives to the proposed regulation that will reduce the impacts to small entities. We considered three alternatives. First, we considered the alternative of not designating critical habitat for any of the three humpback whale DPSs. This alternative would impose no additional economic, national security or other relevant impacts. However, after compiling and reviewing the biological information for these DPSs, we rejected this alternative because it would violate section 4 of the ESA, which specifically requires that we designate critical habitat to the maximum extent prudent and determinable based on consideration of the best available scientific information. A second alternative we considered was to propose to designate all areas meeting the ESA section 3 definition of critical habitat. However, following our consideration of probable national security, economic, and other relevant impacts of designating all the specific areas, we rejected this alternative. In particular, and as described in our Draft Section 4(b)(2) Report, we determined that the benefits of excluding some specific areas outweighed the conservation benefits of designating those specific areas, and thus, pursuant to section 4(b)(2) of the ESA, we are exercising our discretion to propose to exclude some of the specific areas for each of the three DPSs (see NMFS 2019b). A third alternative of designating a subset of the specific areas meeting statutory definition of critical habitat was considered and is the preferred alternative. As stated previously, under section 4(b)(2) of the ESA, we have the discretion to exclude a particular area from designation as critical habitat even though it meets the definition of ''critical habitat'' if the benefits of exclusion (*i.e.,* the impacts that would be avoided if an area was excluded from the designation) outweigh the benefits of designation (*i.e.,* the conservation benefits to the humpback whale if an area was designated), so long as exclusion of the area will not result in extinction of the species. Exclusion under section 4(b)(2) of the ESA of one or more of the areas considered for designation would reduce the total impacts of designation. This alternative—which is the approach taken in the proposed rule—would result in a critical habitat designation that provides for the conservation of the species while potentially reducing the economic, national security and other relevant impacts on entities.

Coastal Zone Management Act

Under section 307(c)(1)(A) of the Coastal Zone Management Act (CZMA) (16 U.S.C. 1456(c)(1)(A)) and its implementing regulations, each Federal activity within or outside the coastal zone that has reasonably foreseeable effects on any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State coastal management programs. We have determined that the proposed designation of critical habitat designation for the CAM and MX DPSs of humpback whales is consistent to the maximum extent practicable with the enforceable policies of the approved Coastal Zone Management Programs of Washington, Oregon, and California. This determination has been submitted to the responsible agencies in the aforementioned states for review.

By operation of Alaska State law, the Federally approved Alaska Coastal Management Program expired on July 1, 2011, resulting in a withdrawal from participation in the CZMA's National Coastal Management Program (76 FR 39857, July 7, 2011). The CZMA Federal consistency provision, section 307, no longer applies in Alaska.

Paperwork Reduction Act

The purpose of the Paperwork Reduction Act is to minimize the paperwork burden for individuals, small businesses, educational and nonprofit institutions, and other persons resulting from the collection of information by or for the Federal government. This proposed rule does not contain any new or revised collection of information. This rule, if adopted, would not impose recordkeeping or reporting requirements on State or local governments, individuals, businesses, or organizations.

Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)

The designation of critical habitat does not impose an ''enforceable duty'' on state, local, tribal governments, or the private sector and therefore does not qualify as a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an ''enforceable duty'' upon non-Federal governments, or the private sector and includes both ''Federal intergovernmental mandates'' and ''Federal private sector mandates.''

This proposed rule will not produce a Federal mandate. The designation of critical habitat does not impose an enforceable or legally-binding duty on non-Federal government entities or private parties. The only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat under section 7 of the ESA. Non-Federal entities that receive Federal funding, assistance, permits or otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, but the Federal agency has the legally binding duty to avoid destruction or adverse modification of critical habitat. We do not find that this proposed rule would significantly or uniquely affect small governments because it is not likely to produce a Federal mandate of $100 million or greater in any year; that is, it is not a ''significant regulatory action'' under the Unfunded Mandates Reform Act. In addition, the designation of critical

habitat imposes no obligations on local, state or tribal governments. Therefore, a Small Government Agency Plan is not required.

Executive Order 13175, Consultation and Coordination With Indian Tribal Governments

The longstanding and distinctive relationship between the Federal and tribal governments is defined by treaties, statutes, executive orders, judicial decisions, and co-management agreements, which differentiate tribal governments from the other entities that deal with, or are affected by, the Federal Government. This relationship has given rise to a special Federal trust responsibility involving the legal responsibilities and obligations of the United States toward Indian tribes and the application of fiduciary standards of due care with respect to Indian lands, tribal trust resources, and the exercise of tribal rights. Executive Order 13175 on Consultation and Coordination with Indian Tribal Governments outlines the responsibilities of the Federal Government in matters affecting tribal interests. Section 161 of Public Law 108–199 (188 Stat. 452), as amended by section 518 of Public Law 108–447 (118 Stat. 3267), directs all Federal agencies to consult with Alaska Native corporations on the same basis as Indian tribes under E.O. 13175.

As all of the specific areas under consideration as potential critical habitat area were located seaward of the coast line, we preliminarily found that there were no Indian lands subject to consideration for possible exclusion. However, the areas we were considering as potential critical habitat overlap with areas used by Indian tribes and Alaska Natives for subsistence, cultural, usual and accustomed fishing, or other purposes. Thus, consistent with the Secretarial Order (#3206), *American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act,* and Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments* (2000), we notified Native corporations and tribal governments early on in the process to develop this proposed rule to provide time for meaningful consultation and/or collaboration with appropriate staffs to inform any proposed critical habitat designation. Specifically, we contacted potentially affected tribes and Native groups by mail and offered them the opportunity to consult on and discuss any concerns regarding the designation of critical habitat for humpback whales. We received no requests for consultation in response to this mailing. However, in November 2018, we received requests for technical-to-technical meetings from the Quileute Tribe and the Quinault Indian Nation.

A technical meeting with representatives from the Quinault Indian Nation was held on December 14, 2018, to share information and discuss concerns regarding a designation of critical habitat for humpback whales. Immediately following that meeting, we provided additional materials and maps to the Quinault representatives. We did not receive any further correspondence from the Quinault Indian Nation. We made several attempts to schedule the requested meeting with the Quileute Tribe; however, we did not receive further correspondence in response to our last effort to schedule a meeting. If we receive any additional requests in response to this proposed rule, we will individually respond to each request prior to issuing a final rule. However, at this time and on the basis of the foregoing communications, it does not appear that this designation will have ''tribal implications'' (defined as having a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes) such as would trigger a requirement to conduct Government to Government consultations.

Information Quality Act and Peer Review

The data and analyses supporting this proposed action have undergone a pre-dissemination review and have been determined to be in compliance with applicable information quality guidelines implementing the Information Quality Act (Section 515 of Pub. L. 106–554).

On December 16, 2004, the Office of Management and Budget (OMB) issued its Final Information Quality Bulletin for Peer Review (Bulletin). The Bulletin was published in the **Federal Register** on January 14, 2005 (70 FR 2664). The primary purpose of the Bulletin is to improve the quality and credibility of scientific information disseminated by the Federal government by requiring peer review of ''influential scientific information'' and ''highly influential scientific information'' prior to public dissemination. ''Influential scientific information'' is defined as ''information the agency reasonably can determine will have or does have a clear and substantial impact on important public policies or private sector decisions.'' The Bulletin provides agencies broad discretion in determining the appropriate process and level of peer review. Stricter standards were established for the peer review of ''highly influential scientific assessments,'' defined as information whose ''dissemination could have a potential impact of more than $500 million in any one year on either the public or private sector or that the dissemination is novel, controversial, or precedent-setting, or has significant interagency interest.''

The information in the Draft Biological Report (NMFS 2019a) and the DEA (IEc 2019a) supporting this proposed critical habitat rule are considered influential scientific information and subject to peer review. To satisfy our requirements under the OMB Bulletin, we obtained independent peer review of the information used to draft both of these reports, and incorporated the peer reviewer comments as applicable into the draft reports prior to dissemination of this proposed rulemaking. Comments received from peer reviewers of the DEA and the Draft Biological Report are available online at *https://www.cio.noaa.gov/services_programs/prplans/ID404.html* and *https://www.cio.noaa.gov/services_programs/prplans/ID400.html,* respectively.

Executive Order 12630, Takings

Under E.O. 12630, Federal agencies must consider the effects of their actions on constitutionally protected private property rights and avoid unnecessary takings of property. A taking of property includes actions that result in physical invasion or occupancy of private property that substantially affect its value or use. In accordance with E.O. 12630, the proposed rule does not have significant takings implications. The designation of critical habitat affects only Federal agency actions. Further, no areas of private property exist within the proposed critical habitat and therefore none would be affected by this action. Therefore, a takings implication assessment is not required.

Executive Order 12866, Regulatory Planning and Review, and Executive Order 13771, Reducing Regulation and Controlling Regulatory Costs

OMB has determined that this proposed rule is significant for purposes of E.O. 12866 review. A Draft Economic Report (IEc 2019a) and Draft ESA Section 4(b)(2) Report (NMFS 2019b) have been prepared to support the exclusion process under section 4(b)(2) of the ESA and our consideration of alternatives to this rulemaking as required under E.O. 12866. To review

these documents, see the **ADDRESSES** section above.

Based on the Draft Economic Report (IEc 2019a), the total estimated present value of the quantified incremental impacts of the proposed critical habitat designation for the WNP DPS are approximately $61,000–$85,000 over the next 10 years. Assuming a 7 percent discount rate on an annualized basis, the impacts are estimated to be $6,900–$9,700 per year. These total impacts include the additional administrative efforts necessary to consider critical habitat in section 7 consultations. These impacts are also not additive with those associated with the MX DPS, as the areas proposed for the WNP DPS are entirely overlapping with areas being proposed for the MX DPS. Overall, economic impacts are expected to be small and largely associated with the administrative costs borne by Federal agencies. While there are expected beneficial economic impacts of designating critical habitat for the WNP DPS, insufficient data are available to monetize those impacts (see Benefits of Designation section).

Based on the Draft Economic Report (IEc 2019a), the total estimated present value of the quantified incremental impacts of the proposed critical habitat designation for the CAM DPS are approximately $370,000–$380,000 over the next 10 years. Assuming a 7 percent discount rate on an annualized basis, the impacts are estimated to be $42,000–$43,000 per year. These total impacts include the additional administrative efforts necessary to consider critical habitat in section 7 consultations. These impacts are also not additive with those associated with the MX DPS, as the areas proposed for the CAM DPS are entirely overlapping with areas being proposed for the MX DPS. Overall, economic impacts are expected to be small and largely associated with the administrative costs borne by Federal agencies. While there are expected beneficial economic impacts of designating critical habitat for the CAM DPS, insufficient data are available to monetize those impacts (see Benefits of Designation section).

Based on the Draft Economic Report (IEc 2019a), the total estimated present value of the quantified incremental impacts of the proposed critical habitat designation for the MX DPS are approximately $570,000–$660,000 over the next 10 years. Assuming a 7 percent discount rate on an annualized basis, the impacts are estimated to be $64,000–$75,000 per year. These total impacts include the additional administrative efforts necessary to consider critical habitat in section 7 consultations. Overall, economic impacts are expected to be small and largely associated with the administrative costs borne by Federal agencies. These impacts are also not additive with those associated with the WNP and CAM DPSs, as the areas proposed for the MX DPS are almost entirely overlapping with areas being proposed for another DPS. Because the proposed designation for the this DPS extends over all other areas proposed as critical habitat for the other two DPSs, the estimated economic impacts associated with the proposed designation for the MX DPS actually represent the total estimated impacts across all DPSs. As with the other DPSs, there are expected beneficial economic impacts of designating critical habitat for the MX DPS; however, insufficient data are available to monetize those impacts (see Benefits of Designation section).

This proposed rulemaking is expected to be considered ''regulatory'' under E.O. 13771.

Executive Order 13132, Federalism

Executive Order 13132 requires agencies to take into account any federalism impacts of regulations under development. It includes specific consultation directives for situations in which a regulation may preempt state law or impose substantial direct compliance costs on state and local governments (unless required by statute). Pursuant to E.O. 13132, we determined that this proposed rule does not have significant federalism effects and that a federalism assessment is not required. The designation of critical habitat directly affects only the responsibilities of Federal agencies. As a result, the proposed rule does not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in the Order. State or local governments may be indirectly affected by the proposed designation if they require Federal funds or formal approval or authorization from a Federal agency as a prerequisite to conducting an action. In these cases, the State or local government agency may participate in the section 7 consultation as a third party. However, in keeping with Department of Commerce policies and consistent with ESA regulations at 50 CFR 424.16(c)(1)(ii), we will request information for this proposed rule from the appropriate state resources agencies in Alaska, Washington, Oregon, and California.

Executive Order 13211, Energy Supply, Distribution, and Use

E.O. 13211 requires agencies to prepare a Statement of Energy Effects when undertaking a significant energy action. Under E.O. 13211, a significant energy action means any action by an agency that is expected to lead to the promulgation of a final rule or regulation that is a significant regulatory action under E.O. 12866 and is likely to have a significant adverse effect on the supply, distribution, or use of energy. We have considered the potential impacts of this proposed action on the supply, distribution, or use of energy and find that the designation of critical habitat would not have impacts that exceed the thresholds identified in OMB's memorandum M–01–27, Guidance for Implementing E.O. 13211. Thus, this proposed designation, if finalized, would not have a significant adverse effect within the meaning of the executive order. The energy impacts analysis is presented in chapter 5 of the Draft Economic Analysis (IEc 2019a).

List of Subjects

50 CFR Part 223

Endangered and threatened species, Exports, Imports, Transportation.

50 CFR Part 224

Endangered and threatened species, Exports, Imports, Transportation.

50 CFR Part 226

Endangered and threatened species.

Dated: September 25, 2019.

Samuel D. Rauch III,

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

For the reasons set out in the preamble, 50 CFR parts 223, 224, and 226 are proposed to be amended as follows:

PART 223—THREATENED MARINE AND ANADROMOUS SPECIES

■ 1. The authority citation for part 223 continues to read as follows:

Authority: 16 U.S.C. 1531–1543; subpart B, § 223.201–202 also issued under 16 U.S.C. 1361 *et seq.;* 16 U.S.C. 5503(d) for § 223.206(d)(9).

■ 2. In § 223.102, in paragraph (e), add a new citation, in alphabetical order, under the critical habitat column for the ''whale, humpback (Mexico DPS)'' under Marine Mammals to read as follows:

§ 223.102 Enumeration of threatened marine and anadromous species.

* * * * *

(e) * * *

Species [1]			Citation(s) for listing determination(s)	Critical habitat	ESA rules
Common name	Scientific name	Description of listed entity			
Marine Mammals					
*	*	*	*	*	*
Whale, humpback (Mexico DPS).	*Megaptera novaeangliae.*	Humpback whales that breed or winter in the area of mainland Mexico and the Revillagigedo Islands, transit Baja California, or feed in the North Pacific Ocean, primarily off California-Oregon, northern Washington-southern British Columbia, northern and western Gulf of Alaska and East Bering Sea.	81 FR 62260, Sept. 8, 2016.	*[Insert 226.227]*	223.213
*	*	*	*	*	*

[1] Species includes taxonomic species, subspecies, distinct population segments (DPSs) (for a policy statement, see 61 FR 4722; February 7, 1996), and evolutionarily significant units (ESUs) (for a policy statement, see 56 FR 58612; November 20, 1991).

PART 224—ENDANGERED MARINE AND ANADROMOUS SPECIES

■ 3. 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.*

■ 4. In § 224.101, in the table in paragraph (h), add a new citation, in alphabetical order, under the critical habitat column for ''Whale, humpback (Central America DPS)'' and ''Whale, humpback (Western North Pacific DPS) under the Marine Mammals heading to read as follows:

§ 224.101 Enumeration of endangered marine and anadromous species.

* * * * *

(h) * * *

Species [1]			Citation(s) for listing determination(s)	Critical habitat	ESA rules
Common name	Scientific name	Description of listed entity			
Marine Mammals					
*	*	*	*	*	*
Whale, humpback (Central America DPS).	*Megaptera novaeangliae.*	Humpback whales that breed in waters off Central America in the North Pacific Ocean and feed along the west coast of the United States and southern British Columbia.	81 FR 62260, Sept. 8, 2016.	*[Insert 226.227].*	
Whale, humpback (Western North Pacific DPS).	*Megaptera novaeangliae.*	Humpback whales that breed or winter in the area of Okinawa and the Philippines in the Kuroshio Current (as well as unknown breeding grounds in the Western North Pacific Ocean), transit the Ogasawara area, or feed in the North Pacific Ocean, primarily in the West Bering Sea and off the Russian coast and the Aleutian Islands.	81 FR 62260, Sept. 8, 2016.	*[Insert 226.227].*	
*	*	*	*	*	*

[1] Species includes taxonomic species, subspecies, distinct population segments (DPSs) (for a policy statement, see 61 FR 4722, February 7, 1996), and evolutionarily significant units (ESUs) (for a policy statement, see 56 FR 58612, November 20, 1991).

[2] Jurisdiction for sea turtles by the Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, is limited to turtles while in the water.

PART 226—DESIGNATED CRITICAL HABITAT

■ 5. The authority citation of part 226 continues to read as follows:

Authority: 16 U.S.C. 1533.

■ 6. Add § 226.227, to read as follows:

§ 226.227 Critical habitat for the Central America, Mexico, and Western North Pacific distinct population segments (DPSs) of humpback whales (*Megaptera novaeangliae*).

Critical habitat is designated for the Central America, Mexico, and Western North Pacific humpback whale DPSs as described in this section. The maps, clarified by the textual descriptions in this section, are the definitive source for determining the critical habitat boundaries.

(a) *List of States and Counties.* Critical habitat is designated in waters off the coast of the following states and counties for the listed humpback whale DPSs:

DPS	State-counties
(1) Central America	(i) WA—Clallam, Jefferson, Grays Harbor, Pacific. (ii) OR—Clatsop, Tillamook, Lincoln, Lane, Douglas, Coos, and Curry. (iii) CA—Del Norte, Humboldt, Mendocino, Sonoma, Marin, San Francisco, San Mateo, Santa Cruz, Monterey, San Luis Obispo, Santa Barbara, Ventura.
(2) Mexico	(i) AK—Bristol Bay, Lake and Peninsula, Aleutians East, Aleutian West, Kodiak Island, Kenai Peninsula, Valdez-Cordova, unorganized boroughs, Skagway-Hoonah-Angoon, Haines, Juneau, Sitka, Petersburg, Wrangell, Ketchikan Gateway. (ii) WA—Clallam, Jefferson, Grays Harbor, Pacific.

DPS	State-counties
(3) Western North Pacific	(iii) OR—Clatsop, Tillamook, Lincoln, Lane, Douglas, Coos, and Curry. (iv) CA—Del Norte, Humboldt, Mendocino, Sonoma, Marin, San Francisco, San Mateo, Santa Cruz, Monterey, San Luis Obispo, Santa Barbara, Ventura. AK—Bristol Bay, Lake and Peninsula, Aleutians East, Aleutian West, Kodiak Island, Kenai Peninsula.

(b) *Critical habitat boundaries for the Central America DPS.* Critical habitat for the Central America DPS includes all marine waters within the designated areas as shown by the maps, including those prepared and made available by NMFS pursuant to 50 CFR 424.18.

(1) *Washington.* The nearshore boundary is defined by the 50-m isobath, and the offshore boundary is defined by the 1,200-m isobath relative to MLLW. Critical habitat also includes waters within the U.S. portion of the Strait of Juan de Fuca to an eastern boundary line at Angeles Point at 123°33′ W.

(2) *Oregon.* The nearshore boundary is defined by the 50-m isobath. The offshore boundary is defined by the 1,200-m isobath relative to MLLW; except, in areas off Oregon south of 42°10′, the offshore boundary is defined by the 2,000-m isobath.

(3) *California.* The nearshore boundary is defined by the 50-m isobath relative to MLLW except, from 38°40′ N to 36°00′ N, the nearshore boundary is defined by the 15-m isobath relative to MLLW; and from 36°00′ N to 34°30′ N, the nearshore boundary is defined by the 30-m isobath relative to MLLW. North of 40°20′ N, the offshore boundary of the critical habitat is defined by a line corresponding to the 2,000-m isobath, and from 40°20′ N to 38°40′ N, the offshore boundary is defined by the 3,000-m isobath. From 38°40′ N southward, the remaining areas have an offshore boundary defined by a line corresponding to the 3,700-m isobath.

(c) *Critical habitat boundaries for Mexico DPS.* Critical habitat for the Mexico DPS of humpback whales includes all marine waters within the designated areas as shown by the maps, including those prepared and made available by NMFS pursuant to 50 CFR 424.18.

(1) *Alaska.* The nearshore boundaries are generally defined by the 1-m isobath relative to mean lower low water (MLLW). In Bristol Bay and on the north side of the Aleutian Islands, the seaward boundary of the critical habitat is defined by a line extending due west from Egegik (at 58°14′ N, 157°28′ W) out to 58°14′ N, 162°0′ W, then southwest to 57°25′ N, 163°29′, then southward to 55°41 N, 162°41′ W; and from this point, west to 55°41′ N, 169°30′ W, then southward through Samalga Pass to a boundary drawn along the 2,000-m isobath on the south side of the islands. This isobath forms the southern boundary of the critical habitat, eastward to 164°25′ W. The 1,000-m isobath forms the offshore boundary for the remainder of the critical habitat (along Aleutian Island and in the Gulf of Alaska areas), except in Southeast Alaska, where the offshore boundary extends out the 2,000-m isobath. Critical habitat extends into Cook Inlet as far north as 60°20′ N, just south of Kalgin Island.

(2) *Washington.* The nearshore boundary is defined by the 50-m isobath, and the offshore boundary is defined by the 1,200-m isobath relative to MLLW. Critical habitat also includes waters within the U.S. portion of the Strait of Juan de Fuca to an eastern boundary line at Angeles Point at 123°33′ W.

(3) *Oregon.* The nearshore boundary is defined by the 50-m isobath. The offshore boundary is defined by the 1,200-m isobath relative to MLLW; except, in areas off Oregon south of 42°10′, the offshore boundary is defined by the 2,000-m isobath.

(4) *California.* The nearshore boundary is defined by the 50-m isobath relative to MLLW except, from 38°40′ N to 36°00′ N, the nearshore boundary is defined by the 15-m isobath relative to MLLW; and from 36°00′ N to 34°30′ N, the nearshore boundary is defined by the 30-m isobath relative to MLLW. North of 40°20′ N, the offshore boundary of the critical habitat is defined by a line corresponding to the 2,000-m isobath, and from 40°20′ N to 38°40′ N, the offshore boundary is defined by the 3,000-m isobath. From 38°40′ N southward, the remaining areas have an offshore boundary defined by a line corresponding to the 3,700-m isobath.

(d) *Critical habitat boundaries for Western North Pacific DPS.* Critical habitat for the Western North Pacific DPS of humpback whales includes all marine waters within the designated areas as shown by the maps, including those prepared and made available by NMFS pursuant to 50 CFR 424.18.

(1) *Alaska.* The nearshore boundaries are generally defined by the 1-m isobath relative to mean lower low water (MLLW). In Bristol Bay and on the north side of the Aleutian Islands, the seaward boundary of the critical habitat is defined by a line extending due west from Egegik (at 58°14′ N, 157°28′ W) out to 58°14′ N, 162°0′ W, then southwest to 57°25′ N, 163°29′, then southward to 55°41 N, 162°41′ W; and from this point, west to 55°41′ N, 169°30′ W, then southward through Samalga Pass to a boundary drawn along the 2,000-m isobath on the south side of the islands. This isobath forms the southern boundary of the critical habitat, eastward to 164°25′ W. From this point, the 1,000-m isobath forms the offshore boundary, which extends eastward to 158°39′ W. Critical habitat also includes the waters around Kodiak Island and the Barren Islands. The western boundary for this area runs southward along 154°54′ W to the 1,000-m depth contour, and then extends eastward to a boundary at 150°40′ W. The area also extends northward to the mouth of Cook Inlet where it is bounded by a line that extends from Cape Douglas across the inlet to Cape Adam.

(e) *Essential feature.* Prey species, primarily euphausiids and small pelagic schooling fishes of sufficient quality, abundance, and accessibility within humpback whale feeding areas to support feeding and population growth.

(f) *Sites owned or controlled by the Department of Defense.* Critical habitat does not include the following particular areas owned or controlled by the Department of Defense, or designated for its use, where they overlap with the areas described in paragraph (b) of this section:

(1) Pursuant to ESA section 4(a)(3)(B), all areas subject to the Naval Base Ventura County, Point Mugu, CA, and the Naval Outlying Field, San Nicolas Island, CA approved Integrated Natural Resource Management Plans (INRMPs);

(2) Pursuant to ESA section 4(b)(2), the Quinault Range Site (QRS) with an additional 10-km buffer around QRS and the Southeast Alaska Acoustic Measurement Facility (SEAFAC).

(g) *Maps of humpback whale critical habitat.*

(1) Overview map of critical habitat for the Central America DPS of humpback whales:

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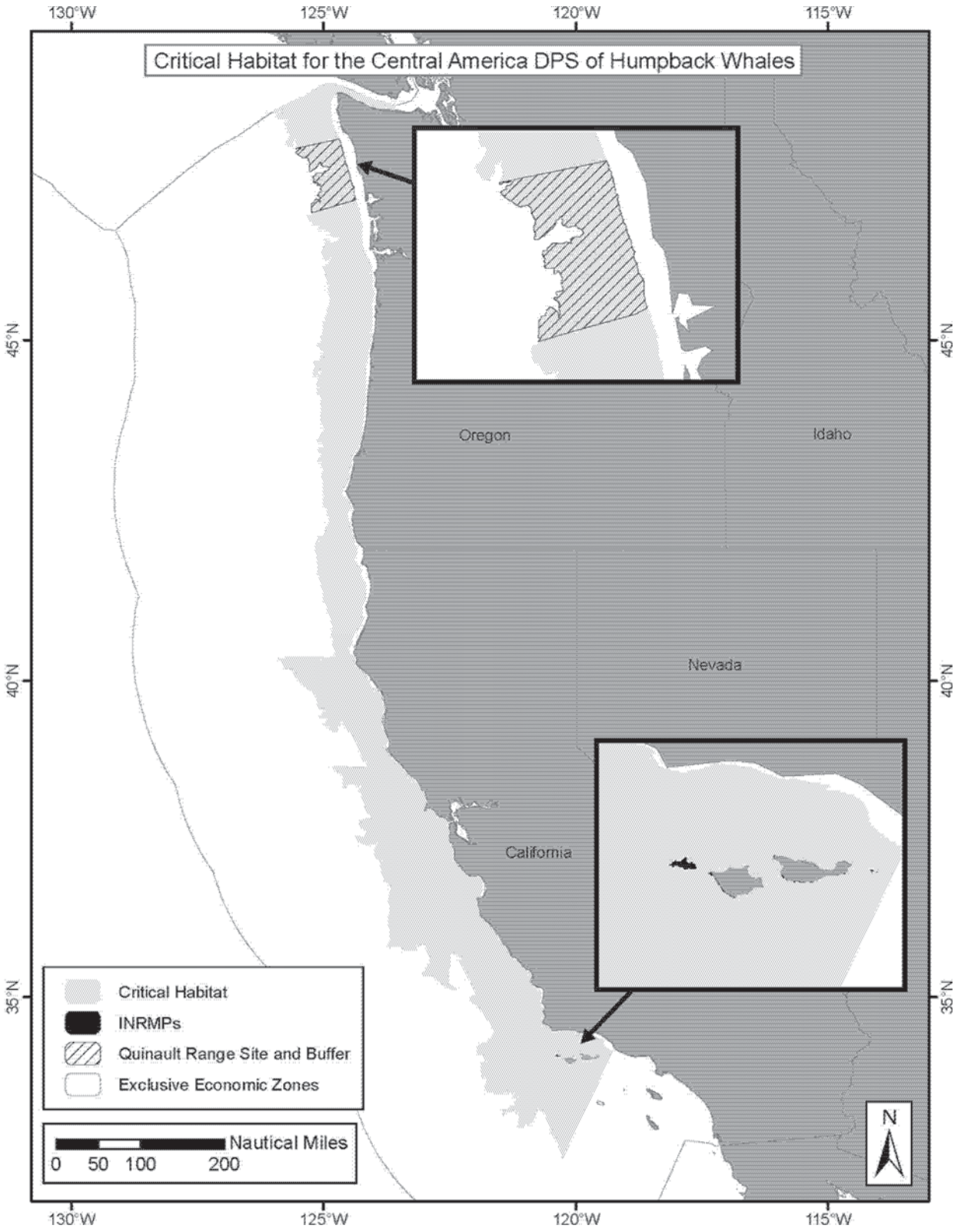
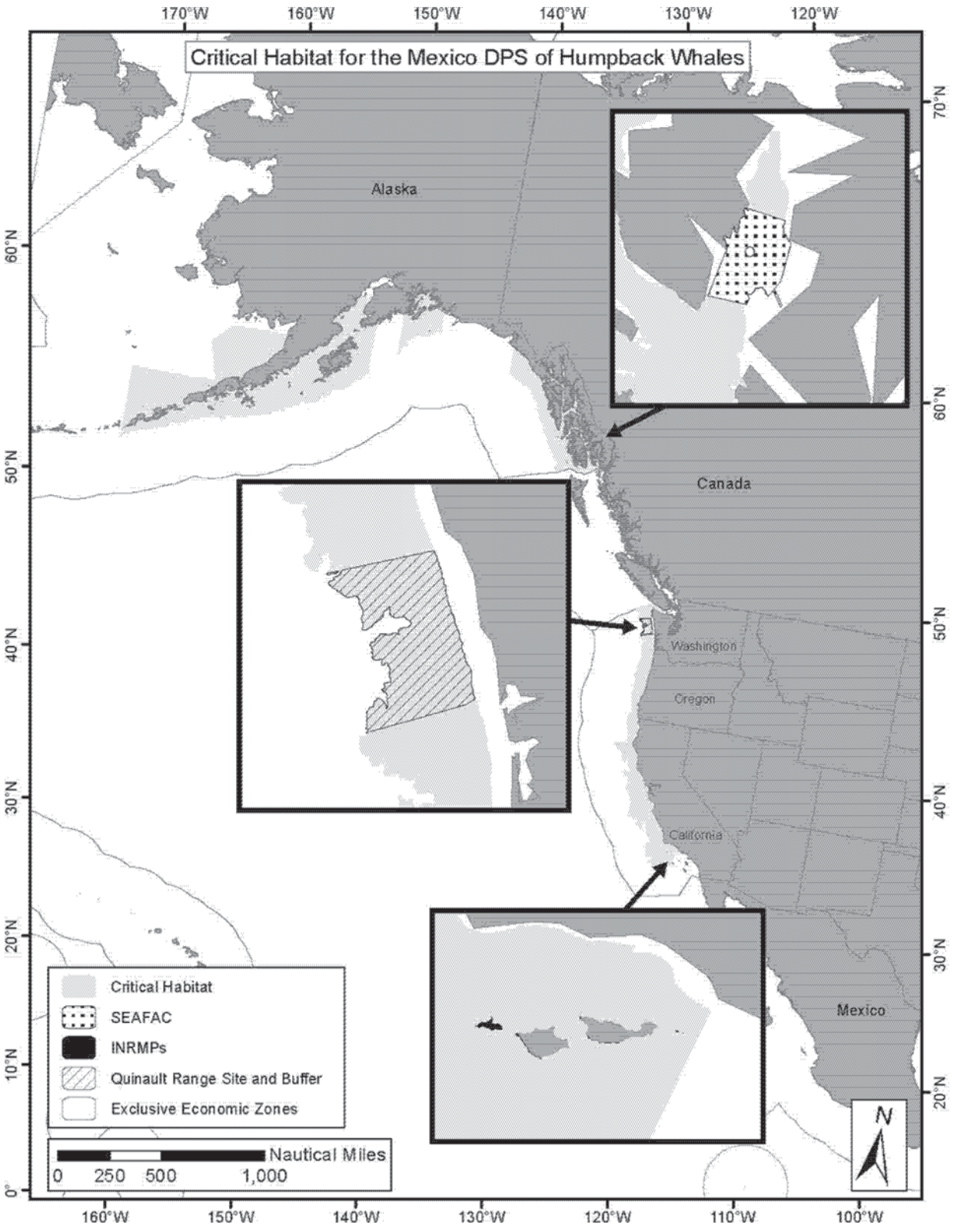
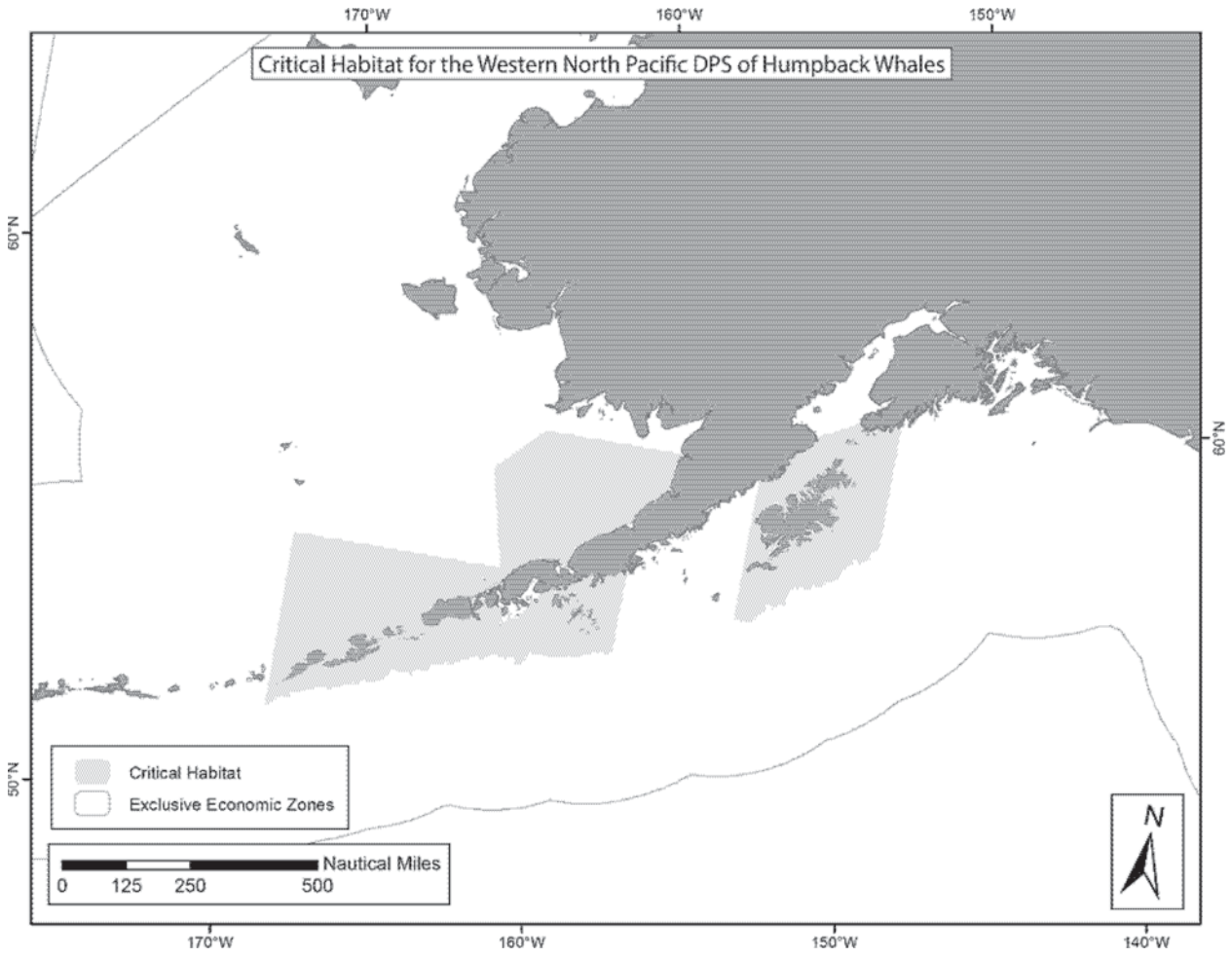


(2) Overview map of critical habitat for the Mexico DPS of humpback whales:



(3) Overview map of critical habitat for the Western North Pacific DPS of humpback whales:



[FR Doc. 2019–21186 Filed 10–8–19; 8:45 am]
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