

# Reclassifying Other Rockfish and Demersal Shelf Rockfish Species Groupings

September 29 2022<sup>1</sup>

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## 1 Introduction

In October 2021, the Council supported the SSC's recommendation to move to Step 2 of the Spatial Management Policy (SMP, see Section 1.1) for consideration of separating Gulf of Alaska (GOA) demersal shelf rockfish (DSR) from the Other Rockfish (OR) complex GOA-wide. Step 2 of the Policy calls for staff to identify the economic, social, and management implications of spatial management, potential options for management response to these findings, and the suite of tools that could be used to achieve conservation and management goals. The Council directed staff to prepare an update of [the 2017 discussion paper](#) on this topic to inform this process. This paper contains updated data and information from appropriate agencies to inform the Council of the implications of separating DSR from the OR complex in the GOA.

The OR and DSR assessments have seven species which overlap between the two assessments, known as the DSR sub-group: canary, China, copper, quillback, rosethorn, tiger and yelloweye rockfish. These species are assessed within the DSR assessment in NMFS area 650 (a.k.a. East Yakutat/Southeast), but within the OR assessment in all other areas (Figure 1). The SSC has expressed concerns regarding the appropriateness of the current management grouping for the DSR species. The authors of both assessments and the GOA Groundfish Plan Team have previously recommended moving the DSR sub-group from the OR assessment (in all areas west of EY/SEO) to the DSR assessment, creating an expanded GOA-wide DSR assessment.

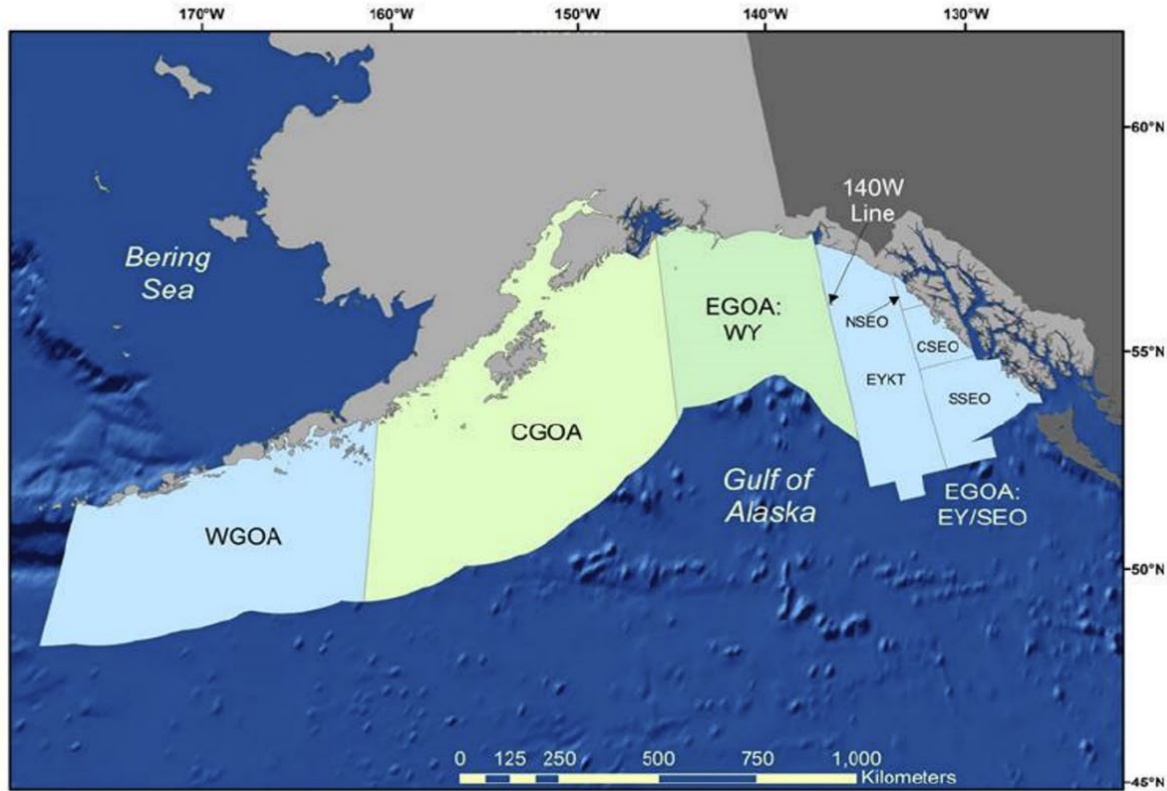
Since 2017,<sup>2</sup> the SSC has supported these recommendations for the Council to move forward with Step 2 of the SMP for this complex (see Section 2). In 2017, the SSC recommended using what was then known as Alternative 3a: Using Tier 6 methods for the six non-yelloweye rockfish DSR species GOA-wide. In EY/SEO, the Tier 4 approach currently used for yelloweye rockfish would be maintained, but Tier 6 methods would be used for yelloweye rockfish in all other regions. The complex ABC/OFLs would be the sum of the individual species estimates by region.

See Section 2 for a summary and timeline of relevant discussion and documents from 2015-2021.

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<sup>2</sup> SSC Report, October 2017



| WGOA & CGOA           | Other Rockfish        |                       | Demersal Shelf Rockfish |
|-----------------------|-----------------------|-----------------------|-------------------------|
|                       | EGOA:WY               | EGOA:EY/SEO           | EGOA:EY/SEO             |
| Blackgill Rockfish    | Blackgill Rockfish    | Blackgill Rockfish    |                         |
| Bocaccio              | Bocaccio              | Bocaccio              |                         |
| Canary Rockfish       | Canary Rockfish       |                       | Canary Rockfish         |
| Chilipepper Rockfish  | Chilipepper Rockfish  | Chilipepper Rockfish  |                         |
| China Rockfish        | China Rockfish        |                       | China Rockfish          |
| Copper Rockfish       | Copper Rockfish       |                       | Copper Rockfish         |
| Darkblotched Rockfish | Darkblotched Rockfish | Darkblotched Rockfish |                         |
| Greenstriped Rockfish | Greenstriped Rockfish | Greenstriped Rockfish |                         |
| Harlequin Rockfish    | Harlequin Rockfish    | Harlequin Rockfish    |                         |
|                       | Northern Rockfish     | Northern Rockfish     |                         |
| Pygmy Rockfish        | Pygmy Rockfish        | Pygmy Rockfish        |                         |
| Quillback Rockfish    | Quillback Rockfish    |                       | Quillback Rockfish      |
| Redbanded Rockfish    | Redbanded Rockfish    | Redbanded Rockfish    |                         |
| Redstripe Rockfish    | Redstripe Rockfish    | Redstripe Rockfish    |                         |
| Rosethorn Rockfish    | Rosethorn Rockfish    |                       | Rosethorn Rockfish      |
| Sharpchin Rockfish    | Sharpchin Rockfish    | Sharpchin Rockfish    |                         |
| Silvergray Rockfish   | Silvergray Rockfish   | Silvergray Rockfish   |                         |
| Splitnose Rockfish    | Splitnose Rockfish    | Splitnose Rockfish    |                         |
| Stripetail Rockfish   | Stripetail Rockfish   | Stripetail Rockfish   |                         |
| Tiger Rockfish        | Tiger Rockfish        |                       | Tiger Rockfish          |
| Vermilion Rockfish    | Vermilion Rockfish    | Vermilion Rockfish    |                         |
| Widow Rockfish        | Widow Rockfish        | Widow Rockfish        |                         |
| Yelloweye Rockfish    | Yelloweye Rockfish    |                       | Yelloweye Rockfish      |
| Yellowmouth Rockfish  | Yellowmouth Rockfish  | Yellowmouth Rockfish  |                         |
| Yellowtail Rockfish   | Yellowtail Rockfish   | Yellowtail Rockfish   |                         |

**Figure 1** Map of the Gulf of Alaska (GOA) management areas: Western (WGOA), Central (CGOA) and Eastern (EGOA) with the species of the Other Rockfish (OR) and Demersal Shelf Rockfish (DSR) included for each area. The EGOA is subdivided into the West Yakutat (WY) and East Yakutat/Southeast Outside (EY/SEO) areas. The EY/SEO is subdivided for the DSR complex into East Yakutat (EYKT), Northern, Central and Southern Southeast Outside (NSEO, CSEO, and SSEO, respectively). The table below the figure lists the species that are part of each complex in each of the areas.

## **NPFMC's Spatial Management Policy**

In October 2013, the Council adopted a policy that established a process for determining spatial management (i.e., subarea allocations of annual harvest specifications (OFL, ABC, and/or TAC)) of stocks and stock assemblages for groundfish, crabs, and scallops.

1. As soon as preliminary scientific information indicates that further stock structure separation or other spatial management measures may be considered, the stock assessment authors, plan teams (groundfish, crab, scallop), and SSC should advise the Council of their findings and any associated conservation concerns.
2. With input from the agency, the public, and its advisory bodies, the Council (and NMFS) should identify the economic, social, and management implications and potential options for management response to these findings and identify the suite of tools that could be used to achieve conservation and management goals. In the case of crab and scallop management, ADF&G needs to be part of this process.
3. To the extent practicable, further refinement of stock structure or other spatial conservation concerns and potential management responses should be discussed through the process described in recommendations 1 and 2 above.
4. Based on the best information available provided through this process, the SSC should continue to recommend OFLs and ABCs that prevent overfishing of stocks.

## **2 Background: Other Rockfish and Demersal Shelf Rockfish**

Past investigation of management alternatives for DSR GOA-wide included consultations between assessment authors, Alaska Department of Fish and Game Southeast and Southcentral region staff and the Alaska Regional Office. Multiple management alternatives were discussed in 2017, and the authors of both the OR and DSR assessments, as well as the GOA Groundfish Plan Team, recommended moving the seven DSR species which occur in the OR complex (i.e., those occurring to the west of EY/SEO) into the DSR assessment and expanding the DSR assessment to be GOA-wide. This option would enable managers to monitor the catch of these species more appropriately. Since then, the authors, Plan Team, and SSC all continue to agree that the proposed changes to the composition of the complexes are an improvement over the current groupings.

The primary question when the 2017 appendix to the SAFE was written was whether a GOA-wide assessment would be more appropriate for these species. To address these concerns, the OR and DSR assessment authors worked together to provide a discussion of catch, the available survey data from both state and federal surveys and estimated ABC and OFLs for potential management alternatives. The 2017 document also included an examination of the species groupings with regards to the species life histories. The following sections of this document include updated catch data and incorporate comments brought forth by the SSC and Plan Team.

### **2.1 SSC and Plan Team Comments Specific to this Topic**

#### **2015**

The [2015 GOA OROX SAFE](#) had two appendices relevant to this discussion and kicked off the idea of changing the species compositions within the GOA OROX and DSR assessments. See Appendix 16A for background and PT/SSC comments which prompted the analyses in Task #1 (stock structure) and Task #3 (alternative management). The stock structure documents for both the GOA OROX and DSR assessments were combined and are included in Appendix 16B.

In short, the Task #3 analysis recommended that all of the DSR sub-group species within the OROX assessment be moved to a GOA-wide DSR complex assessment.

*“The Team recommends further evaluation of the author preferred Alternative 3 in coordination with the Council’s process for determining spatial management.” – GOA PT September 2015*

*“The SSC advises that additional consideration should be given to Alternative 2 as well. For example, if all these species are combined, would this result in grouping species of divergent life history characteristics?” – SSC October 2015*

*“The SSC suggests that this analysis should not be rushed. The prospects for developing a GOA-wide DSR assessment should consider that the survey information is best developed for Southeast Alaska, and that future funding for those surveys is uncertain. Also, for the various alternatives, assemblage membership should be carefully re-examined to make sure that species in the assemblage share some common characteristics. Alternative combinations of species should be considered. The SSC also encourages involvement of industry members in the process of alternative development so that alternatives are developed mindful of fishery and management complexity.” – SSC October 2015*

## 2017

The [2017 Sept PT](#) document addressed the above comments in a re-examination of Task #3 from above. The recommendation was still the same.

*“The Team recommends moving ahead with the author preferred Alternative 3a to split DSR species out of the ORX complex. The Team also requests that the author develop clear justification for how the Tier 6 method was selected before the November meeting.” – GOA PT September 2017*

*“The SSC concurs with the authors and Plan Team that the groupings and spatial specifications described under Alternative 3a are an improved description of structure and a reasonable approach to spatial management.” - SSC October 2017*

*“Given the scope of this action and potential impacts to the fishery, the SSC recommends that the Council’s Stock Structure and Spatial Management Policy is followed.” - SSC October 2017*

*“The SSC recommends that the Plan Team, during its November 2017 meeting: 1) provide guidance on the level of conservation concern for this stock; 2) evaluate whether the proposed breakout is appropriate given the level of concern; and, as appropriate 3) determine whether other measures would adequately address conservation needs. The stock structure template would be an appropriate tool for determining the level of conservation concern.” - SSC October 2017*

The November [presentation](#) led to discussion to respond to the above comments:

*“The Team again supports the conclusions of the author and reiterates our earlier recommendation that the demersal sub-group be moved into the DSR assessment and make the DSR assessment GOA-wide pending Council evaluation of management and economic implications.” – GOA PT November 2017*

*“The Team concluded that the demersal sub-group of the OR assessment should be categorized as “moderate concern” in the Council’s Stock Structure and Spatial Management Policy scale of concern.” – GOA PT November 2017*

*“The Team recommends that this issue move to Step 2 of the Council’s Stock Structure and Spatial Management Policy.” – GOA PT November 2017*

*“The SSC agrees with this assessment of stock structure and urges the Council to consider step 2 of the Stock Structure and Spatial Management Policy.” – SSC December 2017*



## 2019

The OROX [assessment](#) (see Appendix) and [presentation](#) brought forward this discussion point attempting to figure out what to do next.

*“The Team continues to recommend the Council move forward with Step 2 of the Spatial Management Policy for this complex and cautions potential changes in catch estimates may occur in 2020 due to full retention regulations and the incorporation of EM data.”* – GOA PT November 2019

*“The SSC supports the GPT’s recommendation for the Council to move forward with Step 2 of the Spatial Management Policy for this complex.”* – SSC December 2019

**2020-** no assessment for Other Rockfish complex

## 2021

*“The Team recommends, based on the analyses presented, that the DSR complex be split from the ORx complex GOA-wide. The Team requests guidance from the SSC on any further analyses needed to support this proposal.”* – GOA PT September 2021

*“The SSC concurs with the GOA GPT and recommends that the Council consider taking up this issue of separating DSR from Other Rockfish GOA-wide – thus moving to Step 2 of the Spatial Management Policy.”* – SSC October 2021

*“The Team continues to support an earlier recommendation that the DSR subgroup be moved into the DSR assessment and make the DSR assessment GOA-wide pending a Council analysis on spatial management implications.”* – GOA PT November 2021

*“there are several other outstanding issues and recommendations that will likely affect future assessments of the other rockfish stock complex including a Council-directed analysis on spatial management implications of separating DSR from the other rockfish complex gulf-wide, investigations into elevating some of the species (harlequin and yelloweye rockfish) into different tiers, and if there is evidence of range expansion of species from the south.”* – SSC December 2021

The next full assessment for OROX is planned in 2023, full assessment for DSR planned for 2022/2024.

## 2.2 Catch of DSR Species GOA-wide

Catch of the seven DSR species is provided by the NMFS Alaska Regional Office Catch Accounting System (CAS) for catch in federally managed fisheries and the Pacific Halibut IFQ fishery. Other estimates of catch are provided by the State of Alaska for the commercial fisheries in EY/SEO, as well as estimated bycatch from the Pacific Halibut fishery, prior to the 2013 observer restructuring. Considering the seven DSR species in a GOA-wide context, total annual catches do not exceed 500 t and yelloweye rockfish is the predominant species (Table 1). In the EY/SEO areas, full retention of all seven DSR species has been required since 2005, thus recorded catches prior to 2005 may not be representative of total catch.

**Table 1 Catch (mt) of the seven DSR species across the full GOA, broken out by Yelloweye Rockfish (YE) and the remaining DSR species combined (quillback, copper, rosethorn, tiger, China, and canary).** Data is provided by the Alaska Regional Office for the Western Gulf of Alaska (WGOA), Central GOA (CGOA) and West Yakutat (WY) regions. Data for the East Yakutat/Southeast Outside (EY/SEO) Region is provided by AKFIN/Alaska Department of Fish and Game and includes commercial fishery harvest only and does not include harvest estimates from the recreational and subsistence fisheries and estimates of commercial fishery discards. There are multiple caveats in this time series of data to make note of: 1) the restructured observer program went into effect for federal fisheries in 2013; 2) beginning in 2005, full retention of DSR species was required in EY/SEO; 3) beginning in 2020, all federally permitted catcher vessels using fixed gear in the GOA must retain and land all rockfish caught while fishing for groundfish or Pacific halibut.

|      | WGOA |        | CGOA |        | WY |        | EY/SEO |        | TOTALS |        |
|------|------|--------|------|--------|----|--------|--------|--------|--------|--------|
|      | YE   | Others | YE   | Others | YE | Others | YE     | Others | YE     | Others |
| 2003 | 39   | <1     | 84   | 3      | 26 | 2      | 262    | 30     | 412    | 35     |
| 2004 | 35   | <1     | 73   | <1     | 20 | <1     | 318    | 33     | 446    | 34     |
| 2005 | 18   | <1     | 59   | <1     | 12 | <1     | 233    | 21     | 322    | 22     |
| 2006 | 46   | <1     | 71   | 2      | 29 | 1      | 202    | 19     | 348    | 23     |
| 2007 | 21   | <1     | 83   | 1      | 28 | 1      | 195    | 21     | 327    | 24     |
| 2008 | 46   | <1     | 130  | 3      | 25 | <1     | 191    | 19     | 392    | 22     |
| 2009 | 41   | <1     | 99   | 2      | 27 | <1     | 212    | 15     | 379    | 18     |
| 2010 | 44   | <1     | 130  | 5      | 40 | 1      | 162    | 21     | 376    | 29     |
| 2011 | 59   | <1     | 135  | 6      | 33 | 1      | 112    | 15     | 340    | 23     |
| 2012 | 43   | <1     | 110  | 10     | 16 | <1     | 178    | 18     | 347    | 30     |
| 2013 | 49   | 1      | 109  | 14     | 34 | <1     | 209    | 18     | 401    | 34     |
| 2014 | 41   | <1     | 95   | 9      | 17 | <1     | 99     | 13     | 253    | 23     |
| 2015 | 46   | 1      | 109  | 29     | 18 | 1      | 104    | 12     | 276    | 44     |
| 2016 | 27   | <1     | 117  | 27     | 11 | 1      | 112    | 14     | 267    | 43     |
| 2017 | 88   | <1     | 98   | 15     | 9  | 2      | 126    | 16     | 321    | 34     |
| 2018 | 23   | <1     | 75   | 13     | 36 | 10     | 130    | 19     | 264    | 43     |
| 2019 | 42   | <1     | 71   | 9      | 21 | 3      | 138    | 20     | 272    | 33     |
| 2020 | 23   | <1     | 65   | 2      | 20 | 2      | 100    | 20     | 209    | 25     |
| 2021 | 25   | <1     | 124  | 14     | 23 | 3      | 101    | 22     | 273    | 40     |

NMFS prohibits directed fishing for most rockfish species at the beginning of the year because the total allowable catch for these species does not support directed fishing. If a rockfish species is closed to directed fishing, only a proportion of landed rockfish may enter commerce and be sold, bartered, or traded (the maximum commerce amount or MCA, defined in regulation). Much of the catch of DSR species across the GOA occurs on hook-and-line (H&L) vessels (Table 2), primarily those targeting Pacific cod and Pacific halibut. Note that Table 2 does not include SE, as H&L gear in the IFQ fisheries accounts for over 95% of the DSR catch in SE. Starting in 2020, operators of catcher vessels that are required to have a Federal fisheries permit using fixed-gear must retain and land all rockfish that is caught while fishing for groundfish or IFQ halibut in the GOA.<sup>3</sup>

DSR are also caught incidentally in trawl gear while targeting rockfish (such as Pacific ocean perch as part of the Rockfish Program) and to a lesser extent arrowtooth flounder (Table 3). Species in the non-DSR subgroup (the remaining 20 species part of the slope sub-group in the OR complex) are mainly caught by trawl gear and most of the catch is harlequin rockfish. Trawl vessels (and fixed-gear CPs) are allowed to retain and sell OR and DSR species (or those that are closed to directed fishing) up to a maximum retainable amount as defined in regulation; once the MRA is reached or if rockfish are placed on PSC status, they must be discarded.

<sup>3</sup> 85 FR 9687, 02/20/2020

**Table 2** Percent of Catch of DSR Species in WGOA, CGOA, and WY by gear type. Data from NMFS Catch Accounting System (CAS) compiled by AKFIN in Comprehensive\_Blend\_ca.

|              | HAL        | JIG       | NPT        | POT       | PTR       | TOTAL       |
|--------------|------------|-----------|------------|-----------|-----------|-------------|
| 2003         | 81%        | 6%        | 13%        | 0%        | 0%        | 100%        |
| 2004         | 60%        | 2%        | 38%        | 0%        | 0%        | 100%        |
| 2005         | 66%        | 0%        | 32%        | 0%        | 1%        | 100%        |
| 2006         | 70%        | 1%        | 27%        | 0%        | 2%        | 100%        |
| 2007         | 72%        | 1%        | 26%        | 0%        | 2%        | 100%        |
| 2008         | 66%        | 1%        | 32%        | 0%        | 1%        | 100%        |
| 2009         | 68%        | 1%        | 31%        | 0%        | 0%        | 100%        |
| 2010         | 73%        | 0%        | 26%        | 1%        | 0%        | 100%        |
| 2011         | 74%        | 0%        | 23%        | 3%        | 0%        | 100%        |
| 2012         | 44%        | 0%        | 54%        | 0%        | 1%        | 100%        |
| 2013         | 73%        | 1%        | 25%        | 1%        | 0%        | 100%        |
| 2014         | 64%        | 1%        | 33%        | 1%        | 0%        | 100%        |
| 2015         | 58%        | 1%        | 40%        | 0%        | 0%        | 100%        |
| 2016         | 70%        | 3%        | 26%        | 1%        | 0%        | 100%        |
| 2017         | 74%        | 3%        | 20%        | 3%        | 0%        | 100%        |
| 2018         | 76%        | 3%        | 21%        | 0%        | 0%        | 100%        |
| 2019         | 67%        | 4%        | 27%        | 1%        | 1%        | 100%        |
| 2020         | 53%        | 4%        | 41%        | 2%        | 0%        | 100%        |
| 2021         | 60%        | 1%        | 37%        | 2%        | 0%        | 100%        |
| 2022         | 75%        | 0%        | 22%        | 3%        | 0%        | 100%        |
| <b>TOTAL</b> | <b>68%</b> | <b>2%</b> | <b>29%</b> | <b>1%</b> | <b>0%</b> | <b>100%</b> |

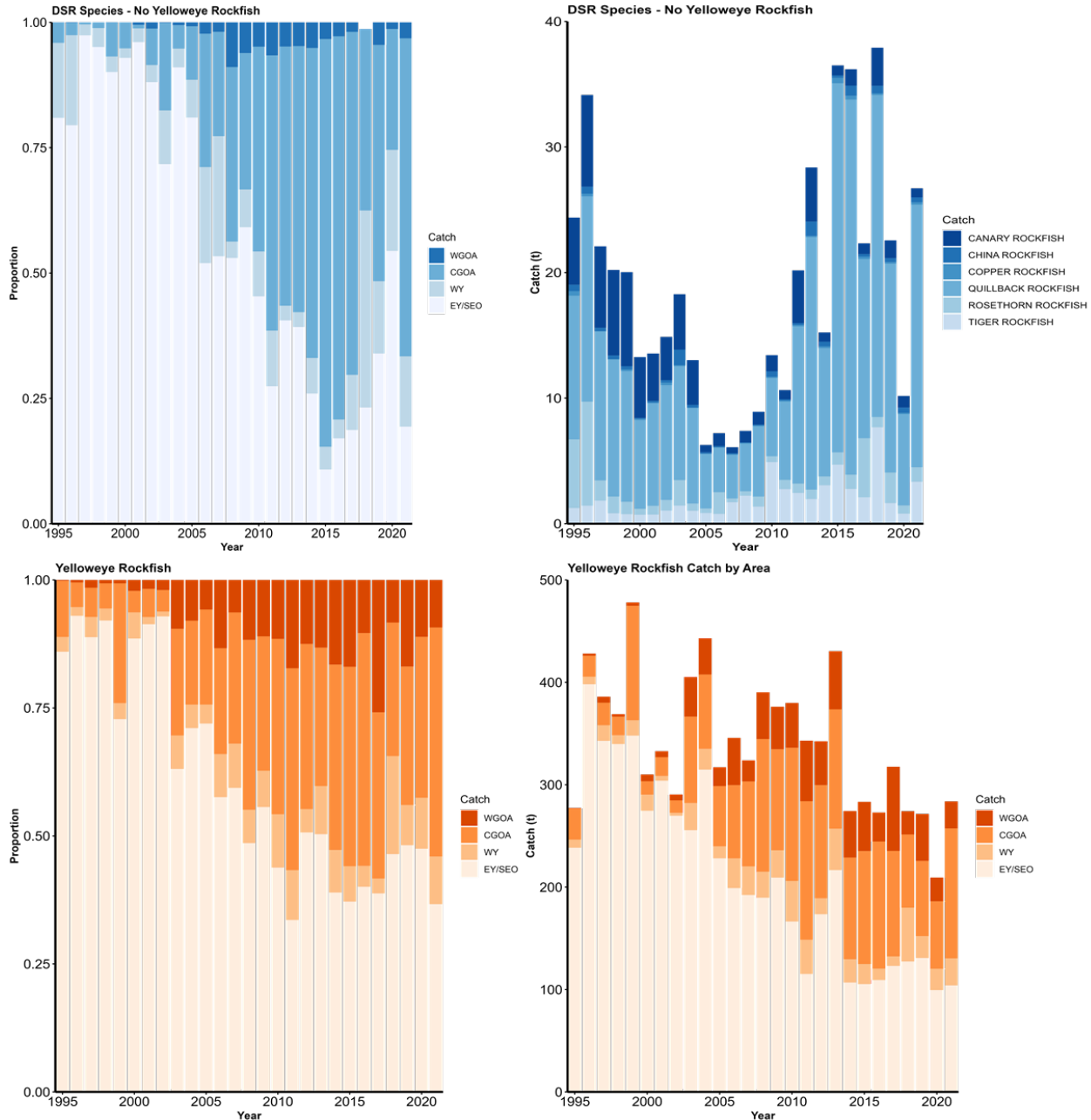
**Table 3 Trip targets for trawl vessels with incidental catch of DSR species in the GOA.** Data from NMFS Catch Accounting System (CAS) compiled by AKFIN in Comprehensive\_Blend\_ca.

|              | Arrowtooth<br>Flounder | Rockfish   | Other     | Grand<br>Total |
|--------------|------------------------|------------|-----------|----------------|
| 2003         | 2%                     | 96%        | 2%        | 100%           |
| 2004         | 0%                     | 99%        | 1%        | 100%           |
| 2005         | 4%                     | 93%        | 3%        | 100%           |
| 2006         | 2%                     | 89%        | 9%        | 100%           |
| 2007         | 9%                     | 86%        | 6%        | 100%           |
| 2008         | 5%                     | 90%        | 5%        | 100%           |
| 2009         | 0%                     | 99%        | 1%        | 100%           |
| 2010         | 1%                     | 98%        | 2%        | 100%           |
| 2011         | 16%                    | 82%        | 2%        | 100%           |
| 2012         | 9%                     | 86%        | 5%        | 100%           |
| 2013         | 2%                     | 86%        | 12%       | 100%           |
| 2014         | 16%                    | 81%        | 2%        | 100%           |
| 2015         | 4%                     | 91%        | 5%        | 100%           |
| 2016         | 9%                     | 89%        | 2%        | 100%           |
| 2017         | 15%                    | 84%        | 2%        | 100%           |
| 2018         | 4%                     | 95%        | 2%        | 100%           |
| 2019         | 21%                    | 74%        | 5%        | 100%           |
| 2020         | 13%                    | 86%        | 1%        | 100%           |
| 2021         | 5%                     | 94%        | 1%        | 100%           |
| 2022         | 7%                     | 92%        | 1%        | 100%           |
| <b>Total</b> | <b>7%</b>              | <b>89%</b> | <b>3%</b> | <b>100%</b>    |

While most of the DSR catch has historically occurred in the EY/SEO area, the proportion of the total catch originating in the CGOA has been increasing (Figure 2). The increase in the CGOA has not been previously investigated as the catch of DSR species within the larger OR complex is comparatively small (Table 1 and Table 2). The increased catch in the CGOA is predominantly from quillback rockfish retention, suggesting a potential market demand. The GOA is believed to be at the northern edge of the ranges for the DSR species; therefore, the majority of the biomass is in the EY/SEO region. While the distribution of the catch appears to be expanding towards the west, the total catch of these seven DSR species is not increasing. Yelloweye rockfish comprises the majority of the catch composition of DSR species (Table 1 and Figure 2) in all regions.

The bycatch only fishery for the DSR species in Prince William Sound and the Cook Inlet is managed by the State of Alaska and is not subject to the GOA FMP. There is a directed rockfish fishery for Pelagic Shelf Rockfish (PSR: dark, dusky, widow, yellowtail, black and blue rockfish) in Cook Inlet; harvest for directed and bycatch both accrue towards the guideline harvest level (GHL). Cook Inlet and PWS have GHLs which apply to all rockfish species; the GHL is based on mean historical catch and is 68 t for each area. The average DSR catch from 2019 – 2021 in Prince William Sound was 16 tons, 33% of the total rockfish caught. This harvest was composed primarily of yelloweye rockfish with quillback rockfish being the second most common species caught. From 2019 – 2021, the DSR catch in the Cook Inlet area comprised 50% of the total, 13 tons, caught as bycatch to other groundfish fisheries. Forty-seven percent of the rockfish harvest in Cook Inlet from 2019 – 2021 was in the PSR directed fishery.





**Figure 2** Catch distribution by management area for: (upper left) all of the DSR species except yelloweye rockfish, (lower left) just yelloweye rockfish, (upper right) Catch by species for all of the DSR species except yelloweye rockfish, and (lower right) catch by area for just the yelloweye rockfish. Catch estimates in EY/SEO include estimated catch from State managed directed fisheries, subsistence and sport fisheries. The time series of catch in EY/SEO has the following caveats: retention was not required until 2005, sport fishery estimates are available 2006 – 2016, subsistence estimates available from 2010 - 2015. Further, the restructured observer program went into effect in 2013.

**Table 4** Catch (excluding research catches) in mt, acceptable biological catch (ABC) and total allowable catch (TAC) of the Other Rockfish (OR) and Demersal Shelf Rockfish (DSR) complexes. Data from NMFS Catch Accounting System (CAS) and ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive FT.

| Year | Other Rockfish |      |     |       |       |      |      | Demersal shelf rockfish |     |     |
|------|----------------|------|-----|-------|-------|------|------|-------------------------|-----|-----|
|      | WGOA           | CGOA | WY  | EY/SE | Total | ABC  | TAC  | EY/SE                   | ABC | TAC |
| 2003 | 133            | 683  | 227 | 26    | 1069  | 5050 | 990  | 292                     | 390 | 390 |
| 2004 | 275            | 584  | 78  | 31    | 967   | 3900 | 670  | 351                     | 450 | 450 |
| 2005 | 65             | 516  | 71  | 48    | 700   | 3900 | 670  | 253                     | 410 | 410 |
| 2006 | 279            | 604  | 138 | 79    | 1100  | 4152 | 1480 | 221                     | 410 | 410 |
| 2007 | 249            | 340  | 54  | 53    | 697   | 4154 | 1482 | 217                     | 410 | 410 |
| 2008 | 250            | 439  | 50  | 29    | 770   | 4297 | 1730 | 210                     | 382 | 382 |
| 2009 | 403            | 403  | 83  | 15    | 904   | 4297 | 1730 | 227                     | 362 | 362 |
| 2010 | 366            | 441  | 131 | 31    | 970   | 3749 | 1192 | 184                     | 295 | 295 |
| 2011 | 303            | 398  | 195 | 33    | 928   | 3749 | 1192 | 128                     | 300 | 300 |
| 2012 | 255            | 723  | 38  | 25    | 1041  | 4045 | 1080 | 196                     | 293 | 293 |
| 2013 | 192            | 465  | 68  | 50    | 775   | 4045 | 1080 | 228                     | 303 | 303 |
| 2014 | 166            | 714  | 55  | 35    | 971   | 4080 | 1811 | 111                     | 274 | 274 |
| 2015 | 206            | 839  | 32  | 15    | 1092  | 4080 | 1811 | 116                     | 225 | 225 |
| 2016 | 155            | 1018 | 51  | 31    | 1255  | 5773 | 2308 | 127                     | 231 | 231 |
| 2017 | 141            | 856  | 45  | 36    | 1078  | 5773 | 2308 | 143                     | 227 | 227 |
| 2018 | 49             | 990  | 112 | 44    | 1194  | 5594 | 2305 | 150                     | 250 | 250 |
| 2019 | 106            | 577  | 181 | 78    | 942   | 5594 | 5594 | 157                     | 261 | 261 |
| 2020 | 99             | 564  | 109 | 110   | 882   | 4053 | 4053 | 120                     | 238 | 238 |
| 2021 | 134            | 914  | 118 | 36    | 1201  | 4053 | 1609 | 123                     | 257 | 257 |

### 3 Potential Management, Social, and Economic Impacts

Moving the DSR sub-group from the OR assessment (in all areas west of EY/SEO) to the DSR assessment, and creating an expanded GOA-wide DSR assessment, would afford the DSR species a higher level of management oversight in the WGOA, CGOA, and WY and would be relatively simple to implement from a stock assessment perspective. Relevant considerations for this change are: potential ABC/OFL overages, stock assessments, jurisdictions, in-season management and potential for conservation concerns.

#### *Potential ABC/OFL overages*

As described in the previous section, members of the DSR sub-group are primarily caught on H&L gear in the IFQ fishery, while the other 20 species in the OR complex are generally caught in trawl gear. Exceeding the ABC or nearing the OFL could limit other fisheries as the Federally managed fisheries could be prohibited. In 2017, the authors used an estimation for ABC based on the 2016 assessments. At that time, the authors examined the most recent 15 years of catch and estimated that the OR ABC for EY/SEO would have been exceeded in four years, the WY estimated ABC would have been exceeded in eight years, the WGOA in 10 out of 15 years, and the CGOA in five of the years. However, the GOA-wide proposed OFL would not have been exceeded.

When conducting the same exercise using 2020 ABC estimates (Table 5), the OR ABC for the W/CGOA would have been exceeded in 7 out of 15 years and would not have been exceeded in other areas in any years. For DSR, the W/CGOA ABC would have been exceeded in 6 of the last 15 years in the W/CGOA and 4 of the last 15 years in WY. The GOA-wide proposed ABC would have been exceeded once for DSR in the last 15 years, and the proposed GOA-wide OFLs would not have been exceeded for OR nor for DSR.

**Table 5 Potential ABC estimates (t) for 2020 (from the 2019 assessments) separated by OR or DSR.**  
Beginning in the 2014 fishery, the ABCs for the Western and Central GOA OR were combined, which is continued here for the 2020 fishery.

|            | W/CGOA | WY  | EY/SEO | GOA-wide |      |
|------------|--------|-----|--------|----------|------|
|            | ABC    | ABC | ABC    | ABC      | OFL  |
| <b>OR</b>  | 768    | 335 | 2744   | 3847     | 5129 |
| <b>DSR</b> | 172    | 34  | 238    | 444      | 650  |

To reduce the potential of overages due to small ABCs and the non-target nature of the catch of these species, particularly outside of EY/SEO, in 2017 the authors recommended the following ABC groupings for a GOA-wide DSR complex, based on Alternative 3a (all species Tier 6 (max catch) with the exception of EY/SEO yelloweye rockfish as Tier 4):

**Table 6 Potential ABC groupings for GOA DSR based on the 2020 ABC estimates**

|                    | W/CGOA+WEST YAKUTAT | EY/SEO | Total |
|--------------------|---------------------|--------|-------|
| <b>Area ABC(t)</b> | 206                 | 238    | 444   |
| <b>OFL (t)</b>     |                     |        | 650   |

The authors recommend combining the WY ABC with that of the WGOA and CGOA areas because the fishery characteristics differ between EY/SEO and the rest of the GOA. In EY/SEO there are state-managed directed fisheries, and non-directed fisheries included in the assessment. The catch in the EY/SEO has been much less than the ABC for the last 5 years. In all other areas catch of the DSR species is incidental. With the above recommended ABCs, the WGOA/CGOA/WY ABC would have been exceeded in 5 of the last 15 years. For DSR species in the GOA, TAC is usually set equal to ABC. If a TAC were to be exceeded, it these species would be placed on non-retention status (i.e., prohibited species catch or PSC), but would not prevent fisheries from continuing. When a rockfish species is placed on PSC status, the MCA (for fixed-gear CVs) is set to 0 percent and no amount of that rockfish species may enter commerce through sale, barter, or trade except as fish meal. See [information bulletin and regulations](#). Additionally, the MRAs for trawl gear and CPs would be set to 0.

One implication of moving the DSR sub-group from the OR assessment (in all areas west of EY/SEO) to the DSR assessment and creating an expanded GOA-wide DSR assessment is that some species could go on PSC status earlier in the season due to smaller ABCs and therefore smaller TACs.

Rockfish incidental catch can be quite variable. However, it is possible that even under the current scenario, these TACs could be reached earlier, and retention of certain species could become prohibited. Table 7 shows recent years when OR went on PSC status and the associated TACs. From 2010-2022 OR has gone on PSC status in at least one GOA subarea in 8 years, however timing of reaching that status has varied from early July to late September.

**Table 7** Years and associated TACs when Other Rockfish went on PSC status. Beginning in the 2014 fishery, the ABCs for the Western and Central GOA OR were combined. If blank, OR did not go on PSC status in that year. From NMFS Alaska Region.

|      | Subarea             | Date on PSC status | TAC   |
|------|---------------------|--------------------|-------|
| 2010 | Western             | 7/16/2010          | 212   |
| 2011 | Western             | 7/28/2011          | 212   |
| 2012 | Central             | 8/16/2012          | 606   |
| 2012 | Western             | 7/2/2012           | 44    |
| 2013 | Western             | 7/9/2013           | 44    |
| 2014 |                     |                    | 1,031 |
| 2015 | Western and Central | 9/30/2015          | 1,031 |
| 2016 |                     |                    | 1,534 |
| 2017 |                     |                    | 1,534 |
| 2018 |                     |                    | 1,737 |
| 2019 |                     |                    | 1,737 |
| 2020 |                     |                    | 940   |
| 2021 | Western and Central | 8/20/2021          | 940   |
| 2022 | Western and Central | 8/6/2022           | 940   |

*Stock assessment and jurisdictional considerations*

This option would be easily implemented in the existing stock assessments. The current DSR assessment is conducted by the ADF&G and includes state-managed fisheries. This assessment structure would be retained and incorporate the DSR species to the west of EY/SEO. Being Tier 6, it would be relatively simple to add these species to the existing assessment. NMFS would lead the portion of the DSR assessment that relates to the WGOA and the CGOA while ADF&G would lead the portion of the assessment relating to EGOA. This would not change the current jurisdictional structure. The State of Alaska would maintain the management of the DSR fisheries in the EY/SEO and the NMFS would manage the DSR catch in the federal fisheries west of EY/SEO.

*Inseason management*

The primary challenge associated with moving the DSR sub-group from the OR assessment (in all areas west of EY/SEO) to the DSR is in-season management. The DSR species are currently part of the larger OR complex in all areas west of EY/SEO. The vast majority of the catch of the OR complex comes from the rockfish trawl fishery, while DSR species are rarely caught in the rockfish trawl fishery, but rather in the Pacific halibut fishery. Thus, breaking the DSR species out from the OR complex in the WGOA and CGOA (and WY) would improve tracking of DSR species because they would not be obfuscated by the more predominant OR species. However, the breakout would result in smaller and potentially difficult to manage ABCs, even if the WGOA, CGOA and WY for DSR were combined. If a DSR or OR OFL were approached, NMFS may prohibit directed fishing for federally managed fisheries, including those for groundfish and Pacific halibut IFQ.<sup>4</sup> If the DSR or OR TAC is exceeded, the Pacific halibut fishery would be put on discard status for the DSR fishery, as occurs with the existing management protocol.

<sup>4</sup> § 679.25

### *Conservation concerns*

Creating a GOA-wide DSR assessment, and thus separating the DSR species from the OR assessment is appropriate based on the biology of all 25 OR and DSR species (Omori, Tribuzio, Babcock, & Hoenig, 2021).<sup>5</sup> The biological characteristics of the DSR species are dissimilar from the other OR species; DSR species tend to be nearshore, slower growing with greater longevity, and thus likely have lower productivity. Whereas the remaining OR species tend to be pelagic, offshore, faster growing, shorter-lived, and may have higher dispersal. At this time, available data do not suggest a conservation concern in the DSR species to the west of the EY/SEO area. The IPHC survey, the only survey that consistently catches these species west of EY/SEO exhibits stable catches of the two most commonly caught DSR species: quillback and yelloweye rockfish. In comparison, the EY/SEO ROV survey suggests declines in the density estimates of yelloweye rockfish. Retaining the status quo assessment structures prevents appropriate monitoring for the DSR species. Yelloweye rockfish has been estimated to be one of the species most vulnerable to overfishing in the GOA (Ormseth and Spencer, 2011) and thus likely should be monitored more closely instead of grouped into such a large and unrelated complex.

## **4 Regulatory considerations and next steps**

This document applies the Council’s Spatial Management Policy to GOA OR/DSR. The stock assessment authors, Plan Team, and SSC have evaluated the reasoning behind moving the DSR sub-group from the OR assessment and creating an expanded GOA-wide DSR assessment. These advisory bodies have continuously recommended that this change is appropriate based on the biology and life history of the species. The GOA Groundfish FMP provides the Council with authority to split or combine stocks or stock complexes if sufficient biological information is available<sup>6</sup>, and this discussion paper identifies the economic, social, and management implications of this proposed change for DSR. At this meeting, the Council has the opportunity to discuss any concerns about spatial management that would interfere with the SSC ABC recommendation to move the DSR sub-group out of the OR assessment. **If the Council does not identify any concerns, this change to the DSR sub-group would move forward in the November/December harvest specifications cycle. If the Council does identify specific obstacles or constraints, staff requests additional direction as to how to move forward, including an appropriate timeline.**

From a regulatory standpoint, implementing this change does not require changes to the FMP. The proposed changes would reorganize both the OR and DSR complex structures, requiring a regulatory change to Table 10 at CFR Part 679, defining basis species for retention. Should the Council choose to move forward with this regulatory change, NMFS will likely keep this rulemaking occur separate from the GOA harvest specifications process to avoid any delay in publishing harvest specifications.

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<sup>5</sup> This restructuring of the DSR stock complex and OR stock complex also appears appropriate based on the National Standard One guidelines, which indicate that stocks in a stock complex “should have a similar geographic distribution, life history characteristics, and vulnerabilities to fishing pressure.” 50 C.F.R. 600.310(d)(2)(i).

<sup>6</sup> In the GOA Groundfish FMP, Section 3.2.3.1.1: *Identification of Stocks and Stock Complexes for Which Specifications are Made*. Notwithstanding designated stocks or stock complexes listed by category in Table 3-1, the Council may recommend splitting or combining stocks or stock complexes in the “target species” category for purposes of establishing a new harvest specification unit if such action is desirable based on commercial importance of a stock or stock complex or if sufficient biological information is available to manage a stock or stock complex on its own merits.

## 5 References

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- Tribuzio, C. A. and K. B. Echave. 2019. Assessment of the other rockfish stock complex in the Gulf of Alaska. *In* 2019 Stock Assessment and Fishery Evaluation Report for 2020. North Pacific Fishery Management Council, Anchorage, AK. Available at: <https://apps-afsc.fisheries.noaa.gov/refm/docs/2019/GOAorock.pdf>
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