

GROUND FISH MANAGEMENT TEAM REPORT ON FINAL 2021 STOCK ASSESSMENTS 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 Mr. John DeVore of the Pacific Fishery Management Council (Council) during the March and June 2020 Council meetings.

Terms of Reference for Groundfish and Coastal Pelagic Stock Assessments

The GMT recommends that the draft Terms of Reference for Groundfish and Coastal Pelagic Stock Assessments be selected as final ([Agenda Item F.2.a, Attachment 3](#)). As we discussed in March, the statement of the Scientific and Statistical Committee (SSC) captured the GMT's ideas on how to improve future stock assessment processes. Most notably, the SSC provided recommendations on streamlining the process for conducting catch-only projections and update assessments.

FPA stock assessments for 2021

The GMT recommended stock assessments for 2021 are shown in Table 1 and have been modified from those provided in March (Table 1; [Agenda Item H.2.a, Supplemental GMT Report 1, March 2020](#)) based on feedback from the Council ([Council Motion, Agenda Item H.2., March 2020](#)), the Science Centers, and advisory bodies. The GMT's recommendations on which stocks to assess and the level of assessment are informed by the challenge potentially posed by each stock (e.g., number of assessment areas), the quality and quantity of data available, and the capacity of the Science Centers.

The SSC's Groundfish Subcommittee held a data-moderate Methodology Review Panel (Panel) via webinar May 12-14, 2020 that evaluated Stock Synthesis with Catches and Length (SS-CL), a new analytical approach that is reliant on time series of catch and length data. The Panel adopted the use of the new approach for groundfish stock assessments. Additionally, the Panel recommended that in 2021 only 2-3 species should be assessed using this new approach and that the Groundfish Sub-committee of the SSC conduct the assessment review. Should the Council adopt this new assessment approach for groundfish stocks at the September Council meeting, the GMT has identified three species for assessment in 2021 using the new SS-CL data-moderate approach.

The GMT recommends four stocks for full benchmark assessments in 2021: lingcod, vermilion/sunset rockfishes, Pacific spiny dogfish, and Dover sole. It is anticipated that both lingcod and vermilion/sunset rockfish will require multiple area assessments and will not only require multiple assessors but also a species-specific Stock Assessment Review (STAR) panel. Additionally, this will be the first benchmark assessment of vermilion/sunset rockfish, which may pose currently unknown challenges. Assessing lingcod in 2021 provides the opportunity to incorporate new research about stock structure along the U.S. West Coast, address data issues identified in the 2017 assessment, and monitor the status of the southern substock component,

which was estimated to be in the management precautionary zone. The final stocks being recommended for a 2021 benchmark assessment are Dover sole and Pacific spiny dogfish, which were both last assessed in 2011 and at the end of their 10-year projections.

The GMT recommends one update assessment for the 2021 assessment cycle: sablefish. Sablefish is a valuable groundfish stock and, based on the stock status estimated in the 2017 benchmark assessment and the change in the pre-specified management risk tolerance (P*), the GMT recommends that this stock be closely monitored.

The GMT recommends data-moderate assessments for the following stocks: squarespotted rockfish, brown rockfish, and copper rockfish. This recommendation considered the data available (e.g., little to no age data), the assessment prioritization ranking, and state and stakeholder concerns.

In addition to full, data-moderate and update assessments, the **GMT recommends catch-only projections be conducted in 2021 for the following species: arrowtooth flounder, canary rockfish, darkblotched rockfish, and petrale sole.** The primary purpose of catch-only projections would be to more accurately reflect the current status of the stock and update harvest limits, primarily by including actual removals rather than assuming the full Annual Catch Limit (ACL) was caught. Incorporating this lower, actual catch would increase future ACLs. As a reminder, catch-only projections maintain all the parameters of the most recent assessment and update only mortality estimates.

Table 1. The GMT’s recommended stock assessments for 2021, the GMT’s proposed assessment type, the NMFS rank for each stock from the 2020 assessment prioritization, and potential number of assessment areas.

Stock	Assessment Type	NMFS 2020 Rank	Potential Areas
Lingcod	Full	7	2+
Vermilion/sunset rockfish	Full	1	2+
Dover sole	Full	8	1
Pacific spiny dogfish	Full/Data-moderate	14	1
Sablefish	Update	5	1
Squarespotted rockfish	Data-moderate	17	1
Brown rockfish	Data-moderate	3	1
Copper rockfish	Data-moderate	3	2+

The GMT has compiled a preliminary list of stocks to be considered for assessment in 2023 (Table 2), while recognizing that this list is likely to change between now and 2022. Early identification of stocks that have a high likelihood of being considered for assessment in 2023 can allow states and the Science Centers to prioritize ageing and data collection appropriately. The list is based on top-ranked species in the 2020 assessment prioritization, time since the last assessment, and stocks that the Council or advisory bodies have identified as a priority for assessment but were not able

to be included in the 2021 list. If any of the stocks recommended by the GMT for assessment in 2021 are not selected (Table 1), these should be added to the 2023 list provided below (Table 2).

The stocks preliminarily identified for assessment in 2023 comprise stocks of major fishery importance (petrale sole and sablefish), one stock projected to potentially rebuild (yelloweye rockfish), stocks that have been previously assessed and are at the end of the 10-year projection period (roughey/blackspotted rockfish, longspine thornyhead, shortspine thornyhead, rex sole, and English sole), and stocks that have overfishing limits (OFLs) based on category 3 methods (quillback rockfish, bank rockfish, and starry rockfish). In addition to those stocks, both subcomponents of yellowtail rockfish north and south of 40° 10' N. lat. are recommended for assessment in 2023, with the option of an update assessment for the stock north of 40° 10' N. lat. Waiting to assess this stock until 2023 will allow additional data collection and the ageing of already-collected otoliths, which will be critical for the assessment of yellowtail rockfish south of 40° 10' N. lat.

Table 2. The GMT's recommended stocks to be considered in 2023, the GMT's proposed assessment type, and the NMFS rank for each stock from the 2020 assessment prioritization.

Stock	Assessment Type	NMFS 2020 Rank
Petrale sole	Full	12
Black rockfish	Full	2
Quillback rockfish	Full	3
Sablefish	Full	5
Roughey rockfish	Full	22
Yellowtail rockfish (north)	Full or Update	14
Yellowtail rockfish (south)	Full or Data-moderate	14
Yelloweye rockfish	Update	11
Bank rockfish	Data-moderate	23
Starry rockfish	Data-moderate	19
Longspine thornyhead	Data-moderate	38
Shortspine thornyhead	Data-moderate	26
English sole	Data-moderate	33
Rex sole	Data-moderate	24