Admin / Budget Agenda Item V

Discussion of the SSC's Best Practices and Voting Procedures

Motion: To accept the edits to the SSC's Best Practices and Voting Procedures as written:

When the SSC is acting as the peer review body for a stock assessment or other study, an SSC member(s) should abstain from any motions and voting on the issue of BSIA if they have served as the analytical lead, or principal or co-principal investigator, or had any direct participation as a member of the analytical team. During the BSIA deliberations the SSC member(s) is free to participate in the discussion, answer questions, and provide pertinent expertise and feedback to the SSC. After a decision has been reached on BSIA, the SSC member(s) is at liberty to motion and vote on remaining management advice (e.g., catch limits, appropriateness of allocation calculations, decision tools developed to inform management action).
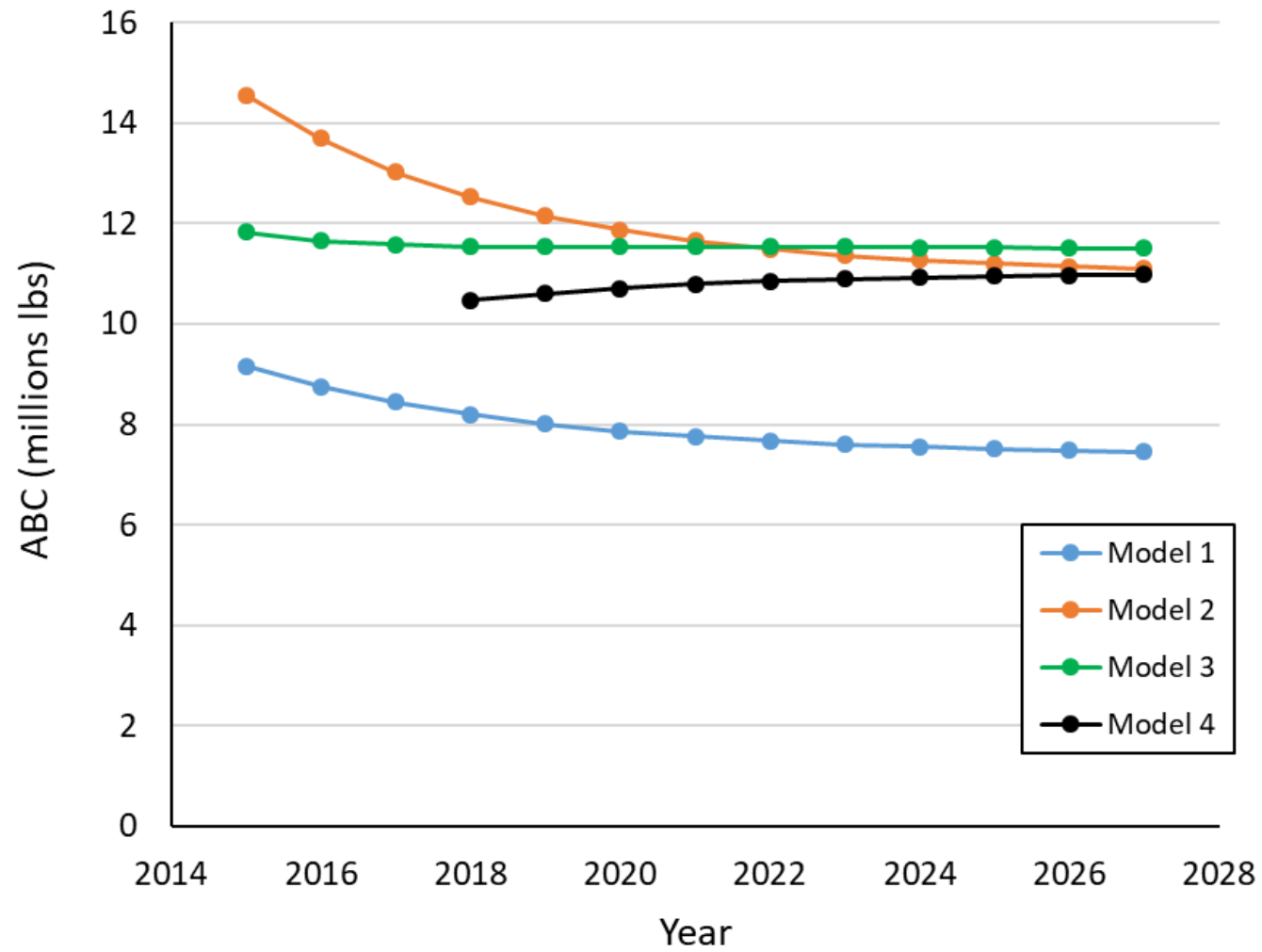
Motion carried without opposition.

Mackerel Agenda Item V

Clarification of Gulf King Mackerel Commercial Historical Landings Data

Influence of CHTS/FES changes on the management advice for Gulf King Mackerel

DATA / Model Used	Model 1	Model 2	Model 3	Model 4
Terminal Year	2012	2012	2012	2017
SEDAR 38	X			
SEDAR 38U		X	X	X
CHTS	X			
FES		X	X	X
Shimp 2012	X	X		
Shrimp 2020			X	X

ABC projections for Gulf of Mexico King Mackerel from the four model configuration considered in this study.
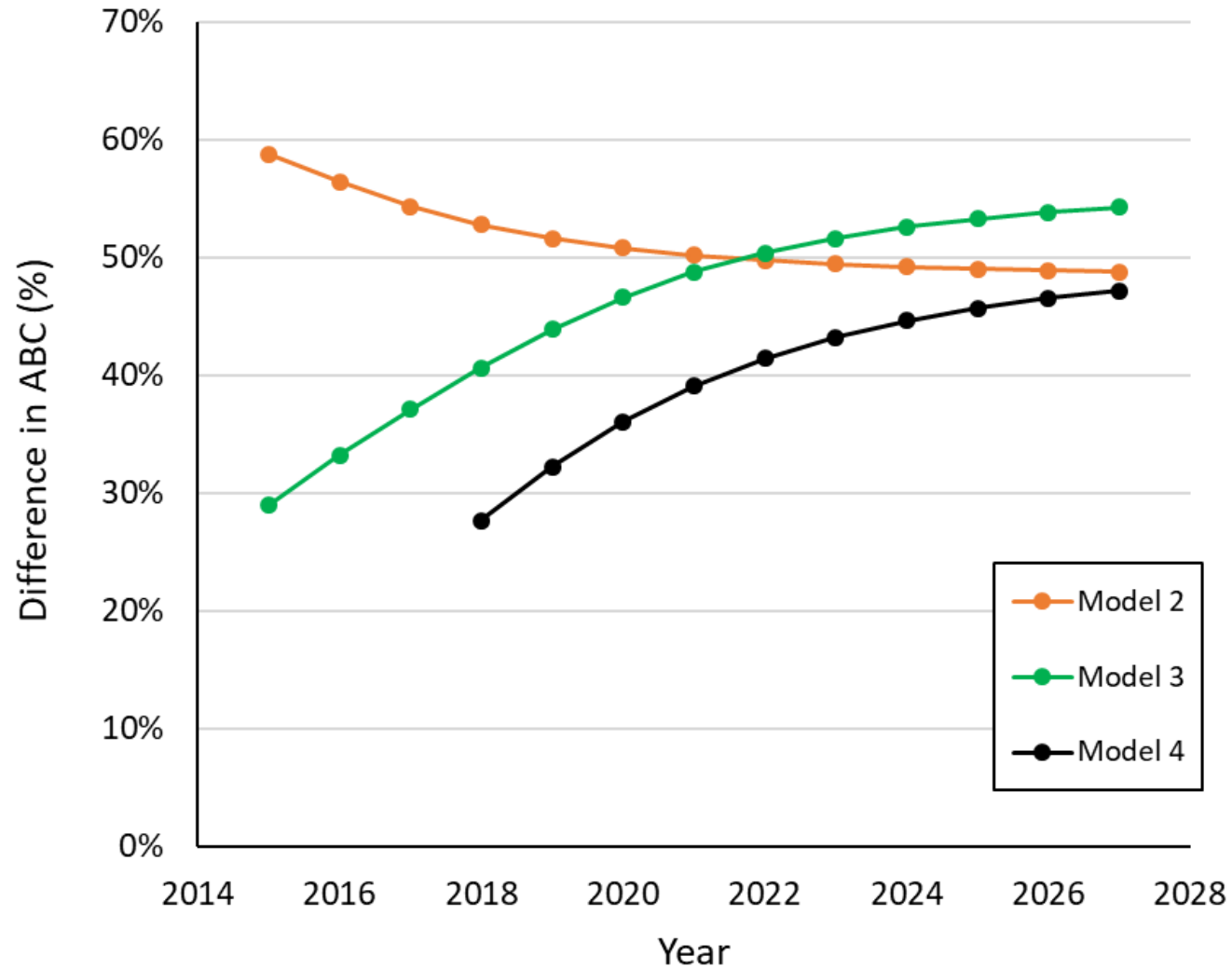
Percent differences between the baseline model (SEDAR 38) ABC projections and the ABCs for the three other model configurations considered in this study for Gulf of Mexico King Mackerel.

- SEFSC noted that when the new MRIP-FES statistics are introduced in Model 2, which is the new SEDAR 38U model, other parameter estimates are also re-estimated, which can affect model outputs.

- Due to the other changes in the model configuration, the effect of using MRIP-FES data instead of MRIP-CHTS is less clear than in assessment efforts for other recently examined species.

# Commercial landings comparison: SEDAR 38 versus SEDAR 38 Update

- Questions about commercial Gulf king mackerel landings from the June 2021 Council meeting.

- Data shown in the Council table contained errors attributable to differences in how data were presented in the stock assessment report.

- While the underlying commercial data were essentially identical, data were summarized in ways that made comparison between tables inappropriate (e.g. fishing year versus calendar year, total catch versus gear- or region-specific catch).

- The SEFSC confirmed that the final assessment data were virtually unchanged between the SEDAR 38 AW and SEDAR 38U.

- The SEFSC is working on a standardized documentation procedure to homogenize the documentation between stock assessments, and welcomed the SSC's input in that process.

- The SEFSC maintains that it is well-equipped and willing to address any data issues or questions.

Sustainable Fisheries Agenda Item V

NS1 Technical Guidance Subgroup 3 Technical Memo

- The ACL is used as a metric to prevent overharvest and is associated with accountability measures.

- Since 2007, the standard ACL is expressed in as amounts of fish in either number or weight.

- However, there are occasions where data limitations for a stock result in the inability to set an ACL expressed in amounts of fish, and technical memo has recently been developed to address this issue.
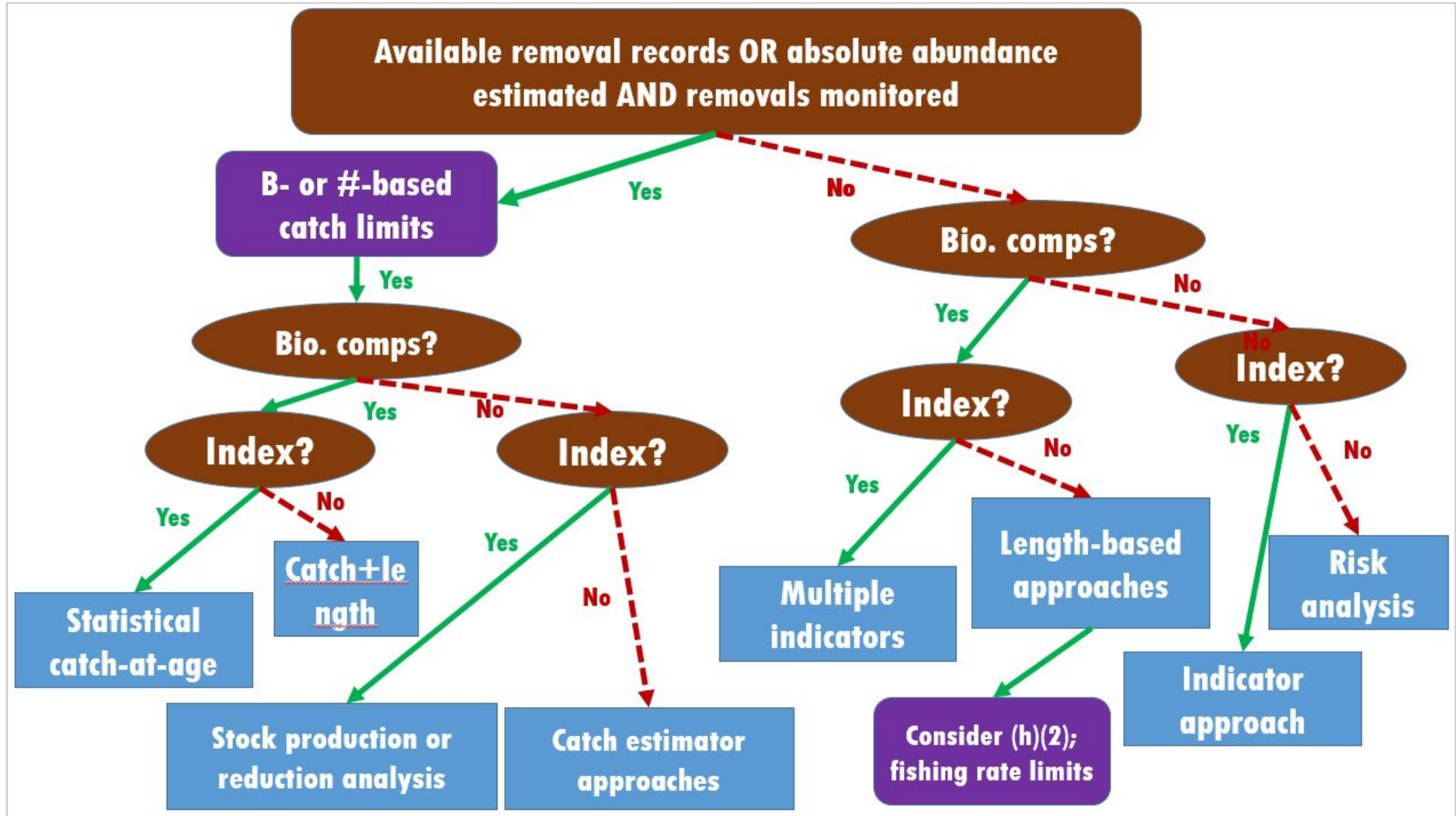
- An ACL expressed as a rate could be used when a stock assessment provides an estimate of fishing mortality (F) and a maximum fishing mortality threshold has been defined. If this approach is taken, the ACL would be expressed in F instead of an amount of fish.

- An indicator-based approach using length data could be used as a way to indirectly inform a rate description for the ACL.

- Considering the length-based approach, the SSC agreed that spiny lobster would make a good candidate species for exploring these approaches since the stock is largely managed using only a size limit. Additionally, a few deep-water species may benefit from an alternative ACL description.

Reef Fish Agenda Item V

Red Grouper Interim Analysis Presentation and SSC Recommendations

- Recently, the SEFSC has begun exploring the discrepancies between modeled weight estimates and those reported in the Annual Catch Limit (ACL) Monitoring Dataset in the recreational landings.

- Recreational landings data is input in stock assessment models as numbers of fish but need to be converted to weight to calculate catch advice.

- Investigations into red grouper-specific recreational landings indicated that the stock assessment model underestimated the average weight of an individual by approximately 2 pounds.

Assessment model underestimated mean weight landed by the recreational fishery.
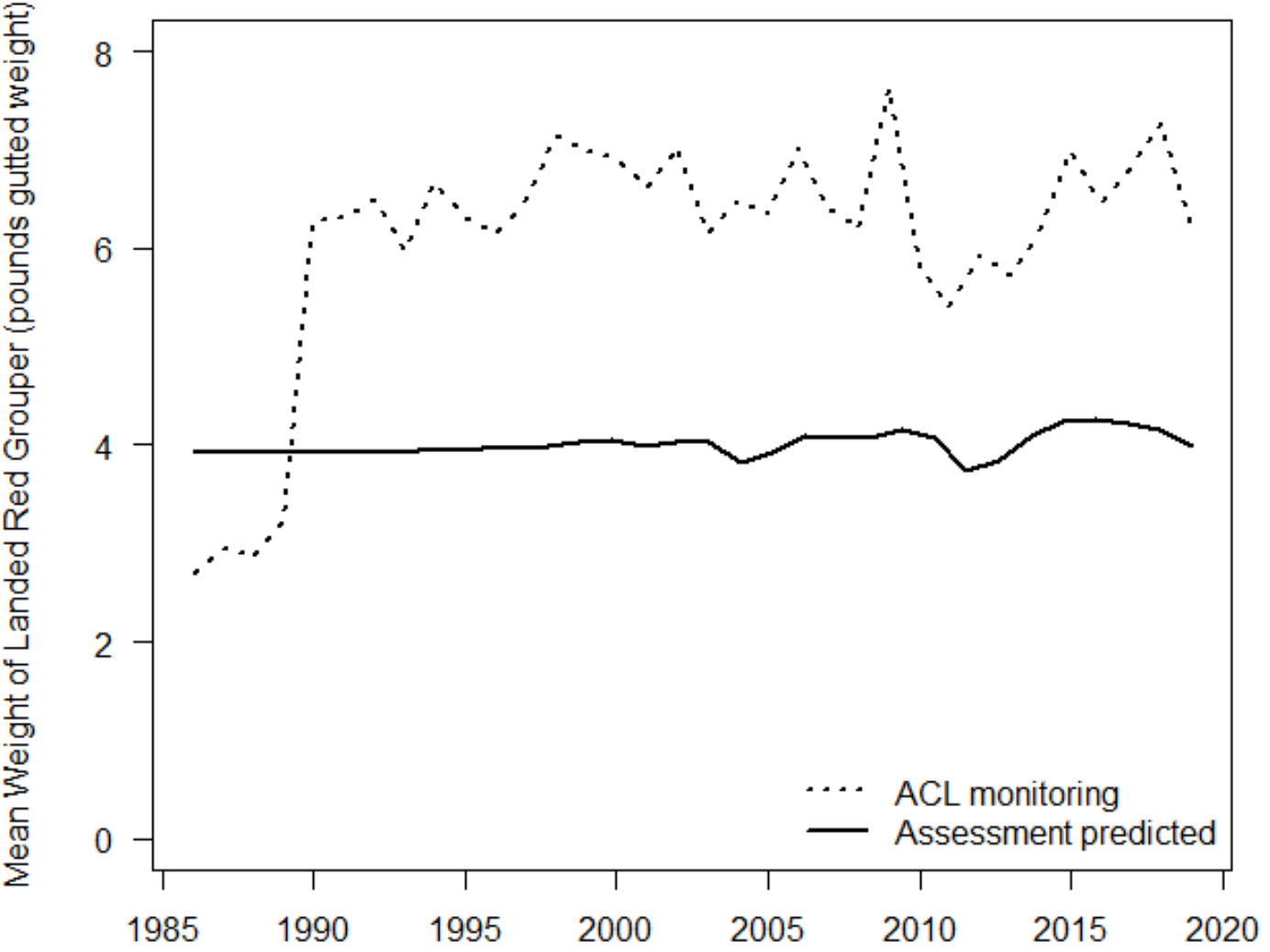
Assessment predicted recreational
landings in weights were multiplied
by a mean weight (MW) scalar
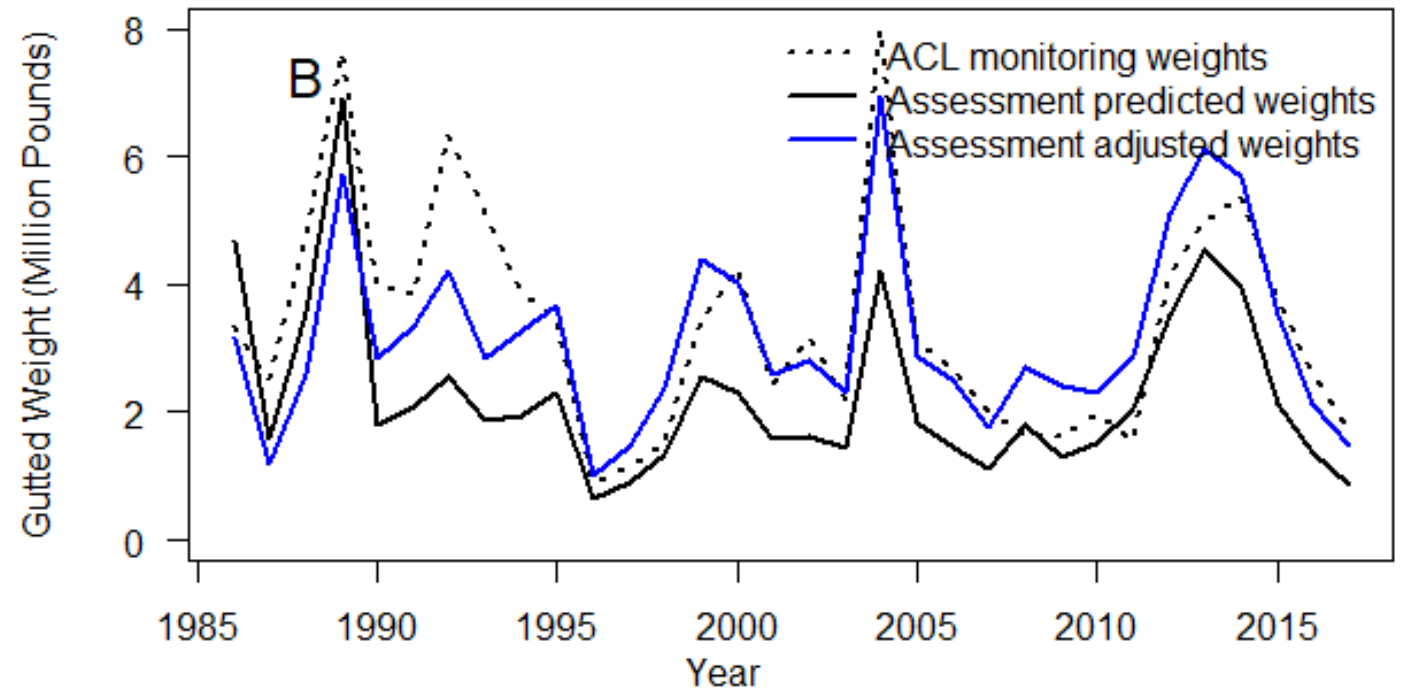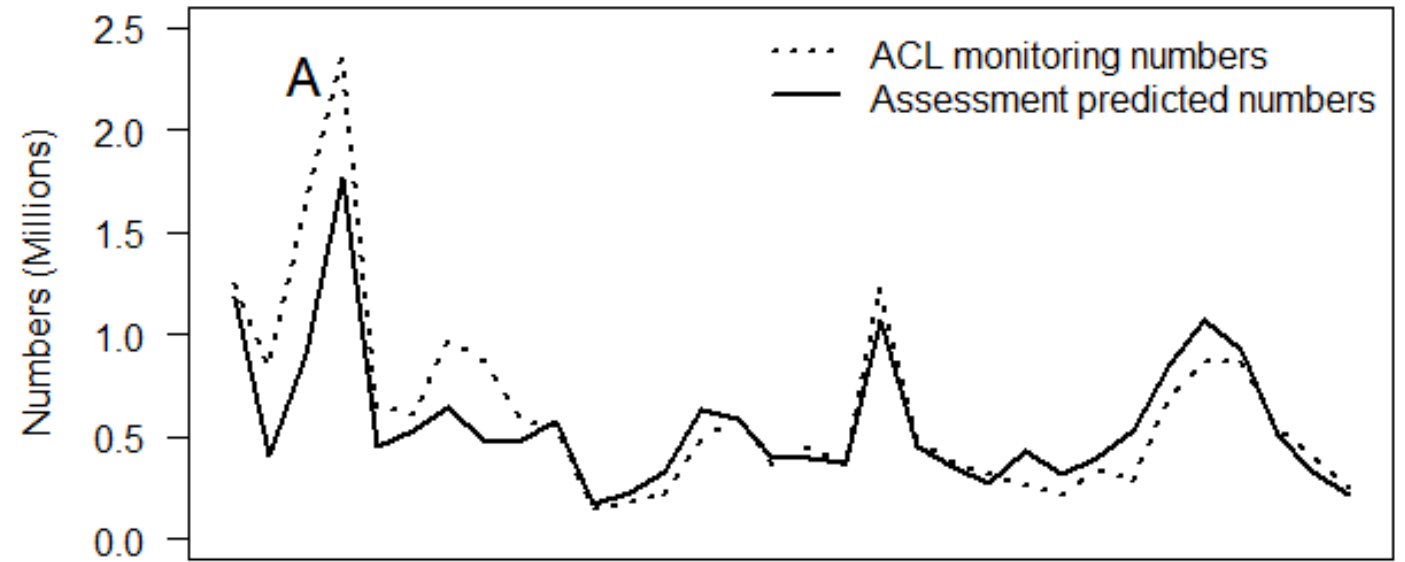
Projected (2020-2024) recreational landings scaled up by 1.597.

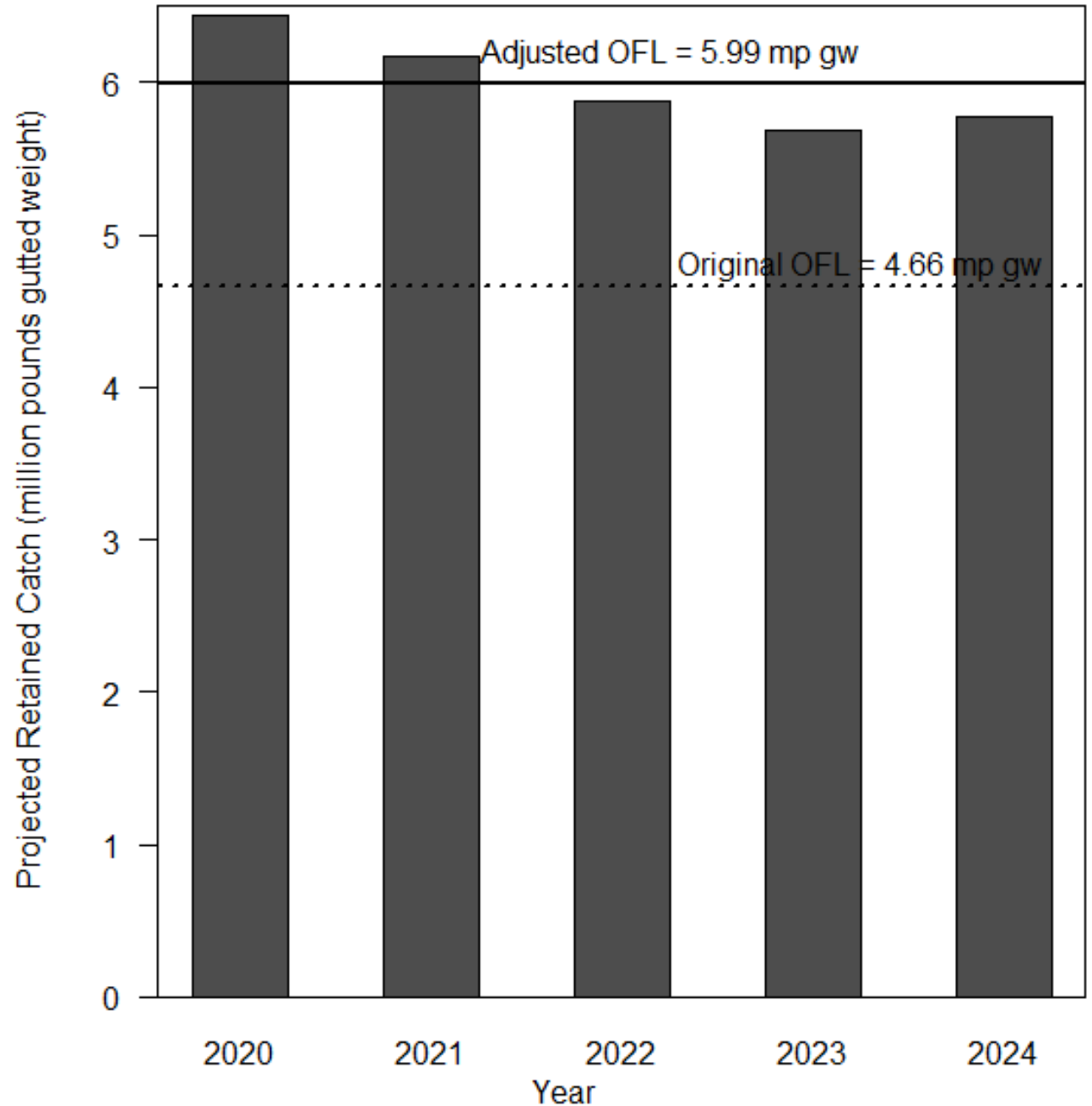Original OFL refers to Amendment 53 following reallocation

Adjustments:
5.99 mp gw (OFL)
Probability of Overfishing 0.50

5.57 mp gw (ABC)
Probability of Overfishing 0.30

MOTION: The SSC accepts the new mean weight estimation methodology to estimate the weight of recreationally caught red grouper.

Motion carried without opposition.

- SEFSC introduced a proposed change to the IA approach for red grouper. Since the terminal of SEDAR 61 was 2017, it would be advantageous to inform new projections using an index-based harvest control rather than the forecasted index generated based on the inherent assumptions of SEDAR 61.

- SEFSC proposed using the NMFS Bottom Longline Survey (NMFS BBL) as the index of abundance and stated that the index estimates had been spatially adjusted in 2020 to account for the reduced sampling effort due to COVID.
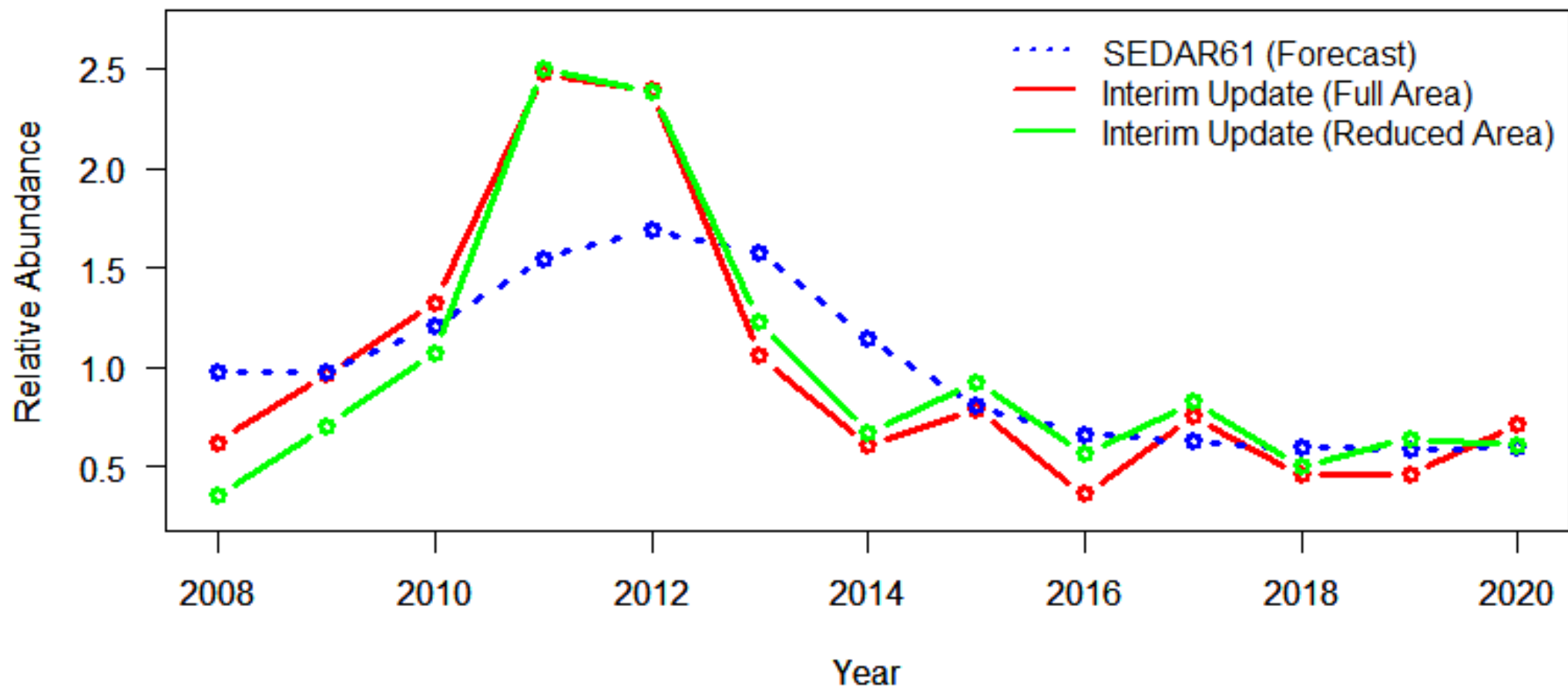
- This index-based harvest control rule has performed well in accounting for episodic natural mortality events in red snapper and gray triggerfish (Huynh *et al*. 2020).

- The approach considers a buffer for tolerance in observed and reference index value using a three- or five-year moving average.

- This calculation was performed using the allocation scenario currently selected as preferred in Amendment 53 as 59.3% commercial and 40.7% recreational.
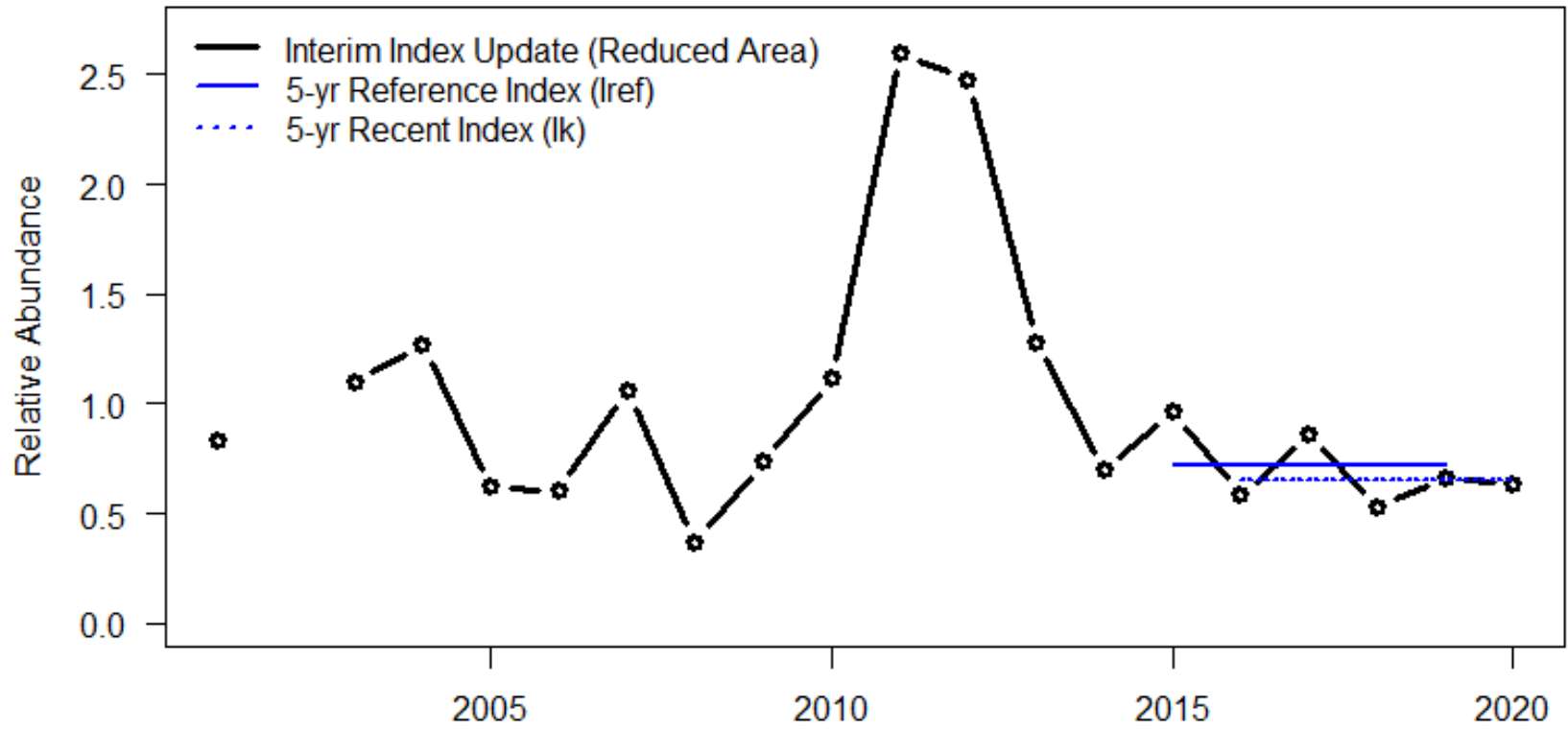
Huynh et al. (2020) approach modified to include buffer for tolerance in observed and reference index values using 3-or 5-year moving average.
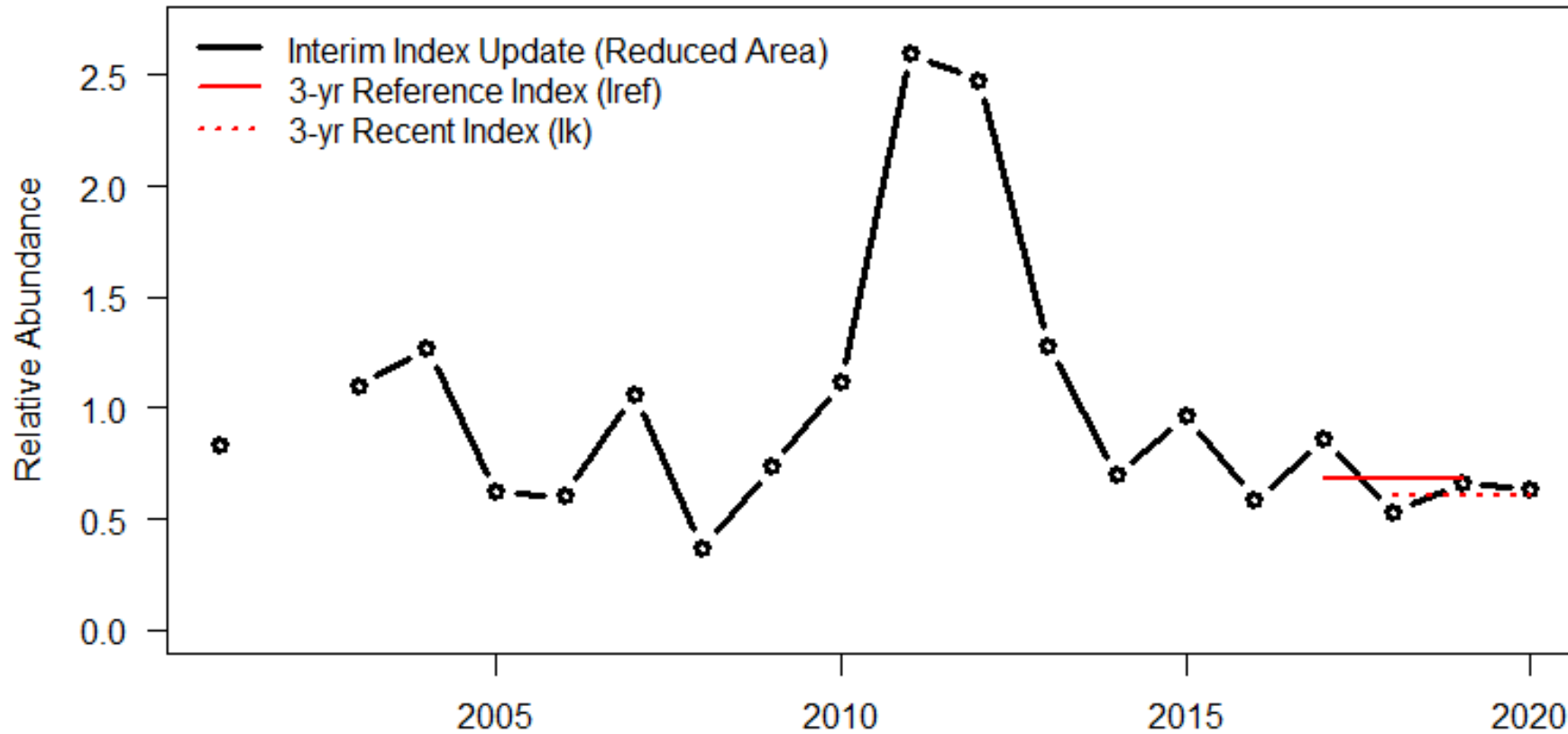
3-year moving average

Value	Average
Iref	0.68
Ik	0.61
Iratio	0.89

Adjusted ABC: 5.57 x 0.89 = 4.96 mp gw

5-year moving average

Value	Average
Iref	0.72
Ik	0.65
Iratio	0.91

Adjusted ABC: 5.57 x 0.91 = 5.07 mp gw

- The SSC discussed the merits of either a three- or five-year moving average for adjusting the ABC from the OFL.

- While an average using more years of data provides some stability in catch advise, a shorter temporal focus would allow for a more 'real time' approach to management.

- Since the Council has a standing request for an annual red grouper IA report from the SEFSC, using a shorter time series could more accurately address management objectives for the stock.

MOTION: **The SSC accepts the updated methodology and interim analysis results for red grouper and sets the OFL at 5.99 mp gw and the ABC at 4.96 mp gw using the 3-year moving average for setting the ABC relative to the OFL. These values are in MRIP-FES units.**

Motion carried 21-2, with one abstention and one absent.

Reef Fish Agenda Item VI

Presentation on Greater Amberjack Calibrated Landings and Catch Limits, and Proposed Management Alternatives

- SEFSC staff introduced a new R-based statistical software approach to generate projections that had not been previously used for greater amberjack.

- Historically, projections are estimated independent of the base model and are difficult to constrain to static targets (e.g., $F_{SPR30\%}$), consistent annual removals, and a fixed sector allocation using the Stock Synthesis (SS) software.

- The projections obtained from the new methodology look very promising, but before consideration the SSC requested that the SEFSC come back to the SSC at its September 2021 meeting to present this new projection method in its entirety.

- The SSC also requested reviewing the SEDAR 70 assessment again, including the revised projections method, for determination of BSIA.

Habitat Protection Committee Agenda Item VI

Draft Generic Essential Fish Habitat Amendment

- The Council is considering three approaches to update EFH for managed species.
- The first would retain the current methodology of qualitatively joining spatial layers by 5 eco-regions, 12 habitat types, and 3 depth zones with species habitat attributes tables informed by a comprehensive literature review. However, this approach often results in very broad descriptions of EFH.
- An alternative in the draft options document would retain this methodology but would update benthic habitat data sources and life history tables based on information available through 2020.
- The second method uses a non-parametric kernel density estimation approach that would only consider species presence to inform descriptions of EFH. This model is simple to construct and results in a more refined description of EFH.
- The third proposed method would use boosted regression tree modeling to identify and describe EFH. This complex quantitative approach would better measure the linkages between species observations and habitat function. However, this method is complicated, time consuming to perform, and at times can generate results that are difficult to interpret.

- The SSC encouraged the use of more computational methods for identifying and describing EFH. However, the SSC agreed that extensive consideration needs to be taken to ensure habitat and species presence data inputs are spatial comprehensive and as complete as possible.
- The SSC suggested that a representative from the NOAA Habitat Division provide a presentation outlining the EFH consultation process at a future meeting.
- The SSC recommended that a hierarchical approach based on available data by species and life stage be used to inform action alternative selection.