

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON PHASE 2 STOCK DEFINITIONS

The Scientific and Statistical Committee (SSC) reviewed the proposed framework and analysis in support of a range of alternatives for the Phase 2 stock definitions process. Todd Phillips (Council staff) provided an overview of the Phase 1 and Phase 2 processes, results of the analysis in Attachment 1, and the range of alternatives to define stocks for the species listed in Group A. The first step in Phase 2 is to identify which of the 86 species currently listed in the Pacific Coast Groundfish Fishery Management Plan (FMP) belong in Group A. Initial Group A designations were based on the percent of fishery mortality that has occurred in Federal waters. Attachment 1 displayed these percentages by species, state, and fishing sector (i.e., recreational or commercial). The 50 percent state-Federal threshold that was initially proposed to make conclusions about predominance in Federal waters was reduced to 25 percent as a way to account for past, present, and/or future uncertainty. The SSC concurs with the adoption of a state-Federal threshold that recognizes the limitations associated with analyzing data from a time period when fishing effort was highly constrained to shoreward Federal waters, given that many closed areas have since reopened to fishing activities. The SSC notes that rationale for the specific state-Federal threshold used in the analysis was not well documented and there was little indication of the sensitivity of results to the 25 percent value.

The SSC discussed the first step in the Phase 2 process and provide a few considerations for the Council at this time. Although commercial catch data were analyzed as weight or biomass, recreational data could not easily be converted from numbers to biomass. Using numbers instead of weights for recreational data may lead to misinterpretations of catch ratios for many stocks, given that many of these species tend to move into deeper waters as they get larger. Thus, catches within state waters typically consist of smaller individuals, leading to likely underestimates of recreational mortality in the Exclusive Economic Zone (EEZ). The SSC notes that there are additional data sources that could substantially improve mortality estimates for some recreational fisheries, especially for species with inconsistent results between recreational and commercial sectors. Although recreational catches for Washington lack fine-scale geographic information, a considerable portion of the recreational catch for some species (e.g., black rockfish) occur in Federal waters and are underrepresented in the analysis. Data from Oregon should be cautiously used as a proxy for Washington given differences in bathymetry within the EEZ. This is especially true for nearshore species.

The SSC notes that Attachment 1 recognizes that the “mixed mortality” between state and Federal waters “present a unique challenge”. This statement is particularly true with respect to the successful implementation of monitoring, management, and assessment. It is not likely that the consequences and challenges to monitoring and assessment of removal from the FMP can be adequately evaluated or meaningfully predicted.

The SSC discussed the proposed range of alternatives for stock definitions pertaining to the species listed in Group A (Table 34) and recommend the following modifications:

- 1) Darkblotched rockfish: Add Option 2 and Option 3 to account for genetic differences between Washington and northern California.
- 2) Flag rockfish: Option 2 is not supported by the scientific literature review because any evidence of stock structure is likely a consequence of misidentifying redbanded rockfish as flag rockfish north of Heceta Bank, Oregon. The SSC recommends consideration of only Option 1 (coastwide).
- 3) Greenspotted rockfish: Add Option 2 to account for differences in growth rates and exploitation histories north and south of Point Conception, California. These differences were represented by two area models in the 2011 stock assessment.

Single stocks with state-based boundaries (e.g., “California only” or “California/Oregon”) may benefit from a coastwide stock definition to allow for potential northward shifts in distribution as environmental conditions continue to change. Thus, the SSC recommends that species with no evidence of stock structure but limited ranges should be delineated as “Coastwide”. For example, bronzespotted rockfish was identified as “Coastwide or California only” in the range of alternatives but the SSC recommendation would be “Coastwide”.

The SSC recommends against state-specific inclusion or exclusion of species in the FMP due to considerable uncertainty in the information used to define stock structure. Additionally, conclusions about spatial population structure in Attachment 1 should be updated from “N” (no population structure) to “U” (unknown population structure) for big skate, bocaccio, Pacific hake, and splitnose rockfish. These species were identified as having “limited” information relative to spatial population structure and show evidence of spatial variation in key life history traits.

The SSC also discussed the species listed in Group B and supports the movement of lingcod and vermilion rockfish (OR) to Group A.

- Lingcod: Using numbers instead of weights for recreational catches likely underestimates lingcod mortality in Federal waters. Additionally, the SSC anticipates that recent redistributions of fishing effort from access to previously closed areas will increase commercial and recreational retention of lingcod in the EEZ.
- Vermilion rockfish (OR): As previously described, the SSC does not recommend state-specific inclusion or exclusion of species in the FMP due to considerable uncertainty in the information used to assess stock structure.

For Step 2 of Phase 2, the SSC recommends careful consideration and analysis of additional data to inform decisions for the following species:

- 1) Quillback and copper rockfishes: Similar to lingcod, larger individuals tend to occupy deeper waters and the fishery may have been compressed to the nearshore relative to the potential future distributions of effort. Visual survey data span state and Federal waters in California and may provide context for stock structure and potential shifts in the distribution of fishing effort as spatial management constraints are lifted. Moreover, previous delineations of stock structure were based on general concepts (e.g., that nearshore species tend to exhibit spatial population structure) rather than direct evidence.

- 2) Sand sole and starry flounder: Historical exploitation rates were far greater in the commercial sector relative to recreational fisheries but the decision to assign sand sole and starry flounder to Group B was based on recent and very modest recreational catches. The SSC recommends that the Council consult with the Groundfish Management Team and Advisory Subpanel to identify whether nearshore flatfish trawl fisheries are likely to increase in the future.
- 3) Black rockfish: The available information to inform stock structure for black rockfish is contradictory (e.g., adult movement rates) or lacking (e.g., spatial variation in life history traits) and thus highly uncertain. There is some recent evidence to suggest population connectivity along the U.S. West Coast (see the 2023 stock assessments for details).

Ecosystem component (EC) designations are intended for species that do not require conservation or management but are identified in the FMP to achieve ecosystem-based fishery management objectives. Analysts should consider results of the productivity–susceptibility analysis that was conducted in 2011 ([Cope et al. 2011](#)) when evaluating candidates for EC designation. In the absence of new or additional information, the SSC recommends that only those species identified by Cope et al. (2011) as having low vulnerability be considered for EC designation. The SSC recommends that none of the species identified as having high vulnerability be considered for EC designation. In some cases, *de minimis* landings for more vulnerable species may be a consequence of historical fishing pressure. For example, life history data and historical catch trends for bronzespotted rockfish suggest that this species has a very vulnerable life history and was likely to have been depleted during the 1970s and 1980s. Similarly, rosy rockfish has a moderate degree of vulnerability and catches in the EEZ are likely to exceed the state-Federal threshold in the near future.

The SSC would like to reiterate that the Council may want to reconsider stock definitions periodically, as new scientific information becomes available. This is particularly important given that the lack of evidence for multiple stocks does not necessarily reflect evidence of a single coastwide stock. The Council should consider adopting FMP language so that it is relatively straightforward to change stock definitions as new information becomes available.

PFMC
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