



Tab B, No. 6(a)
April 2022

Draft Options for Reef Fish Amendment 54:
**Greater Amberjack Proposed
Management Alternatives**

Overview

- Background
 - Historical Landings and Management Changes
 - Timeline of Events
 - SSC Meetings and Recommendations
 - Projection Methods
 - Projections with Range of Allocations
- Draft Management Changes in Reef Fish 54
- Deadline to End Overfishing and Meet Rebuilding Plan



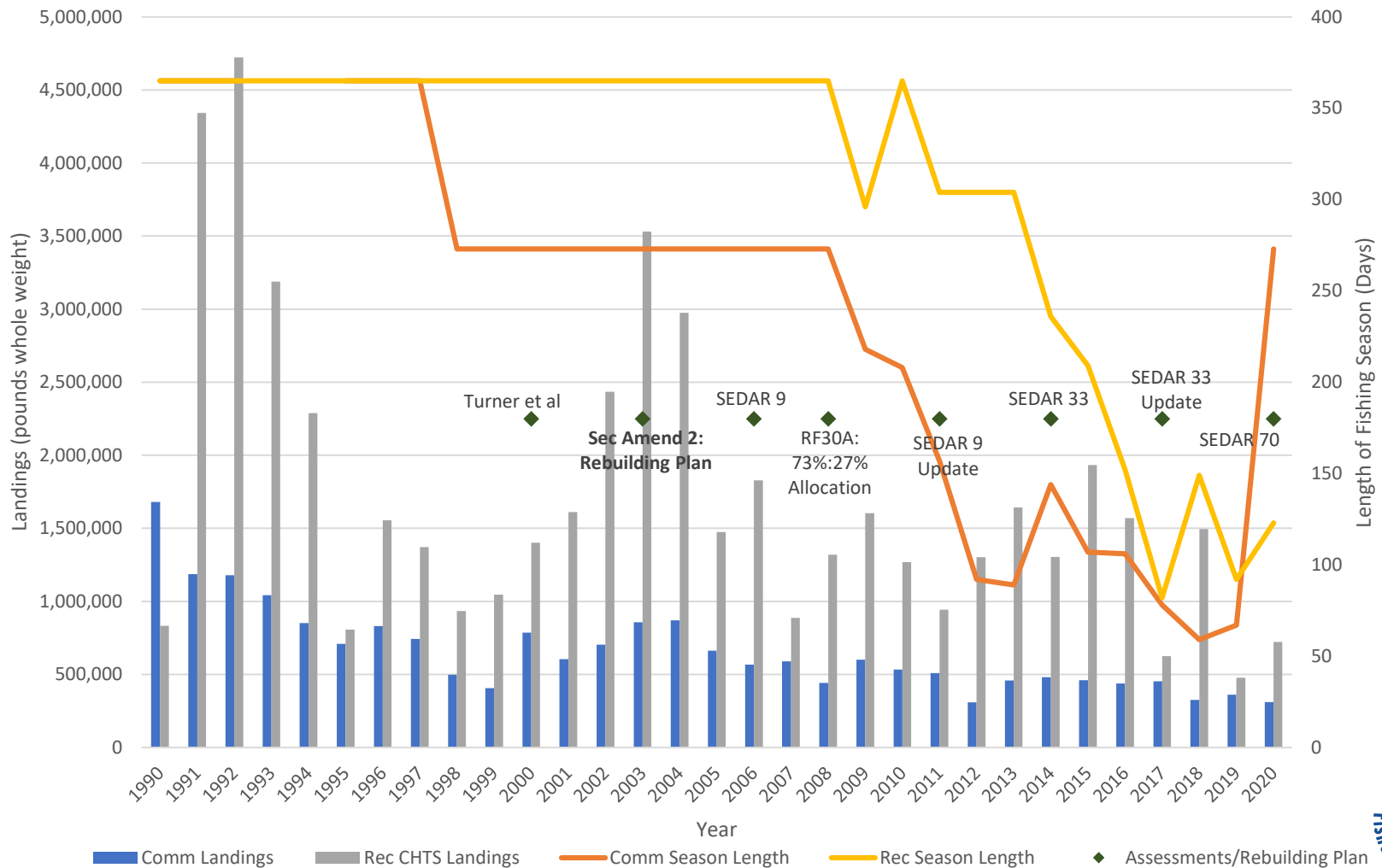
Background

Greater amberjack has been assessed 6 times

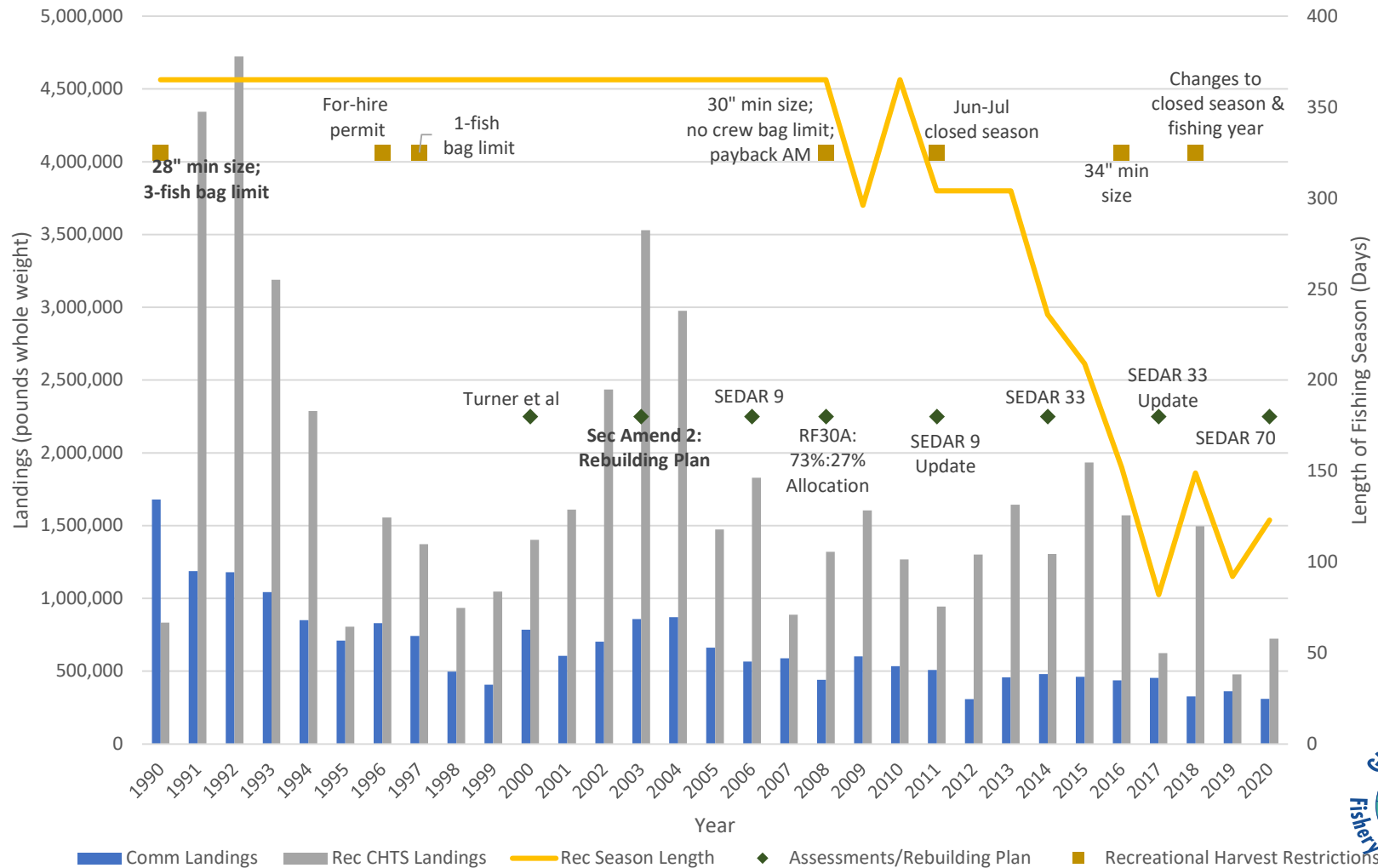
- Turner et al. 2000 – overfished and overfishing
- SEDAR 9 2006 – overfished and overfishing
- SEDAR 9 Update 2011 – overfished and overfishing
- SEDAR 33 2014 – overfished and overfishing
- SEDAR 33 Update 2017 – overfished and overfishing
- SEDAR 70 2020 – overfished and overfishing
- Numerous management changes in this period for both sectors to reduce fishing mortality and rebuild the stock.
- Scheduled to rebuild by 2027.



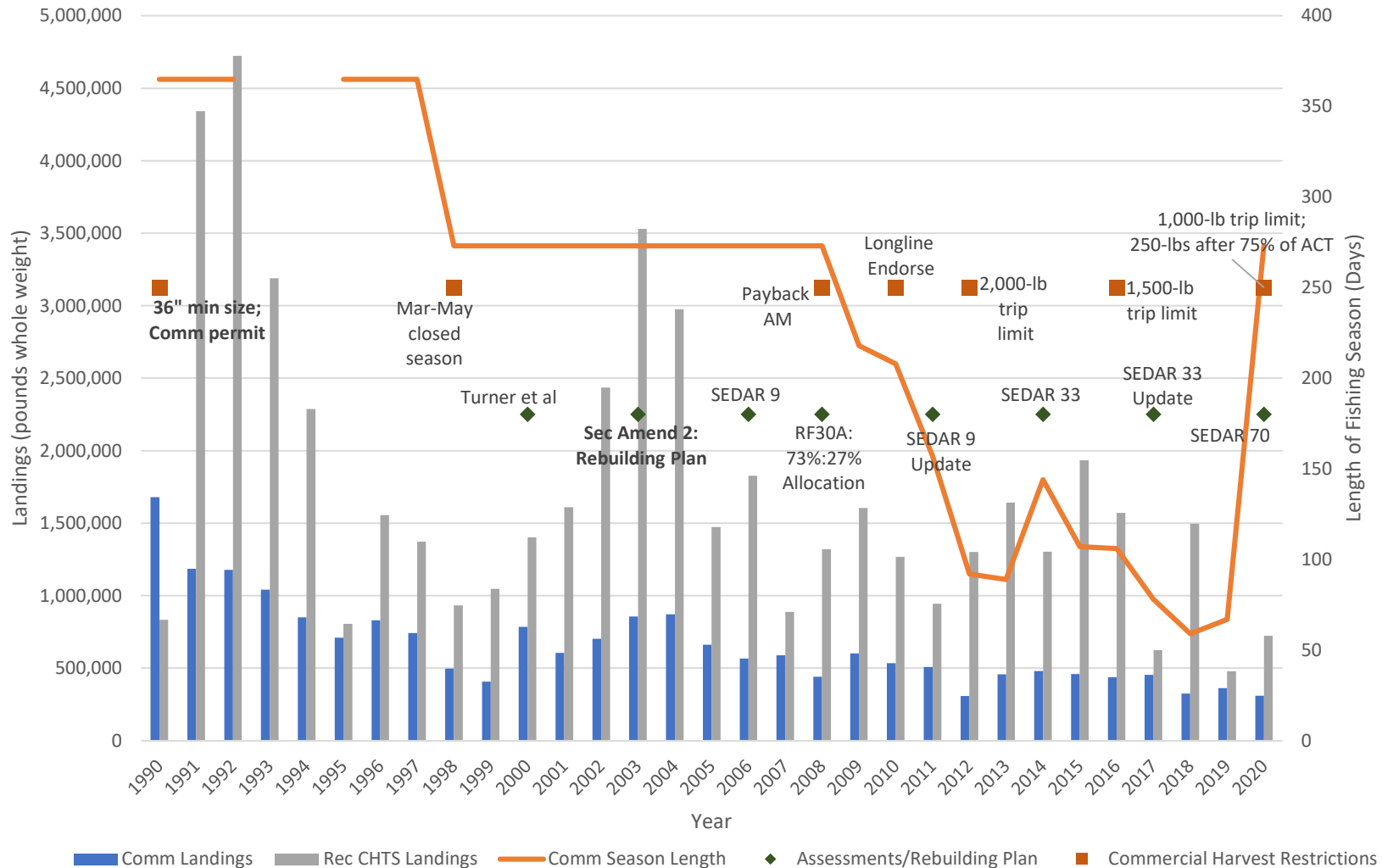
Total Greater Amberjack Landings



Recreational Landings and Seasons



Commercial Landings and Seasons



Timeline of Events

- SSC reviewed SEDAR 70 at Jan. 2021 meeting.
- April 8th 2021: Council received letter from SERO indicating that greater amberjack is overfished and undergoing overfishing. Two-year timeline to end overfishing begins.
- June 2021 Council meeting: Staff provided a presentation on historical landings and allocation scenarios using MRIP-FES data
- Request made to SEFSC for allocation specific projections in July 2021
- During the completion of this request, it was discovered that projection settings related to target biomass and recruitment were mis-specified.
 - A new projection method and code set were also introduced.
 - Several meetings were required to review the new projection methodology; and correct the projection settings.
 - Final projections were accepted in November 2021; work could not begin on this amendment prior to this as the stock status was conditional on the projection methods and assumptions.



Request for Projections with Varying Sector Allocations

- April 2021: Council and NMFS staff worked collaboratively to develop database of historical landings that could be used to inform allocation scenarios.
 - Recreational data used MRIP-FES information provided by SERO through the ACL database (1981-2018)
 - Commercial data were used directly from SEDAR 70.
 - Jacks were not identified to species prior to 1993
 - The stock assessment commercial data underwent additional review and correction using established protocols that have not been fully integrated into the commercial ACL data.
- Staff calculated allocation percentages for various reference periods and requested updated projections for each allocation scenario



Allocation Scenarios

Time series-based scenarios:

- Years 1981-2004; 84% recreational: 16% commercial
- Years 1993-2007; 78% recreational: 22% commercial
- Years 1993-2019; 80% recreational: 20% commercial

Additional Scenarios:

- Maintain the current 73% recreational and 27% commercial allocation
- Maintain the commercial annual catch limit fixed at 484,380 lbs ww (GMFMC 2017a), and calculate OFL, ABC, and sector allocation percentages thereafter.



Projection Summary: November 2021 SSC Meeting

Stepwise corrections to the SEDAR 70 projections presented in Jan. 2021

- At the January SSC meeting, we presented some updated projections that had two key misspecifications
 - $SSB_{30\%}$ was used instead of $SPR_{30\%}$ as a proxy
 - The long-term average of recruitment was used for both benchmarks and projections instead of the recent estimated mean (as stated in the presentation and report).

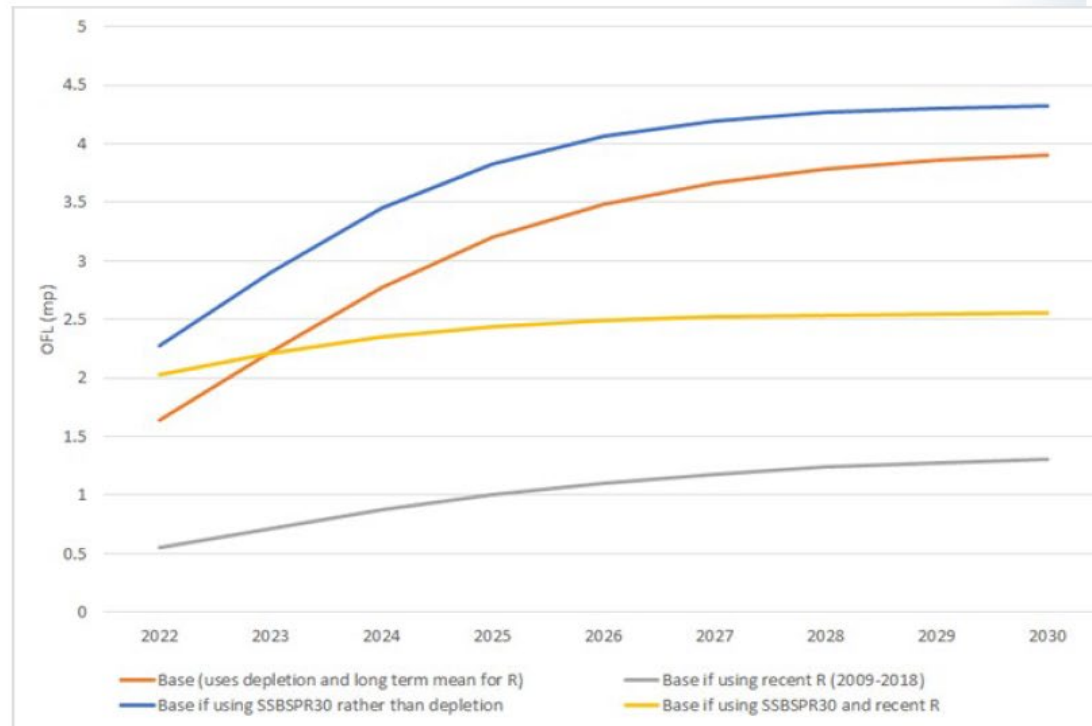


NOAA
FISHERIES

Projection Summary: November 2021 SSC Meeting

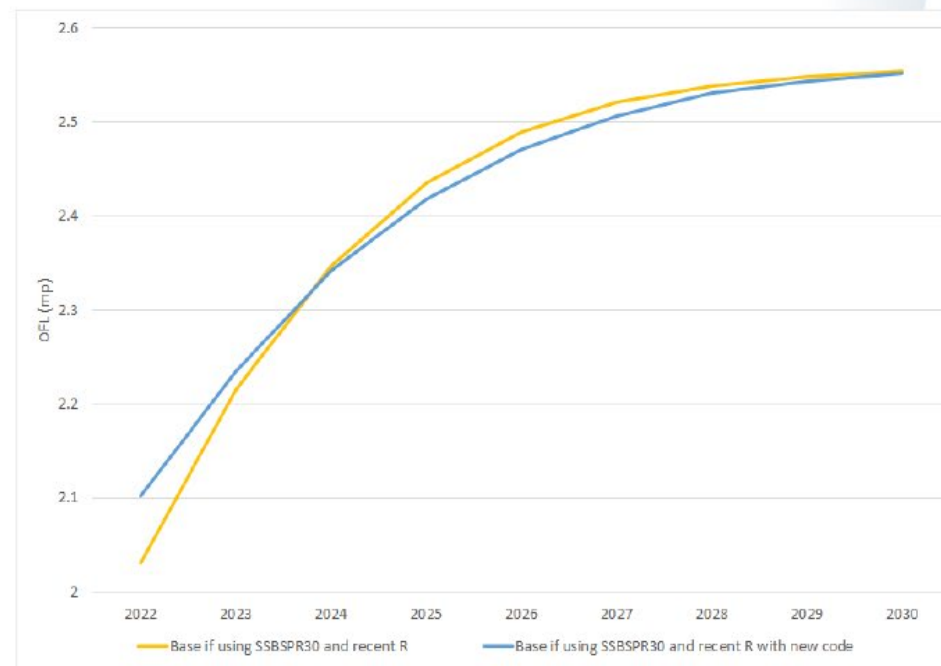
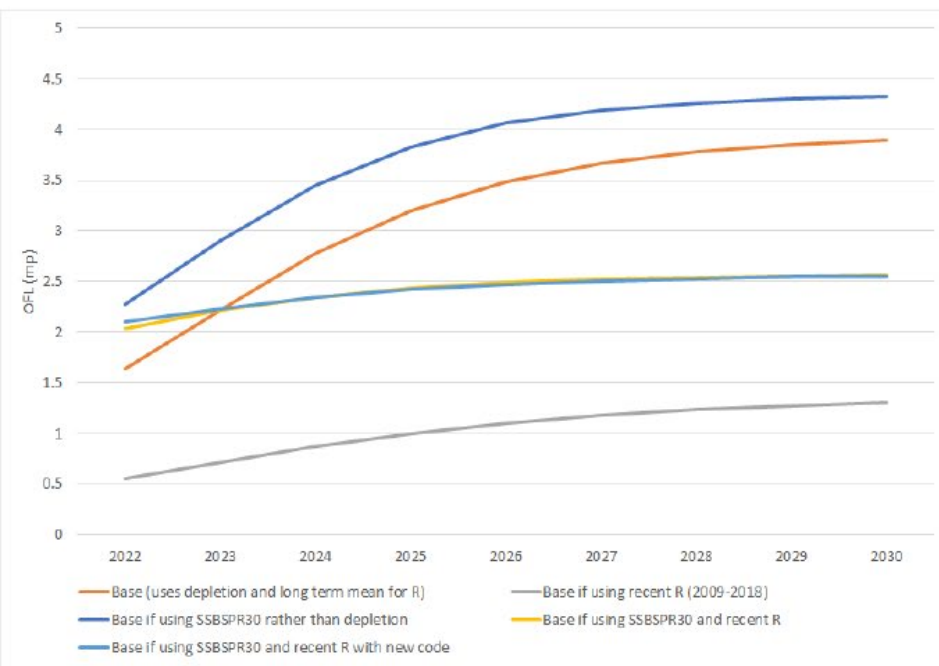
Stepwise corrections continued

- The orange line indicates the base run as presented in January that uses the $SSB_{30\%}$ proxy and the long-term average recruitment.
- First correction - the grey line indicates the projection using the recent recruitment (2009-2018) to inform benchmarks and the projection period.
- Second correction - the dark blue line indicates the projection using the $SPR_{30\%}$ proxy.
- The projections specified as described in Jan (what should have been shown) are indicated by the yellow line.



Projection Summary: November 2021 SSC Meeting

Projections with the key decisions for SEDAR 70 with the new code



Zoomed in to see the minor differences

Nov 2021 SSC Recommendations

- **Motion:** The SSC determined that the projection methods presented for the SEDAR 70 Gulf Greater Amberjack stock represent the best scientific information available and are appropriate for consideration by the Council. Based on these projection settings the stock is overfished and undergoing overfishing.
- **Stock status:** Overfished and Undergoing Overfishing
- **Expected to rebuild by 2027 when fishing at F_{rebuild}**



SSC Recommendations continued

- **Motion:** Based on the projection settings accepted by the SSC for the SEDAR 70 operational assessment, the SSC recommends the following catch level recommendations for Gulf Greater Amberjack: OFL be set as the yield (million pounds whole weight) at $F_{30\%SPR}$ and ABC at the yield (mp ww) at $F_{rebuild}$ through the end of the projected rebuilding period of 2027.
- SSC guidance implies that this formula be specified and the resulting yield stream is appropriate across the various allocation scenarios provided to the SSC.



Projections with Allocations

- Start year: 2022
- End year: 2027 (expected rebuild)
- Use recommendations and methods from Nov 2021 SSC meeting
- Allocation scenarios: (recreational: commercial)
 - **73%:27%** (No Action), based on years 1981-2004 [71:29], plus 2% shifted to the rec sector (Amendment 30A)
 - **84%:16%**, based on years 1981-2004;
 - **78%:22%**, based on years 1993-2007;
 - **80%:20%**, based on years 1993-2019;
 - Fixed commercial ACL at 484,380 lbs ww [same method and rationale as in Amendment 53 for red grouper]



Projections Represent Substantial Reductions

- New Assessment in FES, not directly comparable to prior recommendations in CHTS similar to results from other recent assessments.
- Council requested comparison of results from prior assessment in FES units to facilitate comparison.
- Based on SEFSC analysis, OFL increased ~60% using FES vs CHTS currency in 2020. Similar results in SEDAR 70 operational assessments is a reasonable assumption if the data could be used in this way.
- While imprecise, this result combined with the new projections indicate the large reductions in harvest is necessary and management changes to constrain harvest may be necessary.



Estimate of SEDAR 33 Update in FES

GAJ Projections

- OFL – equilibrium projections of $F_{\text{SPR30\%}}$
- F_{REBUILD} – ABC projection achieves rebuilding in 2027
- F_{SPR40} & $75\%F_{\text{SPR30}}$ – S33 update ABC projections

Year	FES				CHTS from S33 Update		
	OFL	F_{REBUILD}	F_{SPR40}	$75\%F_{\text{SPR30}}$	OFL	F_{SPR40}	$75\%F_{\text{SPR30}}$
2017	2.00	1.70	1.49	1.54	1.24	0.93	0.94
2018	2.52	2.20	1.96	2.02	1.50	1.17	1.18
2019	3.03	2.70	2.43	2.50	1.84	1.48	1.49
2020	3.48	3.14	2.86	2.93	2.17	1.78	1.79

Current Catch Level Recommendations (CHTS)

- The combined ACLs are set equal to the ABC recommended by the SSC from 2018 through 2020+, based upon the SEDAR 33 Update (2016). This alternative is projected to rebuild the stock by 2027.
- The ACL/ACT Control Rule (landings from 2013 through 2016) was used to establish a 13% buffer to the commercial sector and a 17% buffer to the recreational sector.

		Recreational		Commercial	
Year	ABC	ACL	ACT	ACL	ACT
2018	1,182,000	862,860	716,173	319,140	277,651
2019	1,489,000	1,086,970	902,185	402,030	349,766
2020+	1,794,000	1,309,620	1,086,985	484,380	421,411



Draft Options for Amendment 54

- **Purpose** — To modify the rebuilding plan and associated catch levels necessary to end overfishing, rebuild the Gulf greater amberjack stock by 2027, and to modify the greater amberjack allocation between the commercial and recreational sectors using the best scientific information available based on the results from the SEDAR 70 stock assessment and subsequent range of OFLs and ABCs recommendations from the SSC.
- **Action 1** – Modify the Greater Amberjack OFL, ABC, ACLs, and Sector Allocation
- **Action 2** – Modify the Greater Amberjack Sector ACTs Based on the Catch Limits and Allocation Selected in Action 1



Action 1 – Modify the Greater Amberjack OFL, ABC, ACLs, and Sector Allocation

Average of Historical Landings

Alt.	Time Series	Rec Data Units	Rec%:Comm%
1 (No Action)	1981-2004 + 2% to rec sector	MRIP-CHTS	73%:27%
3	1981-2004	MRIP-FES	84%:16%
4	1993-2007	MRIP-FES	78%:22%
5	1993-2019	MRIP-FES	80%:20%

Maintain Current Sector Allocation

Alt. 2	N/A	MRIP-FES	73%:27%
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Maintain Commercial ACL

Alt. 6	Comm ACL = 484,380 lbs ww	MRIP-FES	Changes each year: 24.4%:75.6% in 2022; 56.9%:43.1% in 2027
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Action 2 – Modify the Greater Amberjack Sector ACTs

Modify ACTs based on the Catch Limits and Allocation selected in Action 1:

- **Alternative 1:** No Action – Maintain the current buffer between the ACL and ACT for each sector. The recreational buffer is 17% and the commercial buffer is 13%.
- **Alternative 2:** Apply the ACL/ACT Control Rule (years 2017-2020) to revise the buffer between the ACL and ACT for each sector. The recreational buffer is 13%, and the commercial buffer is 7%.
- **Alternative 3:** Apply the ACL/ACT Control Rule (years 2016-2019) to revise the buffer between the ACL and ACT for each sector. The recreational buffer is 17%, and the commercial buffer is 7%.



Deadline to End Overfishing

- Required to end overfishing by April 2023
- Amendment Actions required:
 - Modify catch levels based on SSC recommendations
- Amendment Actions to consider:
 - Review allocation to incorporate FES data
- Need to discuss timeline required to meet implementation deadline (final action August 2022)



Questions?



Projections with allocations

Start Year of Projections	Year	OFL	ABC	Allocation	Source
2022	2022	2.102	0.521	73-27	Table 9/11
2022	2023	2.236	0.649	73-27	Table 9/11
2022	2024	2.343	0.77	73-27	Table 9/11
2022	2025	2.419	0.875	73-27	Table 9/11
2022	2026	2.472	0.964	73-27	Table 9/11
2022	2027	2.507	1.035	73-27	Table 9/11
2022	2022	1.996	0.497	84-16	Table 12/14
2022	2023	2.13	0.621	84-16	Table 12/14
2022	2024	2.234	0.739	84-16	Table 12/14
2022	2025	2.305	0.842	84-16	Table 12/14
2022	2026	2.354	0.929	84-16	Table 12/14
2022	2027	2.387	0.999	84-16	Table 12/14
2022	2022	2.052	0.509	78-22	Table 15-17
2022	2023	2.186	0.636	78-22	Table 15-17
2022	2024	2.292	0.756	78-22	Table 15-17
2022	2025	2.365	0.86	78-22	Table 15-17
2022	2026	2.417	0.947	78-22	Table 15-17
2022	2027	2.451	1.018	78-22	Table 15-17
2022	2022	2.033	0.505	80-20	Table 18-20
2022	2023	2.167	0.631	80-20	Table 18-20
2022	2024	2.272	0.75	80-20	Table 18-20
2022	2025	2.345	0.854	80-20	Table 18-20
2022	2026	2.395	0.941	80-20	Table 18-20
2022	2027	2.429	1.012	80-20	Table 18-20
2022	2022	2.028	0.641	fixed com	Table 21-23
2022	2023	2.16	0.757	fixed com	Table 21-23
2022	2024	2.265	0.87	fixed com	Table 21-23
2022	2025	2.339	0.97	fixed com	Table 21-23
2022	2026	2.389	1.055	fixed com	Table 21-23
2022	2027	2.423	1.124	fixed com	Table 21-23

