

**GROUND FISH MANAGEMENT TEAM REPORT ON PRELIMINARY  
 STOCK ASSESSMENT PLANS AND TERMS OF REFERENCE**

The Groundfish Management Team (GMT) reviewed the documents in the advanced briefing book and received an overview from Dr. Jim Hastie and Dr. Chantel Wetzel of the National Marine Fisheries Service (NMFS) Northwest Fisheries Science Center (NWFSC) and John DeVore of the Pacific Fishery Management Council (Council).

**2021 preliminary stock assessment recommendations**

The GMT’s recommended list of stocks to assess in 2021 is shown in Table 1. These include most of the top-ranking stocks from NMFS’ assessment prioritization analysis ([H.2, Supplemental REVISED Attachment 2](#)) and from the Council’s 2018 guidance list on 2021 assessment prioritization<sup>1</sup>. The GMT’s recommendations are expected to fully utilize age reading and assessor capacity, especially given that several recommended assessments may require separate area models. We also explain why we do not recommend full assessments for yelloweye rockfish and Pacific cod, which were on the Council’s 2018 motion on guidance for assessment prioritization in 2021.

**Table 1. The GMT’s recommended stock assessments for 202 and the NMFS rank for each stock.**

Stock	GMT recommendation	NMFS Rank
Yellowtail RF	Full	14
Lingcod	Full	7
Vermilion/sunset RF	Full	1
Copper RF	Full	3
Sablefish	Update	5
Dover sole	TBD assessment type (full or data moderate)	8
Petrale sole	TBD assessment type (full or update)	12
Darkblotched RF	#1 Back-up	49*
Spiny dogfish	#2 Back-up	14

\*GMT believes this ranking should be much higher because: (1) it underestimates the “choke factor” score for trawl fisheries and (2) future attainments are expected to increase with reopening of the trawl RCA (see below for more detail)

<sup>1</sup> Same as recommended by the GMT ([Agenda Item E.3.a Supplemental GMT Report 1 June 2018](#)) but to also do a full yelloweye rockfish assessment, which was not recommended by the GMT

## Rationale for selection and ranking

### *Yellowtail rockfish (coastwide): full*

- One of the most economically important stocks north of 40° 10' N. lat..
- The southern stock has not been subject to a full assessment to date, and may be increasingly targeted by a re-emerging fishery.

### *Lingcod (coastwide): full*

- Lingcod are one of the most economically important stocks off the West Coast.
- The 2017 assessment estimated that the stock south of 40°10' N. lat. was in the precautionary zone.
- A full assessment can attempt to address the issues identified at the 2017 Stock Assessment and Review (STAR) panel regarding age sampling bias relative to lengths allowing for potential inclusion of this data in a new full assessment.
- A full assessment could incorporate new research indicating specific coastwide stock structure through the application of separate models or an area-based assessment model.

### *Vermilion/sunset rockfish (assessed as a complex): full*

- Currently, this is a top ranking NMFS stock for assessment prioritization and one of the most valuable California stocks.
- To date, neither species has not been subject to a full assessment. Due to inability to separate the historical catch history, both species would likely need to be assessed as a complex.

### Nearshore species

The GMT considered delaying assessments of black rockfish, quillback rockfish, and copper rockfish until 2023, to allow for the addition of information from ongoing nearshore surveys. The new surveys from the Oregon Department of Fish and Wildlife (ODFW) and Washington Department of Fish and Wildlife (WDFW) are expected to provide information on all three stocks; however given the greater abundance of copper rockfish in the south, the GMT suggests the Council consider that species separately for this cycle. Catch of copper rockfish off Washington is typically around 1-3 mt whereas catch off California and Oregon is typically 200+ mt. Thus, of the nearshore species prioritized for 2021 assessment, copper rockfish is least likely to benefit from delaying until 2023.

### *Copper rockfish: full*

- The GMT considers copper rockfish a top priority amongst a group of high ranking nearshore and shelf stocks, which are labor intensive as they are heavily reliant on recreational data.
- The stock has not been subject to a full assessment to date and, given the importance of the stock for Oregon and California, should be considered a priority.
- Copper rockfish was selected as a tentative assessment in 2021 by the Council in 2018, so ODFW has already started aging them.

*Sablefish: update*

- An update assessment could validate some potentially strong, but uncertain, recent year classes identified in the 2019 assessment.
- Postponing a full assessment would provide more time to work on a broader regional model.
- Sablefish is one of the most economically important stocks.

*Petrale sole (TBD assessment type depending on 2019 NWFSC West Coast Groundfish Bottom Trawl Survey estimate)*

- Petrale sole is one of the most economically important stocks.
- A full assessment would be able to incorporate the following issues identified in the 2019 update assessment:
  - The estimated model biomass failed to fit the decline in the 2018 survey data point.
  - New fecundity data which, when included as a sensitivity, led to slightly more depleted stock status relative to the base model results.
- If 2019 survey data implies that the 2018 estimate was anomalous, consider an update assessment. If not, consider a full assessment.

*Dover sole (recommended assessment type TBD pending the 2020 data moderate assessment method workshop)*

- Overfishing limit (OFL) projections will no longer be available in 2021-2022 from the 10-year projections from the 2011 stock assessment (e.g., traditionally catch-only projections have only been used to update overfishing levels within the initial 10-year projection period).
- A data moderate approach could provide a more efficient means to assess Dover sole and other low attainment stocks that have previously been assessed. However, the existing Scientific and Statistical Committee (SSC) endorsed data moderate methods (e.g., Extended Simple Stock Synthesis or Extended Depletion-Based Stock Reduction Analysis), which only use indices of abundance data, may not work well for a stock with a relatively flat index trend, as observed in Dover sole. The application of an index only approach would likely result in high uncertainty regarding the scale of the stock which would translate to large uncertainty in derived overfishing level estimates.
- In the spring to summer of 2020, the SSC is reviewing alternative data moderate methods that incorporate both index and length data. If one of these approaches are approved for use, they may prove to be the most appropriate approach for Dover sole.
- Based on the 2011 assessment results, the low attainments relative to the overfishing level, and the estimated index trend from the NWFSC West Coast Groundfish Bottom Trawl Survey that shows either a flat or minimally increasing relative biomass trend, the GMT does not currently have concerns regarding the existing stock status of Dover sole that would justify the need for a full assessment (e.g., considering the resource allocation required to conduct a full assessment).

*Darkblotched rockfish: #1 back-up for a full assessment*

- Darkblotched rockfish ranks low (#49) on the NMFS prioritization list, but the GMT believes it should have a higher score because it is one of the most constraining stocks for individual fishing quota (IFQ) and whiting fisheries that is not adequately reflected in the

“choke factor” score (which is based on acceptable biological catch attainment and darkblotched rockfish is constraining despite moderate annual catch limit attainments).

- Although past attainments have been moderate, future impacts will likely increase with the re-opening of the trawl rockfish conservation area (RCA), which served as a mitigation tool for limiting darkblotched rockfish catch.
- The stock was previously overfished and was declared rebuilt in 2017 based on an update assessment. A new full assessment would increase confidence in the stock status.
- The NWFSC West Coast Groundfish Bottom Trawl Survey data indicate an increasing abundance trend and a potentially strong year class entering the fishery.

*Spiny dogfish: #2 back-up for a full or data moderate assessment*

- Recent high attainments make it a potential stock of concern, while recent NWFSC West Coast Groundfish Bottom Trawl Survey trends have been decreasing. The bottom trawl survey, however, may not be the best indicator of current stock conditions.
- The NWFSC is exploring whether there is enough reliable age data for another full assessment. If not, using a data moderate approach, such as that proposed for Dover sole, may need to be considered.

*Yelloweye rockfish: GMT does not recommend any assessment at this time*

In 2018, Council guidance was to do a full yelloweye rockfish assessment in 2021, but the GMT believes that there is a low probability of the assessment results diverging from the projections provided in the 2017 full assessment of yelloweye rockfish. The GMT continues to recommend not doing another full assessment of yelloweye rockfish, because no new data streams have been available since the last assessment, and there have not been changes in the existing data streams that would significantly alter the assessment outcomes or warrant structural changes to the model. Yelloweye rockfish were tentatively added to the proposed 2021 assessment list by the Council primarily because there was concern about the ageing discrepancies of older fish from different labs, but sensitivity/scenario analyses conducted in the 2017 assessment demonstrate that these potential biases/errors have minimal effect to assessment outcomes.

*Pacific cod: GMT does not recommend any assessment at this time*

The 2018 Council guidance primarily stemmed from tribal requests to have a full assessment of Pacific cod due to the stock’s importance within treaty fisheries and the stock not having been assessed to date, therefore negatively impacting Marine Stewardship Council (MSC) scoring. The tribes were however able to get their MSC certification in 2019 via a joint proposal with the Oregon Trawl Commission and thus a Pacific cod assessment has become a lower priority for the tribes.

The GMT does not recommend any assessment be done for Pacific cod for several reasons. Pacific cod are one of the most abundant groundfish stocks throughout the entire Pacific Ocean, but only the southern fringe of their range periodically extends into West Coast waters off the northern Washington coast. A transboundary assessment would be ideal, but there has not been any work done on this to date. A full assessment is not recommended since it would only apply to a fringe portion of the stock, where the overall stock dynamics may be driven by the large portion of the stock in northern waters, and management actions imposed by the Council may not have a meaningful impact on the dynamics of the population as a whole.

## **2023 stock assessment tentative guidance**

The new stock assessment prioritization process adopted in 2018 also includes Council guidance for a tentative list of stocks to assess in 2023. The primary purpose of this tentative list is to provide more planning time for age readers and to better rectify potential issues with data inputs or model structure. The GMT's tentative list for 2023, at this point in time, only includes black rockfish, quillback rockfish, and bank rockfish because these are stocks that benefit from advanced notice for state age reading priorities. In addition, delaying assessments of these stocks until 2023 can provide more time for ODFW and WDFW to complete new surveys, and to resolve SSC recommendations for the existing California Department of Fish and Wildlife (CDFW) and ODFW remotely operated vehicle (ROV) surveys. The GMT is not recommending any other stock assessments for 2023 at this time because the prioritization rankings could change over the next two years and would be better addressed in the 2022 stock assessment prioritization process.

## **Removal of stocks from the prioritization list**

The GMT supports the NWFSC's recommendation to remove stocks (e.g., treefish rockfish) from the prioritization list that have de minimis fishing impacts and/or do not currently or are anticipated to have adequate data to support a full assessment.

## **Terms of reference**

The GMT agrees with the SSC Groundfish Subcommittee's recommendations on stock assessment process from the December 2019 Groundfish Stock Assessment Process Review Workshop ([Agenda Item H.2 Attachment 3 March 2020](#)). The SSC did a good job capturing the GMT's ideas on how to improve future stock assessment processes. Most notable are the SSC's recommendations as to how to streamline the process for conducting catch-only projections and update assessments.

There was however a recommendation that the GMT "should provide potential catch streams to the STAT for evaluation at or before the STAR panel". The GMT believes that this needs to be clarified that the GMT will provide future catch assumptions to be applied in the projections. Our main role would continue to be to provide future catch assumptions by fleet, and we agree with the SSC that we could provide those prior to the STAR panels to help improve the process.

## **Recommendations**

### **The GMT recommends:**

- 1. Full assessments for yellowtail rockfish, lingcod, vermilion/sunset rockfish, and copper rockfish.**
- 2. An update assessment for sablefish.**
- 3. Assessments (full or update to be determined by new information) for Dover sole and petrale sole.**
- 4. Darkblotched rockfish and spiny dogfish as first and second backups for assessments.**
- 5. No full assessments or updates for yelloweye rockfish or Pacific cod at this time.**