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Endangered and Threatened Species; Designation of Critical Habitat for the Puget Sound/Georgia Basin Distinct Population Segments of Yelloweye Rockfish, Canary Rockfish and Bocaccio; Final Rule

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 226

[Docket No. 130404330–4883–02]

RIN 0648–BC76

Endangered and Threatened Species; Designation of Critical Habitat for the Puget Sound/Georgia Basin Distinct Population Segments of Yelloweye Rockfish, Canary Rockfish and Bocaccio

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

ACTION: Final rule.

SUMMARY: We, the National Marine Fisheries Service (NMFS), issue a final rule to designate critical habitat for three species of rockfish listed under the Endangered Species Act (ESA): the threatened yelloweye rockfish (*Sebastes ruberrimus*) Distinct Population Segment (DPS), the threatened canary rockfish (*S. pinniger*) DPS, and the endangered bocaccio (*S. paucispinus*) DPS (listed rockfish) pursuant to section 4 of the ESA. The specific areas in the final designation include 590.4 square miles (1529 square km) of nearshore habitat for canary rockfish and bocaccio, and 414.1 square miles (1072.5 square km) of deepwater habitat for yelloweye rockfish, canary rockfish and bocaccio. This final designation represents a reduction of approximately 15.2 percent (180.3 sq mi, 467 sq km) for canary rockfish and bocaccio, and a reduction of approximately 28 percent (160 sq mi, 416.2 sq km) for yelloweye rockfish, compared to our proposed critical habitat rule on August 6, 2013 (78 FR 47635). We exclude some particular areas from designation because the benefits of exclusion outweigh the benefits of inclusion and exclusion of those areas will not result in the extinction of the species. No areas were excluded based on economic impacts.

This final rule responds to and incorporates public comments received on the proposed rule and supporting documents, as well as peer reviewer comments received on our draft biological report.

DATES: This final rule will take effect on February 11, 2015.

ADDRESSES: Reference materials regarding this rulemaking can be obtained via the Internet at: *http://www.wcr.noaa.gov* or by submitting a request to the Protected Resources Division, West Coast Region, National Marine Fisheries Service, 7600 Sand Point Way NE., Seattle, WA 98115.

FOR FURTHER INFORMATION CONTACT: Dan Tonnes, NMFS, West Coast Region, Protected Resources Division, at the address above or at 206–526–4643; or Dwayne Meadows, NMFS, Office of Protected Resources, Silver Spring, MD, 301–427–8403.

SUPPLEMENTARY INFORMATION:

Background

On April 28, 2010, we listed the Puget Sound/Georgia Basin Distinct Population Segments (DPSs) of yelloweye rockfish and canary rockfish as threatened under the Endangered Species Act (ESA), and bocaccio as endangered (75 FR 22276, updated 79 FR 20802, April 14, 2014). A proposed critical habitat rule for the listed DPSs of rockfish was published in the **Federal Register** on August 6, 2013 (78 FR 47635). This rule describes the final critical habitat designation, including responses to public comments and peer reviewer comments, and supporting information on yelloweye rockfish, canary rockfish and bocaccio including biology, distribution and habitat use, and the methods used to develop the final designation.

We considered various alternatives to the critical habitat designation for yelloweye rockfish, canary rockfish, and bocaccio of the Puget Sound/Georgia Basin. The alternative of not designating critical habitat for each species would impose no economic, national security, or other relevant impacts, but would not provide any conservation benefit to the species. This alternative was considered and rejected because it does not meet the legal requirements of the ESA and would not provide for the conservation of each species. The alternative of designating all potential critical habitat areas (i.e., no areas excluded) also was considered and rejected because for some areas the benefits of exclusion outweighed the benefits of inclusion. An alternative to designating all potential critical habitat areas is the designation of critical habitat within a subset of these areas. Under section 4(b)(2) of the ESA, we must consider the economic impacts, impacts on national security, and other relevant impacts of designating any particular area as critical habitat. The Secretary of Commerce (Secretary) has the discretion to exclude an area from designation as critical habitat if the benefits of exclusion (i.e., the impacts that would be avoided if an area were excluded from the designation) outweigh the benefits of designation (i.e., the conservation benefits to these species if an area were designated), so long as exclusion of the area will not result in extinction of the species. We prepared an analysis describing our exercise of discretion, which is contained in our final Section 4(b)(2) Report (NMFS, 2014c). Under this alternative we are excluding Indian lands as well as several areas under the control of the Department of Defense (DOD). We selected, and are implementing, this alternative because the benefits of excluding these areas outweigh the benefits of including these areas and result in a critical habitat designation that provides for the conservation of listed rockfish while avoiding impacts to Indian lands and impacts to national security. This alternative also meets the requirements under the ESA and our joint NMFS–U.S. Fish and Wildlife Service (USFWS) regulations concerning critical habitat. We estimated a total annualized incremental administrative cost of approximately $123,000 (discounted at 7 percent) for designating the five specific areas as listed rockfish critical habitat.

Statutory and Regulatory Background for Critical Habitat Designations

The ESA defines critical habitat under section 3(5)(A) 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 [of Commerce] that such areas are essential for the conservation of the species.''

Section 4(a) of the ESA precludes military land from designation, where that land is covered by an Integrated Natural Resource Management Plan that the Secretary has found in writing will benefit the listed species.

Section 4(b)(2) of the ESA requires us to designate critical habitat for threatened and endangered species ''on the basis of the best scientific data available and after taking into consideration the economic impact, the impact on national security, and any other relevant impact, of specifying any particular area as critical habitat.'' It grants the Secretary discretion to exclude any area from critical habitat if she determines ''the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat.'' The decision to

exclude is wholly discretionary with the Secretary. In adopting this provision, Congress explained that, ''[t]he consideration and weight given to any particular impact is completely within the Secretary's discretion.'' H.R. No. 95–1625, at 16–17 (1978; M–37016, ''The Secretary's Authority to Exclude Areas from a Critical Habitat Designation under Section 4(b)(2) of the Endangered Species Act'' (Oct. 3, 2008) (DOI 2008, 78 FR 53058, August 18, 2013). The Secretary's discretion to exclude is limited, as he may not exclude areas that ''will result in the extinction of the species.''

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

Yelloweye Rockfish, Canary Rockfish, and Bocaccio Natural History and Habitat Use

Our final Biological Report (NMFS, 2014a) describes the life histories of yelloweye rockfish, canary rockfish and bocaccio in detail, which are summarized here. The U.S. portion of the Puget Sound/Georgia Basin that is occupied by yelloweye rockfish, canary rockfish, and bocaccio can be divided into five areas, or Basins, based on the distribution of each species, geographic conditions, and habitat features. These five interconnected Basins are: (1) The San Juan/Strait of Juan de Fuca Basin, (2) Main Basin, (3) Whidbey Basin, (4) South Puget Sound, and (5) Hood Canal. We describe habitat usage in these Basins where we have available information, in addition to available information about life history and habitat usage outside of these areas. The life histories of listed rockfish include pelagic larval and juvenile stages, followed by a juvenile stage in shallower waters, and a sub-adult/adult stage. Much of the life history of these three species is similar, with differences noted below.

Rockfishes are iteroparous (i.e., have multiple reproductive cycles during their lifetime) and are typically long-lived (Love *et al.,* 2002). Yelloweye rockfish are one of the longest lived of the rockfishes, reaching more than 100 years of age. Yelloweye rockfish reach 50 percent maturity at sizes of 16 to 20 in (40 to 50 cm) and ages of 15 to 20 years (Rosenthal *et al.,* 1982; Yamanaka and Kronlund, 1997). The maximum age of canary rockfish is at least 84 years (Love *et al.,* 2002), although 60 to 75 years is more common (Caillet *et al.,* 2000). Canary rockfish reach 50 percent maturity at sizes around 16 in (40 centimeters) and ages of 7 to 9 years. The maximum age of bocaccio is unknown, but may exceed 50 years. Bocaccio are reproductively mature near age 6 (FishBase, 2010). Mature females of each species produce from several thousand to over a million eggs annually (Love *et al.,* 2002). Being long-lived allows each species to persist through many years of poor reproduction until a good recruitment year occurs.

Rockfishes fertilize their eggs internally and the young are extruded as larvae. Upon parturition (birth), larval rockfishes can occupy the full water column, but generally occur in the upper 80 m (262 ft) (Love *et al.,* 2002; Weis, 2004). Larval rockfishes have been documented in Puget Sound (Greene and Godersky, 2012), yet most studies have not identified individual fish to species. There is little information regarding the habitat requirements of rockfish larvae, though other marine fish larvae biologically similar to rockfish larvae are vulnerable to low dissolved oxygen levels and elevated suspended sediment levels that can alter feeding rates and cause abrasion to gills (Boehlert, 1984; Boehlert and Morgan, 1985; Morgan and Levings, 1989). Larvae have also been observed immediately under free-floating algae, seagrass, and detached kelp (Shaffer *et al.,* 1995; Love *et al.,* 2002). Oceanographic conditions within many areas of Puget Sound likely result in the larvae staying within the basin where they are born rather than being more broadly dispersed by tidal action or currents (Drake *et al.,* 2010).

Larvae occur throughout the water column (Love *et al.,* 2002; Weis, 2004). When bocaccio and canary rockfish reach sizes of 1 to 3.5 in (3 to 9 cm) or 3 to 6 months old, they settle into shallow, intertidal, nearshore waters in rocky, cobble and sand substrates with or without kelp (Love *et al.,* 1991; Love *et al.,* 2002). This habitat feature offers a beneficial mix of warmer temperatures, food, and refuge from predators (Love *et al.,* 1991). Areas with floating and submerged kelp species support the highest densities of juvenile bocaccio and canary rockfish, as well as many other rockfish species (Carr, 1983; Halderson and Richards, 1987; Matthews, 1989; Love *et al.,* 2002). Unlike bocaccio and canary rockfish, juvenile yelloweye rockfish are not typically found in intertidal waters (Love *et al.* 1991; Studebaker et al. 2009), but are most frequently observed in waters deeper than 30 meters (98 ft) near the upper depth range of adults (Yamanaka *et al.,* 2006).

Depth is generally the most important determinant in the distribution of many rockfish species of the Pacific coast (Chen, 1971; Williams and Ralston, 2002; Anderson and Yoklavich, 2007; Young *et al.,* 2010). Adult yelloweye rockfish, canary rockfish, and bocaccio generally occupy habitats from approximately 30 to 425 m (90 ft to 1,394 ft) (Orr *et al.,* 2000; Love *et al.,* 2002), and in Federal waters off the Pacific coast each species is considered part of the ''shelf rockfish'' assemblage under the authorities of the Magnuson-Stevens Fishery Conservation and Management Act because of their generally similar habitat usages (50 CFR part 660, Subparts C–G).

Adult yelloweye rockfish, canary rockfish, and bocaccio most readily use habitats within and adjacent to areas that are highly rugose (rough). These are benthic habitats with moderate to extreme steepness, complex bathymetry, and/or substrates consisting of fractured bedrock, rock, and boulder-cobble complexes (Yoklavich *et al.,* 2000; Love *et al.,* 2002; Wang, 2005; Anderson and Yoklavich, 2007). Most of the benthic habitats in Puget Sound consist of unconsolidated materials such as mud, sand, clays, cobbles and boulders, and despite the relative lack of rock, some of these benthic habitats are moderately to highly rugose. More complex marine habitats are generally used by higher numbers of fish species relative to less complex areas (Anderson and Yoklavich, 2007; Young *et al.,* 2010), thus supporting food sources for sub-adult and adult yelloweye rockfish, canary rockfish, and bocaccio. More complex marine habitats also provide refuge from predators, and their structure may provide shelter from currents, thus leading to energy conservation (Young *et al.,* 2010).

Though areas near rocky habitats or other complex structure are most readily used by adults of each species, non-rocky benthic habitats are also occupied. In Puget Sound, adult yelloweye rockfish, canary rockfish, and bocaccio have been documented in areas with non-rocky substrates such as sand, mud, and other unconsolidated sediments (Haw and Buckley, 1971; Washington, 1977; Miller and Borton, 1980; Reum, 2006).

Prey

Food sources for yelloweye rockfish, canary rockfish, and bocaccio occur throughout Puget Sound. However, each of the Basins has unique biomass and species compositions of fishes and

invertebrates, which vary temporally and spatially (Rice, 2007; Rice *et al.,* 2012). Absolute and relative abundance and species richness of most fish species in the Puget Sound/Georgia Basin increase with latitude (Rice, 2007; Rice *et al.,* 2012). Despite these differences, each Basin hosts common food sources for yelloweye rockfish, canary rockfish, and bocaccio as described below.

Larval and juvenile rockfish feed on very small organisms such as zooplankton, copepods and phytoplankton, small crustaceans, invertebrate eggs, krill, and other invertebrates (Moser and Boehlert, 1991; Love *et al.,* 1991; Love *et al.,* 2002). Larger juveniles also feed upon small fish (Love *et al.,* 1991). Adult yelloweye rockfish, canary rockfish, and bocaccio have diverse diets that include many species of fishes and invertebrates, including crabs, various rockfishes (*Sebastes spp.*), flatfishes (Pleuronectidae spp.), juvenile salmon (*Oncorhynchus spp.*), walleye pollock, (*Theragra chalcogramma*), Pacific hake (*Merluccius productus*), Pacific cod (*Gadus macrocephalus*), green sea urchin (*Stongylocentrotus droebachiensis*), lingcod (*Ophiodon elongates*) eggs, various shrimp species (*Pandalus spp.*), and perch (*Rhacochilus spp.*). Common forage fish that are part of their diets include Pacific herring (*Clupea harengus pallasi*), surf smelt (*Hypomesus pretiosus*), and Pacific sand lance (*Ammodytes hexapterus*) (Washington *et al.,* 1978; Lea *et al.,* 1999; Love *et al.,* 2002; Yamanaka *et al.,* 2006).

Summary of Public and Peer Review Comments Received and Responses

We solicited public comment for a total of 90 days on the proposed designation of critical habitat for the Puget Sound/Georgia Basin DPSs of yelloweye rockfish, canary rockfish and bocaccio. We received written comments from five commenters, and these are available online at: *http://www.regulations.gov/#!docketDetail;D=NOAA-NMFS-2013-0105.* Summaries of the substantive comments received, and our responses, are organized by category and provided below.

In December 2004, the Office of Management and Budget (OMB) issued a Final Information Quality Bulletin for Peer Review pursuant to the Information Quality Act (IQA). The Bulletin was published in the **Federal Register** on January 14, 2005 (70 FR 2664). The Bulletin established minimum peer review standards, a transparent process for public disclosure of peer review planning, and opportunities for public participation with regard to certain types of information disseminated by the Federal Government. The peer review requirements of the OMB Bulletin apply to influential or highly influential scientific information disseminated on or after June 16, 2005.

Two documents supporting this final designation of critical habitat for listed rockfishes are considered influential scientific information and subject to peer review. In accordance with the OMB policies and the Information Quality Act (IQA) (Section 515 of Public Law 106–554), we solicited pre-dissemination peer review of the draft Biological Report (NMFS, 2013a) from three reviewers. We also solicited peer review of the draft Economic Analysis (NMFS, 2013b) from two reviewers. We received two sets of peer review comments on the draft Biological Report in advance of proposing critical habitat for listed rockfishes, and they are included in the Peer Review Report (*http://www.cio.noaa.gov/services_programs/prplans/ID213.html.*) Based on those peer review comments, we revised the Biological Report prior to our proposed designation. There was some overlap between the comments from the peer reviewers and the substantive public comments on the draft Biological Report (NMFS, 2013b). As many peer review and public comments were similar, we have responded to both the peer reviewer's comments and public comments below. We received no peer review responses on the draft Economic Analysis; however, we did receive public comments specific to economics. Responses to the public comments on the draft Economic Analysis (NMFS, 2013b) and also the draft Section 4(b)(2) Report (NMFS, 2013c) are included below. Revisions addressing the public comments have been made in the final documents supporting this designation as discussed below (i.e., Biological Report, Economic Analysis, and Section 4(b)(2) Report), and the final versions of those documents can be found on our Web site at: *http://www.wcr.noaa.gov/.*

Physical or Biological Features Essential for Conservation

Comment 1: One peer reviewer stated that the Biological Report provided an adequate review of listed rockfish life history attributes, the physical and biological features essential to conservation, and specific areas for designation. The reviewer stated that the lack of biological and life-history information for canary, yelloweye and bocaccio in Puget Sound restricts a more complete analysis of critical habitat needs of these species, thus obligating a conservative approach to designating critical habitat. The reviewer asked how new scientific information will be used in the future to modify or refine critical habitat designation.

Response: This designation is based upon ''best available science.'' As new information relevant to, among other things, historical and contemporary habitat use is gathered and developed, we may revise this designation. In spring 2013 we appointed a Rockfish Recovery Team to aid in the development of the Recovery Plan for listed rockfishes. The Recovery Team is composed of nine individuals with a variety of academic and government affiliations and expert knowledge of listed rockfishes and the Puget Sound/Georgia basin ecosystem. That recovery team effort is underway and NMFS anticipates releasing a draft Recovery Plan for public review and comment in 2015.

Comment 2: One peer reviewer stated that a statistically-based predictive model would be the best case approach to scientifically define critical habitat for listed rockfish in Puget Sound. However, due to the lack of precise bathymetry and habitat information, the peer reviewer stated that the approach we used to identify critical habitat was a conservative, risk-averse approach to defining adult and juvenile habitat because it includes most records where listed rockfishes have been documented and areas they likely occupy.

Response: This designation is based upon ''best available science.'' We agree that a statistically-based predictive model, or similar approach, could provide a sophisticated assessment of important listed rockfish habitat, yet we do not have sufficient information to build such a model, and the ESA requires we meet statutory timeframes to designate critical habitat. We also agree with the commenter that the current bathymetry and habitat knowledge of most of the Puget Sound/Georgia Basin necessitates the use of the best available methods and analytical tools described in the Biological Report. In order to build a statistically-based predictive model to inform the development of critical habitat for listed rockfishes, we would need a combination of historical and contemporary population data, built from a new, systematically conducted survey across all likely habitat in the range of the DPSs, in addition to more sophisticated benthic habitat information. We expect that our draft Recovery Plan will outline the research and data needs to gain pertinent information to potentially develop such

a predictive model in the future. An example of a critical research task to build such a predictive model is systematic surveys targeting listed rockfish habitats in the Puget Sound. The Washington Department of Fish and Wildlife (WDFW) has conducted Remotely Operated Vehicle (ROV) surveys in the past several years for rare rockfishes in the San Juan Islands (Pacunski *et al.,* 2013). We are funding additional ROV surveys for other areas of the Puget Sound to build our knowledge on listed rockfish habitat use and population information.

Comment 3: One peer reviewer of our draft Biological Report (NMFS, 2013a) stated we should use maps generated by WDFW from surveys and historical sources to evaluate the effectiveness of our benthic habitat analytical tools at encompassing known occurrences of the adults within the DPSs.

Response: We did what the commenter requested. Prior to publishing the proposed critical habitat designation for listed rockfish we assessed the maps generated by WDFW and published in Palsson *et al.* (2009) to compare the documented locations of yelloweye rockfish, canary rockfish and bocaccio in the Puget Sound. As described in the final Biological Report (NMFS, 2014a), we assessed the number of listed rockfish observations located outside of areas of high rugosity, and found that most were included in our habitat evaluation methods. We added the few listed rockfish observations that fell outside of our initial critical habitat area, which resulted in 0.94 square miles (2.4 sq km) of area added to critical habitat (NMFS, 2014a).

Comment 4: One peer reviewer stated that there is a lack of specific knowledge about habitat requirements, life histories, and habitat occurrence of the listed rockfishes in the Puget Sound DPSs. The reviewer stated that it was logical of NMFS to draw from knowledge of habitat and life history requirements throughout the range of these species, but the Biological Report should better emphasize that there is a lack of direct information regarding the juvenile habitat requirements for canary and bocaccio rockfishes in Puget Sound and that what is known from coastal populations, especially from California, may not apply to the unique geomorphology and oceanography of the Puget Sound DPSs.

Response: We agree with the commenter that most of our knowledge regarding the life-history and habitat use of yelloweye rockfish, canary rockfish and bocaccio is based upon research of rockfishes that live in waters outside of the Puget Sound/Georgia Basin. However, we must designate critical habitat based upon ''best available science.'' We revised our Biological Report in response to this peer review comment to further underscore the source of best science available to inform this designation and the status of our knowledge of listed rockfishes in Puget Sound.

Comment 5: One commenter stated that we did not consider some biological components of critical habitat, such as kelp and floating vegetation, and existing data supported their use.

Response: We did what the commenter suggests. In our proposed designation we considered the biological components of rockfish habitat including biotic benthic communities that consist of kelp, and we report these general conditions for each of the main Basins of the Puget Sound in our final Biological Report (NMFS, 2014a). Our analysis of the features in nearshore areas that are important for canary rockfish and bocaccio considered the location of documented kelp and areas where kelp can be supported by appropriate substrates such as cobbles and rock. We agree that floating vegetation such as detached eelgrass and kelp are important for juvenile rockfish, but were unable to map areas of floating vegetation because their locations are likely extremely ephemeral and generally unpredictable with existing analytical tools.

Comment 6: One commenter questioned the designation of critical habitat in South Puget Sound and stated that there is a high prevalence of unvegetated mudflats in this region which would be inappropriate habitat for listed rockfish.

Response: We agree that there is a high prevalence of unvegetated mudflats in this Basin which would be inappropriate critical habitat for listed rockfishes. During our analysis of habitats in South Puget Sound we found that much of the most southern portion of the Basin does not have nearshore habitat features such as kelp readily used by rearing canary rockfish and bocaccio. Thus our designation of critical habitat does not include these areas of the South Puget Sound, but does include other nearshore areas of the basin that support kelp and/or have substrates that can support kelp and otherwise have beneficial rearing conditions.

Comment 7: One commenter stated that data exist to allow us to conduct a tiered ''grading'' of biological parameters, such as forage fish species, and features in each of the Basins of Puget Sound in order to provide an overview of the differences between each area.

Response: Our draft and final Biological Reports (NMFS, 2013; 2014a) provide a qualitative description of the biological parameters, or essential features, relevant to listed rockfishes in each of the Basins of the Puget Sound. We do not believe the generally coarse and uneven level of information we have on many biological parameters important to listed rockfishes in each of the Basins of Puget Sound is of sufficient quality to inform a grading system for this final critical habitat designation. We will continue to evaluate the usefulness of this approach as new information becomes available.

Specific Areas Within the Geographical Area Occupied by the Species

Comment 8: One commenter noted that the proposed designation does not constitute the entire geographical area which can be occupied by the listed species, or which is currently occupied.

Response: We agree that this critical habitat for listed rockfishes does not cover the entire geographic area of the Puget Sound/Georgia Basin, nor the entire area likely to be currently occupied by each species. Section 3(5)(A) of the ESA directs us to designate ''specific areas'' occupied by the species with physical or biological habitat features essential to the conservation of the species. Additionally, ESA Section 3(5)(C) provides ''[e]xcept in those circumstances determined by the Secretary, critical habitat shall not include the entire geographical area which can be occupied by the threatened or endangered species.''

Comment 9: One commenter noted that critical habitat should be specifically identified for the larval stages of listed rockfishes. The commenter noted research by LeClair *et al.* (2012) on larval rockfishes in Puget Sound and suggested that modeling approaches could be used to model larval dispersal and support identification of critical habitat.

Response: The ESA requires that we base this designation on ''best available science.'' We currently do not have sufficient information regarding the habitat requirements of larval listed rockfishes to determine which features are essential for conservation, and thus do not designate critical habitat based on the life-history requirements and habitats used by this life-stage. Because larval rockfishes are nearly impossible to identify to species visually until they are several months old (Love *et al.,* 2002), there is relatively little known about their life-history on a species-

specific level. Our knowledge of larval rockfishes in Puget Sound is similarly limited to a handful of studies that report the location, densities and presence during portions of the year (e.g., Waldron, 1972; Busby, 2000; Chamberlin *et al.,* 2004; Weis, 2004; Greene and Godersky, 2012). None of the studies that took place in Puget Sound provided information specifically regarding the habitat use of larval yelloweye rockfish, canary rockfish or bocaccio. Larval rockfish species survival and settlement are dependent upon the vagaries of climate, abundance of predators, oceanic currents, and chance events, and we do not know the relative importance of these factors in the Puget Sound/Georgia Basin (Drake *et al.,* 2010). LeClair *et al.'*s (2012) research on the settlement of brown rockfish (*Sebastes auriculatus*) in Puget Sound determined that some larval brown rockfish returned to the same habitat as their parents, indicating that site-fidelity may be influenced by behavior and local oceanic conditions. Modeling for larval rockfish dispersal in Alaskan waters was published by Stockhausen and Hermann (2007), and this type of research can certainly inform scenarios in which larval rockfishes are released and their potential ultimate recruitment areas tracked, and deserve additional analysis for the unique waters of Puget Sound. However, these modeling methods have not yet been adapted for the multiple Basins of Puget Sound and thus are not available to inform our designation of critical habitat. The development of such larval dispersal models will likely be identified as a priority action in the draft rockfish Recovery Plan.

Though we did not formulate our designation of critical habitat based on the life-history requirements of larval listed rockfishes, we note that some of the waters of Puget Sound used by this life-stage are nonetheless designated as critical habitat for listed rockfishes. The final critical habitat designation includes not only the benthic features with the specific designated areas, but also the marine waters above these habitats within these areas. As indicated by the inclusion of water quality as an essential feature in our proposed rule, we did intend for the designation to include not just the benthic substrate in the areas proposed, but also the water above it that is used by larval listed rockfishes.

Comment 10: One peer reviewer stated that juvenile yelloweye rockfish are often observed in depths from 20 to 30 m (65 to 98 ft) and this habitat was not included in the proposed critical habitat designation. The reviewer recommended that we expand juvenile yelloweye rockfish habitat to include waters up to 20 m in depth.

Response: Based on review of the life-history of yelloweye rockfish, we found there are relatively few documented occurrences of yelloweye rockfish in this shallower range outside or inside the Puget Sound/Georgia Basin. Juvenile yelloweye rockfish do not typically occupy intertidal waters (Love *et al.,* 1991; Studebaker *et al.,* 2009). A few juveniles have been documented in shallow nearshore waters (Love *et al.,* 2002; Palsson *et al.,* 2009; Cloutier, 2011), but most settle in habitats in waters greater than 30 m (98 ft) (Richards, 1986; Yamanaka *et al.,* 2006). One study found juvenile yelloweye rockfish have been observed at a mean depth of 73 m (239 ft), with a minimum depth of 30 m (98 ft) in waters of British Columbia (Yamanaka *et al.,* 2006). As such, though juvenile yelloweye rockfish occasionally occupy waters shallower than 30 meters, best available science does not support findings that waters shallower than 30 meters have features that are essential to the conservation of the species.

Comment 11: WDFW questioned the designation of critical habitat in South Puget Sound and stated there are no data suggesting that adult populations occur in the area.

Response: We disagree. Existing scientific research documents that adults of each species utilized the South Puget Sound historically. Reports by the Washington Department of Fish from the 1960s and 1970s (i.e., Bargman, 1977; Buckley, 1965; 1966; 1967) documented thousands of yelloweye rockfish, canary rockfish, and bocaccio caught by recreational anglers in the South Puget Sound area. There have not been recent scientific surveys for rockfish in the South Puget Sound area, but it is very likely that each species continues to persist at depressed levels of abundance in this area. Given the long life-span of listed rockfishes, the cohorts (and subsequent generations) of the fish documented by Bargman (1977) and Buckley (1965, 1966, 1967) very likely continue to live in the South Puget Sound. Catch estimates from WDFW indicate that in recent years recreational anglers targeting salmon and bottomfish continue to catch canary rockfish in Marine Catch Area (MCA) 13, which includes areas south of the Tacoma Narrows, and a few bocaccio and yelloweye rockfish have been caught by anglers targeting salmon in MCA 11, which includes waters north of the Tacoma Narrows (WDFW, 2011).

Comment 12: One commenter questioned the designation of nearshore habitat for canary rockfish and bocaccio in several areas of Puget Sound. They stated that waters on the west side of Bainbridge Island were proposed for designation despite the relative lack of adult canary rockfish and bocaccio documented there. Finally, they stated that a large portion of Bellingham Bay is ''mud,'' implying that areas with this substrate are not appropriate rockfish habitat.

Response: We proposed water shallower than 30 m (98 ft) on the west side of Bainbridge Island as nearshore critical habitat for canary rockfish and bocaccio, and waters deeper than 30 m in this area as deepwater critical habitat for all listed rockfishes. The final critical habitat designation for listed rockfishes is consistent with the proposed rule and includes critical habitat designation in portions of the west side of Bainbridge Island, and some of Bellingham Bay. For juvenile canary rockfish and bocaccio using the nearshore, we assessed the characteristics and features of specific areas of each Basin to determine the suitability of substrates that provide beneficial rearing conditions.

We agree with the commenter that there is a lack of documented occurrences of canary rockfish on the west side of Bainbridge Island (bocaccio have been documented there), but each species has been documented in waters near Bainbridge Island. Since our knowledge about the historical or contemporary locations of listed rockfishes is hindered by the lack of systematic surveys in most of the Basins of the Puget Sound, we assessed the evidence that the species occupied the Basin, and the habitat characteristics of particular areas of each Basin, as described in our final Biological Report (NMFS, 2014a). Our final designation of the nearshore area of Bellingham Bay does not include many acres of unconsolidated sediment near the Nooksack River delta that are unlikely to provide beneficial rearing conditions for canary rockfish and bocaccio, in part because of the lack of suitable substrates to support kelp (NMFS, 2014a).

Comment 13: WDFW noted that it, in addition to the Seattle Aquarium, has documented young of the year rockfishes in SCUBA surveys at sites throughout Puget Sound for several years and that this information should be used to increase the confidence in the validity of assumptions about what constitutes appropriate juvenile habitat in the nearshore.

Response: We acknowledge that organizations such as the Seattle Aquarium, WDFW, the Reef Environmental Education Foundation

(REEF), and others have conducted important surveys for rearing rockfishes in Puget Sound. We were unable to integrate these surveys into an assessment of nearshore conditions and habitat preferences for yelloweye rockfish, canary rockfish or bocaccio for several reasons. First, the identification of young of the year rockfish to species is imprecise, with many species having similar color and shape (Love *et al.,* 2002). Second, these surveys are limited spatially and temporally. Aside from WDFW data reported in Palsson *et al.* (2009) and Tonnes (2012), WDFW has not published much of its previous nearshore surveys for juvenile rockfishes. For these reasons we found it difficult to draw conclusions about listed rockfish rearing habitat from previous research identified by WDFW, given the imprecise species identification, limitations of the surveys, and relative lack of reported information.

Comment 14: One commenter stated that we proposed to designate critical habitat in some degraded areas and that these areas will ''require restoration before it [they] can be fully used by listed rockfish.'' They specifically mentioned Sinclair Inlet, Commencement Bay, and Elliot Bay, and that we should include data on pollution in these areas.

Response: Our proposed and final designation of critical habitat for listed rockfishes include areas that are degraded by a variety of sources, and our description of each of the Basins of Puget Sound provides a discussion of the biological condition of the Basins. In our proposed and final designation we include a table in the Biological Report (NMFS, 2013; 2014a) of areas with contaminated sediments, including Sinclair Inlet, Commencement Bay, and Elliot Bay. In our final Biological Report (NMFS, 2014a) we state that a reduction of contaminant input and clean-up of sediments will be necessary to protect listed rockfishes and their food sources. Despite the degraded conditions of Sinclair Inlet, Commencement Bay and Elliot Bay, we do not know of environmental conditions that would preclude the full use of these waters by listed rockfishes. We note that waters in Sinclair Inlet Navy Restricted Area were not proposed as critical habitat for listed rockfishes (see Appendix C of our section 4(b)(2) report).

Delineating and Mapping Areas To Identify Critical Habitat

Comment 15: We had several comments on our GIS methods to aid our determination of specific areas with essential features, particularly in waters deeper than 30 meters. One commenter stated that our methods to identify critical habitat were sound, but stated that our GIS methods to designate habitats around complex seafloors resulted in some areas that are ''unsuitable habitat.'' Similarly, one peer reviewer requested that our GIS procedures be further explained.

Response: As detailed in subsequent portions of this final rule and our final Biological Report (NMFS, 2014a), we have revised our GIS methods to update the final critical habitat designation. In the proposed and final designation, our analysis of areas that contain essential features for yelloweye rockfish, canary rockfish and bocaccio deeper than 30 meters was in part determined by assessing where areas of increased seafloor complexity occur. Habitats with higher complexity are more likely to be used by adult yelloweye rockfish, canary rockfish, and bocaccio because these areas provide opportunity for forage and refuge.

In our proposed critical habitat designation we determined relative seafloor complexity by using the rugosity tool (used in the Benthic Terrain Modeler (BTM) version compatible with ArcGIS 9.3), which was calculated as the ratio of surface area to planar area (Kvitek *et al.,* 2003; Dunn and Halpin, 2009). In the final rule, consistent with ''best available science,'' we use an updated rugosity tool to locate where the essential feature of complex (rugose) seafloor occurs (available with the BTM under ArcGIS 10.2). The updated rugosity tool was generated by running the terrain Vector Ruggedness Measure (VRM) script developed by Sappington *et al.* (2007). We used this updated tool to determine rugosity because it better detects relevant seafloor complexity than the rugosity tool used in the proposed rule. The VRM quantifies terrain ruggedness and seafloor complexity differently than the ArcGIS 9.3 rugosity tool by differentiating smooth, steep topography from topography that is irregular and varied in gradient and aspect (Sappington *et al.,* 2007). Some areas of mapped high rugosity differ from the proposed designation because we used updated gridded depth data created by the Nature Conservancy to identify the 30-meter depth contour (Greene and Aschoff, 2014). As a result of the new rugosity tool and bathymetry data, some of the smooth and steep slopes proposed as critical habitat have been removed in the final designation, while other areas that were not proposed now meet the definition of critical habitat and have been added. The net result is a 28 percent reduction in the deepwater habitat area designated for listed rockfishes based on the best available rugosity tools.

Our proposed and final GIS methods resulted in the designation of some habitats that are adjacent to areas of high rugosity. The designation of these areas next to highly rugose habitats is supported by our understandings of the life history of yelloweye rockfish, canary rockfish and bocaccio, including movement of adult fish and ontogenetic movement. While most of these habitats near areas of high rugosity likely consist of unconsolidated materials such as mud and sand mixtures, yelloweye rockfish, canary rockfish and bocaccio have been documented in these types of habitats within and outside of the Puget Sound Georgia Basin (NMFS, 2014a). In Puget Sound, adult yelloweye rockfish, canary rockfish, and bocaccio have been documented in areas with non-rocky substrates such as sand, mud, and other generally unconsolidated sediments (Haw and Buckley, 1971; Washington, 1977; Miller and Borton, 1980; Reum, 2006). Surveys from outside the range of these DPSs also have documented each species in relatively less complex habitats, though generally on a less frequent basis than more complex habitats. Yelloweye rockfish have also been documented in areas with mud and mud/cobble habitats in waters off the coasts of Washington (Wang, 2005), California (Yoklavich *et al.,* 2000), Oregon (Stein *et al.,* 1992), and British Columbia, Canada (Richards, 1986), and have been observed adjacent to large and isolated boulders in areas of flat and muddy bottoms in Alaskan waters (O'Connell and Carlile, 1993). Canary rockfish were found to be slightly more abundant in less complex habitat than more complex habitat off the Washington coast (Jagielo *et al.,* 2003). Wang (2005) also observed canary rockfish in a variety of benthic habitats off the Washington coast. Canary rockfish were most frequently found near boulders, but were also found near benthic habitats consisting of sand, mud, and pebble mixtures (Wang, 2005). Johnson *et al.* (2003) reported that approximately 15 percent of canary rockfish were observed over soft-bottomed habitats in surveys in Alaska. Bocaccio also occupy benthic areas with soft-bottomed habitats, particularly those adjacent to structure such as boulders and crevices (Yoklavich *et al.,* 2000; Anderson and Yoklavich, 2007).

Comment 16: One commenter stated we should evaluate our GIS methods to designate areas near high rugosity by assessing listed rockfish foraging, predation and home-range behavior, gene flow, and population isolation.

Response: In assessing appropriate GIS methods to designate critical habitat we accounted for the life-history of listed rockfishes, but not explicitly for gene flow or population isolation. As previously mentioned, listed rockfishes display ontogenetic movement as they grow and thus can use a variety of habitat types, such as those near habitat of high rugosity, as they mature. Similarly, some adult canary rockfish and bocaccio have been documented to move long distances (Demott, 1983; Love *et al.,* 2002; Friedwald, 2009), indicating these two species occupy habitats not immediately adjacent to the seafloor with high rugosity. We are not aware of information regarding gene-flow or population isolation that would assist in determining critical habitat areas for listed rockfishes. These attributes are important when considering whether a population qualifies as a DPS, developing recovery measures, and assuring the long-term viability of listed rockfishes. However, doing so requires securing additional research and analytical tools not available within the statutory timeframes to designate critical habitat. However, this effort will likely be outlined in the draft Recovery Plan.

Comment 17: Several commenters and both peer reviewers questioned our use of the value of 1.005 and above to define ''high rugosity'' benthic habitats in Puget Sound to assist in identifying specific areas for adult listed rockfishes. One commenter stated that this value is related to fish presence/absence information and not fish density information.

Response: As mentioned above, we updated our GIS methods to help determine final critical habitat designations for listed rockfishes. In ArcGIS 10.2 we used an updated rugosity tool that is less dependent upon the slope of the habitat, and more dependent on a quantification of terrain ruggedness by measuring the dispersion of vectors orthogonal to the terrain surface. We used a rugosity value of 0.001703 and above to define areas of ''high rugosity'' and note that, because of the updated methodology, the new rugosity value is not scaled to the original value of 1.005.

Our use of this rugosity threshold and additional GIS procedures was informed by habitat characteristics mapped by Greene and Barrie (2007) in the San Juan Basin, additional data reported in Palsson *et al.* (2009) and general life-history literature summarized in our Biological Report (NMFS, 2014a), as well as listed rockfish presence/absence information.

Comment 18: One peer reviewer stated that our application of the BTM appeared to include as proposed critical habitat benthic areas with muddy substrates that likely do not contain rock or boulders due to the fjord-like nature of Puget Sound. The reviewer stated that a method to improve our application of the BTM would be to use current speed information, which would potentially reduce the areas that consist of silt-mud.

Response: Our application of the BTM did result in the designation of some non-rocky habitats in the Puget Sound. As mentioned in our draft and final Biological Report (NMFS, 2013; 2014a) and above, yelloweye rockfish, canary rockfish and bocaccio have been documented to use non-rocky habitats within the range of these DPSs and outside of the range of these DPSs, though typically at lower density than rocky habitats. In response to the reviewer's comment, we received modeled average bottom current speed estimates for Puget Sound from the Pacific Northwest National Laboratory and assessed its utility to assist us in evaluating listed rockfish habitat. We found that the scale of the modeled current velocity data was too large to provide useful information to elucidate possible associations with bottom substrate compositions. We also found that listed rockfishes have been documented in areas with relatively slow average bottom currents. For example, in areas such as Hood Canal the bottom velocities can be very slow, yet listed rockfishes have been documented in multiple areas of this Basin. Thus we did not find a useful relationship between bottom current information and habitat to assist with evaluating listed rockfish habitat.

Comment 19: One peer reviewer stated that the BTM was imprecise at identifying juvenile habitat in shallow water <30 m (98ft) that consisted of sand, cobble, and rock, and that our use of the ShoreZone database to predict subtidal substrates from intertidal ones may not be an appropriate tool. The reviewer stated that shorelines consisting of sand, cobble, or even rock can transition to muddy or silty environments in deeper waters which are not predicted by the shoreline character, and that this can be especially the case in the inner and eastern San Juan Islands and in south Puget Sound. The reviewer also mentioned that our proposed nearshore critical habitat designation for canary rockfish and bocaccio in the heads of non-estuarine embayments such as Case, Carr, and Dyes Inlets, Port Madison, Sinclair Inlet, Penn Cove, Discovery Bay, and Port Townsend Bay are areas that likely do not support kelp. The reviewer stated that a better test would have been to check our proposed designation in the nearshore with the historical NOAA bottom substrate database that has been shared among Puget Sound researchers and also occurs on several of the fine-scale nautical charts of Puget Sound.

Response: We used the Washington State Department of Natural Resources' (DNR) ShoreZone inventory to identify substrates that host or may support the growth of kelp. Unlike in waters deeper that 30 meters, we did not use the BTM to identify benthic habitats with high rugosity in the nearshore. We did use the benthic habitat classifications of the BTM related to the locations where moderate to large rivers enter Puget Sound and found that many of these areas do not support kelp and possess habitats beneficial for rearing juvenile canary rockfish and bocaccio. We agree with the reviewer's comment that shorelines consisting of sand, cobble, or even rock can give way to muddy or silty environments not predicted by the shoreline character—this is one of the limitations of a shoreline inventory based on aerial surveys. However, even without the presence of kelp, juvenile canary rockfish and bocaccio have been found to rear in sandy areas and areas within and adjacent to complex substrates. Because the ShoreZone surveys were done aerially, and during different seasons, they were relatively imprecise at identifying all of the areas where kelp can grow. Based on the reviewer's suggestion, we reassessed our proposed designations of the above mentioned inlets and bays. We found that portions of Case, Carr and Dyes Inlets, Port Townsend Bay, Sinclair Inlet, and Port Madison are documented as supporting kelp by the ShoreZone inventory. We found that Discovery Bay also supports kelp, but note in our proposed and final designation we did not designate the southern-most portion of this Bay where freshwater enters, as this area is not likely to support essential features for rearing canary rockfish and bocaccio (as described in our final Biological Report (NMFS, 2014a)). Penn Cove was not documented as supporting kelp according to the ShoreZone inventory, but has substrate types that can support kelp and also has other substrates used by juvenile canary rockfish and bocaccio. Based on our reassessment we made no adjustment to the final critical habitat designation in Penn Cove or any of the other bays and inlets specifically mentioned by the reviewer.

Comment 20: One peer reviewer stated that another improvement to our

designation methodology would be to use WDFW research bottom trawl data or other information to model fish communities in terms of hard or soft-bottom types that could help predict where listed rockfishes are more likely to occur.

Response: We found that the study design and sampling locations of WDFW bottom trawl research do not provide sufficient information for evaluating listed rockfish habitats as suggested by the peer reviewer. Data from WDFW trawl survey are depth stratified and sampling has been done in twelve regions of Puget Sound. Past WDFW trawl sampling effort was episodic with some regions sampled infrequently, only once, or only at the beginning or the end of the survey (Drake *et al.,* 2010). Sampling effort was also uneven with some regions having as few as two replicate hauls in a depth zone in a given year, while others may have had as many as 25 replicate hauls. The lack of consistent and sufficient replicate sampling reduces the value of the past trawl surveys for rockfish habitats. Further, much of the rocky and/or complex habitat used by listed rockfishes is not effectively sampled by trawl gear, compared to unconsolidated habitat that can be easily surveyed. For these reasons we found it difficult to draw reliable conclusions about listed rockfish habitat from WDFW bottom trawl data.

Comment 21: One commenter stated that we should improve the designation of critical habitat by using enhanced modeling and gathering additional data by field verification of model predictions prior to final critical habitat designation. They noted that additional research, such as various surveys, are needed and critical habitat designation should be postponed until more data are available.

Response: To designate critical habitat the ESA requires that we act within a specific time frame and use the best available information. We researched and reviewed the best available data on listed rockfish, including recent biological surveys, geological surveys, reports, peer-reviewed literature and public comments, which are summarized in our final Biological Report (NMFS, 2014a). Nonetheless, we agree with the commenter that additional fishery-independent research projects, such as ROV surveys, are essential to fill additional information needs and inform recovery implementation. Importantly, these surveys should be designed to sample likely listed rockfish habitats (i.e., similar to Pacunksi *et al.,* 2013), rather than recent stereological surveys conducted by WDFW that sample habitat based on a gridded system that does not explicitly account for habitat types or depth. We continue to support future surveys and will reevaluate this designation if necessary as additional scientific information becomes available.

Comment 22: One commenter noted our comparison of Greene *et al.'s* (2007) high-resolution bathymetric mapping of portions of the San Juan Basin with the areas of rugosity identified by the BTM, and recommended that we conduct a similar comparative procedure within other areas of Puget Sound.

Response: The high-resolution benthic habitat maps produced by Greene *et al.* (2007) only exist for portions of the San Juan Basin. We are therefore unable to conduct an analogous assessment across the rest of the Puget Sound. The United States Geological Survey is in the process of developing high resolution benthic maps across much of the Puget Sound, but these maps are not yet published or available to potentially refine critical habitat designation for listed rockfishes in other Basins.

Comment 23: One commenter stated that some of the steep slopes we propose as critical habitat are known as ''not suitable'' rockfish habitat as determined by their observations through drop camera and ROV surveys, and recommended that we use current and historical distribution data for listed species to determine the suite and range of BTM metrics to calibrate a habitat suitability model.

Response: We used all available data on rockfish observations to inform critical habitat, but existing data are not sufficient to calibrate a habitat suitability model as suggested. WDFW has conducted drop camera surveys in various areas across the Puget Sound and many of these observations are reported in Palsson *et al.* (2009), which did inform our critical habitat designation. Other drop camera and ROV surveys have occurred in Puget Sound, but the results of these observations have not been published in reports and are not available. Because of the lack of historical or contemporary systematic surveys for rockfishes in most of the Puget Sound Basins, and the lack of comprehensive fishery data that provide relatively precise data on the location these species were caught, we are not confident that the observational data we have for yelloweye rockfish, canary rockfish and bocaccio fully explain their habitat usage sufficiently to justify the further development of a habitat suitability model at this time. We agree that additional and more precise analysis of habitats used by listed rockfishes should be conducted as additional data are collected and analyzed. Additional surveys and analysis for rockfishes and habitat use are likely to be prioritized in the listed rockfish Recovery Plan and may be sufficient to develop a more sophisticated habitat suitability model in the future.

Comment 24: One peer reviewer stated that we should reevaluate a habitat ranking approach, as we have done for some Pacific salmonid critical habitat, to identify ''special areas'' of critical habitat. The reviewer pointed to habitats north of Orcas Island and Tacoma Narrows as areas as qualifying as ''special areas.''

Response: We considered a habitat ranking approach for designating critical habitat for listed rockfishes similar to our 2005 critical habitat designations for listed Evolutionarily Significant Units of Pacific salmonids, where we designated critical habitat areas as having ''high,'' ''medium,'' and ''low'' conservation value (70 FR 52630; September 2, 2005). Unfortunately, we found that the uneven resolution of benthic habitat mapping within the Puget Sound, in conjunction with the general lack of systematic historical or contemporary surveys for listed rockfishes in most of the Basins of Puget Sound, were not sufficient to support a habitat valuation approach as we did for salmonids. Collecting additional data and developing a habitat suitability model based on new benthic habitat data, fish surveys, and other pertinent information will likely be a priority task in the draft rockfish Recovery Plan.

Special Management Considerations

Comment 25: One peer reviewer asked how the special management considerations were identified.

Response: We identified the 11 special management considerations by assessing the types of ESA section 7 (a)(2) consultations we have conducted since the listing of yelloweye rockfish, canary rockfish and bocaccio in 2010, and the types of actions we consulted on for listed salmonids in Puget Sound prior to 2010 (NMFS, 2014a). In addition, we assessed other potentially non-federal actions that may have an effect on habitat by researching local rockfish reports such as Palsson *et al.* (2009) and Washington's rockfish recovery plan (WDFW, 2011a), and additional scientific data and research which identified suites of actions that can affect rockfish habitat in Puget Sound.

Comment 26: One peer reviewer stated that kelp harvest is limited in

Puget Sound and almost exclusively occurs in intertidal waters, where there is an unlikely threat to juvenile canary rockfish or bocaccio.

Response: Kelp harvest is regulated by WDFW and DNR and we are not aware of any commercial harvest of kelp in the Puget Sound at this time. We included kelp harvest as a special management consideration because the harvest of kelp could nonetheless affect the habitat quality for canary rockfish and bocaccio as each can rear in these areas.

Comment 27: One commenter stated that dredging and disposal of dredge materials are separate activities with separate management considerations.

Response: We agree with the commenter that the disposal of dredge material has different effects than the actual dredging of materials, and thus management considerations for each activity are unique. We have clarified within our Biological Report (NMFS, 2014a) that these are activities with distinct management considerations.

Comment 28: One peer reviewer stated that under the aquaculture special management consideration we should discuss additional habitat effects such as the hardening of intertidal and subtidal habitats by the addition of non-native oyster shells, gravel, and PVC tube for clam and oyster aquaculture.

Response: We agree with the commenter and have added additional language in our final Biological Report about the potential habitat effects of intertidal aquaculture operations.

Comment 29: One commenter stated that readers of the draft Biological Report could easily conclude that contaminated sediments are being disposed at open-water sites.

Response: We have revised the Biological Report (NMFS, 2014a) to more clearly state that contaminated sediments are more likely to be mobilized within the water column during dredging projects rather than disposal projects, and that sediments undergo analysis prior to disposal. We also note that sediment deemed too contaminated for open-water disposal by management agencies is placed in upland areas to avoid aquatic contamination. However, we note that some disposed sediments are not completely contaminant-free, rather they have been deemed as clean enough to allow open-water disposal.

Comment 30: One commenter stated that new information is essential to improving management and permitting of activities, such as shoreline armoring, in order to avoid, minimize, mitigate or predict adverse effects to listed rockfishes. The same commenter stated that additional data are needed to describe the processes and structures that create and maintain rockfish habitat along Puget Sound shorelines.

Response: We agree that additional data that assesses how and where juvenile canary rockfish and bocaccio use nearshore habitats would improve our understanding of how shoreline projects may directly alter rockfish habitat. We disagree, however, with the premise that new information is necessary to provide guidance to management of currently proposed activities to avoid, minimize, mitigate or predict adverse effects from shoreline projects to rockfish habitat in the Puget Sound. Juvenile canary rockfish and bocaccio primarily use areas among and near various species of kelp. A WDFW report found that the disruption of submerged aquatic vegetation like kelp could threaten habitat quality of juvenile rockfish (Palsson *et al.,* 2009). Shoreline modification in Puget Sound includes activities such as bulkheading, filling, installation of overwater structures, and boat ramps (Palsson *et al.,* 2009). Man-made structures adjacent to rockfish habitats could diminish the value of the nearshore habitat used by rockfishes (Palsson *et al.,* 2009) by changing shoreline sediment dynamics, and removing or shading kelp habitats (Mumford, 2007). These types of nearshore projects can also harm forage fish habitats, such as those supporting surf smelt (Rice *et al.,* 2006) that are likely important food sources for listed rockfishes. As such, we believe that there is sufficient scientific information to regulate shoreline activities in ways to avoid, minimize, mitigate and predict adverse effects to listed rockfishes and their habitats and note that many of these measures are already recommended by local salmon recovery plans and technical documents commissioned by WDFW and others (e.g., Brennan *et al.,* 2009).

Comment 31: One commenter requested that we clarify that scientific research projects in Puget Sound which we identified as a special management consideration have only low level effects and occur under NMFS Section 10 permitting.

Response: We agree. Research that may take listed fish is reviewed and approved by NMFS under Section 10 (a)(1)(a) of the ESA. In the course of these reviews we have found that many research projects have little or no potential to result in more than short-term alterations to habitat of listed rockfishes. For instance, many of the trawl survey stations used by WDFW would occur outside of designated critical habitat for listed rockfishes, and other research projects conducted by SCUBA, ROV or drop cameras would have no potential to alter critical habitat on a short or long-term basis.

Comment 32: WDFW requested that, under the fisheries special management consideration, we consider only fisheries currently underway in Puget Sound rather than those that have recently been closed.

Response: We acknowledge that fisheries within Puget Sound are dynamic—some are closed and re-opened seasonally and when markets develop, thus making them economically viable. For this reason we characterized the fishery special management consideration to include some fisheries that are closed, as it is possible that these fisheries might be proposed again in the foreseeable future by State and/or tribal fishery managers.

Comment 33: WDFW noted that the forage fish drag seines and lampara nets are currently used in Puget Sound, and there is no record of these methods catching listed rockfishes.

Response: The designation of critical habitat for listed species is designed to assist us in reviewing the effects of various actions on specific areas that have physical and biological features essential to the conservation of the species. In the case of listed rockfishes, we found essential features to include water quality, rugosity, and certain nearshore features. Special management considerations for fisheries consider only fishing methods that have the potential to alter critical habitat, rather than the specific impacts associated with catching a listed rockfish. Thus a particular fishing method, such as the lampara net fishery, may have little or no potential to catch an individual yelloweye rockfish, canary rockfish or bocaccio, but may nonetheless affect critical habitat. While the forage fish drag seine and lampara net fisheries may not catch listed rockfishes, they could affect physical and biological features of designated critical habitat, particularly if nets are lost.

Comment 34: WDFW noted that Hood Canal has been closed to bottomfishing since 2004, and questioned why fisheries are still noted as a special management consideration there.

Response: Recreational bottomfishing is currently closed in Hood Canal, but could be reopened at some point in the future. Other Hood Canal fisheries continue and can affect critical habitat, such as recreational and commercial shrimp and crab fishing, and the use of gill nets that, when lost, can harm benthic areas used by rockfishes (Good *et al.,* 2010) and designated as critical habitat.

Comment 35: Without providing how it should be considered in the designation, one commenter requested that the final critical habitat rule consider anthropogenic noise in Puget Sound, and noted that noise in some waters of Puget Sound is increased by vessel traffic and Navy exercises as reported by Basset *et al.* (2006). The commenter identified literature that reported effects of noise on hearing loss and behavior of some fish species.

Response: We acknowledge that noise can affect fish behavior and may affect the various life-stages of listed rockfishes, as has been documented in other reef fishes (Holles *et al.,* 2013), and that some of the Puget Sound has elevated noise from a variety of human sources. We have revised our Biological Report (NMFS, 2014a) to include descriptions of underwater noise in some of the Basins of the Puget Sound. Underwater sound may have a variety of effects on fish (Popper and Hastings, 2009), but there is a general dearth of research regarding the effects of noise on the behavior and health of rockfishes (but see Pearson *et al.,* 1992). Several of the special management considerations can result in elevated under water noise, including nearshore development and in-water construction, under water construction and operation of alternative energy hydrokinetic projects and cable laying, artificial habitat creation, and possibly dredging and disposal of dredged material. As such, we regularly conduct ESA section 7 consultations on construction activities that generate noise using best available science, and in these consultations measures are typically included to minimize or avoid direct impacts to ESA-listed species, including yelloweye rockfish, canary rockfish and bocaccio. Future section 7 consultations that include noise-generating activities will continue to assess the potential for exposure and effects to listed rockfishes within the range of these DPSs. Assessing the effects of anthropogenic noise on rockfish behavior and health will likely be identified as a task in the draft rockfish Recovery Plan.

Comment 36: Two commenters stated that our list of special management considerations should include ocean acidification (OA) and global climate change. They stated that the potential direct effects of these pressures on rockfishes are poorly understood, but that predictions about food web impacts and ecosystem-wide changes in habitat quality are available.

Response: A recent report found that climate change in the Northwest, including sea level rise, coastal erosion, and increasing ocean acidity, poses major risks to the local marine environment (U.S. Global Change Research Program, 2014). We agree that climate change, sea-level rise (SLR), and OA have the potential to result in fundamental alterations to habitats and food sources of listed rockfishes, and we have added activities that lead to global climate change as a special management consideration. In a study published after we proposed critical habitat for listed rockfishes, OA was found to affect juvenile rockfish behavior (Hamilton *et al.,* 2014). Behavior (characterized as ''anxiety'' by the researchers) significantly changed after juvenile Californian rockfish (*Sebastes diploproa*) spent 1 week in seawater with the OA conditions that are projected for the next century in the California shore. The study indicated that OA could have severe effects on rockfish behavior (Hamilton *et al.,* 2014). Research conducted to understand adaptive responses to OA of other marine organisms has shown that although some organisms may be able to adjust to OA to some extent, these adaptations may reduce the organism's overall fitness or survival (Wood *et al.,* 2008).

Aside from OA, future climate-induced changes to rockfish habitat could alter their productivity (Drake *et al.,* 2010), and affect their habitats from sea-level rise. Harvey (2005) created a generic bioenergetic model for rockfishes, showing that their productivity is highly influenced by climate conditions. For instance, El Niño-like conditions generally lowered growth rates and increased generation time. The negative effect of the warm water conditions associated with El Niño appear to be common across rockfishes (Moser *et al.,* 2000). Recruitment of all species of rockfish appears to be correlated at large environmental scales. Field and Ralston (2005) hypothesized that such synchrony was the result of large-scale climate forcing. Exactly how climate influences rockfishes in Puget Sound is unknown; however, given the general importance of climate to rockfish recruitment, it is likely that climate strongly influences the dynamics of ESA-listed rockfish population viability (Drake *et al.,* 2010).

Global sea level has risen by an average of 0.067 inch +/−0.012 inch per year (1.7 +/−0.3 mm) since 1950, after remaining relatively stable for approximately the last 3000 years (Church and White, 2006). However, satellite data collected more recently (from 1993–2009) recorded rates of 0.12 inch +/−0.015 inch per year (3.3 +/−0.4mm), suggesting that SLR may be accelerating (Ablain *et al.,* 2009). Global sea levels are projected to rise by approximately 23.6 in (60cm) by 2100 (IPCC, 2007) to as much as 39.4 in (1 m) due to recently identified declines in polar ice sheet mass (Pfeffer *et al.,* 2008). However, Washington State sits above an active subduction zone, which may mean that sea-level rise could differ from the global average depending on the activity of the zone (Dalton *et al.,* 2013). Puget Sound lowlands are thought to be more stable in the north, but are tilting downward toward Tacoma in the south. This subsidence may amplify SLR and could effectively double the rate in areas of South Puget Sound, such as Olympia (Craig, 1993). In areas of South Puget Sound, SLR could, among other impacts, alter listed rockfish habitat by contaminating surface and groundwater, or causing shoreline erosion and landslides, which may lead to a loss of tidal and estuarine habitat (Craig, 1993) and alter species distribution (Harley *et al.,* 2006).

More research is needed to further understand rockfish-specific responses and possible adaptations to OA, climate change and sea level rise within the Puget Sound/Georgia Basin. As mentioned previously, we are developing a Recovery Plan for listed rockfishes, and research regarding OA and climate change will likely be a significant component of the draft plan.

Comment 37: One commenter stated that the benthic habitats of Dredge Material Management Program (DMMP) sites in Puget Sound are of low rugosity, but are located near areas of high rugosity, and that these areas may serve as transitory zones for rockfishes. The commenter also noted that the DMMP open-water sites are not highly rugose and that continued disposal of sediment would be unlikely to adversely affect physical and biological features essential to the conservation of listed rockfishes.

Response: In 2010, we completed an ESA section 7 consultation with the U.S. Army Corps of Engineers for the use of eight open-water dredge disposal sites in Puget Sound. In that consultation our analysis found that the benthic habitats of the dredge disposal sites are relatively flat and homogenous but also near more rugose habitats (NMFS, 2010). We agree that the DMMP sites may serve as ''transitory'' zones for sub-adult and adult listed rockfishes as they move from and to areas of higher rugosity. We note that recent surveys of some of these sites found larval rockfishes in relatively high abundance compared to other sample sites in Puget Sound (Greene and Godersky, 2012). We consider the continued use of the

disposal sites to have the potential for short and transitory effects to the physical and biological features of listed rockfish critical habitat, and will continue to use best available information to assess the effects of the continuous use of these sites in future section 7 consultations.

Comment 38: In reference to our draft Biological Report, one commenter noted that dredge disposal is unlikely to lead to appreciable reductions of dissolved oxygen (DO) levels in the mid or upper portion of the water column after disposal of sediment, nor long-term impacts to the lower portion of the water column. The same commenter noted that sediment plumes with aquatic disposal of dredged materials would be intermittent and short term and unlikely to reduce DO levels.

Response: We agree that most sediment plumes in the water column would likely be intermittent and short term from the discharge of unconsolidated dredge materials. Pertaining to the dispersive sites, we note research that finds that fine-grained materials remain in the water column longer than coarser grained materials, are more widely dispersed, and stay within the water column for extended periods of time (DMMP, 2012). One model-analysis found that 80 percent of sediment parcels remained active in the water column for up to 36 hours following disposal (DMMP, 2012). The results of this analysis indicate that there is potential for habitat changes in the water column while this material disperses.

Economic Impacts of Critical Habitat Designation

Comment 39: Two commenters supported the draft Economic Analysis (NMFS, 2013b), stating that designation will not have economic impacts in part due to most areas of rockfish critical habitat already being designated for other ESA-listed species, and they agreed the incremental impacts method is sound.

Response: We agree.

Comment 40: One commenter stated that it was not clear why the estimated annual administrative cost from critical habitat designation is $123,000 when ESA section 7(a)(2) consultations are unlikely to result in recommended project modifications. The commenter suggested that these estimated costs should be lower.

Response: Though it is unlikely that many projects will require modifications to protect critical habitat, the estimated administrative costs include the time and resources to conduct the assessment of project effect and consider adverse modification of listed rockfish critical habitat in section 7 consultations.

Comment 41: One commenter stated that if the designation of critical habitat would cause an ''effective ban'' on open-water disposal of sediments in Puget Sound it would create a significant economic impact.

Response: As previously mentioned, in 2010 we completed a section 7 consultation with the U.S. Army Corps of Engineers for the use of eight open-water dredge disposal sites in Puget Sound (NMFS, 2010). At the time of the consultation, we estimated the take of individual listed rockfish and also assessed the effects of open-water disposal on their habitat. Some of the habitat that we assessed in the 2010 consultation will now become critical habitat for listed rockfishes. In the 2010 consultation we did not recommend changing the dredge disposal window or contaminant standards for open-water disposal. Based on our previous section 7 consultation that assessed the effects of the program on listed rockfish habitat, the designation of critical habitat would not create an ''effective ban'' on open-water disposal of sediments nor significantly change the time window to dispose sediments. Therefore we do not anticipate significant economic impacts for this activity above those already considered in our estimated administrative costs (see NMFS, 2014b).

Comment 42: One commenter stated that we should acknowledge that final critical habitat designation will likely increase the complexity and cost of implementing state Hydraulic Project Approval (HPA) and local Shoreline Management Act (SMA) regulatory authority.

Response: Our Economic Analysis (NMFS, 2014b) examined the state of the world with and without the designation of critical habitat for rockfishes. The ''without critical habitat'' scenario represented the baseline for the analysis, considering protections already afforded rockfish habitat under the Federal listing rule or under other Federal, State, and local regulations. It also included protections afforded to rockfishes resulting from protections for other listed species. These protections are associated with the ESA listing of Puget Sound Chinook salmon and steelhead, Hood Canal summer-run chum salmon, bull trout, eulachon, green sturgeon, and Southern Resident killer whales and the designation of critical habitat for salmonids, killer whales, and green sturgeon where they overlap with rockfish critical habitat. Also included under the baseline are protections already afforded rockfishes under their ESA listing, including HPA and SMA regulations. The listed rockfish critical habitat designation may provide new information to the State of Washington or a local government about the sensitive ecological nature of a specific area, potentially triggering additional economic impacts under other State or local laws. In cases where these impacts would not have been triggered absent critical habitat designation, they are considered indirect, incremental impacts of the designation and our final Economic Analysis (NMFS, 2014b) estimated these incremental impacts. Yelloweye rockfish, canary rockfish and bocaccio are also listed as ''State Candidate'' species for the Washington State Species of Concern list (*http://wdfw.wa.gov/conservation/endangered/All/).* Aside from some deepwater habitat in Hood Canal, all areas of rockfish critical habitat are already designated as critical habitat for a combination of the species listed above, and these rockfishes are listed as ''State Candidates'' under Washington State Law. Therefore, we do not believe that rockfish critical habitat will significantly increase costs associated with administering the HPA program or SMA regulatory authority.

Impacts to National Security

Comment 43: One commenter stated that the Integrated Natural Resource Management Plans (INRMPs) for Department of Defense (DOD) facilities in Puget Sound should provide greater detail on how listed rockfishes will benefit from plan implementation.

Response: We reviewed the INRMPs and found that each contains measures that provide benefits to each listed rockfish DPS (see Appendix C of our section 4(B)(2) report). Examples of the types of beneficial measures include: (1) Implementing actions to protect water quality from land-based infrastructure and vessels; (2) conducting in-water actions during appropriate time periods; and (3) initiating surveys for listed fish.

Comment 44: The Navy requested that our references to ''Naval Station Kitsap and associated properties'' be changed to ''Naval Base Kitsap and associated properties.''

Response: We have made this change within all pertinent documents for final critical habitat designation.

Comment 45: The Navy requested that we exempt Naval Magazine Indian Island property because it has an INRMP that benefits listed rockfishes.

Response: We did propose to exempt Naval Magazine Indian Island in our proposed critical habitat designation,

and we do not include it in this final critical habitat designation because any DOD areas for which we have approved an INRMP (because it provides a conservation benefit to the species) do not meet the definition of critical habitat (ESA Section 4(a)(3)(B)(i).

Comment 46: The Navy requested clarification on our proposed critical habitat designation within some shallow nearshore areas of Navy security zones. Our supplemental textual descriptions of proposed critical habitat included language that stated ''Critical habitat is proposed in a narrow nearshore zone (from the extreme high tide datum down to mean lower low water (MLLW)) within Navy security zone areas not subject to an approved INRMP or associated with Department of Defense easements or rights-of way. . .''. They stated that our definition of this area is confusing, and that a similar definition for Puget Sound Chinook salmon critical habitat has proven to be problematic. The Navy recommended that we clearly separate those areas excluded from critical habitat designation due to national security concerns and those areas proposed for exemption subject to approved INRMPs.

Response: In response to this request we contacted the Navy and verified the facilities and Security Areas that are covered by INRMPs and, therefore, would not be eligible for critical habitat designation. Based on the Navy's feedback, we have provided additional explanation in Appendix C of our final section 4(b)(2) report (NMFS, 2014c) whether a particular Navy Security Area is also covered by an INRMP, and if any portion of the nearshore is designated as critical habitat for canary rockfish and bocaccio. To summarize, we designate the narrow nearshore zone from extreme high tide down to MLLW at the Admiralty Inlet Naval Restricted Area. After consultation with the Navy, we designated the nearshore (extreme high tide to a depth of 30 m (98ft)) at Carr Inlet Naval Restricted Area. As detailed in NMFS (2014c) none of the rest of the restricted areas or areas covered by an INRMP are designated as critical habitat in any portion of the nearshore.

Comment 47: The Navy requested Naval Base Kitsap (NBK) Bremerton within Sinclair Inlet not be included in the final designation.

Response: The waters within Sinclair Inlet Naval Restricted Area, which encompass NBK Bremerton, were not proposed as critical habitat nor are they designated as such in this final rule. We came to this determination based on an evaluation of the benefits of exclusion to the Navy and the benefits of designation to rockfish conservation (see Appendix C of our draft 4(b)(2) report).

Comment 48: The Navy requested we include a textual description of the Naval Air Station Whidbey Island Crescent Harbor Restricted Area in the final rule, and stated they would provide this language.

Response: The Navy provided this textual description to us, and we have reviewed it and included it within this final rule.

Comment 49: The Navy requested that Operating Area R–6713 (Navy 3), off the western side of Naval Air Station Whidbey Island, be excluded from critical habitat designation because of impacts to national security. The Navy provided us the rationale for this request by forwarding a copy of their concerns about potential Southern Green Sturgeon Critical Habitat designation they submitted to us in 2009. For green sturgeon, we determined that the benefits to national security of excluding this site outweigh the conservation benefits of designation, and excluded it from the critical habitat designation (74 FR 52300; October 9, 2009). The Navy did not request this area be excluded as Southern Resident killer whale critical habitat, and this area was designated as such in 2006 (70 FR 69054; November 29, 2006).

Response: Under Section 4(b)(2) of the ESA our decision whether to exclude an area is ''wholly'' discretionary. We updated our evaluation of the benefits of exclusion to the Navy and the benefits of designation to rockfish conservation of this Operating Area based on the additional information provided by the Navy (see Appendix C of our final 4(b)(2) report). As a result, for several reasons we continue to conclude that the benefits to national security of excluding this particular area do not outweigh the benefits to rockfish conservation of designating it. We came to this conclusion after a careful and comprehensive analysis.

This area is critical habitat for Southern Resident killer whales and thus we assessed the extent of Navy consultations for actions in this operating area. We have no consultation records for Navy actions within Navy 3, indicating that use of this area by the Navy is limited or sporadic. According to the Navy, activities in this Operating Area involve surface ship operations, including basic tactical operations, formation maneuvers, engineering trials and testing electronic equipment. We have determined that surface ship operations are not a special management consideration, and such operations conducted by the Navy are unlikely to alter the physical and biological features of rockfish critical habitat and specifically benthic areas with complex bathymetry. Any consultation for Navy action in this Operating Area would require a section 7 jeopardy analysis for rockfish. As discussed generally in our final Economic Analysis (NMFS 2014b) the adverse modification analysis for the Navy would be an incremental impact from designating a subset of this area as critical habitat. As a result there would be a low administrative burden to the Navy for subsequent section 7 consultations that assess rockfish critical habitat in Navy 3 because their use of this area appears relatively infrequent, actions in this area are unlikely to result in alteration to physical and biological features for listed rockfishes, and any subsequent consultation would undergo a jeopardy analysis as well.

Further, areas designated as critical habitat within Navy 3 for listed rockfishes are centrally located between the San Juan Islands and the mainland to the south, thus providing important spatial structure to listed rockfish populations. In addition, the large size of the Navy 3 area (65.4 sq mi, 169.4 sq km) makes it likely that future Federal activities will occur there that could adversely affect rockfish critical habitat. For instance, a recent analysis shows that this area is potentially affected by the open-water dredge disposal activities (DMMP, 2012). This area also encompasses portions of several popular recreational and commercial fishing areas including Smith Island Bank, McArthur Bank and Partridge Bank and has accumulated several derelict fishing nets. The designation of critical habitat in this area for listed rockfishes will allow future analysis of these activities that may adversely affect listed rockfish critical habitat in an area of high value to the species (NMFS, 2014a).

These specific examples of consultations would occur with other Federal agencies, and thus would not constitute an administrative burden to the Navy, but would potentially bring conservation benefits to important listed rockfish habitats. For these reasons we continue to conclude that the benefits to national security of excluding this particular area do not outweigh the benefits to rockfish conservation of designating it (for a full description of our analysis see Appendix C of our 4(b)(2) report).

Methods and Criteria Used To Identify Specific Areas Eligible for Critical Habitat

In the following sections, we describe the relevant definitions and requirements in the ESA and our

implementing regulations and the key methods and criteria used to prepare this critical habitat designation. Discussion of the specific implementation of each item occurs within the species-specific sections. In accordance with section 4(b)(2) of the ESA and our implementing regulations (50 CFR 424.12), this designation is based on the best scientific information available concerning the species' present and historical range, habitat, and biology, as well as threats to their habitat. In preparing this designation, we reviewed and summarized current information on these species, including recent biological surveys and reports, peer-reviewed literature, NMFS status reviews, public and peer review comments on the proposed critical habitat designation, and the proposed and final rules to list these species. All of the information gathered to create this final rule has been collated and analyzed in three supporting documents: a Biological Report (NMFS, 2014a); an Economic Analysis (NMFS, 2014b); and a Section 4(b)(2) Report (NMFS, 2014c). We used these reports to inform the identification of specific areas as critical habitat.

We followed a five-step process in order to identify these specific areas: (1) Determine the geographical area occupied by the species at the time of listing, (2) identify physical or biological habitat features essential to the conservation of the species, (3) delineate specific areas within the geographical area occupied by the species on which are found the physical or biological features, (4) determine whether the features in a specific area may require special management considerations or protections, and (5) determine whether any unoccupied areas are essential for conservation. As described later, we did not identify any unoccupied areas that are essential for conservation.

Once we identified specific areas, we then considered the economic impact, impact on national security, and any other relevant impacts. The Secretary has the discretion to exclude an area from designation if she determines the benefits of exclusion (that is, avoiding the impact that would result from designation) outweigh the benefits of designation based on the best available scientific and commercial information. In addition, military lands subject to INRMPs pursuant to Section 4(a)(3) the ESA are ineligible for designation if the Secretary certifies that the INRMPs provide benefits to the listed species. Our evaluation and determinations are described in detail in the following sections.

Geographical Area Occupied by the Species

In the status review and final ESA listing for each species, we identified a Puget Sound/Georgia Basin DPS for yelloweye rockfish, canary rockfish, and bocaccio (Drake *et al.,* 2010; 75 FR 22276; April 28, 2010). Our review of the best available data confirmed that yelloweye rockfish, canary rockfish, and bocaccio occupy each of the major biogeographic Basins of the Puget Sound/Georgia Basin (NMFS, 2014a). The range of the DPSs includes portions of Canadian waters; however, we cannot designate areas outside U.S. jurisdiction as critical habitat (50 CFR 424.12(h)). Puget Sound and Georgia Basin make up the southern arm of an inland sea located on the Pacific Coast of North America and connected to the Pacific Ocean by the Strait of Juan de Fuca. The term ''Puget Sound proper'' refers to the waters east of and including Admiralty Inlet. Puget Sound is a fjord-like estuary covering 2,331.8 square miles (6,039.3 sq km) and has 14 major river systems, and its benthic areas consist of a series of interconnected Basins separated by relatively shallow sills, which are bathymetric shallow areas.

Physical or Biological Features Essential to Conservation

Agency regulations at 50 CFR 424.12(b) interpret the statutory phrase ''physical or biological features essential to the conservation of the species.'' The regulations state that these features include space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, and rearing of offspring; and habitats that are protected from disturbance or are representative of the historical geographical and ecological distribution of a species.

Based on the best available scientific information regarding natural history and habitat needs, we developed a list of physical and biological features essential to the conservation of adult and juvenile yelloweye rockfish, canary rockfish, and bocaccio and relevant to determining whether specific areas are consistent with the above regulations and the ESA section (3)(5)(A) definition of ''critical habitat.'' Because larval rockfish are nearly impossible to identify to species visually until they are several months old (Love *et al.,* 2002), there is relatively little known about their life-history on a species-specific level. We do not currently have sufficient information regarding the habitat requirements of larval yelloweye rockfish, canary rockfish, and bocaccio to determine which features are essential for conservation, and thus are not identifying critical habitat specifically for this life-stage, though we note that larval listed rockfishes very likely use areas designated as critical habitat. The physical or biological features essential to the conservation of yelloweye rockfish, canary rockfish, and bocaccio fall into major categories reflecting key life history phases:

Physical or Biological Features Essential to the Conservation of Adult Canary Rockfish and Bocaccio, and Adult and Juvenile Yelloweye Rockfish

Benthic habitats or sites deeper than 30 m (98ft) that possess or are adjacent to areas of complex bathymetry consisting of rock and or highly rugose habitat are essential to conservation because these features support growth, survival, reproduction, and feeding opportunities by providing the structure for rockfishes to avoid predation, seek food and persist for decades. Several attributes of these sites determine the quality of the habitat and are useful in considering the conservation value of the associated feature, and whether the feature may require special management considerations or protection. These attributes are also relevant in the evaluation of the effects of a proposed action in a section 7 consultation if the specific area containing the site is designated as critical habitat. These attributes include: (1) Quantity, quality, and availability of prey species to support individual growth, survival, reproduction, and feeding opportunities, (2) water quality and sufficient levels of dissolved oxygen to support growth, survival, reproduction, and feeding opportunities, and (3) the type and amount of structure and rugosity that supports feeding opportunities and predator avoidance.

Physical and Biological Features Essential to the Conservation of Juvenile Canary Rockfish and Bocaccio

Juvenile settlement habitats located in the nearshore with substrates such as sand, rock and/or cobble compositions that also support kelp (families Chordaceae, Alariaceae, Lessoniacea, Costariaceae, and Laminaricea) are essential for conservation because these features enable forage opportunities and refuge from predators and enable behavioral and physiological changes needed for juveniles to occupy deeper adult habitats. Several attributes of these sites determine the quality of the area and are useful in considering the conservation value of the associated

feature and, in determining whether the feature may require special management considerations or protection. These features also are relevant to evaluating the effects of a proposed action in a section 7 consultation if the specific area containing the site is designated as critical habitat. These attributes include: (1) Quantity, quality, and availability of prey species to support individual growth, survival, reproduction, and feeding opportunities; and (2) water quality and sufficient levels of dissolved oxygen to support growth, survival, reproduction, and feeding opportunities.

Specific Areas Within the Geographical Area Occupied by the Species

After determining the geographical area of the Puget Sound/Georgia Basin occupied by adult and juvenile yelloweye rockfish, canary rockfish, and bocaccio, and the physical and biological features essential to their conservation, we next identified the specific areas within the geographical area occupied by the species that contain the essential features. The U.S. portion of Puget Sound/Georgia Basin that is occupied by yelloweye rockfish, canary rockfish, and bocaccio can be divided into five biogeographic Basins or areas based on the presence and distribution of adult and juvenile rockfish, geographic conditions, and habitat features (Figure 1). These interconnected basins are separated by relatively shallow sills. The configuration of sills and deep basins results in the partial recirculation of water masses in the Puget Sound and the retention of contaminants, sediment, and biota (Strickland, 1983). The sills largely define the boundaries between the Basins and contribute to the generation of relatively fast water currents during portions of the tidal cycle. The sills, in combination with bathymetry, freshwater input, and tidal exchange, influence environmental conditions such as the movement and exchange of biota from one region to the next, water temperatures and water quality, and they also restrict water exchange (Ebbesmeyer *et al.,* 1984; Burns, 1985; Rice, 2007). In addition, each Basin differs in biological condition; depth profiles and contours; sub-tidal benthic, intertidal habitats; and shoreline composition and condition (Downing, 1983; Ebbesmeyer *et al.,* 1984; Burns, 1985; Rice, 2007; Drake *et al.,* 2010). These areas also meet the definition of specific areas under ESA section (3)(5)(A) because each one contains the physical and biological features essential for conservation for juvenile rearing and/or adult reproduction, sheltering, or feeding for yelloweye rockfish, canary rockfish, and bocaccio. As previously stated, we do not currently have sufficient information regarding the habitat requirements of larval yelloweye rockfish, canary rockfish, and bocaccio to allow us to determine essential features specific to the larval life stage.

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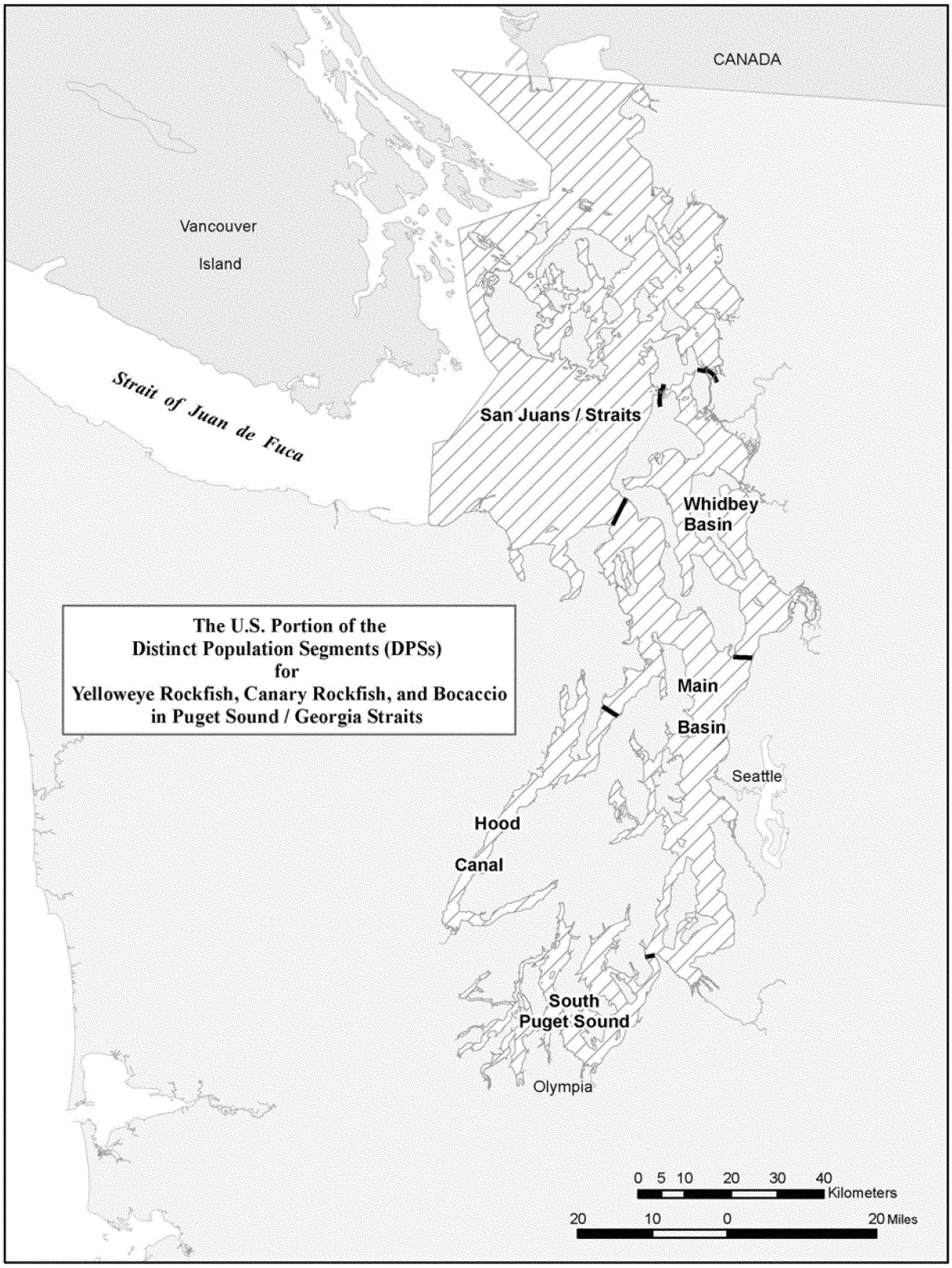

Figure 1. Basins of the U.S. portion rockfish DPSs.

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We considered the distribution of the essential features within these areas. We used available geographic data to delineate and map the essential features within each of the specific areas.

Delineating and Mapping Areas of Complex Bathymetry Deeper Than 30 Meters Containing Features Essential to the Conservation of Listed Rockfishes

We modified our proposed critical habitat designation by using newly acquired best available data and GIS tools to better identify areas of essential features that include high rugosity. We also used an updated gridded depth data model created by the Nature Conservancy to identify the 30-meter depth contour. This new bathymetry grid provided a more refined representation of the seafloor than used in our proposed designation in part because it included data from updated surveys conducted in the San Juan area (Greene and Aschoff, 2013). We used ArcGIS, version 10.2, Spatial Analyst (an extension to ArcGIS) and the BTM (Wright *et al.,* 2012) to assist in identifying benthic habitats deeper than 30 m (98 ft) used by yelloweye rockfish, canary rockfish, and bocaccio in Puget Sound that contained the identified essential features. The gridded depth data was the input to the BTM. Its geographic extent encompasses the entire Salish Sea ensuring that the full U.S. portion of the listed rockfish DPSs was covered. The BTM classifies benthic terrain in several categories that include flats, depressions, crests, shelves, and slopes. The BTM does not identify the benthic substrate type. The BTM also generates ''rugosity'' (terrain complexity or bumpiness) values for the seafloor. In our proposed critical habitat designation we generated rugosity information (used in the BTM version compatible with ArcGIS 9.3), calculated as the ratio of surface area to planar area (Kvitek *et al.,* 2003; Dunn and Halpin, 2009). To develop this final rule, we used the updated rugosity method (available with the BTM under ArcGIS 10.2) which was generated from running the terrain VRM script. The VRM was originally created by Mark Sappington, and was adapted for ArcGIS version 10.1 by the Massachusetts office of Coastal Zone Management (Sappington *et al.,* 2007). The VRM quantifies terrain ruggedness by measuring the dispersion of vectors orthogonal to the terrain surface. Rugosity values were developed using a neighborhood analysis with a 3-grid cell by 3-grid cell neighborhood. The VRM values are both low in flat areas and in steep areas, but values are high in areas that are both steep and rugged. VRM is thus able to differentiate smooth, steep topography from topography that is irregular and varied in gradient and aspect (Sappington, 2007).

We binned the rugosity values into two groups using the Geometric Interval method (Price, 2011). This method results in groups of classes in a geometric series by each class being multiplied by a constant coefficient to produce the next higher class. We determined the threshold value of high rugosity by using the ArcGIS 10.2 geometrical interval classification method (which is appropriate for the rugosity value data distribution). The geometrical interval method resulted in two classes, and the resultant threshold value for high rugosity was 0.001703 and higher. We refer to benthic areas with rugosity values of 0.001703 or higher as ''high rugosity.'' All areas of high rugosity (deeper than 30 meters (98 ft)) served as anchor points for critical habitat for each species.

We also designated some habitat between and adjacent to high rugosity by using several generalization geoprocessing tools. The high rugosity polygons were the initial input data, set to the following procedures: (1) The Smooth Polygon Tool was used with the Polynomial Approximation with Exponential Kernel smoothing algorithm with a 600-meter (1,968 ft) tolerance; (2) a 200-meter (656 ft) buffer was run on results from Step 1; (3) the Aggregate Polygons tool was run on results of Step 2 using an aggregation distance of 600 meters; and (4) small resultant non-adult critical habitat polygons that were 0.25 square miles (0.65 sq km) in area or less in waters deeper than 30 meters and having low rugosity were incorporated into surrounding ''deepwater'' critical habitat. Isolated polygons representing depths deeper than 30 meters that were smaller than 0.25 square miles in area and were entirely surrounded by only nearshore critical habitat were incorporated into nearshore critical habitat making those areas more cohesive.

To assess how well the BTM identified documented rocky areas within the DPSs, we used rocky habitat maps published by Green and Barrie (2011) in the San Juan Island area. We found there were 7.5 square kilometers (2.9 sq mi) of rocky habitat in the San Juan area that was not determined to be high rugosity by the BTM, which is approximately 7 percent of the rocky habitat of this area (Greene and Barrie, 2011). We designated these rocky areas as critical habitat. This mapped rocky habitat was incorporated as critical habitat by either: (1) Incorporating mapped rock into immediately adjacent high rugosity areas, or (2) a 200-meter buffer was run on those rocky areas.

We found that our GIS methods to identify areas of essential features that include high rugosity in conjunction with the four steps described above, encompassed the vast majority of the documented occurrences with precise spatial data of yelloweye rockfish, canary rockfish and bocaccio within the range of the DPSs. In addition, the spatial area designated as critical habitat for listed rockfish accounts for the movement of individual fish as they grow and move as adults. We further assessed the locations where yelloweye rockfish, canary rockfish and bocaccio had been documented outside of areas of high rugosity. For listed rockfish locations that were outside of the spatial area identified as critical habitat and were reliable and precise, we incorporated these specific locations as critical habitat by creating a 200-meter buffer on the location. These GIS steps resulted in the designation of habitats adjacent to benthic habitat with high rugosity. The designation of these areas next to highly rugose habitats is supported by our understandings of the life history of yelloweye rockfish, canary rockfish and bocaccio, including movement of adult fish and ontogenetic movement.

Delineating and Mapping Settlement Sites Containing Features Essential to the Conservation of Juvenile Canary Rockfish and Boccacio

In delineating juvenile settlement sites in Puget Sound, we focused on the area contiguous with the shoreline from extreme high water out to a depth no greater than 30 meters relative to MLLW because this area coincides with the maximum depth of the photic zone in Puget Sound and thus, with appropriate substrates that can support the growth of kelp and rearing canary rockfish and bocaccio. To determine the distribution of essential features of nearshore habitats for juvenile canary rockfish and bocaccio, we used the Washington State DNR ShoreZone inventory (Berry, 2001) in combination with the benthic habitat classifications of the BTM related to the locations where moderate and large rivers enter Puget Sound (NMFS, 2014a).

The DNR ShoreZone habitat classifications are available for all of the shoreline within the ranges of the DPSs. We used the habitat characteristics described in the ShoreZone inventory to assist in determining if essential features for juvenile canary rockfish and bocaccio occur along particular nearshore areas. The ShoreZone

inventory was conducted by aerial visual surveys between 1994 and 2000 along all of Washington State's shorelines (Berry *et al.,* 2001). The DNR subdivided beaches into units that are sections of beach with similar geomorphic characteristics. Within each unit, the DNR documented the presence of eelgrass or kelp, among other biological parameters. There are 6,856 shoreline segments in the range of the rockfish DPSs, ranging from 0.02 to 14 kilometers (0.01 to 8.7 mi) in length. The DNR delineated 15 different geomorphic shoreline types. The DNR's mapping of aquatic vegetation had limitations because shoreline segments were observed by aerial surveys during different years and months. Aquatic vegetation growth, including kelp, is variable from month to month and year to year. Some kelp species are annuals, thus surveys that took place during non-growing seasons may have not mapped kelp beds where they actually occur. Non-floating kelp species in particular may have also been underestimated by the DNR survey methods because they were more difficult to document than floating kelp. In particular, all kelp species mapped were usually not visible to their lower depth limit because of poor visibility through the water column. While beds of vegetation may have been visible underwater, often it was not possible to determine what particular type of vegetation was present because of a lack of color characteristics. In addition, because floating kelp occurs in shallow waters, off-shore of the area visible from the aircraft, it was not mapped in many cases. For these reasons, the mapped kelp within the ShoreZone database represents an underestimation of the total amount of kelp along Puget Sound shorelines.

To determine which shorelines contained the essential features for juvenile canary rockfish and bocaccio, we reviewed their geomorphic classifications to see if they possessed ''substrates such as sand, rock and/or cobble compositions.'' In addition, we assessed the relative overlap of mapped kelp in these shoreline types. All but the ''Estuary Wetland'' and ''Mud Flat'' type shoreline segments had at least 20 percent of the segment with ''continuous'' or ''sporadic'' kelp mapped by DNR. The Estuary Wetland and Mud Flat type segments had very small portions of kelp (1.5 and 2.6 percent, respectively). We found that the Estuary Wetland and Mud Flat type shoreline segments longer than one-half lineal mile in length lack essential features for canary rockfish and bocaccio.

To assess nearshore estuaries and deltas of moderate and large rivers that enter Puget Sound, we used information from Burns (1983) and Teizeen (2012) to determine the location and annual flows of these rivers. These rivers input various volumes of sediment and fresh water into Puget Sound (Downing, 1983; Burns, 1985; Czuba *et al.,* 2011) and profoundly influence local benthic habitat characteristics, salinity levels, and local biota. The nearshore areas adjacent to moderate-to-large river deltas are characterized by the input of fresh water and fine sediments that create relatively flat habitats (termed ''shelves'' by the BTM) that do not support the growth of kelp (NMFS, 2014a). In addition, the net outward flow of these deltas may prevent post-settlement juvenile canary rockfish or bocaccio from readily using these habitats. For these reasons we found that these nearshore areas do not contain the essential features of rearing sites for canary rockfish or bocaccio (juvenile yelloweye rockfish most commonly occupy waters deeper than the nearshore).

The DNR ShoreZone survey did not delineate the geomorphic extent of shoreline segments associated with estuaries and deltas. Thus we determined the geographical extent of these estuaries and shelves from the BTM ''shelf'' seafloor designation associated with the particular river because it indicates the geomorphic extension of the tidal and sub-tidal delta where fresh water enters Puget Sound. Not all of the shorelines associated with estuaries and deltas were labeled as ''estuary wetland'' and ''mud flat'' by DNR, thus we delineated juvenile settlement sites located in the nearshore at the border of these deltas at the geomorphic terminus of the delta at the 30 m (98 ft) contour and/or at the shoreline segment mapped with kelp by the DNR. By doing this, we did not include some of the other ShoreZone geomorphic shoreline types in the critical habitat designation because available information did not support the presence of essential features at some specific areas adjacent to moderate to large rivers (see NMFS, 2014a).

Special Management Considerations or Protection

An occupied area cannot be designated as critical habitat unless it contains physical or biological features that ''may require special management considerations or protection.'' Agency regulations at 50 CFR 424.02(j) define ''special management considerations or protection'' to mean ''any methods or procedures useful in protecting physical and biological features of the environment for the conservation of listed species.'' Many forms of human activities have the potential to affect the essential features of listed rockfish species: (1) Nearshore development and in-water construction (e.g., beach armoring, pier construction, jetty or harbor construction, pile driving construction, residential and commercial construction); (2) dredging and disposal of dredged material; (3) pollution and runoff; (4) underwater construction and operation of alternative energy hydrokinetic projects (tidal or wave energy projects) and cable laying; (5) kelp harvest; (6) fisheries; (7) non-indigenous species introduction and management; (8) artificial habitats; (9) research activities; (10) aquaculture, and; (11) activities that lead to global climate change and ocean acidification. All of these activities may have an effect on one or more physical or biological features via their potential alteration of one or more of the following: adult habitats, food resources, juvenile settlement habitat, and water quality. Further detail regarding the biological and ecological effect of these species management considerations is found in the final Biological Report (NMFS, 2014a).

Descriptions of Essential Features and Special Management Considerations in each Specific Area

We describe the five Basins (the specific areas) of the Puget Sound below and summarize their biological condition and attributes; full details are found in the final biological report supporting this designation (NMFS, 2014a). Each Basin has different levels of human impacts related to the sensitivity of the local environment, and degree and type of human-derived impacts. We have also included examples of some of the activities that occur within these Basins that affect the essential features such that they may require special management considerations or protection.

The San Juan/Strait of Juan de Fuca Basin—This Basin is the northwestern boundary of the U.S. portion of the DPSs. The Basin is delimited to the north by the Canadian border and includes Bellingham Bay, to the west by the entrance to the Strait of Juan de Fuca, to the south by the Olympic Peninsula and Admiralty Inlet, and to the east by Whidbey Island and the mainland between Anacortes and Blaine, Washington. The predominant feature of this Basin is the Strait of Juan de Fuca, which is 99.4 mi (160 km) long and varies from 13.7 mi (22 km) wide at its western end to over 24.9 mi (40

km) wide at its eastern end (Thomson, 1994). Drake *et al.* (2010) considered the western boundary of the DPSs as the Victoria Sill because it is hypothesized to control larval dispersal for rockfishes (and other biota) of the region. Water temperatures are lower and more similar to coastal marine waters than to Puget Sound proper, and circulation in the strait consists of a seaward surface flow of diluted seawater (>30.0 practical salinity units [psu]) in the upper layer and an inshore flow of saline oceanic water (>33.0 psu) at depth (Drake *et al.,* 2010). Water exchange in this Basin has not been determined because, unlike the rest of the Basins of the DPSs, it is more oceanic in character and water circulation is not nearly as constrained by geography and sills as it is in the other Basins.

The San Juan/Strait of Juan de Fuca Basin has the most rocky shoreline and benthic habitats of the U.S. portion of the DPSs. Most of the Basin's numerous islands have rocky shorelines with extensive, submerged aquatic vegetation and floating kelp beds necessary for juvenile canary rockfish and bocaccio settlement sites.

This Basin also contains abundant sites deeper than 30 meters that possess or are adjacent to areas of complex bathymetry. Approximately 93 percent of the rocky benthic habitats of the U.S. portion of the range of all three DPSs are in this Basin (Palsson *et al.,* 2009). Plate tectonic processes and glacial scouring/deposition have produced a complex of fjords, grooved and polished bedrock outcrops, and erratic boulders and moraines along the seafloor of the San Juan Archipelago (Greene, 2012). Banks of till and glacial advance outwash deposits have also formed and contribute to the variety of relief and habitat within the Basin. These processes have contributed to the development of benthic areas with complex bathymetry.

Yelloweye rockfish, canary rockfish, and bocaccio have been documented in the San Juan Archipelago, in addition to the southern portion of this Basin along the Strait of Juan de Fuca (Washington, 1977; Moulton and Miller, 1987; Pacunski, 2013). The southern portion of this Basin has several pinnacles that include Hein, Eastern, Middle, MacArthur, Partridge, and Coyote Banks. Yelloweye rockfish were once commonly caught by anglers along these areas, particularly Middle Bank (Olander, 1991).

As described in more detail in the final Biological Report (NMFS, 2014a), there are several activities that occur in this Basin that affect the essential features such that they may require special management considerations. Commercial and recreational fisheries occur here, as well as scientific research. The highest concentration of derelict fishing nets within the range of the DPSs remain here, including over 199 nets in waters deeper than 100 ft (30.5 m) (NRC, 2014), and an estimated 241 nets in waters shallower than 100 ft (30.5 m) (NRC, 2014). Because this Basin has the most kelp within the range of the DPSs, commercial harvest of kelp could be proposed for the San Juan Islands area. The Ports of Bellingham and Anacortes are located in this Basin, and numerous dredging and dredge disposal projects and nearshore development, such as new docks, piers, and bulkheads occur in this Basin. These development actions have the potential to alter juvenile settlement sites of canary rockfish and bocaccio. Two open-water dredge disposal sites are located in the Basin, one in Rosario Strait and the other northwest of Port Townsend. These are termed dispersive sites because they have higher current velocities; thus, dredged material does not accumulate at the disposal site and settles on benthic environments over a broad area (Army Corps of Engineers, 2010). Sediment disposal activities in this specific area may temporarily alter water quality (dissolved oxygen levels) and feeding opportunities (the ability of juvenile rockfish to seek out prey). There are several areas with contaminated sediments along the eastern portion of this Basin, particularly in Bellingham Bay and Guemes Channel near Anacortes.

Whidbey Basin—The Whidbey Basin includes the marine waters east of Whidbey Island and is delimited to the south by a line between Possession Point on Whidbey Island and Meadowdale, south of Mukilteo. The northern boundary is Deception Pass at the northern tip of Whidbey Island. The Skagit, Snohomish, and Stillaguamish Rivers flow into this Basin and contribute the largest influx of freshwater inflow to Puget Sound (Burns, 1985). Water retention is approximately 5.4 months due to the geography and sills at Deception Pass (Ebbesmeyer *et al.,* 1984).

Most of the nearshore of the Whidbey Basin consists of bluff-backed beaches with unconsolidated materials ranging from mud and sand to mixes of gravels and cobbles (McBride, 2006). Some of these nearshore areas support the growth of kelp. Some of the northern part of this Basin is relatively shallow with moderately flat bathymetry near the Skagit, Stillaguamish and Snohomish River deltas and does not support kelp growth because it lacks suitable areas for holdfast attachment, such as rock and cobble.

Benthic areas in this Basin contain sites deeper than 30 meters that possess or are adjacent to areas of complex bathymetry. The southern portion of the Basin has more complex bathymetry compared to the north, with deeper waters adjacent to Whidbey Island, southern Camano Island, and near the City of Mukilteo.

Yelloweye rockfish, canary rockfish, and bocaccio have been documented in the Whidbey Basin, with most occurrences within the southern portion near south Camano Island, Hat (Gedney) Island, and offshore of the City of Mukilteo. It is not known if the southern portion of the Whidbey Basin has more attractive rockfish habitat compared to the northern portion, or if most documented occurrences are a reflection of uneven sampling effort over the years.

As described in more detail in the biological report, there are several activities that occur in this Basin that affect the essential features such that they may require special management considerations. Activities include commercial and recreational fisheries, scientific research, dredging projects and dredge disposal operations, nearshore development projects, aquaculture and potential tidal energy projects. An estimated 3 derelict nets remain in waters deeper than 100 ft (30.5 m) and 3 nets in deeper waters in this Basin (NRC, 2014). A planned tidal energy site is located within the Deception Pass area, at the northern tip of Whidbey Island. Pollution and runoff are also concerns in this Basin, mostly near the Port Gardner area. There are several areas with contaminated sediments along the eastern portion of this Basin, particularly near the Cities of Mukilteo and Everett.

Main Basin—The 62.1 mi (100 km) long Main Basin is delimited to the north by a line between Point Wilson near Port Townsend and Partridge Point on Whidbey Island, to the south by Tacoma Narrows, and to the east by a line between Possession Point on Whidbey Island and Meadow Point. The sill at the border of Admiralty Inlet and the eastern Straits of Juan de Fuca regulates water exchange of Puget Sound (Burns, 1985). The Main Basin is the largest Basin, holding 60 percent of the water in Puget Sound proper. Water retention is estimated to be one month due to the sills at Admiralty Inlet and Deception Pass (Ebbesmeyer *et al.,* 1984).

Approximately 33 percent (439.3 mi (707 km)) of Puget Sound's shoreline occurs within this Basin and nearshore

habitats consist of bluff-backed beaches with unconsolidated materials ranging from mud and sand to mixes of gravels and cobbles (Drake *et al.,* 2010). Some of these nearshore areas support the growth of kelp. Subtidal surface sediments in Admiralty Inlet tend to consist largely of sand and gravel, whereas sediments just south of the inlet and southwest of Whidbey Island are primarily sand. Areas deeper than 30 meters in the Main Basin have varying amounts of sites that possess or are adjacent to areas of complex bathymetry. Sediments in the deeper areas of the central portion of the Main Basin generally consist of mud or sandy mud (Bailey *et al.,* 1998) and are generally not complex. Possession Point is centrally located within this Basin at the southern end of Whidbey Island, and has relatively steep eastern, southern, and western edges and also has some rocky substrates (Squire and Smith, 1977). There are benthic areas deeper than 98ft (30 m) along Possession Point, Admiralty Inlet and the rims of Puget Sound beyond the nearshore that feature complex bathymetry, with slopes and areas of high rugosity.

Yelloweye rockfish, canary rockfish, and bocaccio have been documented at Possession Point, near the port of Kingston and Apple Cove, and along much of the eastern shoreline of this Basin (Washington, 1977; Moulton and Miller, 1987).

As described in more detail in the biological report, there are several activities that occur in this Basin that affect the essential features such that they may require special management considerations. Activities include commercial and recreational fisheries, scientific research, dredging projects and dredge disposal operations, nearshore development projects, aquaculture and planned tidal energy projects. An estimated 20 derelict nets in waters shallower than 100 ft (30.5 m), and one in deeper waters remain in this Basin (NRC, 2014). A planned tidal energy site is located within the Admiralty Inlet area off Whidbey Island. Pollution and runoff are also concerns in this Basin because of extensive amounts of impervious surface located on its eastern side. Two open-water dredge disposal sites are located in the Basin, one located in Elliot Bay and the other in Commencement Bay. These are non-dispersive disposal sites, which are areas where currents are slow enough that dredged material is deposited on the disposal target area rather than dispersing broadly with prevailing currents (Army Corps of Engineers, 2010). An estimated 36 percent of the shoreline in this area has been modified by human activities (Drake *et al.,* 2010) and bulkhead/pier repair projects and new docks/piers are proposed regularly in this Basin. There are several areas with contaminated sediments in this Basin, particularly in Elliot Bay, Sinclair Inlet, and Commencement Bay.

South Puget Sound—This Basin includes all waterways south of Tacoma Narrows, and is characterized by numerous islands and shallow (generally <65ft (20 m)) inlets with extensive shoreline areas. The sill at Tacoma Narrows restricts water exchange between the South Puget Sound and the Main Basin and water retention is an estimated 1.9 months (Ebbesmeyer *et al.,* 1984). This restricted water exchange influences environmental characteristics of the South Puget Sound such as nutrient levels and dissolved oxygen, and perhaps its biotic communities (Ebbesmeyer *et al.,* 1984; Rice, 2007).

Wide assortments of sediments are found in the nearshore and intertidal areas of this Basin (Bailey *et al.,* 1998). The most common sediments and the percent of the intertidal area they cover (with 95 percent confidence limits) are: mud, 38.3 ± 29.3 percent; sand, 21.7 ± 23.9 percent; mixed fine, 22.9 ± 16.1 percent; and gravel, 11.1 ± 4.9 percent. Subtidal areas have a similar diversity of surface sediments, with shallower areas consisting of mixtures of mud and sand and deeper areas consisting of mud (Puget Sound Water Quality Authority, 1987). The southern inlets of this Basin include Oakland Bay, Totten Inlet, Bud Inlet and Eld Inlet, in addition to the Nisqually River delta. These inlets have relatively muddy habitats that do not support essential nearshore features such as holdfasts for kelp, and rock and cobble areas for rearing juvenile canary rockfish and bocaccio. Despite the prevalence of muddy and sandy substrate in the southern portion of this Basin, some of these nearshore areas support the growth of kelp and therefore contain juvenile settlement sites.

With a mean depth of 121 ft (37 m), this Basin is the shallowest of the five Basins (Burns, 1985). Benthic areas deeper than 98 ft (30 m) occur in portions of the Tacoma Narrows and Dana Passage and around the rims of the Basin. Sediments in Tacoma Narrows and Dana Passage consist primarily of gravel and sand. The rims of South Puget Sound beyond the nearshore feature complex bathymetry, with slopes and areas of high rugosity.

Yelloweye rockfish, canary rockfish, and bocaccio have been documented within the South Puget Sound (NMFS, 2014a). Canary rockfish may have been historically most abundant in the South Puget Sound (Drake *et al.,* 2010).

As described in more detail in the biological report, there are several activities that occur in this Basin that affect the essential features such that they may require special management considerations. Activities include commercial and recreational fisheries, scientific research, dredging and dredge disposal, nearshore development, pollution and runoff, aquaculture operations, and potential tidal energy projects. An estimated 7 derelict nets in waters shallower than 100 ft (30.5 m) remain in this Basin (Northwest Straits Initiative, 2011). A non-dispersive dredge disposal site is located off Anderson/Ketron Island (Army Corps of Engineers, 2010). A potential tidal energy site is located in the Tacoma Narrows area. Important point sources of waste include sewage treatment facilities, and about 5 percent of the nutrients (as inorganic nitrogen) entering greater Puget Sound enter this Basin through nonpoint sources (Embrey and Inkpen, 1998). An estimated 34 percent of the shoreline in this area has been modified by human activities (Drake *et al.,* 2010), and bulkhead/pier repair projects and new docks/piers are proposed regularly in this Basin. The major urban areas, and thus more pollution and runoff into the South Puget Sound, are found in the western portions of Pierce County. Other urban centers in Southern Puget Sound include Olympia and Shelton. There are several areas with contaminated sediments in this Basin in Carr Inlet and near Olympia.

Hood Canal—Hood Canal branches off the northwest part of the Main Basin near Admiralty Inlet and is the smallest of the greater Puget Sound Basins, being 55.9 mi (90 km) long and 0.6 to 1.2 mi (1 to 2 km) wide (Drake *et al.,* 2010). Water retention is estimated at 9.3 months; exchange in Hood Canal is regulated by a 164-foot (50-meter) deep sill near its entrance that limits the transport of deep marine waters in and out of Hood Canal (Ebbesmeyer *et al.,* 1984; Burns, 1985). The major components of this Basin consist of the Hood Canal entrance, Dabob Bay, the central Basin, and the Great Bend at the southern end. A combination of relatively little freshwater inflow, the sill at Admiralty Inlet, and bathymetry lead to relatively slow currents; thus, water residence time within Hood Canal is the longest of the biogeographic Basins, with net surface flow generally northward (Ebbesmeyer *et al.,* 1984).

The intertidal and nearshore zone consists mostly of mud (53.4 ± 89.3 percent of the intertidal area), with

similar amounts of mixed fine sediment and sand (18.0 ± 18.5 percent and 16.7 ± 13.7 percent, respectively) (Bailey *et al.,* 1998). Some of the nearshore areas of Hood Canal have cobble and gravel substrates intermixed with sand that support the growth of kelp. Surface sediments in the subtidal areas also consist primarily of mud and cobbles (Puget Sound Water Quality Authority, 1987). The shallow areas of the Great Bend, Dabob Bay, and the Hamma Hamma, Quilcene, Duckabusch, Dosewallips, Tahuya and Skokomish River deltas feature relatively muddy habitats that lack holdfasts for kelp, such as rock and cobble areas, and thus do not support kelp growth. Such areas thus lack the essential feature of juvenile settlement sites for juvenile canary rockfish and bocaccio.

Benthic areas deeper than 98 ft (30 m) occur along the rim of nearly all of Hood Canal, and these areas feature complex bathymetry, with slopes and areas of high rugosity.

Bocaccio have been documented in Hood Canal (NMFS, 2014a). Yelloweye and canary rockfish have also been documented at several locations and have been caught in relatively low numbers for the past several years (WDFW, 2011).

As described in more detail in the biological report, there are several activities that occur in this Basin that affect the essential features such that they may require special management considerations. Activities in Hood Canal include commercial and recreational fisheries, scientific research, nearshore development, non-indigenous species management, aquaculture, and pollution and runoff. An estimated three derelict nets in waters shallower than 100 ft (30.5 m) and two in deeper waters remain in this Basin (NRC, 2014). The unique bathymetry and low water exchange have led to episodic periods of low dissolved oxygen (Newton *et al.,* 2007), though the relative role of nutrient input from humans in exacerbating these periods of hypoxia is in doubt (Cope and Roberts, 2012). Dissolved oxygen levels have decreased to levels that cause behavioral changes and kill some rockfish (i.e., below 1.0 mg/L (1 ppm)) (Palsson *et al.,* 2008). An estimated 34 percent of the shoreline in this area has been modified by human activities (Drake *et al.,* 2010), and bulkhead/pier repairs and new docks/piers are regularly proposed in this Basin. The non-indigenous tunicate (*Ciona savignyi*) has been documented at 86 percent of sites surveyed in Hood Canal (Drake *et al.,* 2010), and may impact benthic habitat function that includes rearing and settlement habitat for rockfish.

Depicting Critical Habitat With Maps

As previously described, we updated our methods to determine the final critical habitat designation by using newly acquired best available bathymetry data and GIS tools. We used ArcGIS, version 10.2 and updated 30-meter bathymetry data provided to us by the Nature Conservancy. We used the new BTM within ArcGIS 10.2 (Wright *et al.,* 2012). We used available geographic data to identify the locations of benthic sites with or adjacent to complex bathymetry and shoreline sites with sand, rock and/or cobble compositions that also support kelp, as described in more detail in the Biological Report (NMFS, 2014a). Once we identified these sites, we aggregated sites located in close proximity through GIS methods described in NMFS (2014a), consistent with the regulatory guidance regarding designation of an inclusive area for habitats in close proximity (50 CFR 424.12(d)).

Consistent with current agency regulations we refined the designation and provide a critical habitat map that clearly delineates where the essential features are found within the specific areas and, consistent with our proposed designation, are only designating those areas that are mapped. Current agency regulations state that instead of designating critical habitat using lines on a map, we may show critical habitat on a map, with additional information discussed in the preamble of the rulemaking and in agency records (50 CFR 424.12(c)), rather than requiring long textual description in the Code of Federal Regulations (CFR). In adopting this regulation, we stated in response to comments:

> [I]n instances where there are areas within a bigger area that do not contain the physical and biological features necessary for the conservation of the species, the Services would have the option of drawing the map to reflect only those parts of the area that do contain those features (77 FR 25611, May 1, 2012).

The maps we developed for the present designation conform to this new regulation. In addition, in agency records, and available on our Web site, we provide the GIS plot points used to create these maps, so interested persons may determine whether any place of interest is within critical habitat boundaries (*http://www.wcr.noaa.gov*).

Unoccupied Areas

Section 3(5)(A)(ii) of the ESA authorizes the designation of ''specific areas outside the geographical area occupied at the time [the species] is listed'' if these areas are essential for the conservation of the species. Regulations at 50 CFR 424.12(e) emphasize that the agency ''shall designate as critical habitat areas outside the geographical area presently occupied by a species only when a designation limited to its present range would be inadequate to ensure the conservation of the species.'' We conducted a review of the documented occurrences of each listed rockfish species in the five biogeographic Basins of Puget Sound (NMFS, 2014a). We found that each of the Basins is currently occupied by listed rockfish and our biological review did not identify any unoccupied areas that are essential to conservation and thus have not identified any unoccupied areas as candidates for critical habitat designation (NMFS, 2014a).

Section 3(5)(C) of the ESA provides that ''[e]xcept in those circumstances determined by the Secretary, critical habitat shall not include the entire geographical area which can be occupied by the threatened or endangered species.'' In this case we are proposing to designate all the specific areas that possess essential features that can be mapped (such as complex bathymetry in waters deeper than 30 meters, and nearshore areas such as sand, rock and/or cobble compositions that also support kelp) and as described above, we are only designating those portions of the specific areas that actually contain the essential features. We acknowledge that some listed rockfishes have been documented to occur outside of the mapped areas that we designate as critical habitat (NMFS, 2014a) and that larval listed rockfishes could occur throughout the specific areas. Therefore, although each specific area contains designated critical habitat, we conclude that the designation does not constitute ''the entire geographical area which can be occupied'' by the listed rockfish species.

Identifying Military Lands Ineligible for Designation

Section 4(a)(3) of the ESA precludes the Secretary from designating military lands as critical habitat if those lands are subject to an INRMP under the Sikes Act that the Secretary certifies in writing benefits the listed species. The Navy has not determined the extent of marine waters covered by INRMPs, nor has it set forth a process or timeline to determine this. In considering the benefits of the INRMPs for rockfishes we have determined that they may influence habitat of the nearshore (78 FR 47635; August 6, 2013). These areas are contiguous with the shoreline from

the line of extreme high water out to a depth no greater than 30 meters (98 ft) relative to MLLW (NMFS, 2014a). This zone includes the photic zone (upper layer of a water body delineated by the depth at which enough sunlight can penetrate to allow photosynthesis) which can be readily affected by actions occurring in intertidal waters or adjacent land. Prior to the proposed rule we consulted with the DOD and determined that there are several installations with INRMPs which overlap with marine habitats occupied by listed rockfishes: (1) Joint Base Lewis-McChord: (2) Manchester Fuel Department, (3) Naval Air Station Whidbey Island, (4) Naval Station Everett, and (5) Naval Station Kitsap and associated properties. After the proposed rule (78 FR 47635; August 6, 2013) published, the Navy clarified that Hood Canal and Dabob Bay Naval Non-Explosive Torpedo Testing Area and Dabob Bay, Whitney Point Naval Restricted Area are covered by the INRMP for Naval Station Kitsap. The Navy also clarified that the two Naval Restricted Areas in the Strait of Juan de Fuca, Eastern End; off the Westerly Shore of Whidbey Island, the Port Townsend, Indian Island, Walan Point Naval Restricted Area, Port Orchard Naval Restricted Area and the Puget Sound, Manchester Fuel Depot, Naval Restricted Area are also covered by an INRMP.

We found that Naval Station Everett is covered by an INRMP that would benefit listed rockfishes, but we also found the nearshore of this area does not overlap with essential features for listed rockfishes and we are not designating it as critical habitat. We identified habitat meeting the statutory definition of critical habitat at all of the other installations and reviewed the INRMPs, as well as other information available, regarding the management of these military lands. Our review indicates that each of these INRMPs addresses listed rockfish habitat, and all contain measures that provide benefits to the listed rockfish DPSs. Examples of the types of benefits include actions that improve shoreline conditions, control erosion and water quality, prevent or ensure prompt response to chemical and oil spills, and monitor listed species and their habitats. As a result, we conclude that the areas identified within INRMPs are not eligible for critical habitat designation (see Appendix C of NMFS, 2014c).

Summary of Areas Meeting the Definition for Critical Habitat Designation

We have determined that approximately 644.7 square miles (1,669.8 sq km) of nearshore habitat for juvenile canary rockfish and bocaccio, and 438.5 square miles (1,135.7 sq km) of deepwater habitat for yelloweye rockfish, canary rockfish, and bocaccio meet the definition of critical habitat (Table 1).

TABLE 1—PHYSICAL AND BIOLOGICAL FEATURES AND MANAGEMENT CONSIDERATIONS FOR YELLOWEYE ROCKFISH, CANARY ROCKFISH AND BOCACCIO IN AREAS MEETING THE DEFINITION OF CRITICAL HABITAT, PRIOR TO EXCLUSIONS

DPS basin	Nearshore sq mi. (for juvenile canary and bocaccio only)	Deepwater sq mi. (for adult and juvenile yelloweye rockfish, adult canary rockfish, and adult bocaccio)	Physical or biological features		Activities
San Juan/Strait of Juan de Fuca.	349.4	203.6	Deepwater sites <30 meters) that support growth, survival, reproduction and feeding opportunities.	Nearshore juvenile rearing sites with sand, rock and/or cobbles to support forage and refuge.	1, 2, 3, 6, 9, 10, 11.
Whidbey Basin	52.2	32.2			1, 2, 3, 4, 6, 9, 10, 11.
Main Basin	147.4	129.2			1, 2, 3, 4, 6,7, 9, 10, 11.
South Puget Sound	75.3	27.1			1, 2, 3, 4, 6,7, 9, 10, 11.
Hood Canal	20.4	46.4			1, 2, 3, 6,7, 9, 10, 11.

Management Considerations Codes: (1) Nearshore development and in-water construction (e.g., beach armoring, pier construction, jetty or harbor construction, pile driving construction, residential and commercial construction); (2) dredging and disposal of dredged material; (3) pollution and runoff; (4) underwater construction and operation of alternative energy hydrokinetic projects (tidal or wave energy projects) and cable laying; (5) kelp harvest; (6) fisheries; (7) non-indigenous species introduction and management; (8) artificial habitats; (9) research; (10) aquaculture; and (11) activities that lead to global climate change and ocean acidification. Commercial kelp harvest does not occur presently, but would probably be concentrated in the San Juan/Georgia Basin. Artificial habitats could be proposed to be placed in each of the Basins. Non-indigenous species introduction and management could occur in each Basin.

Application of ESA Section 4(b)(2)

The foregoing discussion describes those areas that are eligible for designation as critical habitat—the specific areas that fall within the ESA section 3(5)(A) definition of critical habitat, not including lands owned or controlled by the DOD, or designated for its use, that are covered by an INRMP that the Secretary has determined in writing provides a benefit to the species. Specific areas eligible for designation are not automatically designated as critical habitat. As described above, Section 4(b)(2) of the ESA requires that the Secretary first consider the economic impact, impact on national security, and any other relevant impact. The Secretary has the discretion to exclude an area from designation if she determines the benefits of exclusion (that is, avoiding the impact that would result from designation) outweigh the benefits of designation, based on the best available scientific and commercial information. The Secretary may not exclude an area from designation if

exclusion will result in the extinction of the species. Because the authority to exclude is wholly discretionary, exclusion is not required for any areas (H.R. No.95–1625, at 16–17 1978; M–37016, ''The Secretary's Authority to Exclude Areas from a Critical Habitat Designation under Section 4(b)(2) of the Endangered Species Act'' (Oct. 3, 2008) (DOI, 2008; 78 FR 53058, August 18, 2013).

The first step in conducting an ESA section 4(b)(2) analysis is to identify the ''particular areas'' to be analyzed. Section 3(5)(A) of the ESA defines critical habitat as ''specific areas,'' while section 4(b)(2) of the ESA requires the agency to consider certain factors before designating any ''particular area.'' Depending on the biology of the species, the characteristics of its habitat, and the nature of the impacts of designation, ''specific'' areas might be different from, or the same as, ''particular'' areas. For this designation, we identified the ''specific'' areas as (1) The San Juan/Strait of Juan de Fuca Basin, (2) Main Basin, (3) Whidbey Basin, (4) South Puget Sound, and (5) Hood Canal. For our economic impact analysis we defined the ''particular'' areas as equivalent to the ''specific'' areas. This approach allowed us to most effectively consider the conservation value of the different areas when balancing conservation benefits of designation against economic benefits of exclusion. However, to assess impacts of designation on national security and Indian lands, we instead used a delineation of ''particular'' areas based on ownership or control of the area. These ''particular'' areas consisted of marine areas that overlap with designated military areas and Indian lands. This approach allowed us to consider impacts and benefits associated with management by the military or land ownership and management by Indian tribes.

Identify and Determine the Impacts of Designation

Section 4(b)(2) of the ESA provides that the Secretary shall consider ''the economic impact, impact on national security, and any other relevant impact of specifying any particular area as critical habitat.'' The primary impact of a critical habitat designation stems from the requirement under section 7(a)(2) of the ESA that Federal agencies ensure their actions are not likely to result in the destruction or adverse modification of critical habitat. Determining this impact is complicated by the fact that section 7(a)(2) contains the overlapping requirement that Federal agencies must ensure their actions are not likely to jeopardize the species' continued existence. The true impact of designation is the extent to which Federal agencies modify their actions to ensure their actions are not likely to destroy or adversely modify the critical habitat of the species, beyond any modifications they would make because of listing and the jeopardy requirement for the species. Additional impacts of designation include state and local protections that may be triggered as a result of the designation.

In determining the impacts of designation, we assessed the incremental change in Federal agency actions as a result of critical habitat designation and the adverse modification prohibition, beyond the changes predicted to occur as a result of listing and the jeopardy provision. In August 2013 the USFWS and NMFS published a final rule to amend our joint regulations at 50 CFR 424.19 to make clear that in considering impacts of designation as required by Section 4(b)(2) we would consider the incremental impacts (78 FR 53058; August 24, 2013). This approach is in contrast to our 2005 critical habitat designations for salmon and steelhead (70 FR 52630; September 2, 2005) where we considered the ''coextensive'' impact of designation. The consideration of co-extensive impacts was in accordance with a Tenth Circuit Court decision (*New Mexico Cattle Growers Association* v. *U.S. Fish and Wildlife Service,* 248 F.3d 1277 (10th Cir. 2001)). More recently, several courts (including the 9th Circuit Court of Appeals) have approved an approach that considers the incremental impact of designation. The **Federal Register** notice (77 FR 5103; August 24, 2012) announcing the proposed policy on considering impacts of designation describes and discusses these court cases: *Arizona Cattlegrowers' Ass'n* v. *Salazar,* 606 F3d 1160, 1172–74 (9th Cir. 2010), cert. denied, 131 S. Ct. 1471, 179 L. Ed. 2d 300 (2011); *Homebuilders Ass'n* v. *FWS,* 616 F3d 983, 991093j (9th Cir. 2010) cert. denied, 131 S. Ct. 1475, 179 L. Ed. 2d 301 (2011). The notice also discusses a Department of Interior Solicitor's memo (M–3706 The Secretary's Authority to Exclude Areas from Critical Habitat Designation Under 4(b)(2) of the Endangered Species Act (Oct. 3, 2008) (DOI, 2008)). In more recent critical habitat designations, both NMFS and the USFWS have considered the incremental impact of critical habitat designation (for example, NMFS' designation of critical habitat for the Southern DPS of green sturgeon (74 FR 52300; October 9, 2009) and the Southern DPS of Pacific eulachon (76 FR 65324; October 20, 2011), and the USFWS' designation of critical habitat for the Oregon chub (75 FR 11031; March 10, 2010)).

Consistent with our new regulations (78 FR 53058; August 24, 2013), the more recent court cases, and more recent agency practice, we estimated the incremental impacts of designation, beyond the impacts that would result from the listing and jeopardy provision. In addition, because these designations almost completely overlap our previous salmonid, killer whale and green sturgeon critical habitat designations in Puget Sound, and the essential features defined for those species in previous designations are similar to those for listed rockfishes (NMFS, 2014a), we estimated only the incremental impacts of designation beyond the impacts already imposed by those prior designations.

To determine the impact of designation, we examined what the state of the world would be with and without the designation of critical habitat for listed rockfishes. The ''without critical habitat'' scenario represents the baseline for the analysis. It includes process requirements and habitat protections already afforded listed rockfishes under their Federal listing or under other Federal, state, and local regulations. Such regulations include protections afforded listed rockfish habitat from other co-occurring ESA listings and critical habitat designations, such as those for Pacific salmon and steelhead (70 FR 52630; September 2, 2005), North American green sturgeon (74 FR 52300; October 9, 2009), Southern Resident killer whales (71 FR 69054; November 29, 2006), and bull trout (75 FR 63898; October 18, 2010) (see the Final Economic Analysis for listed rockfish (NMFS, 2014a) for examples of protections for other species that would benefit listed rockfishes). The ''with critical habitat'' scenario describes the incremental impacts associated specifically with the designation of critical habitat for listed rockfishes. The primary impacts of critical habitat designation we found were: (1) The economic costs associated with additional administrative effort of including a critical habitat analysis in section 7 consultations for these three DPSs, (2) impacts to national security, and (3) the possible harm to our working relationship with Indian tribes and landowners and entities with conservation plans.

Economic Impacts

Our Economic Analysis sought to determine the impacts on land uses and

other activities from the designation of critical habitat, above and beyond—or incremental to—those ''baseline'' impacts due to existing or planned conservation efforts being undertaken due to other Federal, state, and local regulations or guidelines (NMFS, 2014b). Other Federal agencies, as well as state and local governments, may also seek to protect the natural resources under their jurisdiction. If compliance with the Clean Water Act or state environmental quality laws, for example, protects habitat for the species, such protective efforts are considered to be baseline protections and costs associated with these efforts are not quantified as impacts of critical habitat designation.

When critical habitat is designated, section 7 requires Federal agencies to ensure that their actions are not likely to result in the destruction or adverse modification of critical habitat, in addition to ensuring that the actions are not likely to jeopardize the continued existence of the species. The added administrative costs of considering critical habitat in section 7 consultations and the additional impacts of implementing project modifications to protect critical habitat are the direct result of the designation of critical habitat. These costs are not in the baseline, and are considered incremental impacts of the rulemaking.

Incremental economic impacts may include the direct costs associated with additional effort for future consultations, reinitiated consultations, new consultations occurring specifically because of the designation, and additional project modifications that would not have been required to avoid jeopardizing the continued existence of the species. Additionally, incremental economic impacts may include indirect impacts resulting from reaction to the potential designation of critical habitat (e.g., developing habitat conservation plans in an effort to avoid designation of critical habitat), triggering of additional requirements under State or local laws intended to protect sensitive habitat, and uncertainty and perceptional effects on markets.

To evaluate the potential administrative and project modification costs of designating critical habitat we examined our ESA section 7 consultation record for rockfishes for the years 2010 and 2011. As further explained in the supporting Economic Analysis (NMFS, 2014b), to quantify the economic impact of designation, we employed the following three steps:

(1) Define the geographic study area for the analysis, and identify the units of analysis (the ''particular areas''). In this case, we defined the five biogeographic Basins of the Puget Sound/Georgia Basin that encompass occupied marine areas as the particular areas.

(2) Identify potentially affected economic activities and determine how management may increase due to the designation of listed rockfish critical habitat, both in terms of project administration and potential project modification.

(3) Estimate the economic impacts associated with both potential administrative costs and costs from project modifications. In this critical habitat designation we did not identify potential systematic project modification costs (NMFS, 2014b).

We estimated that the additional effort to address adverse modification of critical habitat in an ESA section 7 consultation is equivalent to one third of the effort already devoted to the consultation to consider the species. This is based on estimates of additional USFWS effort for bull trout consultations in the Northwest, which was considered relevant to the current critical habitat designation (NMFS, 2014b). That is, for every 3 hours spent considering a jeopardy analysis for rockfishes, an additional hour would be needed to consider rockfish critical habitat. Based on that assumption, we estimated a total annualized incremental administrative cost of approximately $123,000 (discounted at 7 percent) for designating the five specific areas as listed rockfish critical habitat. The greatest costs are associated with nearshore work, transportation, water quality, and utilities (see NMFS, 2014b for more details). The estimated annual incremental costs across the five biogeographic Basins range from $32,100 in the San Juan/Strait of Juan de Fuca Basin to $10,200 in Hood Canal (NMFS, 2014b).

For the second category of impacts, we consider it unlikely there will be incremental costs for project modifications specific to rockfish critical habitat for most individual project types. This is because of the existing high level of protection afforded by previous salmonid, green sturgeon and killer whale critical habitat designations that have generally similar biological features, and the protections already afforded listed rockfishes through the separate jeopardy analysis (see NMFS, 2014b for more details). The results of our Economic Analysis are discussed in greater detail in a separate report that is available for public review (NMFS, 2014b).

Impacts to National Security

During preparations for the proposed designation we sent a letter to the DOD seeking information to better understand their activities taking place in areas owned or controlled by them and the potential impact of designating critical habitat in these areas. We received two letters from the DOD in response to our initial inquiry. A single letter from the U.S. Air Force and U.S. Army stated that these services did not foresee any adverse impacts to their national security or training missions from proposed rockfish critical habitat designations. The second letter, from the U.S. Navy, identified 14 Restricted Areas, Operating Areas and Danger Zones (security zones) within the range of listed rockfishes in the five Basins of the Puget Sound. The Navy confirmed that it uses all of these security zones, and assessed the potential for critical habitat designation to adversely affect operations, testing, training, and other essential military activities. Of the 14 security zones identified by the Navy, only one area is already designated as critical habitat for other ESA-listed species (Southern Resident killer whales). The Navy letter identified several aspects of potential impacts to national security from critical habitat designation and requested that areas owned or controlled by the Navy be excluded from designation. We had several conversations with the Navy subsequent to their letter to further understand their uses of the areas, concerns identified in their response letter, and any related habitat protections resulting from Navy policies and initiatives (NMFS, 2014c).

The Navy sent us a letter and subsequent electronic communications in response to our proposed critical habitat designation. The Navy clarified that Hood Canal and Dabob Bay Naval Non-Explosive Torpedo Testing Area and Dabob Bay, Whitney Point Naval Restricted Area are covered by the INRMP for Naval Station Kitsap in addition to several other security areas (see above). In addition, the Navy specifically requested that Operating Area R–6713 (Navy 3) not be designated as critical habitat and requested clarification on our proposed nearshore designation in some areas of the Puget Sound. We contacted the Navy regarding their uses and concerns regarding our proposed critical habitat designation of Operating Area R–6713. In 2009 we designated critical habitat for green sturgeon (74 FR 52300; October 9, 2009). Prior to the green sturgeon final critical habitat designation the Navy provided us

language regarding how critical habitat designation for that species would affect their operations. The Navy stated that the impacts of green sturgeon critical habitat designation would be similar to listed rockfish critical habitat designation. We assessed the Navy's information regarding Operating Area R–6713 (see Appendix C of our section 4(b)(2) report).

Other Relevant Impacts—Impacts to Tribal Sovereignty and Self-governance

During preparations for the proposed designation we sent a letter to Puget Sound Indian tribes, notifying them of our intent to propose critical habitat for listed rockfishes. We identified several areas under consideration for critical habitat designation that overlap with Indian lands in each of the specific areas (see the final 4(b)(2) report and Figures 2 and 3). The federally recognized tribes with lands potentially affected are the Lummi, Swinomish, Tulalip, Puyallup, Squaxin Island, Skokomish, Port Gamble, and Port Madison. In addition to the economic impacts described above, designating these tribes' Indian lands would have an impact on Federal policies promoting tribal sovereignty and self-governance. The longstanding and distinctive relationship between the Federal and tribal governments is defined by treaties, statutes, executive orders, secretarial orders, judicial decisions, and agreements, which differentiate tribal governments from the other entities that deal with, or are affected by, the U.S. 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 with respect to Indian lands, tribal trust resources, and the exercise of tribal rights. Pursuant to these authorities, lands have been retained by Indian tribes or have been set aside for tribal use. These lands are managed by Indian tribes in accordance with tribal goals and objectives within the framework of applicable treaties and laws.

Tribal governments have a unique status with respect to salmon, steelhead, and other marine resources in the Pacific Northwest, where they are co-managers of these resources throughout the region. The co-manager relationship crosses tribal, Federal, and state boundaries, and addresses all aspects of the species' life cycle. The positive working relationship between the Federal government and tribes can be seen in Federal-tribal participation within the *U.S.* v. *Oregon* and *U.S.* v. *Washington* framework and the participation of tribes on interstate (Pacific Fisheries Management Council) and international (Pacific Salmon Commission) management bodies. Additionally, there are innumerable local and regional forums and planning efforts in which the tribes are engaged with the Federal Government, including ESA section 6 species recovery grants to the tribes. While many of these activities currently concentrate on recovery of listed salmon and steelhead in Puget Sound, they nonetheless result in several benefits to habitats used by listed rockfishes through the conservation of habitats and prey sources of rockfishes (NMFS, 2014c).

Other Relevant Impacts—Impacts to Landowners/Entities With Contractual Commitments to Conservation

Section 10(a)(1)(B) of the ESA authorizes us to issue to non-Federal entities a permit for the incidental take of endangered and threatened species. This permit allows a non-Federal landowner/entity to proceed with an activity that is legal in all other respects, but that results in the incidental taking of a listed species (i.e., take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity). The ESA specifies that an application for an incidental take permit (ITP) must be accompanied by a conservation plan, and specifies the content of such a plan. The purpose of such conservation plans is to describe and ensure that the effects of the permitted action on covered species are adequately minimized and mitigated, and that the action does not appreciably reduce the likelihood of the survival and recovery of the species. Conservation plans that cover habitat actions are common for terrestrial and freshwater species and can benefit species threatened by land use activities. Conservation plans that cover fisheries are less common and can benefit species and habitats threatened by fishing activities.

Conservation agreements with non-Federal landowners and other entities enhance species conservation by extending species' protections beyond those available through section 7 consultations. We have encouraged non-Federal landowners to enter into conservation agreements, based on a view that we can achieve greater species' conservation on non-Federal land through such partnerships than we can through coercive methods (61 FR 63854; December 2, 1996). In past critical habitat designations we have found there is a benefit to excluding some areas covered by conservation agreements when there is affirmative evidence that the conservation partner considered exclusion beneficial to our relationship and beneficial to implementation of the conservation agreement (e.g., for Pacific salmon, 70 FR 52630; September 2, 2005). We considered the benefit of exclusion to be a conservation benefit to the affected species because of the enhanced implementation of the agreement and the incentive for others to enter into conservation agreements with us to further protect the species.

In the case of the listed rockfish species, there are two conservation agreements that partially or wholly overlap with critical habitat. The first is with the Washington DNR and covers geoduck harvest on lands managed by the department. The second is with the Washington Department of Fish and Wildlife (WDFW) and covers fisheries and research in Puget Sound that incidentally take the listed rockfishes and other listed species and may also affect rockfish habitat.

Determine Whether To Exercise the Discretion to Exclude

Benefits of critical habitat designation are those conservation benefits to the species, while benefits of exclusion result from avoiding the impacts of designation identified above. For the present designation, we decided to balance benefits of designation against benefits of exclusion because some impacts of designation implicate competing Federal values, such as national security and tribal sovereignty and self-governance (see NMFS, 2014c).

Benefits of Designation

The principal benefit of designating critical habitat is that ESA section 7 requires every Federal agency to ensure that any action it authorizes, funds, or carries out is not likely to result in the destruction or adverse modification of designated critical habitat. This complements the Section 7 provision that Federal agencies ensure their actions are not likely to jeopardize the continued existence of a listed species. The requirement that agencies avoid adversely modifying critical habitat is in addition to the requirement that they avoid jeopardy to the species, thus the benefit of designating critical habitat is ''incremental'' to the benefit that comes with listing. Another possible benefit is that the designation of critical habitat can serve to educate the public regarding the potential conservation value of an area. Systematic analysis and delineation of important rockfish habitat has not been previously conducted in the Puget Sound, so designating critical habitat may focus and contribute to conservation efforts by

clearly delineating areas that are important to species conservation.

Ideally the consideration and balancing of benefits would involve first translating all benefits into a common metric. Executive branch guidance from the Office of Management and Budget (OMB) suggests that benefits should first be monetized—converted into dollars. Benefits that cannot be monetized should be quantified (for example, numbers of fish saved). Where benefits can neither be monetized nor quantified, agencies are to describe the expected benefits (OMB, 2003).

It may be possible to monetize benefits of critical habitat designation for a threatened or endangered species in terms of willingness-to-pay (OMB, 2003). However, we are not aware of any available data at the scale of our designation (the five Basins of Puget Sound Sound) that would support such an analysis for listed rockfishes. In addition, section 4(b)(2) requires analysis of impacts other than economic impacts that are equally difficult to monetize, such as impacts to national security of including areas from critical habitat. In the case of rockfish designations, impacts to Northwest Indian tribes or to our program to promote voluntary conservation agreements are ''other relevant'' impacts that also may be difficult to monetize.

Because we could not monetize or quantify the conservation benefit of designating the particular areas as critical habitat, we qualitatively describe their conservation value to the listed species. The rockfish critical habitat we have identified consists of only five areas. Each area is a biogeographic Basin that represents a unique ecological setting with unique habitats and biological communities. This diversity of habitats is important to maintaining long-term viability of the DPSs. Four of the five areas are also relatively spatially isolated in terms of water circulation and exchange of some biota. Although we lack detailed genetic information to confirm that this isolation has led to reproductive isolation among Basins, it is likely that there is some degree of reproductive isolation and that the unique habitat conditions in each Basin have therefore resulted in important adaptations. The diversity this creates in the population, like the diversity in habitats, is important to long-term viability. These factors suggest that all of the populations and Basins are important in maintaining the diversity and spatial structure of each DPS. Though we have not yet developed a final Recovery Plan for these DPSs, it is likely that all five areas are important to recovery of the listed DPSs and therefore have high conservation value (NMFS, 2014a).

Balancing Economic Impacts

In our 2005 final and 2013 proposed critical habitat designations for salmon and steelhead, we balanced conservation benefits of designation against economic benefits of exclusion and excluded particular areas for many of the affected species. Our approach was informed by both biology and policy (78 FR 2725, January 14, 2013; 70 FR 52630, September 2, 2005). In deciding to balance benefits, we noted that salmon and steelhead are widely distributed and their range includes areas that have both high and low conservation value; thus, it may be possible to construct different scenarios for achieving conservation. We also noted Administration policy regarding regulations, as expressed in Executive Order 12866, which directs agencies to select regulatory approaches that ''maximize net benefits,'' and to ''design regulations in the most cost-effective manner to achieve the regulatory objective.''

For the salmon and steelhead designations, we used a cost effectiveness approach in which we identified areas to consider for economic exclusion by balancing relative conservation value against relative economic impact. Where the relative conservation value of an area was lower than the relative economic impact, we considered the area eligible for exclusion. Relying on policies that promote conservation of threatened and endangered species in general and salmon in particular, we did not consider areas for exclusion if exclusion would significantly impede conservation. We concluded that exclusion of high conservation value areas would significantly impede conservation and therefore we did not consider any high conservation value areas for exclusion for salmon and steelhead.

In considering economic exclusions for listed rockfishes, we considered the following factors: (1) Section 2 of the ESA provides that a purpose of the act is ''to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved''; (2) in listing the three listed rockfish DPSs under the ESA, we concluded that degradation of rocky habitat, loss of eelgrass and kelp, introduction of non-native habitat-modifying species, and degraded water quality were all threats to the species; (3) that rocky habitats are rare in Puget Sound and have been affected by or are threatened by derelict fishing gear, development, and construction and dredging activities; (4) as described above, there are only five habitat areas and all are of high conservation value; and (5) the economic impacts of designating any particular area are small (the largest impact is $32,100 in the San Juan/Strait of Juan de Fuca Basin), as is the economic impact of designating the entire area ($123,000).

For these reasons, we conclude that the economic benefit of excluding any of these particular areas does not outweigh the conservation benefit of designation. Therefore, none of the areas were eligible for exclusion based on economic impacts.

Balancing Impacts to Tribal Sovereignty and Self-Determination

We balanced the conservation benefits to rockfishes of designation against the benefits of exclusion for Indian lands in light of the unique Federal tribal relationship, the unique status of Indian lands, and the Federal policies promoting tribal sovereignty and self-determination, among others. Indian lands potentially affected by a critical habitat designation occur within the range of the listed rockfishes and are specific to nearshore juvenile rearing sites for canary rockfish and bocaccio. We are not designating any nearshore areas of Puget Sound as critical habitat for yelloweye rockfish (NMFS, 2014a). There are eight tribes with Indian lands that overlap the critical habitat in all five Basins. Approximately 64.1 lineal miles (103 km) of shoreline within reservation boundaries overlap with the nearshore component of critical habitat.

The principal benefit of designating critical habitat is section 7's requirement that Federal agencies ensure their actions are not likely to result in adverse modification of that habitat. To understand the benefit of designating critical habitat on Indian lands, we considered the number of miles of shoreline affected, and the types of activities occurring there that would be likely to undergo a section 7 consultation along this shoreline area. The types of activities occurring in these areas that would be likely to undergo a section 7 consultation include activities associated with: Nearshore development, utilities, dredging, water quality projects, transportation, and other project types.

The benefit of excluding these areas is that Federal agencies acting on behalf of, funding, or issuing permits to the tribes would not need to reinitiate consultation on ongoing activities for which consultation has been completed. Reinitiation of consultation would likely require some commitment of

resources on the part of the affected tribe. Moreover, in a reinitiated consultation, or in any future consultation, it is possible that tribes may be required to modify some of their activities to ensure the activities would not be likely to adversely modify the critical habitat (though given the small proportion of shoreline length with essential features, and tribal shoreline management, this is unlikely). The benefits of excluding Indian lands from designation include: (1) The furtherance of established national policies, our Federal trust obligations, and our deference to the tribes in management of natural resources on their lands; (2) the maintenance of effective long-term working relationships to promote the conservation of rockfishes; (3) the allowance for continued meaningful collaboration and cooperation in scientific work to learn more about the conservation needs of the species; and (4) continued respect for tribal sovereignty over management of natural resources on Indian lands through established tribal natural resource programs. We also considered the degree to which the tribes believe designation will affect their participation in regional management forums and their ability to manage their lands.

Based on our consideration, and given the preceding factors, we concluded that the benefits to conservation of listed rockfishes from full tribal participation in Puget Sound recovery efforts mitigates the potential loss of conservation benefits that could result from designation of tribal lands as critical habitat. With this mitigating conservation benefit in mind, we further concluded that the benefits to tribal governments, with whom the Federal Government has a unique trust relationship, particularly with regard to land held by the Federal Government in trust for the tribes, outweigh the conservation benefits of designation for listed rockfishes (NMFS, 2014c).

The Indian lands specifically excluded are those defined in the Secretarial Order 3206, including: (1) Lands held in trust by the United States for the benefit of any Indian tribe; (2) lands held in trust by the United States for any Indian tribe or individual subject to restrictions by the United States against alienation; (3) fee lands, either within or outside the reservation boundaries, owned by the tribal government; and (4) fee lands within the reservation boundaries owned by individual Indians. Our consideration of whether these exclusions would result in extinction of listed rockfishes is described below.

Balancing Impacts to Landowners/ Entities With Contractual Commitments to Conservation

Our consideration of the DNR and WDFW conservation plans is described in detail in the ESA Section 4(b)(2) Report (NMFS, 2014c). We balanced the conservation benefits to rockfishes of critical habitat designation against the benefits of exclusion (referring to the impacts of designation section above) of the areas covered in each conservation plan. Each plan covers several activities that may take listed species and harm critical habitat in Puget Sound. Congress added section 10 to the ESA to encourage ''creative partnerships between the private sector and local, state, and Federal agencies for the protection of endangered species and habitat conservation'' (*H.R. Rep. No. 835, 97th Congress, 2nd Session 31; Reprinted in 1982 U.S. Code Congressional and Administrative News 2807, 2831*). If excluding areas from critical habitat designation promotes such conservation partnerships, such exclusions may have conservation benefits that offset the conservation benefit that would have resulted from designation. The covered areas of the WDNR conservation plan overlap with approximately 30,000 acres of nearshore critical habitat for canary rockfish and bocaccio. The covered areas of the WDFW conservation plan overlap with the entire critical habitat for yelloweye rockfish, canary rockfish, and bocaccio. DNR covered activities are geoduck research and harvest management. WDFW covered activities are the management of recreational bottom fish fishing and commercial shrimp trawls. The types of activities occurring in these areas that would be likely to undergo a section 7 consultation include nearshore development, dredging, aquaculture operations, fisheries management, alternative energy projects and cable laying, and others (NMFS, 2014a).

In general, the benefits of designating the covered areas of each conservation plan is that once critical habitat is designated, section 7(a)(2) of the ESA provides that Federal agencies must ensure any actions they authorize, fund, or carry out are not likely to result in the destruction or adverse modification of designated critical habitat. An additional benefit of inclusion is that a systematic analysis and delineation of important rockfish habitat has not been previously conducted in the Puget Sound. Thus, for non-Federal activities occurring in the covered areas, designation may raise public awareness of habitats important to rockfishes and encourage additional conservation measures and voluntary conservation agreements within the section 10 program. The benefits of designating areas covered by these two conservation plans may be less than what they would be on areas not covered by conservation plans because of the fact that the permit holder has put conservation measures in place through provisions of the plan. These measures provide protection when actions are allowed that could affect critical habitat (geoduck harvest and management by DNR, and fisheries by WDFW). However, these conservation plans are unlike other land-based conservation plans in the Northwest (such as forestry conservation plans) because the DNR and WDFW plans cover a small subset of potential actions that could be affected by future Federal actions in Puget Sound (i.e., Federal permits for nearshore development, fisheries that cause new derelict fishing nets, tidal energy or cable-laying, and others).

The benefits of excluding these covered areas from designation include the potential furtherance of our ongoing relationship with these entities; in particular, the potential that the exclusion of these areas may provide an incentive for other entities to seek conservation plans, and the general promotion of the section 10 conservation program. Conservation agreements on non-federally controlled areas of Puget Sound provide important benefits to listed species. Section 7 applies to only Federal agency actions. Its requirements protect listed fishes only when a Federal permit or funding is involved; thus, its reach is limited. Neither DNR nor WDFW identified any potential impacts to our relationship or implementation of each conservation plan.

For each rockfish DPS we considered the areas each conservation plan covered and the types of Federal activities in those areas that would likely undergo section 7 consultation. We also considered the degree to which DNR and WDFW believe the designation would affect the ongoing relationship that is essential to the continued successful implementation of the conservation plan and the extent to which exclusion provides an incentive to other entities.

Based on our consideration, and given the following factors, we concluded that the benefits of excluding the areas covered by each conservation plan do not outweigh the benefits of designation. We considered the following factors in reaching this conclusion: (1) DNR and WDFW did not identify any impacts to our ongoing relationship, nor did they comment on

our proposed designation relative to their conservation plans and critical habitat; (2) DNR and WDFW did not identify any impacts of critical habitat designation to their implementation of the existing conservation plans; and (3) the DNR and WDFW conservation plans cover only a subset of activities that could affect rockfish critical habitat conducted by other entities such as private landowners, municipalities, and Federal agencies in the covered areas. Thus, designation would not impact our relationship with DNR and WDFW nor harm the implementation of their conservation plans. In general, designation would benefit rockfish conservation by enabling section 7 consultations for activities not covered by each conservation plan to ensure adverse modification is avoided by Federal activities.

Balancing Impacts to National Security

Based on information provided by the three branches of the military on impacts to national security of potential critical habitat designations described above, we consulted with DOD to better understand the potential impact of designating critical habitat at these sites. The DOD confirmed that all of the security zones are used by the Navy, and confirmed the potential for critical habitat designation to impact national security by adversely affecting their ability to conduct operations, testing, training, and other essential military activities. The Navy letter identified several aspects of potential impacts from critical habitat designation that include the possible prevention, restriction, or delay of training or testing exercises and delayed response time for ship deployments. We had several conversations with the Navy subsequent to its letter to further understand its uses of the security zones concerns identified in its response letter, and any related habitat protections derived by Navy policies and initiatives. We also had further discussions with the Navy regarding the extent of the proposed designation associated with these sites. The Navy agreed to refine the delineation of offshore areas in Puget Sound where the Navy has established security zones. Similar to the salmonid critical habitat designation (NMFS, 2005) the Navy agreed that the military zone could be designated in all or a portion of the nearshore in one of their security zones that is not covered by an INRMP, and we clarified which areas of the nearshore are designated as critical habitat in our final 4(b)(2) report (see NMFS, 2014c) and in this final rule. Because many of the activities affecting rockfishes in the nearshore zone are land-based, this refinement allowed us to retain most of the conservation benefit of designating nearshore areas as critical habitat in one area while still retaining the benefit to national security of excluding offshore military areas (NMFS, 2014c).

We balanced the conservation benefits of designation to rockfishes against the benefits of exclusion for security zones as ultimately defined by the Navy in the Puget Sound/Georgia Basin. Prior to the publication of the proposed rule (78 FR 47635; August 6, 2013) the Navy requested that 14 areas be excluded from critical habitat designation, including four in the San Juan/Strait of Juan de Fuca Basin, three in Hood Canal, two in the Whidbey Basin, four in the Main Basin, and one in South Puget Sound based on the impacts to national security. In response to the proposed rule the Navy clarified that Hood Canal and Dabob Bay Naval Non-Explosive Torpedo Testing Area and Dabob Bay, Whitney Point Naval Restricted Area are covered by the INRMP for Naval Station Kitsap. The Navy also clarified that the two Naval Restricted Areas in the Strait of Juan de Fuca, Eastern End; off the Westerly Shore of Whidbey Island, the Port Townsend, Indian Island, Walan Point Naval Restricted Area, Port Orchard Naval Restricted Area and the Puget Sound, Manchester Fuel Depot, Naval Restricted Area are also covered by an INRMP. For the security zones that occur solely within the nearshore we did not conduct the balancing exercise, as each falls completely within the provisions of the Sikes Act.

The factors we consider relevant to assessing the impact to national security and the benefits of exclusion include: (1) The percent of the military area that would be designated; and (2) the importance of the area activity to national security and likelihood an activity would need to be changed to avoid adverse modification.

The factors we consider relevant to assessing the benefits of designation to rockfish conservation include: (1) The percent of the nearshore and deepwater critical habitat that would be designated in that Basin; (2) uniqueness and conservation role of the habitat in particular DOD areas; (3) the likelihood that Navy activities would destroy or adversely modify critical habitat; and (4) the likelihood habitat would be adversely modified by other Federal or non-Federal activities, considering Navy protections (this factor considers the type and frequency of Navy actions that occur in each site and their potential effect on rockfish habitat features, which informs the benefit to conservation that would occur by a section 7 consultation that considers rockfish critical habitat).

All but the quantitative factors were given a qualitative rating of high, medium, or low (NMFS, 2014c). Based on our analysis, we are excluding all but one of the areas requested by the Navy. We do not exclude Operating Area R–6713 (Navy 3). We contacted the Navy regarding its uses and concerns regarding our proposed critical habitat designation of this area, and assessed the additional information provided to us by the Navy. We continue to conclude that the benefits to national security of excluding this particular area do not outweigh the benefits to rockfish conservation of designating it. This area is a polygon off the western side of Naval Air Station Whidbey Island (appearing on NOAA Chart 18400) which is used in conjunction with the restricted area under 33 CFR 334.1180 for surface vessel training activities. For this area we found moderate benefits of exclusion to the Navy because the percent of the military area that would be designated is relatively small, the area is only sporadically used by the Navy, suggesting little value of the area to the Navy mission, and the additional analysis required for consultation addressing the potential for adverse modification is likely minimal (NMFS, 2014c). We found moderate benefits to designating the area as critical habitat because of the uniqueness and conservation role of the area, and the likelihood that habitat could be adversely modified by other Federal or non-Federal activities, and considering Navy restrictions on non-Navy activities (NMFS, 2014c). Because the benefit of exclusion does not outweigh the benefit of designation, we do not exclude Navy 3. The excluded areas total approximately 15.7 nearshore sq mi (40.7 sq km) and 20.1 square miles (52.1 sq km) of deepwater critical habitat.

Critical habitat is designated in a narrow nearshore zone (from the extreme high tide datum down to MLLW) within the Admiralty Inlet Naval Restricted Area. Critical habitat is designated from extreme high tide to a depth of 30 meters at Carr Inlet Naval Restricted Area. The following Department of Defense areas are not included as critical habitat:

(1) Small Arms Danger Zone off Western Side of Naval Air Station Whidbey Island and additional Accident Potential Zone restricted areas—In the waters located in the San Juan De Fuca Strait beginning on the beach of NAS Whidbey Island, Oak Harbor, Washington at latitude 48°19′20.00″ N, longitude 122°42′6.92″

W; thence southerly, along the mean high water mark, to latitude 48°17′41″ N, longitude 122°43′35″ W; thence southwesterly to latitude 48°17′23″ N, longitude 122°45′14″ W; thence northerly to latitude 48°20′00″ N, longitude 122°44′00″ W; thence easterly, landward to the point of origin. Accident Potential Zone Area No. 1 is bounded by a line commencing at latitude 48°20′57″ N, longitude 122°40′39″ W; thence to latitude 48°20′40″ N, longitude 122°42′59″ W; thence to latitude 48°21′19″ N, longitude 122°43′02″ W; thence to latitude 48°21′13″ N, longitude 122°40′26″ W; and thence along the shore line to the point of origin. Accident Potential Zone Area No. 2 is bounded by a line commencing at latitude 48°21′53″ N, longitude 122°40′00″ W; thence to latitude 48°23′12″ N, longitude 122°41′17″ W; thence to latitude 48°23′29″ N, longitude 122°40′22″ W; thence to latitude 48°22′21″ N, longitude 122°39′50″ W; and thence along the shore line to the point of origin.

(2) Strait of Juan de Fuca Naval Air-to-Surface Weapon Range Restricted Area—A circular area immediately west of Smith Island with a radius of 1.25 nautical mi (2.32 km) having its center at latitude 48°19′11″ N and longitude 122°54′12″ W.

(3) Hood Canal and Dabob Bay Naval Non-Explosive Torpedo Testing Area—All waters of Hood Canal between latitude 47°46′00″ N and latitude 47°42′00″ N, exclusive of navigation lanes one-fourth nautical mile (0.46 km) wide along the west shore and along the east shore south from the town of Bangor (latitude 47°43′28″ N). All waters of Dabob Bay beginning at latitude 47°39′27″ N, longitude 122°52′22″ W; thence northeasterly to latitude 47°40′19″ N, longitude 122°50′10″ W; thence northeasterly to a point on the mean high water line at Takutsko Pt.; thence northerly along the mean high water line to latitude 47°48′00″ N; thence west on latitude 47°48′00″ N to the mean high water line on the Bolton Peninsula; thence southwesterly along the mean high water line of the Bolton Peninsula to a point on longitude 122°51′06″ W; thence south on longitude 122°51′06″ W to the mean high water line at Whitney Pt.; thence along the mean high water line to a point on longitude 122°51′15″ W; thence southwesterly to the point of beginning. The nearshore from Tsuktsko Pt. 47°41′30.0″ N latitude, 122°49′48″ W longitude to the north at 47°50′0.0″ N latitude, 122°47′30″ W longitude.

(4) Admiralty Inlet Naval Restricted Area—This area begins at Point Wilson Light thence southwesterly along the coast line to latitude 48°07′00″ N; thence northwesterly to a point at latitude 48°15′00″ N longitude 123°00′00″ W; thence due east to Whidbey Island; thence southerly along the coast line to latitude 48°12′30″ N; thence southerly to the point of beginning.

(5) Port Gardner, Everett Naval Base, Naval Restricted Area—The waters of Port Gardner and East Waterway surrounding Naval Station Everett begin at a point near the northwest corner of Naval Station Everett at latitude 47°59′40″ N, longitude 122°13′23.5″ W and thence to latitude 47°59′40″ N, longitude 122°13′30″ W ; thence to latitude 47°59′20″ N, longitude 122°13′33″ W ; thence to latitude 47°59′13″ N, longitude 122°13′38″ W; thence to latitude 47°59′05.5″ N, longitude 122°13′48.5″ W; thence to latitude 47°58′51″ N, longitude 122°14′04″ W; thence to latitude 47°58′45.5″ N, longitude 122°13′53″ W; thence to latitude 47°58′45.5″ N, longitude 122°13′44″ W; thence to latitude 47°58′48″ N, longitude 122°13′40″ W; thence to latitude 47°58′59″ N, longitude 122°13′30″ W; thence to latitude 47°59′14″ N, longitude 122°13′18″ W (Point 11); thence to latitude 47°59′13″ N, longitude 122°13′12″ W; thence to latitude 47°59′20″ N, longitude 122°13′08″ W; thence to latitude 47°59′20″ N, longitude 122°13′02.5″ W, a point upon the Naval Station's shore in the northeast corner of East Waterway.

(6) Hood Canal, Bangor Naval Restricted Areas—The Naval restricted area described in 33 CFR 334.1220 has two areas. Area No. 1 is bounded by a line commencing on the east shore of Hood Canal in relation to the property boundary and area No. 2 encompasses waters of Hood Canal with a 1,000 yard (0.91 km) radius diameter from a central point. Area No. 1 is bounded by a line commencing on the east shore of Hood Canal at latitude 47°46′18″ N longitude 122°42′18″ W; thence to latitude 47°46′32″ N, longitude 122°42′20″ W; thence to latitude 47°46′38″ N, longitude 122°42′52″ W; thence to latitude 47°44′15″ N, longitude 122°44′50″ W; thence to latitude 47°43′53″ N, longitude 122°44′58″ W; thence to latitude 47°43′17″ N, longitude 122°44′49″ W. Area 2 is waters of Hood Canal within a circle of 1,000 yards (0.91 km) diameter centered on a point located at latitude 47°46′26″ N, longitude 122°42′49″ W.

(7) Port Orchard Naval Restricted Area—The Naval restricted area described in 33 CFR 334.1230 is shoreward of a line beginning at a point on the west shoreline of Port Orchard bearing 90° from stack (at latitude 47°42′01″ N, longitude 122°36′54″ W); thence 90°, approximately 190 yards (174 m), to a point 350 yards (320 m) from stack; thence 165°, 6,000 yards (5.49 km), to a point bearing 179°, 1,280 yards (1.17 km), from Battle Point Light; thence westerly to the shoreline at latitude 47°39′08″ N (approximate location of the Brownsville Pier).

(8) Sinclair Inlet Naval Restricted Areas—The Naval restricted area described in 33 CFR 334.1240 to include: Area No. 1—All the waters of Sinclair Inlet westerly of a line drawn from the Bremerton Ferry Landing at latitude 47°33′48″ N, longitude 122°37′23″ W; on the north shore of Sinclair Inlet and latitude 47°32′52″ N, longitude 122°36′58″ W; on the south shore of Sinclair Inlet; and Area No. 2—That area of Sinclair Inlet to the north and west of an area bounded by a line commencing at latitude 47°33′43″ N, longitude 122°37′31″ W thence south to latitude 47°33′39″ N, longitude 122°37′27″ W thence southwest to latitude 47°33′23″ N, longitude 122°37′45″ W thence southwest to latitude 47°33′19″ N, longitude 122°38′12″ W thence southwest to latitude 47°33′10″ N, longitude 122°38′19″ W thence southwest to latitude 47°33′07″ N, longitude 122°38′29″ W thence west to latitude 47°33′07″ N, longitude 122°38′58″ W thence southwest to latitude 47°33′04″ N, longitude 122°39′07″ W thence west to the north shore of Sinclair Inlet at latitude 47°33′04.11″ N, longitude 122°39′41.92″ W.

(9) Dabob Bay, Whitney Point Naval Restricted Area—The Naval restricted area described in 33 CFR 334.1260 beginning at the high water line along the westerly shore of Dabob Bay at the Naval Control Building located at latitude 47°45′36″ N and longitude 122°51′00″ W. The western shoreline boundary is 100 yards (91 m) north and 100 yards (91 m) south from that point. From the north and south points, go eastward 2,000 yards (1.83 km) into Dabob Bay. The eastern boundary is a virtual vertical line between the two points (200 yards (189.2 m) in length).

(10) Carr Inlet, Naval Restricted Area—The Naval restricted area described in 33 CFR 334.1250 to include: The area in the Waters of Carr Inlet bounded on the southeast by a line running from Gibson Point on Fox Island to Hyde Point on McNeil Island, on the northwest by a line running from Green Point (at latitude 47°16′54″ N, longitude 122°41′33″ W) to Penrose Point; plus that portion of Pitt Passage

extending from Carr Inlet to Pitt Island, and that portion of Hale Passage extending from Carr Inlet southeasterly to a line drawn perpendicular to the channel 500 yards (457 m) northwesterly of the Fox Island Bridge.

(11) Port Townsend, Indian Island, Walan Point Naval Restricted Area—The Naval restricted area described in 33 CFR 334.1270 to include: The waters of Port Townsend Bay bounded by a line commencing on the north shore of Walan Point at latitude 48°04′42″ N, longitude 122°44′30″ W; thence to latitude 48°04′50″ N, longitude 122°44′38″ W; thence to latitude 48°04′52″ N, longitude 122°44′57″ W; thence to latitude 48°04′44″ N, longitude 122°45′12″ W; thence to latitude 48°04′26″ N, longitude 122°45′21″ W; thence to latitude 48°04′10″ N, longitude 122°45′15″ W; thence to latitude 48°04′07″ N, longitude 122°44′49″ W; thence to a point on the Walan Point shoreline at latitude 48°04′16″ N, longitude 122°44′37″ W.

(12) NAS Whidbey Island, Crescent Harbor—The waters of Puget Sound adjacent to Whidbey Island Naval Air Station that include: the waters of Crescent Harbor starting at Maylor Point at latitude 48°16′4″ N, longitude 122°37′28″ W; thence to 6/10 mile (0.97 km) south of Maylor Point latitude 48°15′32″ N, longitude 122°37′28″ W; thence to 6/10 mile (0.97 km) south of Polnell Point latitude 48°15′47″, longitude 122°33′25″ W; thence to 500 ft (152 m) southeast of Polnell Point latitude 48°16′16″ N, longitude 122°33′27″ W; thence to Polnell Point latitude 48°16′19″ N, longitude 122°33′34″ W.

(13) Puget Sound, Manchester Fuel Depot, Naval Restricted Areas—The waters of Puget Sound surrounding the Manchester Fuel Depot bounded by a line commencing along the northern shoreline of the Manchester Fuel Depot at latitude 47°33′55″ N, longitude 122°31′55″ W; thence to latitude 47°33′37″ N, longitude 122°31′50″ W; thence to latitude 47°33′32″ N, longitude 122°32′06″ W; thence to latitude 47°33′45.9″ N, longitude 122°32′16.04″ W, a point in Puget Sound on the southern shoreline of the Manchester Fuel Depot then back to the original point.

Exclusion Will Not Result in Extinction of the Species

Section 4(b)(2) of the ESA limits our discretion to exclude areas from designation if exclusion will result in extinction of the species. We have not excluded any habitat areas based on economic impacts or 10(a)(1)(B) permits (conservation plans). We have excluded 64.1 lineal mi (103.1 km) of marine habitat adjacent to Indian lands and approximately 35.8 sq mi (92.7 sq km) of marine habitat area (15.7 sq mi of nearshore, 20.1 sq mi of deepwater) controlled by the Navy as described above. We conclude that excluding Indian lands—and thereby furthering the Federal government's policy of promoting respect for tribal sovereignty and self-governance—in addition to several areas controlled by the Navy, will not result in extinction of listed rockfishes. Listed rockfish habitat on Indian lands represents a small proportion of total area occupied by these DPSs, and the Tribes are actively engaged in fisheries management, habitat management and Puget Sound ecosystem recovery programs that benefit listed rockfishes.

Listed rockfish habitat within areas controlled by the Navy represents approximately 8 percent of the nearshore area and approximately 6 percent of the deepwater area we determined to have essential features. In addition to the small size of these exclusions, the Navy actively seeks to protect actions that would impact their mission and these protections provide ancillary protections to rockfish habitat by restricting actions that may harm the Navy mission and rockfishes in the respective area (NMFS, 2014c). Thus the benefit of designating these areas as critical habitat would be reduced.

For the following reasons, we conclude that the exclusions described above, in combination, will not result in the extinction of the yelloweye rockfish, canary rockfish or bocaccio DPSs: (1) The Indian land exclusions involve nearshore habitats that are already managed by the tribes for conservation; (2) the Navy exclusions involve nearshore and deepwater habitats that are already afforded some protections by the Navy, and (3) the extent of Indian lands exclusions and Navy exclusions are spread amongst each of the five biogeographic Basins of Puget Sound, and cumulatively total a fraction of the overall habitats that have essential features for listed rockfishes.

Critical Habitat Designation

In total we designate approximately 590.4 square miles (1,529 sq km) of nearshore habitat for canary rockfish and bocaccio, and 414.1 sq mi (1,072.5 sq km) of deepwater habitat for yelloweye rockfish, canary rockfish and bocaccio within the geographical area occupied by the DPSs (Figures 2 and 3). Aside from some deepwater areas designated as critical habitat for rockfishes in Hood Canal, all other critical habitat overlaps with designated critical habitat for other species.

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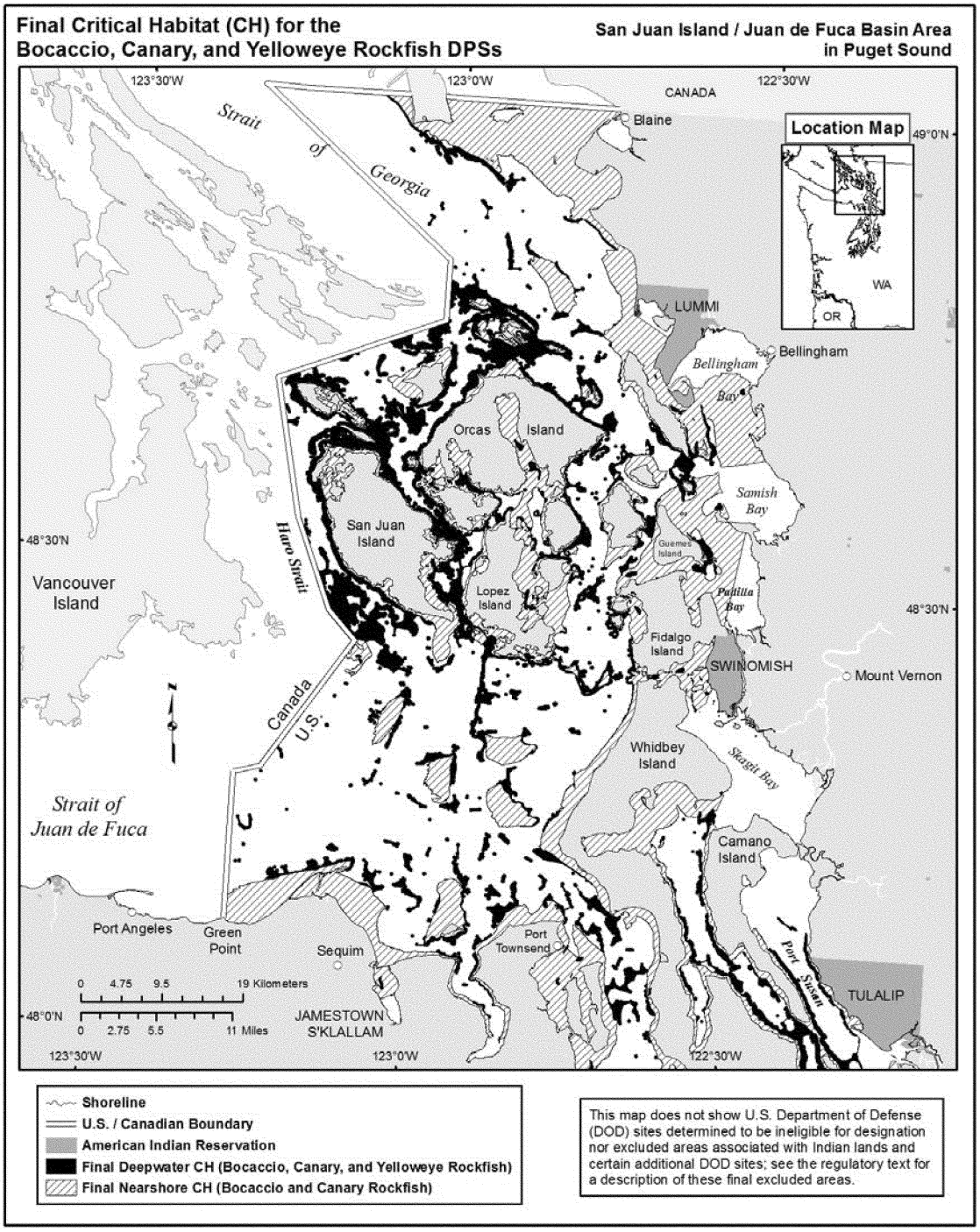

Figure 2. Critical Habitat for ESA-listed rockfishes in the northern portion of the Puget Sound area.

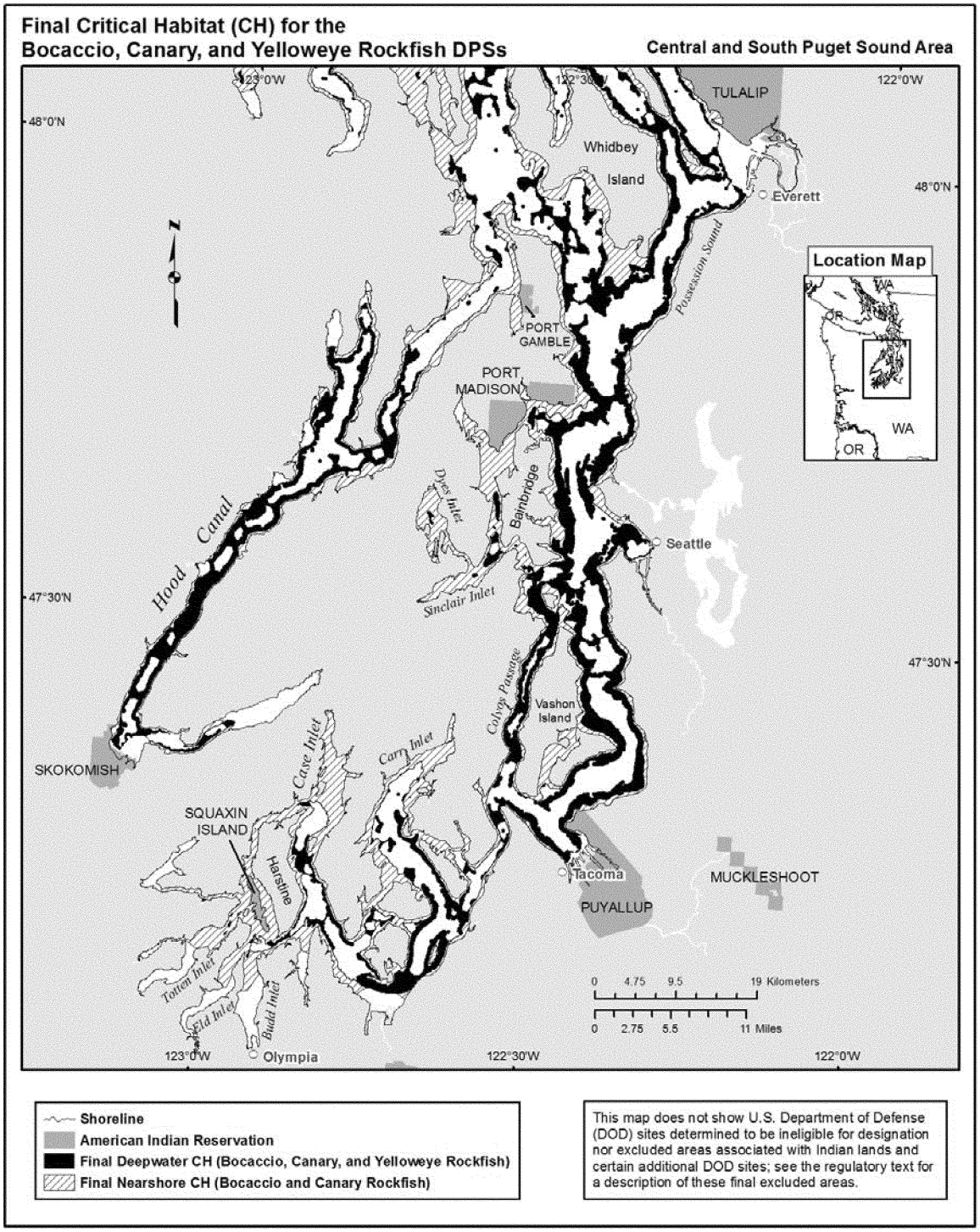

Figure 3. Critical Habitat for ESA-listed rockfishes in the southern portion of the Puget Sound area.

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Other co-occurring ESA-listed species with designated critical habitat that, collectively, almost completely overlap with rockfish critical habitat include Pacific salmon (70 FR 52630; September 2, 2005), North American green sturgeon (74 FR 52300; October 9, 2009), Southern Resident killer whales (71 FR 69054; November 29, 2006), and bull trout (75 FR 63898; October 18, 2010). The areas designated are all within the geographical area occupied by the species and contain physical and biological features essential to the conservation of the species and that may require special management considerations or protection. No unoccupied areas were identified that are considered essential for the conservation of the species. All of the areas designated have high conservation value (NMFS, 2014a). As a result of the balancing process for some military

areas and tribal areas described above, we are proposing to exclude from the designation small areas listed in Table 2 (see Figures 2 and 3 for locations of tribal lands). As a result of the balancing process for tribal areas we concluded that the benefits of excluding these areas outweigh the benefits of designation (NMFS, 2014c). As a result of the balancing process for economic impacts described above, we conclude that the economic benefit of excluding any of these particular areas does not outweigh the conservation benefit of designation. Therefore none of the areas were eligible for exclusion based on economic impacts. As a result of the balancing process for areas covered by Conservation Plans we concluded that the benefits of excluding the areas covered by each conservation plan do not outweigh the benefits of designation (NMFS, 2014c).

On May 1, 2012, NMFS and the USFWS revised the critical habitat implementing regulations to eliminate the requirement to publish textual descriptions of proposed (NMFS only) and final (NMFS and USFWS) critical habitat boundaries in the Regulation Promulgation section of the **Federal Register** for codification and printing in the CFR (77 FR 25611; May 1, 2012). The regulations instead provide that the map(s), as clarified or refined by any textual language within the preamble of the proposed or final rule, constitutes the definition of the boundaries of a critical habitat (50 CFR 17.94(b), 226.101, 424.12(c), 424.16(b) and (c)(1)(ii), and 424.18(a)). The revised regulations provide that the boundaries of critical habitat as mapped or otherwise described in the Regulation Promulgation section of a rulemaking published in the **Federal Register** will be the official delineation of the designation (50 CFR 424.12). In this final designation we include some latitude-longitude coordinates (to delineate certain DOD controlled security zone boundaries) to provide clarity on the location of DOD areas excluded, but also rely on the maps to depict critical habitat for yelloweye rockfish, canary rockfish and bocaccio. The GIS data from which the maps have been generated are included in the administrative record and located on our Web site.

Section 3(5)(A)(ii) of the ESA authorizes the designation of ''specific areas outside the geographical area occupied at the time [the species] is listed'' if these areas are essential for the conservation of the species. Regulations at 50 CFR 424.12(e) emphasize that the agency ''shall designate as critical habitat areas outside the geographical area presently occupied by a species only when a designation limited to its present range would be inadequate to ensure the conservation of the species.'' We conducted a review of the documented occurrences of each listed rockfish in the five biogeographic Basins (NMFS, 2014a). We found that each of the Basins is currently occupied by yelloweye rockfish, canary rockfish, and bocaccio. We have not identified any unoccupied areas as candidates for critical habitat designation.

TABLE 2—HABITAT AREAS WITHIN THE GEOGRAPHICAL RANGE OF FOR YELLOWEYE ROCKFISH, CANARY ROCKFISH AND BOCACCIO EXCLUSED FROM CRITICAL HABITAT

Specific area	Conservation value	Total annualized estimated economic impacts (7%)	Economic exclusions	DOD areas excluded from critical habitat	Indian lands exclusions by ''particular areas''	Exclusions for conservation plan permit holders
San Juan/Straits of Juan de Fuca.	High	$32,100	No	Yes	Yes	No.
Whidbey Basin	High	30,100	No	Yes	Yes	No.
Main Basin	High	29,000	No	Yes	Yes	No.
Hood Canal	High	10,200	No	Yes	Yes	No.
South Puget Sound	High	21,200	No	Yes	Yes	No.
Totals	na	123,000	0	20.1 sq mi deep-water. 15.7 sq mi near-shore.	64.1 lineal mi	0.

Effects of Critical Habitat Designation

Section 7(a)(2) of the ESA requires Federal agencies to ensure that any action authorized, funded, or carried out by the agency (agency action) is not likely to jeopardize the continued existence of any threatened or endangered species or destroy or adversely modify designated critical habitat.

When a species is listed or critical habitat is designated, Federal agencies must consult with NMFS on any agency actions to be conducted in an area where the species is present or that may affect the species or its critical habitat. During the consultation, we evaluate the agency action to determine whether the action may adversely affect listed species or critical habitat and issue our findings in a biological opinion or concurrence letter. If we conclude in the biological opinion that the agency action would likely result in the destruction or adverse modification of critical habitat, we would also recommend any reasonable and prudent alternatives to the action. Reasonable and prudent alternatives (defined in 50 CFR 402.02) are alternative actions identified during formal consultation that can be implemented in a manner consistent with the intended purpose of the action, that are consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that would avoid the destruction or adverse modification of critical habitat.

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

if those actions may affect designated critical habitat or adversely modify or destroy critical habitat.

Activities subject to the ESA section 7 consultation process include activities on Federal lands and activities on private or state lands requiring a permit from a Federal agency (e.g., a Clean Water Act, Section 404 dredge or fill permit from U.S. Army Corps of Engineers (USACE)) or some other Federal action, including funding (e.g., Federal Highway Administration funding for transportation projects). ESA section 7 consultation would not be required for Federal actions that are not likely to affect listed species or critical habitat and for actions on non-Federal and private lands that are not Federally funded, authorized, or carried out.

Activities Affected by Critical Habitat Designation

ESA section 4(b)(8) requires in any final regulation to designate critical habitat an evaluation and brief description of those activities (whether public or private) that may adversely modify such habitat or that may be affected by such designation. A wide variety of activities may affect the critical habitat and may be subject to the ESA section 7 consultation process when carried out, funded, or authorized by a Federal agency. These include water and land management actions of Federal agencies (e.g., the Department of Defense, USACE, the Department of Defense, the Federal Energy Regulatory Commission, and the Environmental Protection Agency and related or similar federally regulated projects). Other actions of concern include dredging and filling, and bank stabilization activities authorized or conducted by the USACE, and approval of water quality standards and pesticide labeling and use restrictions administered by the EPA.

Private or non-Federal entities may also be affected by these critical habitat designations if the activity requires a Federal permit, receives Federal funding, or the entity is involved in or receives benefits from a Federal project. For example, private entities may need Federal permits to build or repair a bulkhead, or install an artificial reef. These activities will need to be evaluated with respect to their potential to destroy or adversely modify critical habitat for yelloweye rockfish, canary rockfish, or bocaccio of the Puget Sound/Georgia Basin.

Questions regarding whether specific activities will constitute destruction or adverse modification of critical habitat should be directed to NMFS (see **ADDRESSES** and **FOR FURTHER INFORMATION CONTACT**).

Information Quality Act and Peer Review

The data and analyses supporting this action have undergone a pre-dissemination review and have been determined to comply with applicable information quality guidelines implementing the Information Quality Act (IQA) (Section 515 of Public Law 106–554). In December 2004, OMB issued a Final Information Quality Bulletin for Peer Review pursuant to the IQA. The Bulletin was published in the **Federal Register** on January 14, 2005 (70 FR 2664). The Bulletin established minimum peer review standards, a transparent process for public disclosure of peer review planning, and opportunities for public participation with regard to certain types of information disseminated by the Federal Government. The peer review requirements of the OMB Bulletin apply to influential or highly influential scientific information disseminated on or after June 16, 2005. Two documents supporting these critical habitat proposals are considered influential scientific information and subject to peer review. These documents are the Biological Report (NMFS, 2014a) and the Economic Analysis (NMFS, 2014b). We distributed the draft Biological Report for peer review and addressed comments in the proposed critical habitat rule. We distributed the draft Economic Analysis for peer review, however, we did not receive any peer review comments. The peer review report for the draft Biological Report is available on our Web site at *http://www.wcr.noaa.gov*, or upon request (see **ADDRESSES**).

Classification

Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*, as amended by the Small Business Regulatory Enforcement Fairness Act of 1996), whenever an agency publishes a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis describing the effects of the rule on small entities (i.e., small businesses, small organizations, and small government jurisdictions). We have prepared a final regulatory flexibility analysis, which is part of the final Economic Analysis (NMFS, 2014b). This document is available upon request (see **ADDRESSES**), via our Web site at *http://wcr.noaa.gov*. The results of the regulatory flexibility analysis are summarized below.

The impacts to small businesses were assessed for the following broad categories of activities: utilities, nearshore work, transportation, water quality and other activities. Small entities were defined by the Small Business Administration size standards for each activity type, which were updated for Finfish fishing, shellfish fishing, and Other Marine Fishing (78 FR 37398; June 20, 2013). Taking this change as well as public comment into consideration, we have identified no additional significant alternatives that accomplish statutory objectives and minimize any significant economic impacts of the final rule on small entities. We do not forecast any costs to small entities related to utilities projects because the only consultation associated with utilities are pre-consultation/technical assistance and programmatic consultations, which do not include any cost to third parties; therefore, we do not expect any impacts to small entities related to utilities.

We estimated the annualized costs associated with ESA section 7 consultations incurred per small business under a scenario intended to provide a measure of uncertainty regarding the number of small entities that may be affected by the designations for each project category (NMFS, 2014c). It is uncertain whether small entities will be project proponents for these types of consultations, so the analysis conservatively assumes that all consultations will be undertaken by small entities, and that all such consultation will be formal. Under these assumptions, the costs to entities engaged in nearshore work are an estimated $27,000 annually, or $1,900 per entity. This cost represents less than 0.1 percent of annual revenues in this sector. The costs to entities engaged in transportation projects are an estimated $46,000 annually, or $7,700 for entities in this sector. This cost represents 0.29 percent of annual revenues. The costs to entities engaged in water quality projects is an estimated $23,000 annually, or $9,100 per entity. This cost represents 1.3 percent of annual revenues for entities in this sector. The costs for other entities, including fishing, would be approximately $18,000 annually, or $2,600 per entity. This cost represents 1.1 percent of annual revenues for entities in this sector.

In accordance with the requirements of the Regulatory Flexibility Act (as amended by the Small Business Regulatory Enforcement Fairness Act of 1996) this analysis considered various

alternatives to the critical habitat designations for these DPSs. These alternatives are described in the preamble above, and in the full Economic Analysis (see **ADDRESSES**). The alternative of not designating critical habitat for these DPSs was considered and rejected because such an approach does not meet the legal requirements of the ESA.

Executive Order 12866

At the guidance of OMB and in compliance with Executive Order 12866, ''Regulatory Planning and Review,'' Federal agencies measure changes in economic efficiency in order to understand how society, as a whole, will be affected by a regulatory action. Our analysis of economic impacts can be found in NMFS (2014b), and this rule has been determined to be not significant under Executive Order 12866.

Executive Order 13211

On May 18, 2001, the President issued an executive order on regulations that significantly affect energy supply, distribution, and use. Executive Order 13211 requires agencies to prepare Statements of Energy Effects when undertaking any action that promulgates or is expected to lead to the promulgation of a final rule or regulation that (1) is a significant regulatory action under Executive Order 12866 and (2) is likely to have a significant adverse effect on the supply, distribution, or use of energy.

We have considered the potential impacts of this action on the supply, distribution, or use of energy and find the designation of critical habitat will not have impacts that exceed the thresholds identified above (NMFS, 2014b).

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

In accordance with the Unfunded Mandates Reform Act, NMFS makes the following findings:

(a) This final rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute or regulation that would impose an enforceable duty upon state, local, tribal governments, or the private sector and includes both ''Federal intergovernmental mandates'' and ''Federal private sector mandates.'' These terms are defined in 2 U.S.C. 658(5)–(7). ''Federal intergovernmental mandate'' includes a regulation that ''would impose an enforceable duty upon State, local, or tribal governments'' with two exceptions. It excludes ''a condition of Federal assistance.'' It also excludes ''a duty arising from participation in a voluntary Federal program,'' unless the regulation ''relates to a then-existing Federal program under which $500,000,000 or more is provided annually to state, local, and tribal governments under entitlement authority,'' if the provision would ''increase the stringency of conditions of assistance'' or ''place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding'' and the state, local, or tribal governments ''lack authority'' to adjust accordingly. (At the time of enactment, these entitlement programs were: Medicaid; Aid to Families with Dependent Children work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement.)

''Federal private sector mandate'' includes a regulation that ''would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance; or (ii) a duty arising from participation in a voluntary Federal program.'' The designation of critical habitat does not impose a legally binding duty on non-Federal government entities or private parties. Under the ESA, the only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat under section 7. While non-Federal entities which receive Federal funding, assistance, permits or otherwise require approval or authorization from a Federal agency for an action may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply; nor would critical habitat shift the costs of the large entitlement programs listed above to state governments.

(b) Due to the existing protection afforded to the designated critical habitat from existing critical habitat for salmon (70 FR 52630; September 2, 2005), Southern DPS of green sturgeon (74 FR 52300; October 9, 2009), bull trout (70 FR 56212; September 26, 2005), and the southern resident killer whale (71 FR 69054; November 29, 2006), we do not anticipate that this rule will significantly or uniquely affect small governments. As such, a Small Government Agency Plan is not required.

Takings

Under Executive Order 12630, Federal agencies must consider the effects of their actions on constitutionally protected private property rights and avoid unnecessary takings of property. A taking of property includes actions that result in physical invasion or occupancy of private property, and regulations imposed on private property that substantially affect its value or use. In accordance with Executive Order 12630, this final rule does not have significant takings implications. A takings implication assessment is not required. The designation of critical habitat affects only Federal agency actions. We do not expect the critical habitat designations will impose additional burdens on land use or affect property values. Additionally, the critical habitat designations do not preclude the development of Conservation Plans and issuance of incidental take permits for non-Federal actions. Owners of areas included within the critical habitat designations would continue to have the opportunity to use their property in ways consistent with the survival of listed rockfishes.

Federalism

In accordance with Executive Order 13132, we determined that this final rule does not have significant Federalism effects and that a Federalism assessment is not required. In keeping with Department of Commerce policies, we request information from, and will continue to coordinate with, appropriate state resource agencies in Washington regarding this critical habitat designation. The designations may have some benefit to state and local resource agencies in that the areas essential to the conservation of the species are more clearly defined, and the essential features of the habitat necessary for the survival of the subject DPSs are specifically identified. It may also assist local governments in long-range planning (rather than waiting for case-by-case ESA section 7 consultations to occur).

Government-to-Government Relationship With Tribes

Pursuant to Executive Order 13175 and Secretarial Order 3206, we contacted the affected Indian Tribes when considering the designation of critical habitat in an area that may impact tribal trust resources, tribally owned fee lands or the exercise of tribal rights. The responding tribes expressed

concern about the intrusion into tribal sovereignty that critical habitat designation represents. These concerns are consistent with previous responses from tribes when we developed critical habitat designations for salmon and steelhead in 2005 (70 FR 52630; September 2, 2005). The Secretarial Order defines Indian lands as ''any lands title to which is either: (1) Held in trust by the United States for the benefit of any Indian tribe or (2) held by an Indian Tribe or individual subject to restrictions by the United States against alienation.'' Our conversations with the tribes indicate that they view the designation of Indian lands as an unwanted intrusion into tribal self-governance, compromising the government-to-government relationship that is essential to achieving our mutual goal of conserving listed rockfishes.

For the general reasons described in the Impacts to Tribal Sovereignty and Self-Governance section above, the ESA Section 4(b)(2) analysis has led us to exclude of all Indian lands in our critical habitat designations for yelloweye rockfish, canary rockfish, and bocaccio.

Civil Justice Reform

The Department of Commerce has determined that this final rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of Executive Order 12988. We are designating critical habitat in accordance with the provisions of the ESA. This rule uses standard property descriptions and identifies the essential features within the designated areas to assist the public in understanding the habitat needs of yelloweye rockfish, canary rockfish, and bocaccio of the Puget Sound/Georgia Basin.

Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)

This final rule does not contain new or revised information collection requirements for which OMB approval is required under the Paperwork Reduction Act (PRA). This rule will not impose recordkeeping or reporting requirements on state or local governments, individuals, businesses, or organizations. Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the PRA, unless that collection of information displays a currently valid OMB Control Number.

National Environmental Policy Act of 1969 (NEPA)

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

Coastal Zone Management Act (CZMA)

Under section 307(c)(1)(A) of the CZMA (16 U.S.C. 1456(c)(1)(A)) and its implementing regulations, each Federal activity within or outside the coastal zone that has reasonably foreseeable effects on any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State coastal management programs. We have determined that any coastal effects of this proposed designation of critical habitat on Washington State coastal uses and resources are not reasonably foreseeable at this time. This proposed designation does not restrict any coastal uses, affect land ownership, or establish a refuge or other conservation area; rather the designation only affects the ESA section 7 consultation process. Through the consultation process, we will receive information on proposed Federal actions and their effects on listed rockfishes and the designated critical habitat upon which we base our consultation. It will then be up to the Federal action agencies to decide how to comply with the ESA in light of our opinion, as well as to ensure that their actions comply with the CZMA's Federal consistency requirement. At this time, we do not anticipate that this designation is likely to result in any additional management measures by other Federal agencies. We have determined that this proposed designation of critical habitat is consistent to the maximum extent practicable with the enforceable policies of the approved coastal management programs of Washington State. The determination has been submitted to the responsible agencies in the aforementioned states for review.

References Cited

A complete list of all references cited in this rulemaking can be found on our Web site at *http://www.wcr.noaa.gov/* and is available upon request from the NMFS office in Seattle, Washington (see **ADDRESSES**).

List of Subjects in 50 CFR Part 226

Endangered and threatened species.

Dated: November 3, 2014.

Samuel D. Rauch, III,

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

For the reasons set out in the preamble, 50 CFR part 226 is amended to read as follows:

PART 226—DESIGNATED CRITICAL HABITAT

■ 1. The authority citation for part 226 continues to read as follows:

Authority: 16 U.S.C. 1533.

■ 2. Add § 226.224 to read as follows;

§ 226.224 Critical habitat for the Puget Sound/Georgia Basin DPS of yelloweye rockfish (*Sebastes ruberrimus*), canary rockfish (*S. pinniger*), and bocaccio (*S. paucispinus*).

Critical habitat is designated in the following states and counties for the following DPSs as depicted in the maps below and described in paragraphs (a) through (d) of this section. The maps can be viewed or obtained with greater resolution (*http://www.wcr.noaa.gov/*) to enable a more precise inspection of critical habitat for yelloweye rockfish, canary rockfish and bocaccio.

(a) Critical habitat is designated for the following DPSs in the following state and counties:

DPS	State-counties
Yelloweye rockfish	Wa—San Juan, Whatcom, Skagit, Island, Clallam, Jefferson Snohomish, King, Pierce, Kitsap, Thurston, Mason.
Canary rockfish	Wa—San Juan, Whatcom, Skagit, Island, Clallam, Jefferson Snohomish, King, Pierce, Kitsap, Thurston, Mason.
Bocaccio	Wa—San Juan, Whatcom, Skagit, Island, Clallam, Jefferson Snohomish, King, Pierce, Kitsap, Thurston, Mason.

(b) *Critical habitat boundaries.* In delineating nearshore (shallower than 30 m (98 ft)) areas in Puget Sound, we define critical habitat for canary rockfish and bocaccio, as depicted in the maps below, as occurring from the shoreline from extreme high water out to a depth no greater than 30 m (98 ft) relative to mean lower low water.

Deepwater critical habitat for yelloweye rockfish, canary rockfish and bocaccio occurs in some areas, as depicted in the maps below, from depths greater than 30 m (98 ft). The critical habitat designation includes the marine waters above (the entire water column) the nearshore and deepwater areas depicted in the maps below.

(c)(1) *Essential features for juvenile canary rockfish and bocaccio.* Juvenile settlement habitats located in the nearshore with substrates such as sand, rock and/or cobble compositions that also support kelp are essential for conservation because these features enable forage opportunities and refuge from predators and enable behavioral and physiological changes needed for juveniles to occupy deeper adult habitats. Several attributes of these sites determine the quality of the area and are useful in considering the conservation value of the associated feature and in determining whether the feature may require special management considerations or protection. These features also are relevant to evaluating the effects of an action in an ESA section 7 consultation if the specific area containing the site is designated as critical habitat. These attributes include:

(i) Quantity, quality, and availability of prey species to support individual growth, survival, reproduction, and feeding opportunities; and

(ii) Water quality and sufficient levels of dissolved oxygen to support growth, survival, reproduction, and feeding opportunities.

(2) Nearshore areas are contiguous with the shoreline from the line of extreme high water out to a depth no greater than 30 meters (98 ft) relative to mean lower low water.

(d) *Essential features for adult canary rockfish and bocaccio, and adult and juvenile yelloweye rockfish.* Benthic habitats and sites deeper than 30 m (98 ft) that possess or are adjacent to areas of complex bathymetry consisting of rock and or highly rugose habitat are essential to conservation because these features support growth, survival, reproduction, and feeding opportunities by providing the structure for rockfish to avoid predation, seek food and persist for decades. Several attributes of these sites determine the quality of the habitat and are useful in considering the conservation value of the associated feature, and whether the feature may require special management considerations or protection. These attributes are also relevant in the evaluation of the effects of a proposed action in an ESA section 7 consultation if the specific area containing the site is designated as critical habitat. These attributes include:

(1) Quantity, quality, and availability of prey species to support individual growth, survival, reproduction, and feeding opportunities;

(2) Water quality and sufficient levels of dissolved oxygen to support growth, survival, reproduction, and feeding opportunities; and

(3) The type and amount of structure and rugosity that supports feeding opportunities and predator avoidance.

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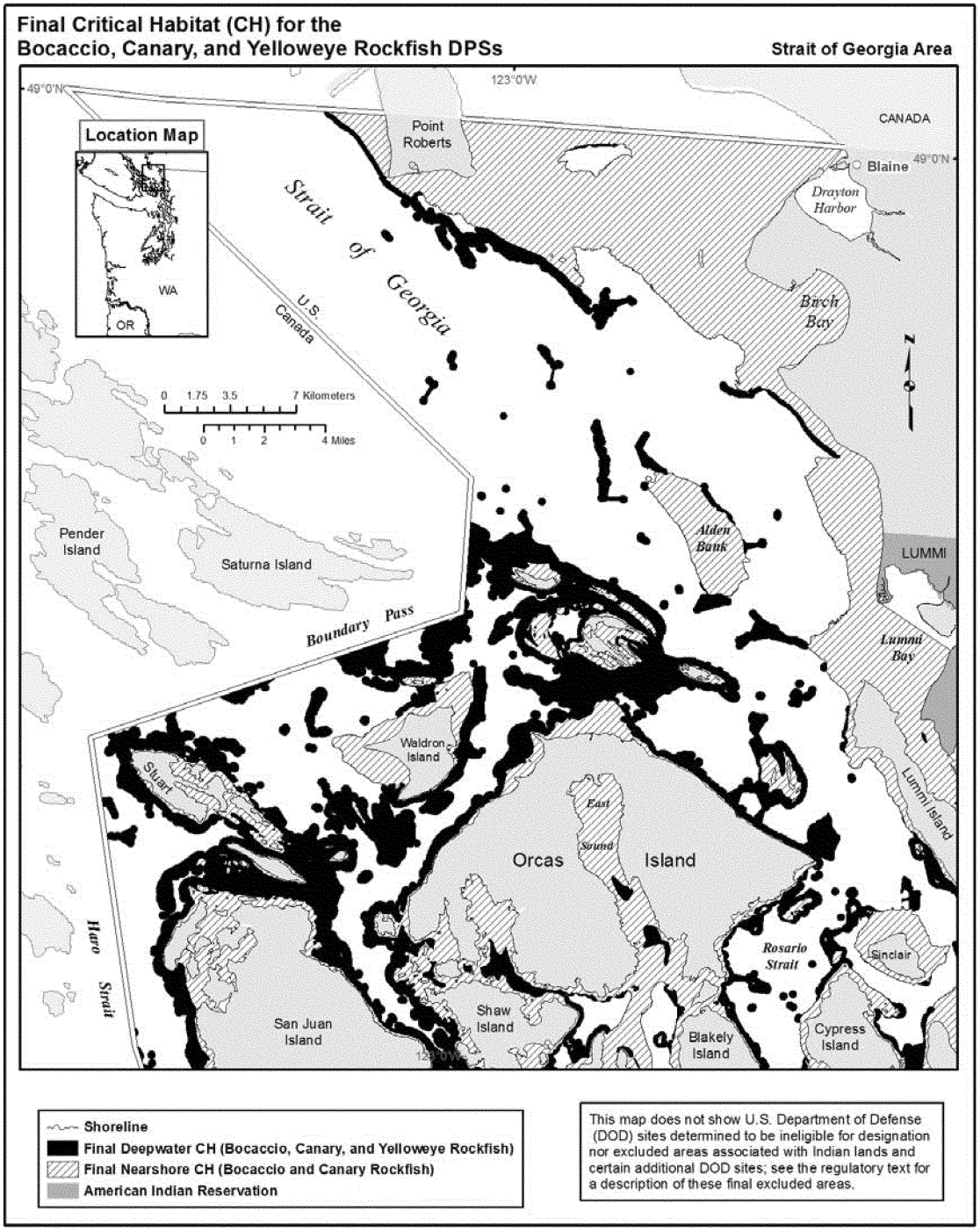
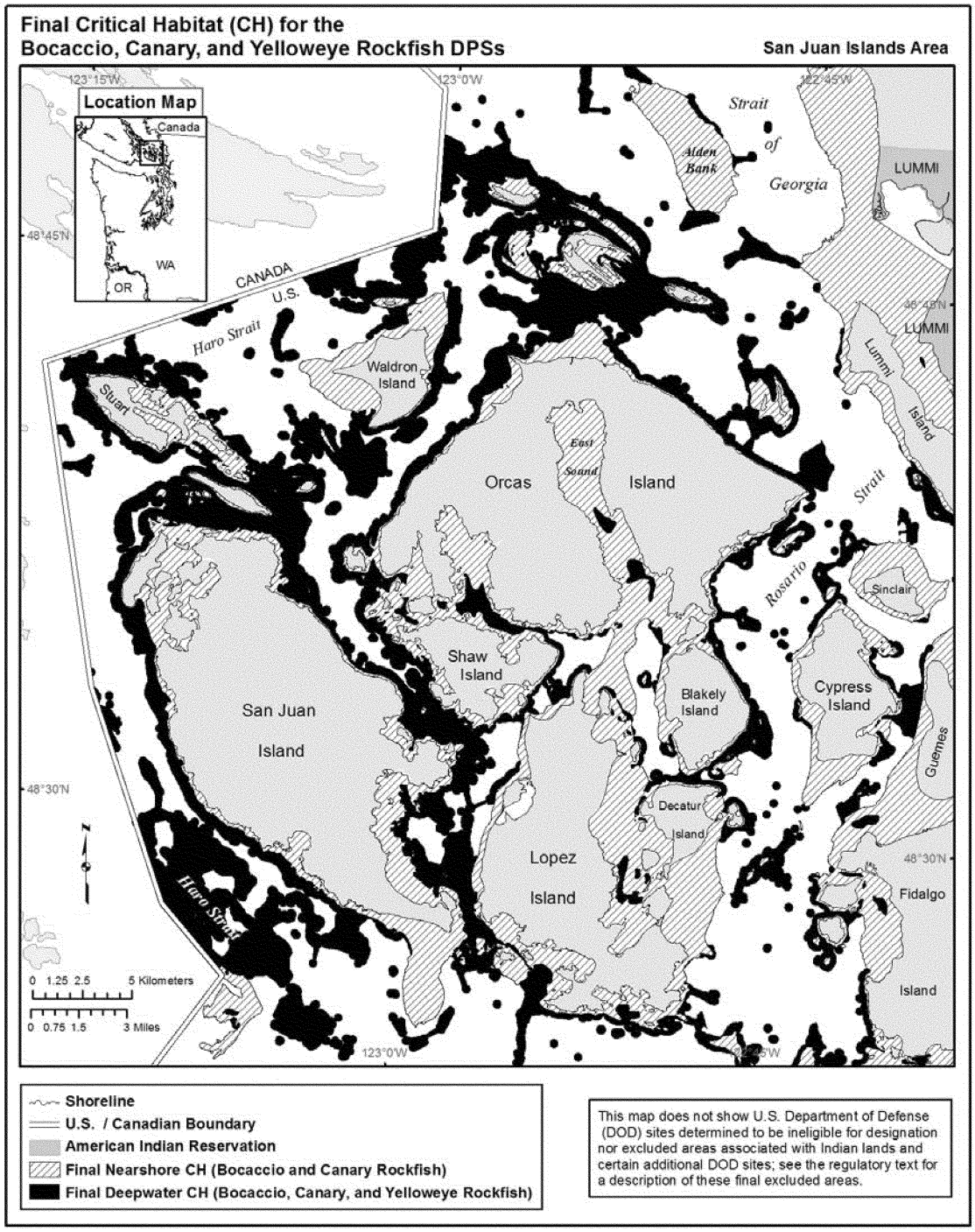
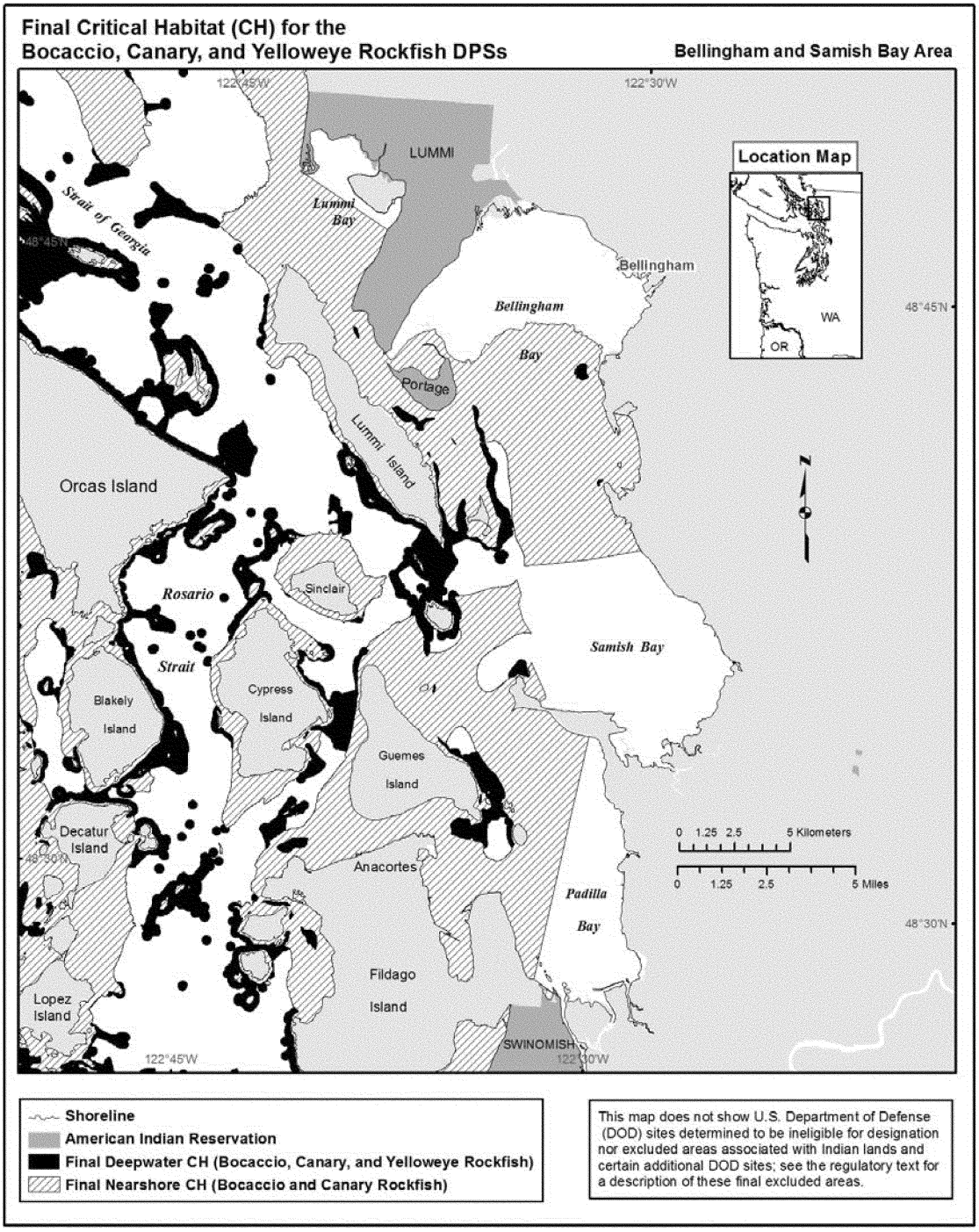
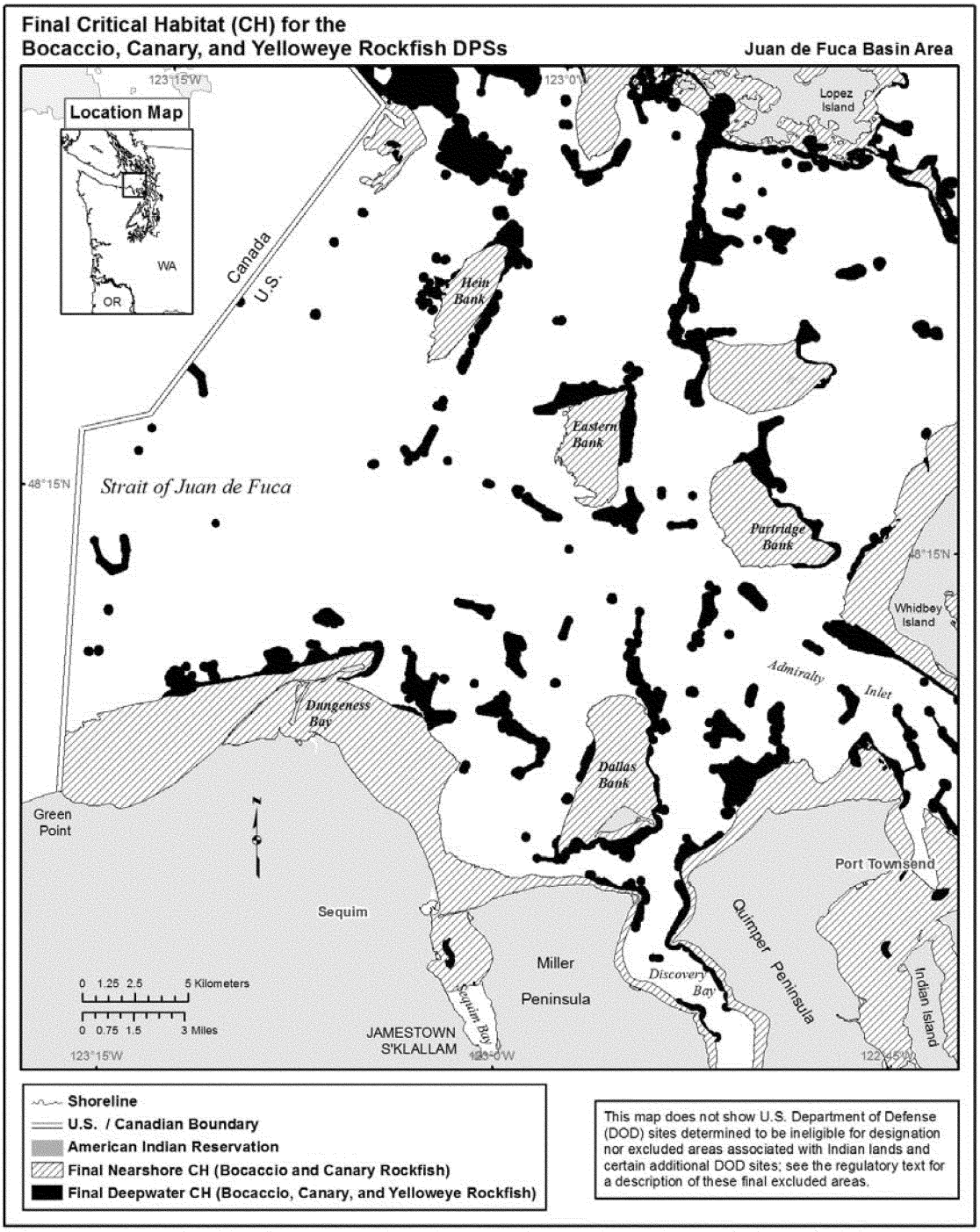
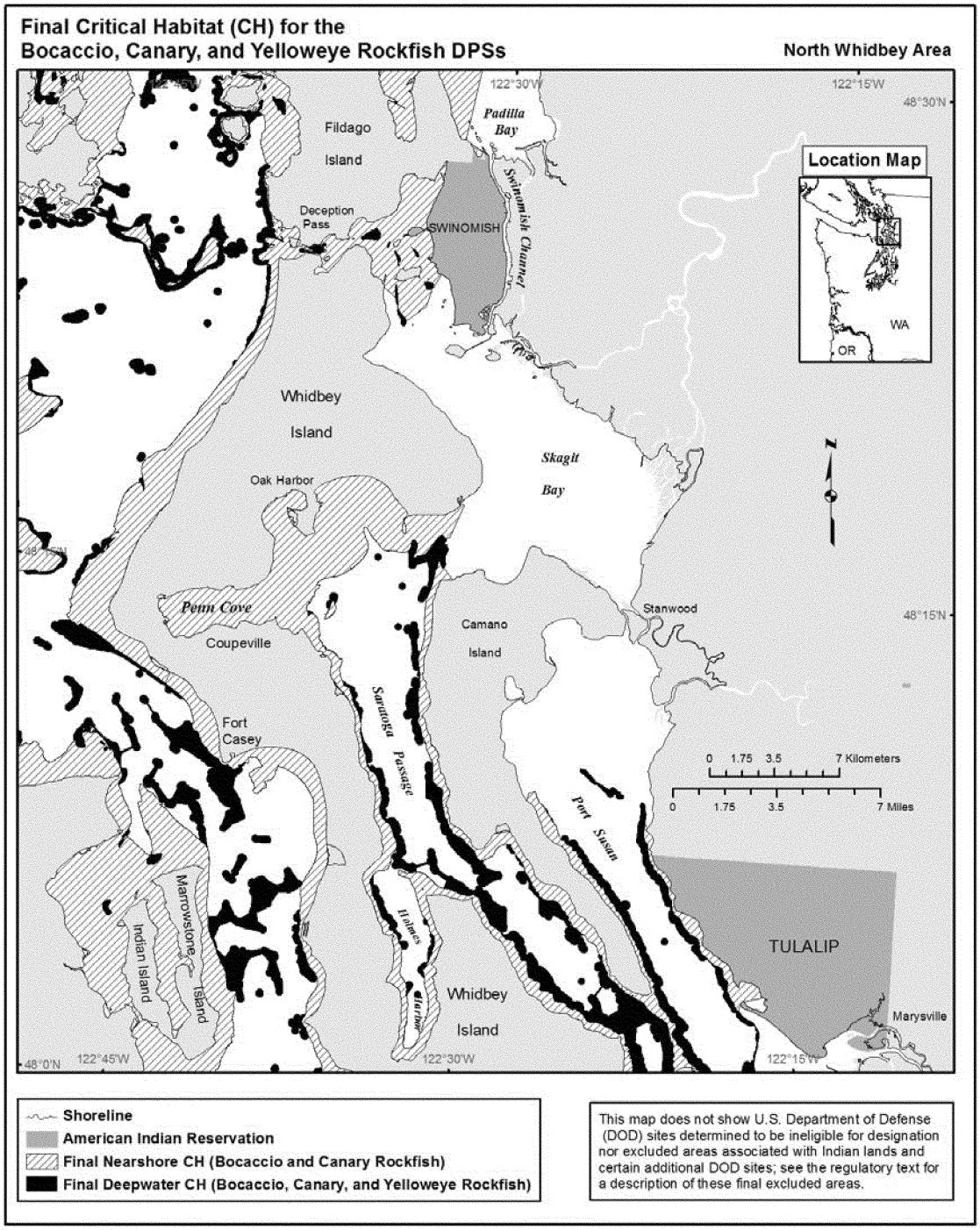
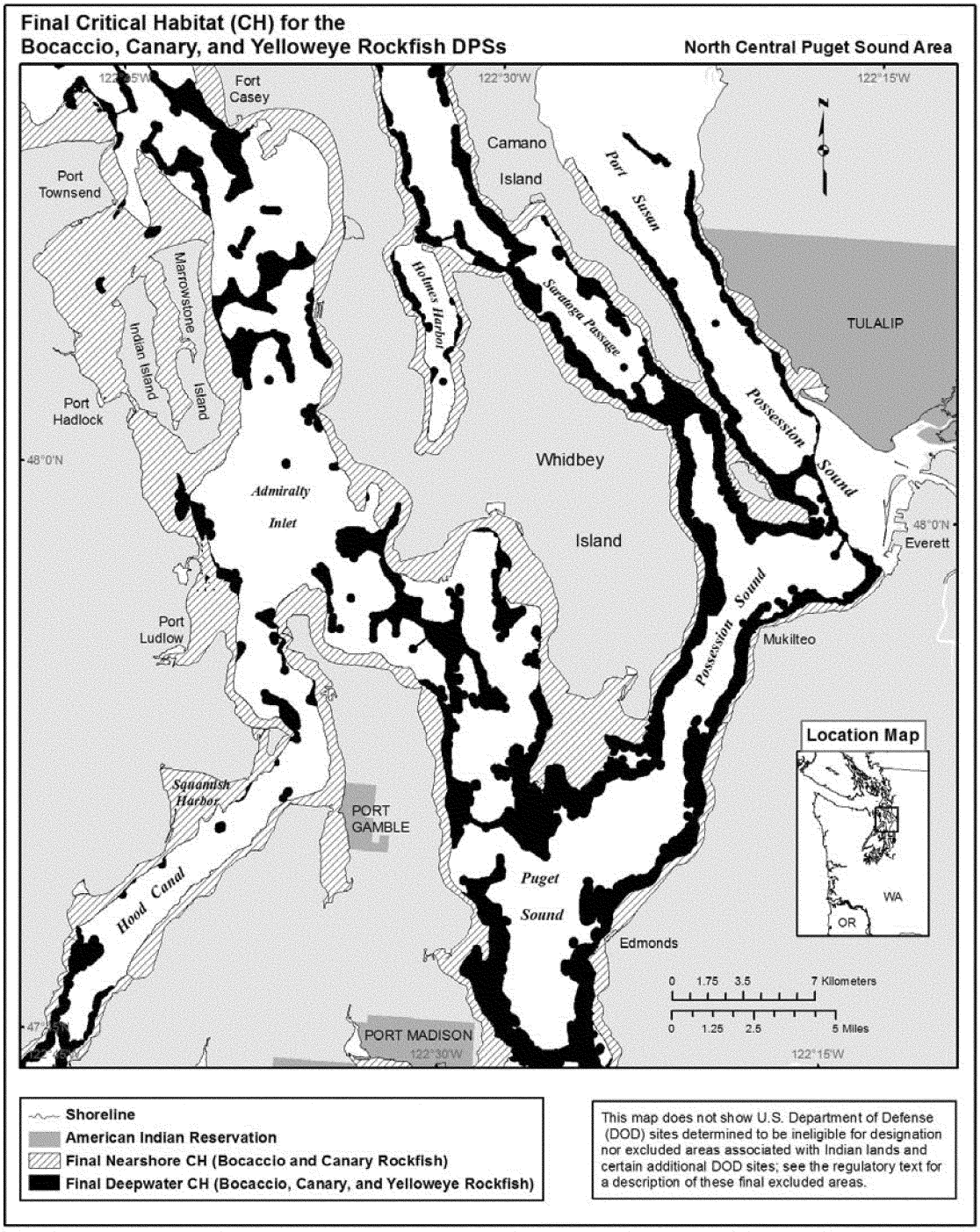

Final Critical Habitat (CH) for the
Bocaccio, Canary, and Yelloweye Rockfish DPSs
Strait of Georgia Area
49°0'N
123°0'W
Location Map
WA
OR
Point Roberts
CANADA
Blaine
Drayton Harbor
Strait of Georgia
U.S.
Canada
Birch Bay
0 1.75 3.5 7 Kilometers
0 1 2 4 Miles
Pender Island
Saturna Island
Alden Bank
LUMMI
Boundary Pass
Lummi Bay
Waldron Island
Stuart
East Sound
Orcas Island
Lummi Island
Haro Strait
Rosario Strait
Sinclair
San Juan Island
Shaw Island
Blakely Island
Cypress Island
Shoreline
Final Deepwater CH (Bocaccio, Canary, and Yelloweye Rockfish)
Final Nearshore CH (Bocaccio and Canary Rockfish)
American Indian Reservation
This map does not show U.S. Department of Defense (DOD) sites determined to be ineligible for designation nor excluded areas associated with Indian lands and certain additional DOD sites; see the regulatory text for a description of these final excluded areas.

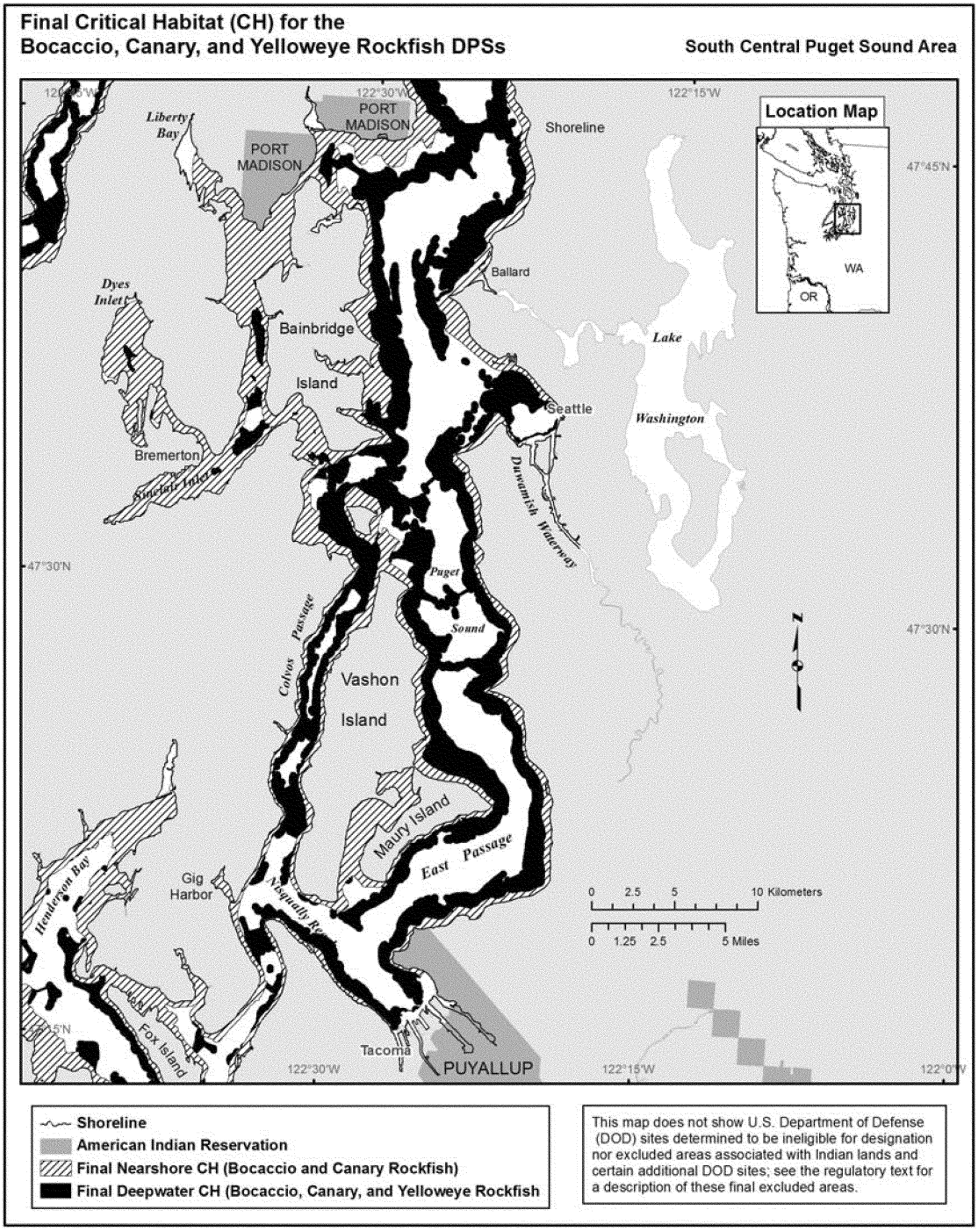

Final Critical Habitat (CH) for the
Bocaccio, Canary, and Yelloweye Rockfish DPSs
San Juan Islands Area
Location Map
Canada
WA
OR
123°15'W
123°0'W
122°45'W
48°45'N
48°30'N
CANADA
U.S.
Haro Strait
Strait of Georgia
Alden Bank
LUMMI
Lummi Island
Waldron Island
Stuart
East Sound
Orcas Island
Rosario Strait
Sinclair
Shaw Island
San Juan Island
Blakely Island
Cypress Island
Guemes
Decatur Island
Lopez Island
Fidalgo Island
0 1.25 2.5 5 Kilometers
0 0.75 1.5 3 Miles
Shoreline
U.S. / Canadian Boundary
American Indian Reservation
Final Nearshore CH (Bocaccio and Canary Rockfish)
Final Deepwater CH (Bocaccio, Canary, and Yelloweye Rockfish)
This map does not show U.S. Department of Defense (DOD) sites determined to be ineligible for designation nor excluded areas associated with Indian lands and certain additional DOD sites; see the regulatory text for a description of these final excluded areas.

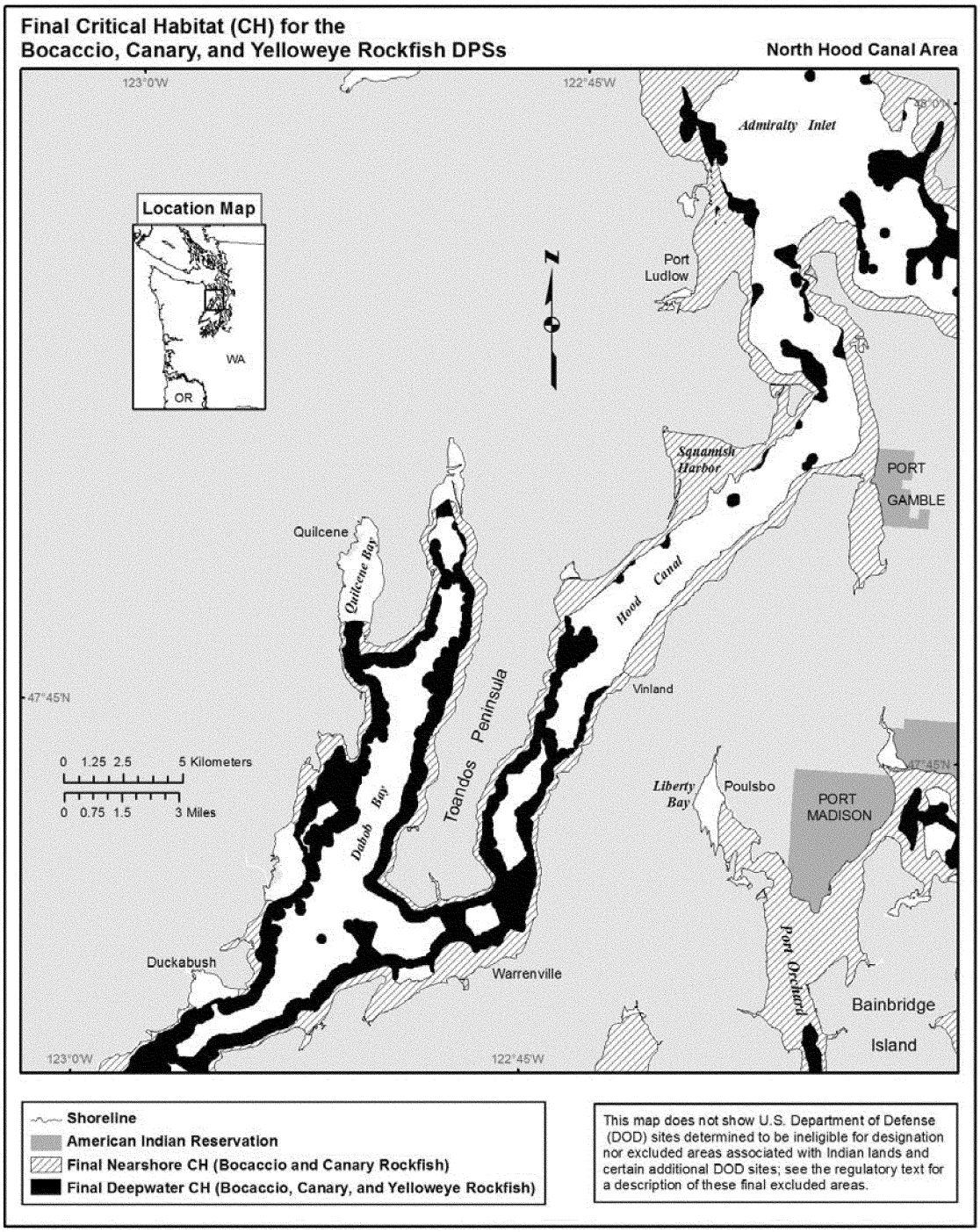

Final Critical Habitat (CH) for the
Bocaccio, Canary, and Yelloweye Rockfish DPSs
Bellingham and Samish Bay Area
122°45'W
122°30'W
48°45'N
48°30'N
LUMMI
Lummi Bay
Strait of Georgia
Bellingham
Bellingham Bay
Portage
Lummi Island
Orcas Island
Rosario
Strait
Sinclair
Samish Bay
Blakely Island
Cypress Island
Guemes Island
Decatur Island
Anacortes
Padilla Bay
Fildago Island
Lopez Island
SWINOMISH
Location Map
WA
OR
N
0 1.25 2.5 5 Kilometers
0 1.25 2.5 5 Miles
Shoreline
American Indian Reservation
Final Deepwater CH (Bocaccio, Canary, and Yelloweye Rockfish)
Final Nearshore CH (Bocaccio and Canary Rockfish)
This map does not show U.S. Department of Defense (DOD) sites determined to be ineligible for designation nor excluded areas associated with Indian lands and certain additional DOD sites; see the regulatory text for a description of these final excluded areas.

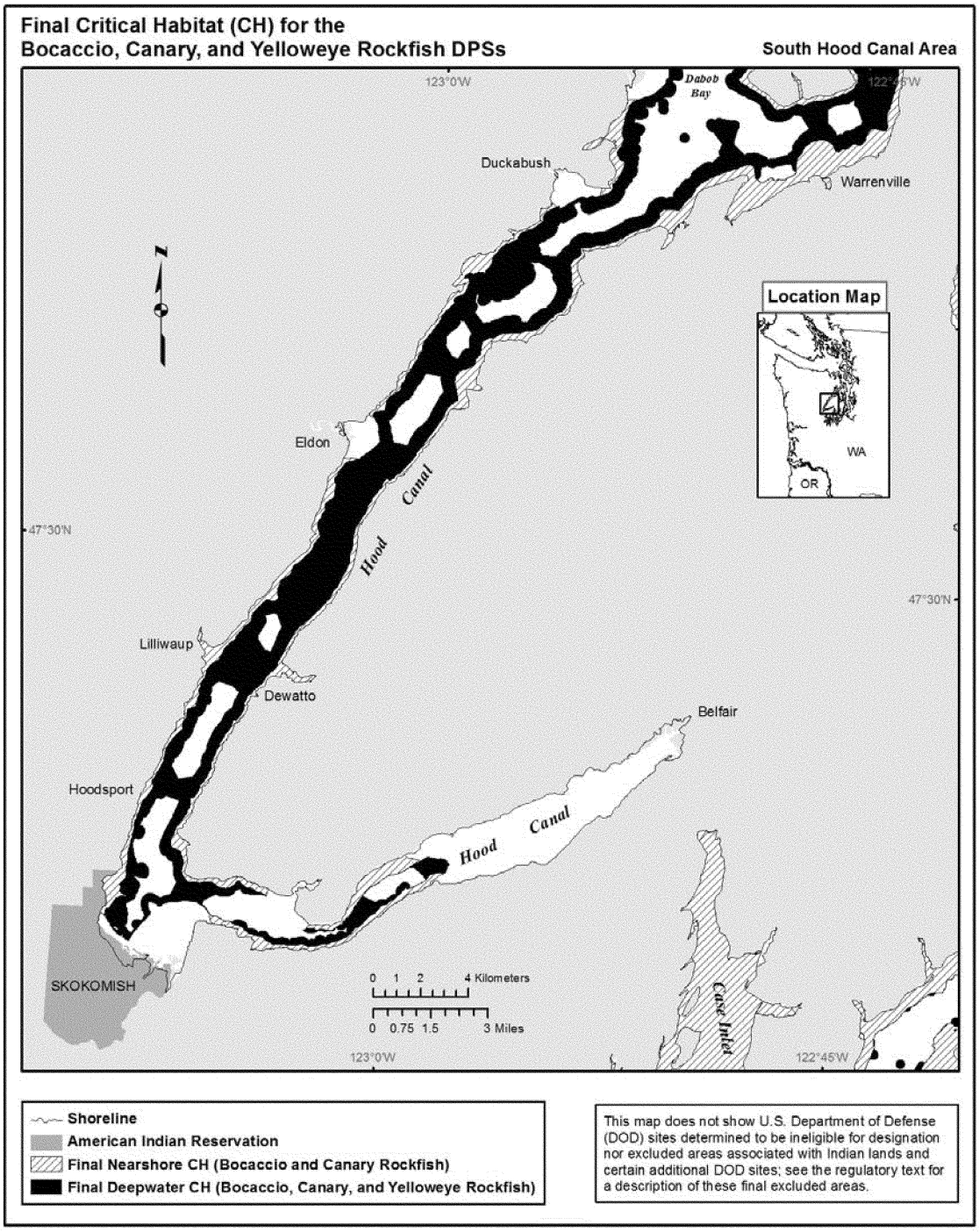

Final Critical Habitat (CH) for the
Bocaccio, Canary, and Yelloweye Rockfish DPSs
Juan de Fuca Basin Area
Location Map
WA
OR
Canada
U.S.
Hein Bank
Eastern Bank
Partridge Bank
Strait of Juan de Fuca
48°15'N
123°15'W
123°0'W
Lopez Island
Whidbey Island
Admiralty Inlet
Dungeness Bay
Dallas Bank
Green Point
Sequim
Port Townsend
Quimper Peninsula
Miller Peninsula
Discovery Bay
Sequim Bay
Indian Island
JAMESTOWN S'KLALLAM
122°45'W
0 1.25 2.5 5 Kilometers
0 0.75 1.5 3 Miles
Shoreline
U.S. / Canadian Boundary
American Indian Reservation
Final Nearshore CH (Bocaccio and Canary Rockfish)
Final Deepwater CH (Bocaccio, Canary, and Yelloweye Rockfish)
This map does not show U.S. Department of Defense (DOD) sites determined to be ineligible for designation nor excluded areas associated with Indian lands and certain additional DOD sites; see the regulatory text for a description of these final excluded areas.

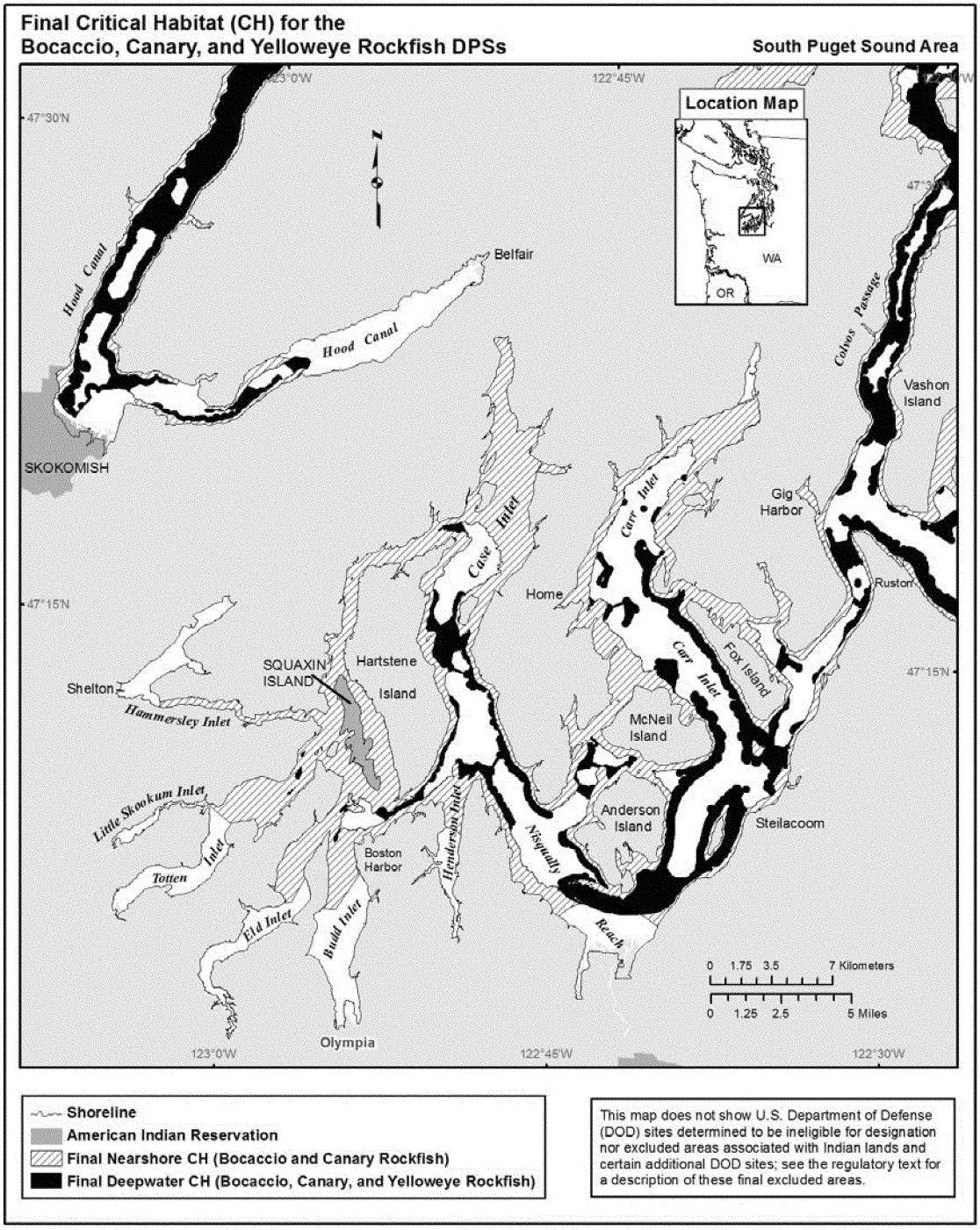

Final Critical Habitat (CH) for the
Bocaccio, Canary, and Yelloweye Rockfish DPSs
North Whidbey Area
122°30'W
122°15'W
48°30'N
Padilla Bay
Fildago Island
Deception Pass
SWINOMISH
Swinomish Channel
Location Map
WA
OR
Whidbey Island
Skagit Bay
Oak Harbor
Penn Cove
Coupeville
Camano Island
Stanwood
48°15'N
Fort Casey
Saratoga Passage
Port Susan
0 1.75 3.5 7 Kilometers
0 1.75 3.5 7 Miles
Marrowstone Island
Indian Island
Holmes Harbor
Whidbey Island
TULALIP
Marysville
48°0'N
122°45'W
122°30'W
122°15'W
Shoreline
American Indian Reservation
Final Nearshore CH (Bocaccio and Canary Rockfish)
Final Deepwater CH (Bocaccio, Canary, and Yelloweye Rockfish)
This map does not show U.S. Department of Defense (DOD) sites determined to be ineligible for designation nor excluded areas associated with Indian lands and certain additional DOD sites; see the regulatory text for a description of these final excluded areas.


Final Critical Habitat (CH) for the
Bocaccio, Canary, and Yelloweye Rockfish DPSs
North Central Puget Sound Area
Fort Casey
Port Townsend
Marrowstone Island
Indian Island
Port Hadlock
Camano Island
Port Susan
Holmes Harbor
Saratoga Passage
TULALIP
Possession Sound
Whidbey Island
Admiralty Inlet
Port Ludlow
Everett
Mukilteo
Squamish Harbor
PORT GAMBLE
Hood Canal
Puget Sound
Edmonds
PORT MADISON
Location Map
WA
OR
0 1.75 3.5 7 Kilometers
0 1.25 2.5 5 Miles
Shoreline
American Indian Reservation
Final Nearshore CH (Bocaccio and Canary Rockfish)
Final Deepwater CH (Bocaccio, Canary, and Yelloweye Rockfish)
This map does not show U.S. Department of Defense (DOD) sites determined to be ineligible for designation nor excluded areas associated with Indian lands and certain additional DOD sites; see the regulatory text for a description of these final excluded areas.


Final Critical Habitat (CH) for the
Bocaccio, Canary, and Yelloweye Rockfish DPSs
South Central Puget Sound Area
Location Map
WA
OR
Liberty Bay
PORT MADISON
PORT MADISON
Shoreline
Ballard
Dyes Inlet
Bainbridge
Island
Lake
Washington
Seattle
Bremerton
Sinclair Inlet
Duwamish Waterway
Puget
Sound
Colvos Passage
Vashon
Island
Maury Island
East Passage
Gig Harbor
Henderson Bay
Nisqually Re
Fox Island
Tacoma
PUYALLUP
122°30'W
122°15'W
47°45'N
47°30'N
0 2.5 5 10 Kilometers
0 1.25 2.5 5 Miles
Shoreline
American Indian Reservation
Final Nearshore CH (Bocaccio and Canary Rockfish)
Final Deepwater CH (Bocaccio, Canary, and Yelloweye Rockfish
This map does not show U.S. Department of Defense (DOD) sites determined to be ineligible for designation nor excluded areas associated with Indian lands and certain additional DOD sites; see the regulatory text for a description of these final excluded areas.


Final Critical Habitat (CH) for the
Bocaccio, Canary, and Yelloweye Rockfish DPSs
North Hood Canal Area
123°0'W
122°45'W
48°0'N
47°45'N
Admiralty Inlet
Location Map
WA
OR
N
Port Ludlow
Squamish Harbor
PORT GAMBLE
Quilcene
Quilcene Bay
Hood Canal
Toandos Peninsula
Vinland
0 1.25 2.5 5 Kilometers
0 0.75 1.5 3 Miles
Dabob Bay
Liberty Bay
Poulsbo
PORT MADISON
Port Orchard
Duckabush
Warrenville
Bainbridge Island
Shoreline
American Indian Reservation
Final Nearshore CH (Bocaccio and Canary Rockfish)
Final Deepwater CH (Bocaccio, Canary, and Yelloweye Rockfish)
This map does not show U.S. Department of Defense (DOD) sites determined to be ineligible for designation nor excluded areas associated with Indian lands and certain additional DOD sites; see the regulatory text for a description of these final excluded areas.


Final Critical Habitat (CH) for the
Bocaccio, Canary, and Yelloweye Rockfish DPSs
South Hood Canal Area
123°0'W
122°45'W
Dabob Bay
Duckabush
Warrenville
Location Map
WA
OR
Eldon
Hood Canal
47°30'N
Lilliwaup
Dewatto
Belfair
Hoodsport
Hood Canal
SKOKOMISH
0 1 2 4 Kilometers
0 0.75 1.5 3 Miles
Case Inlet
Shoreline
American Indian Reservation
Final Nearshore CH (Bocaccio and Canary Rockfish)
Final Deepwater CH (Bocaccio, Canary, and Yelloweye Rockfish)
This map does not show U.S. Department of Defense (DOD) sites determined to be ineligible for designation nor excluded areas associated with Indian lands and certain additional DOD sites; see the regulatory text for a description of these final excluded areas.



[FR Doc. 2014–26558 Filed 11–12–14; 8:45 am]
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