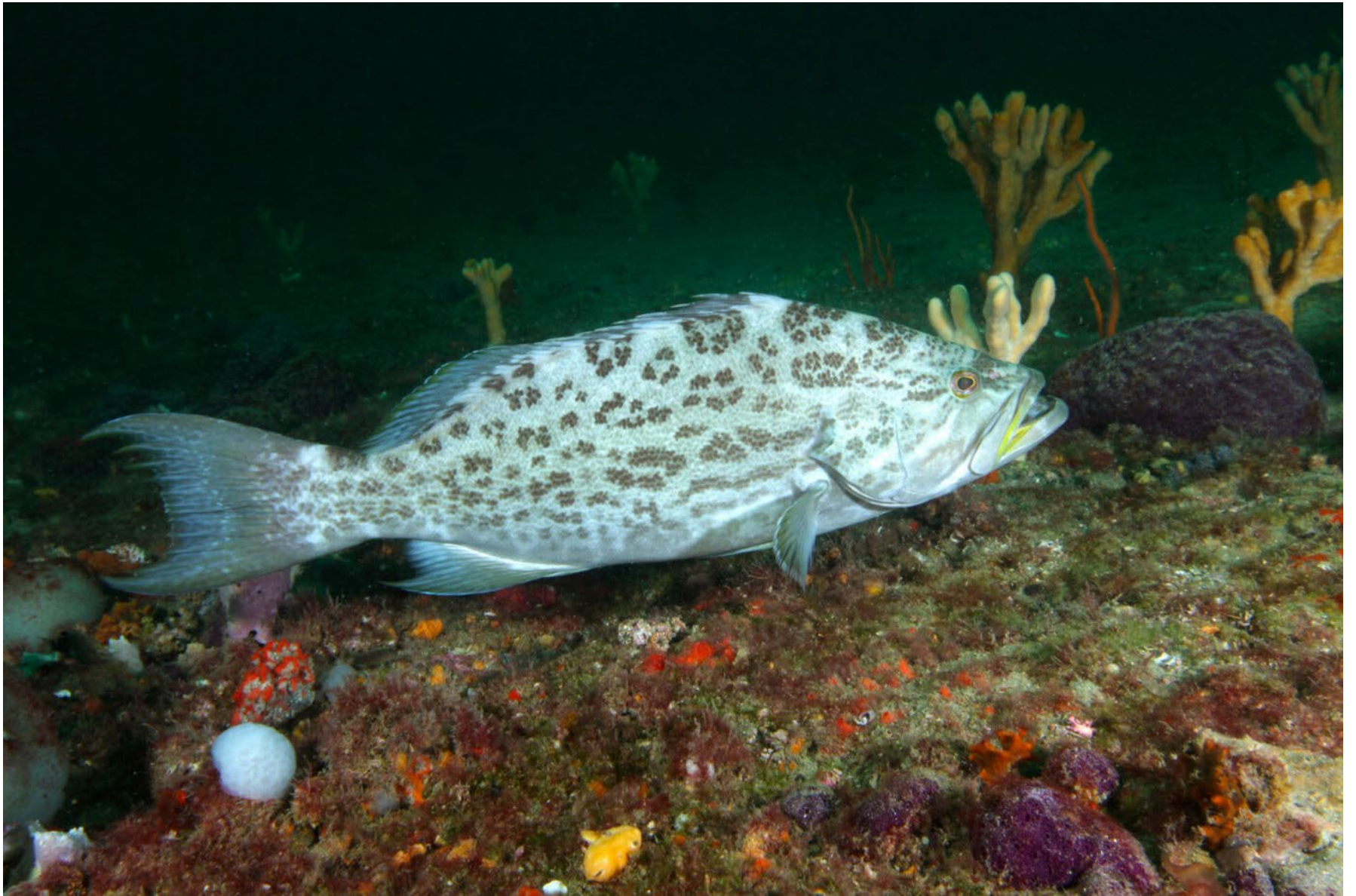# SSC Reports
March 2023 SAFMC Meeting
SSC_Jan2023_Report_Final

Report of SSC Meeting
January 20, 2023

SSC Report To The
Snapper Grouper Committee
March 2023 SAFMC Meeting
SSC_Jan2023_Report_Final

Report of SSC Meeting
January 20, 2023

SSC Review of SEDAR 68 Operational Assessment – Scamp complex

SSC agrees that the assessment:

- appropriately addresses terms of reference
- is consistent with best scientific information available
- is an adequate basis for determining stock status and supporting fishing level recommendations, and
- used methods of addressing uncertainty that are consistent with expectations and available information

SSC Review of SEDAR 68 Operational Assessment – Scamp complex

Does the assessment provide a reliable, quantitative estimate of current stock status?

- *Assessment with regard to SSB/SSB_{MSY} is robust and shows clear **overfished** status (100% of MCBE runs indicated overfished).*

- *Overfishing status (F/F_{MSY}) includes greater uncertainty; the base run indicates **overfishing** is not occurring in recent years (2019-2021), but approximately 30% of MCBE runs estimated that overfishing was occurring.*

- *Assumes F40% as proxy for MSY.*

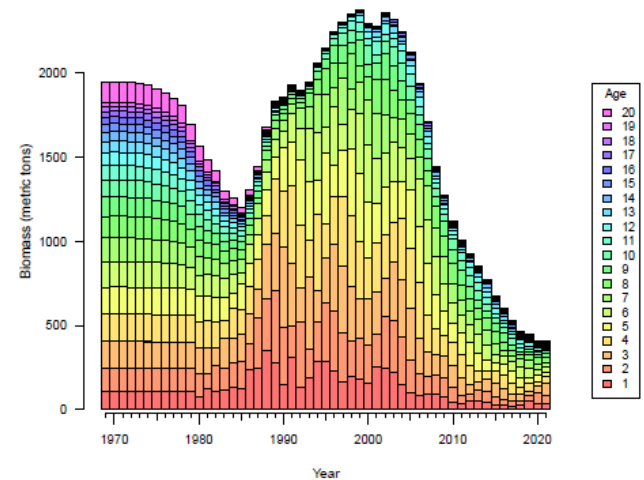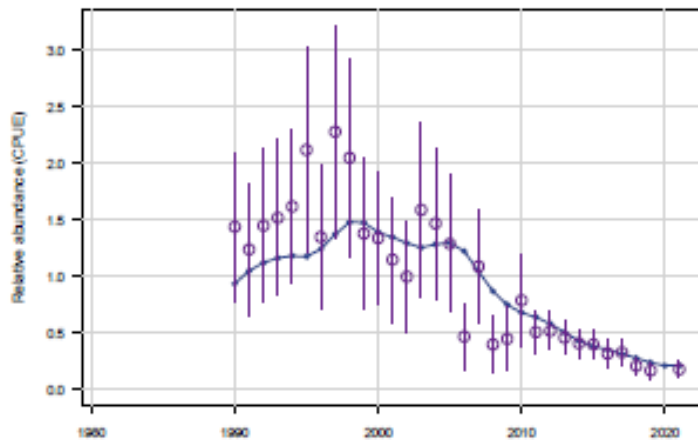# SSC Review of SEDAR 68 Operational Assessment – Scamp complex

Does the assessment reliably capture past trends in the fishery and population?

- *Yes. However, the assessment results are strongly dependent on the fishery-independent index.*
  - *not necessarily a weakness as the SERFS index is fishery-independent and we have no reason to believe the index is not representative of trends in stock abundance.*
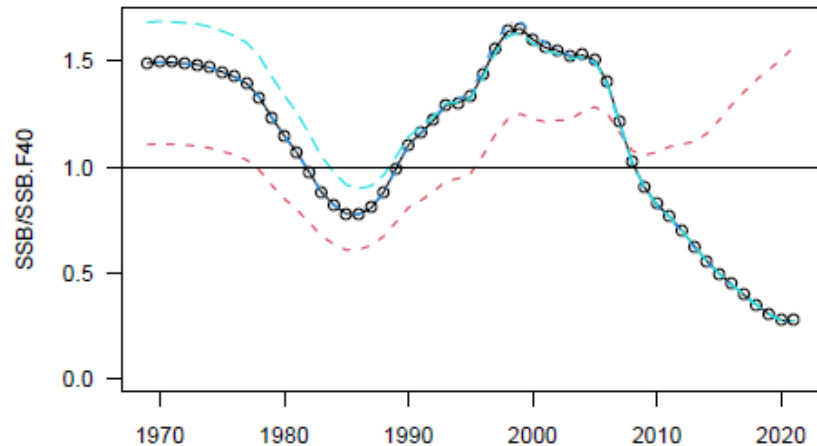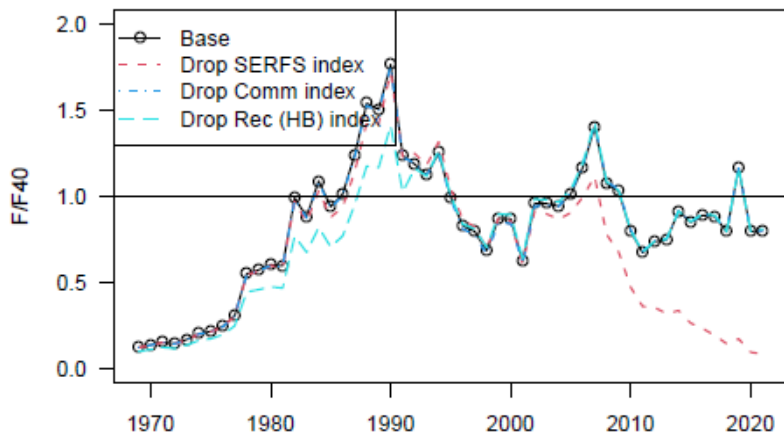
SSC Review of SEDAR 68 Operational Assessment – Scamp complex

- Stock condition has worsened - low recruitment, declines in abundance and biomass

Source: SEDAR 68-OA Assessment Report

SSC Review of SEDAR 68 Operational Assessment – Scamp complex

Factors affecting reliability of fishing level recommendations:

- *The assessment provides a good basis to predict future conditions and support fishing level recommendations; however, the consistently lower recruitment during the recent period (2010-2019), relative to mean recruitment for the full time series,* **results in substantial uncertainty in predictions of future recruitment and stock biomass**.

SSC Review of SEDAR 68 Operational Assessment – Scamp complex

Assessment uncertainties (high):

- MRIP discard estimates have high CVs (CV>0.5)

- Two species complex; they may have different population trends and differences in key life history traits. Could lead to biased assessment results

- Recruitment in the two terminal years (2020 and 2021) was not estimable. Consistently low recruitment in recent period raises question about regime shift (but was not scored as such based on Klaer et al. paper).

SSC Review of SEDAR 68 Operational Assessment – Scamp complex

Assessment uncertainties (medium):

- MRIP landing estimates had high CVs (CV>0.5) in some years and these were replaced with mean from nearest two years.

- No commercial discard estimates in 2021 (approximated from 2019 and 2020)

- The assessment results are heavily reliant on the SERFS index without additional information to support the rate of decline.

SSC Review of SEDAR 68 Operational Assessment – Scamp complex

Assessment uncertainties (low):

- Natural mortality. *Although overfished status was robust to a broad range of M values, overfishing status was sensitive to M values.*

- *Overfishing status was determined by pre-defined BRP (40%SPR) instead of a stock recruitment curve used to estimate FMSY. Justification for using this proxy was based on a detailed review of scientific literature and considered the biology of scamp and yellowmouth grouper.*

SSC Review of SEDAR 68 Operational Assessment – Scamp complex

Apply the ABC control rule and complete the fishing level recommendations table.

Recommend OFL based on $F=F_{40\%SPR}$

ABC Control Rule applied:

- <u>Tier I</u>: 1 (2.5%) because MSY proxy was used
- <u>Tier II</u>: 2 (2.5%) because uncertainty was carried forward in the projections, but environmental conditions were not explicitly included
- <u>Tier III</u>: 4 (5%) because the stock is overfished but not undergoing overfishing
- <u>Tier IV</u>: 3 (10%) because the stock has low productivity, high vulnerability, and high susceptibility
- Recommended total adjustment to the OFL of 20% = P* of 30%
- Recommended $P_{rebuild}$ = 70%

SSC Review of SEDAR 68 Operational Assessment – Scamp complex

Catch level recommendations:

- Catch level recommendation associated with $P_{Rebuild}$ will be provided once a rebuilding scheduled is selected

- Based on Catch Levels Workgroup recommendations:
  - *The rebuilding schedule should be based on long-term recruitment patterns*
  - *Near-term ABC should be determined using recent recruitment estimates.*

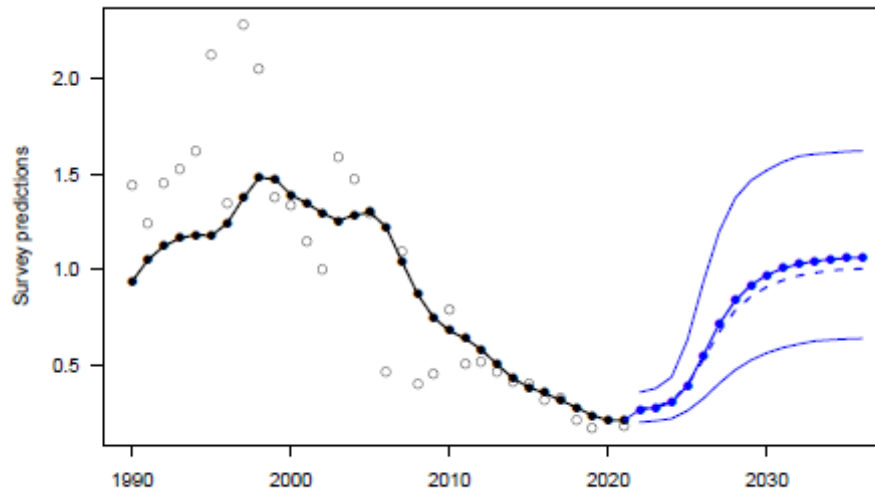- Science center may provide other recruitment scenarios

SSC Review of SEDAR 68 Operational Assessment – Scamp complex
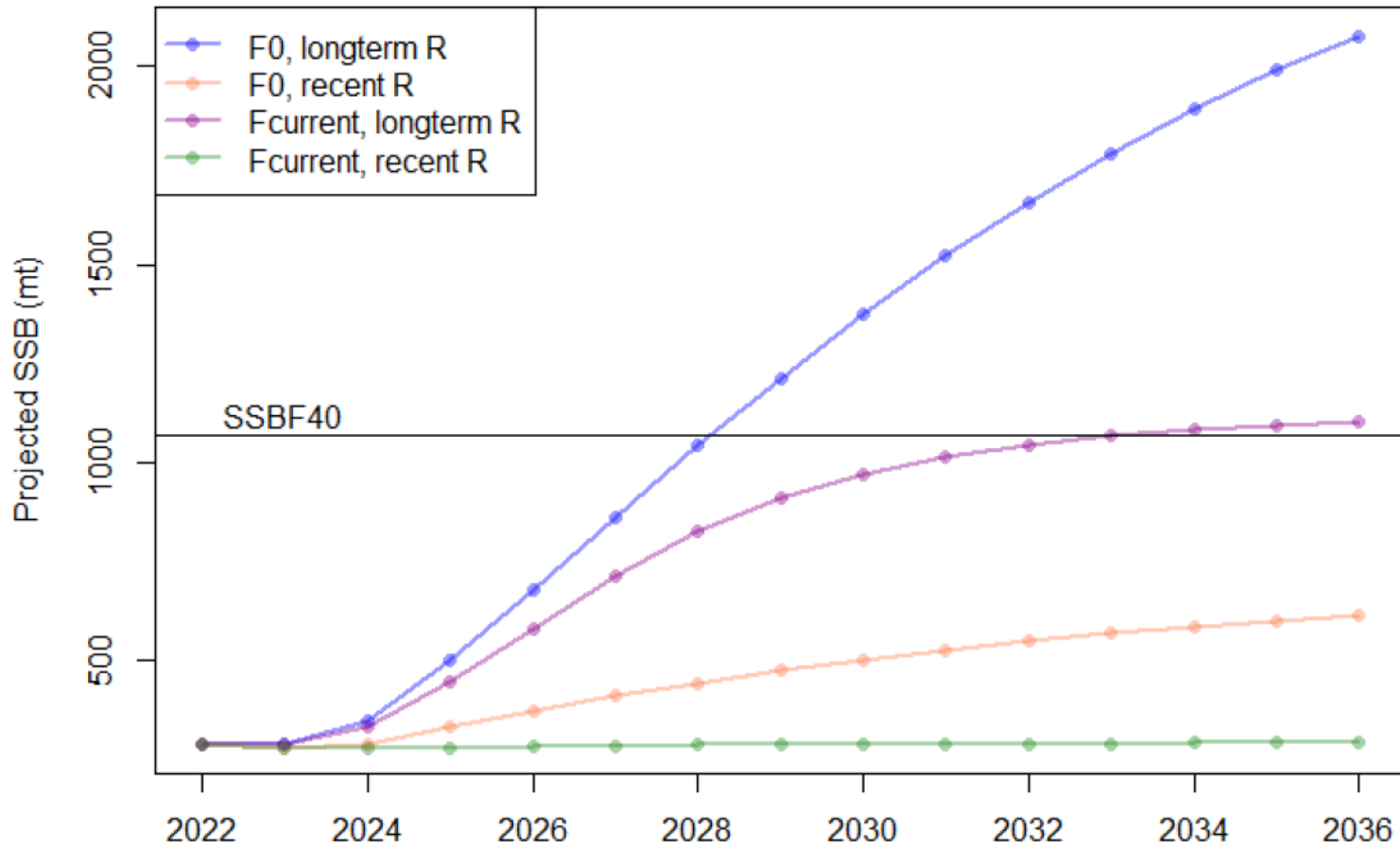
SSC Review of SEDAR 68 Operational Assessment – Scamp complex

Interim analysis or other methods (e.g., CVID index) for checking on stock health will be important to determine if recruitment returns to the long-term average and if the rebuilding schedule is on track, as well as to further evaluate the potential that a regime shift has occurred.

Source: SEDAR 68-OA Assessment Report

SSC Review of SEDAR 68 Operational Assessment – Scamp complex

Review the included research recommendations and indicate those most likely to reduce risk and uncertainty in the next assessment:

- *All research recommendations appear likely to reduce risk and uncertainty in the next assessment.*

SSC Review of SEDAR 68 Operational Assessment – Scamp complex

Additional research recommendations to improve future assessments:

- *Investigate methods to increase precision (lower CV) of MRIP discard estimates.*

- *Explore additional means of estimating recruitment (instead of mean recruitment or stock-recruit curve).*

SSC Review of SEDAR 68 Operational Assessment – Scamp complex

Provide guidance on next assessment:

- *Incorporate findings from CVID selectivity study*

- *Incorporate findings from SCDNR reproductive study for females if total spawning biomass is not used*

- *Timing – minimum of 5 years*
  - *Examine CVID index, landings, or discards to determine if substantial changes have occurred to inform if a new assessment is warranted*

- *Type - Operational*

SSC Report To The Mackerel Cobia Committee March 2023 SAFMC Meeting

SSC_Jan2023_Report_Final

Report of SSC Meeting
January 20, 2023

Spanish mackerel operational assessment

Timeline:

- August 2022 - SSC review of SEDAR 78

- September 2022 – Presentation to council on issues/SEFSC – MRIP issues

- October 2022 – Review of revised SEDAR 78 (change in MRIP)

- December 2022 – Spanish Mackerel workgroup developed TORs for rerun of SEDAR 78 assessment

- January 2023 – SSC reviewed and accepted workgroup TORs
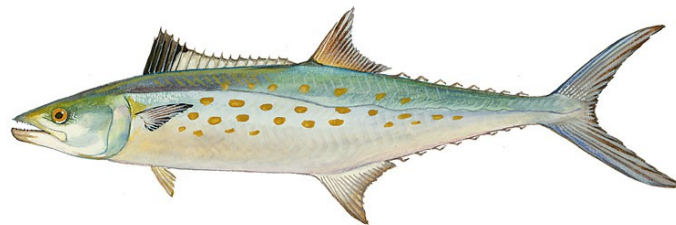
SSC Request for Rerun of Spanish Mackerel Operational Assessment

Terms of reference developed by SSC workgroup and approved by SSC during January 2023 webinar:

1. Use a more contemporary natural mortality (M) estimation method to obtain a point estimate.

2. Consider applying a uniform distribution on M with a range of values corresponding to a maximum age +/- 2 with the mean equal to the chosen point estimate when conducting the Monte Carlo draws

3. Consider a sensitivity run with the most recent 3-year (2018-2020) (geometric) average representing 2020 MRIP data point. Alternatively, consider a sensitivity run with the most recent 3-year (2018-2020) (geometric) average weighted by reverse-CV representing 2020 MRIP data point. Evaluate and note in the report any particular concerns or problems with the MRIP data collected in 2020.

4. Use a recent average recruitment instead of model-derived recruitment from the stock-recruit relationship. Determine an appropriate MSY proxy and time series for average recruitment.

Council Request to SSC

- Council request from December 2022:

- MOTION: DIRECT THE SSC TO PROVIDE CATCH LEVEL RECOMMENDATIONS FOR ATLANTIC SPANISH MACKEREL AT THEIR APRIL 2023 MEETING, EITHER FROM THE UPDATED ASSESSMENT OR USING A DATA-LIMITED APPROACH.

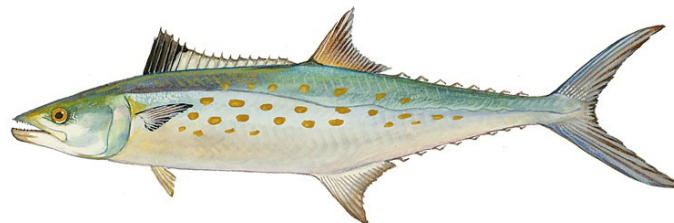# SSC Next Steps Spanish Mackerel Operational Assessment

- *The re-run of SEDAR 78 Operational Assessment based on the workgroup TORs should be prioritized to ensure that it is available for review during the April SSC meeting. Determination of stock status and setting of ABCs are dependent on these new model runs.*

Spanish mackerel operational assessment

Discussion of alternate methods of setting ABCs:

- Request Equilibrium OY and Yield at 75%FMSY in model output for the OA re-run. These values were included in the previous stock assessment report.

- Older DLM methods used to set ABCs for some species in past years no longer represent BSIA (e.g., 3rd highest landings, etc.). Other DLM methods will need to be evaluated

SSC Next Steps Spanish Mackerel Operational Assessment

- *The Council needs to acknowledge that if SSC rejects the OA and instead recommends a data-limited approach (DLM), that this analysis will likely take more time to accomplish than re-running the OA based on the new workgroup TORs. DLMs also may require a larger P*, resulting in a larger ABC buffer and lower catch levels.*