

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON INITIAL HARVEST SPECIFICATIONS AND MANAGEMENT MEASURE ACTIONS FOR 2019-2020 MANAGEMENT

Review of Analysis of New Default Sigma Based on Past Assessments

The Scientific and Statistical Committee (SSC) reviewed a report by the SSC Groundfish Subcommittee (GFSC) of their August 2017 meeting to review several new analyses of the sigma values that quantify scientific uncertainty in stock assessments, and are used to calculate the buffer between the overfishing limit (OFL) and acceptable biological catch (ABC). Based on the results of those analyses (Agenda Item E.9, Attachments [4](#) and [5](#)), and subsequent discussions, the SSC recommends that there be no change in the default sigmas used to develop ABCs for the 2019-2020 management cycle. The methods reviewed are promising approaches to evaluate how uncertainty and sigma values increase in the future as assessments become older. Consequently, specification of OFLs in future management cycles will likely include some type of calculation to scale sigma values relative to the age of the assessment.

Sigma values for the 2019-2020 Harvest Specifications

The SSC notes that several stock assessments developed during the 2017 cycle had greater uncertainty than the default sigmas, when inferred from either the decision table or the model-estimated confidence intervals. In these cases, the SSC adopted sigma values that reflect the maximum of these three values. The SSC will revise its Terms of Reference for Stock Assessment to clarify this practice.

OFL Determinations for the 2019-2020 Harvest Specifications

The SSC evaluated OFLs for each stock and area (including contributions to managed stock complexes) compiled by Council staff based on 2017 and previous stock assessments and analyses. The OFLs are provided in Table 1 in [Agenda Item E.9, Supplemental Revised Attachment 1](#). OFL values from stock assessments (including updates and catch-only updates) developed and recommended for management in this past assessment cycle were taken directly from those assessments. For all values in the table that were based on past assessments or data-limited methods, two scientists (either assessment analysts and/or members of the SSC GFSC) reviewed the original document and confirmed that the numbers in the table were correct, and thus represented the best scientific information available.

The precise origin of several values was unclear at the time Attachment 1 was provided to the briefing book. These values were investigated by SSC members over the past several weeks, and discussed at the SSC meeting. Based on those discussions, the SSC recommends the following changes to Supplemental Revised Attachment 1:

- For cowcod south of 40° 10, the 2019 and 2020 OFL values were updated to 13.3 mt for the Monterey management area, based on Appendix C of the 2013 cowcod assessment.

- For lingcod, the stock assessment team (STAT) provided revised OFLs to correct a technical error in the way in which the projections were conducted in Stock Synthesis for the 2017 California base model. Specifically, when there are time blocks used in selectivity estimations, care must be taken to ensure that the model does not revert to applying the earliest selectivity patterns to the projection period. The revised value for 2019 for the California model (area south of 42° N.) is now 1,253 mt. As there were some additional technical issues associated with providing the 2020 OFL in time for SSC review, including that the OFL will also be dependent upon the P-star value chosen by the Council for lingcod, the 2020 OFL will be provided for final adoption in November. The 2019 OFL for the California model leads to 2019 OFLs north and south of 40° 10 N. of 4,957 and 986 mt, respectively. The basis for the apportionment of the California model OFL is the five-year average percentage of the NWFSC bottom trawl survey biomass in California waters between 40° 10 and 42° N., which is estimated to be 21.3 percent.
- For blue/deacon rockfish in Washington state, as catches and other data were not included in the most recent assessment (which was limited to Oregon), contributions to the northern OFL were based on an analysis developed by the STAT and recommended by the SSC as the best available science. Those contributions are 8.7 and 8.4 mt for 2019 and 2020, respectively. This leads to final OFLs for “nearshore rockfish north” of 203 and 200 mt for 2019 and 2020, respectively. The analysis will be included as an appendix in the final blue deacon rockfish stock assessment.
- For blue/deacon rockfish in California south of Point Conception, catches and other data were not included in the most recent assessment. Consequently, a depletion corrected average catch (DCAC) analysis, informed by change in biomass in the recent (2007-2017) time period from the base California model, was undertaken subsequent to the assessment review. The analysis indicated an OFL of 21.8 mt for both years in the 2019-2020 management cycle. The analysis will be appended to the final stock assessment document. The adoption of this OFL leads to values for nearshore rockfish south equal to 1,300 and 1,322 mt for 2019 and 2020, respectively.
- For gopher rockfish, the 2005 assessment is no longer considered reliable for OFL projections. However, given that the stock was estimated (and projected) to be well above B_{MSY} in that assessment, and catches have generally been below the equilibrium maximum sustainable yield (MSY) level since the assessment was adopted, the OFL is based on the equilibrium MSY proxy estimated in that assessment, of 101 mt. This contribution remains a category 3 assessment, based on the age of the assessment.

Several OFLs could not be updated at the present meeting:

- For Pacific ocean perch (POP), OFL values are pending the results of additional analyses, and potential changes to the base model, as requested by the SSC to the POP STAT ([Agenda Item E.8.a, Supplemental SSC Report 1](#)), to be reviewed in the mop-up webinar in late September.

- For starry flounder, a data moderate assessment using Depletion-Based Stock Reduction Analysis (DB-SRA) has been developed and will be reviewed at the September mop-up webinar.
- For Washington cabezon, discussions of potential analyses are ongoing.

The SSC also notes that the OFLs adopted for 2020 are contingent on the assumption of ABC removals in 2019, which are in turn contingent on Council's choice of P-star (P*; the probability of overfishing), and may need to be revised based on Council decisions or changes to P-star values.

Stock Assessment Category Designations for the 2019-2020 Management Cycle

The category designations in Table 1 in [Agenda Item E.9, Supplemental Revised Attachment 1](#) have been confirmed by the SSC as consistent with the approach used to determine OFLs. Changes relative to past designations included a change for yelloweye rockfish from category 2 to category 1 (based on the fact that recruitment deviations are estimated and appear well informed), and California lingcod from category 2 to category 1 (based on the extended time series from the bottom trawl survey, including age-compositional data not included in the 2009 assessment, which help inform the model). Blue/deacon rockfish is designated a category 2 assessment, because it combines two cryptic species into one assessment complex.

PFMC
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