

DEPARTMENT OF COMMERCE**National Oceanic and Atmospheric Administration****50 CFR Parts 223 and 224**

[Docket No. 130708594–6598–03]

RIN 0648–XC751

Endangered and Threatened Species; Identification of 14 Distinct Population Segments of the Humpback Whale (*Megaptera novaeangliae*) and Revision of Species-Wide Listing

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

ACTION: Final rule.

SUMMARY: We, NMFS, issue a final determination to revise the listing status of the humpback whale (*Megaptera novaeangliae*) under the Endangered Species Act (ESA). We divide the globally listed endangered species into 14 distinct population segments (DPS), remove the current species-level listing, and in its place list four DPSs as endangered and one DPS as threatened. Based on their current statuses, the remaining nine DPSs do not warrant listing. At this time, we find that critical habitat is not determinable for the three listed DPSs that occur in U.S. waters (Western North Pacific, Mexico, Central America); we will consider designating critical habitat for these three DPSs in a separate rulemaking.

DATES: This final rule is effective October 11, 2016.

ADDRESSES: Public comments, a list of references cited in this final rule, and other supporting materials are available at www.regulations.gov identified by docket number NOAA–NMFS–2015–0035, or by submitting a request to the National ESA Listing Coordinator, Office of Protected Resources, NMFS, 1315 East-West Highway, Room 13536, Silver Spring, MD 20910.

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SUPPLEMENTARY INFORMATION:**Background**

On August 12, 2009, we announced the initiation of a status review of the humpback whale to determine whether an endangered listing for the entire species was still appropriate (74 FR 40568). We sought information from the public to inform our review, contracted with two post-doctoral students to compile the best available scientific and commercial information on the species

(Fleming and Jackson 2011), including the past, present, and foreseeable future threats to this species, and appointed a Biological Review Team (BRT) to analyze that information, make conclusions on extinction risk, and prepare a status review report (Bettridge *et al.* 2015).

On April 16, 2013, we received a petition from the Hawaii Fishermen's Alliance for Conservation and Tradition, Inc., to classify the North Pacific humpback whale population as a DPS and then “delist” that DPS under the ESA. On February 26, 2014, the State of Alaska submitted a petition to delineate the Central North Pacific (Hawaii) “stock” of the humpback whale as a DPS and subsequently remove that DPS from the ESA List of Endangered and Threatened Species. After reviewing the petitions, the literature cited in the petitions, and other literature and information available in our files, we found that both petitioned actions may be warranted and issued positive 90-day findings (78 FR 53391, August 29, 2013; 79 FR 36281, June 26, 2014). Public comment periods were opened upon publication of these findings to solicit information to be considered in the context of the ongoing status review. We subsequently extended the public comment period pertaining to information regarding the Central North Pacific (Hawaii) population (79 FR 40054; July 11, 2014). We then incorporated all information into a single status review report of the humpback whale (available at <http://www.fisheries.noaa.gov/pr/species/mammals/whales/humpback-whale.html>).

Based on information presented in the status review report (which included a demographic analysis, threats analysis, and extinction risk analysis), our assessment of the BRT's conclusions, and efforts being made to protect the species, we initially determined: (1) 14 populations of the humpback whale met the criteria of the NMFS and U.S. Fish and Wildlife Service (USFWS) joint 1996 DPS Policy and were, therefore, considered to be DPSs; (2) the Cape Verde Islands/Northwest Africa and Arabian Sea DPSs were in danger of extinction throughout their ranges; (3) the Western North Pacific and Central America DPSs were likely to become endangered throughout all of their ranges within the foreseeable future; and (4) the West Indies, Hawaii, Mexico, Brazil, Gabon/Southwest Africa, Southeast Africa/Madagascar, West Australia, East Australia, Oceania, and Southeastern Pacific DPSs were not in danger of extinction throughout all or a significant portion of their ranges or

likely to become so within the foreseeable future. Accordingly, we issued a proposed rule (80 FR 22304; April 21, 2015) to revise the species-wide listing of the humpback whale by replacing it with two endangered species listings (Cape Verde Islands/Northwest Africa and Arabian Sea DPSs) and two threatened species listings (Western North Pacific and Central America DPSs). We also proposed to extend all ESA section 9 prohibitions to both the Western North Pacific and the Central America DPSs. As described below, after considering public comments and the best available scientific and commercial information, we have now reached our final determinations, which in three instances differ from our proposed determinations. We now issue a final rule to revise the species-wide listing of the humpback whale by replacing it with four endangered species listings (Cape Verde Islands/Northwest Africa, Western North Pacific, Central America, and Arabian Sea DPSs) and one threatened species listing (Mexico DPS). We also finalize our proposed rule to extend all ESA section 9 prohibitions to threatened humpback whales (which now consists of the Mexico DPS).

Listing Determinations Under the ESA

We are responsible for determining whether species are threatened or endangered under the ESA (16 U.S.C. 1531 *et seq.*). To reach a listing determination for a particular group of organisms, we must first consider whether that group of organisms constitutes a “species” under the ESA, and then we consider whether the status of the species qualifies it for listing as either threatened or endangered. Section 3 of the ESA defines a “species” to include “any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.” On February 7, 1996, NMFS and the USFWS (together, the Services) adopted a policy describing what constitutes a DPS of a species or subspecies (61 FR 4722). The joint DPS policy identified two elements that must be considered when identifying a DPS: (1) The discreteness of the population segment in relation to the remainder of the species (or subspecies) to which it belongs; and (2) the significance of the population segment to the remainder of the species (or subspecies) to which it belongs. As stated in the joint DPS policy, Congress expressed an expectation that the Services would exercise authority with regard to identifying DPSs sparingly and

only when the biological evidence indicates such action is warranted.

Section 3 of the ESA defines an endangered species as “any species which is in danger of extinction throughout all or a significant portion of its range” and a threatened species as one “which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range” (16 U.S.C. 1533(6); (20)). Thus, we interpret an “endangered species” to be one that is presently in danger of extinction. A “threatened species,” on the other hand, is not presently in danger of extinction, but is likely to become so within the foreseeable future (that is, at a later time). In other words, the primary statutory difference between a threatened and endangered species is the timing of when a species may be in danger of extinction, either presently (endangered) or in the foreseeable future (threatened).

As we explained in the proposed rule and summarize here, when we consider whether a species might qualify as threatened under the ESA, we must consider the meaning of the term “foreseeable future.” It is appropriate to interpret “foreseeable future” as the horizon over which predictions about the conservation status of the species can be reasonably relied upon. The foreseeable future considers the life history of the species, habitat characteristics, availability of data, particular threats, ability to predict threats, and the reliability to forecast the effects of these threats and future events on the status of the species under consideration. Because a species may be susceptible to a variety of threats for which different data are available, or which operate across different time scales, the foreseeable future is not necessarily reducible to a particular number of years. Our approach is consistent with the legal analysis adopted by the Department of the Interior. See United States Department of the Interior, Office of the Solicitor, Memorandum, “The Meaning of ‘Foreseeable Future’ in section 3(20) of the Endangered Species Act,” M–37021 (Jan. 16, 2009).

In determining the listing status of a species, subspecies, or DPS, the ESA and implementing regulations require that we consider whether the species is endangered or threatened because of any one or a combination of the following factors: The present or threatened destruction, modification, or curtailment of its habitat or range; overutilization of the species for commercial, recreational, scientific, or educational purposes; disease or

predation; the inadequacy of existing regulatory mechanisms; and other natural or manmade factors affecting a species’ continued existence (16 U.S.C. 1533(a)(1); 50 CFR 424.11(c)). We evaluate demographic risk factors (*i.e.*, abundance and trend information) in conjunction with the section 4(a)(1) factors. The demographic risk analysis is an assessment of the manifestation of past threats that have contributed to the species’ current status and also informs the consideration of the biological response of the species to present and future threats.

Section 4(b)(1)(A) of the ESA requires us to make listing determinations based solely on the best scientific and commercial data available after conducting a review of the status of the species and after taking into account efforts being made by any State or foreign nation or political subdivision thereof to protect the species (16 U.S.C. 1533(b)(1)(A)).

Applying the definitions of “endangered species” and “threatened species,” we first consider the status of a “species” (which includes subspecies and DPSs) “throughout all . . . of its range.” If (and only if) this rangewide evaluation does not lead to a conclusion that the species should be listed as endangered or threatened, then we must consider whether the species may be endangered or threatened in “a significant portion of its range.” If it is, then the entire species (or subspecies, or DPS) will be listed. As we explained in the proposed rule and summarize here, we are guided in these listing determinations by the final joint policy adopted by the Services in 2014 (79 FR 37577; July 1, 2014) (Final SPOIR Policy). The Final SPOIR Policy explains that it is necessary to fully evaluate a portion under the “significant portion of its range” authority only if substantial information indicates that the members of the species in a particular area are likely to *both* meet the test for biological “significance” established in the policy *and* to be currently endangered or threatened in that area. Making this preliminary determination triggers a need for further review, but does not prejudice whether the portion actually meets these standards such that the species should be listed.

The BRT initially applied the higher threshold for “significance” from the 2011 draft SPOIR policy but before finalizing the report confirmed that application of the threshold of the final SPOIR Policy would not have changed the findings for any DPS (See 80 FR 22304, at 22349). (The draft SPOIR policy differed from the final SPOIR

policy in that a portion of the range of a species was considered “significant” if the portion’s contribution to the viability of the species was so important that, without that portion, the species would be in danger of extinction (*i.e.*, endangered) throughout all of its range. Under the Final SPOIR Policy, the hypothetical loss of the portion being considered would only need to result in the species being at least threatened throughout its range instead of endangered throughout its range.)

Status Review

A summary of basic biological and life history information of the humpback whale can be found in the proposed rule (80 FR 22304; April 21, 2015 at 22307–22309) and more details can be found in Fleming and Jackson (2011) and the BRT’s status review report (Bettridge *et al.* 2015; available at <http://www.nmfs.noaa.gov/pr/species/statusreviews.htm>). As we described more fully in the proposed rule, to identify potential DPSs, the BRT reviewed the best scientific and commercial data available on the humpback whale’s taxonomy and concluded that there are likely three unrecognized subspecies of humpback whale: North Pacific, North Atlantic, and Southern Hemisphere. In reaching this conclusion, the BRT considered available life history, morphological, and genetic information (mtDNA and DNA relationships and distribution, as described in Jackson *et al.* (2014)). Next, the BRT considered various humpback whale populations to determine whether they satisfied the DPS criteria of discreteness and significance relative to the three subspecies.

The BRT considered both the abundance and trend information (*i.e.*, the demographic analysis) and the threats to each DPS before reaching its conclusions on overall extinction risk for each DPS. With regard to the demographic analysis, the BRT concluded that abundance and, where available, trend information should be considered carefully but were not the sole criteria for evaluating extinction risk. When considering numbers of individuals within a DPS, the BRT considered the following general thresholds for population risk: A DPS with a total population size >2,000 individuals was not likely to be at risk due to low abundance alone; a DPS with a population size <2,000 individuals would be at increasing risk from factors associated with low abundance (and the lower the population size, the greater the risk); a DPS with a population size <500 individuals would be at high risk due to low abundance; and a DPS with

a population size <100 individuals would be at extremely high risk due to low abundance. BRT members also considered how each of the factors (or threats) listed in ESA section 4(a)(1) contribute to the extinction risk of each DPS now and in the foreseeable future.

The BRT decided to evaluate risk of extinction over a time frame of approximately 60 years, which corresponds to about three humpback whale generations. The BRT concluded it could be reasonably confident in evaluating extinction risk over this time period (the foreseeable future) because current trends in both the biological status of the species and the threats it faces are reasonably foreseeable over this period of time. In making our listing determinations, we have applied a period of 60 years as the general foreseeable future when considering impacts to the species.

In reaching our proposed listing determinations, we reviewed the status review report (Bettridge *et al.* 2015) and concluded that it provided the best available scientific and commercial data on the identification of DPSs, abundance and trends, and section 4(a)(1) factors as of the time it was compiled. To make the proposed listing determinations, we used the best available scientific and commercial data on the humpback whale, which are summarized in the status review report and incorporated herein. After considering conservation efforts by States and foreign nations to protect the DPS, as required under section 4(b)(1)(A), we proposed listing determinations based on the statutory definitions of “endangered species” and “threatened species” (80 FR 22304; April 21, 2015).

To make our final listing determinations, we reviewed all information provided during the 90-day public comment period on the proposed rule (which included some studies and reports not initially considered for the proposed rule), information received through the four public hearings, and additional scientific and commercial data that became available since the publication of the proposed rule and the status review report. In most cases, this additional information merely supplemented, and did not differ significantly from, the information presented in the proposed rule. Where new information was received, we have reviewed it and present our evaluation of the information in this final rule. In most cases, the new information received was not so significant that we are relying on it for our final determinations. We received comments and received or obtained new

information on the West Indies DPS, the Western North Pacific DPS, the Hawaii DPS, the Mexico DPS, the Central America DPS, the Gabon/Southwest Africa DPS, and the Oceania DPS. After reviewing public comments and new information, we determined that: (1) Some of the data we relied upon for the West Indies DPS abundance estimate is not yet available in final, validated form or fully analyzed by the authors of the relevant study, so for the final rule we are relying solely on data from an earlier survey because it represents the best available scientific and commercial data, but this does not change our initial determination that listing this DPS is not warranted; (2) upon reconsideration of the information we had at the time of our proposal, the extinction risk to the Western North Pacific DPS should be classified as high, not moderate, and therefore, we are listing this DPS as endangered instead of threatened; (3) upon reconsideration of the information we had at the time of our proposal, and in light of updated, lower abundance estimates, the extinction risk to the Mexico DPS should be classified as moderate, not low, and therefore, we are listing this DPS as threatened; (4) upon reconsideration of the information we had at the time of our proposal, and in light of the updated, lower abundance estimate for the Central America DPS and associated uncertainties, the extinction risk to the Central America DPS should be classified as high, not moderate, and therefore, we are listing this DPS as endangered instead of threatened; (5) we have updated the population abundance estimate for the Gabon/Southwest Africa DPS to 7,134, based on more reliable data, but this does not change our initial determination that listing this DPS is not warranted; and (6) the population abundance estimate and the population growth rate of the Oceania DPS are 4,329 and 3 percent per year (previously “unknown”), respectively, which further strengthens our initial determination that listing this DPS is not warranted. With this rule, we finalize our listing determinations, resulting in four DPSs listed as endangered (E), one DPS listed as threatened (T), and nine DPSs not warranted for listing (NW), as described in the following table:

Humpback Whale DPS	Proposed	Final
West Indies	NW	NW.
Cape Verde Islands/ Northwest Africa.	E	E.
Western North Pacific ...	T	E.
Hawaii	NW	NW.
Mexico	NW	T.

Humpback Whale DPS	Proposed	Final
Central America	T	E.
Brazil	NW	NW.
Gabon/Southwest Africa	NW	NW.
Southeast Africa/Mada- gascar.	NW	NW.
West Australia	NW	NW.
East Australia	NW	NW.
Oceania	NW	NW.
Southeastern Pacific	NW	NW.
Arabian Sea	E	E.

Rationale for Revising the Listing Status of a Listed Species Under the ESA

We have determined that, based on the best available scientific and commercial information, the humpback whale should be recognized under the ESA as 14 individual DPSs. We described the delineations of these 14 DPSs in detail in the 12-month determination and proposed rule (80 FR 22304; April 21, 2015). Comments regarding the delineation are addressed under Summary of Comments below. Based on a comprehensive status review and our analysis of demographic factors and the section 4(a)(1) factors, we have concluded that four of the DPSs qualify as endangered species, one qualifies as a threatened species, and nine do not warrant listing. Our action here is prompted both by our own review, begun in 2009, and the two delisting petitions we received.

Our final determinations are based on the best available scientific and commercial information pertaining to the species throughout its range and within each DPS. In this final rule, we are identifying 14 DPSs, making listing determinations for each DPS, and revising the current listing. We find that the purposes of the ESA would be furthered by managing this wide-ranging species as separate units under the DPS authority, in order to tailor protections of the ESA to those populations that warrant protection. Based on a review of the demographics of these DPSs and the five factors contained in ESA section 4(a)(1), we find that the best available science no longer supports a finding that the species is an “endangered species” throughout its range. We revise the listing for the humpback whale by removing the current species-wide listing and in its place listing four DPSs as endangered and one DPS as threatened. Nine DPSs are not being listed because their current status does not warrant listing. Because these DPSs are not currently listed as separate entities, we are revising and replacing the existing listing of the species with separate listings for those DPSs that warrant classification as threatened or

endangered under authority of sections 4(a)(1) and 4(c)(1) of the ESA, rather than “delisting” those DPSs that do not warrant such classification under our regulations (50 CFR 424.11(d)). However, the effect of our final action is that the protections of the ESA no longer apply to these nine DPSs. We note that we have previously reclassified a species into constituent populations (e.g., identified western and eastern populations of the gray whale (*Eschrichtius robustus*) and revised the listing to remove one population (the eastern one) from the endangered species list (59 FR 31094; June 16, 1994)).

The ESA gives us authority to make these listing determinations and to revise the lists of endangered and threatened species to reflect these determinations. Section 4(a)(1) of the ESA authorizes us to determine by regulation whether “any species,” which is expressly defined to include species, subspecies, and DPSs, is endangered or threatened based on certain factors. Review of the status of a species may be commenced at any time, either on our own initiative through a status review at any time, or in connection with a “5-year” review under section 4(c)(2), or in response to a petition. A DPS is not a scientifically recognized entity, but rather one that is created under the language of the ESA and effectuated through our 1996 DPS Policy. Because recognition of DPSs is not mandatory, we have some inherent discretion to determine whether a species-level listing should be reclassified into DPSs and what boundaries should be recognized for each DPS. At the conclusion of the listing review process, ESA section 4(c)(1) gives us authority to update the lists of endangered species and threatened species to conform to our most recent determinations. This can include revising the lists to remove a species from the lists or reclassifying the listed entity.

Neither the ESA nor our regulations explicitly prescribe the process we should follow where the best available scientific and commercial information indicates that the listing of a taxonomic species should be updated and revised into listings of constituent DPSs. To the extent it may be said that the statute is ambiguous as to precisely how the updated listings should replace the original listing in such circumstances, we provide our interpretation of the statutory scheme. The purposes of the statute are furthered in certain situations where the agency has determined that it is appropriate to revise a rangewide listing in order to

ensure that the current lists of endangered and threatened species comport with the best available scientific and commercial information. For example, updating a listing may further the statute’s purpose of recognizing when the status of a listed species has improved to the point that fewer protections are needed under the ESA, allowing for appropriately tailored management for the populations that do not warrant listing and for those remaining populations that do. Where a species, subspecies, or DPS no longer needs protection of the ESA, removing those protections may free resources that can be devoted to the protection of other species. Conversely, disaggregating a species listing into DPSs can also sometimes lead to greater protections if one or more constituent DPSs qualify for reclassification to endangered.

There is no practicable alternative to simultaneously recognizing the newly identified DPSs and assigning them the various statuses of threatened, endangered, or not warranted to replace the original taxonomic species listing. It would be nonsensical and contrary to the statute’s purposes and the best available science requirement to attempt to first separately list all the constituent DPSs; the best available scientific and commercial information would not support listing all of the DPSs now in order to delist some of them subsequently. Nor would it make sense to attempt to first “delist” the species-level listing in order to then list some of the constituent DPSs. Where multiple DPSs qualify for listing as endangered or threatened, it would inherently thwart the statute’s purposes to remove protections of the ESA from all members of the species even temporarily. The approach we have taken in this final rule ensures a smooth transition from the former taxonomic species listing of endangered to today’s listing of certain specified DPSs: Four as endangered and one as threatened (and nine as not-warranted).

We will continue to monitor the status of the entire range of the humpback whale. For any listed DPSs, monitoring is as a matter of course, pursuant to the obligation to periodically review the status of these species (ESA section 4(c)(2)). In addition, we will undertake monitoring of the DPSs that are not listed as a result of their improved status (consistent with ESA section 4(g)).

Summary of Comments

On April 21, 2015, we solicited comments during a 90-day public comment period from all interested

parties including the public, other concerned governments and agencies, Indian tribal governments, Alaska Native tribal governments or organizations, the scientific community, industry, and any other interested parties on the proposed rule (80 FR 22304). Specifically, we requested information regarding:

(1) The identification of 3 subspecies of humpback whale composed of 14 DPSs;

(2) The current population status of identified humpback whale DPSs;

(3) Biological or other information regarding the threats to the identified humpback whale DPSs;

(4) Information on the effectiveness of ongoing and planned humpback whale conservation efforts by countries, states, or local entities;

(5) Activities that could result in a violation of section 9(a)(1) of the ESA if such prohibitions are applied to the Western North Pacific and Central America DPSs;

(6) Whether any DPS of the humpback whale that is not listed under the ESA in a final rule would automatically lose depleted status under the Marine Mammal Protection Act (MMPA), or, if not, what analysis and process is required by the MMPA before a change in depleted status may occur. We sought comments regarding different options for construing the relevant provisions of these statutes in harmony;

(7) Whether approach regulations should be promulgated under the MMPA for the protection of the Hawaii DPS of the humpback whale because if the rule became final as proposed, that DPS would no longer be listed under the ESA, or whether current protections in effect in the Hawaiian Islands Humpback Whale National Marine Sanctuary (at 15 CFR 922.184) are sufficient for the protection of the species from vessel interactions. We indicated that commenters should consider the impact of the proposal by NOAA’s Office of National Marine Sanctuaries to expand the sanctuary boundaries and strengthen the approach regulations (80 FR 16224; March 26, 2015), which has since been withdrawn (81 FR 13303; March 14, 2016);

(8) Whether approach regulations in effect for the protection of humpback whales in Alaska, currently set forth at 50 CFR 224.103(b), should be relocated to Part 223 (which applies to threatened species) for the continuing protection of the Western North Pacific DPS, and whether these regulations should also be set out in 50 CFR part 216 as MMPA regulations for the protection of all humpback whales occurring in that area, in light of the fact that the MMPA

was one of the original authorities cited in promulgating the regulation;

(9) Information related to the designation of critical habitat, including identification of those physical or biological features which are essential to the conservation of the Western North Pacific and Central America DPSs of humpback whale and which may require special management consideration or protection;

(10) Economic, national security, and other relevant impacts from the designation of critical habitat for the Western North Pacific and Central America DPSs of humpback whale; and

(11) Research and other activities that would be important to include in post-delisting monitoring plans for the West Indies, Hawaii, Mexico, Brazil, Gabon/Southwest Africa, Southeast Africa/Madagascar, West Australia, East Australia, Oceania, and Southeastern Pacific DPSs.

We received 225 comment letters on the proposed rule. One of the commenters attached a form letter that was signed by 13,279 members, as well as 539 letters that were modified versions of the same form letter. Another commenter sent a letter, including signatures from 3,464 U.S. individuals and 4,046 individuals from foreign countries. We also held four public hearings in Honolulu, HI; Juneau, AK; Plymouth, MA; and Virginia Beach, VA, at which 13 members of the public provided testimony.

Summaries of the substantive public comments received, and our responses, are provided below, organized by topic.

Comments on Topics That Apply to Multiple DPSs

Comment 1: One commenter stated that NMFS initiated an ESA status review of the humpback whale in 2009 and asserted that it has yet to be completed. The commenter added that the findings are likely to shed new light onto the population status of humpback whale DPSs in the North Pacific.

Response: We initiated an ESA status review in 2009 and completed it in 2015 (Bettridge *et al.* 2015). We relied upon the status review report to make our conclusions about the humpback whale DPSs and their status under the ESA. More recent information available since the report's publication and since publication of the proposed rule was considered during development of this final rule. If we become aware of new information at a later date that may affect our understanding of the DPSs' status, we can initiate a new status review. New information can also be evaluated during the 5-year reviews that

are required under ESA section 4(c)(2) or presented via a petition at any time.

Comment 2: One commenter stated that the ESA is only valid within the borders of the United States and that consideration of listing or delisting populations that are not within our borders is meaningless as far as protective status is concerned.

Response: Section 4 of the ESA requires that we list any species that we determine to be endangered or threatened, whether it occurs within the United States or elsewhere. Demonstrating a need to secure particular protections under the other sections of the ESA, or that such protections will be afforded where the species is found, is not a precondition to listing. While it is true that fewer protections apply under the ESA for foreign species, important protections do apply. All persons subject to the jurisdiction of the United States (including its citizens) must comply with section 9 of the ESA, which, among other things, makes it unlawful to import endangered species into the United States or to export them from the United States, or to "take" endangered species within the territorial sea of the United States or upon the high seas (16 U.S.C. 1538(a)(1)(A)–(C)). These protections may be extended to threatened species through a rule issued under section 4(d). In addition, listing provides important educational benefits.

Comment 3: One commenter questioned the "significance" criterion of the DPS Policy, asserting that if a population is discrete from other populations, it should qualify as a DPS.

Response: As noted earlier, the Services published the Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act in 1996 (61 FR 4722; February 7, 1996). To be considered a DPS, a population must be both discrete from the remainder of the species to which it belongs and significant to the species to which it belongs. The DPS policy states:

If a population segment is considered discrete under one or more of the above conditions, its biological and ecological significance will then be considered in light of Congressional guidance (see Senate Report 151, 96th Congress, 1st Session) that the authority to list DPS's be used " * * * sparingly" while encouraging the conservation of genetic diversity. In carrying out this examination, the Services will consider available scientific evidence of the discrete population segment's importance to the taxon to which it belongs. This consideration may include, but is not limited to, the following:

1. Persistence of the discrete population segment in an ecological setting unusual or unique for the taxon;

2. Evidence that loss of the discrete population segment would result in a significant gap in the range of a taxon;

3. Evidence that the discrete population segment represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside its historic range; or

4. Evidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics. Because precise circumstances are likely to vary considerably from case to case, it is not possible to describe prospectively all the classes of information that might bear on the biological and ecological importance of a discrete population segment.

The DPS Policy was adopted following a period of public comment and is the Services' definitive interpretation of "distinct population segments." See *Northwest Ecosystem Alliance v. U.S. Fish and Wildlife Service*, 475 F.3d 1136, 1143 (9th Cir. 2007) (holding that the DPS Policy is entitled to deference as a duly promulgated, binding policy). Therefore, discreteness alone is not sufficient for identifying a population as a DPS.

Comment 4: Several commenters supported identifying DPSs, but recommended that populations in different feeding areas be identified as DPSs separately from breeding population DPSs in order to support species diversity, as is done under the MMPA in some cases. One of these commenters supported our decision to identify DPSs because they agree that humpback whales should not be listed under the ESA as a global species, nor solely as three sub-species. This commenter also understood the rationale for initially focusing on distinct breeding stocks, as well as the mandate to apply DPSs sparingly.

The commenters were nevertheless concerned that the proposed set of DPSs may not be adequate to maintain species diversity in light of humpback whale ecology, suggesting that humpback whales exhibit strong fidelity to feeding grounds as well as breeding grounds. This commenter noted that individuals that interbreed return reliably to their own discrete feeding areas, and these can be widely separated across ocean basins. The commenter asserted that we have previously indicated that if humpback whales were to be extirpated on one North Atlantic feeding ground then that area would not be re-colonized within a management-relevant time frame (Waring *et al.* 2000), stating that this rationale was used to redefine the MMPA management unit for stock assessment from the Western North Atlantic to the Gulf of Maine (Waring *et*

al. 2000). The commenter strongly agreed with this view and management action and believed that the same rationale applies to the preservation of species range and diversity under the ESA.

Furthermore, the commenter stated, there are significant genetic differences among feeding grounds in both the North Atlantic and the North Pacific (Palsbøll *et al.* 2001; Baker *et al.* 2013), including among feeding grounds that share a proposed DPS. One example is the “low but significant divergence between all summer foraging grounds . . . as well as between all summer foraging grounds and the samples collected on the breeding grounds in the West Indies” (Palsbøll *et al.* 2001). The commenter asserted that such differences are not adequately explained by our knowledge of breeding stocks, and therefore likely not captured by breeding-based DPS units alone. Finally, this commenter noted, there is evidence of cultural transmission of feeding behavior among individuals on at least one feeding ground (Allen *et al.* 2013; Weinrich *et al.* 1992), and such knowledge cannot be shared across breeding populations due to the segregation of breeding and feeding habitats. For these reasons, this commenter suggested that feeding aggregations warrant individual consideration under the ESA.

Response: MMPA stocks do not necessarily coincide with DPSs under the ESA. To be identified as a DPS under the ESA, a population must be both discrete from other conspecific populations and significant to the species or subspecies to which it belongs. A population need only be demographically independent from another population to be considered a stock under the MMPA (NMFS 2016). It may be true that humpback whales demonstrate fidelity to their feeding areas, and if a stock in a particular feeding area is extirpated, it may not be repopulated within a management-relevant time period; however, this is not the test under the DPS policy. NMFS held a workshop on *Conservation Units of Managed Fish, Threatened or Endangered Species, and Marine Mammals* in February 2006 to discuss the differences among stocks under the MMPA, fisheries stocks under the Magnuson-Stevens Act, and DPSs under the ESA (NMFS 2008). We concluded that DPSs can encompass multiple MMPA stocks because of the significance criterion of the DPS policy. DPSs can be identified at different hierarchical levels, and we determine the DPS configuration that makes the most sense after evaluating the best

available scientific and commercial information and considering what management approach best furthers the purposes of the ESA as concerns that species.

Comment 5: One commenter recommended that we identify demographically independent populations as DPSs in the Southern Hemisphere because this has implications for candidacy for “delisting.” The commenter asserted that the proposed rule omitted a number of DPSs that meet the DPS policy criterion of “discreteness.” Such omissions, they asserted, have further implications for estimations of abundance, status, threats, and possibly extinction risk, if a DPS includes a number of demographically independent units. The commenter cited relatively recent studies (Barendse *et al.* 2011; Carvalho *et al.* 2014; Elwen *et al.* 2014; Ersts *et al.* 2011; Fossette *et al.* 2014; Kershaw 2015; Rosenbaum *et al.* 2014; Van Waerebeek *et al.* 2013) indicating statistically significant differences between substocks within International Whaling Commission (IWC) stocks B and C (equivalent to the Gabon/Southwest Africa DPS and the Southeast Africa/Madagascar DPS). The commenter also recommended that the significance of F_{st} values (measure of genetic differentiation among groups) rather than the magnitude of these values be considered in delineating DPSs.

Another commenter asserted that NMFS’ proposed designation of the East Australia DPS and Oceania DPS uses a different boundary between two breeding stocks (designated E and F by the IWC) than the boundary used by the IWC. This commenter stated that NMFS’ proposal is therefore arbitrary and capricious. The commenter suggests that this boundary may or may not be adequately protective of animals using the Southern Hemisphere breeding areas east of the coast of Australia, which appear to have a mixing of a fairly robust stock with smaller and more fragile stocks. The commenter pointed to one publication (Garrigue *et al.*, undated), not cited by NMFS, that discusses the “known connections between eastern Australia and the westerly component of Oceania (New Caledonia, Tonga and New Zealand).” Clearly, this commenter asserted, some of these East Australia animals are mixing with breeding stocks included in the Oceania DPS. This commenter added that there has also been a documented interchange between humpbacks in New Caledonia and Eastern Australia at the same rate of exchange seen between New Caledonia

and “the rest of” Oceania (*i.e.*, Vanuatu and Tonga) (Garrigue *et al.* 2011).

Response: We appreciate the citations for studies not included in the status review report or in the proposed rule. Some of these papers were published after the BRT had substantially completed drafting its status review report. We have carefully reviewed each publication, and all available information has now been considered for this final rule. While the substocks identified by the commenters represent demographically independent populations (as identified by the IWC), they do not meet the criteria of our DPS Policy (please see response to Comment 3). Criteria in the DPS policy indicate a population must be discrete from other conspecific populations *and significant* to the taxon to which it belongs. Our DPS determinations are case specific; we do not rely on a particular F_{st} value to indicate that populations are discrete from each other. Genetic differences among populations may be an indication of discreteness, but not necessarily an indication of significance. The BRT identified 15 humpback whale DPSs, and, as we explained in the proposed rule, we agreed with its conclusions in all cases but one (we combined two of the populations the BRT identified as separate into one DPS; please see response to Comment 43).

In the case of the East Australia and Oceania DPSs, the BRT reviewed the data and made a modification based on the best available data, as the ESA requires. We are aware that there are migrants between these DPSs. The DPS Policy criteria do not require complete separation between populations. In discussing the DPS configuration of Southern Hemisphere humpback whale populations, the BRT stated, “. . . significant differentiation was present among major breeding areas, and the estimated number of migrants/generation among areas was small compared to the estimated sizes of the populations” (Bettridge *et al.* 2015 at 24). The BRT interpreted the interchange between humpback whales in eastern Australia and New Caledonia as evidence that the whales share a migration corridor: “Breeding population in New Caledonia and east Australia are separate but some overlap between the populations occurs: some whales bound for New Caledonia use the same migratory pathways as some whales headed past east Australia” (Bettridge *et al.* 2015 at 25). The Garrigue *et al.* (2011) study cited by the commenter discusses only 7 matches between Eastern Australia and Oceania, which is a small number. Similar

movements occur between the Hawaii and Mexico DPSs.

Further, the possibility that a population could be a candidate for “delisting” if it were identified as a DPS is not one of the DPS policy criteria and is not otherwise an appropriate consideration. The ESA requires that we base our listing determinations solely on the best available scientific and commercial data. In conclusion, we do not agree with the commenters that the Gabon/Southwest Africa DPS, the Southeast Africa/Madagascar DPS, East Australia DPS, or Oceania DPS should be further divided into smaller DPSs at this time.

Comment 6: One commenter stated that the ESA should be faithful to its name, and afford protection to taxonomic “species.” Specifically, the commenter indicated that dividing the species into populations does not recognize the biological validity of a species concept.

Response: The ESA provides for identifying and listing different populations separately. As originally enacted, the statute defined “species” to include—in addition to taxonomic species—subspecies and “any other group of fish or wildlife of the same species or smaller taxa in common spatial arrangement that interbreed when mature.” In 1978, the ESA was amended to replace that language with the current language regarding “distinct population segments” (DPSs) in the definition of “species” (Pub. L. 95–632 (1978)). Congress instructed us to exercise this authority with regard to DPSs “. . . sparingly and only when the biological evidence indicates that such action is warranted” (S. Rep. No. 96–151 (1979)). In 1996 the Services published the DPS Policy to define this term. Under the DPS Policy, if a population is both discrete from other conspecific populations and significant to the taxon to which it belongs, it is considered a DPS, and therefore, is a “species” under the ESA.

For humpback whales, we found that the purposes of the ESA would be furthered by managing this wide-ranging species as separate units under the DPS authority, in order to tailor protections of the ESA to those populations that warrant protection. Please see our response to Comment 3 for more details on the DPS Policy.

Comment 7: Several commenters stated that increasing abundance does not equate to full recovery, and that it is premature to delist any DPSs. One of these commenters suggested that the ESA does not allow us to identify DPSs for the purpose of delisting, citing the District of Columbia District Court in

Humane Society v. Jewell, “the creation or initial designation of a DPS operates as a one-way ratchet to provide ESA protections to the covered vertebrates” (*Humane Society of the United States v. Jewell*, Case 1:13-cv-00186–BAH (D.D.C. Dec. 19, 2014)). This commenter also cited *Friends of the Wild Swan v. U.S. Fish and Wildlife Service*, 12 F. Supp. 2d 1121, 1133 (D. Or. 1997), and *Defenders of Wildlife v. Norton*, 239 F. Supp. 2d 9, 2 (D.D.C. 2002). They suggested that Federal courts have come to the same conclusion (quoting the *Friends of the Wild Swan* decision): “As USFWS’s own population segment policy acknowledges, listing of population segments is a proactive measure to prevent the need for listing a species over a larger range—not a tactic for subdividing a larger population that USFWS has already determined, on the same information, warrants listing throughout a larger range.” The commenter also stated that a DPS cannot be delisted until after it is first designated and after the mandatory recovery planning process is completed for that particular DPS and that to do otherwise would shortcut the process designed to ensure public comment and peer review. Finally, this commenter asserted that NMFS cannot conclude in a “5-year review” that a DPS can be simultaneously designated and delisted because this practice conflicts with the plain meaning and statutory requirements of section 4(c) of the ESA. This commenter asserted that we apparently recognized the lack of legal authority for our decision, so we claimed that we were not designating DPSs to delist them, but rather dividing the currently listed global population into 14 separate DPSs, downlisting two of those DPSs, and not proposing to list ten of those DPSs. This commenter further asserted that semantics cannot hide our actions, which simultaneously designate previously unlisted DPSs and strips the majority of those DPSs of all their ESA protections.

Response: We must base our listing determinations solely on the best available scientific and commercial data, after considering ongoing conservation efforts. Increasing abundance is one key indication that a species no longer warrants listing (*i.e.*, is not an “endangered species” or a “threatened species”), but it is not the only factor we considered, as we explained in our proposed rule (80 FR 22304; April 21, 2015 at 22316–22317). Rather, we have considered the factors under section 4(a)(1) in conjunction with the species’ current demographic information. Further, it is important to

understand the function of the status review report prepared by the BRT as it relates to our listing determinations. Convening a BRT to compile the best available information about the species’ status is an optional process that helps inform, and does not supersede, the agency’s listing determinations. The BRT does not make decisions in its report. We, NMFS, take into consideration the information provided by the BRT in the status review report, but must also independently evaluate that information in light of all factors that govern listing. We thus evaluated the information in the status review report and other information that became available to us and, after considering ongoing conservation efforts, we developed our listing determinations.

With regard to our approach to identifying DPSs, see *Rationale for Revising the Listing Status of a Species Under the ESA* above. As we explained in the proposed rule and reaffirm here, we have developed a rational approach that is consistent with both the statutory framework and our obligation to ensure that only those species that actually qualify for the protections of the ESA receive its protections. The commenter’s suggested approach of first listing individual DPSs is untenable for the reasons we explained in the proposed rule and above: Where it is clear by direct application of the 4(a)(1) factors that a DPS does not presently qualify for listing, we have no authority to list it separately. Thus it is simply illogical to suggest we must list such a DPS in order to delist it. By evaluating the species comprehensively throughout its range and assigning listing status to each and every DPS, we have taken an approach that best fits the statutory framework and fulfills our obligation to adjust the original listing to reflect the species’ actual circumstances. This approach differs significantly from that reviewed in *Humane Society of the United States (HSUS) v. Jewell*, 76 F. Supp. 3d 69 (D.D.C. 2014) (Western Great Lakes gray wolf), *appeal docketed*, No. 15–5041 (D.C. Cir. Feb. 19, 2015).

Further, we note that the DPS Policy does not set forth an interpretation of what procedures should be followed in reclassifying a species-wide listing into DPSs. However, the policy states that the policy is adopted “for the purposes of listing, *delisting*, and *reclassifying* vertebrates . . .” 61 FR 4722 (emphasis added). Thus, it does not provide support for the view that the DPS authority may only be used to recognize and list populations. We thus respectfully disagree with characterizing the *Friends of the Wild Swan* case to

suggest that the Services have no authority to consider replacing existing species-wide listings with DPS listings. We note that the facts here are not analogous to the agency action reviewed in that case, which involved a petition to list where FWS had initially concluded that listing of the entire species of bull trout was “warranted but precluded” but then, in a revised decision just a few years later, shifted to considering listing of individual DPSs without adequately explaining the basis for the shift in approach. Here, we have extensively explained that after more than 40 years of listing under the ESA, the scientific understanding of the population structure of humpback whales, as well as the variations in the degree of threats and rates of rebound, have reached the point that there is now a scientific basis to identify DPSs, and that listing each DPS at the appropriate level furthers the purposes of conservation management under the ESA. It is eminently reasonable that, in light of this more developed understanding, the agency has discretion to manage a population of 10,000 individuals differently than it does a population of less than 100 individuals.

To the extent this action may be said to constitute a delisting for the nine DPSs that will not be listed, it is consistent with our regulations at 50 CFR 424.11(d) because we would be delisting these DPSs on “the basis of recovery” (§ 424.11(d)(2)). As that phrase is used in the regulations, it means that “the best scientific and commercial data available indicate that [the species] is no longer endangered or threatened” (§ 424.11(d)(2)). We have determined, after application of the section 4(a)(1) factors, that some of the DPSs do not warrant listing—therefore, we find that they are no longer endangered or threatened. Delisting determinations are to be based on consideration of the same factors as listing determinations (50 CFR 424.11(b), (c)). The Services may directly apply the section 4(a)(1) factors at any time (not just in the context of a “5-year review”) to determine whether a species continues to warrant protection under the ESA and are not bound to apply recovery criteria developed in a recovery plan. This is discussed further in response to the next comment.

Comment 8: Some commenters raised the issue of the intersection of this process with recovery planning. One commenter stated that on pages 59–60 (80 FR 22304; April 21, 2015 at 22317), our proposed rule explains that the original benchmarks for recovery

established in the U.S. Final Recovery Plan for humpback whales (NMFS 1991) (i.e., for populations to achieve 60 percent of pre-whaling abundance) were not prioritized in our status review. This commenter stated that data on progress toward meeting the Recovery Plan abundance goal are now available for the proposed DPSs in the Southern Hemisphere, as the result of a Comprehensive Assessment undertaken by the Scientific Committee of the IWC (IWC 2015). Although a similar effort for the North Atlantic produced ambiguous results (IWC 2001; IWC 2002), the commenter argues that this was likely due to the same uncertainties about stock structure and population parameters that are a potential concern in our status review. For the North Pacific, the commenter notes that there are now more data available on whaling catches (e.g., Ivashchenko *et al.* 2013) as well as population size, structure, and trend (Baker *et al.* 2013; Barlow *et al.* 2011). The commenter recommended that we propose that the IWC undertake an assessment of the recovery status of stocks in that ocean.

Response: As we have explained in the proposed rule, it is clear that a recovery plan represents one potential pathway to improving the status of the populations addressed in the plan, but does not establish a binding or the only pathway for determining when a species no longer qualifies for protection under the ESA. The criteria set forth in a recovery plan are non-binding proxies for the section 4(a)(1) factors, which are the governing considerations that must be applied in any determination regarding the listing status of a species. The Services (as the designees of the Secretaries of Commerce and of the Interior) retain authority to directly apply the section 4(a)(1) factors at any time to determine whether a species continues to warrant protection under the ESA. The Services are, thus, not bound to apply recovery criteria developed in a recovery plan (*Friends of Blackwater v. Salazar*, 691 F.3d 428 (D.C. Cir. 2012)). This is particularly true where adequate data do not exist to determine if the criteria are met, as is the case here. As we discuss below, we find that it is not possible on the basis of available information to determine if the overall targets or interim goals of the plan for those populations the recovery plan focused on are met. Further, we find that even if the data were available they would not necessarily demonstrate that the relevant DPSs should or should not continue to be listed.

At the outset, one must note that the 1991 Recovery Plan did not address all populations of humpback whale; at the

time the humpback was listed globally with no recognized DPSs. The plan focused only on those populations that occur in the North Atlantic and North Pacific. The relevant DPSs implicated by the plan are: West Indies, Cape Verde Islands/Northwest Africa, Western North Pacific, Hawaii, Mexico, and Central America DPSs. Thus the plan simply would not apply to the majority of the DPSs we now identify.

With regard to using the original benchmark for recovery (populations achieving 60 percent of pre-whaling abundance), where available, estimates of historical abundance can provide useful context for setting recovery goals and are likely to be indicative of abundance levels associated with low extinction risk. However, populations may also be at low risk of extinction at abundance levels below historical levels, and accurate estimates of historical abundance are not essential for evaluating extinction risk. In the case of humpback whales, the 1991 recovery plan noted that estimates of historical abundance were highly uncertain and therefore specific numerical targets based on those goals were not provided in the plan. That situation remains true today, despite additional efforts to summarize historical abundance. Because of this uncertainty and because a comparison of current to historical abundance is not necessary for an evaluation of extinction risk, the BRT elected to focus its extinction risk analysis primarily on current abundance and trends relative to benchmarks associated with low risk (See section III/C of Bettridge *et al.*, 2015).

One commenter suggested that we should be required to develop a recovery plan particular to each DPS in order to preserve opportunities for public comment and peer review. The development of recovery plans under section 4(f) of the ESA is a non-regulatory process that nevertheless includes receiving and considering public comment. The Services solicit expert input and peer review of information used in developing recovery plans (See “Endangered and Threatened Wildlife and Plants: Notice of Interagency Cooperative Policy for Peer Review in Endangered Species Act Activities.” 59 FR 34270 (July 1, 1994)). The comment does not cast doubt on our approach here. The ESA does not require that a recovery plan must be developed before a determination can be made that a species no longer qualifies for protection under section 4(a)(1). Moreover, an opportunity for public comment and peer review of the information underlying our

determinations *has been* made available in connection with our proposed listing rule.

With regard to the recommendation that we propose that the IWC undertake an assessment of the recovery status of stocks in the North Pacific Ocean, we support any efforts to estimate population abundance of humpback whales. However, recommending that the IWC undertake an assessment of the recovery status of stocks in the North Pacific is beyond the scope of this action. The ESA requires that we base our determinations on the best *available* scientific and commercial information. This standard does not require conduct of new studies, and because we have sufficient data to support our proposed determinations, there is no reason for us to defer implementing those decisions until additional information becomes available. If additional information becomes available at a later time that the commenter believes should affect our determinations, a petition for consideration of the information could be filed. In addition, we will continue to monitor all DPSs (those that will not be listed will be monitored under the Monitoring Plan that we are issuing today (see Monitoring Plan section below), and the listed DPSs are reviewed periodically through the 5-year review mechanism).

Comment 9: Several commenters stated that population numbers of humpback whales were much higher historically, and humpback whales will not be recovered until they reach pre-whaling numbers (*i.e.*, historical abundance, or carrying capacity), and they should remain listed as endangered. One commenter argued that without an agreed upon and established historical population baseline, it is impossible to determine if humpback whales in the North Pacific qualify for delisting. In addition, the commenter noted that some geographic areas where humpback whales used to be observed do not appear to have been recolonized (Gregs *et al.*, 2000). The commenter stated that Fleming and Jackson (2011) concluded that, despite observed positive population trends over the past decade, the California-Oregon population likely remains well below pre-exploitation size.

Response: The suggestion that humpback whales must remain listed until they reach pre-whaling numbers is inconsistent with the relevant legal standards under the ESA. A listing determination may be made at any time by directly applying the section 4(a)(1) factors (please see our response to Comment 8). Whether a species qualifies for listing under the ESA

depends on whether the species is in danger of extinction or likely to become so within the foreseeable future as a result of one or more of the factors described in section 4(a)(1) (See 16 U.S.C. 1533(a)(1)). If a species is viable at its current population levels into the foreseeable future, it is irrelevant whether that population level is or is not close to its historical levels.

Recovery under the ESA does not mean a species has attained its historical abundance. It simply means that a species is no longer in danger of extinction throughout all or a significant portion of its range or likely to become so within the foreseeable future.

As we stated under *Rationale for Revising the Listing Status under the ESA* and in our response to Comment 8, to the extent that our action may be found to constitute a delisting for the nine DPSs not proposed for listing under the ESA, it is consistent with 50 CFR 424.11(d) because we would be delisting these DPSs on “the basis of recovery” (§ 424.11(d)(2)). As discussed in the proposed rule (80 FR 22304; April 21, 2015), we initially determined, after evaluating abundance and trend information, the ESA section 4(a)(1) factors, and ongoing conservation efforts, that ten humpback whale DPSs did not warrant listing; therefore, we found that they were not endangered or threatened. The Services have authority to apply ESA section 4(a)(1) factors at any time, and we now finalize our determination that nine of the DPSs do not warrant listing.

Comment 10: Several commenters noted that NMFS acknowledges that surveys of humpback whales have not spanned 20 years since issuance of the 1991 recovery plan and data are not available to evaluate the status of humpback whale populations against these goals. Therefore, one commenter added, the BRT focused its biological risk analysis primarily on recent abundance trends and whether absolute abundance was sufficient for biological viability. This commenter asserted that there are a number of populations for which there are 20 years of data against which to measure growth and, as such, it is inappropriate to disregard the recovery plan.

The commenter also stated that NMFS references the 3.5 percent population growth rate from the recovery plan for some southern ocean DPSs, though the plan focused only on the North Pacific and North Atlantic populations. This commenter also suggested that there are 20 years of data indicating that the West Indies DPS has not met recovery plan targets and the agency has instead proposed to entirely remove the

protections of the ESA. One of the other commenters noted that it is obvious that in the past 20 years, the North Pacific humpback whale population, on an ocean-basin scale, has achieved the interim goal of doubling population size. Another commenter stated that, given that we initiated the ESA status review process just 2 years prior to the two-decade threshold, the commenter believes that it would still be worth evaluating progress toward that management goal of doubling the population within 20 years.

Response: A recovery plan is not binding on the Services and does not represent the only path toward a determination that a species no longer warrants protection under the ESA (please see our response to Comment 8). While estimated population growth rate has been calculated for six of the 14 DPSs (but only two of the DPSs in the North Pacific and North Atlantic, which was the focus of the 1991 Recovery Plan) based on data since the Recovery Plan was issued, we do not think the available data allow directly evaluating whether the Recovery Plan criteria have been met. The plan was a forward-looking document that specified that the doubling of the population size was to be over a 20-year period from that point in time (“within 20 years”); it would not make sense to evaluate progress toward a doubled population using data collected before the plan was even developed. As we stated in our proposed rule, surveys from which abundance estimates could be estimated in order to estimate population growth rate were not separated by 20 years or conducted continuously over that period. To achieve a doubling of the population would require a 3.5 percent average annual growth rate to occur over the course of 20 years; if the trend is only documented for less than 20 years, this does not establish that the population is on track to doubling.

Further, the BRT concluded (personal communication, Paul Wade, NMFS, Northwest Fisheries Science Center, BRT member), and we agree, that the Recovery Plan goal of doubling the population within 20 years is not an appropriate proxy for applying the section 4(a)(1) factors in the context of current abundance for evaluating extinction risk. One reason this metric is not an adequate proxy for applying the section 4(a)(1) factors is that if a population approaches carrying capacity (K), the growth rate will be expected to decrease. A population could have recovered to K, but this would only be known if the entire 20-year period was documented, including the early time period with the faster

growth rate. This is why the BRT decided to rely on absolute population size as indicating the relative extinction risk of each DPS due to small population size alone, with trend information as supplemental.

We referenced the 3.5 percent population growth rate for some of the DPSs in the Southern Hemisphere, even though the 1991 recovery plan that recommended an interim goal of doubling the population size (which translates to a 3.5 percent average annual population growth rate) focused on humpback whales in the North Pacific and North Atlantic. However, we did not measure population growth rate against that 3.5 percent target; we included it only as a point of reference as part of our summary of the best available scientific and commercial information. The BRT and we evaluated whether growth rates were increasing, stable, or decreasing as part of the extinction risk analysis, not whether they were greater than or equal to 3.5 percent. To be clear, then, whether a specific DPS' growth trend was at or above the interim recovery goals set out for certain populations in the 1991 Recovery Plan did not play a role in our determinations.

Comment 11: The State of Washington indicated that individuals of the Mexico DPS comprise the majority of humpback whales feeding off Washington. A threatened status for the Central America DPS will encourage NMFS and others to continue efforts to mitigate threats off the west coast. Another commenter expressed concern that creation of the DPS construct complicates management and dilutes the effectiveness of any plan as a species saving effort. Another commenter stated that the status review report did not include information that allows understanding of the proportion of each stock/DPS along the eastern Pacific that uses the North American feeding areas (*i.e.*, from California through the Aleutians) such that takes might be assigned proportionately to a stock on the basis of their proportionate use of the area as NMFS has done in its management of lethal takes of mixed species of pilot whales in the Atlantic.

This same commenter stated that, even if NMFS determines that the Mexico and Hawaii DPSs are recovered, NMFS must retain ESA protections for these DPSs because of similarity of appearance. This commenter noted that mixing of breeding stocks in a single feeding area complicates any threat analysis and will confound determination of stock identity when anthropogenic mortalities that occur in a mixed feeding area need to be

attributed to the appropriate stock. This commenter pointed to NMFS' treatment of progeny of naturally spawned adults of west coast salmon (all progeny are protected as "naturally spawned" because offspring of hatchery-born salmon adults cannot easily be distinguished from their wild counterparts (70 FR 37,160; June 28, 2005, at 37,166)) to show how NMFS ensures appropriate levels of protection for listed species where there is overlap between listed and non-listed populations.

The commenter also attempted to draw support for protecting all DPSs from the provisions of the statute and regulations governing recognition of experimental populations, citing: (1) 16 U.S.C. 1539(j)(1) and 50 CFR 17.80(a) ("where part of an experimental population overlaps with a natural population of the same species . . . specimens of the experimental populations will not be recognized as such while in the area of overlap"); (2) *United States v. McKittrick*, 142 F.3d 1170, 1174–75 (9th Cir. 1998) ("When experimental and nonexperimental populations overlap—even if the overlap occurs seasonally—section 10(j) populations lose their experimental status."); and (3) H.R. Rep. No. 97–567 at 33 (1982), reprinted in 1982 U.S.C.C.A.N. 2807, 2833 (legislative history of section 10(j) stressing that "in the case of the introduction of individuals of a listed fish species into a portion of a stream where the same species already occurs, the introduced specimens would not be treated as an 'experimental population' separate from the non-introduced specimens").

While this commenter believes that delisting or downlisting of any DPS is inappropriate at this time, if a downlisting occurs and NMFS does not retain ESA protections for all DPSs, this commenter recommends that mortality or injury in a feeding area with mixed breeding stocks be attributed to the listed DPS with the most protected status unless it can definitively be determined that it does not belong to that DPS.

Response: Once a DPS is identified, it is considered a species under the ESA. Listing DPSs separately can complicate management when DPSs of different status mix. In particular, when listed species mix with non-listed species, it is important to ensure that the listed species is protected. We have concluded in this final rule that the Mexico DPS is threatened instead of "not warranted," and the Central America DPS is endangered instead of threatened (please see the Mexico DPS and Central America DPS sections for our rationale).

We are extending the section 9 prohibitions to threatened humpback whales, which at this time includes the Mexico DPS, and these same prohibitions are automatically applied to the endangered Central America DPS. Where humpback whales from different DPSs mix on feeding grounds, such as is the case off the coast of Alaska where the non-listed Hawaii DPS mixes with the listed Western North Pacific and Mexico DPSs, we will continue to work with partners to mitigate threats to all humpback whales, regardless of their ESA listing status, because all whales remain protected under the MMPA. We recognize the need for an approach that will allow us to determine which DPSs have been affected by directed or incidental take or may be affected by Federal actions subject to consultation under section 7. As we have for other species (*e.g.*, Pacific salmon), we will likely use a proportional approach to indicate which DPSs are affected by any takes based upon the best available science of what DPSs are present, depending on location and timing where take occurred. We have not finalized this approach, but it will be fluid and based upon the best available science as it changes with increased understanding.

With regard to the commenter's suggestion that we protect the Hawaii and Mexico DPSs based on similarity of appearance, we disagree that the authority to list based on "similarity of appearance" should be invoked here. The statute affords discretion to extend protections to a non-imperiled species based on similarity of appearance only where all three criteria of ESA section 4(e) are met. Specifically, section 4(e) of the ESA provides that the Secretary "may, by regulation of commerce or taking, and to the extent he deems advisable" treat any species as an endangered species or threatened species even though it is not listed under section 4 of the ESA if he finds that:

(A) Such species so closely resembles in appearance, at the point in question, a species which has been listed pursuant to such section that enforcement personnel would have substantial difficulty in attempting to differentiate between the listed and unlisted species;

(B) the effect of this substantial difficulty is an additional threat to an endangered or threatened species; and

(C) such treatment of an unlisted species will substantially facilitate the enforcement and further the policy of this chapter. 16 U.S.C. 1533(e).

This authority allows the Services to treat a species that is not itself imperiled as a listed species for certain purposes

in very limited situations. Criterion A under section 4(e) of the ESA is met for humpback whales because humpback whales from different DPSs are not readily distinguishable in areas where two or more DPSs overlap. Criteria B and C are not met. There is no incentive for people to “take” humpback whales and claim they thought they were taking a different species, because there is no (legal) trade in those products. Therefore, the effect of this substantial difficulty in assigning a humpback whale to a particular DPS does not pose an additional threat to the listed DPS. And finally, treating the unlisted DPS as a listed DPS will not facilitate enforcement of laws against take of humpback whales from a listed DPS. Therefore, we did not propose to protect non-listed DPSs of the humpback whale based on grounds of similarity of appearance to listed DPSs and we do not find a basis to do so in this final rule. However, we note that we changed our listing determination for the Mexico DPS, and, as noted above, we are listing it as a threatened species under the ESA and extending the section 9 prohibitions to the DPS so that it will be protected under the ESA.

Finally, in response to the comments citing to the statutory and regulatory provisions of section 10(j) and related case law, we note that the authority to designate experimental populations is completely separate from making listing determinations under section 4. That authority is designed to allow the Services to introduce or reintroduce species to areas where they do not currently occur. We are not proposing to take such an action here, and there is no basis to conclude that Congress intended the specific provisions relating to the 10(j) authority to apply more broadly. Had Congress intended that result, it could have chosen to do so explicitly, but it did not. Thus the portions of the comments relating to 10(j) are simply not relevant or informative here.

Comment 12: One commenter noted that humpback whales migrate between the equator and the poles and that, therefore, no population of whales around the globe is entirely protected within the borders of any one country. Regardless of their protected status in the United States, this movement leaves protected animals vulnerable to hunting as they migrate across the borders of whaling countries. Several commenters argued that delisting of any humpback whale populations by the United States will weaken the perception of their protected status, and signal to other countries that the United States approves and encourages hunting

humpback whales, particularly in waters beyond the exclusive economic zone (EEZ). Another commenter added that the overlap in ranges of many populations of humpback whales would provide a perfect excuse for whaling nations to hunt protected populations. The commenter indicated there would be no way to prove whalers had violated the protection, as there would be much confusion as to which population they were actually hunting in the overlapping territories. Another commenter asserted that Japan, Norway, Iceland, former Soviet Republics, and others have gained votes and allies on the IWC to open up hunting to the larger baleen whales. The commenter believes that tropical nations, where humpbacks congregate to calf and mate, can be incentivized for votes at the IWC to support hunting of humpbacks in their waters. Many other commenters stated that whaling would start again if humpback whales were no longer protected under the ESA.

Response: We are confident that whaling will not resume as a result of not including nine humpback whale DPSs on the ESA List of Endangered and Threatened Wildlife. The IWC’s commercial whaling moratorium implemented by the IWC in 1986 remains in effect as a needed conservation measure for whale stocks worldwide. We have no indications that the *status quo* will be changed, and thus conclude on the basis of the best available scientific and commercial information that the commercial whaling moratorium will continue to be in effect for the foreseeable future. In addition, the humpback whale is currently an Appendix I species under the Convention for International Trade in Endangered Species of Wild Fauna and Flora (CITES), which restricts international trade and provides an additional layer of protection against resumed whaling. Regarding scientific whaling, there are currently no countries hunting humpback whales for scientific research and we have no information to indicate there are plans to do so in the foreseeable future. Regarding subsistence whaling, we have no reason to believe that the small number of West Indies DPS humpback whales killed for subsistence (see our response to Comment 42) will increase because the DPS is not listed.

Comment 13: Many commenters asserted that it is premature to remove ESA protections from some humpback whale populations, as the research needs to be updated (e.g., address questions about population abundance, trends and risks), and a precautionary approach should be taken to protecting

these iconic animals. One commenter asserted that NMFS seeks to completely delist from the ESA some of the 14 populations it has identified, relying largely on a “speculative” approach using qualitative information that is contrary to the clear mandates of the ESA (“The obvious purpose of the requirement that agencies “use the best scientific and commercial data available” is to ensure that the ESA not be implemented haphazardly, on the basis of speculation or surmise” (*Bennett v. Spear*, 520 U.S. 154 (1997))). This commenter asserted that we should not rely on qualitative data to strip ESA protections, as “[T]his is highly risk prone and an affront to the “institutionalized caution” Congress embodied in the ESA” (*Tennessee Valley Authority (TVA) v. Hill*, 437 U.S. 153 (1978))). Several other commenters said that we should use the precautionary principle when there are so many uncertainties in the scientific data (e.g., unknown trends for several DPSs; unknown effects of climate change, contaminants, and harmful algal blooms (HABs); transfer rates of contaminants to calves; chronic, sublethal impacts of contaminants). Another commenter asserted that NMFS’ proposed rule was not based on the best available science as NMFS failed to consider a number of scientific reports published after 2011.

Response: We are required to base our decisions solely on the best available scientific and commercial data, a standard that does not require certainty. The use of qualitative data is appropriate if they are the best available. We have quantitative abundance estimates for each humpback whale DPS, although some of these estimates are associated with large confidence intervals (meaning that there is relatively less certainty as to their accuracy when compared to estimates with small confidence intervals). While we have quantitative trend information for some DPSs, we do not have it for others, though for most we have at least a qualitative estimate. Regardless of whether the data are quantitative or qualitative, we must use our best professional judgment to determine whether a species meets the definition of an “endangered species” or a “threatened species.” When new data become available, we can reinitiate a status review on our own or in response to a petition. New information can also be evaluated during the 5-year reviews that are required under ESA section 4(c)(2).

With regard to whether the “precautionary” approach should be applied and whether that should lead to

retaining the species' current listing status for each DPS, section 4 of the ESA requires that we base listing determinations solely on the best available scientific and commercial data. It is well established that this standard does not require certainty in the data supporting the agency's decision but instead charges NMFS to apply professional judgment to identify significant uncertainties and determine how to proceed in light of them. Moreover, where the fundamental question of whether a species meets the foundational tests for requiring the ESA's protections under section 4(a)(1) is at issue, the context is significantly different from cases arising under other provisions of the ESA, such as section 7 consultations, where legislative history and case law indicate that significant uncertainties should be resolved against action agencies. Thus, the commenter's citation to *TVA v. Hill* (437 U.S. 153 (1978)) is not pertinent. Congress vested NMFS "with discretion to make listing decisions based on consideration of the relevant statutory factors using the best scientific information available" (*Trout Unlimited v. Lohn*, 645 F. Supp. 2d 929, 947 (D. Or. 2007)).

Each of our determinations is supported by the best available scientific and commercial information, and we have evaluated the data for each particular DPS carefully and deliberately. While there are some uncertainties in the data—as there almost always are in every case of scientific information—we have identified the relevant, significant uncertainties, discussed them, and explained our decisions in light of them. Where those uncertainties are particularly significant, we have erred on the side of retaining protections for the DPS (and, in the case of the Western North Pacific, Mexico, and Central America DPSs, have increased the level of protection from that in our proposed rule). Indeed, one commenter expressed the opposite concern from that raised by this commenter, accusing NMFS of "abusing" the precautionary approach by listing the Western North Pacific DPS (see response to Comment 44).

In response to the comment that the proposed rule did not rely on the best available information because we had not yet considered certain scientific papers published after 2011, this comment fails to take into account the important information-gathering and consideration that takes place during the public comment period as well as the iterative nature of agency decisionmaking. In all scientific decisionmaking, there must come a

point in time where the search for new information pauses while the information already possessed is analyzed and reviewed. It would be unreasonable to expect that the BRT was searching the literature during the entire time between initiation of the status review and issuance of the final status review report. The BRT was presented with a draft compilation of available literature when it first convened, and the team members were tasked to update that compilation at a point prior to completion of the draft report. Once the BRT had substantially completed its draft report, NMFS reviewed the BRT findings and developed the proposed rule. Our proposed rule invited comment and submission of any additional, relevant information for consideration in development of the final rule. This iterative process ensures that all available information is considered for the final rule.

Further, the Monitoring Plan that we are implementing for those DPSs that do not warrant listing helps ensure these DPSs are managed appropriately in light of all threats, including those that may worsen. For any DPSs that are listed, monitoring is as a matter of course, pursuant to the obligation to periodically review the status of these species (ESA section 4(c)(2)). Finally, though not directly relevant to our listing determinations, we note that the non-listed DPSs will continue to be protected under the MMPA.

Comment 14: Many commenters requested that we keep all humpback whale populations listed under the ESA, as MMPA protection may not be effective if "delisting" is perceived as "no longer protected." These commenters said that population numbers may have increased, but they may not stay at a safe population size because of noise, water pollution, climate change, vessel collisions, and habitat destruction.

Response: Regardless of whether they are also listed under the ESA, marine mammals are protected under the MMPA. The MMPA's provisions include prohibitions on take in U.S. waters and by U.S. citizens on the high seas. We based our listing determinations on the best available data, including an evaluation of available information on threat levels. Where we are not listing a DPS as threatened or endangered, it is because we have determined that, based on the best available data, the DPS is not in danger of extinction throughout all or a significant portion of its range or likely to become so within the foreseeable future. We discuss the related issue of whether the previously listed

populations retain "depleted" status under the MMPA, below.

Comment 15: Canada's Department of Fisheries and Oceans (DFO) commented that, in 2003, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assessed the western North Atlantic humpback whale population as "not at risk," which is consistent with NMFS' proposed designation for the West Indies DPS from which the Canadian western North Atlantic population derives. In 2003, COSEWIC assessed the North Pacific humpback whale population as "threatened," and in 2005 the population was listed as such under Canada's Species at Risk Act (SARA). COSEWIC reassessed this population as "special concern" in 2011 and confirmed the "special concern" status of this population in 2013. In response to this "special concern" assessment, the North Pacific humpback whale population is being considered for reclassification as "special concern" under SARA. Humpback whales from the proposed Hawaii, Mexico, and Central America DPSs contribute to the population that frequents Canadian waters. The proposed "not at risk" status for the Hawaii and Mexico DPSs is lower than the current (threatened) or potential (special concern) SARA status of the Canadian North Pacific humpback whale population. Therefore, the proposed "not at risk" designation for the Hawaii and Mexico DPSs would not offer the species the current or potential level of protection in Canada. The proposed status of "threatened" for the Central America DPS aligns with the North Pacific Humpback Whale current designation as "threatened" under SARA.

Response: We appreciate the detailed information provided by Canada's DFO. While it may appear that the status categories under the ESA ("endangered," "threatened," "candidate," and "not warranted") correlate to those under the SARA ("endangered," "threatened," "special concern," and "not at risk"), the ESA and SARA use different criteria to assess the status of species. Therefore, a species listed as "threatened" under the ESA might not be at the same level of extinction risk as one listed as "threatened" under SARA. However, we recognize that the Hawaii DPS will not be protected under the ESA in U.S. waters or on the high seas (with respect to U.S. citizens) and it will be protected in Canadian waters (until the Canadian North Pacific population is reclassified as "special concern," if this happens). All humpback whales will continue to receive significant protection from taking under the MMPA in U.S. waters

and by U.S. citizens on the high seas. And while we did not propose to list the Mexico DPS as threatened or endangered and we proposed to list the Central America DPS as threatened, we are now listing the Mexico DPS as threatened and the Central America DPS as endangered (please see the Mexico DPS and Central America DPS sections). Canada's DFO is correct that the Central America DPS will receive essentially the same protections under both the ESA and SARA. The Mexico DPS will, too, because we are extending the section 9 prohibitions to threatened humpback whales.

Comment 16: Several commenters expressed support for our decision to list the Western North Pacific DPS and Central America DPS (as threatened) and to list the Arabian Sea and Cape Verde Islands/Northwest Africa DPS (as endangered).

Response: We acknowledge the commenters' support. Please see the Western North Pacific DPS, the Mexico DPS, and the Central America DPS sections for our rationale for listing the Mexico DPS as threatened and for reaching the determination of "endangered" for the Western North Pacific and Central America DPSs.

Comment 17: One commenter stated that NMFS' proposal is not based on the best available science because it fails to properly define and analyze the risk of extinction in the foreseeable future. The commenter asserted that there are two problems with our approach to weighing extinction risk: (1) Improper use of a 60-year timeframe for risk assessment; and (2) failure to properly apply the chosen 60-year time frame. The commenter stated that, in prior listing decisions and recovery plans for whale species, NMFS consistently uses longer time frames to evaluate extinction risk, generally 100 years. In the case of both North Atlantic and North Pacific right whales, the commenter argued, 100 years was used, and this was based on conclusions from a large whale recovery criteria workshop (Angliss *et al.* 2002). The commenter suggested that NMFS provided no explanation or justification for the foreseeable future used in this rulemaking. The commenter suggests that, despite claiming to analyze future impacts, the threats analysis references "current" risks, but contains no analysis of the risk of extinction posed by reasonably foreseeable future impacts. The commenter also suggests that the extinction risk approach improperly "raised the bar" for the threatened category and cites to the unreported decision in *Western Watersheds Project v. Foss*, No. CV-04-168, 2005 U.S. Dist.

LEXIS 45753, *49 (D. Idaho Aug. 19, 2005) for the proposition that it is inappropriate to evaluate "high risk of extinction" over the "foreseeable future." The commenter states that this focus on current threats also fails to recognize that, while the definition of a "threatened" species is necessarily forward-looking, so, too, is the definition of an "endangered species." Simply put, a species "in danger" of extinction is not currently extinct. Rather, it is a species facing a risk of extinction in the future.

Response: The commenter's suggestion that it is improper to use different time periods for different listing determinations or recovery plans (the latter of which are not binding regulatory documents) misunderstands the nature of the determination of "foreseeable future." As we explained in the proposed rule and summarized in the introductory paragraphs of this final rule, the concept of the "foreseeable future" must be determined and applied specifically for each species undergoing a status review or listing determination under the ESA in order to consider whether a species is a threatened species. See, e.g., *In re Polar Bear Endangered Species Act Listing and 4(d) Rule Litigation*, 794 F. Supp. 2d 65, 95 (D.D.C. 2011) ("As with the term 'likely,' Congress has not defined the term 'foreseeable future' under the ESA . . ."). Instead of using an inflexible quantitative standard, "a 'foreseeable future' determination is made on the basis of the agency's reasoned judgment in light of the best available science for the species under consideration." *id.*

In its status review report, the BRT determined that 60 years was the appropriate time period over which it could reasonably predict the humpback whale's responses to threats. We agreed with the BRT's rationale and thus adopted the 60-year period as the "foreseeable future" for this listing determination. Nothing the commenter cites undercuts the basis for the foreseeable future identified for this rulemaking. The 1991 Recovery Plan for the Northern Right Whale (*Eubalaena glacialis*) (NMFS 1991) included several criteria for reclassification from "endangered" to "threatened," one of which was that the species has less than a 1 percent probability of going extinct in 100 years. Similarly, it included several criteria for delisting, one of which was that the species has less than a 10 percent probability of becoming endangered in 25 years. The timeframes of 100 years and 25 years as used in the large whale recovery criteria workshop referred to by the commenter are part of a population viability analysis (x

percent chance of extinction in y years); they do not refer to the foreseeable future as used under the ESA. As explained above, the "foreseeable future" is generally defined for each species based on how far into the future we may reliably project individual threats as well as the species' response to those threats. Here, for the reasons already explained, 60 years was articulated by both the BRT and NMFS as the appropriate timeframe.

Even if equivalency in "foreseeable future" determinations among species with similar life history traits was required, there is no basis to compare the foreseeable future for humpback whales with any "foreseeable future" for the Cook Inlet beluga whale, North Pacific right whale, and North Atlantic right whale because we did not define foreseeable future periods for any of the latter three species. Our extinction risk analyses for these species concluded that these species were all endangered; thus, we did not need to define foreseeable future for these species; the "foreseeable future" concept is relevant only to consideration of "threatened" status, which is unnecessary where we have determined the species meets the higher standard for "endangered." The 100-year period the commenter refers to is simply one of two timeframes over which we estimated the risk of extinction for the Cook Inlet beluga whale (the other timeframe was 300 years) in the context of a population viability analysis. Neither we nor the BRT mentioned a 100-year time period in any context in the North Atlantic and North Pacific right whale status reviews, proposed listing rule, or final listing determination. There is no requirement that the same time period used to forecast effects as a matter of scientific modeling must be chosen as the "foreseeable future" for the listing determination for that species. Determining the appropriate "foreseeable future" for a listing decision involves the professional judgment of the resource managers, who must determine at what point it is no longer reasonable to make official predictions about threats and the species' response. Thus, while a particular period may have been chosen to underlie a PVA in order to generate useful information, that same period will not necessarily be equivalent to the foreseeable future adopted for the ultimate listing decision. Indeed, it is not required that the foreseeable future be quantified as a specific number of years at any point for any listing decision.

Recovery criteria remain case-specific. Further, there is no requirement under

the ESA to define extinction risk in quantitative terms; there is “nothing in the text or structure of the statute to compel the conclusion that Congress intended to bind the agency to a particular formula for determining when a species is ‘in danger of extinction.’” *In re Polar Bear Endangered Species Act Listing and 4(d) Rule Litigation*, 748 F. Supp. 2d 19, 27 (D.D.C. 2010). Rather, “[t]he overall structure of the ESA suggests that the definition of an endangered species was ‘intentionally left ambiguous,’” and “Congress broadly delegated responsibility to the Secretary to determine whether a species is ‘in danger of extinction’ in light of the five statutory listing factors and the best available science for that species.” *Id.*

Under the ESA, in order to list a species as threatened, we must conclude that the species is likely to become in danger of extinction throughout all or a significant portion of its range within the foreseeable future. For the humpback whale, the BRT and NMFS defined the foreseeable future as 60 years. The classifications used by the BRT for its extinction risk assessment appropriately maintained the temporal distinction between risk that currently exists and risk that will become manifest within the foreseeable future. Here, the BRT specifically defined the “high risk of extinction” category to measure near-term risk, while the “moderate risk of extinction” category incorporates the foreseeable future (Bettridge *et al.* 2015 at 67–68). The commenter is thus flatly incorrect in the suggestion that the BRT or NMFS conflated the threatened category with the endangered category, and the citation to *Western Watersheds Project v. Foss* is inapposite.

When we reviewed the BRT’s extinction risk conclusions, and then evaluated ongoing conservation efforts as we are required to do, we agreed with the BRT’s conclusions. For those DPSs that the BRT determined were at “moderate risk of extinction,” we generally concluded that the DPSs were likely to become endangered over the next 60 years (threatened). For those DPSs that the BRT concluded were at “high risk of extinction,” we generally concluded that the DPSs were in danger of extinction currently (endangered). (However, for this final rule we have applied greater levels of protection than the BRT votes would predict for three DPSs. Please see our rationale for reconsidering our listing determinations for the Western North Pacific (Western North Pacific DPS section), Mexico (Mexico DPS section), and Central America (Central America DPS section)

DPSs.) We agree with the commenter that the definitions of “threatened” species and “endangered species” are forward looking (*i.e.*, a species “in danger” of extinction is not currently extinct; rather, it is a species facing a risk of extinction at an undefined point in the future). We did consider that the threats we can reliably predict will act on the species within the foreseeable future.

Comment 18: One commenter stated that the ESA is enforced in U.S. waters, and that other countries recognize and respect this and may assign statuses under their acts. The commenter asserted that other status classifications, such as the International Union for Conservation of Nature (IUCN), are likely to be removed in response to removing humpback whales from the ESA list.

Response: The ESA is enforced in U.S. waters and on the high seas for persons subject to U.S. jurisdiction. The ESA requires us to make our determinations in accordance with the best available scientific and commercial information without regard to what other countries might do with regard to conservation status of species under their jurisdiction. With regard to IUCN, species classifications under the ESA and the IUCN Red List are not equivalent. Data standards, criteria used to evaluate species status, and treatment of uncertainty are not considered similarly, and the legal effect is not the same.

Unlike the ESA, the IUCN Red List is not a statute and is not a legally binding or regulatory instrument. It does not include legally binding requirements, prohibitions, or guidance for the protection of threatened (*i.e.*, critically endangered, endangered, or vulnerable) taxa (IUCN 2012). Rather, it provides taxonomic, conservation status, and distribution information on species. The IUCN Red List is based on a system of categories and criteria designed to determine the *relative* risk of extinction (<http://www.iucnredlist.org/about/introduction>), classifying species in one of nine categories, as determined via quantitative criteria, including population size reductions, range reductions, small population size, and quantitative extinction risk. Whether the IUCN removes status classifications as a result of an ESA listing determination is not relevant to the ESA’s requirement that we base listing determinations solely on the best available scientific and commercial data.

Having said this, the IUCN classified the humpback whale as “least concern” in 2008.

Comment 19: Several commenters asserted that we underestimated the risks of oil spills to humpback whales.

Response: We do not agree that we underestimated the risks of oil spills to humpback whales. We discussed this risk in our proposed rule (80 FR 22304; April 21, 2015 at 22321), concluding that long-term ingestion of pollutants, including oil residues, could affect reproduction, but that data are lacking to determine how oil may fit into this scheme for humpback whales. The effects of oil spills are generally associated with low probabilities of occurrence, and are generally localized in nature. Documented impacts from these activities in the past have been minimal. Therefore, we do not believe that we have underestimated the risks of oil spills, and we have accurately portrayed the effect of oil and gas activities on the status of the species within the foreseeable future.

Comment 20: One commenter noted that humpback whales off Southern California and Asia are known to have high levels of dichlorodiphenyltrichloroethane, polychlorinated biphenyls, and other persistent organic pollutants (Elfes *et al.* 2010).

Response: We considered Elfes *et al.* (2010), but when this information is combined with all of the other information presented on contaminants in the status review report (Bettridge *et al.* 2015 at 41–42), we agreed with the BRT that the severity of this threat was low in all regions, except where lack of data indicated a finding of unknown. Even where the extent of risk is unknown, it is not enough to place any DPS in danger of extinction presently or within the foreseeable future. Regardless, we are listing the Western North Pacific and Central America DPSs as endangered and the Mexico DPS as threatened for other reasons (see the Western North Pacific DPS, Mexico DPS, and Central America DPS sections for our rationale). These are the DPSs that occur off Southern California and Asia.

Comment 21: One commenter stated that the ESA section 4(a)(1) factors must be addressed before a species can be delisted. For example, the commenter noted, contaminants were given a risk score of “low” or “none” for both the Mexico and Central America DPSs, both of which are acknowledged to feed off the coast of California. However, the commenter continued, the text of the status review report cites data indicating that “contaminant levels have been proposed as a causative factor in lower reproductive rates found among humpback whales off Southern

California.” Another commenter pointed to the increased number of fishing gear entanglements off California, Oregon, and Washington in 2015 as cause for concern for the Mexico and Central America DPSs.

Response: While it is true that individuals from both the Mexico and Central America DPSs feed off the coast of California, we are not aware of any evidence to indicate that either of the DPSs is being negatively impacted because of lower reproductive rates. We cited data indicating that “contaminant levels have been proposed as a causative factor in lower reproductive rates found among humpback whales off Southern California” (Steiger and Calambokidis 2000), but we also added that, “at present the threshold level for negative effects, and transfer rates to calves, are unknown for humpback whales” and “[t]he health effects of different doses of contaminants are currently unknown for humpback whales (Krahn *et al.* 2004c).” While Steiger and Calambokidis (2000) clearly state that contaminants could be one of several possible causes of the observed lower rates of reproduction amongst these whales (which are still increasing, just not as rapidly as other groups), they do not point to contaminants as the primary or sole cause; they actually indicate that mysticetes are thought to have lower exposure to contaminants such as hydrocarbons than pinnipeds and odontocetes. We do not have much information from recent humpback whale strandings that could shed light on either contaminant loads or their possible effects on reproduction. We will continue to monitor the health of humpback whales, whether they are listed under the ESA or not.

Regarding the higher number of whale entanglement reports made in 2015 off California, Oregon, and Washington, this may be attributable to changes in the number and distribution of whales in recent years, and/or changes in the distribution of fishing and other human activities, which are, in part, influenced by environmental conditions. We are working to better understand and predict how all these factors may be impacting whales off the west coast. Broader public awareness may also be contributing to the recent increase in entanglement reports. Increasing awareness about whale entanglements and available reporting mechanisms is a focus of our outreach. We have also been working with trained and authorized responders along the west coast to increase their capacity to respond to entanglement reports and train new responders in reporting and response techniques—additional

outreach that may be contributing to the 2015 numbers. However, the fact is that the number of reported fishing gear entanglements have increased, and therefore, we continue to view this threat as posing a moderate risk to the Mexico and Central America DPSs.

Comment 22: Several commenters stated that prey depletion in terms of competition from fisheries is a significant threat to humpback whales.

Response: We have no evidence of prey depletion contributing significantly to the extinction risk of any DPS of the humpback whale. It is conceivable that reduction of forage fish could cause shifts in the feeding range of humpback whales to areas with more threats from fishing gear, commercial shipping, or areas not under U.S. jurisdiction. However, we have no information to indicate that the fish species that humpback whales prey upon are reduced in number or will be reduced in number in the foreseeable future to the point where the feeding ranges of humpback whales are changing.

In Alaska, for example, herring are the only forage fish species with a directed fishery, unless we consider juvenile pollock and salmon (the only life stage of these fishes that humpback whales eat), which have fisheries targeting the adults and not the juveniles. Krill are probably the dominant prey item for humpback whales in Alaska, and have no directed harvest. Herring fisheries in Alaska are managed with a fairly conservative guideline harvest rate and a minimum biomass threshold before fishing is permitted. In Prince William Sound, we found that humpback whales were consuming 15–20 percent of the pre-spawning biomass of herring; this rate is sustainable and roughly what the fishery would take, if the fishery were open. Humpback whales in Prince William Sound appear to be the most herring-focused whales in Alaskan waters based on diet analysis, and likely represent the high end of humpback whale dependency on herring.

The BRT discussed the high level of fishing pressure in the region occupied by the Okinawa/Philippines portion of the Western North Pacific DPS (a small humpback whale population). Although specific information on prey abundance and competition between whales and fisheries is not known in this area, overlap of whales and fisheries has been indicated by the bycatch of humpback whales in set-nets in the area. The BRT determined that competition with fisheries is a medium threat to the Okinawa/Philippines portion of the Western North Pacific DPS (which will be listed as an endangered species), given the high level of fishing and small

humpback whale population, and a low or unknown threat for all other DPSs (Bettridge *et al.* 2015 at 56).

Comment 23: Many commenters expressed concern about whale watch vessels approaching humpback whales too closely or at high speeds. One commenter asserted that some of the worst harassment is currently seen within marine sanctuary areas because of lack of enforcement, and that this results in displacement of humpback whales through disturbance, harassment, and the abandonment of areas by the whales. The commenter provided examples of harassment from whale watchers a few miles out of Auke Bay off Juneau, AK, off Maui, HI, and in Stellwagen Bank in MA. This commenter urges us to maintain ESA protections for humpback whales.

Response: Stellwagen Bank National Marine Sanctuary (SBNMS) is working with NMFS and other sanctuary partners to educate the public, deter harassment, and encourage responsible stewardship among whale watchers in the sanctuary, including through development of whale watching guidelines for Atlantic waters off the northeast United States, implementation of a citizen science program in collaboration with the U.S. Coast Guard auxiliary, and the joint enforcement agreement between NOAA’s Office of Law Enforcement (OLE) and the State of Massachusetts.

In addition to establishing regulations that prohibit vessels from approaching within 100 yards of a whale in sanctuary waters, the Hawaiian Islands Humpback Whale National Marine Sanctuary (HIHWNMS) has a number of outreach programs designed to increase awareness of humpback whales and to reduce harassment by interactions with ocean users, including ocean awareness and ocean etiquette training that educates both the general public and commercial whale watch operators in the region. HIHWNMS has also convened a standing Sanctuary Interagency Law Enforcement Task Force to coordinate enforcement of the humpback whale approach regulation by state and Federal law enforcement partners. We believe these efforts will help reduce the threat of whale watching and increase enforcement and compliance with whale watching guidelines and vessel approach regulations.

We continue to work with the whale watch industry to ensure that vessels do not approach humpback whales too closely through vessel approach regulations in Hawaii and Alaska, and vessel speed rules in the North Atlantic. In fact, in two separate notices

published elsewhere in today's issue of the **Federal Register**, we are: (1) Promulgating a direct final rule making minor technical corrections to and recodifying the Alaska approach regulations that have been in place in the part of the Code of Federal Regulations addressing endangered marine or anadromous species (50 CFR 224.103(b)) so that they also appear in the part of the Code of Federal Regulations addressing threatened marine and anadromous species (50 CFR 223.214) and the part setting forth MMPA regulations (50 CFR 216.18); and (2) promulgating an interim final rule setting out similar regulations in Hawaii under the MMPA (50 CFR 216.19). In addition, we have implemented a number of responsible viewing programs across the United States to promote precautionary practices on the water. One of these programs, Whale SENSE, works closely with the whale watch industry along the U.S. Atlantic and in Alaska, whereby operators agree to adopt a high standard of stewardship on the water, including limiting speeds and time spent with whales.

Comment 24: One commenter asserted that we failed to consider the science demonstrating that ocean acidification could profoundly affect the growth and toxicity of phytoplankton associated with harmful algal blooms (known as "red tides") and the detrimental effects this will have on all humpbacks, particularly the proposed Mexico, Central America, and Hawaii DPSs, and that we failed to adequately consider impacts to their food supply.

Response: We did consider HABs, and the BRT found, and we agreed, that HABs represented a minor threat to most humpback whale populations. HABs may be increasing in Alaska, but the BRT was unaware of records of humpback whale mortality resulting from HABs in this region.

We have recent evidence of high levels of domoic acid in two humpback whales that stranded in California in 2015. We obtained very few samples from the eight humpback whales that stranded in California in 2015 as most were too decayed or inaccessible for necropsy, but in these two cases we were able to test for domoic acid and detected its presence. Domoic acid has not been identified as the cause of death for the two humpback whales at this time, and at least one of them also had marks of blunt force trauma.

A recent study (Lefebvre *et al.* 2016) documented spatial patterns and prevalence of domoic acid and saxitoxin exposure in Alaskan marine mammals in order to assess health risks to northern populations. Humpback

whales typically feed in cooler Alaskan waters during the spring, summer, and fall months (Baker *et al.* 1986). There may be resident populations of humpback whales in the southeastern Gulf of Alaska. In Alaska, their diet consists of krill and many different kinds of fish including herring (*Clupea pallasii*) and capelin (*Mallotus villosus*), all of which are planktivorous and therefore likely vectors of domoic acid and saxitoxin exposure (Bargu *et al.* 2002; Doucette *et al.* 2005; Lefebvre *et al.* 2002a). A lower percentage of humpbacks tested positive for domoic acid (38 percent, highest concentration = 51 ng/g feces) than saxitoxin (50 percent, highest concentration = 62 ng/g). The highest domoic acid and saxitoxin concentrations were found in an individual that died from a ship strike, which may not be a coincidence because saxitoxin and domoic acid intoxication have been suggested to be a factor in the loss of ability to avoid ships and to be a cause of stranding (Geraci *et al.* 1989). Unless unknown factors inhibit HABs in northern waters, warming water temperatures and increased light availability due to loss of sea ice are likely to support more blooms, increasing toxin concentrations and the health risks they present for northern marine mammal species as they have for southern species. Despite these results, we do not have any evidence to indicate that HABs are causing humpback whale mortalities that rise to a level that would indicate they are contributing significantly to the extinction risk of humpback whale DPSs, now or in the foreseeable future. (Please note that the Arabian Sea DPS, which we list as endangered, presents special considerations as discussed in the Arabian Sea DPS section.)

With regard to impacts on the humpback whale's food supply (in terms of krill), humpback whales switch prey types and are also found feeding on schools of small fish when those are more available. This adaptability is beneficial within and between years and feeding areas and may help humpback whales be more resilient to changing prey distributions and availability. On the negative side, this adaptability may also bring the whales into greater contact with fisheries for these same fish, leading to increases in interactions. As we stated in the proposed rule (80 FR 22304; April 21, 2015), "... the BRT did not think the linkage between climate change and future krill production was sufficiently well understood to rate it as moderate or high risk. Nonetheless, any potential impacts resulting from these threats will almost

certainly increase, but not in the foreseeable future."

While it is important to continue monitoring humpback whale health, we cannot conclude that ocean acidification is contributing significantly to the extinction risk of any humpback whale DPS through growth and toxicity of phytoplankton associated with HABs or impacts to the humpback whale's food supply, now or in the foreseeable future.

Comment 25: Several commenters asserted that NMFS makes nothing more than a passing reference to climate change and ocean acidification, despite repeatedly recognizing that threats from climate change are likely to increase. In so doing, one commenter argued, NMFS failed to adequately analyze the threat they pose and improperly and summarily dismissed these threats in its analysis for the DPSs not proposed to be listed. Another commenter stated that humpback whales have not recovered to abundances that could sustain a rapid decline due to expected climate changes in the foreseeable future.

Response: We evaluated the effects of climate change and ocean acidification on each humpback whale DPS, as discussed in our proposed rule (80 FR 22304; April 21, 2015 at 22328–22329), but found no basis to conclude they contribute significantly to extinction risk for most DPSs, now or in the foreseeable future. (Please note that the Arabian Sea DPS, which we list as endangered, presents special considerations as discussed in the Arabian Sea DPS section). The ESA requires that listing decisions be based solely on the best available scientific and commercial information. We cannot merely speculate that climate change and ocean acidification contribute significantly to the extinction risk of any humpback whale DPS, but must base our listing determinations on evidence sufficient to indicate that a particular effect is likely to lead to particular biological responses at the species level. In fact, the only evidence for climate change effects on prey abundance or type is humpback whales moving north into Arctic waters, which is an expansion of their range and could be seen as a positive effect. There is a high degree of uncertainty associated with the fundamental issue of whether loss of sea ice will negatively affect krill; while overwintering larval krill use sea ice for predator protection and as a food source (algae on the underside of the ice), it is possible that krill would do better in open water because it has higher primary productivity. Here the data do not allow us to draw more than speculative conclusions as to the impacts of climate change on the

species, and thus our qualitative analysis of the impacts of climate change satisfies our obligation to use the best scientific and commercial data available. See *Oceana, Inc. v. Pritzker*, 75 F. Supp. 3d 469, 493 (D.D.C. 2014)

Comment 26: One commenter asserted that the scientific record does not support the statement made by the IWC and cited in the status review report and the proposed rule, “It is generally accepted that cetaceans are unlikely to suffer problems because of changes in water temperature per se (IWC 1997).” This commenter added that the proposed rule changes fail to address environmental and health concerns regarding climatic events that have already begun, and that they believe will escalate in the foreseeable future. The commenter described her research on the structure and innervation of humpback whale skin, and concluded that critical concerns facing the species from climate change include: (1) UV radiation exposure secondary to ozone depletion compromises skin by burns and blisters, making the whale more susceptible to pathogens and weakening its immune response; (2) If water temperatures rise, the ability of these animals to cool down, particularly in tropical birthing and calving grounds, will be diminished. While the metabolic effects of this are unknown, her experience with whale skin suggests to her that one complication will be a breakdown of skin integrity; (3) Low pH levels are experienced as chemical burns. This commenter asserted that her research has shown these animals have neuroanatomical fibers in their skin that may respond to similar stimuli; (4) Skin diseases, lesions, lice, pathological microbial communities, and pollutants is another area of particular concern, as the science exploring lesions and immune response is minimal, though reported occurrences are increasing. While whales were able to evolve during past climatic shifts, this commenter argues, the present rapid rate of temperature change and ocean acidification is unprecedented. The commenter concludes that it is not wise to assume whales will be able to genetically evolve or adopt behavioral modifications sufficient to overcome the foreseeably predicted changes. The commenter provided 4 citations related to ultraviolet (UV) radiation damage to whale skin.

Response: When we cited the IWC (1997) report in the proposed rule, we added, “Rather, global warming is more likely to effect changes in habitats that in turn potentially affect the abundance and distribution of prey in these areas.”

We carefully reviewed the four citations (Martinez-Levasseur *et al.* 2010, 2013a, 2013b; Bowman *et al.* 2013) related to UV radiation damage to whale skin provided by the commenter and not reviewed at the time of the proposed rule. Results from Martinez-Levasseur *et al.* (2010) may indicate quick responses to increasing irradiation, based on increased number of melanocytes, stimulation of the synthesis of melanin, and augmented apoptosis (the death of cells that occurs as a normal and controlled part of an organism’s growth or development) when exposed to UV radiation in blue whales, fin whales, and sperm whales. Martinez-Levasseur *et al.* (2013a) discovered an apparent plastic pigmentation response as well as the use of distinct strategies to counteract harmful exposure to UV radiation amongst whale species, raising questions about the selective pressure that sun exposure has exerted on these marine mammals. Martinez-Levasseur *et al.* (2013b) provided preliminary results that demonstrate an association between the levels of expression of target genes and sunburn microscopic lesions previously recorded in cetacean epidermis. Bowman *et al.* (2013) presented a reliable method which, for the first time in the literature, allows for the simultaneous detection of skin mtDNA damage in the same three species of sun blistered whales and noted that it would be interesting to see if detected differences in damage among these species reflect any behavioral differences, such as migration patterns, skin pigmentation, or the time spent at the surface of the ocean. While these studies are interesting, they do not provide sufficient evidence to conclude that increased UV radiation due to climate change is currently affecting the status of humpback whale DPSs or is likely to do so within the foreseeable future. The commenter did not provide any citations to her own published research, so we cannot evaluate her other assertions, which were only generally described. We have no evidence that humpback whales will be impacted in the ways described by this commenter within the foreseeable future. The only DPS for which we consider climate change to be a significant threat is the Arabian Sea DPS, as we stated in the proposed rule, and we are listing this DPS as endangered.

Comment 27: One commenter stated that delisting populations will also expose whales to new threats, the impacts of which are not well understood. The commenter suggested that acoustic prospecting, off-shore

drilling, and other impacts of the oil and gas industry have never been fully realized for these animals as these types of projects are recent additions to the ocean environment and their development has been limited in the whales’ habitat due to their protected status. The commenter further suggested that deep-sea mining is another new industry, the impacts of which are just beginning to be studied now, that has the potential to release toxic contaminants previously locked away in the seabed, and that old industries haven’t yet reformed into modern, sustainable practices. This commenter asserted that fishing continues globally to take larger catches than science recommends; farming, sewage, and industrial practices continue to put too many nutrients and pollutants into the ocean, increasing dead zones and bioaccumulation; and the shipping industry continues to increase, increasing the likelihood of ship strikes and acoustic interference as the oceans become noisier. Another commenter asserted that NMFS also failed to consider new practices in the oil and gas industry that present new threats. Offshore “fracking”—an unconventional oil and gas extraction practice that involves blasting voluminous amounts of water and toxic chemicals into the earth at high pressures to crack rock beneath the ocean floor—is expanding, exposing animals to possible leaks and to the chemical discharges that are a byproduct of this activity. This same commenter said that, in addition to analyzing each threat on its own, NMFS must also analyze threats to humpbacks cumulatively to determine if they are threatened or endangered, citing *Carlton v. Babbitt*, 900 F. Supp. 526, 530 (D.D.C. 1995) (the agency “must consider each of the listing factors singularly and in combination with the other factors”). This commenter asserted that NMFS paid lip service to this requirement by claiming that the five listing factors do not pose a threat to recovery “either alone or cumulatively.”

Response: The threats mentioned in this comment are described very generally, and we have no specific evidence to indicate that they will negatively impact any humpback whale DPS. We considered the potential for new threats in developing our proposed listing determinations, and we conclude that these threats are not likely to increase the risk of extinction to any of the DPSs not proposed for listing to the point where they would warrant listing under the ESA. Finally, it is important to note that the Monitoring Plan we are issuing today for humpback whales

establishes a framework for continued monitoring and assessment of potential threats for the next 10 years (twice the minimum 5-year monitoring period required by the ESA).

With regard to the suggestion that we failed to adequately evaluate the combined effects to the species from all section 4(a)(1) factors, while we did not explicitly discuss the combined effects of different threats on the different DPSs in the proposed rule, it is clear that we did consider them. For the West Indies, Hawaii, and Mexico DPSs, we did not mention the combined effects of threats in the proposed rule because the abundance estimates of these DPSs were sufficiently high that we could not foresee any combination of threats impacting the DPSs to the point where we would consider them threatened or endangered. (Note that we now have revised abundance estimates for the Mexico DPS and have reconsidered its status in light of the continuing threat of fishing gear entanglements). For the Southern Hemisphere DPSs that we did not propose to list (Brazil, Gabon/Southwest Africa, Southeast Africa/Madagascar, West Australia, East Australia, Oceania, and Southeastern Pacific), we noted in our proposed rule, “None of the factors that may negatively impact the status of the humpback whale appear to pose a threat to recovery, either alone or cumulatively, for these DPSs.” The high abundances of these DPSs similarly led us to conclude there was no potential combination of threats that would result in endangered or threatened status for any of these DPSs. For those DPSs that we proposed listing as endangered (Cape Verde Islands/Northwest Africa, Arabian Sea) on the basis of the factors identified, there was no need for further consideration of combinations of effects because no amount of additional risk could lead to any greater protected status than endangered. While the discussion in the status review report and proposed rule was not explicit on this point, consideration of the combined effect of threats can be reasonably discerned from them and we reiterate this reasoning here.

Since the proposed rule published, we have reconsidered our listing determinations for the Western North Pacific, Mexico, and Central America DPSs. We have determined that the Western North Pacific and Central America DPSs are endangered (please see Western North Pacific DPS and Central America DPS sections for our rationale) and that the Mexico DPS is threatened (please see Mexico DPS section for our rationale). Further, we now confirm in this final rule that we

have considered whether any section 4(a)(1) threats in combination would lead us to conclude that a different listing status is appropriate for any DPS. We have reached our final listing determinations after fully considering all factors together and individually.

Comments on the West Indies DPS

Comment 28: One commenter noted that on page 95 (80 FR 22304; April 21, 2015 at 22325), the proposed rule states that the SBNMS has the potential to reduce the extinction risk of the West Indies DPS by providing protection on the feeding ground. While this commenter agrees that the SBNMS is a site of important research and management initiatives, the commenter points out that it is a small marine protected area that is visited by only approximately 200 individual humpback whales per year on average (CCS, unpublished data). As such, argues the commenter, it is unlikely that it could have significant effect on the viability of the West Indies DPS. The commenter further notes that, on a larger scale, the SBNMS is part of a Sister Sanctuary Program with other marine protected areas within the range of North Atlantic humpback whales and that this relationship has the potential to facilitate conservation and research across international boundaries. However, it is not clear how this program might be impacted by a change in the ESA status of the proposed West Indies DPS.

Response: We agree that the SBNMS is a small marine protected area, but as the commenter noted, it is part of a larger Sister Sanctuary Program that can provide some protection to these whales at certain stages in their migration. To date, SBNMS has sister sanctuary agreements with the Dominican Republic, the French Antilles, and Bermuda. The intent of the agreement(s) is to foster cooperation on activities of mutual interest and exchange experience through coordination of capacity building, research, and education concerning the conservation, stewardship, and management of the endangered humpback whale, and the respective marine bank ecosystems they frequent. We do not expect these activities to change because the West Indies DPS of humpback whale is not protected under the ESA.

Comment 29: The State of Massachusetts supports not listing the West Indies DPS and asserts that the MMPA and the Atlantic Large Whale Take Reduction Plan (ALWTRP) will provide protections.

Response: We acknowledge the State of Massachusetts’ comments, and are

finalizing the identification of, and a “not warranted” finding for, the West Indies DPS in this final rule. We agree these other actions provide protection for humpback whales.

Comment 30: Two commenters suggested that there was insufficient support for a single, wider Caribbean region DPS, taking the position that the West Indies DPS we identified comprises two (or more) DPSs that should be considered endangered. Another commenter stated that new information is now available based on research in the eastern Caribbean and the eastern North Atlantic and that this information does not support previous assumptions that the West Indies is a homogeneous breeding population. Rather, whales in the eastern Caribbean appear to exhibit different breeding timing and preferential exchange with eastern North Atlantic areas (Stevick *et al.* accepted; Stevick *et al.* 2015). This commenter stated that it is unclear whether these results might require a change in the spatial boundaries of the two proposed DPSs, or if there should be more than two DPSs in the North Atlantic. The commenter stated that it is also not clear whether further heterogeneity may exist within other under-sampled areas of the Caribbean. The commenter believes that these results must be further scrutinized before ascertaining the number, the geographic extent, and status of DPSs in the North Atlantic.

Response: Research (Stevick *et al.* 2015) shows that some humpback whales that are resighted in the western North Atlantic feeding grounds move into the more northern part of the Caribbean in January and February, and another group that is resighted in Iceland and northern Norway enters the southeastern Caribbean at a later date. Further, Stevick *et al.* (2016) discusses 4 individual humpback whales sighted in Guadeloupe and the Cape Verde Islands; one was subsequently sighted in Norway. However, this information is based on very few data, and does not provide a sufficient or convincing basis to combine whales that breed in the Southeastern Caribbean with those in the Cape Verde Islands/Northwest Africa DPS or to identify three or more DPSs in the North Atlantic. The difference in observed breeding timing could be a result of survey period. In addition, at least three humpback whales from the Lesser Antilles (southeastern Caribbean) have been resighted in West Greenland, Newfoundland, and Norway, as well as the Dominican Republic, which indicates mixing. At this time, we believe the best available scientific and

commercial information supports the DPS structure we have identified. While further research, including studies of genetic variation between breeding areas in the northern Caribbean and southeast Caribbean, as well as the Cape Verde Islands, may support the commenter's position in the future. At this time we find no basis to draw different conclusions about the DPS structure of humpback whales in the North Atlantic than we described in our proposed rule.

Comment 31: Several commenters stated that the Years of the North Atlantic Humpback (YONAH) and More North Atlantic Humpbacks (MONAH) surveys are 20+ and 10 years old, respectively, and that we relied on older, unpublished abundance data for the proposed West Indies DPS. The commenters noted that we have suggested in the past that data older than 8 years are not good enough for estimating potential biological removal (PBR) (Stevick *et al.* 2015). One of the commenters asserted that the MONAH data were used to calculate a population trend that is said to vary from a “zero percent” increase to a 3 percent increase in a 10-year period depending on the model used. This commenter added that the MONAH data remain unavailable for review a decade later. The commenters also stated that the population growth rate for this DPS seems to be only 3.1 percent (Stevick *et al.* 2003), but the Humpback Whale Recovery Plan said 3.5 percent would be required before we could consider delisting the humpback whale. Further, they argued, the abundance estimate of 12,312 individuals for the West Indies DPS’ putative breeding ground is only 10 percent of the long-term estimate of 112,000 individuals.

Response: We are required to use the best available scientific or commercial information when making a listing determination under the ESA, and this is what we did when we relied on these abundance and trend estimates. The commenter has taken certain prior statements out of context: We have determined that, unless compelling evidence indicates that a stock has not declined since the last census, the minimum population size estimate of the stock should be considered unknown if 8 years have transpired since the last abundance survey (NMFS 2016). This guidance is in the context of our PBR calculations under the MMPA and does not apply to ESA listing determinations, which require that we base our decisions on the best available scientific and commercial data.

However, we agree with the commenter that the MONAH data remain unavailable and have not been

fully analyzed yet, so in this final rule we are not relying on the abundance estimate from the MONAH survey. The abundance estimates from the YONAH survey are therefore the best available scientific or commercial information, and they indicate a population size for this DPS of 10,400 (95 percent confidence interval (CI) 8,000–13,600) individuals using genetic identification data, and 10,752 (coefficient of variation (CV) = 6.8 percent) individuals using photo identification data for the period 1992–1993. Stevick *et al.* (2003) estimated the growth rate at 3.1 percent (standard error (SE) = 1.2 percent) for the period 1979–1993. While these abundance and growth rate estimates are based on data that were collected prior to the MONAH data, we consider them to be more reliable at this time. We reaffirm our conclusion that the West Indies DPS is not threatened or endangered under the ESA. If newer reliable data become available, that information can be considered in the context of 5-year reviews, the Monitoring Plan, or upon a petition, to determine whether any further changes to listing status are warranted.

The commenters who stated that the population growth rate for this DPS seems to be only 3.1 percent (Stevick *et al.* 2003) are correct, but their assertion that the Humpback Whale Recovery Plan said 3.5 percent would be required before we could consider delisting the humpback whale is incorrect. The Recovery Plan did not state that a 3.5 percent growth rate would satisfy the recovery goal of doubling the population size (please see our response to Comment 10 for further details).

As we have explained, our action today is based on a comprehensive evaluation of the DPSs comprising the humpback whale’s entire range and assigns a listing status to each DPS. To the extent that our action for the West Indies DPS may constitute a “delisting,” it is consistent with § 424.11(d), which provides for delisting on “the basis of recovery” (424.11(d)(2)). As that phrase is used in the regulations, it means that “the best scientific and commercial data available indicate that [the species] is no longer endangered or threatened” (424.11(d)(2)). We are not required to first find that the recovery plan criteria have been met in order to directly apply the 4(a)(1) factors. As discussed in the proposed rule, we determined, after evaluating the ESA section 4(a)(1) factors, that the West Indies DPS is not endangered or threatened. For further explanation, please see the *Rationale for Revising the Listing Status of a Listed Species Under the ESA* section above

and our responses to Comments 8 and 9.

Comment 32: One commenter noted that there is very little available scientific information about breeding areas for the humpback whales near Iceland and Norway, where whales are still killed. Many of these populations use the same feeding areas, so if a whale is killed, it would be hard to determine the origin of a particular humpback whale population. In these areas where multiple populations feed, it would be difficult to determine which level of protection applies to individuals when each population is treated differently. This commenter does not support the removal of ESA protections from North Atlantic humpback whales that breed in the West Indies, a population that they assert has not yet recovered from whaling and continues to be seriously impacted by human induced threats.

Response: We agree that there is little available scientific or commercial information about breeding areas for humpback whales near Iceland and Norway. Humpback whales feeding in the Northeast Atlantic have been matched to breeding grounds in the Cape Verde Islands and the Caribbean. Additional research would provide a greater understanding of the proportions of humpback whales in the Northeast Atlantic that come from the Cape Verde Islands and the Caribbean, but the ESA standard of “best available scientific and commercial information” does not require that we conduct new studies. Rather, we must rely on the best available information. Here, we conclude that the best available scientific and commercial information is sufficient to support our determinations.

Iceland and Norway do not hunt humpback whales, so we are confident that individual humpback whales migrating to Iceland and Norway from the Caribbean are not in danger of extinction due to whaling. Nor is this threat likely to affect the status of whales in the foreseeable future. Iceland hunts minke whales for its domestic market and its hunt for fin whales was recently suspended. Norway hunts minke whales only for domestic consumption. These countries have not recently expressed a desire to hunt humpback whales, and there are no other indications to suggest that they will conduct such hunts. Therefore, we are confident they will not begin whaling for humpback whales in the foreseeable future. (Please also see our response to Comment 12).

Comment 33: One commenter noted that few humpback whales were seen in the New York Bight area before 2011, and now they are coming back. This

commenter stated that the Hudson River is improving, but that threats still remain, and shipping in this area will only increase. This commenter recommended leaving the West Indies DPS listed as endangered, adding that there is no definitive evidence to conclude that the West Indies DPS is leveling off or reaching carrying capacity.

Response: The best available scientific and commercial information indicates that the West Indies DPS is increasing in abundance. As we explained in our response to Comment 9, whether a DPS reaches carrying capacity (or historical abundance) is not a criterion for recovery under the ESA. Please see responses to Comments 34–38 and 42 regarding threats to the West Indies DPS.

Comment 34: One commenter asserted that humpback whales in the Northwest Atlantic are subject to impacts of industrial electric generators operating on the shoreline, such as Entergy Pilgrim Nuclear Power Station on the shore of Cape Cod Bay (Plymouth, MA), Seabrook Station Nuclear Power Plant (Seabrook, NH), and Mirant Canal Power Plant (Sandwich, MA). Possible and realized negative impacts include entrainment and impingement of food sources (fish and ichthyoplankton), as well as chemical, thermal, and radioactive discharges.

Response: We have conducted informal consultations under section 7 of the ESA for the relicensing of the named power plants. The consultations concluded that the relicensing and continued operation of the power plants were not likely to adversely affect any ESA-listed species under our jurisdiction (including, at the time, humpback whales). On May 17, 2012, we concluded an informal consultation with the Nuclear Regulatory Commission (NRC) on the relicensing of the Pilgrim Nuclear Power Plant Station (PNPPS) located in Plymouth, Massachusetts. The consultation concluded that the relicensing and continued operation of the PNPPS was not likely to adversely affect any NMFS-listed species. No new information has come to our attention that would cause us to take a different view for this final listing determination. While some zooplankton is likely lost to entrainment at the PNPPS each year, approximately 85 percent of entrained zooplankton are believed to survive (Bridges and Anderson 1984). Further, in October 2015, Entergy Corporation announced that it will close its PNPPS in Plymouth, MA, no later than June 1, 2019.

On October 10, 2012, we completed an informal consultation with the NRC on the proposed relicensing of the Seabrook Nuclear Power Station (SBNPS) located in Seabrook, New Hampshire. We concurred with the NRC's determination that the continued operation of the SBNPS is not likely to adversely affect any ESA-listed species.

We consulted on the Mirant Canal Power Plant in 2008, concluding, "Based on the above analysis of water quality effects and the determination that all effects, if adverse, will be insignificant or discountable, NMFS is able to concur with EPA's determination that the proposed NPDES permit for this facility is not likely to adversely affect listed whales or sea turtles."

Comment 35: One commenter expressed concern about the adequacy of other protection measures for the West Indies DPS, which the commenter understands to be the primary breeding ground for North Atlantic humpback whales that consistently return to U.S. waters each year. The latest information on population size and growth rate for the West Indies DPS is more than a decade old and, according to the commenter, the results are somewhat ambiguous. This commenter would be more comfortable with listing changes if there were proven success in DPS-level monitoring and controlling current human impacts. The commenter stated that if populations were to lose ESA protections then it will be necessary to track their status more intensively to reliably detect and potentially reverse adverse effects of delisting in a timely manner.

Response: The commenter refers to the West Indies DPS as "the primary breeding ground for North Atlantic humpback whales." To clarify, the West Indies DPS refers to the individual humpback whales that constitute the DPS, not the breeding ground itself. The breeding grounds for the West Indies DPS include waters of the Dominican Republic (primarily Silver Bank, Navidad Bank) and Puerto Rico (Mona Passage).

There are a number of ongoing conservation efforts that benefit the West Indies DPS. These include a number of measures implemented under the authority of the MMPA, including the ALWTRP and Harbor Porpoise Take Reduction Plan (HPTRP) to reduce the risks associated with large whale interactions with fishing gear, and the Ship Strike Reduction Strategy to reduce risks associated with vessel collisions. Please see the proposed rule (80 FR 22304; April 15, 2015 at 22324–22325) for more information on these measures.

Finally, it is important to note that the Monitoring Plan we are issuing today for humpback whales establishes a framework for continued monitoring and assessment of threats for the next 10 years (twice the minimum 5 year monitoring window required by the ESA).

Comment 36: One commenter stated that it has not been possible to adequately limit the human impacts from entanglement and ship strikes that are known to occur within U.S. waters, let alone those that may occur in other parts of the range of the West Indies DPS. The commenter stated that humpback whale takes along the U.S. East Coast have exceeded management limits for more than two decades, and these are thought to be underestimates of the total number of takes actually occurring (van der Hoop *et al.* 2013; Pace *et al.* 2014; Cole and Henry 2013). As rationale for urging us to keep the West Indies DPS listed as endangered, another commenter asserted that this year alone the marine animal disentanglement team, based out of Provincetown, MA, has received reports of 7 entangled humpback whales. Another commenter asserted that entanglement-related mortality in Canada is largely unaddressed, and there has been an increase in the use of trap/pot gear. This commenter also asserted that there was an increased risk of entanglement for humpback whales in the areas that were reopened to groundfishing when the New England Fishery Management Council took final action on their Omnibus Essential Fish Habitat Amendment 2.

Response: The largest potential threats to the West Indies DPS are entanglement in fishing gear and ship strikes; these occur primarily in the feeding grounds, with some documented in U.S. waters of the mid-Atlantic. While some large whales display evidence of surviving vessel collisions, these interactions, particularly with larger ships, are routinely lethal due to blunt force trauma of the impact and the severe lacerations associated with the vessel propeller. It is difficult to determine whether mortalities and injuries from these threats are due to increasing abundance of humpback whales or increased numbers of fishing gears and vessels. However, we have determined that the West Indies DPS continues to grow in abundance, despite the fishing gear entanglements and vessel strikes, and we determine that its high abundance provides sufficient resilience within the foreseeable future against such threats.

We disagree that it has not been possible to adequately limit the human impacts from entanglement and ship strikes that are known to occur within U.S. waters, let alone those that may occur in other parts of the range of the West Indies DPS. Existing management measures implemented specifically for protected resource conservation should mitigate any impacts of the amendment on large whales and other marine mammals. The ALWTRP implements gear restrictions, spatially and seasonally, to minimize interactions between whales and vertical lines from fishing gear, as well as to reduce serious injury or mortality, should an interaction occur. Two recent adjustments to the ALWTRP include the “Sinking Groundline Rule” that became effective in April 2009 (73 FR 51228; September 2, 2008), and the “Vertical Line” rule that became effective in August 2014 (79 FR 36586; June 27, 2014). These rules have improved, or are expected to improve, management of marine mammal interactions with fishing gear. In addition, when the Atlantic Large Whale Take Reduction Team (ALWTRT) was working on the vertical line rule to address entanglement risk of vertical lines to large whales, it determined that gillnets represent less than 1 percent of the total vertical lines on the east coast (see Appendix 3A in the most recent ALWTRP Final Environmental Impact Statement) and that the impacts from this gear on large whales is minimal. Therefore, the 2014 rule focused on trap/pot vertical line reduction, which is a gear that has been, and would, for the most part, continue to be allowed in the habitat management areas. Areas with the greatest co-occurrence of large whales and gillnet gear will continue to be subject to existing restrictions under the ALWTRP. Further, should data indicate that gillnet entanglement risk has increased, the ALWTRT would be reconvened to address the issue.

Because a number of the proposed alternatives considered for Omnibus Essential Fish Habitat Amendment 2 would potentially open areas to fishing that have been closed for a significant period of time, there are no data to provide insight as to how gear may potentially shift and, if there is a shift, what kind of impact this may have on protected species. As a result, it is not possible to forecast precisely what entanglement risk would exist if the closures are removed. However, we can adequately examine risk based on overall gillnet effort—*i.e.*, the actual number of nets in the water. Because there is unlikely to be an increase in

gillnet effort overall, the overall risk of marine mammal entanglement is unlikely to increase and the risk of opening closed areas to gillnet fishing is unknown. There could potentially be a decreased level of entanglement risk, as areas in which gillnet gear is currently heavily concentrated become more diffuse. Please see our response to Comment 39 for details on measures that are in place for Atlantic right whales that likely reduce the risk of vessel collisions with humpback whales.

Further, Barlow and Clapham (1997) have estimated a population growth rate of 6.5 percent (SE = 1.2 percent) for the well-studied humpback whale population in the Gulf of Maine, which is part of the West Indies DPS. Clapham *et al.* (2003) suggest that there are indications this growth rate has slowed in recent years.

The current PBR for Gulf of Maine humpback whale population stock (under the MMPA) is 2.7 animals per year. When this final rule becomes effective, PBR will be recalculated and will increase because the West Indies DPS will no longer be listed, and there will be no ESA-listed DPS that overlaps with the Gulf of Maine stock. The total estimated human-caused mortality and serious injury to the Gulf of Maine humpback whale stock is estimated as 10.3 animals per year. This average is derived from two components: (1) Incidental fishery interaction records, 8.9; and (2) records of vessel collisions, 1.4 (Waring *et al.* 2014).

While mortality and serious injury of humpback whales from the Gulf of Maine stock have exceeded its PBR, this stock is only a small component of the total West Indies DPS humpback whale population. The best estimate for the total population of humpback whales in the Gulf of Maine stock is 823 animals (Waring *et al.* 2014). The overall population of the West Indies DPS of humpback whales is estimated to be 10,400–10,752 (please see response to Comment 31). Overall, the West Indies DPS was estimated to be increasing slowly over the time period 1980 to 2005, but there is not sufficient evidence to statistically conclude the DPS has leveled off, such as would occur for a population reaching carrying capacity (Bettridge *et al.* 2015). In contrast, estimates from feeding areas in the North Atlantic indicate strongly increasing trends in Iceland (1979–1988 and 1987–2007), Greenland (1984–2007), and the Gulf of Maine (1979–1991). There is some indication that the population growth rate in the Gulf of Maine has slowed in more recent years. It is not clear why the trends appear so

different between the feeding and breeding grounds. A possible explanation would be that the Silver Bank breeding ground has reached carrying capacity, and that an increasing number and percentage of whales are using other parts of the West Indies as breeding areas (Bettridge *et al.* 2015). In any case, the ESA does not require that the population level of a listed species must “level off” or reach carrying capacity for ESA protections to not apply; we have directly evaluated the likelihood of the DPS to persist by considering abundance and trend information and applying the section 4(a)(1) factors directly.

It is not clear whether there is a significant increase in the use of trap/pot gear in Canada as the commenter suggests. Canada’s most recent assessment of the Northwest Atlantic population of humpback whales conducted by COSEWIC determined that the population is not at risk of being listed as endangered under SARA. A Code of Ethics was established by a non-profit organization working with whale-watching operators to minimize the impact of whale watching on whales. Whale watching and ecotourism operators throughout Atlantic Canada and Quebec have adopted similar codes of ethics to reduce interactions with large whales, including humpback whales. A protocol has been established for releasing entangled whales from fishing gear. There are a number of first responders in Canadian waters. In addition to the Grand Manan Whale and Seabird Research Station and other groups in Nova Scotia, the volunteer Campobello Whale Rescue Team responds to entanglements in Canadian waters (primarily the lower Bay of Fundy) and collaborates with U.S.-based rescue groups at the Provincetown Center for Coastal Studies and the New England Aquarium where humpback whales and other whale species are more prevalent. We do not agree that entanglement-related mortality in Canada is largely unaddressed.

Regarding the commenter’s assertion that there would be an increased risk of entanglement for humpback whales in the areas that were reopened to groundfishing when the New England Fishery Management Council (Council) took final action on their Omnibus Essential Fish Habitat Amendment, this is not a final action. NMFS has not taken a final action on this amendment. Between October 10, 2013 and January 8, 2014, the Council accepted written comments on the amendment and its associated draft Environmental Impact Statement, and these comments were submitted to us. Between November 24,

2014 and January 7, 2015, the Council held 12 public hearings on Omnibus Essential Fish Habitat Amendment 2. All of the proposed habitat management alternatives, except for the no action alternative, would remove year-round groundfish closures and result in gear capable of catching groundfish being allowed into areas where they had previously been restricted. Changes in the patterns of fixed gear use, specifically concentrations of fixed gear, have the greatest potential to influence the magnitude of protected resources impacts in the region. Gillnets and traps/pots have been documented as having the most interactions with whales and dolphins as compared to trawl or hook gear. The management measures currently in place for the Northeast multispecies, monkfish, and skate fisheries (*i.e.*, the fisheries that use gillnets and bottom trawls) and the scallop fishery all limit the overall amount of fishing effort, mainly through annual catch limits on target stocks. As a result, the changes proposed in this amendment would not be expected to result in an increase in fishing effort overall, just shifts in the location of that effort.

Comment 37: Commenters assert that while some humpback whale populations have shown signs of recovery, North Atlantic humpback whales struggle to recover from decades of whaling as they face unsustainable threats from entanglements in fishing gear, vessel strikes, energy development, ocean noise, and pollution. The commenters argue that Gulf of Maine humpback whales are currently being seriously injured or killed by human impacts at a rate higher than the population can sustain to recover, and some BRT members considered that North Atlantic humpback whales who breed in the West Indies may be at a “moderate” or “high risk of extinction” due to “potentially high rates of entanglement and/or ship strikes in some parts of its range” as well as the multiple cases of mass die-offs of humpback whales in the Gulf of Maine. The commenters do not support removing ESA protections from North Atlantic humpback whales that breed in the West Indies.

Response: The BRT concluded that North Atlantic humpback whales that breed in the West Indies are at low risk of extinction, and we agree. As discussed in the West Indies DPS section, the most reliable estimate of abundance for the West Indies DPS is 10,400–10,752 animals (please see response to Comment 31). Humpback whale numbers in the Gulf of Maine are increasing at a rate of 3.1 percent per

year, which we conclude is evidence of the population’s resilience to the injuries and mortalities it may experience into the foreseeable future. The most recent and best estimate of annual serious injury and mortality for the Gulf of Maine stock of humpback whales is 10.2 animals annually (Waring *et al.* 2014). As stated above in our response to Comment 36, the Gulf of Maine stock (under the MMPA) is only a small portion of the overall population of humpback whales that comprise the West Indies DPS. Further, these whales will still be protected under the MMPA, which prohibits *take* and requires that marine mammal stocks be maintained at *optimum sustainable population* levels (please see response to Comment 36).

The majority of the BRT members concluded that the West Indies DPS was “not at risk of extinction” (82 percent of the likelihood points). The concern by some members of the BRT that there is potential for this DPS to be at “moderate” or “high risk of extinction” reflects uncertainty on the part of some BRT members stemming from potentially high rates of entanglement and/or ship strikes in some portions of its range (17 and 1 percent, respectively), and the occurrence in the Gulf of Maine of recent multiple unusual mortality events (UMEs) (Bettridge *et al.* 2015). Despite these threats, the abundance of the West Indies DPS is substantial, and the growth rate is positive.

The threats mentioned in this comment are described very generally, and we have no indication that they will negatively impact humpback whale DPSs. We considered the potential for new threats in developing our proposed determinations, and we conclude that these threats are not likely to increase the risk of extinction to any of the DPSs that have not been proposed for listing to the point where they would warrant listing under the ESA.

Finally, it is important to note that the Monitoring Plan we are issuing today per section 4(g)(1) of the ESA establishes a framework for continued monitoring and assessment of threats for the next 10 years (twice the minimum 5-year monitoring window required by the ESA). We have determined that the West Indies DPS continues to grow in abundance, despite the fishing gear entanglements and vessel strikes. Please see our responses to Comments 19, 20, 21, 34, 35, 36, 38, and 41.

Comment 38: Several commenters stated that NMFS’ own data say most humpback whales have been entangled at least once. One commenter stated that, according to Center for Coastal Studies, 80 humpback whales have been

rescued since 1984, many from gear entanglement. According to another commenter, a quarter to a third of the population show evidence of vessel strikes, and well over half show signs of a previous entanglement. In discussing their assertion that we did not consider the inadequacy of regulatory mechanisms when making our listing determinations for the 14 humpback whale DPSs, another commenter asserted that regulations have proven inadequate to reduce humpback whale mortality to legally mandated levels, citing Pace *et al.* (2014).

Response: The commenters misconstrue the source of the data in Waring *et al.* (2014). Those data are from the Stock Assessment Report for humpback whales. Stock Assessment Reports are, for the most part, compilations of published information rather than NMFS’ own data. Waring *et al.* (2014) note that scarification rates have been used to study entanglement-related scarring on humpback whales in the Gulf of Maine, with the results suggesting that between 48 percent and 65 percent had experienced some sort of entanglement (see also Robbins and Mattila 2001). However, those entanglement rates include all sources of entanglement, including moorings and other non-fishing activities.

Large whale entanglements, including those involving humpback whales, are difficult to study, as the moment of entanglement is rarely observed and in most cases animals move away from the location of the event. Since 1997, scarification rates have been used as a measure of entanglement rates for large whales. These scar studies provide a method for evaluating both lethal and non-lethal entanglement events. The continued monitoring of scarification rates provides a means to help monitor the effectiveness of management efforts implemented to reduce the frequency of these types of interactions. Further, since those scarification studies have been conducted, NMFS, in consultation with the ALWTRT, has developed and implemented two major regulatory actions that have significantly reduced the volume of groundlines from trap/pot and gillnet gear (72 FR 57104; October 5, 2007) and vertical lines in all trap/pot gear (79 FR 36586; June 27, 2014) to significantly reduce the risk of entanglement.

We acknowledge that fishing gear entanglement continues to impact humpback whales to varying degrees in the range of different DPSs. However, we have assessed the potential effects of fishing gear entanglements on several species of large whales including humpback whales in the northwest

Atlantic (West Indies DPS) through the ESA section 7 consultation process. We have completed a number of biological opinions on several fishery management plans (FMPs), including the American lobster, the Northeast Multispecies, monkfish, spiny dogfish, Atlantic bluefish, Northeast skate complex, mackerel/squid/butterfish, and summer flounder/scup/black sea bass fisheries and concluded that these fisheries are not likely to jeopardize the continued existence of the species (see <http://www.greateratlantic.fisheries.noaa.gov/protected/section7/bo/actbo.html>).

Pace *et al.* (2014) analyzed data from mortalities and serious injuries prior to new regulations requiring sinking ground lines and vertical lines, which are a known important whale entanglement problem. That paper supports our conclusion that additional measures to reduce entanglement were needed at that time and are still required now. The ALWTRT was appraised of these findings, and our Greater Atlantic Regional Fisheries Office cited this information as support for the ground line and vertical line rules with the goal of reducing entanglements that result in serious injuries and mortalities, in accordance with requirements of MMPA and ESA. Further, we collaborated with the ALWTRT to develop a monitoring plan for the ALWTRP that provides for a 5-year monitoring period to evaluate the impact from and compliance with the regulations associated with the ALWTRP. As such, we will gather data over 5 years, and will then analyze whether there is a noticeable change from the suite of conservation measures implemented through the ALWTRP. We are currently in our second year of implementing the combined sinking groundline and vertical line regulations. The monitoring plan provides for taking immediate additional action if needed (as a safety mechanism that allows us to respond if a new emerging issue arises that is not addressed in the ALWTRP) prior to the end of 5 years.

Comment 39: Many commenters urged us not to take the West Indies DPS off the endangered and threatened species list, as many threats still remain, including vessel collisions, fishing gear entanglements, noise, and climate change. One of these commenters asserts that the Gulf of Maine population will demonstrate moderate habitat variability in coming years that will increase the risk to it from these threats. The commenter states that, without the additional protections of the ESA, NMFS may find it hard to meet its legal obligations under the MMPA. If too many individuals are lost as a result

of human activity, this commenter argues, the population will continually end up going over its PBR rate and will fail to meet or maintain its optimum sustainable population (OSP) level. This commenter also asserts that the ESA provides more protection than the MMPA. This commenter concludes that it is likely that delisting this particular population will cause these cases of human interactions to increase, which may ultimately lead to a need for NMFS to relist the population, wasting valuable resources that could have been saved if the population remained listed the entire time. Another commenter cited Laist *et al.* (2014) to assert that the authors concluded that there is no evidence to show that the North Atlantic right whale vessel speed rule confers benefits to the humpback whale (West Indies DPS).

Response: As discussed above, measures to reduce the take of humpback whales (as well as other large whales) have been promulgated under the authority of the MMPA (please see our response to Comment 35). These measures implemented to protect large whales, including humpback whales, will remain in place, including those to reduce the risks of fishing gear interactions and ship strikes. The measures we have imposed to reduce the threat posed by ship strikes to North Atlantic right whales have been promulgated under the authority of the ESA and MMPA, and although these measures were keyed closely to North Atlantic right whale distribution, they are expected to help reduce risk to humpback whales to the extent that the distribution of the two species overlap. Related to this, additional actions established primarily to protect right whales almost certainly will reduce the risk of vessel collisions with humpback whales. Among these are various vessel routing measures endorsed by the International Maritime Organization and implemented domestically (Silber *et al.* 2012); one of which is expected to reduce the likelihood of fatal collisions with humpback whales by 81 percent in the relevant geographical area (<http://stellwagen.noaa.gov/science/tss.html>).

Further, we have concluded that climate change and noise do not currently place this DPS in danger of extinction or make it likely that they will become so within the foreseeable future (please see our responses to Comments 25 and 41).

Our obligations to make listing determinations under the ESA are separate and apart from our obligations under the MMPA. We cannot agree with the commenter that recognizing the improved status of this DPS under the

ESA and adjusting the listing to accurately reflect that status (as we are required to do under sections 4(a)(1), 4(b)(1)(A), and 4(c)) is incompatible with our obligations under the MMPA.

Comment 40: One commenter suggested that new breakaway nets that protect whales from entanglement be required.

Response: The current action is a final listing determination addressing the status of the DPSs under the ESA on the basis of the best scientific and commercial data available. We are also categorically extending all the protections of section 9 to the threatened DPSs. It is outside the scope of this action to consider modifying or promulgating additional special protections, though we may do so in the future through a special rule under section 4(d). Nevertheless, we respond to clarify the current regulatory status of the type of protective measure to which we understand the commenter to be referring. We assume the commenter's mention of "breakaway nets" was referring to weak links that allow the gear to part under various weight tolerances, with the intention of reducing the risk of serious injury and mortality should a whale encounter trap/pot or gillnet gear. The use of weak links is already required through the regulations implementing the ALWTRP. The ALWTRP is intended to reduce the risk of serious injury and mortality of large whales caused by the incidental entanglement of large whales in U.S. commercial trap/pot and gillnet fishing gear. The ALWTRP focuses on reducing entanglements of right, humpback, and fin whales.

Comment 41: Several commenters stated that noise was a threat to humpback whales in the North Atlantic.

Response: We described the research on the effects of noise on marine mammals in the proposed rule (80 FR 22304; April 21, 2015 at 22326), and we concluded that population-level impacts on cetaceans have not been confirmed. There is little specific, reliable information regarding, for example, the interruption of breeding and other behaviors or a resulting reduction in population growth or mortality of individuals. Therefore, the BRT considered this to be a low threat for all DPSs. We agree with that conclusion.

Comment 42: Several commenters asserted that we underestimated the risks of subsistence whaling to the West Indies DPS.

Response: We disagree, and have not received any information to change our conclusion from the proposed rule. The number of West Indies DPS humpback whales killed for subsistence is very

small, and the abundance of the West Indies DPS is large (10,400–10,752). Bequians in St. Vincent and the Grenadines in the Lesser Antilles currently retain an IWC “block” quota of up to 24 whales over a 6-year period (2013–2018) (IWC 2012), and 27 humpback whales were killed in Greenland between 2010 and 2012 under a 2010 IWC quota. We have determined, based on the best available information, the West Indies DPS is not threatened or endangered under the ESA, and it can sustain a small number of subsistence takes.

Comments on the Cape Verde Islands/Northwest Africa DPS

We did not receive any comments on this DPS, other than the general comment recommending endangered status for all DPSs. This DPS is being listed as endangered (please see Cape Verde Islands/Northwest Africa DPS section).

Comments on the Western North Pacific DPS

Comment 43: One commenter expressed concern that we had combined two populations that the BRT identified as separate DPSs (Okinawa/Philippines and 2nd West Pacific) into one DPS, the Western North Pacific DPS. According to the commenter, if we had identified them as separate DPSs, at least one of them might warrant endangered status.

Response: We concluded that combining the two putative DPSs into one DPS was the most consistent with the best available scientific and commercial information. It is not known where the “2nd West Pacific” population breeds, and therefore it cannot be classified as a separate DPS from the others, which are generally identified by breeding area. Further, whether or not identifying an entity as threatened or endangered if it is a smaller entity would lead to a different listing determination would not be an appropriate rationale for identifying that entity as a DPS. Regardless, we are listing the Western North Pacific DPS as endangered in this final rule. Please see the Western North Pacific DPS section below for our rationale for listing this DPS as endangered instead of threatened (as proposed).

Comment 44: The Fisheries Agency of Japan (Japan) commented that the Western North Pacific DPS should not be listed under the ESA, asserting that we did not provide support for suspicions about Japanese illegal, unreported, and unregulated (IUU) fishing. Japan suggested that our main rationale for proposing to list the

Western North Pacific DPS as threatened was, “Some poaching is reported to occur in Korean waters and is suspected off Japan (Baker *et al.* 2002; IWC 2005c).” Japan asserted, however, that Baker *et al.* (2002) deals with only two cases: (1) A case of gray whale market products whose origin was unidentified; and (2) a case of one gray whale which was reported as “stranded” by the Japanese government but appeared to have been killed by fishermen. Japan expressed concern about the leap of logic in concluding that some poaching of humpback whales is suspected off Japan because a few cases of illegal catch of gray whales were suspected in the 1990s before the introduction, in 2001, of the system to ban the market distribution of products of whale meat not obtained legally. Japan recommended deletion of some sentences about Japanese catch/research/entanglement, and provided some references to support its view. Japan explained that after the Government of Japan introduced a domestic regulation in 2001 requiring reporting of bycatch, the reported number of bycaught humpback whales has actually been stable with no increasing trend (http://www.jfa.maff.go.jp/j/whale/w_document/index.html (in Japanese); link provided by Japan). Japan argued that this fact clearly shows that the alleged increase in the number of reported entanglement/deaths lacks foundation. Also, Japan noted, no whale products derived from whales other than legally obtained ones have been found in the market sample monitoring survey (using DNA sequencing technique) conducted by the Fisheries Agency of Japan in recent years. Judging from this survey result, Japan stated, it is highly unlikely that there is substantial underreporting of bycaught whales in Japan, and Japan concluded that the assertion that “the actual number of entanglements may be underrepresented” is not persuasive. Likewise, Japan stated that IWC (2005c) reported five cases of illegal catch of minke whales, not humpback whales, in Korea in 2003. Japan believes that the precautionary approach is being abused in justifying the “threatened” status of the Western North Pacific DPS.

Response: We do not agree that our main rationale for proposing to list the Western North Pacific DPS as threatened was the reported or suspected poaching in Korean waters or off Japan. We proposed to list this DPS as threatened because of the relatively low abundance estimate (~1,100); the threats of energy development, whaling, competition with fisheries, vessel

collisions, and fishing gear entanglements; significant uncertainties associated with the abundance estimates, population growth rate, and the extent of its breeding ground; and the BRT’s distribution of likelihood points, which indicated a high level of uncertainty regarding overall extinction risk to this DPS. Regarding the commenter’s assertion that our listing is based on an “abuse” of the precautionary approach, we disagree. Our final listing determination is based on the best available scientific and commercial information. In this case, the best available scientific and commercial information about the species’ status and threats directly supports our conclusion that the Western North Pacific DPS is an endangered species under the ESA. See our response to Comment 13 for additional explanation of “best available information” and the Western North Pacific DPS section below for our rationale for listing this DPS as endangered instead of threatened (as proposed).

With regard to the comments about illegal catches and bycatch, we note that what was discussed were IUU takes; by definition these takes are not necessarily illegal, but may be unreported or unregulated. Market survey results from 2001–2009 in Japan have documented concerns for IUU takes from stocks of at least six species of whales, including humpback whales; the others are sei, Bryde’s, gray, North Pacific minke, and fin whales (Baker *et al.* 2015 SC/66a/SD2; Steel *et al.* 2009 SC/61/BC8, Baker *et al.* 2008 SC/60/BC2, Baker *et al.* 2007 SC/59/BC9). This includes the possibility of the sale of whale meat from undocumented sei and fin whales from the Southern Hemisphere, and of a greater number of individual fin whales than expected from reports of bycatch. Therefore, recent IUU of large whales in this region remains possible. We do not agree that bycatch of humpback whales has not increased; using Japan’s Progress Reports to the IWC, and numbers provided by the Japan Fisheries Agency for years for which no Progress Report was provided to the IWC, there has been a significant increase in bycatch of humpback whales in Japan from 2000 to 2015 (e.g., an average of 2.4 whales per year in 2000–2004, versus an average of 6.2 whales per year in 2010–2015).

Comment 45: Japan and another commenter noted that the abundance estimate of the Western North Pacific DPS is 1,000 and its growth rate is 6.9 percent (p.64–65 of the proposed rule; 80 FR 22303; April 21, 2015 at 22318). Japan stated that the annual number of

bycaught humpback whales in Japan for the last 5 years is six individuals on average, well below one percent of the total abundance and the growth rate. Japan argued that this shows that the bycatch of humpback whales in Japan has no adverse impact on the status of the Western North Pacific DPS.

Response: Calambokidis *et al.* (2008) estimated the growth rate for humpback whales in the Western North Pacific to be 6.9 percent between 1991–93 and 2004–2006, although this could be biased upwards by the comparison of earlier estimates based on photo-identification records from Ogasawara and Okinawa with current estimates based on the more extensive records collected in Ogasawara, Okinawa, and the Philippines during the Structure of Populations, Levels of Abundance and Status of Humpback Whales in the North Pacific (SPLASH) program (Calambokidis *et al.* 2008). However, the overall number of whales identified in the Philippines was small relative to both Okinawa and Ogasawara, so any bias would likely not be large. Given the possible bias in the rate of increase and the fact that it represents a combination of two populations that the BRT had proposed as separate DPSs (Okinawa/Philippines and Second West Pacific), it is not possible to make a definite statement about the rate of increase of the Western North Pacific DPS. Therefore, we conclude that the population growth rate for the Western North Pacific DPS is unknown, as we stated in the Conclusions on the Status of Each DPS Under the ESA section of our proposed rule (80 FR 22304; April 21, 2015 at 22349).

The BRT concluded that, given the relatively low abundance of the Philippines/Okinawa portion of this DPS (~1,000 individuals), fishing gear entanglement could seriously reduce its population size or growth rate. Given this conclusion, and the BRT's uncertainty about the threats facing the Second West Pacific portion of this DPS, we cannot conclude that bycatch of humpback whales in Japan or anywhere else is not having an impact on the status of the Western North Pacific DPS. Please see the Western North Pacific DPS section below for our rationale for listing this DPS as endangered instead of threatened (as proposed).

Comment 46: Japan notes that the points raised above are all related to Japan. In order to evaluate the status of the Western North Pacific DPS, a similar examination should be done of all relevant countries that could impact the status of this DPS. Japan notes that the proposed rule states, "Some degree of IUU exploitation is also possible in

other regions within the range of humpback whales in the Western North Pacific DPS, including Taiwan and the Philippines, given past histories of whaling" (80 FR 22304; April 21, 2015 at 22332)." But, Japan argues, no descriptions of past histories or references are presented. Japan argues that without such descriptions to support the possibility of IUU exploitation in those other regions, statements that IUU exploitation is possible have no basis and cannot be raised as evidence to support the "threatened" status of the Western North Pacific DPS. Japan notes that any information on stranded, beached, bycaught, and/or landed whales can be easily and promptly shared through the internet. Such a circumstance, being combined with the market-sample monitoring, makes it quite difficult, if not impossible, to hide illegal harvesting/products from the public in Japan.

Response: The statements we made in the proposed rule about possible exploitation in other regions within the range of the Western North Pacific DPS, given past histories of whaling, were clearly labeled as not being based on specific supporting documentation; rather, our evaluation was based on our professional judgment. Further, our final listing of this DPS as endangered is based on consideration of objective factors using the best available scientific and commercial information, as explained in the responses to Comments 44 and 47 and in the Western North Pacific DPS section.

Comment 47: One commenter recommended delisting the Western North Pacific DPS because information not cited in the proposed rule (Okamoto 2013) indicates the DPS is recovering at a rate similar to other North Pacific DPSs, and threats identified by NMFS do not appear to be negatively impacting them. The commenter asserted that NMFS' analysis of threats was speculative and overestimated. Further, the commenter stated that additional surveys independent of SPLASH have been conducted in Okinawa and Ogasawara, indicating the population is increasing in abundance (unpublished study in Okinawa, by Kato: 1989–2008 (16.9 percent growth rate); 2009–2028 (3 percent growth rate), reaching pre-exploitation abundance in 2029; and Okamoto (2013), indicating a 4-fold sighting increase in abundance from 1997 to 2013 from 0.06 individuals to 0.24 individuals per nautical mile (nmi) in Okinawa). The commenter adds that pre-exploitation abundance in the Okinawa area of this DPS is likely to be

smaller (~1,500 individuals) than what was considered by NMFS.

Response: We reviewed Okamoto (2013) for the proposed rule, but we did not consider it to provide enough information to be reliable. The Okamoto (2013) study consisted of a visual survey of whales in the Ogasawara area conducted on one day (January 30, 2013), which was compared to a similar previous survey conducted in 1997 (cited as Yoshida and Kato 1999, but with no other information given). While it is encouraging that Okamoto (2013) reports a higher encounter rate around Ogasawara in 2013, given the nature of this study, there are other reasons that different encounter rates might have occurred on the two surveys, so the results cannot be used to conclude there has been an increase in abundance. Survey data such as this need to be analyzed using line transect methods to take account of differing abilities to detect whales, which could occur because of differences in variables such as vessel type or weather conditions, for which no information was provided. Additionally, no estimates of precision (such as confidence limits) were calculated for either estimate of encounter rate. Finally, the BRT concluded, and we agree, that the Ogasawara area is an area through which humpback whales migrate on the way to their feeding grounds. Therefore, the number of whales in a location such as Ogasawara is highly dependent upon the timing of the survey and the timing of migration of the whales. No date is given for the 1997 survey, so if it occurred earlier or later in the migration, this could account for the lower encounter rate. Moreover, it is not clear that a survey on a single day could reliably track abundance in a migratory area if the timing of migration varies between years; a more reliable survey design would be to have repeated surveys across a longer time period than a single day.

We have reviewed the more recent information provided by the commenter (Kato, unpublished), but this study is also not reliable. This information consists of a 2014 abstract of Mr. Nobuyuki Suzuki's undergraduate thesis, supervised by Professor Hidehiro Kato, which reported an abundance estimate of 683 (CV = 0.10) humpback whales migrating to the research area around the Okinawa main islands in 2009 and an estimated average annual rate of increase of 16.9 percent (no confidence limits reported) from 1989–2008 and 3.0 percent from 2009–2028. A growth rate of 16.9 percent is not biologically plausible (Zerbini *et al.* 2010), so without further information it

is difficult to know how to interpret this estimate. We were not able to review the undergraduate thesis itself, and not enough information is given to understand exactly how the analysis and modeling was conducted, and whether the thesis was submitted for any external peer review. Further, this study focused on whales around Okinawa, but the Western North Pacific DPS also includes whales from breeding areas in the Philippines and other unidentified areas, so the estimated growth rate does not necessarily reflect the growth rate of the entire DPS. Finally, we do not consider the estimate of pre-exploitation abundance (from the 2014 abstract of the undergraduate thesis) in the Okinawa area of this DPS to be reliable; as we have described, the migration of North Pacific humpback whales is complex and the thesis appears to have ignored the fact that the Asia population would have also experienced commercial whale catches on its summer feeding areas in Russia, the Aleutian Islands, and the Bering Sea. In any case, given the relatively low abundance of this DPS, several other remaining threats, and the significant uncertainties associated with the abundance estimate, we have changed our listing determination for this DPS, and we list it as endangered under the ESA instead of threatened (as proposed). Please see the Western North Pacific DPS section below for our rationale for this change.

Comment 48: One commenter suggested that there is no information provided in the proposed rule's discussion of the proposed Western North Pacific DPS that allows an understanding of the BRT's level of concern given the admittedly low population size, unknown trend, and the fact that there is an acknowledgement that threats from energy development, whaling, competition with fisheries, and vessel collisions are considered moderately likely to reduce the population size or growth rate of this small, "remnant" population. Further, this commenter states, there is an acknowledgement that "there is great uncertainty" regarding threats and status of this proposed DPS. This commenter believes that we should have applied the precautionary approach in the face of this uncertainty. The commenter included a citation to the decision in *Greater Yellowstone Coalition, Inc. v. Servheen*, 665 F.3d 1015 (9th Cir. 2011).

Response: We are required to use the best available scientific and commercial information when making ESA listing determinations. We are not required to consider only information that is free

from uncertainty. Although there are threats to this DPS and there is some uncertainty as to the particular effects, we and the BRT viewed those threats against the backdrop of the population level, which at around 1,000 is higher than the level (500) that would indicate the population is at high risk from small size alone.

The situation here is distinguishable from that which was reviewed in the *Greater Yellowstone Coalition* case. There, FWS had decided to delist the Yellowstone population of grizzly bears, concluding without adequate explanation that changes in whitebark pine production were not likely to impact the bear to the point at which it would be threatened. FWS reached this conclusion despite the fact that the record documented a close association between reduced abundance of whitebark pine seeds and increases in grizzly mortality, recent reductions in whitebark pine due to pine beetles, and a potential for climate change to drastically affect the presence and distribution of whitebark pine seeds. The court found that the decision to delist the Yellowstone grizzly population could not rationally be reconciled with those particular facts in the record. The record before us does not present the kinds of documented effects that were present in the grizzly bear case.

Nevertheless, we have found that, upon reconsideration of the best available information, the Western North Pacific DPS should be finalized as an endangered species instead of as a threatened species as proposed. Please see the Western North Pacific DPS section for our rationale for listing this DPS as endangered and our response to Comment 13 for discussion of the precautionary approach.

Comments on the Hawaii DPS

Comment 49: The State of Alaska concurs with our proposal to not list the Hawaii DPS (which is consistent with Alaska's petition) and to list the Western North Pacific DPS as threatened. The State believes that any potential threats to the Hawaii DPS from human disturbance can be controlled through continued monitoring and management under the MMPA, the Magnuson-Stevens Act, the Fisheries Act of Canada, and SARA, as well as the IUCN, IWC, and the CITES. The State goes on to say that information on the Western North Pacific DPS is limited, particularly regarding the wintering/breeding area used by the whales that feed in the Aleutians and western Bering Sea. It notes that individual whales from the Western North Pacific

DPS (proposed to be listed as threatened) and Hawaii DPS will mix to some extent during the summer in the Aleutians and the Bering Sea. As a result, ESA section 7 consultations are likely to continue in the area of overlap because of the difficulty in distinguishing between individuals of the two DPSs.

Response: We agree with the State of Alaska that the areas where individuals of a listed DPS mix with individuals of a DPS that is not listed will result in difficulty in distinguishing between individuals of the two DPSs. Any Federal agency that funds, authorizes, or carries out an action that may affect a listed DPS is required to consult with us under section 7 of the ESA, so this means that, in these areas where DPSs of different status mix, section 7 consultation will still be required to ensure that the threatened and endangered DPSs are protected under the ESA. Please see response to Comment 11, and the Western North Pacific DPS section for our rationale for listing the Western North Pacific DPS as endangered instead of threatened (as proposed).

Comment 50: One commenter fully supports delisting the Hawaii DPS, emphasizing that the Hawaii-based commercial longline fisheries have no significant or detectable impact on the Hawaii DPS (or humpback whales from any other DPS), and any regulation of the fisheries that may be necessary with respect to humpback whales is amply addressed by the rigorous provisions contained in section 117 of the MMPA.

Response: We acknowledge the comment. Fisheries that interact with marine mammals are regulated under section 118 of the MMPA, so this will provide a mechanism for continued monitoring and evaluation of the impacts of fisheries on humpback whales. We note that the Hawaii-based longline fisheries have been determined to have negligible impacts on humpback whales (79 FR 24567; October 16, 2014).

Comment 51: One commenter stated that a recent assessment found that 78 percent of whales in northern Southeastern Alaska had been non-lethally entangled in fishing gear (Neilson *et al.* 2009).

Response: Entanglement in fishing gear remains a risk to large whales worldwide. Though these interactions occur in many regions, including the cases referred to in Southeast Alaska, many are non-lethal (Bradford and Lyman 2015) and collectively they do not rise to a population level impact for the Hawaii DPS (which comprises most of the humpbacks found in Southeast Alaska). The Hawaii DPS has continued

to grow rapidly in spite of occasional entanglements. As required under the MMPA, we assess marine mammal serious injury and mortality levels resulting from human interactions, and monitor these levels against the thresholds for removal that have been calculated as sustainable for the population. We collect, analyze, and respond to large whale entanglement reports through the Marine Mammal Health and Stranding Program.

Comment 52: One commenter noted that collisions of humpbacks and ships appear to be increasing in important breeding areas such as Hawaii (Lammers *et al.* 2003) and that available evidence also suggests that ship strikes are increasing in Alaska (Gabriele *et al.* 2007).

Response: In general, it is difficult to conclude that ship strike levels are definitively increasing based on an increase in reports. For instance, in Alaska, following the implementation of a stranding hotline in 2009, many types of stranding reports increased, likely due to heightened public awareness. That said, large whale ship strikes reported to NMFS in Alaska have been fairly steady over the past decade (NMFS Alaska Region Stranding Program data). Most collisions in Alaska involve small recreational vessels or whale watch boats with no apparent long-term consequences for the whale. NMFS is actively working with sectors of the maritime industry on ship strike avoidance and awareness programs.

In Hawaii, Lammers *et al.* (2013) estimated that vessel collisions (*i.e.*, any physical contact between a humpback whale and a vessel) increased 20-fold between 1976 and 2011, particularly between 2000 and 2011. As in Alaska, an extensive educational campaign and hotline number were initiated in 2003 and likely contributed to the increased number of reports of vessel collisions. However, the authors concluded that increasing numbers of humpback whales in Hawaii was an important contributor to the trend. They also suggest that an increase in the number of vessels of a specific size and changes in behavior of vessels around humpback whales could affect the rate of vessel collisions. Although the total number of registered vessels in Hawaii has not significantly increased in recent years, registered vessels sized between 7.9 m and 19.8 m has significantly increased. Approximately two thirds of reported collisions involved vessels that were within the 7.9 m to 19.8 m length range (Lammers *et al.* 2013).

See the *Comments on the Need for Approach Regulations* section for details on our plans to implement

approach regulations in Alaska and Hawaii.

Comment 53: One commenter noted that NOAA can take pride in the improved status of the species, but too many risks still abound and the humpback whale is nowhere near its historical numbers. The commenter indicates that whale strikes from tour ships and commercial vessels are on the increase each year, noticeably in Southeast Alaska where the number of docks to accommodate them continually increases. The number of whale watching boats also increases every year. One study finds the whales are adapting, but vigilance is warranted. The commenter also stated that Alaska is also in the forefront of experiencing the effects of climate change. In northern Alaska, delisting may ease the way for underwater oil exploration. In Auke Bay, coastal development has been excessive. Another commenter stated that there are no boat speed limits in Hawaiian waters or limits on fish nets, adding that limits are needed on krill fishing in Alaska. Further, removing endangered status from the humpback whale will weaken legal protections that might limit the Navy's behavior toward the ocean (high speed ships, active sonar).

Response: The threats mentioned in this comment are described very generally, and we have no indication that they will negatively impact humpback whale DPSs on a population level. These whales will still be protected under the MMPA, which prohibits *take* and requires that marine mammal stocks are maintained at *optimum sustainable population* levels. We considered the potential for new threats in developing our proposed determinations, and we conclude that these threats are not likely to increase the risk of extinction to any of the DPSs not being listed to the point where they would warrant listing under the ESA. Finally, it is important to note that the Monitoring Plan we are issuing today pursuant to section 4(g)(1) of the ESA establishes a framework for continued monitoring and assessment of threats for the next 10 years (twice the minimum 5-year monitoring window required by the ESA). The risk of vessel collisions will be addressed through the approach regulations (See the *Comments on the Need for Approach Regulations* section for details on our plans to implement approach regulations in Alaska and Hawaii).

Comment 54: One commenter feels that now, more than ever, the Hawaiian Islands Humpback Whale National Marine Sanctuary should assume a leadership role in drafting a

comprehensive management plan for Sanctuary waters that will assist in ensuring the species' lasting survival. A comprehensive ESA status review, coupled with an updated and comprehensive Sanctuary management plan, should be completed prior to any discussion of species delisting.

Response: NOAA's Hawaiian Islands Humpback Whale National Marine Sanctuary is developing a revised management plan based on the relevant elements of the March 2015 draft management plan that focused on humpback whales and their habitat. NOAA will work with the State of Hawaii and the Sanctuary Advisory Council on this revised management plan. However, while we must consider ongoing conservation efforts when making ESA listing determinations, the ESA does not provide for extending the timeframe to act on a proposed rule to implement ESA listing determinations in order to incorporate other management plans. Therefore, we are finalizing our proposed rule to revise the listing status of the humpback whale.

Comment on the Mexico DPS

Comment 55: One commenter noted that NMFS stated that the Mexico DPS has no trend information, yet NMFS is not listing it as endangered.

Response: While we do not have trend information for the Mexico DPS by itself, there is population growth in most of its primary feeding areas, and this led us to conclude that it is unlikely to be declining, as we explained in the proposed rule (58 FR 22304; April 21, 2015). The abundance estimate we relied on in our proposed rule for this DPS was 6,000–7,000, and this abundance estimate, along with available information on the species' response to ongoing threats, indicated to us that the Mexico DPS was not in danger of extinction throughout all or a significant portion of its range or likely to become so within the foreseeable future. However, the abundance estimate has been updated to 3,264 (CV = 0.06), and we now conclude, in light of the ongoing threat of fishing gear entanglements which are believed likely to have a moderate impact on this DPS, that the Mexico DPS is threatened. Lack of definitive information on a growth rate trend alone is not determinative of a listing determination, which is based primarily on an assessment of threats to the species and consideration of whether the current abundance is sufficient to provide resilience against those threats. Here, however, in combination with these other considerations, we conclude that it does

support a determination of “threatened” for the Mexico DPS. (See the Mexico DPS section below for the rationale for our final listing determination.)

Comments on the Central America DPS

Comment 56: Several commenters stated that the Central America DPS should remain endangered, not threatened, because there are only 500–600 individuals, and the BRT concluded that 500 individuals indicates a high risk of extinction due to low abundance. One of these commenters noted that, according to the status review report, the population trend is unknown, and vessel strikes and fishing gear entanglement are likely to moderately reduce population size or growth rate. The other commenter noted that there were many uncertainties associated with the abundance estimate. Also, one of the commenters stated that this DPS may serve as a conduit for gene flow between the North Pacific and the Southern Hemisphere. The Government of Costa Rica agreed that the SPLASH study results clearly show that the Central America DPS is smaller than the Hawaii and Mexico DPSs and that the distinction would facilitate the management and protection of this segment of the population that uses the waters of Central America for the purpose of breeding and reproduction.

Response: We have reconsidered our proposal, and we conclude that the Central America DPS should be listed as endangered under the ESA. The BRT reported that a preliminary estimate of abundance of the Central America population was about 500 from the SPLASH project (Calambokidis *et al.* 2008), or about 600 based on the reanalysis by Barlow *et al.* (2011). There are no estimates of precision associated with these estimates, so there is considerable uncertainty about the actual population size (Bettridge *et al.* 2015). Therefore, the actual population size could be somewhat larger or smaller than 500–600. Even though the BRT used 500 as a guideline between moderate and high risk of extinction (when considering abundance alone), the abundance estimates include a high level of uncertainty, and we note that this number straddles that threshold. The BRT concluded that this DPS was between “moderate” and “high risk of extinction.” After reconsidering all of the available information, we believe it is appropriate to give greater weight to the threats facing the Central America DPS, and we are now listing the DPS as endangered in this final rule. An updated abundance estimate of 411 for the Central America DPS (Wade *et al.* 2016) provides further support for this

conclusion (Please see the Central America DPS section for further rationale.)

Comment on the Brazil DPS

Comment 57: One commenter noted that the abundance estimate for the proposed Brazil DPS is from the 1990s and the citation for its entanglement risk is from a 1998 study reporting that calves are most heavily involved (a possible challenge to future reproduction). The commenter stated that although it is clear that mortality is ongoing and NMFS stated in the status review report of this DPS that there is “no current estimate of mortality,” it proposed to remove ESA protection from this DPS.

Response: The commenter’s claim that the abundance estimate was based on data from the 1990s is incorrect. In the proposed rule (58 FR 22304; April 21, 2015), we cited Andriolo *et al.* (2010), a study that is based on aerial surveys conducted off the coast of Brazil in 2002–2005. However, the population growth rate estimate is based on data from the 1990s (Ward *et al.* 2011), which is the best available information. Because the abundance estimate is 6,400 with a 7.4 percent growth rate, the BRT concluded that the Brazil DPS was at low risk of extinction. Based on this, we concluded that, despite the presence of threats, the Brazil DPS does not meet the definition of a threatened or endangered species.

Comment on the Gabon/Southwest Africa DPS

Comment 58: One commenter noted that NMFS stated that the Gabon/Southwest Africa DPS has no trend information, yet NMFS is not listing it as endangered. Another commenter stated that abundance estimates for the Gabon/Southwest Africa DPS are cited to a 2008 “unpublished” paper that is also inaccessible to the public.

Response: With regard to the comment that we are not listing the Gabon/Southwest Africa DPS as endangered, despite having no trend information, please see our responses to Comments 10 and 13. In all cases, we have based our listing determinations on the best available scientific and commercial information, as required by the ESA. There is no requirement that we have specific trend information where the data establish that the species is not currently endangered or threatened.

Regarding the comment on the abundance estimates being based on an “unpublished” paper, the paper we relied on (Collins *et al.* 2008) was submitted to the IWC Scientific

Committee (Collins *et al.* 2008), and the commenter is correct, it was not (to our knowledge) and will not be published. This paper is available to the public because we have it in our files and can provide it upon request. Nonetheless, we note that our final listing determination does not rely on that information. We have reviewed two more recent papers (Collins *et al.* 2010, with abundance estimates of 4,314 (CV = 0.19) for 2001–2004 and 7,134 (CV = 0.23) for 2004–2006) and the IWC (2012) assessment of the Gabon stock for 2005, which reported an abundance estimate of 9,484 (90 percent prediction interval (PI) = 7465, 12221) and a growth rate of 0.045 (90 percent PI = 0.006, 0.081)).

The estimates in Collins *et al.* (2008) had a fairly substantial genotyping error rate that would produce false negatives (missed matches), so Collins *et al.* (2010) corrected for this using an estimate of genotyping error rates that they estimated by repeat genotyping of a subset of the samples. The Collins *et al.* 2010 paper was reviewed in depth by the Southern Hemisphere subcommittee of the IWC Scientific Committee. In the IWC (2012) assessment, this committee decided that the best data to use were the male-only genetic mark-recapture data (the data that gave the estimate of 7,134 (CV = 0.23)), and we agree.

The IWC (2012) abundance estimate of 9,484 is an output from a very complicated assessment model. Although in principle it is appropriate to use model-based estimates like this, the BRT did not do so in any other cases in its review, and this estimate is from a model that involved multiple stocks and is thus not directly informative. Therefore, we will not rely on this model output (and it does not make any difference to our evaluation of extinction risk).

Further, the “estimate” of population growth rate in IWC (2012) should not be used as an estimate of trend; the IWC (2012) report makes this same conclusion. This was also a model output from its Bayesian assessment model, and IWC (2012) explains that this is not an estimate; rather, it is something that was pre-specified. We agree that it is better not to rely on this model output as an estimate of population trend.

Despite the threat of offshore hydrocarbon activity off the coast of west Africa, the BRT concluded that this DPS was not at risk of extinction, and we agreed with the BRT’s assessment. The updated abundance estimate for this DPS is still significantly larger than 2,000, which is the population size above which the BRT considered a DPS not to be likely to be at risk due to low

abundance alone. We reaffirm our proposed determination that the Gabon/Southwest Africa DPS is not in danger of extinction throughout all or a significant portion of its range or likely to become so within the foreseeable future.

Comments on the Southeast Africa/Madagascar DPS

Comment 59: One commenter asserted that there is a considerable discrepancy in population estimates cited in the status review report and derived from surveys in 2004–2006, almost a decade ago. This commenter added that various data sets and models resulted in best estimates ranging widely from 4,936 to 8,169. With regard to trend information, this commenter noted, NMFS cited land-based observations passing east South Africa that included an estimate of the rate of population increase of 12.3 percent (which NMFS acknowledges is “outside biological plausibility for this species”) and a second estimated increase of 9 percent that NMFS stated is within the range calculated for other Southern Hemisphere breeding grounds; yet it still stated that “both rates are considered with caution.” This wording regarding abundance and trend incorporates a great deal of uncertainty (*i.e.*, wide range of population estimates, words including “possibly,” “to a smaller degree,” should be “considered with caution”) and NMFS itself states that “given this uncertainty . . . it is likely the DPS is increasing but it is not possible to provide a quantitative estimate of the rate of increase.” The commenter concludes that NMFS’ conclusion is subjective, risk prone, and inappropriate under the ESA.

Response: Please see our response to Comment 13.

Comments on the West Australia DPS

Comment 60: One commenter asserted that the best abundance estimate for the West Australia DPS provided in the status review report is 21,750, based on a 2009 paper reporting on results of line transect surveys and with an estimated 10 percent annual rate of increase that is at the approximate limit of biological plausibility. This commenter stated that a more recent study by Kent *et al.* (2012) provided caveats in this estimate but provided a “best estimate” of 26,100 (CI = 20,152–33,272) and a rate of increase of 10–12 percent annually with a large coefficient of variance, precluding a reliable trend estimate.

Response: The work cited by the BRT had documented an ~10 percent rate of increase between 1982 and 1994

(Bannister 1994), and semi-quantitative information indicated the population had been increasing steadily since the 1960s. Then Paxton *et al.* (2011) estimated an increase of 9.8 percent between 1999 and 2005, and Hedley *et al.* (2011) estimated a continued increase on the order of 12.5 percent between 2005 and 2008. The Kent *et al.* (2012) study cited by the commenter used completely different data from a different location, but still estimated an increase of 13 percent (CI = 5.6 percent–18.1 percent) for the period 2000–2008. When Kent *et al.* (2012) combined the two data sets, they estimated an 11.9 percent (SE = 2.6 percent) growth rate for 1999–2008. The West Australia DPS of the humpback whale is, by any measure, very large, and has been steadily increasing for decades at one of the highest measured growth rates of any whale.

Kent *et al.* (2012) noted that the coefficient of variation for the 13-percent growth rate estimate was too large for a reliable trend estimate. Zerbini *et al.* (2010) had calculated that 11.8 percent should be a maximum plausible growth rate for humpback whales. However, it is important to keep in mind the nature of precision and statistics, where the estimate can be larger than the true value. One would need an extremely precise estimate to be able to tell if a growth rate estimate is significantly greater than the theoretical maximum of 11.8 percent calculated by Zerbini *et al.* (2010).

Comments on the East Australia DPS

We did not receive any substantive comments on this DPS, other than the general comment recommending endangered status for all DPSs and DPS-related comments (see responses to Comments 3 and 4).

Comments on the Oceania DPS

Comment 61: One commenter noted that NMFS stated that the Oceania DPS has no trend information, yet NMFS is not listing it as endangered.

Response: We based our proposal on the best available scientific and commercial information. As noted elsewhere, the ESA does not require that we have trend information in order to make a determination under section 4(a)(1). The humpback whale status review report cited a preliminary report that estimated humpback whale abundance in the Oceania DPS (New Caledonia, Tonga, French Polynesia, and Cook Islands) as 3,827 (CV = 0.12) in 1999–2004 (South Pacific Whale Research Consortium *et al.* 2006). This abundance estimate is large (>2,000) and, despite the unknown population

trend, we determined that the DPS was at low risk of extinction throughout all or a significant portion of its range, currently and in the foreseeable future.

Since the BRT’s review and publication of the proposed rule, we became aware of a more recent publication (Constantine *et al.* 2012), which included updated data from 2005 and a new analysis that included genetic data to better account for differences in capture probability between individuals.

We have considered this study for our final rule. This more recent publication (Constantine *et al.* 2012) presents an improved estimate of abundance in the region (4,329, 95 percent CI = 3,345–5,313) in 2005 and new estimates of population growth rate (3–7 percent/year for 1999–2005). There is now published evidence that this population is growing. The previous abundance estimate and available information on the species’ response to ongoing threats indicated that the DPS was not in danger of extinction throughout all or a significant portion of its range or likely to become so within the foreseeable future. The new estimate of population growth rate provides further support for this conclusion.

Comment 62: One commenter noted that a single DPS (Oceania DPS) has been proposed for the range of breeding sites across the South Pacific Ocean basin from New Caledonia to French Polynesia and that NOAA also proposes to remove all protections under the ESA. The commenter notes that, last year, the Scientific Committee of the IWC completed an assessment of the recovery status of whales that breed in this region, concluding that these breeding populations had only recovered to within 37 percent of pre-whaling numbers as of 2012 (IWC 2015). This commenter notes that this is well below the 60 percent recovery threshold that was originally proposed as indicative of recovery under the final recovery plan. Furthermore, it is far below apparent recovery of adjacent breeding stocks off west and east Australia (90 percent and 63 percent, respectively). The reason for this relatively low recovery rate is not known, but this commenter believes that it is adequate cause for continuing concern and listing under the ESA.

Another commenter asserted that the proposal to identify and delist the Oceania DPS is troubling, given the major uncertainties underlying stock definition and status. This commenter noted that the BRT itself showed substantial concern for this DPS (29 percent of the votes cast by the NMFS’ BRT were suggesting a “moderate risk”

of extinction for this DPS). The commenter stated that almost half of the BRT votes were in the same “moderate risk” of extinction category for the Okinawa/Philippines population, which, together with the Second West Pacific portion of the Western Pacific DPS, NMFS ultimately proposed for listing as “threatened.” This commenter expressed the opinion that these distributions of votes should have translated to equivalent levels of protections for the Oceania and Western North Pacific DPSs.

The commenter added that numerous studies indicate that humpback whales in the Oceania DPS move among different island nations and mix with individuals in the East Australia DPS (Garrigue *et al.* 2000; Garrigue *et al.* 2010; Hauser *et al.* 2010) and asserted that Garrigue *et al.* (2000) concluded, “[t]he documented movement of some whales among portions of Oceania indicate that stock assessments based on combining regional estimates of abundance are likely to be positively biased. In contrast with the apparent recovery exhibited in Area IV and in the western portion of Area V, humpback whale abundance appears to remain low in Oceania, presumably because of overexploitation in the feeding grounds of Area VI.” This commenter stated that Hauser *et al.* (2010), not cited by NMFS in the status review report or the proposed rule, stated, “the feeding ground connections with breeding areas in Oceania are among the poorest known, as is the degree of movement between different areas in the southwestern South Pacific.” Further, the commenter noted, Garrigue *et al.* (2006) analyzed whales from New Caledonia and Tonga using both photo- and genetic-ID and found “significant differences in the F_{ST} and Φ_{ST} for mitochondrial and nuclear markers, strongly suggesting differentiation among the Breeding Stock E, supporting the proposed sub-stock division for New Caledonia (E2) and Tonga (E3).” The commenter asserted that NMFS arbitrarily lumped these various areas into a single DPS without explaining why they constitute a single breeding stock that differs from the IWC management scheme and contradicts observations of researchers whose work suggests a complex situation within breeding grounds in which there may be either mixing of stocks or, contrarily, isolation in and between different areas within the region.

The commenter further noted that NMFS indicates there is no trend information available, the DPS is “quite sub-divided,” and the population estimate applies to an aggregate

“although it is known that sub-populations differ in growth rates and other demographic parameters” (Bettridge *et al.* 2015 at 100). The commenter stated that NMFS also acknowledged that some areas of the historical range extent have not rebounded and there are others without historical whaling information to indicate pre- and post-exploitation levels. Most recently, the commenter adds, the Scientific Committee of the IWC concluded in a stock assessment that “. . . complexities in Oceania require further investigation due to inadequate stock structure definition across the broad area, a lack of population trend data for most of the region, and a lack of resolution and understanding of connectivity in eastern Oceania” (IWC Scientific Committee 2015). The commenter adds that both the **Federal Register** notice and the status review report acknowledge that “[t]here is uncertainty regarding which geographic portion of the Antarctic this DPS uses for feeding. The complex population structure of humpback whales within the Oceania region creates higher uncertainty regarding demographic parameters and threat levels than for any other DPS.”

To draw an analogy, the commenter asserted that the uncertainties underlying the proposed Cape Verde Islands/Northwest Africa DPS are a major part of the rationale for NMFS’ determination to leave an area around Cape Verde Islands classified as endangered. However, the commenter stated, in the face of similar uncertainty regarding the proposed Oceania DPS, NMFS proposed to delist these humpback whales despite admitting that it has no reliable population abundance or an estimate of trend(s) in the various sub-divided areas in the region, and despite acknowledging that the area used for feeding grounds is unknown. This is particularly troubling to the commenter, considering that the agency admits that there is a higher “uncertainty regarding demographic parameters and threat levels [for the proposed Oceania DPS] than for any other DPS.”

Response: As we explained in the proposed rule (80 FR 22304; April 21, 2015 at 22317), the 1991 Humpback Whale Recovery Plan did not identify specific numerical targets based on the recovery criterion that populations grow to at least 60 percent of their historical (pre-hunting) abundance because of uncertainty surrounding historical abundance levels. Further, the Recovery Plan focused on the North Pacific and North Atlantic populations, so recovery criteria outlined in the Recovery Plan

would not necessarily apply to DPSs in the Southern Hemisphere. Please see our response to Comment 8.

The 1991 recovery plan recommended an interim goal of doubling the population size of the humpback whale within 20 years because of uncertainty surrounding historical abundance levels. However, as we explained in our proposed rule (80 FR 22304; April 21, 2015 at 22316–22317) and in our response to Comment 8, the BRT focused its biological risk analysis primarily on recent abundance trends (where available) and whether absolute abundance was sufficient for biological viability in light of consideration of the factors under section 4(a)(1). See *Rationale for Revising the Listing Status of a Listed Species Under the ESA* and our responses to Comments 8 and 10 for an explanation of why we do not need to meet recovery criteria in a recovery plan and why evaluating whether the population size has met the interim growth rates for specific years is not the best methodology for evaluating extinction risk. We considered the best available scientific and commercial information, and we determined that the abundance of the Oceania DPS (and now, the population trend estimate, as discussed in our response to Comment 61) is at a level that demonstrates resilience against threats and does not support a listing as threatened or endangered under the ESA. Moreover, as we have explained in response to other comments, the Services may at any time apply the section 4(a)(1) factors directly in considering the appropriate listing status for a species and is not bound to apply the recovery criteria, which are merely proxies for those factors.

Next we respond to the commenter who asserted that the BRT’s allocation of 29 percent of likelihood points to the “moderate” risk of extinction category for the Oceania DPS should have translated to equivalent levels of protections for the Oceania and Western North Pacific DPSs because the BRT allocated less than half of its likelihood points to the “moderate” risk of extinction category for the Okinawa/Philippines portion of the Western North Pacific DPS. The BRT allocated 44 percent of its likelihood points to the “moderate” risk of extinction category and 36 percent to the “high” risk of extinction category for the Okinawa/Philippines portion of the Western North Pacific DPS, and 47 percent of its likelihood points to the “moderate” risk of extinction category and 14 percent to the “high” risk extinction category for the Second West Pacific portion of this DPS. For the Oceania DPS, the

distribution of points was quite different in that 68 percent of the points were allocated to the “not at risk of extinction” category, reflecting much more certainty about the low level of extinction risk of this DPS compared to that for the Western North Pacific DPS (which will now, coincidentally, be listed as endangered under this final rule). We see no parallel between these two examples.

The comparison the other commenter made between the Oceania and Cape Verde Islands/Northwest Africa DPSs is not valid. We have a much higher abundance estimate for the Oceania DPS (approximately 4,300 whales compared to less than 100 for the Cape Verde Islands/Northwest Africa DPS), good information on where whales are, some information about movements between areas, and a fair degree of reliability around the abundance estimate. In contrast, there is a great lack of knowledge and study of the Cape Verde Islands/Northwest Africa DPS, and only one genetics study that indicates there is more than one breeding population for humpback whales feeding in central and eastern North Atlantic. It is appropriate to use additional caution in the case of the Cape Verde Islands/Northwest Africa DPS, given the considerable uncertainty about where the central and eastern North Atlantic animals breed and the likelihood that the abundance of this DPS is extremely low (less than 100).

We know there are significant genetic differences between some of the regional breeding grounds within the Oceania DPS, but, unfortunately, there are no accepted estimates of abundance for some of the regions currently aggregated into the Oceania stock (e.g., Tonga, French Polynesia). Even if we had reliable regional estimates, we have no way of allocating the historical catches in the Antarctic feeding grounds to regional breeding grounds, with confidence. Therefore, the IWC chose to undertake the comprehensive assessment for Oceania as an aggregate, and the BRT took this same approach. The commenter who expressed concern about the likelihood of a positively biased estimate for the Oceania DPS because of the exchange among areas makes a good point. On the other hand, abundance estimates are also likely to be negatively biased because we are almost certainly not surveying some significant habitats within the vast area of Oceania, and as a result, there are probably many whales with a zero probability of capture in the survey years that lead to abundance estimates. Please see our response to Comment 5 for an explanation of why statistically

significant differences between populations are not sufficient justification for identifying DPSs.

Comment 63: One commenter noted that the longest humpback whale migration on record is not from Costa Rica to Antarctica (Rasmussen *et al.* 2007) as stated on page 24 of the proposed rule (80 FR 22304; April 21, 2015 at 22308); rather, they state, the longest minimum return movement has been documented as 18,840 km from American Samoa to the Antarctic Peninsula (Robbins *et al.* 2011). This extreme movement is an example of the complexity of movement in the South Pacific, and the challenges that we face in understanding its status.

Response: We appreciate the updated information on the longest humpback whale migration distance. The updated information on maximum migration distance has been considered but does not cause us to change the determinations in this final rule. Our listing determinations are supported by consideration of the best available scientific and commercial information.

Comments on the Southeastern Pacific DPS

Comment 64: Two commenters noted that NMFS stated that the Southeastern Pacific DPS has no trend information, yet NMFS is not listing it as endangered. One of these commenters noted that the study on which NMFS relies for the population estimate uses data collected from non-systematic sightings by whale watch vessels, data that NMFS virtually never uses for its U.S. stock assessments because of the unreliability of data from non-systematic tracks used by commercial whale watching vessels. Having provided that population estimate, the commenter added, NMFS failed to include in the discussion an important recommendation from this study, which was that there is a pressing need for information on “population parameters such as survival and birth rates, population growth rates and movements, all of which are still poorly known for this population” (Felix *et al.* 2011). This commenter stated that it would seem important to better understand all of this information before proposing to remove all protections.

One commenter expressed concern about the threat of fishing gear entanglement, noting that NMFS indicated that entanglement poses the most serious risk to this DPS. The commenter stated that the problem of entanglement is significant enough for the proposed Southeastern Pacific DPS that researchers have recently warned that the “intensive use of gillnets and the increasing use of longlines in

artisanal fisheries represent serious threats to the conservation of large cetaceans in Peru and the Southeast Pacific and need to be addressed by national and regional conservation authorities” (García-Godos *et al.* 2013). The commenter quoted from a study during a single year in Ecuador that extrapolated observed bycatch rates, resulting in a total bycatch in Ecuador in 2005 “estimated to be 25 whales (C.I. 95 percent, 20–32). This high bycatch rate is the result of the overdimensioned artisanal fishing fleet and the lack of fishing management” (Felix *et al.* 2005). The commenter stated that Alava *et al.* (2011) confirmed that this bycatch is continuing in Ecuador, estimating that “bycatch mortality is equivalent to 15 or 33 whales a year” depending on assumptions of population size interacting with the estimated 15,000 vessels fishing off Ecuador; these authors expressed concern about the Southeastern Pacific DPS’ breeding grounds becoming a hot spot for bycatch and cautioned that “mitigation strategies and precautionary management and conservation measures are required to protect this vulnerable stock of whales in the long term.” The commenter added that we did not consider this study, which also depicts a declining birth rate off Ecuador—contrasting to higher birth rates in Colombian calving areas. The commenter noted that the authors warn, “[c]onsidering low birth rates [off Ecuador] of less than 8% and 62% survival rates for this stock and possibly ~1% of the total population bycaught per year, the bycatch problem seems to be far more severe and can pose a serious threat for this humpback whale population survival.”

This commenter noted that Capella Alzueta *et al.* (2001), cited in the status review report, looked at stranded animals and found the “annual frequency of occurrence over the 15-year period indicates an increasing trend of entanglement and vessel strike since 1996.” The commenter asserted that the BRT mislead readers by implying that humpback whales are not struck by ships, even though Capella Alzueta *et al.* (2001) report increasing trends in carcasses evidencing both vessel collisions and entanglement.

With regard to other threats to this stock, the same commenter noted that the status review cited a study from ten years ago that found that oil and gas production is increasing in Ecuador and stipulated energy development is likely to expand if oil and gas reserves are discovered in the area but indicated that “it does not currently pose a threat to this population.” Indeed, the

commenter asserted, there is increasing onshore production that requires additional shipping and, as the status review report indicates, there is a spill risk from difficult navigation in the area. The commenter stated that NMFS should be evaluating the threat over the foreseeable future, not just at the present time.

This commenter also asserted that the status review report insufficiently addressed krill harvest, and that this harvest may well be increasing with the decline in abundance of other commercial fishery targets and the indication from the Marine Stewardship Council that it is willing to certify Antarctic krill harvests as sustainable. The commenter stated that the likely impact of this increasing harvest is compounded by increasing warming of the Antarctic waters and range contraction of krill.

The commenter concluded that, given the acknowledgement that “population parameters such as survival and birth rates, population growth rates and movements . . . are still poorly known for this population” and, in light of threats to this population from entanglement, future fishery conflicts in a warming ocean, it appears premature to remove this stock from the protections offered by its ESA listing.

Response: Abundance estimates for the Southeastern Pacific DPS suggest that it is increasing. While we still do not have trend information for this DPS, we based our proposal on the best available scientific and commercial information. The abundance estimate of 6,504 individuals (95 percent CI: 4,270–9,907) is likely to be an underestimate because, as we stated in the proposed rule, only a portion of the DPS was enumerated for this estimate. This estimate is much higher than 2,000, and the BRT did not consider populations larger than 2,000 to be at risk due to low abundance alone. All threats other than fishing gear entanglement are likely to have no or minor impact on population size and/or the growth rate or are unknown for the Southeastern Pacific DPS. Despite our conclusion that fishing gear entanglements are likely to moderately reduce the population size or the growth rate of this DPS, the large population size makes this threat unlikely to contribute significantly to the extinction risk of the Southeastern Pacific DPS, now or in the foreseeable future. (Also, see our response to Comment 21 for possible explanations for an increase in number of fishing gear entanglements.) Therefore, we conclude that this DPS is not in danger of extinction throughout all or a significant

portion of its range or likely to become so within the foreseeable future.

As we have acknowledged, the BRT concluded that fishing gear entanglement is likely to moderately reduce the abundance or population growth rate of the Southeastern Pacific DPS. The commenter cited García-Godos *et al.* (2013) in asserting that this threat needed to be addressed by national and regional conservation authorities. García-Godos *et al.* (2013) expressed concern about the 10 humpback whales entangled off Peru between 1995 and 2012 and suggested that this was likely a small fraction of fishing gear entanglements because the data-collection methodology applied was largely opportunistic. They recommended a nationally and regionally integrated stranding network along the Peruvian coast, capable of monitoring the impacts of fisheries and shipping on populations of large cetaceans off Peru, as well as encouraging reporting of whale entanglements by fishermen and raising awareness among fishermen and coastal communities of the impacts of whale entanglements, potential preventive and mitigation measures, and reporting duties. We agree that all of these recommendations would benefit humpback whales in the Southeastern Pacific DPS, but we do not agree with the commenter’s assertion, based on fishing gear entanglements off Peru and Ecuador, that this threat is likely to negatively impact this DPS to such a degree that extinction risk is increased. The abundance of this DPS is high, and we do not consider the threat to be causing the DPS to be threatened or endangered. Most of the threats the BRT evaluated are subject to various national, international, and/or local regulations, and the BRT determined that the adequacy of these regulations is, at least to a large degree, reflected in the overall biological status of the species. The BRT also considered the adequacy of the major regulations governing these threats when making predictions about future status. Please see Comment 65 for a list of ongoing conservation efforts in Colombia, where humpback whales from the Southeastern Pacific DPS are more concentrated.

With regard to the comment about ship strikes, again, we do not consider this to be a significant threat to the Southeastern Pacific DPS. The commenter neglected to provide a more full statement of the conclusion from Capella Alzueta *et al.* (2001), which stated, “[w]hile the current rate of mortality from human related activities (fishing gear or vessel strike) does not appear to seriously threaten this stock of

humpback whales, it may slow its population recovery.” “Population recovery” as used by the commenter does not have the same meaning as “recovery” under the ESA; instead, it refers to the goal of reaching historical abundance or carrying capacity, which, as we explained in our response to Comment 9, is not the goal of recovery under the ESA. We are required to determine whether a species is actually threatened or endangered because of any of the ESA section 4(a)(1) factors; we consider the information known about threats over the course of the foreseeable future, but we are not permitted to rely on speculation about future impacts. We agree with the BRT that the Southeastern Pacific DPS is not currently threatened by vessel strikes. We disagree that there is a sufficient basis to predict serious impacts in the foreseeable future. We reaffirm our conclusion that ship strikes pose a low risk to this DPS now or within the foreseeable future.

With regard to climate change impacts on the availability of krill to humpback whales, please see our response to Comment 25. With regard to the commenter’s concern about certification of krill fisheries, to date, the Marine Stewardship Council has certified two krill fisheries in the Antarctic, Aker Biomarine and Norwegian Olympic Seafood (see <https://www.msc.org/newsroom/news/msc-responds-to-questions-about-antarctic-krill-certification> and <https://www.msc.org/newsroom/news/antarctic-krill-fishery-achieves-msc-certification/?searchterm=krill>). The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) came into being at least in part to address concerns that an increase in krill catches in the Southern Ocean could have a serious effect on populations of krill and other marine life, particularly on birds, seals, whales, and fish, which mainly depend on krill for food. The 25 governments of CCAMLR that regulate the krill fishery have adopted a precautionary approach to minimize risk, and they set the overall quotas to specifically take into account the needs of dependent predators. CCAMLR is widely regarded as the most precautionary of all organizations in terms of setting catch quotas. The total krill catch allowed in the fishery area (CCAMLR Area 48) represents just 1 percent (620,000 tonnes) of the population of krill (estimated at 62 million tonnes). Olympic Seafood currently catches around 3 percent (15,000 tonnes) of the 620,000 tonnes catch limit set by CCAMLR. By contrast it is estimated

that predators eat at least 20 million tonnes annually (32 percent total krill biomass). Trigger levels are set so that fishing cannot be too concentrated in one area. At these low rates fishing has a very minimal impact on predators and other species in the food chain.

Given what we know about the Southeastern Pacific DPS of the humpback whale and the threats it faces, we still conclude that the DPS is at low risk of extinction, now and within the foreseeable future. We have based our determination on the best available scientific and commercial information, including an evaluation of ongoing conservation efforts (see our response to Comment 65).

Comment 65: The Directorate for Marine and Coastal Affairs and Aquatic Resources (DAMCRA) of the Colombian Ministry of Environment and Sustainable Development stated that it will maintain the humpback whale as “vulnerable” (IUCN), and it provided references for population size estimates in Malaga Bay (857—Florez-Gonzalez *et al.* 2007) and Gorgona Island (1,366—Escobar 2009; Caballero *et al.* 2000, 2001, 2009). It also provided some biological and conservation effort information (the Plan of Action for the Conservation of the Aquatic Mammals in the Southeast Pacific of the Permanent Commission of the Southeast Pacific; the Strategy for the Conservation of the Humpback Whale of the Southeast Pacific; the recent adhesion of Colombia to the International Whaling Commission for the Regulation of the Hunt of Whales (Law 1348 of 2009); National Action Plan for the Conservation of the Aquatic Mammals of Colombia; the Diagnosis of the State of Knowledge and Conservation of the Aquatic Mammals in Colombia; and the Plan of Migratory Species, Diagnosis and Identification of Actions for the Conservation and the Sustainable Management of Migratory Species of the Biodiversity in Colombia. Finally, Colombia also provided a paper by Carmona *et al.* (2011) entitled “Occurrence and encounter rates of marine mammals in the waters around the Malpelo Island and to the continent.”

Response: We acknowledge and appreciate the information Colombia has provided and are encouraged to know about Colombia’s humpback whale conservation efforts.

Comments on the Arabian Sea DPS

Comment 66: One commenter asserted that we underestimated the risk of climate change vs. geography-based protections for the Arabian Sea DPS.

Response: The comment is unclear. Our proposal to list the Arabian Sea DPS as endangered was partially based on the potential impact of climate change within the foreseeable future on a species that is so restricted geographically that it cannot adapt to climate change by moving elsewhere. In any case, we are finalizing a listing for this DPS at the highest possible level (endangered).

Comments on “Depleted” Status under the MMPA

Comment 67: Several commenters asserted that removal of any DPSs from the list of endangered or threatened species would result in loss of depleted status under the MMPA. The commenters noted that NMFS could redesignate a species or stock as depleted if warranted.

Response: We agree with the commenters that a species or stock that is considered to be depleted solely on the basis of an ESA listing loses that status if it is removed from the list of threatened or endangered species. Section 3(1) of the MMPA defines “depleted” as “any case in which:” (1) the Secretary “determines that a species or population stock is below its optimum sustainable population;” (2) a state to which authority has been delegated makes the same determination; or (3) a species or stock “is listed as an endangered species or a threatened species under the [ESA]” (16 U.S.C. 1362(1)). In the case of a species or stock that achieved its depleted status solely on the basis of its ESA status, the species or stock would cease to qualify as depleted under the terms of the definition set forth in section 3(1) if the species or stock is no longer listed as threatened or endangered. Humpback whales were considered depleted species-wide under the MMPA solely on the basis of the species’ ESA listing. Upon the effective date of this rule, humpback whales that are listed as threatened or endangered will retain depleted status under the MMPA. Humpback whales that are not listed as threatened or endangered will not have depleted status under the MMPA. We note that the DPSs established in this final rule that occur in waters under the jurisdiction of the United States do not equate to the existing MMPA stocks for which Stock Assessment Reports (SARs) have been published in accordance with section 117 of the MMPA (16 U.S.C. 1386). For further information on how this rulemaking affects existing MMPA stocks in U.S. waters, please see “Effects of this Rulemaking,” below.

Comment 68: One commenter suggested that NMFS ask the BRT to re-

convene as soon as possible to determine if any of the DPSs proposed to be delisted are below their OSP. The commenter also recommended that in the future NMFS consider rulemaking approaches that would avoid any lapse in depleted status for stocks that are below their OSP.

Response: The specific charge to the Humpback Whale BRT was to assess and describe the status of humpback whales pursuant to the ESA, and to identify potential DPSs and evaluate the extinction risk of those potential DPSs. NMFS did not ask the BRT to determine MMPA stock delineations or evaluate any MMPA stocks relative to OSP because NMFS did not want to conflate the two laws and their different standards for evaluating species and populations. As described below in the “Effects of this Rulemaking” section, at the time of a delisting, NMFS may choose to initiate a rulemaking under MMPA section 115(a) if information in its files or information presented by a Scientific Review Group indicates that the species or stock is below its OSP. In such cases, NMFS agrees that it would be beneficial to avoid or minimize any lapse in depleted status and associated MMPA protections for marine mammals that may be below their OSP. NMFS is evaluating different approaches to minimize any such lapse.

Comment 69: One group of commenters asserted that depleted status under the MMPA should be maintained for all humpback whales. The commenters stated that any change in an unlisted DPS’ depleted status can occur only through a separate rulemaking.

Response: We disagree with the commenters. Consistent with the D.C. Circuit’s opinion in *In re Polar Bear Endangered Species Act Listing and Section 4(d) Rule Litigation*, 720 F.3d 354 (D.C. Cir. 2013), we believe that the process described in MMPA section 115(a) applies only to the first basis for designating a species as depleted (*i.e.*, when the agency determines that the species is below its OSP). Therefore, we are required to issue a rule in accordance with the process described in section 115(a) to determine that a species or stock is no longer depleted in cases where we previously issued a rule pursuant to section 115(a) designating the species or stock as depleted on the basis that it is below its OSP. However, in the case of a species or stock that achieved depleted status solely on the basis of an ESA listing, depleted status automatically terminates if the species or stock is removed from the list of threatened or endangered species. For more information, please see the

response to Comment 67 and “Effects of this Rulemaking,” below.

Comment 70: One commenter stated that PBR for the MMPA Gulf of Maine stock would increase from 2.6 to between 13.4 and 26 if the West Indies DPS is no longer ESA-listed. The commenter noted that current fishery-related mortality is 7.2 individuals per year, which is above the current PBR but would likely be below the new PBR and thus this stock would no longer be a priority under the MMPA.

Response: The Gulf of Maine stock of humpback whales partially coincides with the West Indies DPS, which is no longer listed under the ESA. Therefore, the Gulf of Maine stock will no longer have depleted status under the MMPA. The stock’s PBR is expected to increase following the change in depleted status, because the depleted status affects the selection of the recovery factor used in the PBR calculation. Despite the fact that fishery-related mortality was exceeding the previously-defined PBR for the Gulf of Maine stock (2.6), the abundance of the West Indies DPS is large and increasing. The Gulf of Maine stock is only a small component of the total West Indies DPS of the humpback whale. The best estimate for the total population of humpback whales in the Gulf of Maine stock is 823 animals (Waring *et al.* 2014), while the overall population of the West Indies DPS is estimated to be between 10,400 and 10,752 individuals (Bettridge *et al.* 2015; please see response to Comment 31). We plan to review the MMPA Gulf of Maine stock delineation with respect to the West Indies DPS in the near future. Any resulting change in stock delineation, strategic status, PBR, or other MMPA section 117 elements would be proposed in future stock assessment reports following Scientific Review Group review, with opportunity for public comment.

Comment 71: One commenter stated that the MMPA is adequate in identifying depleted status, and no change is necessary to the MMPA at this time. Under 16 U.S.C. 1362, section 2(1)(A), “the Secretary, after consultation with the Marine Mammal Commission and the Committee of Scientific Advisors on Marine Mammals established under subchapter III of this chapter, determines that a species or population stock is below its optimum sustainable population.” This mechanism authorizing the Secretary to declare any DPS of the humpback whale as “depleted” is an open and transparent process and is adequate use of the best available scientific information.

Response: We did not propose any changes to the MMPA, which is a Federal law that may only be amended by Congress.

Comment 72: One commenter stated that if the West Indies DPS is not listed under the ESA, NMFS should reevaluate the inclusion of humpback whales as a strategic stock in the ALWTRP. For example, how does the MMPA Gulf of Maine stock (800 minimum population size, PBR = 2.7) and its management align with the West Indies DPS? If the Gulf of Maine is one of the primary feeding grounds for the West Indies DPS, how can the population estimate used in the ALWTRP 2014 final rule be so much smaller than that which is described in the proposed rule? There needs to be clear and sensible interplay between the ESA, MMPA, and ALWTRP.

Response: We plan to review the MMPA Gulf of Maine stock delineation with respect to the West Indies DPS in the near future. Any resulting change in stock delineation, strategic status, PBR, or other MMPA section 117 elements would be proposed in future stock assessment reports following Scientific Review Group review, with opportunity for public comment. Once final, any changes would be reflected in other related management programs, as appropriate. Humpback whales will remain within the scope of the ALWTRP regulations unless changed by separate rulemaking, and this is not affected by the action we take today.

Comments on the Need for Approach Regulations

Comment 73: One commenter stated that approach regulations are not necessary in Hawaii because vessels do not pose a threat to the population. The commenter added that the Sanctuary regulations provide enough protection, given the high density of humpback whales there that overlap with whale watching. Further, the commenter suggested, NMFS determined that vessel collisions pose a negligible impact to the Hawaii DPS and, when they do occur, there is little warning, so approach regulations would not be helpful. Instead, the commenter believes we should enhance outreach efforts to educate the public on safe approach distances.

Response: We appreciate the comments received in response to our request on this issue. As a direct consequence of our final listing determination, the current regulations protecting whales from approach in Hawaii, which were promulgated only under authority of the ESA, are no longer supported. Therefore, upon the

effective date of this final rule, the existing regulations at 50 CFR 224.103(a) will be deleted and that paragraph of the regulations reserved. However, given the importance of the issue, we have determined that approach regulations in Hawaii should be developed through a separate rulemaking under the MMPA, in the form of an interim final rule published elsewhere in today’s issue of the **Federal Register**. As detailed in the separate interim final rule, we have determined that relying solely on protections within the Sanctuary would be inadequate. Comments received in response to the request for information on this topic through our proposed rule were considered in connection with that process. There will also be a further opportunity for comment in response to the interim final approach regulations.

To clarify the issues raised by the commenter, we have not determined that vessel collisions pose a negligible impact to the Hawaii DPS; we did, however, find that the mortality and serious injury incidental to Hawaii deep-set and shallow-set longline fisheries have a negligible impact on this DPS (79 FR 62105; October 16, 2014). While the analysis considered all sources of human-caused mortality and serious injury, including vessel strikes, the determination was specific to these fisheries.

Comment 74: One commenter stated that approach regulations under the MMPA should be issued in Hawaiian waters and that we should work with the Sanctuary on its regulations.

Response: As noted above, we developed a separate interim final rule to promulgate approach regulations for Hawaii under the MMPA, and this has been done in coordination with the Sanctuary managers. We believe the approach regulations that we are issuing, published elsewhere in this issue of the **Federal Register**, are largely consistent with the Sanctuary’s regulations.

Comment 75: The State of Hawaii Department of Land and Natural Resources (DLNR) noted that references to Hawaii State law protections were missing from the proposed rule. Under Hawaii Administrative Rules (HAR) section 13–244–40, the Hawaii DLNR prohibits approach within 100 yards of a humpback whale in State waters (0–3 nmi). Under HAR sections 13–256–16 and 19, the Hawaii DLNR prohibits the use of thrill craft and parasail vessels off South and West Maui to avoid possible adverse impacts on humpback whales. The Hawaii DLNR recommends that the final rule include references to the State of Hawaii’s relevant rules.

Response: We acknowledge the Hawaii DLNR's comment and appreciate the reference to their regulations.

Comment 76: The Hawaii DLNR also stated that the March 26, 2015, NOAA rule revising regulations within the Sanctuary proposed to strengthen the Sanctuary's humpback whale approach regulation to address "interceptions," otherwise known as leapfrogging (80 FR 16223). It noted that, though the State can regulate vessel approach out to 3 nm, and the Sanctuary can regulate approach in Federal and State waters of the Sanctuary, these efforts alone do not sufficiently protect humpback whales from vessel interactions throughout the Hawaiian Islands and out to the seaward boundary of the U.S. EEZ (200 mi). Therefore, the Hawaii DLNR encourages NOAA to promulgate the 100-yard approach regulations and 1,000-ft overflight regulation under the MMPA, as this would make regulations consistent throughout state and Federal waters off Hawaii, thus improving compliance. NOAA should also consider including those provisions from the Sanctuary proposed rule that address leapfrogging. The Hawaii DLNR intends to adopt these provisions.

Response: We are issuing an interim final rule to implement approach regulations in Hawaii under the MMPA, published elsewhere in this issue of the **Federal Register**. These regulations are similar to the State of Hawaii regulations and the Sanctuary regulations, and they include an additional provision prohibiting interception (or "leapfrogging"). Please see the interim final rule published elsewhere in today's issue of the **Federal Register** for additional details.

Comment 77: The State of Alaska noted that NMFS promulgated the approach regulations in Alaska under both the ESA and the MMPA, so if the ESA status of the Hawaii DPS is revised, the authority under MMPA should remain. For the Western North Pacific DPS, which is proposed to be listed as threatened, authority for this regulation under both the ESA and MMPA should be valid. The State supported retaining the approach regulations in U.S. waters off Alaska because of the conservation benefits that will accrue to both the proposed threatened Western North Pacific DPS and to the increasing number of whales in the Hawaii DPS that frequent Alaska waters in summer. Potential areas of concern at present for this DPS include ship strikes and entanglements, which are currently at low levels, but continued enforcement of approach regulations will assist in keeping those levels low.

Response: We appreciate the State of Alaska's comments, and we concur. In a separate, direct final rule (publishing elsewhere in today's issue of the **Federal Register**), we are publishing a technical correction making minor amendments to the regulations currently set out in the part of the Code of Federal Regulations that applies to endangered marine and anadromous species (at 50 CFR 224.103(b)) and recodifying them so that they also appear in the part that applies to threatened marine and anadromous species (at 50 CFR 223.214) and in the part setting out MMPA regulations (at 50 CFR 216.18). Setting out these approach regulations at 50 CFR 223.214 will ensure that threatened humpback whales in Alaska (which includes the threatened Mexico DPS) will also be protected under the ESA approach regulations. As noted above, we have determined that the Western North Pacific DPS is endangered instead of threatened (see Western North Pacific DPS section for rationale), so the approach regulations will also remain at 50 CFR 224.103 for their continuing protection. Setting the regulations out at 216.18 reflects that the approach regulations in Alaska were also originally promulgated under the authority of the MMPA and that they protect all whales in Alaskan waters whether listed under the ESA or not.

Comments on Critical Habitat

Comment 78: Colombia provided an atlas of distribution, migratory routes, and critical and threatened habitat for large whales in the East Pacific.

Response: We appreciate the information. However, pursuant to the regulations implementing the ESA, we lack authority to designate critical habitat in non-U.S. waters (50 CFR 424.12(g)).

Comment 79: Jamaica stated that the Silver-Navidad-Muchoir bank complex is a major breeding area in the West Indies and could qualify as critical habitat.

Response: We appreciate Jamaica's comment. However, pursuant to the regulations implementing the ESA, we lack authority to designate critical habitat in non-U.S. waters (50 CFR 424.12(g)).

Comment 80: One commenter noted that protecting habitat will be difficult without the additional protections of the ESA, and most of the threats require active management of habitat.

Response: A critical habitat designation has limited regulatory effect and does not mean that NMFS will actively manage habitat. Rather, when an area is designated as critical habitat, Federal agencies must consult with us

on any action they authorize, fund, or carry out that may affect the area to ensure that the action is not likely to destroy or adversely modify that habitat (16 U.S.C. 1536(a)(2)).

There are separate tools for protection of habitat that are beyond the scope of this rulemaking. For example, section 112(e) of the MMPA gives us authority to promulgate regulations to protect habitat for strategic stocks. Stocks that maintain depleted status (see Comments on "Depleted" Status under the MMPA) due to endangered/threatened status will remain strategic. Other laws will continue to protect habitat used by humpback whales (e.g., Clean Water Act, National Environmental Policy Act).

Comment 81: One commenter stated that critical habitat is not necessary in Guam and the Commonwealth of the Northern Mariana Islands (CNMI) because it is unlikely to provide a measureable conservation benefit to the DPS and there are no threats there to the Western North Pacific DPS. Another commenter stated that, despite NMFS' clear statutory mandate, NMFS has never designated critical habitat for humpback whales. This commenter noted that amending the listing status for humpback whales would trigger NMFS' duty anew. If NMFS goes forward with its proposal, this commenter asserted, NMFS must designate critical habitat for any and all ESA-listed humpback whale populations in U.S. waters.

Response: The humpback whale was first listed under the precursor to the ESA in 1970, and was transferred to the list of endangered species under the original ESA before the statute was amended to require designation of critical habitat for listed species. Therefore, there was no statutory requirement to designate critical habitat for the endangered humpback whale. We agree with the commenter that, upon revising the listing status of the humpback whale to recognize 14 DPSs and list five of them as threatened or endangered, the obligation arises to designate critical habitat in areas under U.S. jurisdiction for the listed DPSs to the maximum extent prudent and determinable (16 U.S.C. 1533(a)(3)(A)). Our regulations provide that critical habitat is not determinable when data sufficient to perform required analyses are lacking and/or the biological needs of the species are not sufficiently well known (50 CFR 424.12(a)(2)). At this time, we find that critical habitat is not determinable for both of these reasons, as discussed further in the "Effects of this Action" section, below.

We are currently evaluating the habitat needs of humpback whale DPSs that occur in U.S. waters to determine habitat areas that may be essential in supporting the conservation of the species, including areas occupied at the time of listing that contain essential physical and biological features for humpback whales and unoccupied areas that may be essential for their conservation (16 U.S.C. 1532(5)). At this time, we cannot predict whether designating critical habitat in Guam and CNMI or anywhere else will be “prudent,” e.g., whether it will provide a conservation benefit to the species (50 CFR 424.12(a)(1)(ii)). If we identify areas that meet the definition of critical habitat, we will publish a proposed rule and solicit public comments on the proposal before finalizing any critical habitat designation.

Comments on Monitoring Humpback Whale DPSs

Comment 82: One commenter provided actions that should be included in the Monitoring Plan: Continuation of SPLASH, at least in part; Entanglement Response Program; abundance estimates by aerial surveys; humpback whale strike/contact database; serious injury determinations; sanctuary research efforts; outreach programs; ocean etiquette; guidelines for boater and ocean users; sanctuary ocean count; sanctuary interagency law enforcement task force; ship strike workshop; humpback whale protections working group. Another commenter (MMC) suggested that we reexamine population structure and DPSs with more genetic sampling and other studies, that we reconvene the BRT after the final determination to seek advice on humpback whale research and monitoring, that we share advice with states and countries, and that we announce the reconvening of a BRT after 5 years.

Response: Today we are issuing a Monitoring Plan for the nine humpback whale DPSs that are not being listed under the ESA. The Monitoring Plan Coordinator will work with collaborators to identify specific surveys and monitoring efforts that we can use to continue monitoring these humpback whales. We believe most, if not all, of the actions identified by the commenter would provide valuable information, and we will pursue them within fiscal and other constraints. As far as the recommendation that we reconvene the BRT to seek advice on research and monitoring, we already consulted with many BRT members as we developed the Monitoring Plan. We plan to collaborate with States and countries in

an effort to gather data from all humpback whale DPSs that are not listed under the ESA. With regard to reconvening a BRT after 5 years, the ESA requires us to conduct a 5-year review after a species has been removed from threatened or endangered status. As we get closer to that date, we will know more about our plans for conducting that review.

Comment 83: The State of Massachusetts recommended that NMFS fund population surveys to update abundance and trend information.

Response: Population surveys are important, and we intend to work with collaborators from the States and other Federal agencies to take advantage of ongoing surveys and stranding databases to monitor abundance, trends, and health of humpback whale DPSs that are not being listed under the ESA. However, we cannot predict our budget or competing priorities from year to year. Further, we cannot commit or require any Federal agency to obligate or pay funds in contravention of the Anti-Deficiency Act, 31 U.S.C. 1341, or any other law or regulation.

Comment 84: The State of Alaska noted that various groups have expressed concerns about the potential for increased ship strikes by cruise ships and whale-watching vessels as the humpback whale population increases in Southeast Alaska, but pointed out that such “takes” for DPSs that are not listed will still be prohibited under the MMPA (but no longer the ESA). The State of Alaska stated that if the proposed rule is finalized, the post-delisting monitoring effort will present opportunities for the State to comment on such concerns and the need to develop feasible mitigation measures, an effort to which the State would like to contribute.

Response: We worked closely with the State of Alaska and other entities to develop a Monitoring Plan, sent it out for public comment and peer review, and are issuing it today with publication of this final rule. We also appreciate the State of Alaska’s willingness to contribute to developing feasible mitigation measures.

Comment 85: One commenter noted that funding for population monitoring would be reduced and eventually removed if ESA protections are removed from humpback whales. This commenter asserted that it is unlikely that a reduction in sustainability of any humpback whale DPS will be acknowledged until it is too late. Adding the DPS back to the Endangered and Threatened Species list and

developing a recovery plan will take too long.

Response: We disagree. Under the MMPA we are required to assess strategic marine mammal stocks in the United States every year, and non-strategic stocks every 3 years. We do not expect other countries to discontinue their monitoring efforts of humpback whale DPSs that are not listed under the ESA. For example, the IWC will continue to assess the status of humpback whale stocks in order to conserve and manage them. Finally, it is important to note that the Monitoring Plan we are issuing today per section 4(g)(1) of the ESA (16 U.S.C. 1533(g)(1)) establishes a framework for continued monitoring and assessment of threats for the next 10 years (twice the minimum 5-year monitoring window required by the ESA). We do not expect any existing funding to be reduced or removed with removal of ESA protections.

Comment 86: One commenter noted that some of the proposed DPSs are simply too large to effectively or routinely study and manage, including in the event of post-delisting monitoring.

Response: Size of a DPS and ability to manage it did not factor into our identification of DPSs (please see response to Comment 3 for more details on DPS Policy criteria). DPSs must meet the criteria of the DPS Policy, and we do our best to study and manage DPSs once they are identified and listed under the ESA. We will use the best scientific and commercial data available to monitor DPSs that are not listed under the ESA.

Comments on the Draft Monitoring Plan

Comment 87: The Alaska Department of Fish and Game (ADFG) supported our efforts and offered editorial suggestions for clarification and consistency in the Monitoring Plan.

Response: We acknowledge ADFG’s support, and we appreciate the editorial suggestions, which we have incorporated into the final Monitoring Plan that we are issuing today.

Comment 88: The Massachusetts Division of Marine Fisheries (DMF) fully supports the development of the Monitoring Plan and is interested in contributing to a successful Monitoring Plan to ensure that NMFS and its collaborators can successfully detect changes in the status of the stock and ensure the non-listed DPSs are appropriately managed.

Response: We acknowledge MA DMF’s support and appreciate its willingness to contribute.

Comment 89: The MA DMF strongly urges NMFS and collaborators to coordinate efforts to collect photo ID

mark-recapture data during the monitoring period, which requires prioritization of sustained and increased funding of vessel-based surveys. The DMF notes that the Monitoring Plan cannot rely predominately on threat monitoring or serious injuries and mortalities without considering those threats and cases in the context of population monitoring. Another commenter noted that NMFS provides caveats with regard to achieving its aims and the sufficiency of funding, and this is cause for concern regarding the ability of the agency to monitor populations and trends and/or make timely interventions. This commenter adds that lack of guaranteed funding renders almost meaningless the agency's commitment to convene a "team of experts" to advise it on whether monitoring should be extended or additional studies initiated. The commenter states that the need to convene this team is predicated on obtaining data indicating that calf production is declining, juvenile and/or adult abundance and growth rates are declining, distributional changes cause concerns or existing or emerging threats "seem to be negatively affecting production, abundance, population growth rate or distribution," and that one cannot find what one is not able to seek.

Response: While we cannot predict future funding levels, to the extent feasible, we intend to budget for post-delisting monitoring efforts through the annual appropriations process. However, we are constrained by the provisions of the Anti-Deficiency Act (See 31 U.S.C. 1341 (a)(1)). Further, guaranteeing funding for the measures recommended in a plan is not a precondition to making a listing determination such as we make today. Nevertheless, we understand the high value of vessel-based surveys for obtaining photo ID mark-recapture data, and we will endeavor to fund vessel-based surveys to the extent possible consistent with available budgetary resources.

Comment 90: The MA DMF urges NMFS to work with its international partners to monitor humpback whales in areas where they may redistribute because of ocean warming (e.g., Gulf of Maine).

Response: We will continue our efforts to work with our international partners to monitor humpback whales in all areas where they occur.

Comment 91: One commenter provided a list of monitoring efforts in National Marine Sanctuaries off California. Another commenter noted that while the proposed rule mentions

humpback whale protection measures taken by Stellwagen Bank and Greater Farallones National Marine Sanctuaries, it does not mention efforts made by the Cordell Bank and Channel Islands sanctuaries. This commenter provided a list of humpback whale protection, management, and research measures implemented by west coast National Marine Sanctuaries and links to two working group reports: (1) *Reducing the Threat of Ship Strikes on Large Cetaceans in the Santa Barbara Channel Region and Channel Islands National Marine Sanctuary: Recommendations and Case Studies* and (2) *Vessel Strikes and Acoustic Impacts: Report of a Joint Working Group of the Gulf of the Farallones and Cordell Bank National Marine Sanctuaries Advisory Councils*.

Response: We appreciate the information and will collaborate with these sanctuaries to access the available data. We reviewed the protective efforts on Cordell Bank and Channel Islands sanctuaries provided by the other commenter, and we intend to continue collaborating with National Marine Sanctuaries to reduce threats to listed and non-listed humpback whale DPSs that breed or feed within or migrate through the boundaries of these sanctuaries. We appreciate the education and outreach efforts made by these sanctuaries.

Comment 92: One commenter recommended that we add to the list of ongoing conservation efforts, under section I.B., of the draft Monitoring Plan the regulations that apply to all U.S. west coast National Marine Sanctuaries. Specifically, under 15 CFR 922, west coast National Marine Sanctuaries prohibit "Disturbing, taking or possessing any marine mammal, sea turtle or bird within or above the sanctuary; except as permitted by regulations under the Marine Mammal Protection Act, the Endangered Species Act, and the Migratory Bird Act."

Response: We have moved the list of ongoing conservation efforts from section I.B. to Appendix C of the Monitoring Plan, and we have added these regulations as background to the same list.

Comment 93: The West Coast Region of the National Marine Sanctuary Program noted that many ongoing monitoring programs conducted by sanctuaries are aligned with the prescribed monitoring methods in the draft Monitoring Plan. They strongly support the 10-year monitoring period and will continue to collaborate and enhance communication with the Humpback Whale Monitoring Plan Coordinator and regional staff of NMFS, the research community, and the

general public on monitoring and resource protection efforts within U.S. west coast National Marine Sanctuaries.

Response: We acknowledge the West Coast Region of the National Marine Sanctuary Program's comments and appreciate their willingness to continue collaborating with us.

Comment 94: The MMC stated that the objectives and methods identified in our Monitoring Plan for monitoring humpback whale growth rates, distribution, and threats are appropriate.

Response: We acknowledge the MMC's support.

Comment 95: The MMC recommends that the Monitoring Plan be expanded to include (1) an objective to determine whether additional DPSs merit consideration as endangered or threatened under the ESA, and (2) a description of the methods, including further collections of tissue samples and genetic analyses, that will be used to assess population structure further within the ten DPSs.

Response: We received comments on the proposed rule to revise the listing status of the humpback whale from the MMC and others about dividing some of the DPSs we identified into smaller units because they may be genetically distinct. We believe the DPS structure we proposed and are finalizing is based on the best available scientific and commercial information. Please see our responses to Comments 3, 4, and 5 for more details. If reliable data become available that would lead us to identify smaller DPSs within any of the identified DPSs, we will evaluate the data at that time. Note that only nine DPS are included in the Monitoring Plan (rather than the ten DPS that were included in the draft Plan) because of changes to the listing status of some DPSs in this final rule.

Comment 96: One commenter and one peer reviewer noted that existing baseline data for many of the proposed DPSs are outdated, not available, or have significantly wide confidence intervals. They asserted that accomplishing the objectives of the draft Monitoring Plan depends on: (1) Having confidence in the information on current abundance and trends in population and on population dynamics (e.g., growth rates, calf production, age structure); (2) having accurately identified the spatial and temporal distribution of the DPSs, including differential use by various age classes; and (3) proper identification of and ability to accurately monitor trends in threats.

Response: Under the ESA, we are required to base our decisions on the best available scientific and commercial

information. Where quantitative data are not available, it is appropriate to use qualitative data. Please see our response to Comment 13 for more discussion of the ESA's requirement to base our decisions on the best available scientific and commercial information.

Comment 97: One commenter stated that it will be difficult to determine whether changes in ocean climate, overharvest of primary prey resources, or other factors are adversely affecting populations until a significant decline has already resulted. As support for this statement, the commenter cited Taylor *et al.* (2007), who estimated that, given the frequency and precision of estimates, a precipitous decline of 50 percent in 15 years would not be detected for over 70 percent of baleen whales, including many humpback populations.

Response: The commenter cited Taylor *et al.* (2007), which discusses the difficulty of monitoring trends in marine mammal stocks when declines are caused by factors that do not involve direct human-caused mortalities. The most common methods to increase our ability to detect precipitous declines are to increase survey frequency and/or change decision criteria (Taylor *et al.* 2007). For example, Taylor *et al.* (2007) suggests that if we wanted to detect a precipitous decline 80 percent of the time for bowhead whales, we could do annual surveys. To save expense, surveys could be less frequent, but the decision criterion for significance would have to be changed to $\alpha = 0.1$ for 4-year intervals or $\alpha = 0.2$ for 6-year intervals. In the latter case, underprotection and overprotection errors are equal at about 20 percent.

As we stated in our responses to Comments 83 and 89, we will endeavor to fund vessel-based surveys to the extent possible consistent with available budgetary resources, and we must rely on the best available information in making decisions under the ESA. However, we are not relying only on abundance information. As we stated in the draft Monitoring Plan, threats monitoring will be important to indicate that a new threat has emerged, the magnitude of an existing threat has increased, and/or that the cumulative impact from threats is likely greater than previously understood.

Comment 98: One commenter wondered how we think we can detect changes in the spatial or temporal distribution of humpback whales in the Southern Hemisphere when the whales' use of specific feeding areas is largely conjectural.

Response: We will need to base our monitoring on the best available

scientific and commercial information. We have added a qualifier to the distribution trigger to clarify that a large contraction in range would indicate a potential problem.

Comment 99: One commenter noted that there is a great deal of mixing of breeding stocks in feeding areas that will make threat assessment for individual proposed DPSs difficult if not impossible, adding that a monitoring plan that commits to tracking the impact of threats is of no use if it cannot reliably determine which stock is being adversely affected in an area of mixing.

Response: Again, we must rely on the best available scientific and commercial information. As we noted in our response to Comment 11, where humpback whales from different DPSs mix on feeding grounds, we recognize the need for an approach that will allow us to determine which DPSs have been affected by directed or incidental take or may be affected by Federal actions subject to consultation under section 7. We will likely use a proportional approach to indicate which DPSs are affected by any takes based upon the best available science of what DPSs are present, depending on location and timing where take occurred. We have not finalized this approach, but it will be fluid, based upon the best available science as it changes with increased understanding. Of course, we will continue to work with partners to mitigate threats to all humpback whales, regardless of their ESA listing status, because they remain protected under the MMPA. We will also work with our partners to determine the most effective ways to track the impacts of these threats to humpback whales.

Comment 100: One commenter noted that we stated that we will monitor abundance, distribution, and protection of key prey species even as we admit that “[d]ata are lacking for most locations for humpback whale prey species that are not commercially harvested.”

Response: Again, we acknowledge the comment, and we must rely on the best available scientific and commercial information. We have added a list of funded Federal efforts to the Monitoring Plan, but we cannot do the same for non-federal efforts because there is no guarantee that these will be funded. In a particular year, we may have available annual discretionary funds and some ESA section 6 funds that we hope to be able to use to support some of these efforts.

Comment 101: One commenter stated that we appear to be poised to attribute any health effects or slowed growth to

the DPS reaching carrying capacity, saying that as “DPSs continue to increase in abundance, they may reach and/or possibly exceed carrying capacity in certain locations and nutritional stress could affect population dynamics.” The commenter asserts that we are apparently excusing ourselves from the need to identify domestic or international management actions that may be taken to allow an improved recovery trajectory if slowed growth is a consequence of habitat degradation rather than a species or DPS attaining full recovery.

Response: We will rely on the best available scientific and commercial information to determine whether DPSs are reaching carrying capacity. For the Southern Hemisphere DPSs, we can rely on IWC assessments (IWC 2015) to determine whether different DPSs are approaching carrying capacity. IWC Breeding Stocks correspond, for the most part, to the DPSs we have identified, with the exception that the boundary between the East Australia DPS and the Oceania DPS differs from the boundary between IWC Breeding Stocks E and F. We expect to be able to review estimates of population sizes relative to carrying capacity for the North Pacific DPSs this year based on modeling work that was submitted to the IWC Scientific Committee in June 2016. More work on population structure in the North Atlantic is needed before we can estimate population size relative to carrying capacity there.

Comment 102: One commenter stated that we incorrectly asserted that the Stellwagen Bank National Marine Sanctuary (SBNMS) has its own approach guidelines “that provide some protection [sic] individuals from the West Indies” DPS. This commenter noted that currently there are no SBNMS-specific approach guidelines beyond those NMFS suggests for vessels operating in the Greater Atlantic Region. Therefore, the commenter states, in these areas where harassment necessitates control of vessel and aircraft approaches to whales based on their listing under the ESA, these protections will be largely lost.

Response: It is true that SBNMS does not have its own approach guidelines. The only species in this area with ESA regulatory restrictions on aircraft, vessel speed, and approach is the North Atlantic right whale. Because the MMPA also offers general harassment prohibitions to all marine mammals, no protections will be lost for humpback whales in this respect. Humpback whales will also continue to receive ancillary benefits from those regulations in place to protect right whales (please

see our response to Comment 39). In the Greater Atlantic Region, voluntary guidelines are in place to encourage aircraft and vessel behaviors that will not violate the harassment prohibitions of both the MMPA and ESA. These voluntary guidelines will remain in place for humpback whales under the MMPA, regardless of their status under the ESA.

Comment 103: One commenter stated that because there is an existing TRP that currently applies to humpback whales in the North Atlantic, the TRP should continue to apply to the West Indies DPS and any other humpback whale populations off the U.S. east coast even if ESA protections are removed. The commenter added that, similar to the ALWTRP, NMFS should make clear that the provisions of the Pacific Offshore Cetacean Take Reduction Plan (POCTRP) will continue to apply to humpback whales, even if some DPSs are delisted.

Response: Provisions of the ALWTRP and the POCTRP will continue even though some DPSs are no longer listed under the ESA. These take reduction plans are implemented under the authority of the MMPA.

Comment 104: One commenter stated that it is unclear how NMFS considers the IWC's ship strike database, stranding networks, and disentanglement training as sufficient monitoring measures for humpback whales. The commenter added that there are no mandates for any individual or country to report ship strikes to the database, and our own data indicate that ship strikes are underreported. The commenter stated that stranding response varies by region and adequate carcass examinations are rare. This commenter asserted that, while disentanglement training is laudable, it is not legally mandated and only a small percentage of whales benefit from this activity.

Response: Regardless of the ESA status of humpback whales, we have a continuing directive under Title IV of the MMPA to collect health indices for marine mammal populations. The national stranding network will continue to document reports of ship strike and consistently necropsy humpback whale carcasses to determine if ship strike is a cause of death. These results are incorporated into serious injury and mortality estimates in the Stock Assessment Reports and considered in management decisions on behalf of the species. New ship strike avoidance tools are being used in various parts of the United States, such as the reporting application Whale Alert, and we are actively working with the cruise and shipping industries on

both the U.S. east and west coasts to both promote prevention and facilitate reporting of incidents. The IWC is currently examining the mechanisms for reporting ship strikes globally and is working with the International Maritime Organization on outreach to industry for areas of overlap of large whales and shipping lanes. In addition, the IWC is beginning the process of tracking and standardizing data on large whale entanglements world-wide and making the data available for prevention and mitigation.

Both NMFS and the IWC have supported the training and equipping of tiered skilled entanglement response teams for large whales in a domestic and international capacity. The IWC is actively training large whale entanglement response personnel around the world in high-risk or high reported entanglement areas. Again, this work to mitigate injury and mortality of whales in distress falls under MMPA Title IV, at the national level. When a whale with an entanglement is reported to NMFS or the network, an assessment of whether the entanglement is life-threatening is undertaken. If it is a life-threatening entanglement, all efforts are made to respond if it is safe and conditions allow. From experience, we know that many whales shed gear on their own in successful self-releases, so not all entanglements require human intervention.

Given the high abundance estimates for those DPSs not being listed under the ESA, we do not believe that ship strikes, entanglements, or other human caused factors are having a negative population level impact on these DPSs at this time or within the foreseeable future.

Comment 105: One commenter and two peer reviewers took issue with the notion of accurately assessing carrying capacity, let alone determining that a species or DPS has reached it. The commenter suggested we should reference the achievement of optimum sustainable populations rather than carrying capacity, which fluctuates with resource availability. One of the peer reviewers noted that carrying capacity for monitoring the DPSs is a useless term because most DPS managers have no realistic idea of the target population abundance. Instead, we should focus on ways to document or monitor status via reproductive rates and environmental threats. The other peer reviewer expressed concern with the emphasis on using carrying capacity to identify response triggers because determining carrying capacity for species like humpback whales with such slow life histories is not easy, straightforward, or

static. This peer reviewer added that, even if it is determined for a particular region, carrying capacity can shift along with changing environmental conditions, especially with respect to dynamic ecosystem changes due to climate change.

Response: Please see our response to Comment 101. We must continue to base our decisions on the best available scientific and commercial information. We believe the ongoing assessment work can help us determine when DPSs are approaching carrying capacity.

Comment 106: Two peer reviewers stated that a 10-year monitoring period was too short for detecting changes in population trends, given the slow life history, and they would advise a longer monitoring period if possible. Regardless, they noted, the ability to detect population trends and other triggers will rely on regular, thorough, consistent, and coordinated survey effort throughout the monitoring period.

Response: Section 4(g) of the ESA requires that we monitor species that have recovered under the ESA for a period of at least 5 years. We decided to adopt a period for this rule that is twice the minimum time period. If we determine that we need more than 10 years to detect changes in population trends, we can extend the monitoring period. We agree that the ability to detect population trends and other triggers will rely on regular, thorough, consistent, and coordinated survey effort throughout the monitoring period, and we will do the best we can to achieve a high quality monitoring effort.

Comment 107: One peer reviewer noted that the southern hemisphere DPSs appear to have solid current IWC monitoring but that the Hawaii DPS description of data being gathered for mark-recapture for Southeast Alaska in the draft Monitoring Plan was incorrect. This reviewer stated that the regional Southeast Alaska and Prince William Sound datasets are collaborations with Glacier Bay National Park and the NOAA Fisheries Auke Bay Laboratory, and the North Gulf Oceanic Society and Eye of the Whale datasets will be useful. However, this peer reviewer recommended that a monitoring plan (and agreements) be established to access and maintain the usefulness of these long-term datasets collected since 1979. The peer reviewer believes we are overstating the monitoring efforts. Given the funding situation for humpback whales, this peer reviewer noted that the only guaranteed systematic survey for the Hawaii DPS is the Glacier Bay work.

Response: If the commenter is referring to surveys with guaranteed

funding, the commenter is correct. We do not intend to overstate the monitoring efforts. With the exception of Glacier Bay National Park and our work in Prince William Sound (if we receive funding for continued work), there are no systematic surveys in place for the Hawaii DPS. North Gulf Oceanic Society data are incorporated into our Exxon Valdez Oil Spill-Prince William Sound database. The Eye of the Whale, Alaska Whale Foundation, and similar efforts may be useful for identifying some of the triggers but are not suitable for a robust mark-recapture model. We have revised the Monitoring Plan to clarify that we do not expect a full suite of SPLASH-like humpback whale surveys to be funded in the near future. Instead, the Monitoring Plan provides us with guidance to assess the data that exist on a regular basis (and fund additional efforts where possible), and then try to extrapolate from that. We plan to collaborate with other Federal agencies, states, the IWC, and academia to obtain the information we need in order to monitor the status of these humpback whale DPSs.

Comment 108: One commenter noted that the warmer waters throughout the Pacific have been documented to affect marine animals from Alaska to Baja and out to the Pacific Islands, resulting in widespread HABs, some of which have been linked to the die-off of marine mammals, including humpback whales. Because of the ocean warming trend, this commenter cautioned that this trend may potentially have a significant effect on humpback whale populations, as well as other marine mammals. This commenter recommended that the Monitoring Plan add a bullet related to rapid changes in environmental conditions under the “Response triggers.” The existing bullets are linked to the condition of the whales (numbers, distribution, calves, and health) but do not take into account changes in the environment. For example, a large HAB detected in southeastern Alaska might trigger NMFS to initiate additional surveys to detect any potentially dead whales. Early detection of dead whales may enable researchers to respond more rapidly to necropsy and thereby diagnose potential causes for mortality. The commenter suggested the following for such an environmental trigger: “Evidence of rapid environmental changes in oceanographic conditions in calving or foraging grounds that potentially could pose an immediate threat to the health of humpback whales or their prey. Examples of rapid changes in environmental condition include, but are not limited to, HABs or die-offs of

other marine animals such as pinnipeds or seabirds.”

Response: While there is no evidence that climate-change related effects currently contribute, or within the foreseeable future are likely to contribute, significantly to the extinction risk of most DPSs (except the Arabian Sea DPS) (see responses to Comments 24 and 25), we agree that monitoring HABs and unusual mortality events is important. Early detection may provide us with a better opportunity to diagnose potential causes of mortality. However, stranding networks are already in place and, either through these networks or as a result of direct contacts to NMFS via the hotlines and other lines of communication, we are made aware of dead animals, floating animals, and animals in distress. We track these strandings, and the MMPA has provisions for declaring UMEs and assessing the potential causes. Stock assessment reports will capture this information as well. We do not believe this particular trigger is needed. While we will likely indirectly monitor changes in environmental conditions through the stranding networks, it is highly unlikely that we will be launching surveys, as suggested by the commenter. There have been HABs on both U.S. coasts, and they will continue. While individual humpback whales may be affected, it is unlikely that an HAB event would present sufficient cause to reevaluate the population's listing status. An HAB would have to be very large in scale, or repetitive, to have meaningful impact at the population level.

Summary of Changes From the Proposed Rule

- We are relying on the YONAH survey data instead of the MONAH survey data for the abundance estimate for the West Indies DPS.
- We have updated the abundance estimates for the Western North Pacific, Hawaii, Mexico, Central America, and Gabon/Southwest Africa DPSs.
- We are listing the Western North Pacific and Central America DPSs as endangered instead of threatened based on a reconsideration of the information we presented in the proposed rule.
- We are listing the Mexico DPS as threatened instead of not listing it, based on a reconsideration of the information we presented in the proposed rule and the new abundance estimate.
- We have updated the abundance estimate for the Oceania DPS with an estimate that is based on an additional year of data, and we have added a population growth-rate estimate.

- We reviewed, and incorporated as appropriate, scientific data from references that were not included in the status review report and proposed rule. We include the following references, which together with previously cited references, represent the best available scientific and commercial data. Several of these references present new data, but, with the exception of Wade *et al.* (2016), the new data do not result in a change in any of our listing determinations. We are making a change to the Western North Pacific DPS listing determination because we have reconsidered our original determination in light of the fact that the abundance estimate for this DPS is relatively low, numerous threats of at least moderate impact still exist, and the DPS includes a population with unknown breeding grounds and unknown growth rate. We are also making changes to the Mexico and Central America DPS listing determinations. The new, lower abundance estimates (Wade *et al.* 2016) for these DPSs increase our level of concern about their extinction risk. For the Central America DPS we would have listed the DPS as endangered even in the absence of the new abundance estimate, for the reasons we explain further in the Central America DPS section. In all other cases where new information was received (or obtained by us), the information either was not sufficient to convince us to change our determination or provided support for our proposed determinations, and thus we do not rely on the information for our final determinations: Alava *et al.* (2011); Alter *et al.* (2010); Alter *et al.* (2015); Alzueta *et al.* (2001); Anderson *et al.* (2014); Baker *et al.* (2013); Barendse *et al.* (2011); Barnosky *et al.* (2012); Barth *et al.* (2007); Barth *et al.* (2007); Beaugrand (2014); Bowman *et al.* (2013); Bednarek *et al.* (2014) Boyce *et al.* (2010); Braithwaite *et al.* (2015); Caballero *et al.* (2000, 2001, 2009); Carmona *et al.* (2011); Carstensen *et al.* (2015); Carvalho *et al.* (2014); Chen *et al.* (2011); Coello-Camba *et al.* (2014); Childerhouse and Smith (undated); Collins *et al.* (2010); Comeau *et al.* (2012); Constantine *et al.* (2012); Corrie *et al.* (2015); Dalla Rosa *et al.* (2012); Darling and Mori (1992); Dunlop *et al.* (2010); Elwen *et al.* (2014); Ersts *et al.* (2011); Escobar (2009); Evans *et al.* (2013); Felix *et al.* (2005); Fire *et al.* (2010); Feng *et al.* (2009); Florez-Gonzalez *et al.* (2007); Flynn *et al.* (2015); Fossette *et al.* (2014); Frisch *et al.* (2015); Fu *et al.* (2012); Garcia-Godes *et al.* (2013); Garrigue *et al.* (undated); Garrigue *et al.* (2000); Garrigue *et al.* (2006); Garrigue *et al.* (2010); Garrigue

et al. (2011); Gattuso and Hansson (2011); Gaylor *et al.* (2015); Goldbogen *et al.* (2013); Grebmeier (2012); Hattenrath-Lehmann *et al.* (2015); Haigh *et al.* (2015); Hare *et al.* (2007); Hauser *et al.* (2010); Hedley *et al.* (2011); Hester *et al.* (2008); Hollowed *et al.* (2012); Honisch *et al.* (2012); Ilyina *et al.* (2010); IWC (2015); Ivashchenko *et al.* (2013); IWC (2012); Jensen *et al.* (2015); Kajawara *et al.* (2004); Kato (unpublished abstract); Kawaguchi *et al.* (2013); Kent *et al.* (2012); Kershaw (2015); Kirkley *et al.* (2014); Krieger and Wing (1984, 1986); Kroeker *et al.* (2010); Kroeker *et al.* (2013); Laist *et al.* (2014); Lefebvre *et al.* (2016); Leandro *et al.* (2010); Le Quere *et al.* (2015); Lischka *et al.* (2010); Lewitus *et al.* (2012); Maclean and Wilson (2011); Martinez-Levasseur *et al.* (2011); Martinez-Levasseur *et al.* (2013a); Martinez-Levasseur *et al.* (2013b); McHuron *et al.* (2013); Moore *et al.* (2015); Moura *et al.* (2013); Moy *et al.* (2009); NOAA National Climatic Data Center (2015); NMFS (2015); Nemoto (1957, 1959); Noad *et al.* (2005); Okamoto *et al.* (2013); Olavarria *et al.* (2006); Pace *et al.* (2014); Pachauri *et al.* (2014); Parmesan (2006); Parmesan and Yohe (2003); Paxton *et al.* (2011); Payne *et al.* (1986); Ramp *et al.* (2015); Risch *et al.* (2012); Robbins *et al.* (2011); Rolland *et al.* (2012); Rosenbaum *et al.* (2014); Schonberg *et al.* (2014); Sible *et al.* (2002); Simmonds and Elliott (2009); Simmonds and Isaac (2007); Stevick *et al.* (2015); Stevick *et al.* (2016); Strindberg *et al.* (2011); Tanabe *et al.* (1994); Tatters *et al.* (2012); Thomas *et al.* (2004); Trainer *et al.* (2012); Tyack *et al.* (2011); Van Bressem *et al.* (2009); van derHoop *et al.* (2014); Van Waerebeek *et al.* (2013); Vikingsson *et al.* (2015); Wade *et al.* (2016); Warren *et al.* (2013); Wiley *et al.* (2011); Witteveen *et al.* (2006); Witteveen *et al.* (2008); Wright (2008); Wright *et al.* (2015); Yasunaga and Fujise (2009a); and Yasunaga and Fujise (2009b).

Identification of DPSs

As we discussed earlier in our responses to comments on particular DPSs, the comments that we received on the proposed rule did not change our conclusions regarding the identification of DPSs. We reviewed relevant and recently available scientific data that were not included in the status review report and proposed rule: Barendse *et al.* 2011; Carvalho *et al.* 2014; Elwen *et al.* 2014; Ersts *et al.* 2011; Fossette *et al.* 2014; Kershaw 2015; Rosenbaum *et al.* 2014; Stevick *et al.* 2015; Stevick *et al.* 2016; and Van Waerebeek *et al.* 2013. Based on the best available scientific and commercial data, we reaffirm that

the DPSs identified in the proposed rule are discrete and significant. Therefore, we incorporate herein all information on the identification of DPSs provided in the status review report and proposed rule (80 FR 22304; April 21, 2015).

In summary, we apply our joint DPS policy (61 FR 4722; February 7, 1996) to identify 14 discrete and significant DPSs: West Indies, Cape Verde Islands/Northwest Africa, Western North Pacific, Hawaii, Mexico, Central America, Brazil, Gabon/Southwest Africa, Southeast Africa/Madagascar, West Australia, East Australia, Oceania, Southeastern Pacific, and Arabian Sea.

We next present a summary of the extinction risk analysis and our listing determinations for each DPS. Additional detail may be found in the proposed rule.

West Indies DPS

The comments that we received on the West Indies DPS and additional information that became available since the publication of the proposed rule did not change our conclusion that this DPS does not warrant listing. However, as previously explained in a response to Comment 31, we determined that we should not rely on the MONAH abundance estimate (12,312 individuals) because the underlying data are not final, and they are not verifiable. We incorporate herein all other information on the West Indies DPS provided in the status review report and proposed rule (80 FR 22304; April 21, 2015). The following represents a brief summary of that information.

The West Indies DPS consists of the humpback whales whose breeding range includes the Atlantic margin of the Antilles from Cuba to northern Venezuela, and whose feeding range primarily includes the Gulf of Maine, eastern Canada, and western Greenland. While many West Indies whales also use feeding grounds in the central (Iceland) and eastern (Norway) North Atlantic, many whales from these feeding areas appear to winter in another unknown location.

Abundance and Trends for the West Indies DPS

The most reliable abundance estimates for this DPS are from the 1992–1993 YONAH survey on the breeding grounds in the Caribbean: 10,400 (95 percent CI, 8,000–13,600) individuals according to genetic ID data; and 10,752 (CV = 6.8 percent) individuals according to photo ID data (Stevick *et al.* 2003). Stevick *et al.* (2003) estimated the average annual growth rate at 3.1 percent (SE = 1.2 percent) for the period 1979–1993, but

because of concerns that the same data may have been used twice and potentially lead to an over-estimate of the precision of the trend estimate, they re-calculated the trend analysis using only one set of abundance estimates for each time period. The revised trend for this time period was still 3.1 percent (SE = 1.2 percent).

In contrast, estimates from feeding areas in the North Atlantic indicate strongly increasing trends in Iceland (1979–1988 and 1987–2007), Greenland (1984–2007), and the Gulf of Maine (1979–1991) (Bettridge *et al.* 2015). There is some indication that the increase rate in the Gulf of Maine has slowed in more recent years (6.5 percent from 1979 to 1991 (Barlow and Clapham 1997), 0–4 percent from 1992–2000 (Clapham *et al.* 2003a)). It is not clear why the trends appear so different between the feeding and breeding grounds. A possible explanation would be that the Silver Bank breeding ground has reached carrying capacity, and that an increasing number and percentage of whales are using other parts of the West Indies as breeding areas.

Section 4(a)(1) Factors for the West Indies DPS

The best documented unusual mortality event (UME) for humpback whales attributable to disease occurred in 1987–1988 in the North Atlantic, when at least 14 mackerel-feeding humpback whales died of saxitoxin poisoning (a neurotoxin produced by some dinoflagellate and cyanobacteria species) in Cape Cod, Massachusetts (Geraci *et al.* 1989). The whales subsequently stranded or were recovered in the vicinity of Cape Cod Bay and Nantucket Sound, and it is highly likely that other unrecorded mortalities occurred during this event. Such events have been linked to increased coastal runoff. During the first 6 months of 1990, seven dead juvenile (7.6 to 9.1 m long) humpback whales stranded between North Carolina and New Jersey. The significance of these strandings is unknown.

Additional UMEs occurred in the Gulf of Maine in 2003 (12–15 dead humpback whales on Georges Bank), 2005 (7 in New England), and 2006–2007 (minimum of 21 whales), with no cause yet determined but HABs potentially implicated (Gulland 2006; Waring *et al.* 2009). In the Gulf of Maine in 2003, a few sampled individuals among 16 humpback whale carcasses were found with saxitoxin and domoic acid (produced by certain species of diatoms, a different type of algae (Gulland 2006)). The BRT discussed the possible levels of unobserved mortality

that may be resulting from HABs and determined that, as the West Indies population had been affected by HABs in the past, it is likely experiencing a higher level of HAB-related mortality than is detected.

The largest potential threats to the West Indies DPS are entanglement in fishing gear and ship strikes (vessel collisions); these occur primarily in the feeding grounds, with some documented in the mid-Atlantic U.S. migratory grounds. There are no reliable estimates of entanglement or ship-strike mortalities for most of the North Atlantic. During the period 2003–2007, the minimum annual rate of human-caused mortality and serious injury (from both entanglements and ship collisions) for the Gulf of Maine feeding population averaged 4.4 animals per year (Waring *et al.* 2009). Off Newfoundland, an average of 50 humpback whale entanglements (range 26–66) was reported annually between 1979 and 1988 (Lien *et al.* 1988); another 84 were reported entangled in either Newfoundland or Labrador from 2000–2006 (Waring *et al.* 2009). Not all entanglements result in mortality (Waring *et al.* 2009). However, all of these figures are likely to be underestimates, as not all entanglements are observed. A study of entanglement-related scarring on the caudal peduncles of 134 individual humpback whales in the Gulf of Maine suggested that between 48 percent and 65 percent had experienced entanglements (Robbins and Mattila 2001).

Ship strike injuries were identified for 8 percent (10 of 123) of dead stranded humpback whales between 1975–1996 along the U.S. East Coast, 25 percent (9 of 36) of which were along mid-Atlantic and southeast states (south of the Gulf of Maine) between Delaware Bay and Ocracoke Island North Carolina (Wiley and Asmus 1995). Ship strikes made up 4 percent of observed humpback whale mortalities between 2001–2005 (Nelson *et al.* 2007) and 7 percent between 2005–2009 (Henry *et al.* 2011) along the U.S. East Coast, and the Canadian Maritimes. Among strandings along the mid- and southeast U.S. coastline during 1975–1996, 80 percent (8 of 10) of struck whales were considered to be less than 3 years old based on their length (Laist *et al.* 2001). This suggests that young whales may be disproportionately affected. However, those waters may be used preferentially by young animals (Swingle *et al.* 1993; Barco *et al.* 2002). It should be noted that ship strikes do not always produce external injuries and may therefore be underestimated among strandings that are not examined for internal injuries.

HABs, vessel collisions, and fishing gear entanglements are likely to moderately reduce the population size and/or the growth rate of the West Indies DPS. All other threats, with the exception of climate change (unknown severity), are considered likely to have no or minor impact on population size or the growth rate of this DPS.

Extinction Risk Analysis for the West Indies DPS

The BRT distributed 82 percent of its likelihood points for the West Indies DPS to the “not at risk of extinction” category and 17 percent to the “moderate risk of extinction” category. Given the large population size (10,400–10,752, more than five times the population size that the BRT considered sufficient to demonstrate that a population was not at risk due to low abundance alone), moderately increasing trend, and the high percentage of likelihood points allocated to the “not at risk of extinction” category, we conclude that, despite the moderate threats of HABs, vessel collisions, and fishing gear entanglements and unknown severity of climate change as a threat, the West Indies DPS is not in danger of extinction throughout its range or likely to become so within the foreseeable future throughout its range.

Next, per the Final SPOIR Policy, because we have determined that the DPS is neither endangered nor threatened based on a rangewide evaluation, we need to determine whether the West Indies DPS is in danger of extinction or likely to become so within the foreseeable future in a significant portion of its range. The BRT noted that there are some regional differences in threats for the West Indies DPS, but it was unable to identify any portions of the DPS that both faced particularly high threats and were so significant to the viability of the DPS as a whole that their loss would result in the remainder of the DPS being at high risk of extinction. We agree with the BRT’s conclusions and conclude that there are no portions of the DPS that face particularly high threats and are so significant to the viability of the DPS that, if lost, the remainder of the DPS would be in danger of extinction or likely to become so within the foreseeable future. Therefore, we conclude that the DPS is not in danger of extinction in a significant portion of its range and is not likely to become so within the foreseeable future.

Conservation Efforts for the West Indies DPS

While there are many ongoing conservation efforts that apply to the West Indies DPS, we do not need to further evaluate them in the context of this decision because they would serve only to further reduce the likely impact of threats.

Listing Determination for the West Indies DPS

For the above reasons, we finalize our proposed determination that the West Indies DPS of the humpback whale does not warrant listing as threatened or endangered under the ESA.

Cape Verde Islands/Northwest Africa DPS

The comments that we received on the Cape Verde Islands/Northwest Africa DPS and additional information that became available since the publication of the proposed rule did not change our conclusions regarding listing this DPS as endangered. Therefore, we incorporate herein all information on the Cape Verde Islands/Northwest Africa DPS provided in the status review report and proposed rule (80 FR 22304; April 21, 2015). The following represents a brief summary of that information.

This DPS consists of the humpback whales whose breeding range includes waters surrounding the Cape Verde Islands as well as an undetermined breeding area in the eastern tropical Atlantic which may be more geographically diffuse than the West Indies breeding ground. Its feeding range includes primarily Iceland and Norway. The population of whales breeding in the Cape Verde Islands, plus this unknown area, likely represent the remnants of a historically larger population breeding around the Cape Verde Islands and northwestern Africa (Reeves *et al.* 2002). In our proposed rule, we stated that there is no known overlap in breeding range with North Atlantic humpback whales that breed in the West Indies, although overlap occurs among feeding aggregations in Iceland and Norway from different breeding populations. However, recent information provides some evidence to indicate there may be two different breeding areas in the Caribbean, with different breeding times, and the whales breeding in the southeast Caribbean seem to be more prevalent in the Northeast Atlantic feeding grounds (Stevick *et al.* 2015). Some humpback whales from the Cape Verde Islands breeding grounds have been re-sighted in the southeast Caribbean (Guadeloupe)

(Stevick *et al.* 2016), suggesting the southeast Caribbean may be part of the Cape Verde Islands/Northwest Africa DPS' breeding ground, though this has not been confirmed.

Abundance and Trends for the Cape Verde Islands/Northwest Africa DPS

The population abundance and population trend for the Cape Verde Islands/Northwest Africa DPS are unknown. The Cape Verde Islands photo-identification catalog contains only 88 individuals from a 20-year period (1990–2009) (Wenzel *et al.* 2010). Of those 88 individuals, 20 (22.7 percent) were seen more than once, 15 were seen in 2 years, 4 were seen in 3 years, and 1 was seen in 4 years. The relative high re-sighting rate suggests a small population size with high fidelity to this breeding area, although the DPS may also contain other, as yet unknown, breeding areas (Wenzel *et al.* 2010).

Little is known about the total size of the Cape Verde Islands/Northwest Africa DPS, and its trend is unknown.

Section 4(a)(1) Factors for the Cape Verde Islands/Northwest Africa DPS

For the Cape Verde Islands/Northwest Africa DPS, the threats of HABs, disease, parasites, vessel collisions, fishing gear entanglements and climate change are unknown. All other threats to this DPS are considered likely to have no or minor impact on the population size and/or growth rate.

Extinction Risk Analysis for the Cape Verde Islands/Northwest Africa DPS

The BRT distributed 32 percent of its likelihood points for this DPS to the “high risk of extinction” category, 43 percent to the “moderate risk of extinction” category, and 25 percent to the “not at risk of extinction” category. Unlike for the other DPSs we have identified, we have no reason to believe that this DPS' status has improved since humpback whales within the range of this DPS were listed as endangered. There is a high likelihood that the abundance of this DPS is low (much lower than the BRT's threshold of 500 individuals for a population that would be considered at high risk from low abundance, and potentially below the threshold of 100 individuals for a population that would be considered at extremely high risk). There is also considerable uncertainty regarding the risks of extinction of this DPS due to a general lack of data as reflected in the wide spread of BRT points. Therefore, we conclude that this DPS is in danger of extinction throughout its range.

Conservation Efforts for the Cape Verde Islands/Northwest Africa DPS

Other than protections provided to humpback whales by the IWC and CITES, we are not aware of any ongoing conservation efforts for this DPS. The IWC has programs that provide protection to humpback whales from all DPSs. The IWC's Conservation Committee was established to consider a number of emerging cetacean conservation issues, and its role continues to evolve. The Conservation Committee collaborates closely with the IWC's Scientific Committee to understand and address a range of threats to whales and their habitats including whale watching, ship strikes, and marine debris. In addition, the humpback whale is currently an Appendix I species under CITES, which restricts international trade and provides an additional layer of protection against resumed whaling.

Listing Determination for the Cape Verde Islands/Northwest Africa DPS

While the IWC and CITES conservation efforts are likely to benefit all humpback whales, they are not sufficient to change the extinction risk of this DPS. For the above reasons, we finalize our proposal to list the Cape Verde Islands/Northwest Africa DPS of the humpback whale as an endangered species under the ESA.

Western North Pacific DPS

After reviewing the comments we received on the Western North Pacific DPS and reconsidering the information in the proposed rule, we have reached a different conclusion regarding the appropriate listing status for this DPS. Specifically, though we proposed to list the DPS as a “threatened species,” we will finalize the listing as an “endangered species.” Additional information became available since the publication of the proposed rule, and some information had not been cited in the status review report (Darling and Mori 1992; Kato unpublished; Okamoto 2013; Wade *et al.* 2016), but this information did not influence our conclusion. We incorporate herein all information on the Western North Pacific DPS provided in the status review report and proposed rule (80 FR 22303; April 21, 2015). The following represents a brief summary of that information.

The Western North Pacific DPS consists of the whales breeding/wintering in the area of Okinawa and the Philippines, another unidentified breeding area (inferred from sightings of whales in the Aleutian Islands area

feeding grounds), and those transiting the Ogasawara area. These whales migrate to feeding grounds in the northern Pacific, primarily off the Russian coast.

Abundance and Trends for the Western North Pacific DPS

The abundance of humpback whales in the Western North Pacific was estimated to be around 1,000, based on the photo-identification, capture-recapture analyses from the years 2004–2006 by the SPLASH program (Calambokidis *et al.* 2008) from two primary sampling regions, Okinawa and Ogasawara. The growth rate for humpback whales in the Western North Pacific is estimated to be 6.9 percent (Calambokidis *et al.* 2008) between 1991–93 and 2004–2006, although this could be biased upwards by the comparison of earlier estimates based on photo-identification records from Ogasawara and Okinawa with current estimates based on the more extensive records collected in Ogasawara, Okinawa, and the Philippines during the SPLASH program. However, the overall number of whales identified in the Philippines was small relative to both Okinawa and Ogasawara, so any bias may not be large. Given the possible bias in the rate of increase and the fact that it represents a combination of two populations that the BRT had proposed as separate DPSs (Okinawa/Philippines and Second West Pacific), it is not possible to make a definitive statement about the rate of increase of the Western North Pacific DPS.

More recently, in advance of the June 2016 IWC Scientific Committee meeting in Slovenia, Wade *et al.* (2016) submitted a paper in which they used an integrated spatial multi-strata mark-recapture model to simultaneously estimate abundance for all winter and summer areas sampled during the SPLASH project in the North Pacific. We believe the multi-strata estimates are likely less subject to bias from capture heterogeneity, which has been shown to lead to substantial biases, and they use all the data (from both summer and winter), rather than estimating abundance from just part of the data. Given this, it seems reasonable to conclude that the multi-strata estimates calculated here are more accurate than the within-season Chapman-Peterson estimates. From these analyses, the multi-strata estimate for the Western North Pacific DPS is 1,059 (CV = 0.08). This is not significantly different from the earlier Calambokidis *et al.* (2008) estimate of about 1,000. Overall recovery seems to be slower than in the Central and Eastern North Pacific.

Humpback whales in the Western North Pacific remain rare in some parts of their former range, such as the coastal waters of Korea, and have shown no signs of a recovery in those locations (Gregs 2000; Gregs *et al.* 2000).

The abundance of the Western North Pacific DPS is 1,059 individuals, with unknown trend.

Section 4(a)(1) Factors for the Western North Pacific DPS

The BRT noted that the Sea of Okhotsk currently has a high level of energy exploration and development, and these activities are likely to expand with little regulation or oversight. The BRT determined that the threat posed by energy exploration to the Okinawa/Philippines portion of the Western North Pacific DPS is medium, but noted that there was low certainty regarding this because specifics of feeding location (on or off the shelf) are unavailable. If feeding activity occurs on the shelf in the Sea of Okhotsk, energy exploration in this area could impact what is likely one of the most depleted subunits of humpback whales. The threat posed by energy exploration to the 2nd West Pacific portion of the Western North Pacific DPS was unknown.

The BRT discussed the high level of fishing pressure in the region occupied by the Okinawa/Philippines portion of the Western North Pacific DPS (a small humpback whale population). Although specific information on prey abundance and competition between whales and fisheries is not known in this area, overlap of whales and fisheries has been indicated by the bycatch of humpback whales in set-nets in the area. The BRT determined that competition with fisheries is a medium threat for this DPS (Bettridge *et al.* 2015 at 56), given the high level of fishing and small humpback whale population.

The likely range of the Western North Pacific DPS includes some of the world's largest centers of human activities and shipping. Although reporting of ship strikes is requested in the Annual Progress reports to the IWC, reporting by Japan and Korea is likely to be poor (Bettridge *et al.* 2015 at 94). A reasonable assumption, although not established, is that shipping traffic will increase as global commerce increases; thus, a reasonable assumption is that the level of the threat will increase. The threat of ship strikes was therefore considered to be medium for the Okinawa/Philippines portion of the Western North Pacific DPS and unknown for the 2nd West Pacific DPS portion.

Whales along the coast of Japan and Korea are at risk of entanglement in fisheries gear and related mortality, although overall rates of net and rope scarring are similar to other regions of the North Pacific (Brownell *et al.* 2000). The reported number of humpback whale entanglements/deaths has increased for Japan since 2001 as a result of improved reporting, although the actual number of entanglements may be underrepresented in both Japan and Korea (Baker *et al.* 2006). The BRT concluded that the threat of fishing gear entanglement to this DPS was high for the Okinawa/Philippines portion of this DPS and unknown for the 2nd West Pacific portion of the DPS (Bettridge *et al.* 2015, Table 9). The level of confidence in understanding the minimum magnitude of this threat is medium for the Okinawa/Philippines portion of this DPS and low for the 2nd West Pacific portion of this DPS, given the unknown wintering grounds and primary migratory corridors.

To summarize, all threats are considered likely to have no or minor impact on population size and/or the growth rate or are unknown, with the following exceptions: Energy development, competition with fisheries (Bettridge *et al.* 2015 at 56), whaling, and vessel collisions are considered likely to moderately reduce the population size or the growth rate of the Okinawa/Philippines portion of this DPS; and fishing gear entanglement is likely to seriously reduce the population size or the growth rate of the Okinawa/Philippines portion of this DPS (Bettridge *et al.* 2015, Table 9). The levels of these threats are higher than in most other regions of the world and are expected to increase, rather than decline (Bettridge *et al.* 2015 at 94). Also, the threats of underwater noise and ship strikes to this portion of the DPS are expected to increase as shipping traffic increases (Bettridge *et al.* 2015 at 94). In general, there is great uncertainty about the threats facing the 2nd West Pacific portion of this DPS.

Extinction Risk Analysis for the Western North Pacific DPS

The BRT distributed 36 percent of its likelihood points for the Okinawa/Philippines portion of the DPS in the "high risk of extinction" category and 44 percent in the "moderate risk of extinction" category, with only 21 percent of the points in the "not at risk of extinction" category. The distribution of likelihood points among the risk categories indicates uncertainty. There was also considerable uncertainty regarding the risk of extinction of the 2nd West Pacific portion of this DPS,

with 14 percent of the points in the "high risk of extinction" category, 47 percent in the "moderate risk of extinction" category, and 39 percent in the "not at risk of extinction" category. The majority of likelihood points were in the "moderate risk of extinction" category for both portions of the Western North Pacific DPS. Given the relatively low population size of the Western North Pacific DPS (1,059, about half the population size that the BRT considered sufficient to demonstrate that a population was not at risk due to low abundance alone), the moderate reduction of its population size or growth rate likely from energy development, competition with fisheries, whaling, and vessel collisions, the serious reduction of its population size or growth rate likely from fishing gear entanglements, the fact that the majority of the BRT's likelihood points were in the "moderate risk of extinction" category for both portions of the DPS, and the considerable uncertainty associated with abundance and trend estimates, we concluded in our proposed rule that the Western North Pacific DPS was likely to become endangered throughout its range within the foreseeable future.

However, the abundance estimate of 1,059 for this DPS is still relatively low and below the level that would signify that the population is not at risk due to low abundance alone. This DPS faces a significant number of moderate threats and one serious threat (fishing gear entanglement) that are expected to increase. The BRT members expressed a considerable degree of uncertainty with regard to both portions of this DPS in their allocation of likelihood points among different extinction risk categories. Further, we note that this DPS includes members of two different populations that the BRT considered to be two different DPSs, one of which has an unknown breeding area; thus, they are likely to have different demographic characteristics. As discussed above under the *Status Review* section, the BRT considered abundance and trend information carefully in evaluating extinction risk, but abundance was not the sole criterion for evaluating extinction risk. The thresholds described by the BRT were only general guidelines, and we must consider them in light of the threats the DPS faces.

We have reconsidered our original listing determination for this DPS in light of the relatively low abundance estimate, the threats that continue to operate on the population, and the considerable uncertainty reflected in the distribution of BRT votes. Under these circumstances, for this particular DPS,

the risk to the species is compounded by the lack of information on the population abundance trend. We conclude that the Western North Pacific DPS is in danger of extinction throughout its range.

Conservation Efforts for the Western North Pacific DPS

Currently, NMFS approach regulations exist in Alaska to protect humpback whales from vessels by prohibiting vessels from approaching within 100 yards of a humpback whale (50 CFR 224.103(b)). This regulation also requires vessels to maintain a slow, safe speed near humpback whales, and prohibits vessels from intercepting oncoming whales (a practice also known as “leap-frogging”). In a separate direct final rule published elsewhere in today’s issue of the **Federal Register**, this approach regulation is also being set forth in MMPA regulations (50 CFR part 216) because the Alaska regulation was adopted under authority of both the MMPA and the ESA but was inadvertently not codified under the MMPA regulations. It is also being added to 50 CFR 223.214 to extend these ESA protections to threatened humpback whales in Alaskan waters (the Mexico DPS).

In addition, Whale SENSE, a voluntary program promoting responsible viewing to minimize disturbance and protect whales from harassment, currently exists in Alaska.

IWC and CITES conservation efforts apply to this DPS (please see *Conservation Efforts for the Cape Verde Islands/Northwest Africa DPS*).

Listing Determination for the Western North Pacific DPS

While these conservation efforts are likely to benefit this DPS, they are not sufficient to reduce its extinction risk. For the above reasons, we list the Western North Pacific DPS of the humpback whale as an endangered species under the ESA.

Hawaii DPS

The comments that we received on the Hawaii DPS and additional information that became available since the publication of the proposed rule or that was not cited in the status review report (Darling and Morowitz 1986) did not change our conclusion that this DPS does not warrant listing. Therefore, we incorporate herein all information on the Hawaii DPS provided in the status review report and proposed rule (80 FR 22304; April 21, 2015). The following represents a brief summary of that information.

The Hawaii DPS consists of humpback whales that breed in Hawaii and feed in the east Bering Sea, Gulf of Alaska, and northern British Columbia.

Abundance and Trends for the Hawaii DPS

Calambokidis *et al.* (2008) estimated the size of the humpback whale populations frequenting the Hawaii breeding area at 10,000 individuals and, assuming that proportions from the Barlow *et al.* (2011) estimate of 21,808 individuals in breeding areas in the North Pacific are likely to be similar to those estimated by Calambokidis *et al.* (2008), the population size frequenting the Hawaii breeding area would have increased to about 12,000 individuals. The most recent growth rate for this DPS was estimated between 5.5 percent and 6.0 percent (Calambokidis *et al.* 2008).

More recently, in advance of the June 2016 IWC Scientific Committee meeting in Slovenia, Wade *et al.* (2016) submitted a paper in which they used an integrated spatial multi-strata mark-recapture model to simultaneously estimate abundance for all winter and summer areas sampled during the SPLASH project in the North Pacific. We believe the multi-strata estimates are likely less subject to bias from capture heterogeneity, which has been shown to lead to substantial biases, and they use all the data (from both summer and winter), rather than estimating abundance from just part of the data. Given this, it seems reasonable to conclude that the multi-strata estimates calculated here are more accurate than the within-season Chapman-Peterson estimates. The multi-strata estimate for the Hawaii DPS is 11,398 (CV = 0.04), which is higher than the Calambokidis *et al.* (2008) estimate of 10,000 and just a little less than the estimate based on Barlow *et al.* (2011).

The abundance estimate for the Hawaii DPS is 11,398 individuals and its population trend estimate is 5.5–6 percent.

Section 4(a)(1) Factors for the Hawaii DPS

Studies of characteristic wounds and scarring indicate that this DPS experiences a high rate of interaction with fishing gear (20–71 percent), with the highest rates recorded in Southeast Alaska and Northern British Columbia (Neilson *et al.* 2009). However, these rates represent only survivors. Fatal entanglements of humpback whales in fishing gear have been reported in all areas, but, given the isolated nature of much of their range, observed fatalities are almost certainly under-reported and should be considered minimum

estimates. Studies in another humpback whale feeding ground, which has similar levels of scarring, estimate that the actual annual mortality rate from entanglement may be as high as 3.7 percent (Angliss and Outlaw 2008). There is a high level of certainty with regard to this information. The threat is considered to be medium.

Threats generally are considered likely to have no or minor impact on population size and/or the growth rate of the Hawaii DPS or are unknown, with the following exception: Fishing gear entanglements are considered likely to moderately reduce the population size or the growth rate of the Hawaii DPS.

Extinction Risk Analysis for the Hawaii DPS

The BRT distributed 98 percent of its likelihood points for the Hawaii DPS to the “not at risk of extinction” category. Given the large population size (11,398, more than five times the population size that the BRT considered sufficient to demonstrate that a population was not at risk due to low abundance alone), population growth rate of 5.5–6 percent, and high percentage of likelihood points allocated to the “not at risk of extinction” category for the Hawaii DPS, we conclude that, despite the moderate threat of fishing gear entanglements, the Hawaii DPS is not in danger of extinction throughout its range and not likely to become so within the foreseeable future.

Next, per the Final SPOIR Policy, we need to determine whether the Hawaii DPS is presently in danger of extinction or likely to become so within the foreseeable future in a significant portion of its range, because we have determined that the DPS is neither endangered nor threatened based on a rangewide evaluation. The BRT noted that there are some regional differences in threats for the Hawaii DPS, but it was unable to identify any portion of the DPS that both faced particularly high threats and was so significant to the viability of the DPS as a whole that its loss would result in the remainder of the DPS being at high risk of extinction. We agree, and we conclude that no portion of the Hawaii DPS faces particularly high threats and is so significant to the viability of the DPS that, if lost, the remainder of the DPS would be in danger of extinction, or likely to become so within the foreseeable future. Therefore, we conclude that the Hawaii DPS is not in danger of extinction in a significant portion of its range and is not likely to become so within the foreseeable future.

Conservation Efforts for the Hawaii DPS

While there are many ongoing conservation efforts that apply to the Hawaii DPS, including IWC and CITES conservation efforts (please see *Conservation Efforts for the Cape Verde Islands/Northwest Africa DPS*), we do not need to further evaluate them in the context of this decision because they would serve only to further reduce the likely impact of threats.

Listing Determination for the Hawaii DPS

For the above reasons, we finalize our proposed determination that the Hawaii DPS of the humpback whale does not warrant listing as a threatened or an endangered species under the ESA.

Mexico DPS

After reviewing the comments we received on the Mexico DPS, reconsidering the information in the proposed rule, and reviewing Wade *et al.* (2016), we have reached a different conclusion regarding the appropriate listing status for this DPS. Specifically, though we did not propose to list the DPS as a “threatened species” or an “endangered species,” we will finalize the listing status as a “threatened species.” We incorporate herein all information on the Mexico DPS provided in the status review report and proposed rule (80 FR 22303; April 21, 2015). The following represents a brief summary of that information.

The Mexico DPS consists of whales that breed along the Pacific coast of mainland Mexico, and the Revillagigedos Islands and transit through the Baja California Peninsula coast. The Mexico DPS feeds across a broad geographic range from California to the Aleutian Islands, with concentrations in California-Oregon, northern Washington-southern British Columbia, northern and western Gulf of Alaska and Bering Sea feeding grounds.

Abundance and Trends for the Mexico DPS

The preliminary estimate of abundance of the Mexico DPS that informed our proposed rule was 6,000–7,000 from the SPLASH project (Calambokidis *et al.* 2008), or higher (Barlow *et al.* 2011). There were no estimates of precision associated with that estimate, so there was considerable uncertainty about the actual population size. However, the BRT was confident that the population was likely to be much greater than 2,000 in total size (above the BRT threshold for a population to be not at risk due to low abundance). Estimates of population growth trends do not exist for the

Mexico DPS by itself. Given evidence of population growth throughout most of the primary feeding areas of the Mexico DPS (California/Oregon (Calambokidis *et al.* 2008), Gulf of Alaska from the Shumagins to Kodiak (Zerbini *et al.* 2006a)), it was considered unlikely this DPS was declining, but the BRT noted that a reliable, quantitative estimate of the population growth rate for this DPS was not available.

More recently, in advance of the June 2016 IWC Scientific Committee meeting in Slovenia, Wade *et al.* (2016) submitted a paper in which they used an integrated spatial multi-strata mark-recapture model to simultaneously estimate abundance for all winter and summer areas sampled during the SPLASH project in the North Pacific. We believe the multi-strata estimates are likely less subject to bias from capture heterogeneity, which has been shown to lead to substantial biases, and they use all the data (from both summer and winter), rather than estimating abundance from just part of the data. Given this, it seems reasonable to conclude that the multi-strata estimates calculated here are more accurate than the within-season Chapman-Peterson estimates. The multi-strata estimate for the Mexico DPS is 3,264 (CV = 0.06). This is a significantly lower abundance estimate than the Calambokidis *et al.* (2008) estimate, and with a coefficient of variation of 0.06, it is more reliable.

The abundance estimate for the Mexico DPS is 3,264 individuals, and the population trend is unknown.

Section 4(a)(1) Factors for the Mexico DPS

Of the 17 records of stranded whales in Washington, Oregon, and California in the NMFS stranding database, three involved fishery interactions, two were attributed to vessel strikes, and in five cases the cause of death could not be determined (Carretta *et al.* 2010). Specifically, between 2004 and 2008, 14 humpback whales were reported seriously injured in commercial fisheries offshore of California and two were reported dead. The proportion of these that represent the Mexican breeding population is unknown. Fishing gear involved included gillnet, pot, and trap gear (Carretta *et al.* 2010). Between 2004 and 2008, there were two humpback whale mortalities resulting from ship strikes reported and eight ship strike attributed injuries for unidentified whales in the California-Oregon-Washington stock as defined by NMFS, and some of these may have been humpback whales (Carretta *et al.* 2010). The Mexico DPS is known to also use Alaska and British Columbia waters

for feeding (Calambokidis *et al.* 2008). Numerous collisions have been reported from Alaska and British Columbia (where shipping traffic has increased 200 percent in 20 years) (Neilson *et al.* 2012). According to a summary of Alaska ship strike records, an average of 5 strikes a year was reported from 1978–2011 (Neilson *et al.* 2012). However, effects in Alaska will likely be mitigated by the vessel approach regulations discussed above (66 FR 29502; May 31, 2001) and by NMFS outreach to the cruise ship industry to share information about whale siting locations.

Since the publication of the proposed rule, we have updated information on the number of entanglements off the coasts of California, Oregon, and Washington in 2015: 31 confirmed humpback whales of 48 confirmed whale entanglements (NMFS 2015). This represents a higher rate of fishing gear entanglements than was considered by the BRT and presented in the proposed rule, but the reasons for the observed increase is not clear. These new reports did not influence our conclusions on the status of the Mexico DPS. That is, our final listing determination takes into account that fishing gear entanglement poses at least a moderate risk to this DPS but does not attempt to speculate as to whether or why entanglement may be increasing, as the data are inconclusive (please see our response to Comment 21).

All threats are considered likely to have no or minor impact on population size and/or the growth rate of this DPS or are unknown, with the following exception: Fishing gear entanglements are still considered likely to moderately reduce the population size or the growth rate of the Mexico DPS.

Extinction Risk Analysis for the Mexico DPS

The BRT distributed 92 percent of its likelihood points for the Mexico DPS to the “not at risk of extinction” category. At the time we made our proposed determinations, given the large population size of 6,000–7,000, qualitatively described trend (which, based on data about growth in the feeding areas off the west coast of the United States could be interpreted to be moderately increasing), and high percentage of likelihood points allocated to the “not at risk of extinction” category for the Mexico DPS, we concluded that, despite the moderate threat of fishing gear entanglements, the Mexico DPS was not in danger of extinction throughout its range or likely to become so within the foreseeable future.

The updated abundance estimate of 3,264 (Wade *et al.* 2016), while still higher than 2,000 (the BRT's threshold between "not likely to be at risk of extinction due to low abundance alone" and "increasing risk from factors associated with low abundance"), is significantly lower than the previous estimate of 6,000–7,000, though these estimates were derived from the same data. The BRT considered that this DPS was unlikely to be declining because of the population growth throughout most of its feeding areas, in California/Oregon and the Gulf of Alaska, but we do not have specific evidence that this DPS is actually increasing in overall population size.

We have reconsidered our original listing determination for this DPS in light of the revised abundance estimate that is significantly lower than we previously thought (that is only about 50 percent greater than the size that the BRT considered sufficient to demonstrate that a population was not at risk due to low abundance alone) and the presence of a known threat of moderate intensity. In these circumstances, for this particular DPS, the risk to the species is compounded by the absence of firm data to establish the population abundance trend. As discussed above under the *Status Review* section, the BRT considered abundance and trend information carefully in evaluating extinction risk, but abundance was not the sole criterion for evaluating extinction risk. The thresholds described by the BRT were only general guidelines, and we must consider them in light of the considerations we just outlined. Fishing gear entanglement is likely to moderately reduce the population size or growth rate of this DPS. In this case, we do not agree with the BRT's conclusions on the extinction risk for the Mexico DPS. We conclude that the Mexico DPS is likely to become endangered throughout its range within the foreseeable future, *i.e.*, that it is a threatened species.

Conservation Efforts for the Mexico DPS

Mexican Standard 131 establishes guidelines and specifications for whale watching, including avoidance distances and speeds, limits on the number of boats, and protection from noise (echo sounders are prohibited). Mexico has also established protected natural areas that contribute to the conservation and sustainable management of humpback whales. These include Natural Heritage whale sanctuaries (Biosphere Reserve "El Vizcaíno" and National Marine Park "Cabo Pulmo" in Baja California Sur)

and other protected areas (National Park "Bahía de Loreto," Archipelago "Islas Mariás," National Park "Isla Isabel," and National Park "Islas Marietas" in Nayarit).

The Greater Farallones National Marine Sanctuary has whale approach guidelines that provide some protection to individuals from the Mexico DPS while they are in their feeding areas.

In addition, Whale SENSE, a voluntary program promoting responsible viewing to minimize disturbance and protect whales from harassment is expected to be adopted in California in the near future.

In Canada, the "North Pacific" population of humpback whales (*i.e.*, the whales that feed along the entire length of the west coast of British Columbia from Washington to Alaska, including in inshore coastal inlets and offshore waters) is listed as threatened under the SARA (http://www.sararegistry.gc.ca/approach/act/default_e.cfm), so it is illegal to kill, harass, capture or harm members of this population in any way. Because some individuals from the Mexico DPS feed in southern British Columbia, the SARA listing should provide some benefits to individuals while feeding there. Critical habitat has been identified under Canadian law to the extent possible off Langara Island, southeast Moresby Island, Gil Island and southwest Vancouver Island. These areas support feeding and foraging, and resting and socializing, and they are protected from destruction. A recovery strategy under SARA was published in 2013 (Fisheries and Oceans Canada 2013). The two goals of this recovery strategy are: In the short term, to maintain, at a minimum, the current abundance of humpback whales in British Columbia (using best estimate of 2,145 animals (95 percent CI = 1,970–2,331 as presented in Ford *et al.* 2009)); and, in the longer-term, to observe continued growth of the population and expansion into suitable habitats throughout British Columbia. To meet these goals, threat and population monitoring, research, management, protection and enforcement, stewardship, outreach and education activities were recommended. Based on the need to assess population-level effects of threats and develop appropriate mitigation measures, activities to monitor and assess threats were given higher priority. An action plan to implement the Canadian recovery strategy is expected to be completed within five years of final posting of the recovery strategy on the SAR Public Registry.

IWC and CITES conservation efforts apply to this DPS (please see

Conservation Efforts for the Cape Verde Islands/Northwest Africa DPS).

Listing Determination for the Mexico DPS

While these conservation efforts are likely to benefit this DPS, they are not sufficient to change its extinction risk. For the above reasons, we list the Mexico DPS of the humpback whale as a threatened species under the ESA.

Central America DPS

After reviewing the comments we received on the Central America DPS and reconsidering the information in the proposed rule, we have reached a different conclusion regarding the appropriate listing status for this DPS. Specifically, though we proposed to list the DPS as a "threatened species," we will finalize the listing as an "endangered species." We incorporate herein all information on the Central America DPS provided in the status review report and proposed rule (80 FR 22303; April 21, 2015). The following represents a brief summary of that information.

The Central America DPS is composed of whales that breed along the Pacific coast of Costa Rica, Panama, Guatemala, El Salvador, Honduras and Nicaragua. Whales from this breeding ground feed almost exclusively offshore of California and Oregon in the eastern Pacific, with only a few individuals identified at the northern Washington-southern British Columbia feeding grounds.

Abundance and Trends for the Central America DPS

A preliminary estimate of abundance of the Central America population was ~500 from the SPLASH project (Calambokidis *et al.* 2008), or ~600 based on the reanalysis by Barlow *et al.* (2011). There were no estimates of precision associated with these estimates, so there was considerable uncertainty about the actual population size. Therefore, the actual population size could have been somewhat larger or smaller than 500–600, but the BRT considered it very unlikely to be as large as 2,000 or more. The size of this DPS was relatively low compared to most other North Pacific breeding populations (Calambokidis *et al.* 2008) and within the range of population sizes considered by the BRT to be at risk based on low abundance. The trend of the Central America DPS was considered unknown.

More recently, in advance of the June 2016 IWC Scientific Committee meeting in Slovenia, Wade *et al.* (2016) submitted a paper in which they used

an integrated spatial multi-strata mark-recapture model to simultaneously estimate abundance for all winter and summer areas sampled during the SPLASH project in the North Pacific. We believe the multi-strata estimates are likely less subject to bias from capture heterogeneity, which has been shown to lead to substantial biases, and they use all the data (from both summer and winter), rather than estimating abundance from just part of the data. Given this, it seems reasonable to conclude that the multi-strata estimates calculated here are more accurate than the within-season Chapman-Peterson estimates. The multi-strata estimate for the Central America DPS is 411 (CV = 0.30), which is lower than the Calambokidis *et al.* (2008) preliminary estimate of 500 and the estimate of 600 based on Barlow *et al.* (2011).

The abundance estimate of the Central America DPS is 411 individuals, with unknown population trend.

Section 4(a)(1) Factors for the Central America DPS

Vessel collisions and entanglement in fishing gear pose the greatest threat to this DPS. Especially high levels of large vessel traffic are found in this DPS' range off Panama, southern California, and San Francisco. Several records exist of ships striking humpback whales (Carretta *et al.* 2008; Douglas *et al.* 2008), and it is likely that not all incidents are reported. Two deaths of humpback whales were attributed to ship strikes along the U.S. west coast in 2004–2008 (Carretta *et al.* 2010). Ship strikes are probably underreported (Bettridge *et al.* 2015 at 88), and the level of associated mortality is also likely higher than the observed mortalities. Vessel collisions were determined to pose a medium risk to this DPS, especially given the small population size. Shipping traffic will probably increase as global commerce increases; thus, a reasonable assumption is that the level of ship strikes will also increase.

Between 2004 and 2008, 18 humpback whale entanglements in commercial fishing gear off California, Oregon, and Washington were reported (Carretta *et al.* 2010), although the actual number of entanglements may be underreported. Effective fisheries monitoring and stranding programs exist in California, but are lacking in Central America and much of Mexico. Levels of mortality from entanglement are unknown and do vary by region, but entanglement scarring rates indicate a significant interaction with fishing gear. Since the proposed rule published, we have received updated information on

the number of entanglements off California, Oregon, and Washington in 2015: 31 confirmed humpback whales of 48 confirmed whale entanglements (NMFS 2015). This represents a higher rate of fishing gear entanglements than was considered by the BRT and presented in the proposed rule, but the reasons for the observed increase is not clear. These new reports did not influence our conclusions on the status of the Central America DPS. That is, our final listing determination does not rely on entanglements being at a higher rate than previously believed (please see our response to Comment 21).

All threats are considered likely to have no or minor impact on population size and/or the growth rate or are unknown, with the following exceptions: Vessel collisions and fishing gear entanglements are considered likely to moderately reduce the population size or the growth rate of the Central America DPS.

Extinction Risk Analysis for the Central America DPS

The BRT distributed 28 percent of its likelihood points for the Central America DPS in the “high risk of extinction” category, 56 percent in the “moderate risk of extinction” category, and 16 percent in the “not at risk of extinction” category, but the distribution of votes among the risk categories indicates uncertainty. Even though the BRT used 500 as a guideline between moderate and high risk of extinction (when considering abundance alone), the abundance estimates include a high level of uncertainty. As noted above, the population trend is unknown.

While some may point out that this population feeds in Southern and central California, and those populations are increasing, Mexico DPS whales also feed in this area, and it is likely that Mexico DPS whales represent a higher proportion of the whales in this feeding area because they are more abundant (3,264 individuals in the Mexico DPS vs. 411 individuals in the Central America DPS). Vessel strikes and fishing gear entanglement are still likely to moderately reduce population size or growth rate.

The BRT concluded that this DPS was between “moderate” and “high risk of extinction,” with over a quarter of its likelihood points in the “high risk of extinction” category. Because the Central America DPS shares mtDNA haplotypes with some Southern Hemisphere DPSs, suggesting it may serve as a conduit for gene flow between the North Pacific and Southern Hemisphere, it is unique.

We have reconsidered our original listing determination for this DPS in light of the original low abundance estimate (which was at the dividing line between BRT risk categories), the fact that the moderate threats of vessel collisions and fishing gear entanglement continue to act upon a population that is so small, and the considerable uncertainty reflected in the distribution of BRT votes. Under these circumstances, for this particular DPS, the risk is compounded by the lack of information on the population abundance trend. This conclusion was reached prior to receipt of the updated abundance estimate, but we note that the revised estimate of 411 is below the threshold of 500, under which the BRT considered a DPS to be at high risk of extinction due to abundance alone and thus reinforces our final determination. We conclude that the Central America DPS is in danger of extinction throughout its range.

Conservation Efforts for the Central America DPS

The Greater Farallones National Marine Sanctuary has whale approach guidelines that provide some protection to individuals from the Central America DPS while they are in their feeding areas.

In addition, Whale SENSE, a voluntary program promoting responsible viewing to minimize disturbance and protect whales from harassment is expected to be adopted in California in the near future.

In Canada, the “North Pacific” population of humpback whales (*i.e.*, the whales that feed along the entire length of the west coast of British Columbia from Washington to Alaska, including in inshore coastal inlets and offshore waters) is listed as threatened under the SARA (http://www.sararegistry.gc.ca/approach/act/default_e.cfm), so it is illegal to kill, harass, capture or harm members of this population in any way. Since some individuals from the Central America DPS feed in southern British Columbia, the SARA listing should provide some benefits to individuals while feeding there. Critical habitat has been identified under Canadian law to the extent possible off Langara Island, southeast Moresby Island, Gil Island and southwest Vancouver Island. These areas support feeding and foraging, and resting and socializing, and they are protected from destruction. A recovery strategy under SARA was published in 2013 (Fisheries and Oceans Canada 2013). The two goals of this recovery strategy are: In the short term, to maintain at a minimum, the current

abundance of humpback whales in British Columbia (using best estimate of 2,145 animals (95 percent CI = 1,970–2,331 as presented in Ford *et al.* 2009)); and in the longer-term, to observe continued growth of the population and expansion into suitable habitats throughout British Columbia. To meet these goals, threat and population monitoring, research, management, protection and enforcement, stewardship, outreach and education activities were recommended. Based on the need to assess population-level effects of threats and develop appropriate mitigation measures, activities to monitor and assess threats were given higher priority. An action plan to implement the Canadian recovery strategy is expected to be completed within five years of final posting of the recovery strategy on the SAR Public Registry.

IWC and CITES conservation efforts apply to this DPS (please see *Conservation Efforts for the Cape Verde Islands/Northwest Africa DPS*).

Listing Determination for the Central America DPS

While these conservation efforts are likely to benefit this DPS, they are not sufficient to change its extinction risk. For the above reasons, we list the Central America DPS of the humpback whale as an endangered species under the ESA.

Brazil DPS

The comments that we received on the Brazil DPS and additional information that became available since the publication of the proposed rule did not change our conclusion that this DPS does not warrant listing as a threatened species or an endangered species under the ESA. Therefore, we incorporate herein all information on the Brazil DPS provided in the status review report and proposed rule (80 FR 22304; April 21, 2015). The following represents a brief summary of that information.

This DPS consists of whales that breed between 3° S. and 23° S. in the southwestern Atlantic along the coast of Brazil, with a prominent concentration around the Abrolhos Bank (15°–18° S.), and feed off South Georgia and the South Sandwich Islands.

Abundance and Trends for the Brazil DPS

The most recent abundance estimate for the Brazil DPS comes from aerial surveys conducted off the coast of Brazil in 2002–2005 (Andriolo *et al.* 2010). These surveys covered the continental shelf between 6° S. and 24°30' S. and provided a best estimate of 6,400 whales

(95 percent CI = 5,000–8,000) in 2005. This estimate corresponds to nearly 24 percent of this DPS' pre-exploitation abundance (Zerbini *et al.* 2006d). Nearly 80 percent of the whales are found in the Abrolhos Bank, the eastern tip of the Brazilian continental shelf located between 16° S. and 18° S. (Andriolo *et al.* 2010). The best estimate of population growth rate is 7.4 percent per year (95 percent CI = 0.5–14.7 percent) for the period 1995–1998 (Ward *et al.* 2011).

The abundance estimate for the Brazil DPS is estimated to be 6,400 individuals, with a 7.4 percent per year population growth rate.

Section 4(a)(1) Factors for the Brazil DPS

All threats are considered likely to have no or minor impact on population size and/or the growth rate of the Brazil DPS or are unknown.

Extinction Risk Analysis for the Brazil DPS

The BRT distributed 96 percent of their likelihood points to the “not at risk of extinction” category for the Brazil DPS, thus indicating a high certainty in its voting. None of the factors that may negatively impact the status of the humpback whale appear to have impeded recovery, either alone or cumulatively, for this DPS. Given the large population size (6,400, more than three times the population size that the BRT considered sufficient to demonstrate that a population was not at risk due to low abundance alone) of this DPS, the fact that it is known to be increasing in population size, the high percentage of likelihood points allocated to the “not at risk of extinction” category, and the high certainty associated with these extinction risk estimates, we conclude that the Brazil DPS is not in danger of extinction throughout its range presently and not likely to become so within the foreseeable future.

Next, per the Final SPOIR Policy, we need to determine whether the Brazil DPS is in danger of extinction or likely to become so in the foreseeable future in a significant portion of its range, because we have determined that the DPS is neither endangered nor threatened based on a rangewide evaluation. The BRT was unable to identify a portion of the Brazil DPS that both faced particularly high threats and was so significant to the viability of the DPS as a whole that its loss would result in the remainder of the DPS being at high risk of extinction. We agree, and we also conclude that no portion of this DPS faces particularly high threats and

is so significant to the viability of the remainder of the DPS that, if lost, it would be in danger of extinction, or likely to become so within the foreseeable future. Therefore, we conclude that the Brazil DPS is not threatened or endangered in a significant portion of its range.

Conservation Efforts for the Brazil DPS

Other than protections provided to humpback whales by the IWC and CITES (please see *Conservation Efforts for the Cape Verde Islands/Northwest Africa DPS*), we are not aware of any ongoing conservation efforts for this DPS. Regardless, we do not need to further evaluate conservation efforts in the context of this decision because they would serve only to further reduce the likely impact of threats.

Listing Determination for the Brazil DPS

For the above reasons, we finalize our proposed determination that the Brazil DPS of the humpback whale does not warrant listing as a threatened species or an endangered species under the ESA.

Gabon/Southwest Africa DPS

The comments that we received on the Gabon/Southwest Africa DPS and additional information that became available since the publication of the proposed rule did not change our conclusion that this DPS does not warrant listing as a threatened species or an endangered species. We incorporate herein all information on the Gabon/Southwest Africa DPS provided in the status review report and proposed rule (80 FR 22304; April 21, 2015). The following represents a brief summary of that information and some new information.

The Gabon/Southwest Africa DPS consists of whales that breed and calve off central western Africa between ~6° S. and ~6° N. in the eastern Atlantic, including the coastal regions of northern Angola, Congo, Togo, Gabon, Benin, other coastal countries within the Gulf of Guinea and possibly further north. This DPS is thought to feed offshore of west South Africa and Namibia south of 18° S. and in the Southern Ocean beneath west South Africa (20° W. – 10° E.).

Abundance and Trends for the Gabon/Southwest Africa DPS

We have reviewed two more recent papers that were not included in the status review report or considered in the proposed rule (Collins *et al.* 2010, with abundance estimates of 4,314 (CV = 0.19) for 2001–2004 and 7,134 (CV = 0.23) for 2004–2006) and the IWC 2012

assessment of the Gabon stock for 2005 (9,484 (90 percent PI = 7465,12,221), growth rate = 0.045 (90 percent PI = 0.006, 0.081)). We conclude that it is appropriate to use an abundance estimate of 7,134 (CV = 0.23, 95 percent CI 4,576–11,124) for the Gabon/Northwest Africa DPS, as explained in our response to Comment 58. The trend is still unknown because we have determined that it is not appropriate to rely on the growth rate from the IWC (2012) assessment (see response to Comment 58).

Section 4(a)(1) Factors for the Gabon/Southwest Africa DPS

For humpback whales using the waters of central western Africa, expanding offshore hydrocarbon extraction activity now poses an increasing threat (Findlay *et al.* 2006). The degree to which humpback whales are affected by offshore hydrocarbon extraction activity is not known, but it is believed that long-term exposure to low levels of pollutants and noise, as well as the drastic consequences of potential oil spills, could have conservation implications.

All threats are considered likely to have no or minor impact on population size and/or the growth rate or are unknown, with the exception of energy exploration posing a moderate threat to Gabon/Southwest Africa DPS.

Extinction Risk Analysis for the Gabon/Southwest Africa DPS

The BRT distributed 93 percent of their likelihood points to the “not at risk of extinction” category for the Gabon/Southwest Africa DPS, thus indicating a high certainty in its voting. Despite the threat of offshore hydrocarbon activity off west Africa, the BRT distributed 93 percent of its likelihood points in the “not at risk of extinction” category, and we agreed with the BRT’s assessment. We are now relying on the more recent Collins *et al.* (2010) abundance estimate of 7,134 for this DPS. This estimate does not differ significantly from the average of the previous estimates of 6,560 (CV = 0.15) for 2001–2004 and 8,064 (CV = 0.12) for 2001–2005 (Collins *et al.* 2008), which is 7,312. This abundance estimate is more than three times the population size that the BRT considered sufficient to demonstrate that a population was not at risk due to low abundance alone), and therefore, we affirm our earlier conclusion that the DPS is not in danger of extinction throughout its range presently and not likely to become so within the foreseeable future.

Therefore, we conclude that the Gabon/Southwest Africa DPS is not in

danger of extinction throughout its range presently or within the foreseeable future.

Next, per the Final SPOIR Policy, we need to determine whether the Gabon/Southwest Africa DPS is in danger of extinction or likely to become so within the foreseeable future in a significant portion of its range, because we have determined that the DPS is neither endangered nor threatened based on a rangewide evaluation. The BRT concluded that there was some evidence for population substructure within the Gabon/Southwest Africa DPS, based on an extensive breeding range with some significant genetic differentiation among breeding locations (Rosenbam *et al.* 2009). However, the BRT was unable to identify any portion of the DPS that both faced particularly high threats and was so significant to the viability of the DPS as a whole that its loss would result in the remainder of the DPS being at high risk of extinction. We agree, and we also conclude that no portions of this DPS face particularly high threats and are so significant to the viability of the DPS that, if lost, the DPS would be in danger of extinction, or likely to become so within the foreseeable future. Therefore we conclude that the Gabon/Southwest Africa DPS is not threatened or endangered in a significant portion of its range.

Conservation Efforts for the Gabon/Southwest Africa DPS

Other than whale-watching regulations in South Africa that help protect humpback whales from the Gabon/Southwest Africa DPS and protections provided to humpback whales by the IWC and CITES (please see *Conservation Efforts for the Cape Verde Islands/Northwest Africa DPS*), we are not aware of any ongoing conservation efforts specific to this DPS. Regardless, we do not need to further evaluate conservation efforts in the context of this decision because they would serve only to further reduce the likely impact of threats.

Listing Determination for the Gabon/Southwest Africa DPS

For the above reasons, we finalize our proposed determination that the Gabon/Southwest Africa DPS of the humpback whale does not warrant listing as a threatened species or an endangered species under the ESA.

Southeast Africa/Madagascar DPS

The comments that we received on the Southeast Africa/Madagascar DPS and additional information that became available since the publication of the proposed rule did not change our

conclusion that this DPS does not warrant listing. Therefore, we incorporate herein all information on the Southeast Africa/Madagascar DPS provided in the status review report and proposed rule (80 FR 22303; April 21, 2015). The following represents a brief summary of that information.

The Southeast Africa/Madagascar DPS includes whales breeding in at least three different areas in the western Indian Ocean: One associated with mainland coastal waters of southeastern Africa, extending from Mozambique to as far north as Tanzania and southern Kenya; a second found in the coastal waters of the northern Mozambique Channel Islands and the southern Seychelles; and the third found in the coastal waters of eastern Madagascar. The feeding grounds of this DPS in the Southern Ocean are not well defined but are believed to include multiple localities to the west and east of the region bounded by 5° W. –60° E.

Abundance and Trends for the Southeast Africa/Madagascar DPS

The most recent abundance estimates for the Madagascar population were from surveys of Antongil Bay, 2000–2006 (Cerchio *et al.* 2009). Estimates using data from 2004–2006 and involving “closed” models of photo-identification of individuals and genotype data were 7,406 (CV = 0.37, CI = 2,106–12,706) and 6,951 (CV = 0.33, CI = 2,509–11,394), respectively. Additional estimates were made using various data sets (*e.g.*, photo-identification and genotype) and models, estimating 4,936 (CV = 0.44, CI = 2,137–11,692) and 8,169 individuals (CV = 0.44, CI = 3,476–19,497, Cerchio *et al.* 2009). The mark-recapture data were derived from surveys over several years and thus may represent the abundance of whales breeding off Madagascar, in addition to possibly whales breeding in Mayotte and the Comoros (Ersts *et al.* 2006), and to a smaller degree from the East African Mainland (Razafindrakoto *et al.* 2008).

Two trends in relative abundance have been calculated from land-based observations of the migratory stream passing Cape Vidal, east South Africa in July 1998–2002, and July 1990–2000. The first was an estimate of 12.3 percent per year (Findlay and Best 2006) (however, this estimate is likely outside biological plausibility for this species (Bannister and Hedley 2001; Noad *et al.* 2008; Zerbini *et al.* 2010)); and the second is 9.0 percent (an estimate that is within the range calculated for other Southern Hemisphere breeding grounds (*e.g.*, Ward *et al.* 2006; Noad *et al.* 2008; Hedley *et al.* 2009)). Both rates are

considered with caution because the surveys were short in duration. It is not certain that these estimates represent the growth rate of the entire DPS. Given this uncertainty, and the uncertainty from the short duration of the surveys, we conclude it is likely the DPS is increasing, but it is not possible to provide a quantitative estimate of the rate of increase for the entire DPS.

The Southeast Africa/Madagascar DPS is thought to be between 4,936 and 8,169 individuals in population size, and its trend is thought to either be increasing or stable.

Section 4(a)(1) Factors for the Southeast Africa/Madagascar DPS

Information regarding fisheries and other activities is limited. Kiszka *et al.* (2009) and Razafindrakoto *et al.* (2008) provided summaries of humpback whale entanglement and strandings based on interviews with artisanal fishing communities. Substantial gillnet fisheries have been reported in the near-shore waters off the coasts of mainland Africa and Madagascar, and to a lesser extent in the Comoros Archipelago, Mayotte, and Mascarene Islands, where such practices are hindered by coral reefs and a steep continental slope bathymetry (Kiszka *et al.* 2009). Stranding reports and observations from Tanzania and Mozambique have mostly implicated gillnets, with most Madagascan entanglements associated with long-line shark fishing (Razafindrakoto *et al.* 2008). In Mayotte, humpback whales have been observed with gillnet remains attached to them (Kiszka *et al.* 2009), although no fatalities have yet been documented. Industrial fishing operations, including longlines and drift longlines on fish aggregation devices, purse seine and midwater trawling, occur in waters off Mauritius. The extent of bycatch and entanglement in these waters is unknown (Kiszka *et al.* 2009). Strandings and bycatch data from 2001–2005 from South Africa indicated an estimated 15 humpback whales entangled in shark nets (large-mesh gillnets) in KwaZulu Natal province (only one death), while nine stranded whales were reported from the south and east coasts (IWC 2002b, 2003, 2004b, 2005b, 2006b).

All threats are considered likely to have no or minor impact on population size and/or the growth rate or are unknown, with the exception of fishing gear entanglements posing a moderate threat to the Southeast Africa/Madagascar DPS.

Extinction Risk Analysis for the Southeast Africa/Madagascar DPS

The BRT distributed 96 percent of their likelihood points to the “not at risk of extinction” category for the Southeast Africa/Madagascar DPS, thus indicating a high degree of certainty in its voting. None of the factors that may negatively impact the status of the humpback whale appear to have impeded recovery, either alone or cumulatively, for this DPS. The population size (4,936–8,169) for this DPS is estimated to be more than twice and maybe four times the population size that the BRT considered sufficient to demonstrate that a population was not at risk due to low abundance alone and its population trend is likely to be stable or increasing. The high percentage of likelihood points allocated to the “not at risk of extinction” category and the high certainty associated with this extinction risk estimate further support a finding that this DPS is healthy and resilient, despite the moderate threat posed to this DPS by fishing gear entanglements. Therefore, we conclude that the Southeast Africa/Madagascar DPS is not in danger of extinction throughout its range presently and not likely to become so within the foreseeable future.

Next, per the Final SPOIR Policy, we need to determine whether the Southeast Africa/Madagascar DPS is in danger of extinction or likely to become so within the foreseeable future in a significant portion of its range, because we have determined that the DPS is neither endangered nor threatened based on a rangewide evaluation. The BRT was unable to identify any portion of the Southeast Africa/Madagascar DPS that both faced particularly high threats and was so significant to the viability of the DPS as a whole that its loss would result in the remainder of the DPS being at high risk of extinction. We agree, and we also conclude that no portion of this DPS faces particularly high threats and is so significant to the viability of the DPS that, if lost, the remainder of the DPS would be in danger of extinction, or likely to become so within the foreseeable future. Therefore, we conclude that the Southeast Africa/Madagascar DPS is not threatened or endangered in a significant portion of its range.

Conservation Efforts for the Southeast Africa/Madagascar DPS

Other than protections provided to humpback whales by the IWC and CITES (please see *Conservation Efforts for the Cape Verde Islands/Northwest Africa DPS*), we are not aware of any ongoing conservation efforts for this

DPS. Regardless, we do not need to further evaluate conservation efforts in the context of this decision because they would serve only to further reduce the likely impact of threats.

Listing Determination for the Southeast Africa/Madagascar DPS

For the above reasons, we finalize our proposed determination that the Southeast Africa/Madagascar DPS of the humpback whale does not warrant listing as a threatened species or an endangered species under the ESA.

West Australia DPS

The comments that we received on the West Australia DPS and additional information that became available since the publication of the proposed rule did not change our conclusion that this DPS does not warrant listing. Therefore, we incorporate herein all information on the West Australia DPS provided in the status review report and proposed rule (80 FR 22304; April 21, 2015). The following represents a brief summary of that information.

The West Australia DPS consists of the whales whose breeding/wintering range includes the West Australia coast, primarily in the Kimberly Region. Individuals in this population migrate to feeding areas in the Antarctic, primarily between 80°E and 110°E based on tagging data.

Abundance and Trends for the West Australia DPS

Abundance of northbound humpback whales in the southeastern Indian Ocean in 2008 was estimated at 21,750 (95 percent CI = 17,550–43,000) based upon line transect survey data (Hedley *et al.* 2009). The current abundance appears likely close to the historical abundance for the DPS, although there is some uncertainty of the historical abundance because of difficulties in allocating catch to specific breeding populations (IWC 2007a). The current abundance is large relative to any of the general guidelines for viable abundance levels. The rate of population growth is estimated to be ~10 percent annually since 1982, which is at or near the estimated physiological limit of the species (Bannister 1994; Bannister and Hedley 2001).

The West Australia DPS abundance estimate is 21,750 individuals, with a 10 percent per year population growth rate.

Section 4(a)(1) Factors for the West Australia DPS

The threat posed by energy development to the West Australia DPS was considered medium because of the substantial number of oil rigs and the

amount of energy exploration activity in the region inhabited by the whales (indicator CO-26 in (Beeton *et al.* 2006)). Additionally, there are proposals for many more oil platforms to be built in the near future, which are highly likely to be executed (Department of Industry and Resources 2008).

All threats are considered likely to have no or minor impact on population size and/or the growth rate or are unknown, with the exception of energy exploration posing a moderate threat to the West Australia DPS.

Extinction Risk Analysis for the West Australia DPS

The BRT distributed 97 percent of their likelihood points to the “not at risk of extinction” category for the West Australia DPS, thus indicating a high degree of certainty in its voting. None of the factors that may negatively impact the status of the humpback whale appear to have impeded recovery, either alone or cumulatively, for this DPS. Given the large population size (21,750) for this DPS (more than ten times the population size that the BRT considered sufficient to demonstrate that a population was not at risk due to low abundance alone), the fact that its trend is increasing at a rate of 10 percent per year, the high percentage of likelihood points allocated to the “not at risk of extinction” category, and the high certainty associated with this extinction risk estimate, we conclude that the West Australia DPS is not in danger of extinction throughout its range presently and not likely to become so within the foreseeable future.

Next, per the Final SPOIR Policy, we need to determine whether the West Australia DPS is in danger of extinction or likely to become so within the foreseeable future in a significant portion of its range, because we have determined that the DPS is neither endangered nor threatened based on a rangewide evaluation. The BRT was unable to identify a portion of the West Australia DPS that both faced particularly high threats and was so significant to the viability of the DPS as a whole that its loss would result in the remainder of the DPS being at high risk of extinction. We agree, and we also conclude that no portion of this DPS faces particularly high threats and is so significant to the viability of the DPS that, if lost, the remainder of the DPS would be in danger of extinction, or likely to become so within the foreseeable future. Therefore, we conclude that the West Australia DPS is not threatened or endangered in a significant portion of its range.

Conservation Efforts for the West Australia DPS

While there are many ongoing conservation efforts that apply to the West Australia DPS, we do not need to further evaluate them in the context of this decision because they would serve only to further reduce the likely impact of threats.

Listing Determination for the West Australia DPS

For the above reasons, we finalize our proposed determination that the West Australia DPS of the humpback whale does not warrant listing as a threatened species or an endangered species under the ESA.

East Australia DPS

The comments that we received on the East Australia DPS and additional information that became available since the publication of the proposed rule did not change our conclusion that this DPS does not warrant listing. Therefore, we incorporate herein all information on the East Australia DPS provided in the status review report and proposed rule (80 FR 22304; April 21, 2015). The following represents a brief summary of that information.

The East Australia DPS consists of the whales breeding/wintering along the eastern and northeastern Australian coast. Based upon tagging, telemetry, and re-sighting data, individuals in this population migrate to Antarctic feeding areas ranging from 100° E. to 180° E., but are concentrated mostly between 120° E. and 180° E.

Abundance and Trends for the East Australia DPS

Abundance of the East Australia DPS was estimated to be 6,300–7,800 (95 percent CI = 4,040–10,739) in 2005 based on photo-ID data (Paton and Clapham 2006; Paton *et al.* 2008; Paton *et al.* 2009). The current abundance is large relative to any of the general guidelines for viable abundance levels. The annual rate of increase is estimated to be 10.9 percent for humpback whales in the southwestern Pacific Ocean (Noad *et al.* 2008). This estimate of population increase is very close to the biologically plausible upper limit of reproduction for humpbacks (Zerbini *et al.* 2010). The surveys presented by Noad *et al.* (2005, 2008) have remained consistent over time, with a strong correlation ($r > 0.99$) between counts and years.

The East Australia DPS abundance estimate is between 6,300 and 7,800, with a 10.9 percent per year population growth rate.

Section 4(a)(1) Factors for the East Australia DPS

All threats are considered likely to have no or minor impact on population size and/or the growth rate or are unknown.

Extinction Risk Analysis for the East Australia DPS

The BRT distributed 96 percent of their likelihood points to the “not at risk of extinction” category for the East Australia DPS, thus indicating a high degree of certainty in its voting. None of the factors that may negatively impact the status of the humpback whale appear to have impeded recovery, either alone or cumulatively, for this DPS. Given the large population size (6,300–7,800, more than three times the population size that the BRT considered sufficient to demonstrate that a population was not at risk due to low abundance alone) for this DPS, the fact that its trend is increasing at a rate of 10.9 percent per year, the high percentage of likelihood points allocated to the “not at risk of extinction” category, and the high certainty associated with this extinction risk estimate, we conclude that the East Australia DPS is not in danger of extinction throughout its range presently and not likely to become so within the foreseeable future.

Next, per the Final SPOIR Policy, we need to determine whether the East Australia DPS is in danger of extinction or likely to become so within the foreseeable future in a significant portion of its range, because we have determined that the DPS is neither endangered nor threatened based on a rangewide evaluation. The BRT was unable to identify a portion of the East Australia DPS that both faced particularly high threats and was so significant to the viability of the DPS as a whole that its loss would result in the remainder of the DPS being at high risk of extinction. We agree, and we also conclude that no portion of this DPS faces particularly high threats and is so significant to the viability of the DPS that, if lost, the remainder of the DPS would be in danger of extinction, or likely to become so within the foreseeable future. Therefore, we conclude that the East Australia DPS is not threatened or endangered in a significant portion of its range.

Conservation Efforts for the East Australia DPS

While there are many ongoing conservation efforts that apply to the East Australia DPS, we do not need to further evaluate them in the context of

this decision because they would serve only to further reduce the likely impact of threats.

Listing Determination for the East Australia DPS

For the above reasons, we finalize our proposed determination that the East Australia DPS of the humpback whale does not warrant listing as a threatened species or an endangered species under the ESA.

Oceania DPS

The comments that we received on the Oceania DPS and additional information that became available since the publication of the proposed rule did not change our conclusion that this DPS does not warrant listing. Therefore, we incorporate herein all information on the Oceania DPS provided in the status review report and proposed rule (80 FR 22304; April 21, 2015). The following represents a brief summary of that information.

The Oceania DPS consists of whales that breed/winter in the South Pacific Islands between ~160° E., (west of New Caledonia) to ~120° W. (east of French Polynesia), including American Samoa, the Cook Islands, Fiji, French Polynesia, Republic of Kiribati, Nauru, New Caledonia, Norfolk Island, New Zealand, Niue, the Independent State of Samoa, Solomon Islands, Tokelau, Kingdom of Tonga, Tuvalu, Vanuatu, and Wallis and Futuna. Individuals in this population are believed to migrate to a largely undescribed Antarctic feeding area.

Abundance and Trends for the Oceania DPS

The Oceania humpback whale DPS is of moderate size (4,329 whales; 95 percent CI = 3,345–5,313) (Constantine *et al.* 2012). The trend of the Oceania DPS was unknown at the time of publication of the proposed rule, though more recent information (Constantine *et al.* 2012) that was not included in the status review report (please see our response to Comment 61) or considered in the proposed rule indicates that the growth rate of this DPS is 3 percent per year or higher. The DPS is quite subdivided, and the population estimate applies to an aggregate (although it is known that sub-populations differ in growth rates and other demographic parameters). There are some areas of historical range extent that have not rebounded and other areas without historical whaling information (Fleming and Jackson 2011). There is uncertainty regarding which geographic portion of the Antarctic this DPS uses for feeding. The complex population structure of

humpback whales within the Oceania region creates higher uncertainty regarding demographic parameters and threat levels than for any other DPS.

The abundance estimate for the Oceania DPS is 4,329 individuals, with a population growth rate of 3 percent per year.

Section 4(a)(1) Factors for the Oceania DPS

There is little information available from the South Pacific regarding entanglement with fishing gear; two humpback whales have been observed in Tonga entangled in rope in one instance and fishing net in another (Donoghue, pers. comm.). One humpback mother (and her calf) was reported entangled in a longline in the Cook Islands in 2007 (South Pacific Whale Research Consortium 2008). Entanglement scars have been seen on humpback whales in American Samoa, but there are not enough data to determine an entanglement rate. Available evidence suggests that entanglement is a potential concern in regions where whales and stationary or drifting gear in the water overlap (Mattila *et al.* 2010). The threat of entanglements was ranked low for the Oceania DPS.

All threats are considered likely to have no or minor impact on population size and/or the growth rate or are unknown. In the section 4(a)(1) analysis section of the proposed rule (80 FR 22304; April 21, 2015 at 22344), we stated that the BRT ranked the threat of entanglements as low for the Oceania DPS. However, in the Conclusions on the Status of Each DPS Under the ESA section of the proposed rule (80 FR 22304; April 21, 2015 at 22350), we incorrectly stated that fishing gear entanglements posed a moderate threat to the Oceania DPS. This latter apparently contradictory statement was in error and reflected a corresponding error in the Executive Summary of the BRT report.

Extinction Risk Analysis for the Oceania DPS

The BRT distributed 68 percent of their likelihood points to the “not at risk of extinction” category for the Oceania DPS, indicating a moderate degree of certainty, and 29 percent of its points to the “moderate risk of extinction” category, indicating some support for a conclusion that the species is imperiled. None of the factors that may negatively impact the status of the humpback whale appear to have impeded recovery, either alone or cumulatively, for this DPS. Given the moderate population size (4,329) for this DPS (more than

twice the population size that the BRT considered sufficient to demonstrate that a population was not at risk due to low abundance alone), the 3 percent annual growth rate, the majority of likelihood points allocated to the “not at risk of extinction” category, and the moderate certainty associated with the extinction risk estimate for the Oceania DPS, we conclude that the Oceania DPS is not in danger of extinction throughout all of its range presently and not likely to become so within the foreseeable future.

Next, per the Final SPOIR Policy, we need to determine whether the Oceania DPS is in danger of extinction or likely to become so within the foreseeable future in a significant portion of its range, because we have determined that the DPS is neither endangered nor threatened based on a rangewide evaluation. The BRT noted that the Oceania DPS has potentially somewhat greater substructure than most other humpback whale DPSs due to its extended breeding range, though a lack of strong genetic structure indicates there are likely to be considerable demographic connections among these areas. Some threats, such as whale watching in the Southern Lagoon of New Caledonia, appear to be localized. Nonetheless, the BRT was unable to identify any specific areas where threats were sufficiently severe to be likely to cause local extirpation. We agree, and we also conclude that no portion of this DPS faces particularly high threats and is so significant to the viability of the DPS that, if lost, the remainder of the DPS would be in danger of extinction, or likely to become so within the foreseeable future. Therefore, we conclude that the Oceania DPS is not threatened or endangered in a significant portion of its range.

Conservation Efforts for the Oceania DPS

Other than protections provided to humpback whales by the IWC and CITES (please see *Conservation Efforts for the Cape Verde Islands/Northwest Africa DPS*), we are not aware of any ongoing conservation efforts for this DPS. Regardless, we do not need to further evaluate conservation efforts in the context of this decision because they would serve only to further reduce the likely impact of threats.

Listing Determination for the Oceania DPS

For the above reasons, we finalize our proposed determination that the Oceania DPS of the humpback whale does not warrant listing as a threatened

species or an endangered species under the ESA.

Southeastern Pacific DPS

The comments that we received on the Southeastern Pacific DPS and additional information that became available since the publication of the proposed rule did not change our conclusion that this DPS does not warrant listing. Therefore, we incorporate herein all information on the Southeastern Pacific DPS provided in the status review report and proposed rule (80 FR 22304; April 21, 2015). The following represents a brief summary of that information.

The Southeastern Pacific DPS consists of whales that breed/winter along the Pacific coasts of Panama to northern Peru (9° N.–6° S.), with the main wintering areas concentrated in Colombia. Feeding grounds for this DPS are thought to be concentrated in the Chilean Magellan Straits and the western Antarctic Peninsula. These cross-equatorial breeders feed in the Southern Ocean during much of the austral summer.

Abundance and Trends for the Southeastern Pacific DPS

Individuals of the Southeastern Pacific population migrate from breeding grounds between Costa Rica and northern Peru to feeding grounds in the Magellan Straits and along the Western Antarctic Peninsula. Though no quantitative growth rate information is available for this DPS, abundance estimates over a 13-year period suggest that the DPS size is increasing, and abundance was estimated to be 6,504 (95 percent CI = 4,270–9,907) individuals in 2005–2006 (Félix *et al.* 2006a; Félix *et al.* 2011). Total abundance is likely to be larger because only a portion of the DPS was enumerated.

The abundance estimate for the Southeastern Pacific DPS is 6,504 individuals, with a population trend that is likely increasing.

Section 4(a)(1) Factors for the Southeastern Pacific DPS

Aquaculture activities are high in waters of Argentina and Chile, but the impact of these activities on this DPS of humpback whales has not been documented and is likely low if few whales use these inland areas. Entanglement was determined to pose a medium threat to this DPS based on stranding and entanglement observations and spatial and temporal overlap with aquaculture activities.

All threats are considered likely to have no or minor impact on population

size and/or the growth rate or are unknown, with the exception of fishing gear entanglements posing a moderate threat to the Southeastern Pacific DPS.

Extinction Risk Analysis for the Southeastern Pacific DPS

The BRT distributed 93 percent of their likelihood points to the “not at risk of extinction” category for the Southeastern Pacific DPS, thus indicating a high certainty in its voting. None of the factors that may negatively impact the status of the humpback whale appear to have impeded recovery, either alone or cumulatively, for this DPS. Given the large population sizes (6,504) for this DPS (more than three times the population size that the BRT considered sufficient to demonstrate that a population was not at risk due to low abundance alone), the fact that it is thought to be increasing, the high percentage of likelihood points allocated to the “not at risk of extinction” category, and the high certainty associated with this extinction risk estimate, we conclude that the Southeastern Pacific DPS is not in danger of extinction throughout all of its range presently and not likely to become so within the foreseeable future.

Next, per the Final SPOIR Policy, we need to determine whether the Southeastern Pacific DPS is in danger of extinction or likely to become so within the foreseeable future in a significant portion of its range, because we have determined that the DPS is neither endangered nor threatened based on a rangewide evaluation. The BRT was unable to identify a portion of the Southeastern Pacific DPS that both faced particularly high threats and was so significant to the viability of the DPS as a whole, that its loss would result in the remainder of the DPS being at high risk of extinction. We agree, and we also conclude that no portion of this DPS faces particularly high threats and is so significant to the viability of the DPS that, if lost, the remainder of the DPS would be in danger of extinction, or likely to become so within the foreseeable future. Therefore, we conclude that the Southeastern Pacific DPS is not threatened or endangered in a significant portion of its range.

Conservation Efforts for the Southeastern Pacific DPS

While there are many ongoing conservation efforts that apply to the Southeastern Pacific DPS, we do not need to further evaluate them in the context of this decision because they would serve only to further reduce the likely impact of threats.

Listing Determination for the Southeastern Pacific DPS

For the above reasons, we finalize our proposed determination that the Southeastern Pacific DPS of the humpback whale does not warrant listing as a threatened species or an endangered species under the ESA.

Arabian Sea DPS

The comments that we received on the Arabian Sea DPS and additional information that became available since the publication of the proposed rule did not change our conclusions that this DPS warrants listing as an endangered species. Therefore, we incorporate herein all information on the Arabian Sea DPS provided in the status review report and proposed rule (80 FR 22304; April 21, 2015). The following represents a brief summary of that information.

The Arabian Sea DPS includes those whales that are currently known to breed and feed along the coast of Oman. However, historical records from the eastern Arabian Sea along the coasts of Pakistan and India indicate its range may also include these areas.

Abundance and Trends for the Arabian Sea DPS

Mark-recapture studies using tail fluke photographs collected in Oman from 2000–2004 yielded a population estimate of only 82 individuals (95 percent CI = 60–111). However, sample sizes were small, and there are various sources of possible negative bias, including insufficient spatial and temporal coverage of the population's suspected range (Minton *et al.* 2010b).

Reproductive rates in this DPS are not well understood. Cow-calf pairs were very rarely observed in surveys off the coast of Oman, composing only 7 percent of encounters in Dhofar, and not encountered at all since 2001. Soviet whaling catches off Oman, Pakistan and northwestern India also included low numbers of lactating females (3.5 percent of mature females) relative to pregnant females (46 percent of mature females) (Mikhalev 1997).

No trend data are available for this DPS. A low proportion of immature whales (12.4 percent of all females) was also found, even though catches were indiscriminate with respect to sex and condition (Mikhalev 1997), suggesting that calf mortality in this DPS is high, immature animals occupy areas that have not been surveyed, or that the whales have reproductive “boom and bust” cycles which respond to high annual variation in productivity. The BRT noted that the entire region has not

been surveyed; however, in areas where the whales are likely to be, not many whales have been observed. The BRT noted that this is a very small population by any standard but felt that there was some uncertainty in abundance estimates.

The estimated abundance of the Arabian Sea DPS is 82 individuals, but its entire range was not surveyed, so it could be somewhat larger. Its population trend is unknown.

Section 4(a)(1) Factors for the Arabian Sea DPS

The BRT determined that the threat posed by energy exploration to the Arabian Sea DPS should be classified as high, given the small population size and the present levels of energy activity. A catastrophic event similar to the Deepwater Horizon Oil Spill that occurred in the Gulf of Mexico, the potential for which is reasonably foreseeable in light of the scope of ongoing activity, could be devastating to this DPS, especially in light of the year-round presence of humpback whales in this area.

Liver damage was detected in 68.5 percent of necropsied humpback whales in this area during Soviet whaling in 1966, with degeneration of peripheral liver sections, cone-shaped growths up to 20 cm in diameter and blocked bile ducts (Mikhalev 1997). While this pathology was consistent with infection by trematode parasites, none were identified during necropsy, and the causes of this liver damage remain unknown.

Poisonous algal blooms and biotoxins have been implicated in some mass fish, turtle, and possibly cetacean, mortality events on the Oman coast, although no events have yet been known to include humpback whales. Coastal run-off from industrial activities is likely to be increasing rapidly, while regular oil spills in shipping lanes from tankers also contribute to pollution along the coast (*e.g.*, Shriadah 1999). Tattoo skin lesions were observed in 26 percent of photo-identified whales from Oman (Baldwin *et al.* 2010). While not thought to be a common cause of adult mortality, it has been suggested that tattoo skin disease may differentially kill neonates and calves that have not yet gained immunity (Van Bressem *et al.* 2009). The authors also suggested that this disease may be more prevalent in marine mammal populations that experience chronic stress and/or are exposed to pollutants that suppress the immune system.

Humpback whales in the Arabian Sea are exposed to a high level of vessel traffic (Baldwin 2000; Minton 2004;

Kaluza *et al.* 2010), so the threat of ship strikes was considered medium for this small DPS.

There is high fishing pressure in areas off Oman where humpback whales are sighted. Eight live humpback whale entanglement incidents were documented between 1990 and 2000, involving bottom set gillnets often with weights still attached and anchoring the whales to the ocean floor (Minton 2004). Minton *et al.* (2010b) examined peduncle photographs of humpback whales in the Arabian Sea and concluded that at least 33 percent had been entangled in fishing gear at some stage. The threat of fishing gear entanglements in the Arabian Sea is considered high and increasing.

The threat posed by climate change to the Arabian Sea DPS of the humpback whale within the foreseeable future was determined to be slightly higher than to the other DPSs and was assigned a medium threat level. This higher threat level is based on the more limited movement of this DPS that both breeds and feeds in the Arabian Sea. In the foreseeable future, changing climatic conditions may change the monsoon-driven upwelling that creates seasonal productivity in the region. While Northern Hemisphere individuals may be able to adapt to climatic changes by moving farther north, Arabian Sea individuals have less flexibility for expanding their range to cooler regions.

Evidence that this DPS has undergone a recent genetic bottleneck and is currently at low abundance (Minton *et al.* 2010b) suggests that there may be an additional risk of impacts from increased inbreeding (which may reduce genetic fitness and increase susceptibility to disease). At low densities, populations are more likely to suffer from the “Allee” effect, where inbreeding and the heightened difficulty of finding mates reduces the population growth rate in proportion to reducing density.

The Arabian Sea DPS faces unique threats, given that the whales do not migrate, but instead feed and breed in the same, relatively constrained geographic location. Energy exploration and fishing gear entanglements are considered likely to seriously reduce the population’s size and/or growth rate, and disease, vessel collisions, and climate change are likely to moderately reduce the population’s size or growth rate.

Extinction Risk Analysis for the Arabian Sea DPS

The BRT distributed 87 percent of its likelihood points for the Arabian Sea DPS in the “at high risk of extinction”

category. We agree with the BRT and conclude that the Arabian Sea DPS is presently in danger of extinction.

Conservation Efforts for the Arabian Sea DPS

Other than protections provided to humpback whales by the IWC and CITES (please see *Conservation Efforts for the Cape Verde Islands/Northwest Africa DPS*), we are not aware of any ongoing conservation efforts for this DPS.

Listing Determination for the Arabian Sea DPS

While the IWC and CITES conservation efforts are likely to benefit all humpback whales, they are not sufficient to change the extinction risk of this DPS. For the above reasons, we finalize our proposal to list the Arabian Sea DPS of the humpback whale as an endangered species under the ESA.

Final Determinations

We reviewed the best available scientific and commercial information, including the information in the peer reviewed status review report, public comments, and information that has become available since the publication of the proposed rule. We identified 14 humpback whale DPSs: West Indies, Cape Verde Islands/Northwest Africa, Western North Pacific, Hawaii, Mexico, Central America, Brazil, Gabon/Southwest Africa, Southeast Africa/Madagascar, West Australia, East Australia, Oceania, Southeastern Pacific, and Arabian Sea. For each DPS, we reviewed the abundance and trends and section 4(a)(1) factors, performed an extinction risk analysis, and considered conservation efforts. We determined that the Cape Verde Islands/Northwest Africa, Western North Pacific, Central America, and Arabian Sea DPSs are endangered species, and the Mexico DPS is a threatened species. Pursuant to the second sentence of section 4(d) of the ESA, we extend the prohibitions of section 9(a)(1)(A) through 9(a)(1)(G) of the ESA (16 U.S.C. 1538) relating to endangered species to threatened humpback whales (which under this rule consists of the Mexico DPS).

The following nine DPSs do not warrant listing under the ESA: West Indies, Hawaii, Brazil, Gabon/Southwest Africa, Southeast Africa/Madagascar, West Australia, East Australia, Oceania, and Southeastern Pacific. We hereby replace the original endangered listing for the entire species with listings of the four endangered DPSs and one threatened DPS.

Peer Review

In December 2004, the Office of Management and Budget (OMB) issued a Final Information Quality Bulletin for Peer Review, establishing minimum peer review standards, a transparent process for public disclosure of peer review planning, and opportunities for public participation. The OMB Bulletin, implemented under the Information Quality Act (Pub. L. 106–554), is intended to enhance the quality and credibility of the Federal government's scientific information and applies to influential or highly influential scientific information disseminated on or after June 16, 2005. To satisfy our requirements under the OMB Bulletin, we obtained independent peer review of the status review report by 5 independent scientists with expertise in humpback whale biology and genetics, and related fields. All peer reviewer comments were addressed prior to the publication of the status review report and proposed rule.

Peer reviewer comments and responses to comments can be reviewed in the appendix of the status review report and also at http://www.cio.noaa.gov/services_programs/prplans/ID284.html.

Monitoring Plan

We worked with the States of Alaska, Hawaii, and Massachusetts, NOAA's National Marine Sanctuary Program, and the National Park Service to develop a plan pursuant to section 4(g)(1) of the ESA to continue to monitor the status of the DPSs that we consider to not warrant listing under the ESA. We find that it is appropriate to monitor the status of the populations that will no longer be listed under this final rule; although this action is not technically a delisting, we believe monitoring is consistent with the intent of section 4(g)(1) of the ESA (See 16 U.S.C. 1533(g)(1)). We are finalizing this plan today with publication of this final rule. The objective of the monitoring plan will be to ensure that necessary recovery actions remain in place and to ensure the absence of substantial new threats to the DPSs' continued existence. In part, such monitoring efforts are already an integral component of ongoing research, existing stranding networks, and other management and enforcement programs implemented under the MMPA. These activities are conducted by NMFS in collaboration with other Federal and state agencies, the Western Pacific Fishery Management Council, North Pacific Fishery Management Council, the New England Fishery Management

Council, university affiliates, and private research groups. As noted in Bettridge *et al.* (2015), many regulatory avenues already in existence provide for review of proposed projects to reduce or prevent adverse effects to humpback whales and for post-project monitoring to ensure protection to humpback whales, as well as penalties for violation of the prohibition on unauthorized take under the MMPA for all DPSs that occur in U.S. waters or by U.S. persons or vessels on the high seas. However, the addition and implementation of a specific Monitoring Plan will provide an additional degree of attention and an early warning system to ensure that identifying 14 DPSs and concluding that nine of these DPSs do not warrant listing as threatened or endangered will not result in the re-emergence of threats to the DPSs.

We sought peer review and public comment on the draft Monitoring Plan during a 30-day public comment period, and we have addressed these comments in the Comment and Response section above.

Prohibitions and Protective Measures

Section 9 of the ESA prohibits certain activities that directly or indirectly affect endangered species. These prohibitions apply to all individuals, organizations and agencies subject to U.S. jurisdiction. Section 4(d) of the ESA directs the Secretary of Commerce (Secretary) to implement regulations “to provide for the conservation of [threatened] species” that may include extending any or all of the prohibitions of section 9 to threatened species. Section 9(a)(1)(g) also prohibits violations of protective regulations for threatened species implemented under section 4(d). We extend all of the prohibitions of section 9(a)(1) in protective regulations issued under the second sentence of section 4(d) for threatened humpback whales, which under this final rule includes the Mexico DPS. No special findings are required to support extending section 9 prohibitions for the protection of threatened species. See *In re Polar Bear Endangered Species Act Listing and 4(d) Rule Litigation*, 818 F. Supp. 2d 214, 228 (D.D.C. 2011); *Sweet Home Chapter of Cmities. for a Great Oregon v. Babbitt*, 1 F.3d 1, 8 (D.C. Cir. 1993), modified on other grounds on reh'g, 17 F.3d 1463 (D.C. Cir. 1994), rev'd on other grounds, 515 U.S. 687 (1995).

Sections 7(a)(2) and (4) of the ESA require Federal agencies to consult or confer with us to ensure that activities they authorize, fund, or conduct are not likely to jeopardize the continued existence of a listed species or a species

proposed for listing, or to adversely modify critical habitat or proposed critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into consultation with us. Examples of Federal actions that may require section 7 consultation because they affect the Cape Verde Islands/Northwest Africa, Western North Pacific, Mexico, Central America, and Arabian Sea DPSs of the humpback whale include permits and authorizations for shipping, fisheries, oil and gas exploration, and toxic waste and other pollutant discharges, if they occur in U.S. waters or on the high seas.

Sections 10(a)(1)(A) and (B) of the ESA provide us with authority to grant exceptions to the ESA's section 9 “take” prohibitions. Section 10(a)(1)(A) scientific research and enhancement permits may be issued to entities (Federal and non-Federal) for scientific purposes or to enhance the propagation or survival of a listed species. The type of activities potentially requiring a section 10(a)(1)(A) research/enhancement permit include scientific research that targets humpback whales, including the importation of non-U.S. samples for research conducted in the United States. Section 10(a)(1)(B) incidental take permits are required for non-Federal activities that may incidentally take a listed species in the course of an otherwise lawful activity.

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

On July 1, 1994, the Services issued an *Interagency Cooperative Policy for Endangered Species Act Section 9 Prohibitions* (59 FR 34272). The intent of this policy is to increase public awareness of the effect of our ESA listing on proposed and ongoing activities within the species' range. We identify, to the extent known, specific activities that will be considered likely to result in violation of section 9 for endangered species (as well as for threatened species where the section 9 prohibitions have been extended), as well as activities that will not be considered likely to result in violation. Although the Cape Verde Islands/Northwest Africa and Arabian Sea DPSs occur outside of the jurisdiction of the United States, the possibility for violations of section 9 of the ESA exists with respect to these DPSs (for example, import into the United States or take by a person subject to the jurisdiction of the United States on the high seas). Activities that we believe could result in violation of section 9 prohibitions against “take” of the members of the

Western North Pacific, Mexico, and Central America DPSs of the humpback whale include: (1) Unauthorized harvest or lethal takes of humpback whales that are members of the Western North Pacific, Mexico, and Central America DPSs by U.S. citizens; (2) unauthorized in-water activities conducted by any person subject to the jurisdiction of the United States that produce high levels of underwater noise, which may harass or injure humpback whales that are members of the Western North Pacific, Mexico, and Central America DPSs; (3) unauthorized U.S. fisheries that may result in entanglement of humpback whales that are members of the Western North Pacific, Mexico, and Central America DPSs; (4) vessel strikes on whales from the Western North Pacific, Mexico, and Central America DPSs by U.S. ships operating in U.S. waters or on the high seas; and (5) discharging or dumping toxic chemicals or other pollutants by U.S. citizens into areas used by humpback whales that are members of the Western North Pacific, Mexico, and Central America DPSs.

We expect, based on the best available information, the following actions will not result in a violation of section 9: (1) Federally funded or approved projects for which ESA section 7 consultation has been completed and necessary mitigation developed, and that are conducted in accordance with any terms and conditions we provide in an incidental take statement accompanying a biological opinion; and (2) takes of humpback whales in the Western North Pacific, Mexico, and Central America DPSs that have been authorized by NMFS pursuant to section 10 of the ESA.

These lists are not exhaustive. They are merely intended to provide some examples of the types of activities that we might or might not consider as constituting a take of humpback whales in the Western North Pacific, Mexico, and Central America DPSs based on the information currently available. Whether a violation results from a particular activity is entirely dependent upon the facts and circumstances of each incident. Further, an activity not listed may in fact constitute or result in a violation.

Effects of This Rulemaking

Conservation measures provided for species listed as endangered or threatened under the ESA include development of recovery plans (16 U.S.C. 1533(f)); concurrent designation of critical habitat, to the maximum extent prudent and determinable (16 U.S.C. 1533(a)(3)(A)); Federal agency requirements to consult with NMFS

under section 7 of the ESA to ensure their proposed actions are not likely to jeopardize the continued existence of the species or result in destruction or adverse modification of any designated critical habitat (16 U.S.C. 1536(a)(2)); and prohibitions against “take” (16 U.S.C. 1538(a)(1)). Recognition of the species’ plight through listing promotes conservation actions by Federal and state agencies, foreign entities, private groups, and individuals. The main effects of the listings are prohibitions on take, as well as export and import. The provisions discussed above will no longer apply to the nine DPSs that are in effect removed from the endangered species list. For section 7 requirements that will continue to apply to listed DPSs, we recognize the need for an approach that will allow us to determine which DPSs may be affected by Federal actions subject to consultation under section 7 where humpback whales from different DPSs mix. As we have for other species, we will likely use a proportional approach to indicate which DPSs are affected by any takes based upon the best available science indicating which DPSs are present, depending on the location and timing where take occurred.

The MMPA provides substantial protections to all marine mammals, such as humpback whales, whether they are listed under the ESA or not. In addition, the MMPA provides heightened protections to marine mammals designated as “depleted” (e.g., no take waiver, additional restrictions on the issuance of permits for research, importation, and captive maintenance). Section 3(1) of the MMPA defines “depleted” as “any case in which”: (1) The Secretary “determines that a species or population stock is below its optimum sustainable population”; (2) a state to which authority has been delegated makes the same determination; or (3) a species or stock “is listed as an endangered species or a threatened species under the [ESA]” (16 U.S.C. 1362(1)). Section 115(a)(1) of the MMPA establishes that “[i]n any action by the Secretary to determine if a species or stock should be designated as depleted, or should no longer be designated as depleted,” such determination must be made by rule, after public notice and an opportunity for comment (16 U.S.C. 1383b(a)(1)). It is our position that a marine mammal species or stock automatically gains “depleted” status under the MMPA when it is listed under the ESA. In the absence of an ESA listing, we follow the procedures described in section 115(a)(1) to designate a marine mammal

species or stock as depleted when the basis for its depleted status is that it is below its OSP. This interpretation was confirmed by the United States Court of Appeals for the D.C. Circuit. See *In re Polar Bear Endangered Species Act Listing and Section 4(d) Rule Litigation*, 720 F.3d 354 (D.C. Cir. 2013).

The language and structure of the MMPA’s definition of depleted lead NMFS to the conclusion that a species or stock that is designated as depleted solely on the basis of its ESA listing status would cease to qualify as depleted under the terms of that definition if it is no longer listed. Therefore, a species or stock that is removed from the list of threatened and endangered species loses its depleted status when removed from the list. Consistent with the D.C. Circuit’s opinion in *In re Polar Bear Endangered Species Act Listing and Section 4(d) Rule Litigation*, 720 F.3d 354 (D.C. Cir. 2013), we believe that the process described in section 115(a) applies only to the first basis for designating a species as depleted (i.e., when the agency determines that the species is below its OSP). Therefore, we are required to issue a rule in accordance with the process described in section 115(a) to determine that a species or stock is no longer depleted in cases where the agency previously issued a rule pursuant to section 115(a) designating the species or stock as depleted on the basis that it is below its OSP. However, in the case of a species or stock that achieved depleted status solely on the basis of an ESA listing, depleted status automatically terminates if the species or stock is removed from the list of threatened or endangered species. In such a situation, we may choose to evaluate whether the species or stock is below its OSP and re-designate the species or stock as depleted through an MMPA rulemaking on that basis if warranted.

We have previously delisted two populations of marine mammals, both of which were considered to be depleted solely on the basis of an ESA listing. The first delisting occurred in 1994, when the agency delisted the Eastern North Pacific (ENP) population of gray whales. See 59 FR 31094 (June 16, 1994). As indicated by our rejection of a petition to designate the ENP gray whales as depleted under the MMPA in 2010, we considered the population to be no longer depleted following its delisting (See 75 FR 81225; December 27, 2010). The second delisting occurred in 2013, when we delisted the Eastern DPS of the Steller sea lion (See 78 FR 66139; November 4, 2013). In our final rule to delist the DPS, we notified the

public that the delisting “w[ould] likely lead to two modifications to classifications of the eastern DPS of Steller sea lion under the MMPA: from its current classification as a ‘strategic stock’ and as a ‘depleted’ species to a new classification as a ‘non-strategic stock’ and/or as not depleted.” *Id.* at 66168. We stated that we “w[ould] consider redesignating the eastern stock of Steller sea lions as non-strategic and not depleted under the MMPA following review by the Alaska Scientific Review Group in 2014.” *Id.* We take this opportunity to clarify our interpretation that loss of depleted status is automatic at the time at the time of a delisting if the sole basis for the species or stocks’ depleted status was an ESA listing. In the future, we will notify the public in any proposed rule to delist a marine mammal species or stock that a final rule, if promulgated, will have the effect of designating the species or stock as no longer depleted. At the time of a delisting, we may choose to initiate a rulemaking under section 115(a) if information in our files or information presented by a Scientific Review Group indicates that the species or stock is below its OSP. We will also initiate a review of the species or stock pursuant to section 115(a) if we are petitioned to do so. However, loss of depleted status at the time of a delisting is automatic if the sole basis for the population’s depleted status was an ESA listing; no further review as to OSP is necessary before loss of depleted status occurs.

Humpback whales were considered to be depleted species-wide under the MMPA solely on the basis of the species’ ESA listing. Therefore, upon the effective date of this rule, humpback whales that are listed as threatened or endangered will retain depleted status under the MMPA and humpback whales that are not listed as threatened or endangered will lose depleted status under the MMPA. However, we note that the DPSs established in this final rule that occur in waters under the jurisdiction of the United States do not necessarily equate to the existing MMPA stocks for which Stock Assessment Reports (SARs) have been published in accordance with section 117 of the MMPA (16 U.S.C. 1386). Following publication of this rule, we will conduct a review of humpback whale stock delineations in waters under the jurisdiction of the United States to determine whether any stocks should be realigned in light of the ESA DPSs established herein. Until such time as the MMPA stock delineations are reviewed, because we cannot

manage one portion of a stock as depleted and another portion as not depleted under the MMPA, we will treat existing MMPA stocks that fully or partially coincide with a listed DPS as depleted and stocks that do not fully or partially coincide with a listed DPS as not depleted for management purposes. Therefore, in the interim, we will treat the Western North Pacific, Central North Pacific, and California/Oregon/Washington stocks as depleted because they partially or fully coincide with ESA-listed DPSs, and we will treat the Gulf of Maine and American Samoa stocks as no longer depleted because they do not coincide with any ESA-listed DPS. Any changes in stock delineation or MMPA section 117 elements (such as PBR or strategic status) will be reflected in future stock assessment reports, and the Scientific Review Groups and the public will be provided opportunity to review and comment.

This final rule also has implications for the approach regulations currently at 50 CFR 224.103(a) and (b). With regard to the regulations in effect in Hawaii (224.103(a)), the delisting of the Hawaii DPS removes the ESA basis for promulgation of that rule. Therefore, upon the effective date of this final rule, the regulations currently at § 224.103(a) will be deleted and that paragraph reserved. However, elsewhere in today’s issue of the **Federal Register**, we are issuing an interim final rule to promulgate approach regulations in Hawaii under the MMPA that are substantially similar to the ESA regulations being removed, but also prohibit interception (*i.e.*, leap-frogging).

With regard to the regulations in effect in Alaska (224.103(b)), the impacts of this final rule are different. When the Alaska provisions were adopted, we cited section 112(a) of the MMPA in addition to section 11(f) of the ESA as authority (16 U.S.C. 1382(a); 16 U.S.C. 1540(f)). However, because the humpback whale was listed throughout its range as endangered, the rule was codified only in Part 224 of the ESA regulations (which applies to “Endangered Marine and Anadromous Species”). At the time of the proposed listing rule, we did not expect that there would be any endangered DPSs present in Alaska and so sought comment as to whether we should relocate the approach regulations from Part 224 to Part 223 (setting out ESA regulations applicable to “Threatened Marine and Anadromous Species”) and also as to whether we should set them out in Part 216 as MMPA regulations. Because we are now listing the Western North

Pacific DPS as endangered, we will retain the approach regulations under the ESA at 50 CFR 224.103, and because we are listing the Mexico DPS as threatened, we will also add the provisions to Part 223 at 50 CFR 223.214. By separate rulemaking elsewhere in today’s issue of the **Federal Register**, we therefore promulgate a final rule effecting a technical correction and recodification that recodifies these provisions so that they appear in both Parts 223 and 224 and also sets the provisions out in Part 216 (MMPA Regulations) at 50 CFR 216.18, to reflect that these provisions were originally adopted under the MMPA as well as the ESA and are an important source of protection for these marine mammals.

Critical Habitat

Section 3 of the ESA (16 U.S.C. 1532(5)(A)) 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.” Section 3 of the ESA also defines the terms “conserve,” “conserving,” and “conservation” to mean “to use and 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 chapter are no longer necessary” (16 U.S.C. 1532(3)).

Section 4(a)(3)(A)(i) of the ESA requires that, to the maximum extent practicable and determinable, critical habitat be designated concurrently with the listing of a species. Designation of critical habitat must be based on the best scientific data available, and must take into consideration the economic, national security, and other relevant impacts of specifying any particular area as critical habitat (16 U.S.C. 1533(b)(2)). Once critical habitat is designated, section 7 of the ESA requires Federal agencies to ensure that they do not fund, authorize, or carry out any actions that are likely to destroy or adversely modify that habitat (16 U.S.C. 1536(a)(2)). This requirement is in addition to the section 7 requirement that Federal agencies ensure their actions do not jeopardize the continued existence of the species.

In determining what areas qualify as critical habitat, 50 CFR 424.12(b) requires that NMFS “Identify physical and biological features essential to the conservation of the species at an appropriate level of specificity using the best available scientific data. This analysis will vary between species and may include consideration of the appropriate quality, quantity, and spatial and temporal arrangements of such features in the context of the life history, status, and conservation needs of the species.” “Physical or biological features” are defined as the “features that 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” (50 CFR 424.02).

The ESA directs the Secretary of Commerce to consider the economic impact, the national security impacts, and any other relevant impacts from designating critical habitat, and under section 4(b)(2), the Secretary may exclude any area from such designation if the benefits of exclusion outweigh those of inclusion, provided that the exclusion will not result in the extinction of the species.

50 CFR 424.12(g) specifies that critical habitat shall not be designated within foreign countries or in other areas outside U.S. jurisdiction. Because the known distributions of the humpback whales in the Cape Verde Islands/ Northwest Africa and Arabian Sea DPSs occur in areas outside the jurisdiction of the United States, no critical habitat will be designated for these DPSs.

In our proposed rule (80 FR 22304; April 21, 2015), we requested information on the identification of specific areas that meet the definition of critical habitat defined above for the Western North Pacific and Central America DPSs of the humpback whale. These DPSs, together with the Mexico DPS that we are now listing as threatened, are the only listed DPSs that occur in U.S. waters or its territories. We also solicited biological and economic information relevant to making a critical habitat designation for each DPS. We have reviewed the comments provided and the best available scientific information. We

conclude that critical habitat is not determinable at this time for the following reasons: (i) Data sufficient to perform required analyses are lacking; and (ii) the biological needs of the species are not sufficiently well known to identify any area that meets the definition of “critical habitat” (50 CFR 424.12(a)(2)). We will propose critical habitat for the Western North Pacific, Mexico, and Central America DPSs of the humpback whale in a separate rulemaking if we determine that it is prudent to do so. (See 50 CFR 424.12(a)(1).)

Classification

National Environmental Policy Act (NEPA)

The 1982 amendments to the ESA, in section 4(b)(1)(A), restrict the information that may be considered when assessing species for listing. Based on this limitation of criteria for a listing decision and the opinion in *Pacific Legal Foundation v. Andrus*, 657 F. 2d 829 (6th Cir. 1981), we have concluded that NEPA does not apply to ESA listing actions. (See NOAA Administrative Order 216–6 (1999), § 6.03.e.1; NAO 216–6A (2016), § 6.01.) Further, we conclude that extension of the section 9(a)(1) protections in a blanket or categorical fashion is a form of ministerial action taken under the authority of the second sentence of ESA section 4(d). Courts have found that it is reasonable to interpret the second sentence of section 4(d) as setting out distinct authority from that of the first sentence, which is invoked when the agency proposes tailored or special protections that go beyond the standard section 9 protections. See *In re Polar Bear Endangered Species Act Listing and 4(d) Rule Litigation*, 818 F. Supp. 2d 214, 228 (D.D.C. 2011); *Sweet Home Chapter of Cmities. for a Great Oregon v. Babbitt*, 1 F.3d 1, 8 (D.C. Cir.1993), *modified on other grounds on reh’g*, 17 F.3d 1463 (D.C. Cir. 1994), *rev’d on other grounds*, 515 U.S. 687 (1995). This type of action is covered under the NOAA categorical exclusion for “policy directives, regulations and guidelines of an administrative, financial, legal, technical or procedural nature” See NAO 216–6, § 6.03c.3(i). None of the exceptional circumstances of § 5.05c of NAO 216–6 applies. That is, the action does not involve a geographic area with unique characteristics, is not the subject of public controversy based on potential environmental consequences, does not have uncertain environmental impacts or unique or unknown risks, does not establish a precedent or decision in principle about

future proposals, will not result in cumulatively significant impacts, and will not have any adverse effects upon endangered or threatened species or their habitats. In particular, the rule may not reasonably be said to potentially have “any adverse effects upon endangered or threatened species or their habitats” because here the rule will ensure the same level of protections continue to apply to any threatened DPS, which benefits the species. In addition, we note that there will be no change in the legal or regulatory status quo as it relates to the threatened DPS of humpback whales, because these whales have for decades been covered by all protections of section 9 as endangered species. Issuance of this rule thus does not alter the legal and regulatory status quo in such a way as to create any environmental effects. See *Humane Soc. of U.S. v. Johanns*, 520 F. Supp. 2d. 8, 29 (D.D.C. 2007). NEPA analysis is not required in cases where the rule will not result in any physical effects to the environment, much less any adverse effects. See *Oceana, Inc. v. Bryson*, 940 F. Supp. 2d 1029 (N.D. Cal. 2013).

Executive Order (E.O.) 12866, Paperwork Reduction Act, and Regulatory Flexibility Act

This rule is exempt from review under E.O. 12866. This final rule does not contain a collection of information requirement for the purposes of the Paperwork Reduction Act.

As noted in the Conference Report on the 1982 amendments to the ESA, economic impacts cannot be considered when assessing the status of a species. Therefore, the economic analyses required by the Regulatory Flexibility Act are not applicable to the listing process.

E.O. 13132, Federalism

E.O. 13132 requires agencies to take into account any federalism impacts of regulations under development. It includes specific directives for consultation in situations where a regulation will preempt state law or impose substantial direct compliance costs on state and local governments (unless required by statute). Neither of those circumstances is applicable to this final rule; therefore this action does not have federalism implications as that term is defined in E.O. 13132.

E.O. 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. E.O. 13175—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 tribes or organizations on the same basis as Indian tribes under E.O. 13175.

We have coordinated with tribal governments and native corporations that may be affected by the action. We

provided them with a copy of the proposed rule, and offered the opportunity to comment on the Monitoring Plan. We did not receive any comments.

References Cited

A list of all references cited in this final rule is available at www.regulations.gov (identified by docket number NOAA–NMFS–2015–0035) or upon request from NMFS (see ADDRESSES).

List of Subjects

50 CFR Part 223

Endangered and threatened species, Exports, Imports, Transportation.

50 CFR Part 224

Endangered and threatened species.

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 and 224 are 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 the table in paragraph (e), add an entry for “Whale, humpback (Mexico DPS)” under MARINE MAMMALS in alphabetical order by common name 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).	<i>Megaptera novaeangliae</i> .	Humpback whales that breed or winter in the area of mainland Mexico and the Revillagigedos 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 [Insert Federal Register page where the document begins], September 8, 2016.	NA	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).

* * * * *

■ 3. Add § 223.213 to subpart B to read as follows:

§ 223.213 Humpback whales.

The prohibitions of section 9(a)(1)(A) through 9(a)(1)(G) of the ESA (16 U.S.C. 1538) relating to endangered species

apply to threatened species of the humpback whale listed in § 223.102(e).

PART 224—ENDANGERED MARINE AND ANADROMOUS SPECIES

■ 4. 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.*

■ 5. In § 224.101, in the table in paragraph (h), remove the entry for “Whale, humpback” and add four entries in its place 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 (Arabian Sea DPS).	<i>Megaptera novaeangliae</i> .	Humpback whales that breed and feed in the Arabian Sea.	81 FR [Insert Federal Register page where the document begins], September 8, 2016.	NA	NA
Whale, humpback (Cape Verde Islands/Northwest Africa DPS).	<i>Megaptera novaeangliae</i> .	Humpback whales that breed in waters surrounding the Cape Verde Islands in the Eastern North Atlantic Ocean, as well as those that breed in an undetermined breeding area in the eastern tropical Atlantic (possibly Canary Current) and feed along the Iceland Shelf and Sea and the Norwegian Sea.	81 FR [Insert Federal Register page where the document begins], September 8, 2016.	NA	NA
Whale, humpback (Central America DPS).	<i>Megaptera novaeangliae</i> .	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 [Insert Federal Register page where the document begins], September 8, 2016.		
Whale, humpback (Western North Pacific DPS).	<i>Megaptera novaeangliae</i> .	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 [Insert Federal Register page where the document begins], September 8, 2016.		
*	*	*	*	*	*

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).

* * * * *

■ 6. Remove and reserve § 224.103(a) to read as follows:

§ 224.103 Special prohibitions for endangered marine mammals.

(a) [Reserved]

* * * * *

[FR Doc. 2016-21276 Filed 9-6-16; 4:15 pm]

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