



Temporary Management Measures to End Overfishing of the North Carolina Striped Mullet Stock

DEPARTMENT OF ENVIRONMENTAL QUALITY

Marine Fisheries

N.C. Marine Fisheries Commission | Daniel Zapf, Jeffrey Dobbs, Willow Patten | May. 24-26, 2023

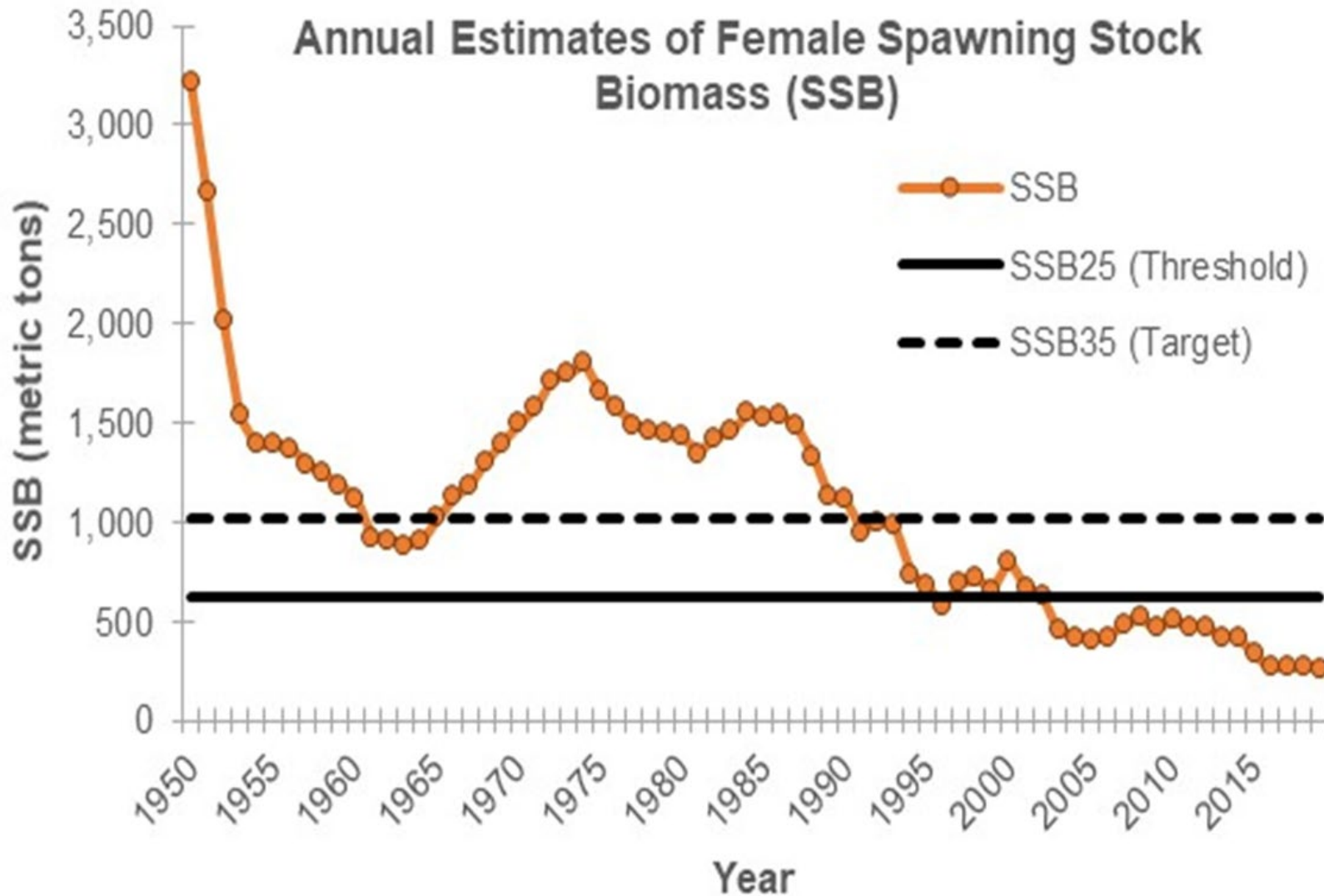


Outline

- Stock assessment results and improvements
- Need for temporary management measures
- Supplement A timeline
- Regional split options
- DMF recommendation and MFC preferred option



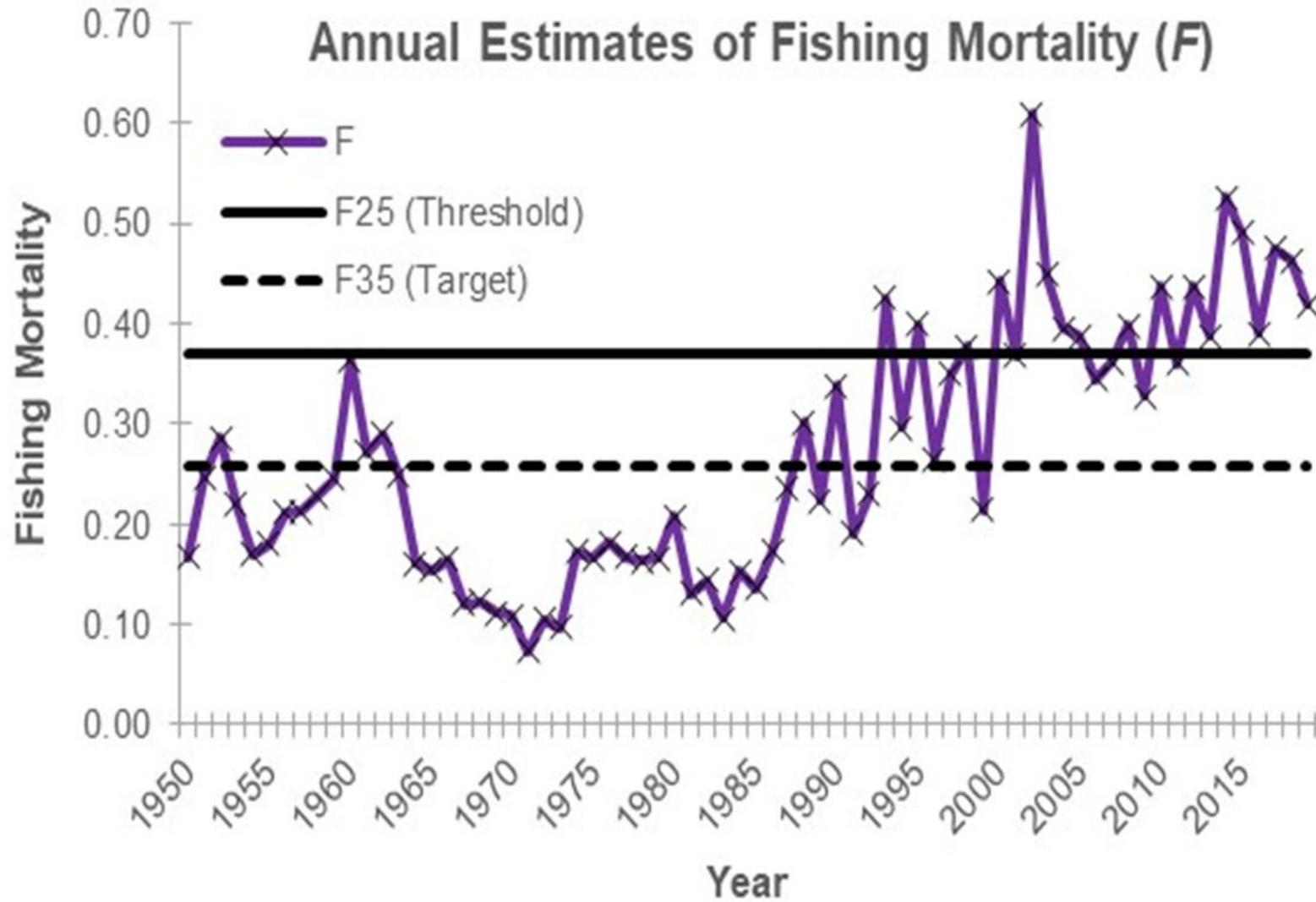
2022 Stock Assessment – Spawning Stock Biomass



- The North Carolina Striped Mullet stock is **overfished**
- The 2019 spawning stock biomass (SSB) was estimated at 263 mt, less than the 619 mt threshold



2022 Stock Assessment – Fishing Mortality



- **Overfishing** is occurring in the striped mullet fisheries
- The 2019 fishing mortality (F) was estimated at 0.42, greater than the threshold of 0.37



2022 Stock Assessment – History

- 2002 and 2013 assessments noted stock was heavily exploited
- 2013 and 2018 assessments noted major concerns
 - Recommended addressing concerns in next assessment



2022 Stock Assessment – Improvements

- 2022 assessment
 - In person peer review workshops
 - Incorporated improvements to model configuration and data
 - Data from the P915 index was expanded to include Southern part of the state and Pamlico Sound

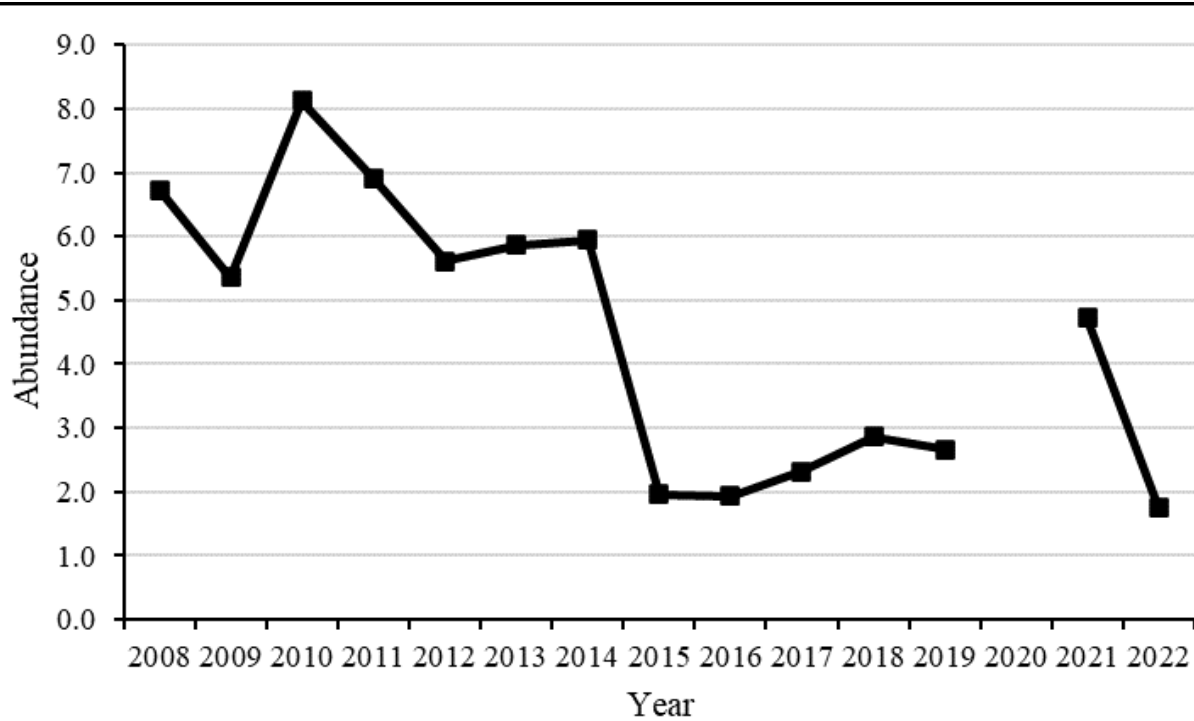


2022 Stock Assessment – Results Comparison

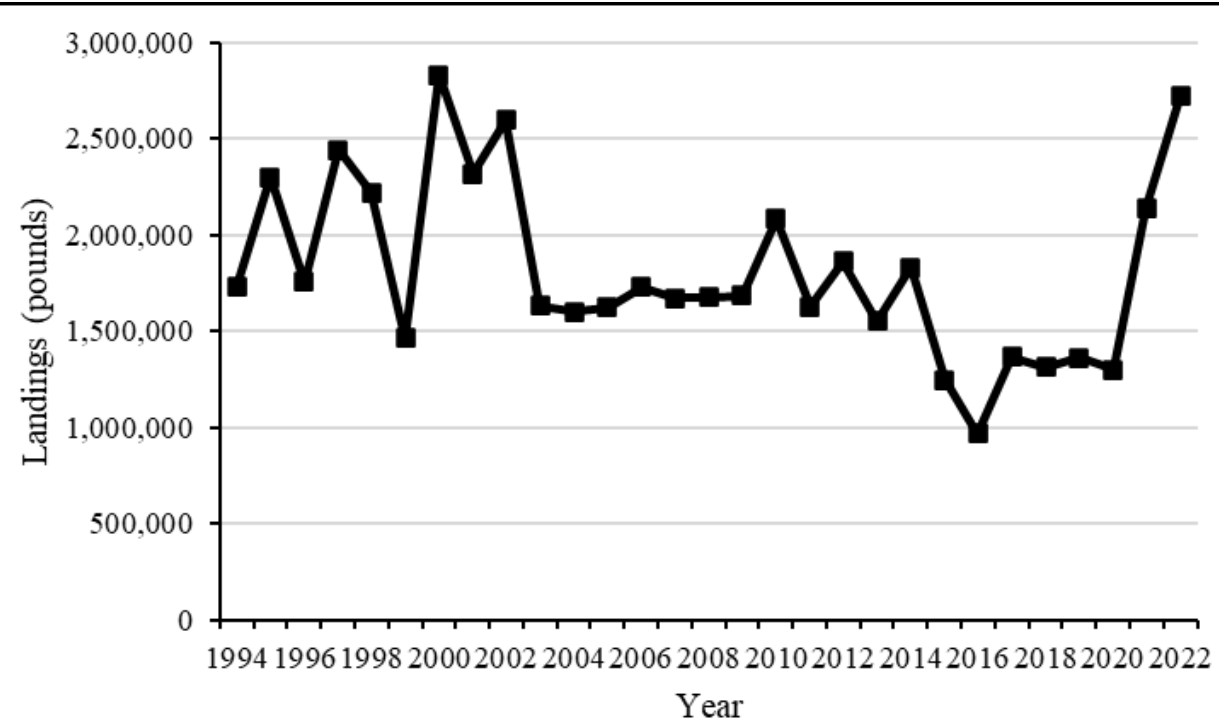
- Model improvements helped determine overfished status
- Difference in results likely due to model improvements



Preliminary Abundance Index and landings: 2022



P915 GLM standardized index of adult striped mullet abundance, 2008-2022.



Commercial striped mullet landings by year



Supplement

- Background
- Timeline
- Ferry line closure
- November 2022 options and MFC preferred management
- Regional split analysis and options
- MFC action item: Vote on adoption of Supplement A



Supplement

- General Statute 113-182.1 provides a mechanism for the Commission to supplement FMP management when the DEQ Secretary determines it is in the interest of the long-term viability of the fishery
- Temporary management measures to END overfishing immediately
 - 9.3% reduction in total removals needed to reduce F to the threshold
 - 33% reduction in total removals needed to reduce F to the target
- NCMFC Rule 15A NCAC 03M .0502 provides the Director proclamation authority to implement restrictions in the taking of mullet



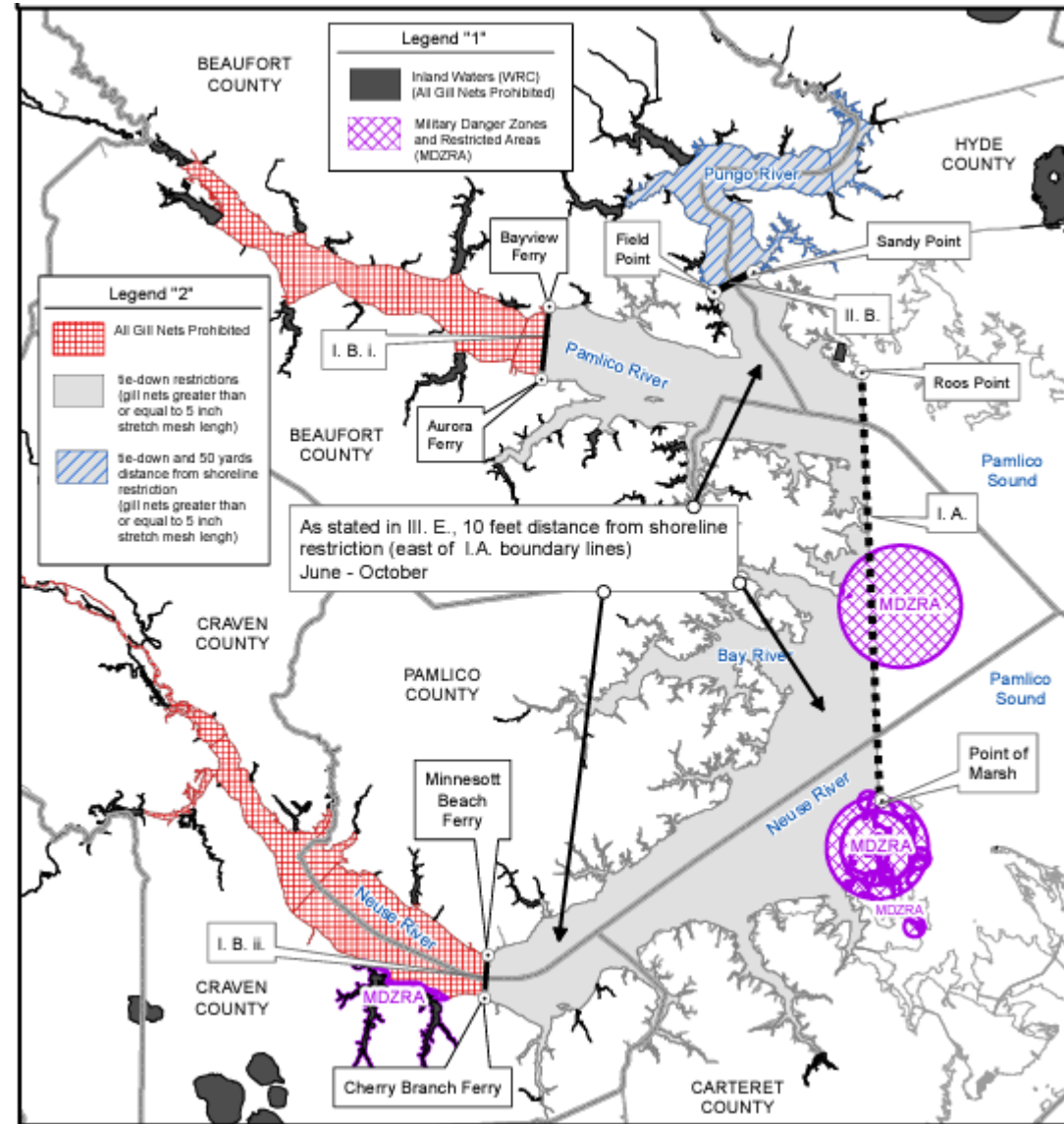
Supplement A Timeline

- **May 2022** - MFC reviewed the 2022 Striped Mullet Stock Assessment
- **August 2022** – DMF Director updated the MFC on need for a supplement
- **Sep. 2022** – DEQ Secretary authorized development of temporary management measures
- **Nov. 2022** – Division presented draft Supplement A and recommendations
 - MFC selected Option 2 as preferred management option
- **Dec. 19, 2022 – Jan. 19, 2023** - Division received public comment on proposed temporary management measures
- **Feb. 2023** – Division presented summary of public comment to MFC
 - MFC continued Supplement A decision to May
- **May 2023** – Consideration of Supplement A with regional options



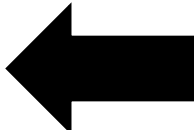
Management Options – Ferry Line closure

The Division does not view the ferry line closure as an effective conservation measure for striped mullet



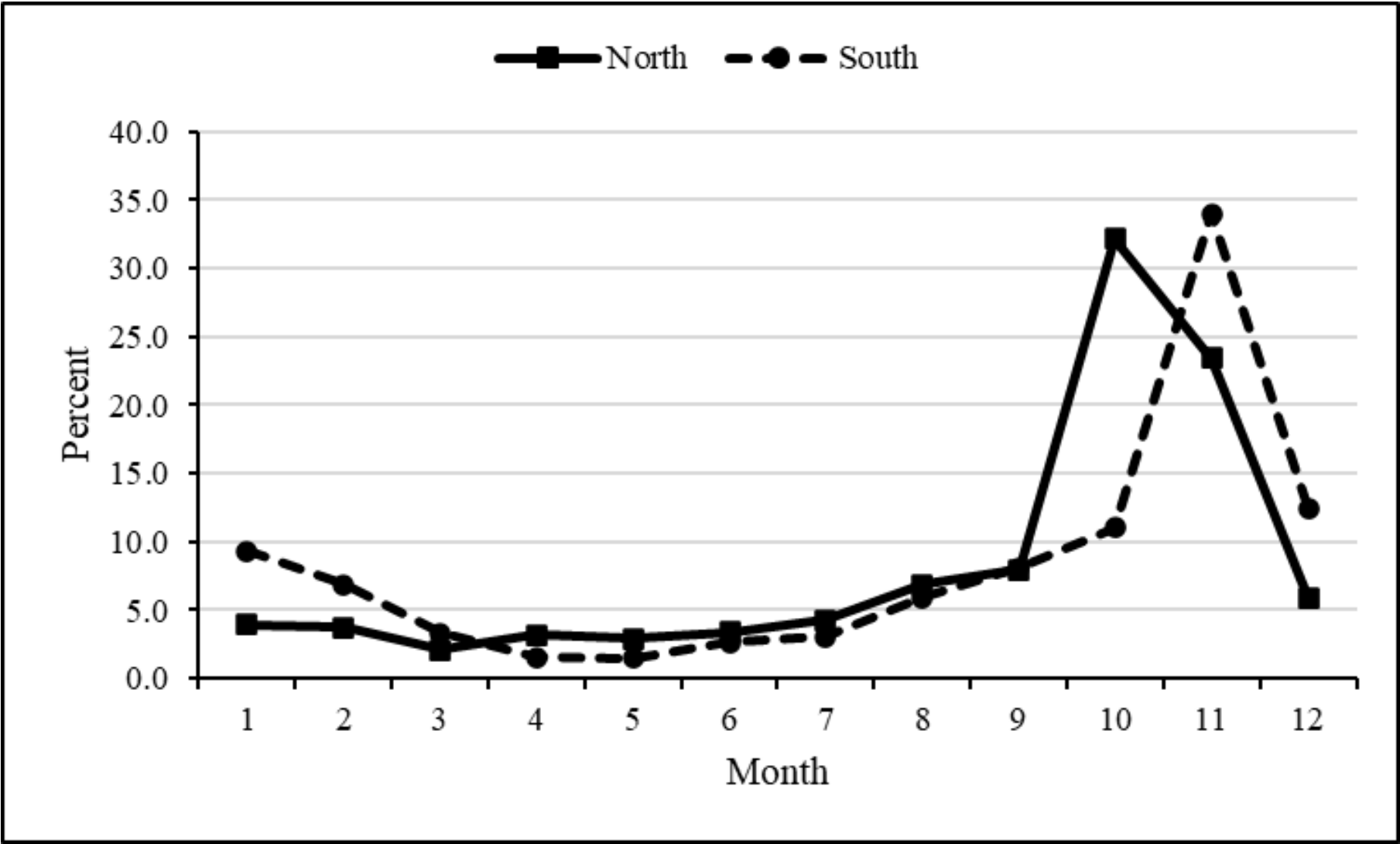
November 2022 DMF Recommendation and MFC Preferred Option

- To achieve this reduction, **the DMF recommends Option 1 or Option 2**
- **MFC selected Option 2** as preferred management option

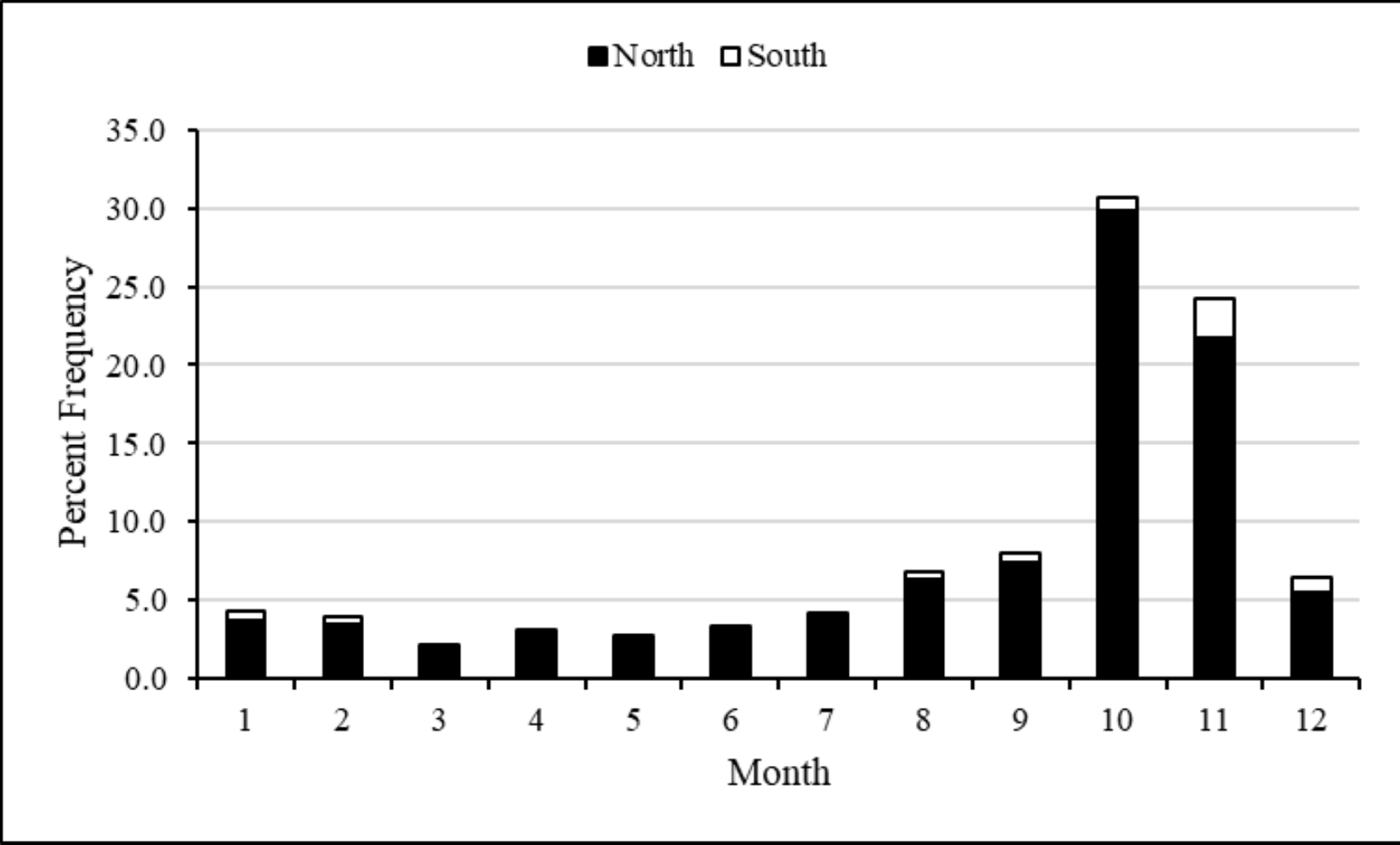
Option	Season Closure	Estimated Commercial Harvest Reduction (%)	
1	October 29 – December 31	33.7	
2	November 7 – December 31	22.1	 MFC Preferred Option

All closures would apply to recreational and commercial sectors

Updated Management Options – Regional Split



Updated Management Options – Regional Split



Updated Management Options – Regional Split

To achieve this reduction, **the DMF recommends
Option 4 or Option 5**

Season Closure			Minimum
Option	North	South	Reduction
4	October 28 – December 31	October 30 – December 31	35.6
5	November 7 – December 31	November 10 – December 31	21.7
6	November 13 – December 31	November 21 – December 31	10.1

All closures would apply to recreational and commercial sectors

MFC Actions

Vote on adoption of Supplement A to Amendment 1



Division Next Steps

- If Supplement A is adopted, closure will be implemented via proclamation authority of the DMF Director
- DMF will continue development of Amendment 2 to the Striped Mullet FMP
- Amendment 2 tentatively scheduled for adoption in 2024



Questions?

Striped Mullet Leads Contact Information

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Option	Season Closure	Estimated Commercial Harvest Reduction (%)	
1	October 29 – December 31	33.7	
2	November 7 – December 31	22.1	← MFC Preferred Option
3	November 13 – December 31	10.9	

Season Closure

Option	North	South	Minimum Reduction
4	October 28 – December 31	October 30 – December 31	35.6
5	November 7 – December 31	November 10 – December 31	21.7
6	November 13 – December 31	November 21 – December 31	10.1

All closures would apply to recreational and commercial sectors

Season Closure Options

Option	Season Closure	Estimated Commercial Harvest Reduction (%)	
1	October 29 – December 31	33.7	← Target
2	November 7 – December 31	22.1	← Between Target and Threshold
3	November 13 – December 31	10.9	← Threshold

Full Timeline of Supplement

- 2016 landings were less than the minimum commercial landings trigger
- 2017 DMF began updating stock assessment in response to trigger
- 2018 Stock assessment was complete, but major concerns; lack of data contrast, high variability with FI indices, and poor fits to survey data
- May 2022 - MFC reviewed the 2022 Striped Mullet Stock Assessment
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- May 2023 – Consideration of Supplement A with regional options