

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Parts 223 and 224 and 226

[Docket No. 160524463-7001-02]

RIN 0648-XE657

**Endangered and Threatened Species; Removal of the Puget Sound/Georgia Basin
Distinct Population Segment of Canary Rockfish from the Federal List of
Threatened and Endangered Species and Removal of Designated Critical Habitat,
and Update and Amendment to the Listing Descriptions for the Yelloweye Rockfish
DPS and Bocaccio DPS**

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

ACTION: Final rule.

SUMMARY: We, NMFS, are issuing a final rule to remove the Puget Sound/Georgia
Basin canary rockfish (*Sebastes pinniger*) Distinct Population Segment (DPS) from the
Federal List of Threatened and Endangered Species and remove its critical habitat
designation. We proposed these actions based on newly obtained samples and genetic
analysis that demonstrates that the Puget Sound/Georgia Basin canary rockfish
population does not meet the DPS criteria and therefore does not qualify for listing under
the Endangered Species Act (ESA). Following public and peer review of the proposed
rule and supporting scientific information, this final rule implements the changes to the
listing and critical habitat for canary rockfish.

We also update and amend the listing description for the Puget Sound/Georgia Basin yelloweye rockfish (*S. ruberrimus*) DPS based on a geographic description to include fish within specified boundaries. Further, although the current listing description is not based on boundaries, with this final rule we are also correcting a descriptive boundary for the DPS depicted on maps to include an area in the northern Johnstone Strait and Queen Charlotte Channel in waters of Canada consistent with newly obtained genetic information on yelloweye rockfish population grouping.

We also update and amend the listing description for the bocaccio DPS based on a geographic description and to include fish within specified boundaries.

DATES: This final rule is effective on [*insert date 60 days after date of publication in the FEDERAL REGISTER*].

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SUPPLEMENTARY INFORMATION:

Background

On April 9, 2007, we received a petition from Mr. Sam Wright (Olympia, Washington) to list DPSs of five rockfish species (yelloweye, canary, bocaccio, greenstriped and redstripe) in Puget Sound, as endangered or threatened species under the ESA and to designate critical habitat. We found that this petition did not present substantial scientific or commercial information to suggest that the petitioned actions may be warranted (72 FR 56986; October 5, 2007). On October 29, 2007, we received a letter from Mr. Wright presenting information that was not included in the April 2007

petition, and requesting reconsideration of the decision not to initiate a review of the species' status. We considered the supplemental information as a new petition and concluded that there was enough information in this new petition to warrant conducting status reviews of these five rockfish species. The status review was initiated on March 17, 2008 (73 FR 14195) and completed in 2010 (Drake *et al.*, 2010).

In the 2010 status review, the Biological Review Team (BRT) used the best scientific and commercial data available at that time, including environmental and ecological features of the Puget Sound/Georgia Basin, but noted that the limited genetic and demographic data for the five petitioned rockfish species populations created some uncertainty in the DPS determinations (Drake *et al.*, 2010). The BRT assessed genetic data from the Strait of Georgia (inside waters of eastern Vancouver Island) for yelloweye rockfish (Yamanaka *et al.*, 2006) that indicated a distinct genetic cluster that differed consistently from coastal samples of yelloweye rockfish, but also observed that genetic data from Puget Sound were not available for this species. The BRT also noted there was genetic information for canary rockfish (Wishard *et al.*, 1980) and bocaccio (Matala *et al.*, 2004, Field *et al.*, 2009) in coastal waters, but no genetic data for either species from inland Puget Sound waters. The BRT found that in spite of these data limitations there was other evidence to conclude that each noted population of rockfish within inland waters of the Puget Sound/Georgia Basin was discrete from its coastal counterpart.

Specifically, the BRT noted similar life histories of rockfish and based their determinations, in part, on the status review of brown rockfish, copper rockfish, and quillback rockfish (Stout *et al.*, 2001) and the genetic information for those species that supported separate DPSs for inland compared to coastal populations (Drake *et al.*, 2010).

Thus, based on information related to rockfish life history, genetic variation among populations, and the environmental and ecological features of Puget Sound and the Georgia Basin, the BRT identified Puget Sound/Georgia Basin DPSs for yelloweye rockfish, canary rockfish, and bocaccio, and a Puget Sound proper DPS for greenstriped rockfish and redstripe rockfish (Drake *et al.*, 2010).

Informed by the BRT recommendations and our interpretation of best available scientific and commercial data, on April 28, 2010, we listed the Puget Sound/Georgia Basin DPSs of yelloweye rockfish and canary rockfish as threatened under the ESA, and the Puget Sound/Georgia Basin DPS of bocaccio as endangered (75 FR 22276). The final critical habitat rule for the listed DPSs of rockfishes was published in the **Federal Register** on November 1, 2014 (79 FR 68041). We determined that greenstriped rockfish (*S. elongatus*) and redstripe rockfish (*S. proriger*) within Puget Sound proper each qualified as a DPS, but these DPSs were not at risk of extinction throughout all or a significant portion of their ranges (Drake *et al.*, 2010).

In 2013, we appointed a recovery team and initiated recovery planning for the listed rockfish species. Through the process of recovery planning, priority research and recovery actions emerged. One such action was to seek specific genetic data for each of these rockfish species to better evaluate and determine whether differences exist in the genetic structure of the listed species' populations between inland basins where the DPSs occur and the outer coast. Analysis of the geographical distribution of genetic variation is a powerful method of identifying discrete populations (Drake *et al.*, 2010); thus, genetic analysis provides useful information to address the uncertainties associated with the

limited information that informed our initial discreteness determinations for yelloweye rockfish, canary rockfish and bocaccio.

In 2014 and 2015, we partnered with the Washington Department of Fish and Wildlife (WDFW), several local fishing guides, and Puget Sound Anglers to collect samples between the different basins of the Puget Sound/Georgia Basin DPSs area and the outer coast. We collected biological samples for genetic analysis several ways. Over the course of 74 fishing trips, biological samples were gathered from listed rockfishes using hook-and-line recreational fishing methods in Puget Sound and the Strait of Juan de Fuca. Additional samples were gathered from archived sources from Fisheries and Oceans Canada, the NMFS Southwest Fisheries Science Center's Fisheries Resource Division, and the NMFS Northwest Fisheries Science Center's West Coast groundfish bottom trawl survey.

Samples collected from these sources were used to examine the population structure for each species. Population structure was examined using three methods: principal components analysis (PCA), calculation of F_{ST} (fixation index - which is a measure of population differentiation) among geographic groups, and a population genetics based model clustering analysis (termed STRUCTURE) (NMFS 2016a).

In 2015, we announced a 5-year review (80 FR 6695; February 6, 2015) for the three rockfish DPSs. The 5-year review was completed on May 5, 2016 (NMFS 2016a), and is available at:

http://www.westcoast.fisheries.noaa.gov/publications/protected_species/other/rockfish/5.2016_5yr_review_report_rockfish.pdf. To complete the review, we collected, evaluated, and incorporated all information on the species that has become available

since April 2010, the date of the listing, including the 2014 final critical habitat designation and newly obtained samples and analysis of genetic information (Ford 2015, NMFS 2016a).

NMFS' Puget Sound/Georgia Basin rockfish BRT reviewed the results from the new genetic information. Their recommendations (Ford 2015) informed and were further evaluated during the five-year review (NMFS 2016a) which confirmed the DPS identity and listing status for yelloweye rockfish and bocaccio but concluded that the canary rockfish of the Puget Sound/Georgia Basin do not meet the criteria to be considered a DPS.

Policies for Delineating and Listing Species Under the ESA

Under the ESA, the term “species” means a species, a subspecies, or a DPS of a vertebrate species (16 U.S.C. 1532(16)). A joint NMFS-USFWS policy clarifies the Services' interpretation of the phrase “Distinct Population Segment,” or DPS (61 FR 4722; February 7, 1996). The DPS Policy requires the consideration of two elements when evaluating whether a vertebrate population segment qualifies as a DPS under the ESA: 1) discreteness of the population segment in relation to the remainder of the species/taxon; and, if discrete, 2) the significance of the population segment to the species/taxon to which it belongs. Thus, under the DPS policy a population segment is considered a DPS if it is both discrete from other populations within its taxon and significant to its taxon.

A population may be considered discrete if it satisfies either one of the following conditions: 1) it is markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors; or 2) it is

delimited by international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D) of the ESA (61 FR 4722; February 7, 1996). According to the policy, quantitative measures of genetic or morphological discontinuity can be used to provide evidence for item 1) above.

Consideration of the significance of a discrete population may include, but is not limited to the following conditions: 1) persistence of the discrete segment in an ecological setting unusual or unique for the taxon; 2) evidence that loss of the discrete segment would result in a significant gap in the range of the taxon; 3) evidence that the discrete segment represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside its historical range; or 4) evidence that the discrete segment differs markedly from other populations of the species in its genetic characteristics.

The ESA gives us clear authority to make listing determinations and to revise the Federal list of endangered and threatened species to reflect these determinations. Section 4(a)(1) of the ESA authorizes us to determine by regulation whether “any species,” which is defined to include species, subspecies, and DPSs, is an endangered species or a threatened species based on certain factors. Review of a species’ status may be commenced at any time, either on the Services' own initiative—through a status review or in connection with a five-year review under Section 4(c)(2)—or in response to a petition. Because a DPS is not a scientifically recognized entity, but rather one created under the language of the ESA and effectuated through our DPS Policy (61 FR 4722; February 7, 1996), we have some discretion to determine whether populations of a

species should be identified as DPSs, and, based upon their range and propensity for movement, what boundaries should be recognized for a DPS. Section 4(c)(1) of the ESA gives us authority to update the Federal list of threatened and endangered species to reflect these determinations. This can include revising the list to remove a species or reclassify the listed entity.

Under sections 4(c)(1) and 4(a)(1) of the ESA the Secretary shall undertake a five-year review of a listed species and consider, among other things, whether a species' listing status should be continued. Pursuant to implementing regulations at 50 CFR 424.11(d), a species shall be removed from the list if the Secretary of Commerce determines, based on the best scientific and commercial data available after conducting a review of the species' status, that the species is no longer threatened or endangered because of one or a combination of the section 4(a)(1) factors. A species may be delisted only if such data substantiate that it is neither endangered nor threatened for one or more of the following reasons:

1) Extinction. Unless all individuals of the listed species had been previously identified and located, and were later found to be extirpated from their previous range, a sufficient period of time must be allowed before delisting to indicate clearly that the species is extinct.

2) Recovery. The principal goal of the Services is to return listed species to a point at which protection under the ESA is no longer required. A species may be delisted on the basis of recovery only if the best scientific and commercial data available indicate that it is no longer endangered or threatened.

3) Original data for classification in error. Subsequent investigations may show that the best scientific or commercial data available when the species was listed, or the interpretation of such data, were in error (50 CFR 424.11(d)).

To make our final listing determinations, we reviewed all information provided during the 60-day public comment period on the proposed rule. Additionally we reviewed additional genetic analysis developed by the Northwest Fisheries Science Center (NWFSC) after the proposed rule (Andrews and Nichols 2016). This additional information supplemented, and supported, the information presented in the proposed rule. Where new information was received we have reviewed it and presented our evaluation in this final rule.

Proposed Rule

Informed by the BRT recommendations (Ford 2015), our interpretation of best available scientific and commercial data, and the conclusions of the five-year review, on July 6, 2016 we issued a proposed rule (81 FR 43979) to remove the Puget Sound/Georgia Basin canary rockfish (*Sebastes pinniger*) which included the following findings for each listed rockfish species.

Yelloweye Rockfish

Several different analytical methods indicated significant genetic differentiation between the inland and coastal samples of yelloweye rockfish at a level consistent with the limited genetic data for this species (Yamanaka *et al.*, 2006) that were available at the time of the 2010 status review. The BRT concluded that this new genetic information represents the best available scientific and commercial data and are consistent with and confirm the existence of an inland population of Puget Sound/Georgia Basin yelloweye

rockfish that is discrete from coastal yelloweye rockfish (Ford 2015, NMFS 2016a). In addition, this genetic information demonstrates that yelloweye rockfish from Hood Canal are genetically differentiated from other Puget Sound/Georgia Basin fish, indicating a previously unknown degree of population differentiation within the DPS (Ford 2015, NMFS 2016a).

The BRT also found that new genetic information from Canada demonstrates that yelloweye rockfish occurring in the northern Johnstone Strait and Queen Charlotte Channel clustered genetically with yelloweye rockfish occurring in the northern Strait of Georgia, the San Juan Islands, and Puget Sound (Ford 2015). This is consistent with additional genetic analysis identifying a population of yelloweye rockfish inside the waters of eastern Vancouver Island (Yamanaka et. al. 2006, COSEWIC 2008, Yamanaka et al., 2012, Siegle et al., 2013). Based on this information and the five-year review, we proposed to correct the previous description of the northern boundary of the threatened Puget Sound/Georgia Basin yelloweye rockfish (*S. ruberrimus*) DPS to include this area. We also proposed to update and amend the description of the DPS as fish residing within certain boundaries (including this geographic area farther north in the Strait of Georgia waters in Canada). We proposed this change because this description better aligns with yelloweye rockfish life-history and their sedentary behavior as adults, rather than the current description of fish originating from the Puget Sound/Georgia Basin.

In the five-year review, our analysis of the ESA section 4(a)(1) factors found that the collective risk to the persistence of the Puget Sound/Georgia Basin DPS of yelloweye rockfish has not changed significantly since our final listing determination in 2010 (75 FR 22276; April 28, 2010), and they remain listed as threatened (NMFS 2016a).

Canary Rockfish

The same analytical methods (described in Ford 2015, NMFS 2016a and Andrews and Nichols 2016) as used for yelloweye rockfish were used to analyze population structure in canary rockfish. These analyses indicate a lack of genetic differentiation of canary rockfish between coastal and inland Puget Sound/Georgia Basin samples. F_{ST} values, a metric of population differentiation, among groups were not significantly different from zero among geographic regions, and STRUCTURE analysis did not provide evidence supporting population structure in the data. None of these analyses provided any evidence of genetic differentiation between canary rockfish along the coast from the canary rockfish within the boundaries of the Puget Sound/Georgia Basin DPS (Ford 2015, NMFS 2016a, Andrews and Nichols 2016).

The BRT noted that the very large number of loci provided considerable power to detect differentiation among sample groups and concluded that the lack of such differentiation indicated that it is unlikely the inland Puget Sound/Georgia Basin samples are discrete from coastal areas (Ford 2015). In the context of this newly obtained genetic information, the BRT considered whether other factors that supported the original discreteness determination, such as oceanography and ecological differences among locations, continue to support a finding of discreteness for this population (Ford 2015). In considering this newly obtained genetic data in the context of the other evidence, the BRT found that their original interpretation of the scientific data informing discreteness is no longer supported (Ford 2015). Rather, they concluded that the lack of genetic differentiation indicates sufficient dispersal to render a discreteness determination based on environmental factors implausible. The BRT found that current genetic data evaluated

and interpreted in the context of all available scientific information now provides strong evidence that canary rockfish of the Puget Sound/Georgia Basin are not discrete from coastal area canary rockfish. Based on the BRT findings, the five-year review, and best available science and commercial information, and in accordance with the DPS policy, we determined that the canary rockfish of the Puget Sound/Georgia Basin did not meet the criteria to be considered a DPS. Rather, the new genetic data reveal that canary rockfish of the Puget Sound/Georgia Basin are part of the larger population occupying the Pacific coast (Ford 2015, NMFS 2016a, Andrews and Nichols 2016).

Canary rockfish of the Pacific coast was declared overfished in 2000 and a rebuilding plan under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) was put in place in 2001. NMFS determined the stock to be “rebuilt” in 2015 (Thorson and Wetzel 2015, NMFS 2016b).

Based on the discussion above and the recommendation of the five-year review, we proposed to remove Puget Sound/Georgia Basin canary rockfish from the Federal List of Threatened and Endangered Species because the new genetic data evaluated and interpreted in the context of all best available science indicate they are not a discrete population (81 FR 43979; July 6, 2016). Under section 4(c)(1) of the ESA and the implementing regulations at 50 CFR 424.11(d)(3), we may delist canary rockfish if, among other things, subsequent investigation demonstrates that our interpretation of best scientific or commercial information was in error. After considering this newly obtained genetic data in the context of the other evidence supporting discreteness, we determined that our original interpretation of discreteness for Puget Sound/Georgia Basin canary

rockfish is no longer supported and was in error. Based on this reasoning, there is no need for a post-delisting monitoring plan.

Bocaccio

Bocaccio were also evaluated by the BRT (Ford 2015) and during the five-year review (NMFS 2016a). Bocaccio are particularly rare within the DPS area and thus the NWFSC was only able to obtain three samples from within the DPS area for the genetic analysis. The BRT determined that this is not sufficient information to support a change to our prior status review and listing determination that Puget Sound/Georgia Basin bocaccio are discrete from coastal fish (Ford 2015).

The BRT noted that bocaccio have a propensity for greater adult movement than more benthic rockfish species, similar to the case for canary rockfish. The BRT considered that the lack of genetic differentiation between coastal and Puget Sound/Georgia Basin canary rockfish might suggest a similar lack of genetic differentiation for bocaccio because of similarities in the life history of the two species. Nevertheless, the BRT concluded that the new information was not sufficient to change the conclusions of the previous BRT documented in Drake *et al.*, (2010) or suggest a change in listing status (Ford 2015). This is consistent with the five-year review recommendation (NMFS 2016a) and is based upon best available scientific data and commercial information.

However, similarly to yelloweye rockfish, we proposed to update and amend the listing description of the bocaccio DPS to describe boundaries to include fish residing within the Puget Sound/Georgia Basin rather than fish originating from the Puget Sound/Georgia Basin.

In the five-year review, our analysis of the ESA section 4(a)(1) factors found that the collective risk to the persistence of the Puget Sound/Georgia Basin DPS of bocaccio has not changed significantly since our final listing determination in 2010 (75 FR 22276; April 28, 2010), and they remain listed as endangered (NMFS 2016a).

Peer Review and Public Comment

The scientific information considered by the BRT and summarized in our five-year review (NMFS 2016a) was peer reviewed and the proposed rule was subject to public comment. Following those reviews, there are no changes to the actions as proposed.

Summary of Comments

On July 6, 2016, we solicited comments during a 60-day public comment period from all interested parties including the public, other concerned governments and agencies, the scientific community, industry, and other interested parties on the proposed rule (81 FR 43979).

We received four public comments, and three peer reviews on the proposed rule. Summaries of the substantive comments received, and our responses, are provided below and organized by topic.

Comments on Sampling and Genetic Analysis

Two of the three peer reviewers had questions and observations about the genetic analyses for both canary rockfish and yelloweye rockfish provided in the five-year review. NOAA's Northwest Fisheries Science Center (NWFSC) reviewed the genetic and sampling questions and provided responses within a memorandum (Andrews and Nichols 2016). This memorandum also reported on additional genetic analysis of samples

collected in 2014 and 2015 that had not yet been analyzed and available in the five-year review (NMFS 2016a) or by the BRT (2015).

The results of the updated genetic analysis are consistent with and did not change the outcome of the genetic assessment presented to the Biological Review Team in November 2015 (Ford 2015) and in the five-year review (NMFS 2016a) that informed the proposed rule. The information from the new analysis (Andrews and Nichols 2016) is included in the responses below.

Comment 1: Two of the three scientific peer reviewers and two commenters agreed that canary rockfish sampled from the Puget Sound/Georgia Basin are not genetically differentiated from canary rockfish sampled outside of this area.

Response: We agree.

Comment 2: One peer reviewer did not agree that there was sufficient evidence to support our finding that canary rockfish are not genetically differentiated.

Response: We disagree with the peer reviewer based on the analysis provided in the five-year review (NMFS 2016a) and BRT report (Ford 2015) in addition to the supplemental analysis provided by Andrews and Nichols (2016) and elaborated in this final rule. The best available information provides strong evidence that canary rockfish sampled in the Puget Sound/Georgia Basin are not genetically differentiated from coastal canary rockfish.

Comment 3: Regarding the yelloweye rockfish and canary rockfish genetic analysis, one reviewer suggested that analytical methods conducted by the NWFSC (such as FST and STRUCTURE) should be described in our final rule.

Response: We agree. While additional information on these analyses was included

in documents supporting the proposed rule (81 FR 43979; July 6, 2016), we include clarifying information in this final rule as well (and as detailed in Andrews and Nichols 2016). The NWFSC conducted Principal Component Analysis (PCA), STRUCTURE, and F_{ST} analyses for yelloweye rockfish and canary rockfish, which are detailed in Andrews and Nichols (2016). These analyses for yelloweye rockfish support our findings that fish collected in the Puget Sound/Georgia Basin DPS are discrete from yelloweye rockfish collected on the outer coast. Similar analyses for canary rockfish support our findings that there is no discrete Puget Sound/Georgia Basin population (Andrews and Nichols 2016).

Comment 4: One peer reviewer questioned the relatively low proportion of overall variation explained by PCA one and PCA two described in our five-year review and the proposed rule.

Response: For yelloweye rockfish, the NWFSC used over 5,000 Restriction Site Associated DNA Sequencing loci in the analyses presented in the five-year review and over 7,000 loci in its final dataset (Andrews and Nichols 2016). There is a large amount of variation possible among this many loci leading to a relatively low proportion of the variance explained by the first two principal component scores.

Comment 5: One reviewer questioned how the number of samples collected and analyzed by the NWFSC affects the estimate of statistical power and the ability to detect genetic differentiation for yelloweye rockfish and canary rockfish

Response: The NWFS did not conduct power analyses. Andrews and Nichols (2016) state that “...the magnitude of the F_{ST} confidence intervals, and the upper bound of those confidence intervals provide compelling evidence that differentiation among the

sampled regions for canary rockfish is not significantly different from zero, and in many cases orders of magnitude lower than that observed for yelloweye rockfish.” This analysis bolsters the conclusion that canary rockfish are not genetically differentiated between the Puget Sound and the outer coast.

Comment 6: One peer reviewer suggested that we provide details about the PCA scores, and which loci loaded most prominently onto those principal components.

Response: The three analyses conducted by the NWFSC used this information to inform the integrative comparisons among individuals (PCA), population assignments (STRUCTURE) and statistical comparisons of F_{ST} values as documented in the five-year review and updated in Andrews and Nichols (2016). These integrative comparisons further support the evidence of genetic differentiation for yelloweye rockfish, and the lack thereof for canary rockfish.

Comment 7: One peer reviewer stated that our proposal to delist canary rockfish should have taken into account environmental and/or life history characteristics that would “produce” a seemingly genetically homogeneous population, and questioned whether it is logical that yelloweye constitute a DPS but canary do not.

Response: Our proposal to delist canary rockfish (81 FR 43979; July 6, 2016), in addition to the five-year review (NMFS 2016a), did discuss the known life-history characteristics of canary rockfish and yelloweye rockfish. Yelloweye rockfish have been found to have limited movements as adults (Hannah and Rankin 2011), while canary rockfish are known to move over large distances at both short and long time scales (DeMott 1983, Lea *et al.*, 1999, Love *et al.*, 2002, Hannah and Rankin 2011). This life-history characteristic suggests that there is limited probability of adult yelloweye from

Puget Sound/Georgia Basin reproducing with adults from the outer coast, and therefore providing the necessary conditions for genetic differentiation to develop over time. The relatively quick and long-range movements of some adult canary rockfish suggest the high potential for breeding among individuals throughout their range and thus leading to a panmictic population (Andrews and Nichols 2016).

A second relevant life-history trait supporting discreteness and identification of yelloweye rockfish as a DPS, in contrast to canary rockfish, is the timing of larval release. In waters off British Columbia, yelloweye rockfish release larvae from April to September with peaks in May and June. This timing of larval release could significantly affect the dispersal and/or retention of larval rockfish depending on the prevailing oceanographic currents and freshwater flows into and out of the Puget Sound/Georgia Basin (Andrews and Nichols 2016). Canary rockfish experience peak release of larvae from February to March (Love et. al. 2002) and thus this different release period may influence dispersal of larvae because of different oceanic and current conditions.

Comment 8: A peer reviewer asked if there was any information regarding where canary rockfish reproduction takes place, whether canary rockfish spawn in aggregates, and if they have philopatric tendencies (a behavior where individuals return to their birthplace to breed).

Response: We are not aware of information regarding where canary rockfish spawn on the Pacific coast or Puget Sound, but note that in locations where they are observed as gravid, it is logical that they release larvae nearby. Similarly, we are not aware of information regarding if canary rockfish mate or release larvae in aggregates.

Comment 9: One peer reviewer asked if our proposal to delist canary rockfish

accounted for the possibility that they were historically depleted in local waters, as documented in the 2010 Status Review (Drake *et al.*, 2010), and replaced by the immigration of canary rockfish from the Pacific coast.

Response: We do not have samples of canary rockfish from within the Puget Sound/Georgia Basin prior to their listing in 2010 - thus it is not possible to test the scenario hypothesized by the reviewer genetically. However, it is unlikely that the process of recruitment or immigration of individual canary rockfish to/from the Puget Sound/Georgia Basin would have changed as theorized by the peer reviewer (Andrews and Nichols 2016). If recruitment or immigration of canary rockfish from the outer coast to the Puget Sound/Georgia Basin occurs today, which the genetic analysis suggests (see Figs. 2b, 4c and 6 and Table 2 in Andrews and Nichols 2016), it was very likely happening historically. The historical overfishing of canary rockfish in Puget Sound/Georgia Basin would not have altered the process of adults or larval dispersal of canary rockfish from the Pacific Coast into Puget Sound. If larval/juvenile canary rockfish dispersal among the two regions occurred historically, it is unlikely that canary rockfish in Puget Sound/Georgia Basin would have been genetically differentiated and yet the sampling would have missed these fish (Andrews and Nichols 2016).

Comment 10: One peer reviewer asked how much genetic exchange is going on between the outer coast and the Puget Sound, and speculated that if canary rockfish are extirpated from the Puget Sound/Georgia Basin, that the population may not rebuild if there is limited movement of fish from the Pacific coast.

Response: The genetic analysis indicates that genetic exchange of canary rockfish in the Pacific coast and the Puget Sound/Georgia Basin occurs frequently enough to

develop one population across these areas (Andrews and Nichols 2016). For these reasons, it is unlikely that a hypothesized extirpation of canary rockfish within the Puget Sound/Georgia Basin would occur so long as there are canary rockfish outside of the Puget Sound/Georgia Basin that move amongst these areas.

Comment 11: One peer reviewer disagreed that genetic information for canary rockfish, as detailed in the five-year review (NMFS 2016a) and BRT memo (Ford 2015), indicate “strong” evidence that fish sampled from the Puget Sound/Georgia Basin are not discrete from coastal fish. The reviewer questioned this characterization because of sample size, sample integrity, and sample representativeness of canary rockfish collected in this research. In addition, the reviewer questioned the reliance on principal coordinate cluster plots to portray genetic similarity because of the potential for misinterpretation of the results. The reviewer questioned why STRUCTURE plots and analysis of molecular variance results were not provided in the five-year review and asked what the average magnitude of F_{ST} values for canary rockfish were compared to yelloweye rockfish.

Response: The STRUCTURE and F_{ST} information was included in supporting documents, and we agree that additional information would be useful to further explain the genetic data. Updated genetic analysis (based on an analysis of additional samples) and additional explanatory text are now documented in Andrews and Nichols (2016). The BRT considered not only the PCA, but also results from STRUCTURE and tests for pairwise population differentiation based on F_{ST} (Andrews and Nichols 2016). Those analyses were conducted on the number of samples outlined in the status review published in May 2016, but have since also been extended to additional samples with the same conclusions (see Andrews and Nichols 2016). All of these analyses show clear

evidence for population structure in yelloweye rockfish, but not in the canary rockfish samples.

Comment 12: One peer reviewer stated that a primary reason the yelloweye rockfish genetic analysis shows significant differentiation relative to canary rockfish is because we were able to collect samples of yelloweye rockfish samples in Canada and Hood Canal, in addition to the Central Puget Sound and from the Georgia Basin. The reviewer noted that the NWFSC was not able to collect canary rockfish samples from Canada (the Georgia Basin) and Hood Canal, and asked what the genetic analysis may have shown if samples could have been collected from these areas.

Response: We were unable to collect canary rockfish samples in Hood Canal. We also searched for existing canary rockfish samples by contacting the Department of Fisheries and Oceans Canada, but were not able to find any from Canadian waters. Based on the lack of genetic differentiation between more geographically disparate locations such as the Central Puget Sound (where the NWFSC was able to collect samples) and the outer Pacific Coast, we would not expect genetic differentiation of canary rockfish if samples from Canadian coastal or inland waters were included (Andrews and Nichols 2016).

As previously noted, canary rockfish have been documented to travel long distances, thus we would also not expect canary rockfish collected in Hood Canal to be genetically different even though there is a large sill at the entrance of Hood Canal (Drake *et al.*, 2010) that may restrict dispersal due to restricted water movement into and out of this water body (Andrews and Nichols 2016). As suggested by this reviewer, the NWFSC examined the results from the PCA analysis for yelloweye rockfish as if we did

not have the samples from Hood Canal and Canada (Fig. 7 in Andrews and Nichols 2016) and this analysis gives the same conclusion—that Puget Sound is significantly differentiated from the coastal collections in yelloweye rockfish.

This conclusion is also supported by other genetic analyses, including pairwise differentiation of collections from these more limited regions. Therefore it is likely that if there were significant genetic differentiation for canary rockfish, the NWFSC would have detected it from the samples in Puget Sound and the Pacific coast as for yelloweye rockfish sampled in these regions.

Comment 13: One peer reviewer stated that the absence of observed structure in the canary rockfish sample does not necessarily equate to the absence of structure in the population and questioned whether or not the sampled fish are actually representative of the population.

Response: There are two reasons we believe the sampled canary rockfish are representative of the population. First, the sampling design consisted of 74 days of fishing across four regions of the DPS (South Puget Sound, Central Puget Sound, Hood Canal and the San Juan Islands) and one region outside the DPS (Strait of Juan de Fuca including locations near Neah Bay and Sekiu, WA). The sampling locations within these regions were derived from the knowledge of recreational charter boat captains, recent and past Remotely Operated Vehicle (ROV) surveys, and historical recreational catch information to target habitats where canary rockfish had been observed. This information and the number of sampling days provided ample effort to target canary rockfish in each of these regions, and we indeed collected canary rockfish from three of these five regions, including 50 from within the DPS (47 of these samples had sufficient readings during

sequencing to be used in subsequent analyses) (Andrews and Nichols 2016). Second, the genetic sequencing methods used by the NWFSC allowed for detailed examination of the genome of each individual fish - increasing the power of these analyses to detect differences between individuals and differences among regions as compared to traditional analyses (Andrews and Nichols 2016).

Comment 14: One peer reviewer suggested we collect larval canary rockfish for additional genetic analysis.

Response: Given the strength of the genetic analysis we do not believe that additional samples from larval rockfish (or any other life-stage of canary rockfish) are needed to clarify the lack of structure of canary rockfish sampled within the Puget Sound/Georgia Basin and the Pacific coast. The samples collected from canary rockfish provide ample sample size to support the overall conclusion regarding the lack of genetic differentiation discussed in the five-year review and the proposal to delist canary rockfish (81 FR 43979; July 6, 2016), Ford (2015) and Andrews and Nichols (2016).

Comment 15: One peer reviewer questioned whether our genetic analysis and proposal to delist canary rockfish was potentially influenced by potential misidentification of canary rockfish and yelloweye rockfish, including misidentification by scuba-divers. The reviewer was concerned that canary rockfish used in the genetics samples may have actually been yelloweye rockfish, (and vice versa).

Response: All fish sampled in the genetic study were collected by professional fishing charter guides, biologists with NOAA Fisheries and the Washington State Department of Fish and Wildlife, thus we are confident that all canary rockfish and yelloweye rockfish sampled were identified to species correctly. The peer reviewer is

correct, however, that yelloweye rockfish and canary rockfish look similar and the identification of rockfish to species can be difficult (Sawchuk *et al.*, 2015). If such an incorrect species labeling were to occur within the genetic analysis, the analysis itself would have indicated this.

Comments on Species Status and Protections

Comment 16: Two peer reviewers observed that available information indicates that the number of canary rockfish individuals in the Puget Sound/Georgia Basin is relatively small. One reviewer acknowledged that canary rockfish in the Puget Sound/Georgia Basin do not appear to be a DPS, but expressed concern that fish in this area may nonetheless become extirpated. Another reviewer stated our decision to propose delisting should have been more precautionary because of the "...dearth of information for canary rockfish and scarcity of available data" regarding their abundance. Similarly, in the five-year review we noted that six canary rockfish were observed during recent ROV surveys, and one peer reviewer asked in how many years of surveys these six fish were observed.

Response: We agree that there is little data regarding canary rockfish abundance in the Puget Sound/Georgia Basin, as described in our five-year review, and that it appears that canary rockfish in this area declined significantly in the latter half of the 20th century (as described in Drake *et al.*, 2010). However, the determination to delist canary rockfish is based not on abundance information, but rather on determining if canary rockfish in the Puget Sound/Georgia Basin meet the criteria of a DPS (61 FR 4722; February 7, 1996), which allows them to be listed under the ESA.

Though we are not required to implement a post-delisting monitoring plan for canary rockfish, there are research projects underway that will help us understand the numbers and distribution of rockfish in the Puget Sound, including canary rockfish. We have contracted with the Washington State Department of Wildlife to conduct an ROV survey within the Puget Sound. This two-year survey will be completed in early 2017 and data analysis and report writing will likely take a year or two after the completion date. This research will eventually provide additional data about rockfish abundance and distribution. In our five-year review we reported that this ROV survey had documented six canary rockfish; most of these fish were documented in the first year of the survey (2015) because the data from the second year of the survey is not yet fully available. In addition to the ROV survey, we have begun to seek information on where recreational divers observe juvenile yelloweye rockfish, canary rockfish and bocaccio. Similarly, the NWFSC is developing a young-of-the-year rockfish monitoring plan for the Puget Sound. As this monitoring plan is implemented we will gather additional information regarding the abundance and recruitment of rockfish, including canary rockfish.

Comment 17: One peer reviewer stated that the declaration of the canary rockfish stock as “rebuilt” under the Magnuson-Stevens Act, as documented in Thorson and Wetzel (2015) and NMFS (2016b), was a “major consideration for the recommendation to delist” the Puget Sound/Georgia Basin DPS.

Response: The reviewer is incorrect. Our removal of canary rockfish of the Puget Sound/Georgia Basin from the Federal List of Threatened and Endangered Species is based on the best available science and commercial information. In accordance with the DPS Policy (61 FR 4722; February 7, 1996), we have determined that the canary rockfish

of the Puget Sound/Georgia Basin do not meet the criteria to be considered a DPS based on genetic information documented in the five-year review (NMFS 2016a), Ford (2015) and Andrews and Nichols (2016).

Comment 18: One peer reviewer stated that information in the five-year review indicated that canary rockfish are rare in Puget Sound, and questioned how they could be declared “rebuilt” under the authority of the Magnuson-Stevens Act.

Response: The peer reviewers were not tasked with evaluating the previous agency decision to declare canary rockfish of the Pacific coast as “rebuilt” subject to the criteria defined in the Magnuson-Stevens Act. Federal canary rockfish stock assessments performed pursuant to the Magnuson-Stevens Act do not include data regarding canary rockfish in Puget Sound waters within the Puget Sound/Georgia Basin. Rather the 2015 canary rockfish stock assessment under the Magnuson-Stevens Act was conducted with data collected along the Pacific coast (outside of the Puget Sound/Georgia Basin).

Comment 19: One peer reviewer asked how canary rockfish in the Puget Sound/Georgia Basin are going to be protected if they are removed from the ESA.

Response: Since the listing of yelloweye rockfish, canary rockfish and bocaccio in 2010, WDFW has changed fisheries regulations for several non-tribal commercial fisheries in Puget Sound in order to protect rockfish populations. The WDFW closed the active set net, set line, and bottom trawl fisheries, and the inactive pelagic trawl and bottomfish pot fishery. As a precautionary measure, WDFW closed the above commercial fisheries westward of the ESA-listed rockfish DPSs’ boundary to Cape Flattery. WDFW extended the closure west of the rockfish DPSs’ boundary to prevent applicable commercial fishers from concentrating gear in that area. The WDFW also

implemented a rule that recreational anglers targeting bottomfish not fish deeper than 120 feet. These fisheries regulations are unlikely to change, and will benefit canary rockfish and nearly all rockfish species within the Puget Sound.

On August 16, 2016, we released a Draft Recovery Plan for yelloweye rockfish and bocaccio (listed rockfish) of the Puget Sound/Georgia Basin (81 FR 54556). The Draft Recovery Plan identifies approximately 45 research and recovery actions for listed rockfish, and though these actions are not specifically designed for canary rockfish, they would nonetheless benefit from Plan implementation because of the similarity of habitats occupied for each species.

We expect the Plan to inform section 7 consultations with Federal agencies under the ESA and to support other ESA decisions, such as considering permits under section 10. Mitigation incorporated into section 7 and section 10 actions to reduce impacts on listed rockfish will also likely reduce impacts to canary and other rockfish species. We have already begun implementation of several actions as described in the Plan, such as partnering with the WDFW to conduct ROV surveys to assess listed rockfish abundance, distribution, and habitat use.

After the adoption of the Final Recovery Plan, we will continue to implement actions for which we have authority, work cooperatively on implementation of other actions, and encourage other Federal and state agencies to implement recovery actions for which they have responsibility and authority. Collectively, the management of fisheries, section 7 and 10 actions, and implementation of the listed-rockfish Recovery Plan will also benefit many species of non-listed rockfish of the Puget Sound/Georgia Basin, including canary rockfish.

Summary of Changes from the Proposed Listing Rule

We reviewed the best available scientific and commercial information, including the information in the peer reviews of the proposed rule (81 FR 43979; July 6, 2016), public comments, and information and analysis (Andrews and Nichols 2016) that have become available since the publication of the proposed rule. Based on this information, we have made no changes in this final rule.

Final DPS and Status Determinations

As proposed on July 6, 2016 (81 FR 43979), in this final rule we: 1) correct the previous description of the northern boundary of the threatened Puget Sound/Georgia Basin yelloweye rockfish DPS to include an area farther north of the Johnstone Strait in Canada. We also update and amend the description of the DPS as fish residing within certain boundaries (including this geographic area farther north in the Strait of Georgia waters in Canada); 2) we remove Puget Sound/Georgia Basin canary rockfish DPS from the Federal List of Threatened and Endangered Species and their critical habitat, and; 3) similar to yelloweye rockfish, we update and amend the listing description of the bocaccio DPS to describe boundaries to include fish residing within the Puget Sound/Georgia Basin rather than fish originating from the Puget Sound/Georgia Basin.

Effects of the New Determinations

Based on the new information and the BRT's determination, and consideration of public and peer review comments, we are removing canary rockfish of the Puget Sound/Georgia Basin from the Federal List of Threatened and Endangered Species. The Puget Sound/Georgia Basin yelloweye rockfish DPS shall remain threatened under the ESA, and the Puget Sound/Georgia Basin bocaccio DPS shall remain endangered.

We are also removing designated critical habitat for canary rockfish. The critical habitat designation for the Puget Sound/Georgia Basin yelloweye rockfish and bocaccio DPSs remain in place. The area removed as designated critical habitat for canary rockfish will continue to be designated critical habitat for bocaccio and, thus, there will be no change to the spatial area that was originally designated. Maps of critical habitat can be found on our website at <http://www.westcoast.fisheries.noaa.gov> and in the final critical habitat rule (79 FR 68041; November 13, 2014).

Additionally, we correct the listing description of the yelloweye rockfish DPS to define geographical boundaries including an area farther north of the Johnstone Strait in Canada (Figure 1). This boundary would not have an effect on critical habitat, because we do not designate critical habitat outside U.S. territory.

Revised Change to Yelloweye Rockfish DPS Area

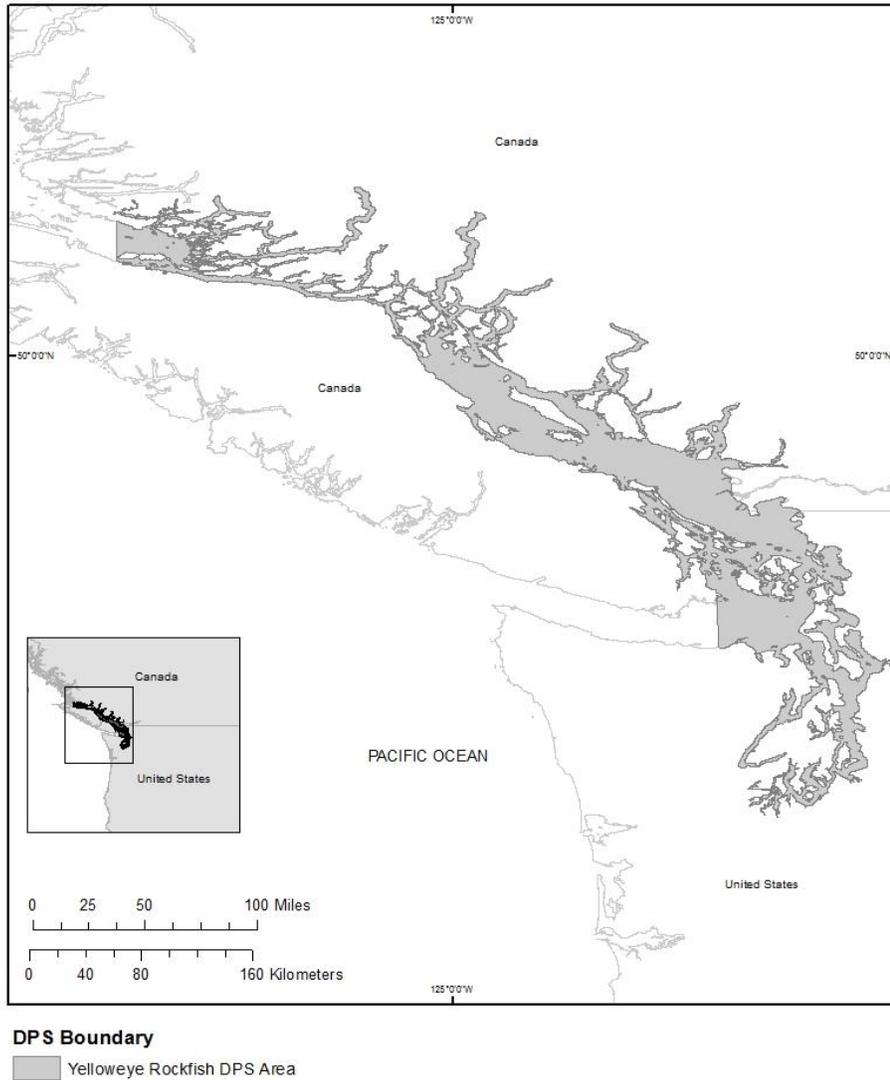


FIGURE 1. Updated Yelloweye Rockfish DPS Area, which extends farther north into Canada.

With the Puget Sound/Georgia Basin canary rockfish DPS delisting, the requirements under section 7 of the ESA no longer apply. Federal agencies are relieved of the need to consult with us on their actions that may affect Puget Sound/Georgia Basin canary rockfish and their designated critical habitat and to insure that any action

they authorize, fund, or carry out is not likely to jeopardize the continued existence of canary rockfish or adversely modify their critical habitat. ESA section 7 consultation requirements remain in place for the Puget Sound/Georgia Basin yelloweye rockfish and bocaccio DPSs. Recovery planning efforts will continue for these listed DPSs and a Draft Recovery Plan was released on August 16, 2016 (81 FR 54556).

References Cited

The complete citations for the references used in this document can be obtained by contacting NMFS (See **ADDRESSES** and **FOR FURTHER INFORMATION CONTACT**) or on our web page at: *<http://www.westcoast.fisheries.noaa.gov>*.

Information Quality Act and Peer Review

In December 2004, OMB issued a Final Information Quality Bulletin for Peer Review pursuant to the Information Quality Act. 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. Peer review under the OMB Peer Review Bulletin ensures that our listing determinations are based on the best available scientific and commercial information. To satisfy our requirements under the OMB Bulletin, we obtained independent peer review of the proposed rule and underlying scientific information by three independent scientists with expertise in rockfish biology and/or genetics. All peer review comments were addressed in this final rule (see the Summary of Comments heading in this preamble).

Classification

National Environmental Policy Act (NEPA)

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

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

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

Executive Order 13122, Federalism

In accordance with E.O. 13132, we determined that this final rule does not have significant federalism effects and that a federalism assessment is not required. In keeping with the intent of the Administration and Congress to provide continuing and meaningful dialogue on issues of mutual state and Federal interest, this final rule will be shared with the relevant state agencies in Washington state.

Executive Order 13175, Consultation and Coordination with Indian Tribal Governments

The longstanding and distinctive relationship between the Federal and tribal governments is defined by treaties, statutes, executive orders, judicial decisions, and co-management agreements, which differentiate tribal governments from the other

entities that deal with, or are affected by, the Federal government. This relationship has given rise to a special Federal trust responsibility involving the legal responsibilities and obligations of the United States toward Indian Tribes. E.O. 13175—Consultation and Coordination with Indian Tribal Governments—outlines the responsibilities of the Federal Government in matters affecting tribal interests.

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

List of Subjects

50 CFR Part 223

Endangered and threatened species, Exports, Imports, Transportation

50 CFR Part 224

Endangered and threatened species.

50 CFR Part 226

Designated Critical Habitat

Dated: January 9, 2017.

Samuel D Rauch, III,

Deputy Assistant Administrator for Regulatory Programs,

National Marine Fisheries Service.

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

PART 223—THREATENED MARINE AND ANADROMOUS SPECIES

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

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

2. In § 223.102, in the table in paragraph (e), under the subheading “Fishes,” remove the entry for “Rockfish, canary (Puget Sound/Georgia Basin DPS)”;
and revise the table entries for “Rockfish, yelloweye (Puget Sound/Georgia Basin DPS).”

The revision reads as follows:

§ 223.102 Enumeration of threatened marine and anadromous species.

* * * * *

(e) * * *

Species ¹					
Common name	Scientific name	Description of listed entity	Citation(s) for listing determination(s)	Critical habitat	ESA rules
Fishes					
* * * * *					

Rockfish, yelloweye (Puget Sound/Georgia Basin DPS)	<i>Sebastes ruberrimus</i>	Yelloweye rockfish residing within the Puget Sound/Georgia Basin, inclusive of the Queen Charlotte Channel to Malcom Island, in a straight line between the western shores of Numas and Malcom Islands - N 50 50'46", W 127 5'55" and N 50 36'49", W 127 10'17". The Western Boundary of the U.S. side in the Strait of Juan de Fuca is N 48 7'16", W 123 17'15" in a straight line to the Canadian side at N 48 24'40", W 123 17'38".	75 FR 22276, Apr 28, 2010	226.224	NA

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

PART 224—ENDANGERED MARINE AND ANADROMOUS SPECIES.

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

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

4. In § 224.101, paragraph (h), under the subheading “Fishes,” revise the table entry for “Bocaccio (Puget Sound/Georgia Basin DPS)” to read as follows:

§ 224.101 Enumeration of endangered marine and anadromous species.

(h) ***

Species ¹					
Common name	Scientific name	Description of listed entity	Citation(s) for listing determination(s)	Critical habitat	ESA rules
Fishes					

Bocaccio (Puget Sound/Georgia Basin DPS)	<i>Sebastes paucispinis</i>	Bocaccio residing within the Puget Sound/Georgia Basin to the Northern Boundary of the Northern Strait of Georgia along the southern contours of Quadra Island, Maurelle Island and Sonora Island, all of Bute Inlet. The Western Boundary of the U.S. side in the Strait of Juan de Fuca is N 48 7'16", W123 17'15" in a straight line to the Canadian side at N 48 24'40", 123 17'38".	75 FR 22276, Apr 28, 2010	226.224	NA

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

PART 226—DESIGNATED CRITICAL HABITAT

The authority citation for Part 226 continues to read as follows:

Authority: 16 U.S.C. 1533.

5. In § 226.224:

- a. Revise the section heading;
- b. Remove the entry for canary rockfish in the table in paragraphs (a); and

c. Revise paragraphs (b), (c), and (d).

The revisions read as follows:

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

* * * * *

(b) *Critical habitat boundaries.* In delineating nearshore (shallower than 30 m (98 ft)) areas in Puget Sound, we define critical habitat for 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 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 in this section.

(c) *Essential features for juvenile bocaccio.* (1) 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 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:

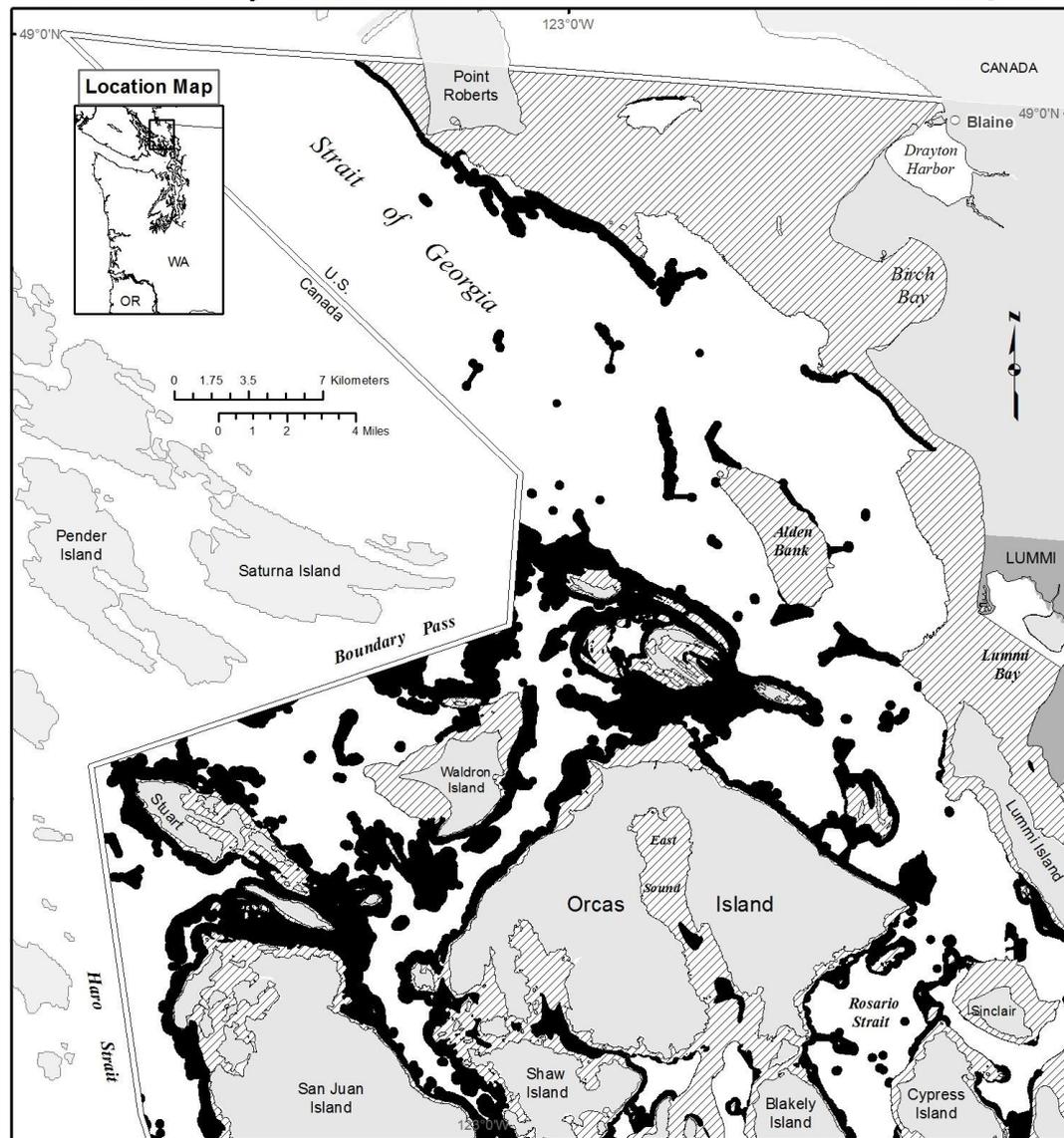
(1) Quantity, quality, and availability of prey species to support individual growth, survival, reproduction, and feeding opportunities;

(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.

Final Critical Habitat (CH) for the Bocaccio and Yelloweye Rockfish DPSS

Strait of Georgia Area

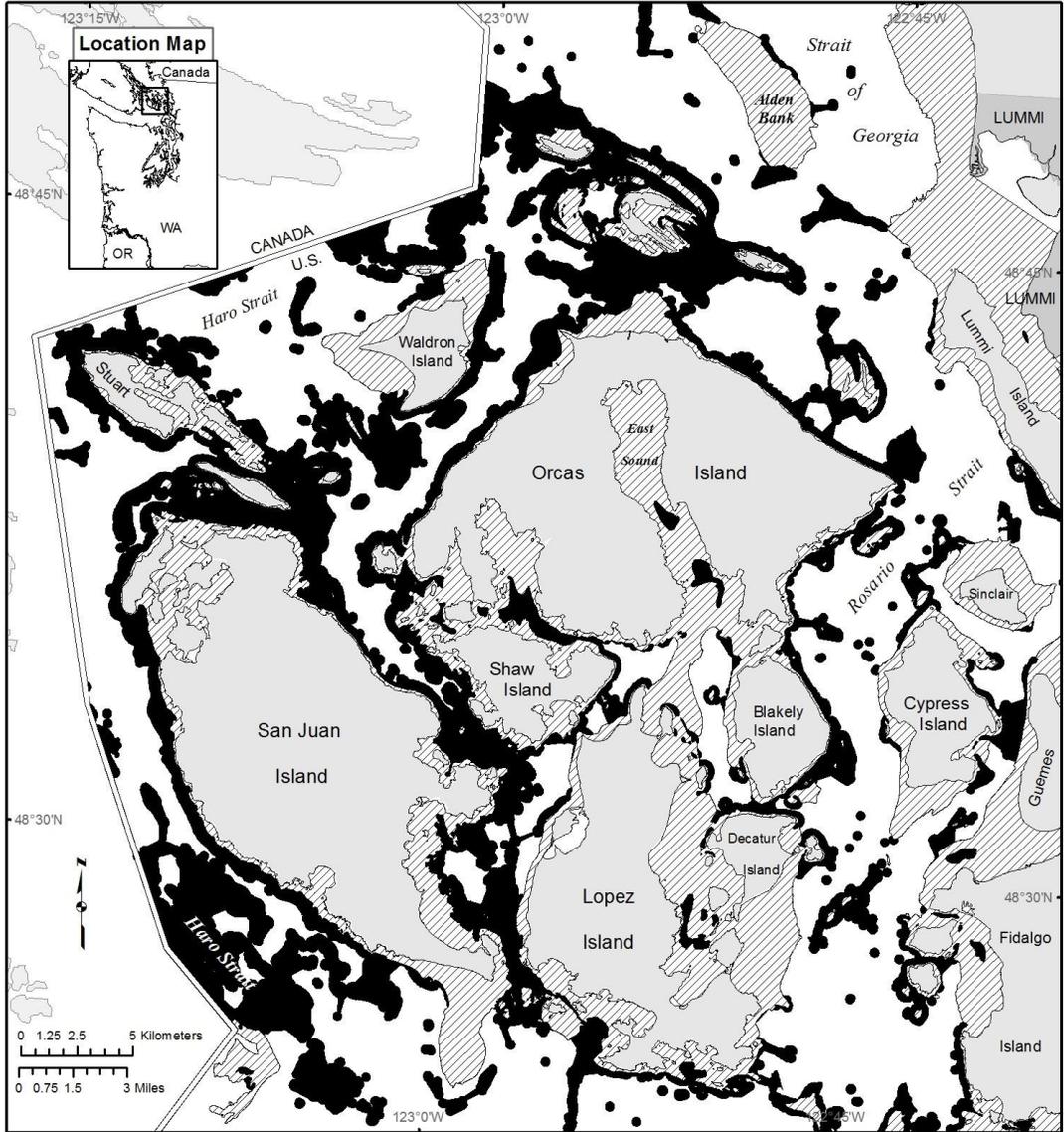


	Shoreline
	Final Deepwater CH (Bocaccio and Yelloweye Rockfish)
	Final Nearshore CH (Bocaccio)
	American Indian Reservation

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 and Yelloweye Rockfish DPSs

San Juan Islands Area

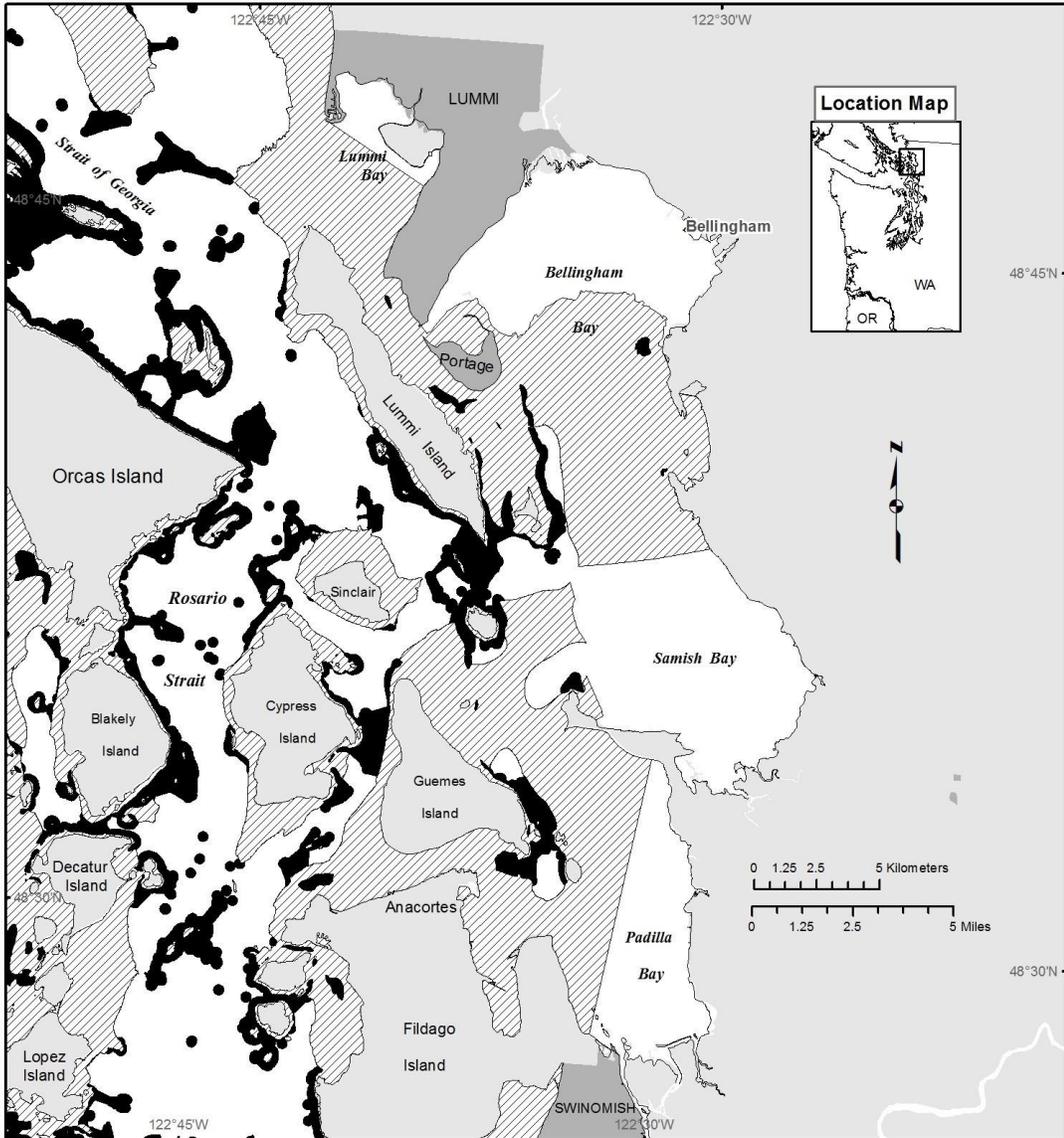


Shoreline
 U.S. / Canadian Boundary
 American Indian Reservation
 Final Nearshore CH (Bocaccio)
 Final Deepwater CH (Bocaccio and Yelloweye Rockfish)

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 and Yelloweye Rockfish DPSs

Bellingham and Samish Bay Area

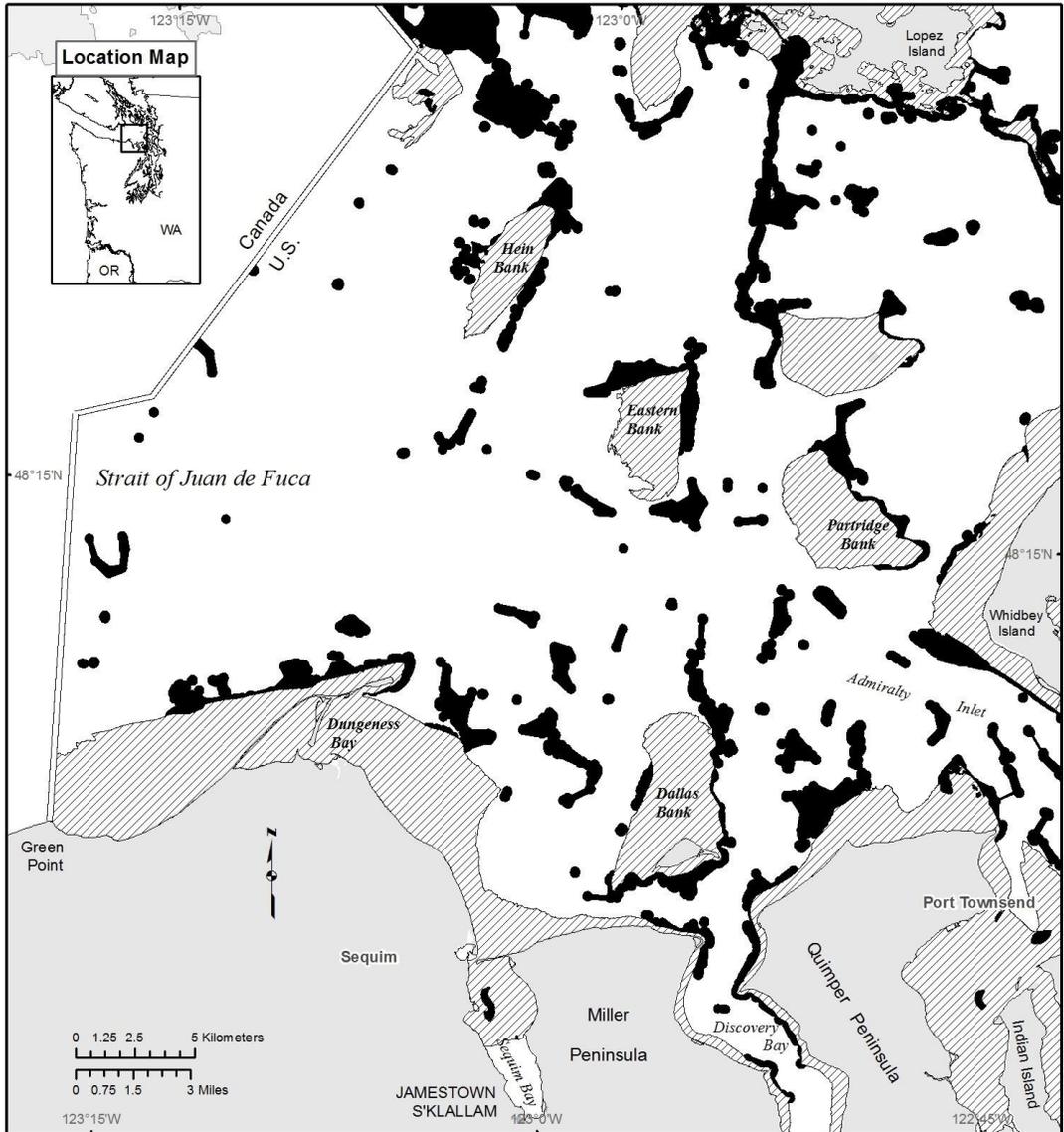


Shoreline
 American Indian Reservation
 Final Deepwater CH (Bocaccio and Yelloweye Rockfish)
 Final Nearshore CH (Bocaccio)

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 and Yelloweye Rockfish DPSs

Juan de Fuca Basin Area

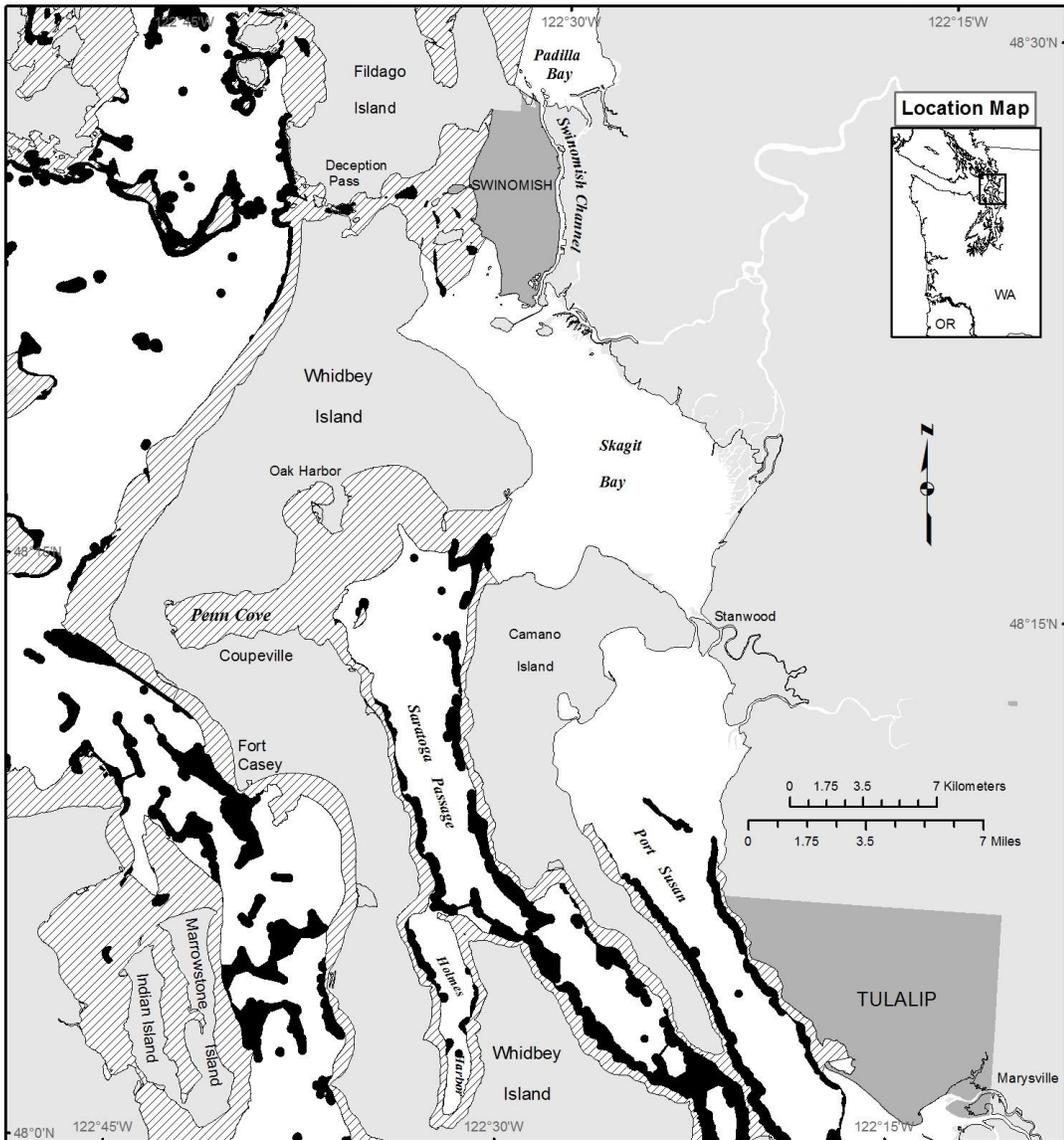


Shoreline
U.S. / Canadian Boundary
American Indian Reservation
Final Nearshore CH (Bocaccio)
Final Deepwater CH (Bocaccio and Yelloweye Rockfish)

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 and Yelloweye Rockfish DPSS**

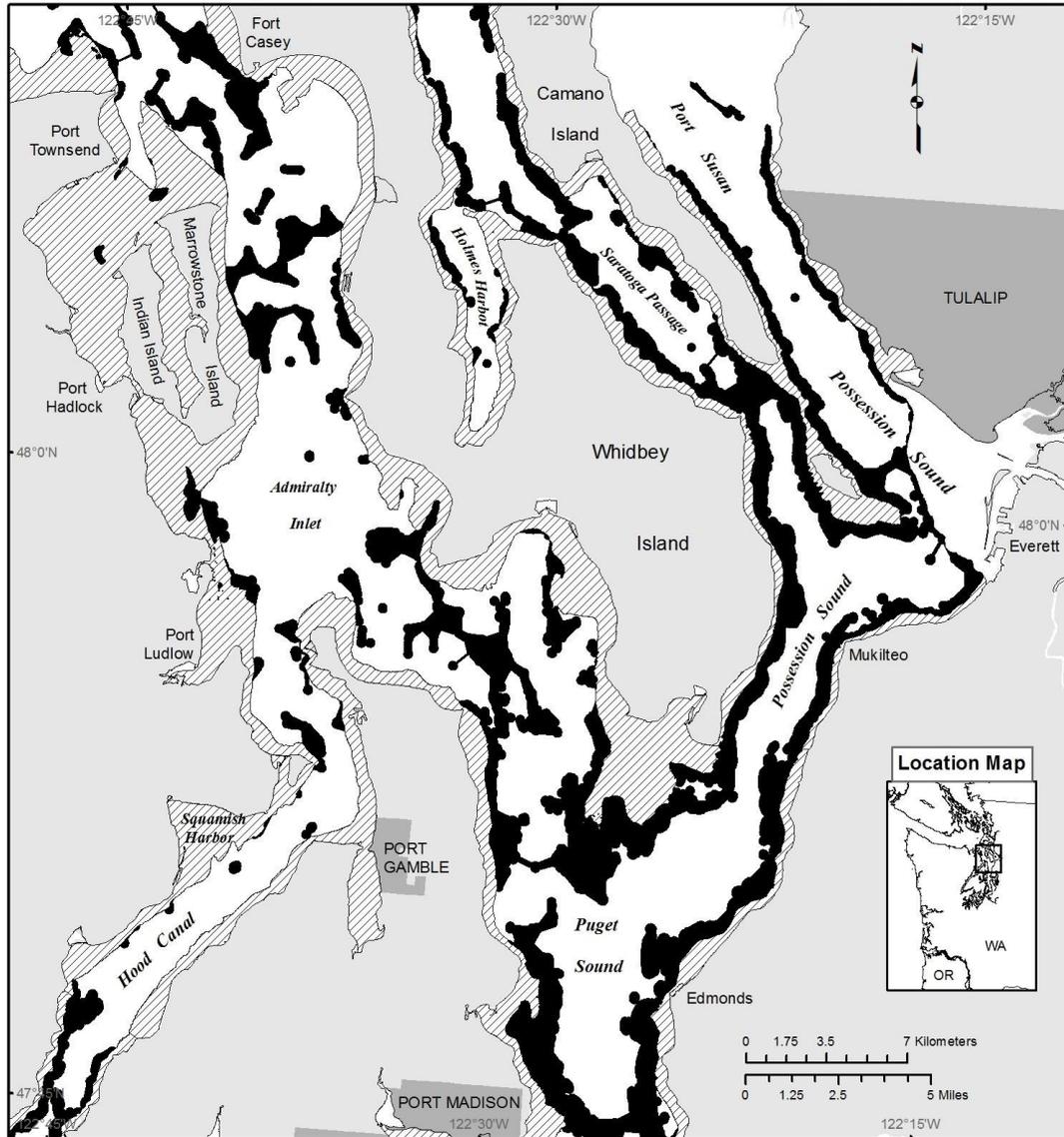
North Whidbey Area



Shoreline
 American Indian Reservation
 Final Nearshore CH (Bocaccio)
 Final Deepwater CH (Bocaccio 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 and Yelloweye Rockfish DPSs **North Central Puget Sound Area**

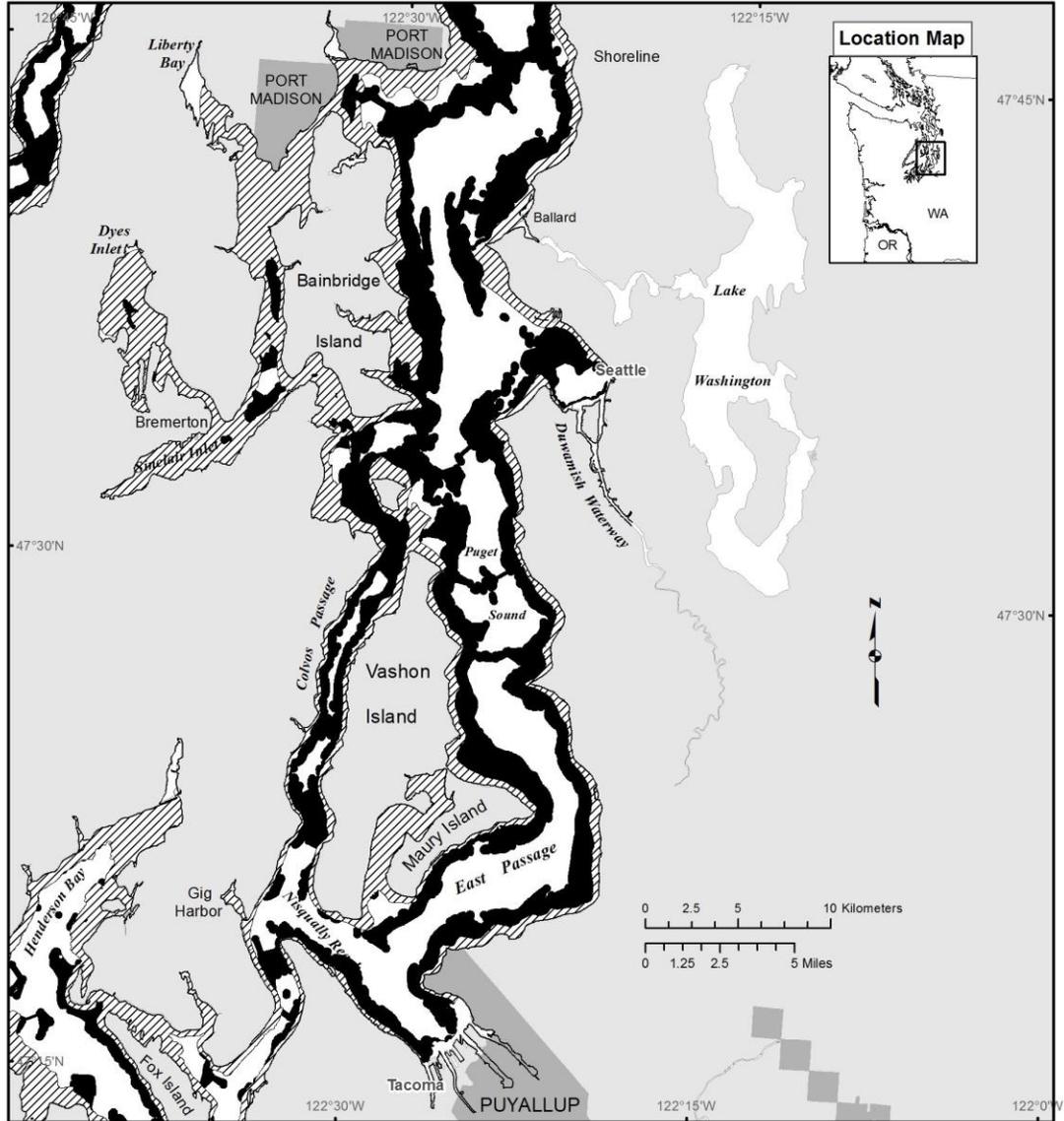


- Shoreline
- American Indian Reservation
- Final Nearshore CH (Bocaccio)
- Final Deepwater CH (Bocaccio and Yelloweye Rockfish)

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 and Yelloweye Rockfish DPSs**

South Central Puget Sound Area

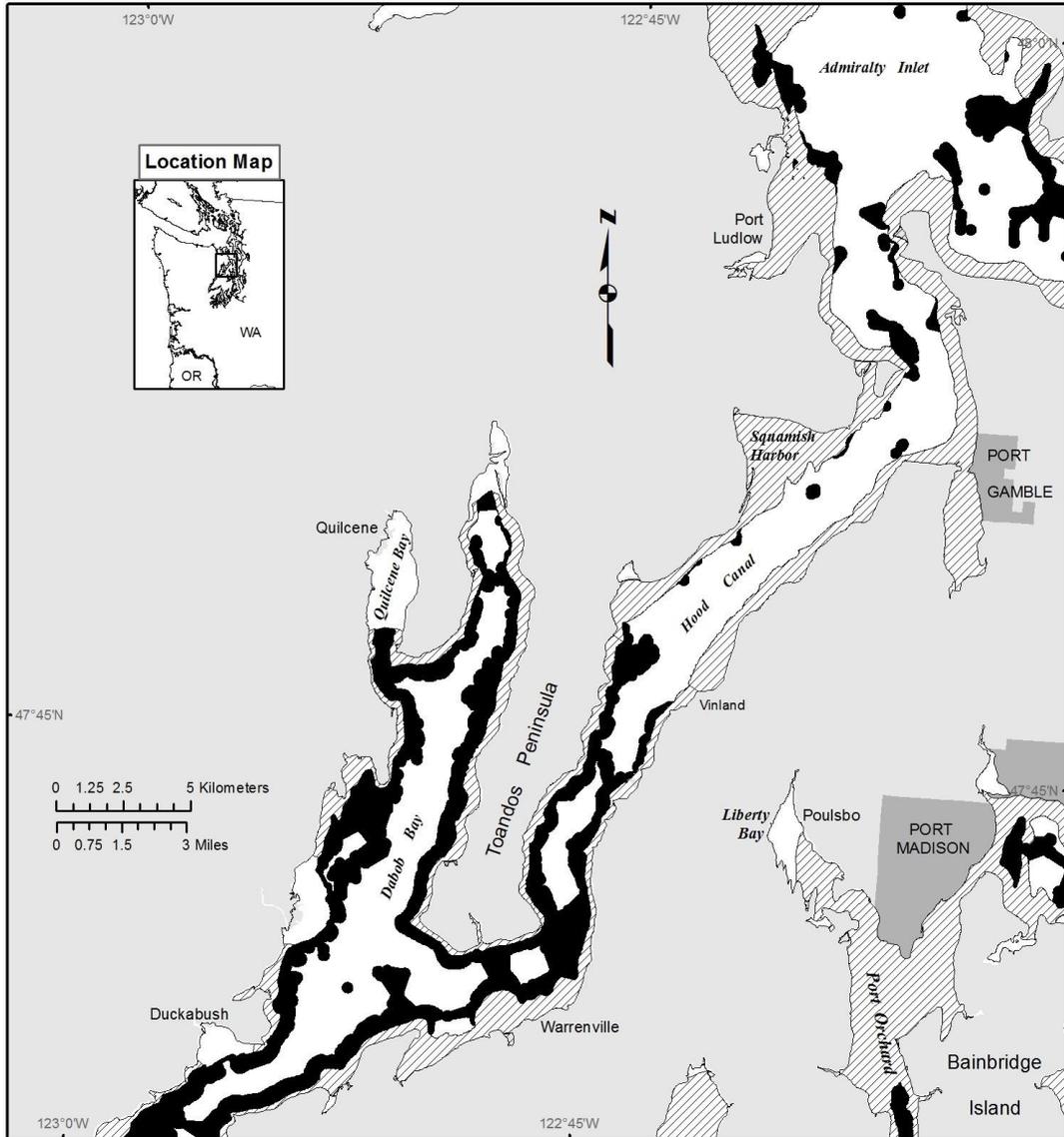


- Shoreline
- American Indian Reservation
- Final Nearshore CH (Bocaccio)
- Final Deepwater CH (Bocaccio and Yelloweye Rockfish)

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 and Yelloweye Rockfish DPSS

North Hood Canal Area

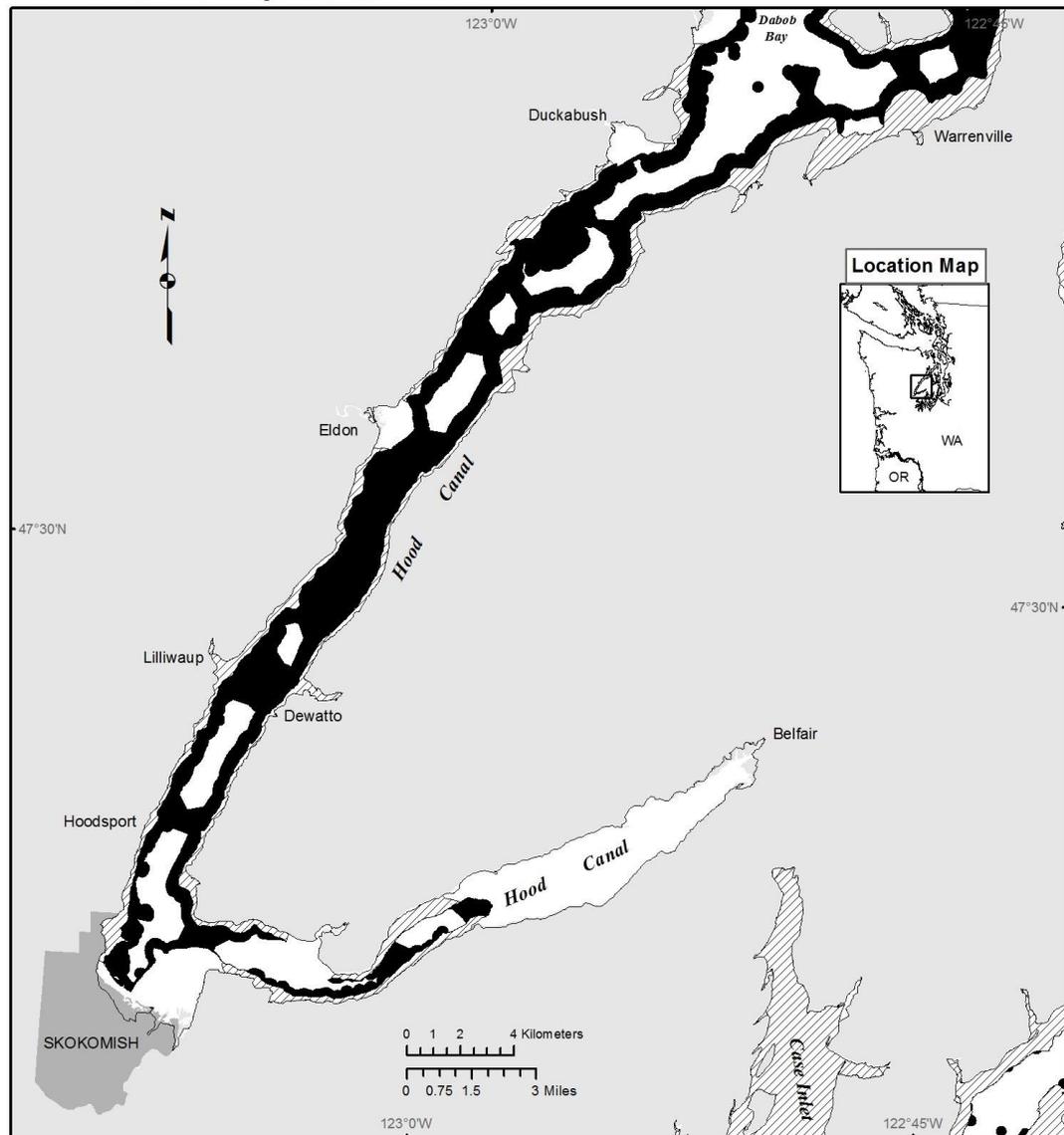


- ~ Shoreline
- American Indian Reservation
- ▨ Final Nearshore CH (Bocaccio)
- Final Deepwater CH (Bocaccio and Yelloweye Rockfish)

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.

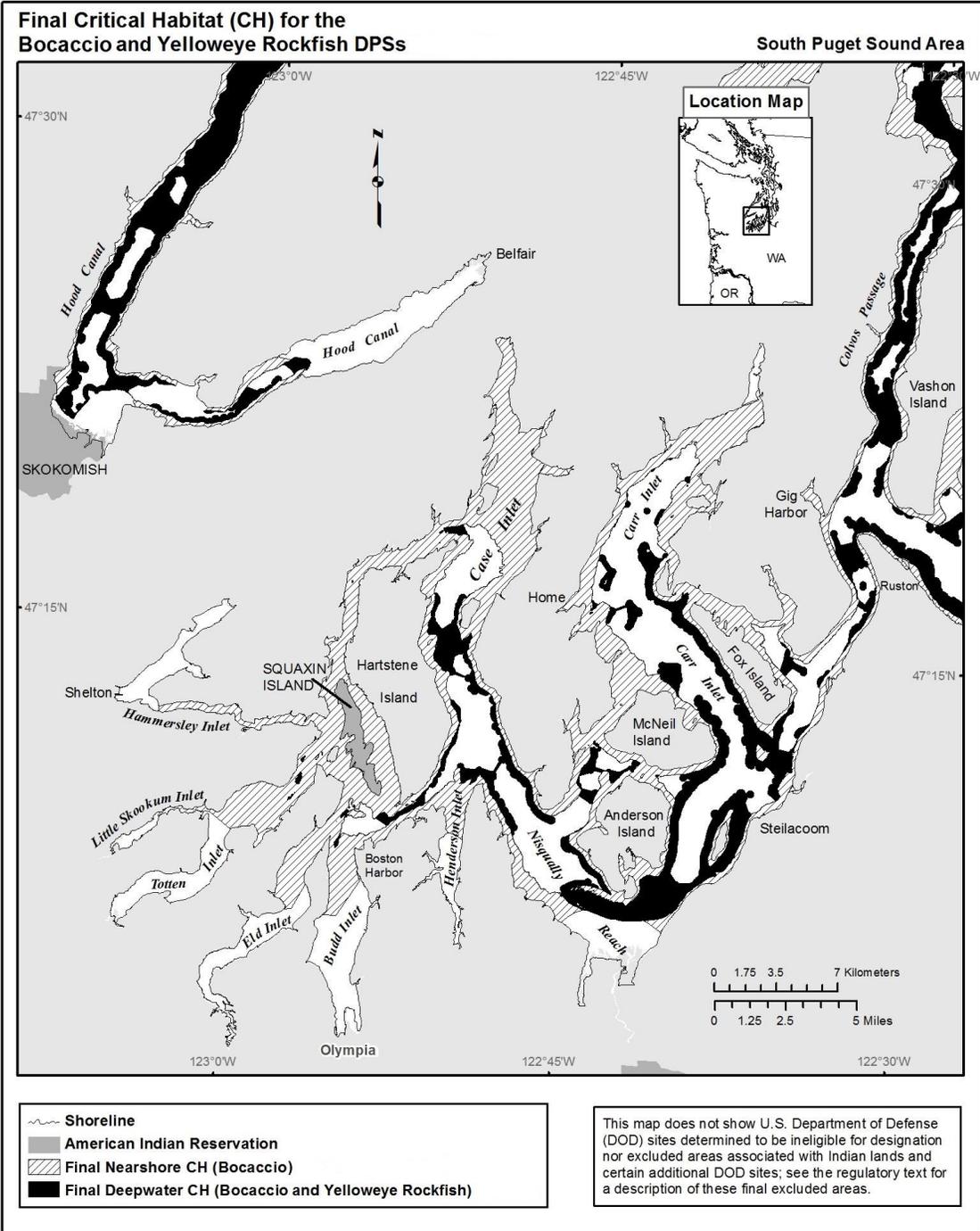
Final Critical Habitat (CH) for the Bocaccio and Yelloweye Rockfish DPSS

South Hood Canal Area



~~~~~ Shoreline  
 ■ American Indian Reservation  
 ▨ Final Nearshore CH (Bocaccio)  
 ■ Final Deepwater CH (Bocaccio 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. 2017-00559 Filed: 1/19/2017 8:45 am; Publication Date: 1/23/2017]