



2024 Revision to the North Carolina Estuarine Striped Bass Fishery Management Plan Amendment 2

DEPARTMENT OF ENVIRONMENTAL QUALITY

Marine Fisheries

N.C. Marine Fisheries Commission | Charlton Godwin | May 23, 2024



Presentation Outline

- Review 2024 Revision to the N.C. Estuarine Striped Bass FMP Amendment 2: Current Harvest Moratorium
- Review Amendment 2 Management
- Landings Update
- Survey Data Update
- 2023 – 2025 Stocking Update
- Additional Research Update
- Steps Moving Forward



Where We Are & How We Got Here

Aug.
2020

- Peer-reviewed benchmark stock assessment completed (Data: 1991-2017)

Nov.
2022

- MFC Approved Amendment 2 to the North Carolina Estuarine Striped Bass FMP

Feb.
2023

- Stock Assessment Update and Peer Review Completed (Data 1991-2021)

Aug.
2023

- Review of Stock Assessment, Indices of Abundance, Total Allowable Landings; **Updated MFC that Adaptive Management will be used to implement harvest moratorium beginning in 2024**

Nov
2023

- Update MFC on 2022/2023 Indices of Abundance Data, 2023 Stocking, and Steps Moving Forward

May
2024

- Review 2024 Revision to the N.C. Estuarine Striped Bass FMP Amendment 2

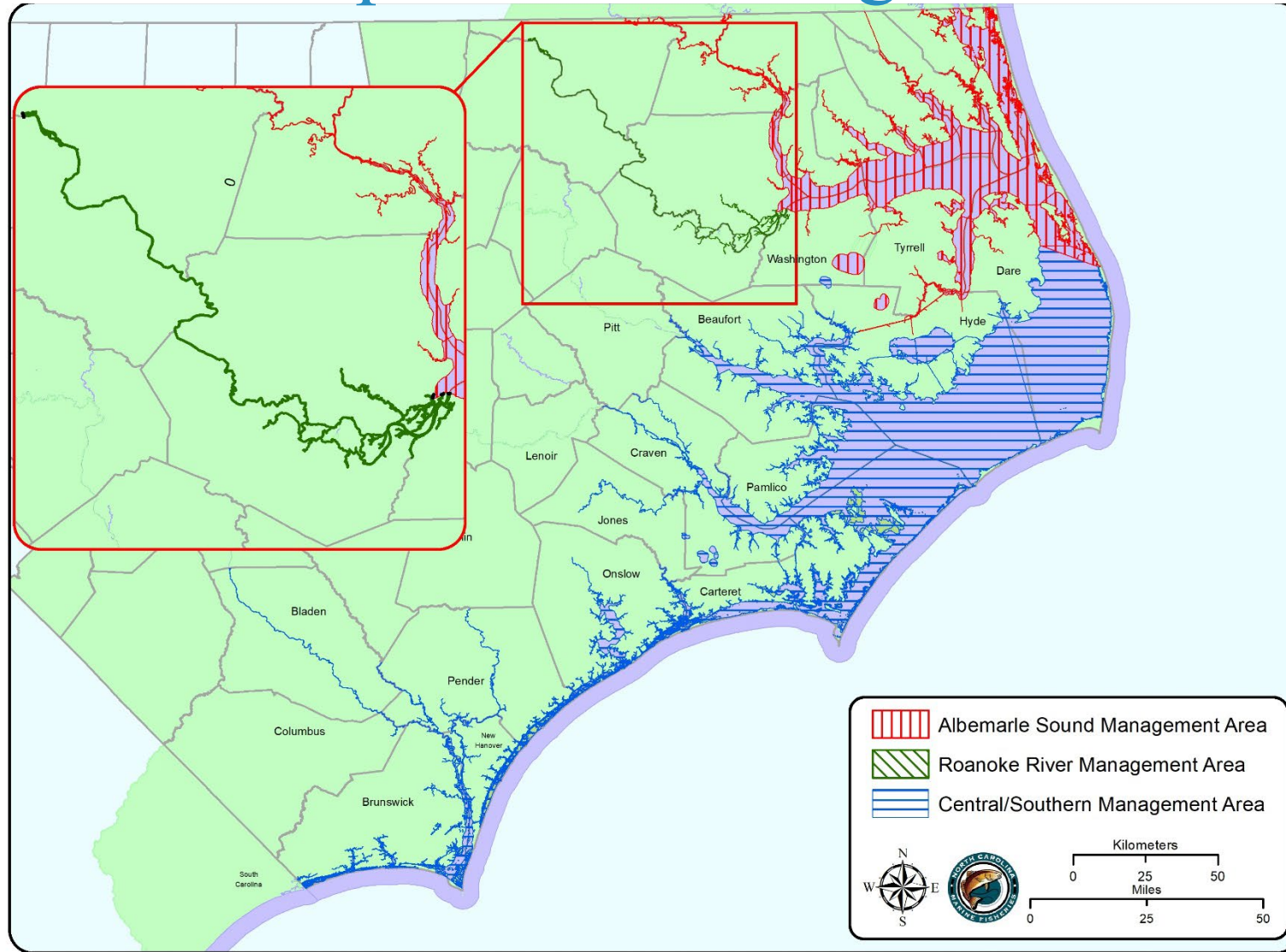


N.C. Estuarine Striped Bass FMP

- The N.C. Estuarine Striped Bass FMP is jointly developed with staff from the Division of Marine Fisheries and the Wildlife Resources Commission (WRC)
- The first N.C. Estuarine Striped Bass FMP was approved in 1993
- The MFC has management authority for the commercial and recreational striped bass fisheries in the Albemarle Sound Management Area (ASMA)
- The WRC has management authority for the recreational striped bass fishery in the Roanoke River Management Area (RRMA)
- The US Fish and Wildlife Service is also a cooperating partner, especially with regards to striped bass stocking in N.C. coastal rivers



N.C. Striped Bass Management Areas



N.C. Estuarine Striped Bass FMP Amendment 2 Management

Sustainable Harvest: Albemarle Sound-Roanoke River Stock

- 1.A. Continue to use stock assessments and stock assessment projections to determine the Total Allowable Landings (TAL) that achieves a sustainable harvest for the A-R stock.

- 2.A. Management of striped bass harvest in the commercial fishery as a bycatch fishery

- 3.D. Accountability measures to address TAL overages: If any of the three fisheries exceeds their TAL, landings in excess of the TAL will be deducted from next year's TAL



N.C. Estuarine Striped Bass FMP Amendment 2 Management

Sustainable Harvest: Albemarle Sound-Roanoke River Stock

- 4.C. ASMA harvest slot limit of 18 – 25 inches total length
- 4.E. RRMA harvest slot limit of 18 – 22 inches total length
- 5. Gear modifications and area closures to reduce striped bass discard mortality
- 5.A. Status quo commercial continue to use gill nets, and recreational continue to allow catch-and-release including on the spawning grounds. (April 1 through June 30, only a single barbless hook or lure with single barbless hook (or hook with barb bent down) may be used in the inland waters of the Roanoke River will remain in effect).
- 5.E. Implement non-offset barbless circle hooks when fishing with live or natural bait in the inland waters of the Roanoke River



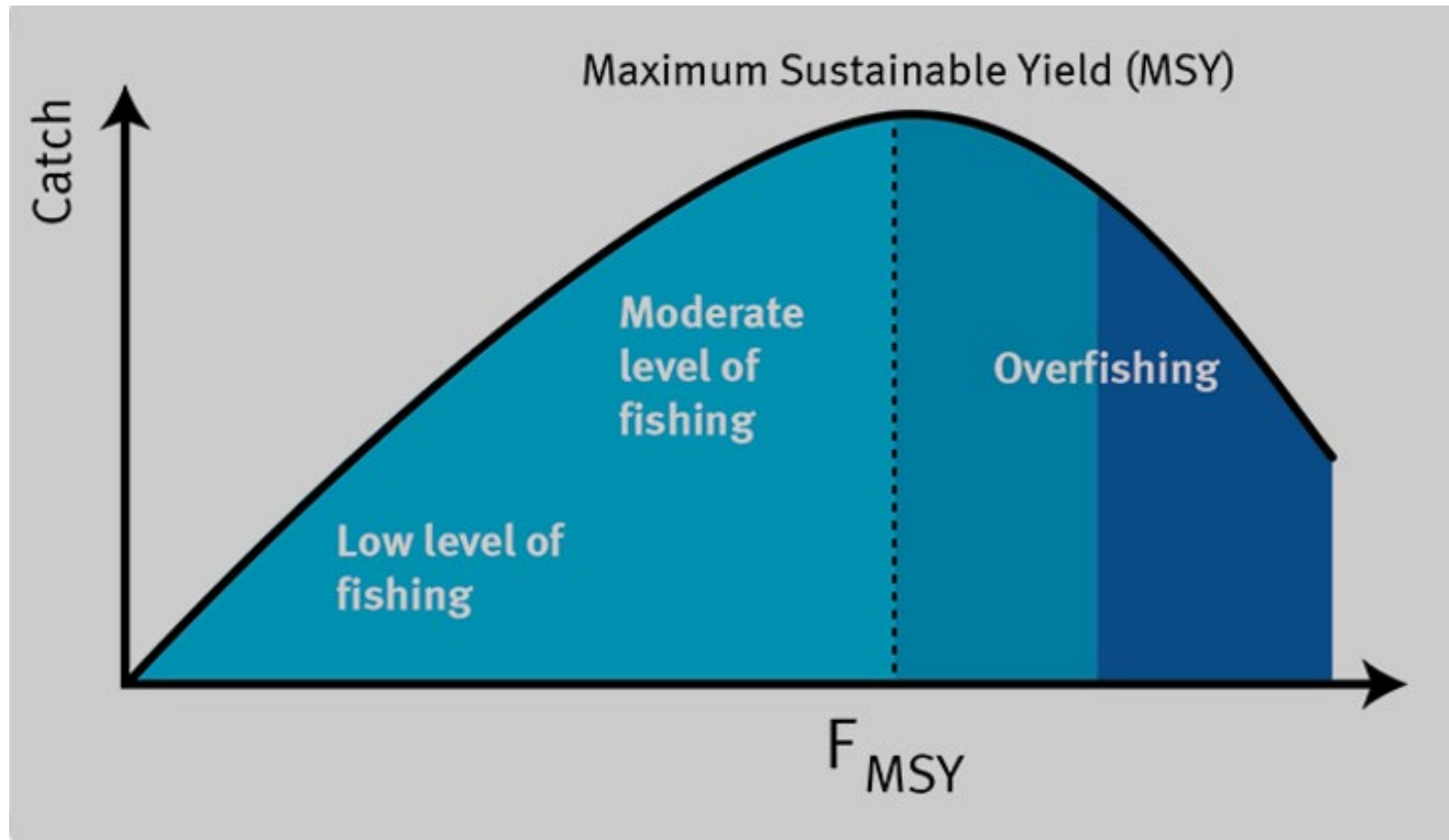
N.C. Estuarine Striped Bass FMP Amendment 2 Management

Sustainable Harvest: Albemarle Sound-Roanoke River Stock

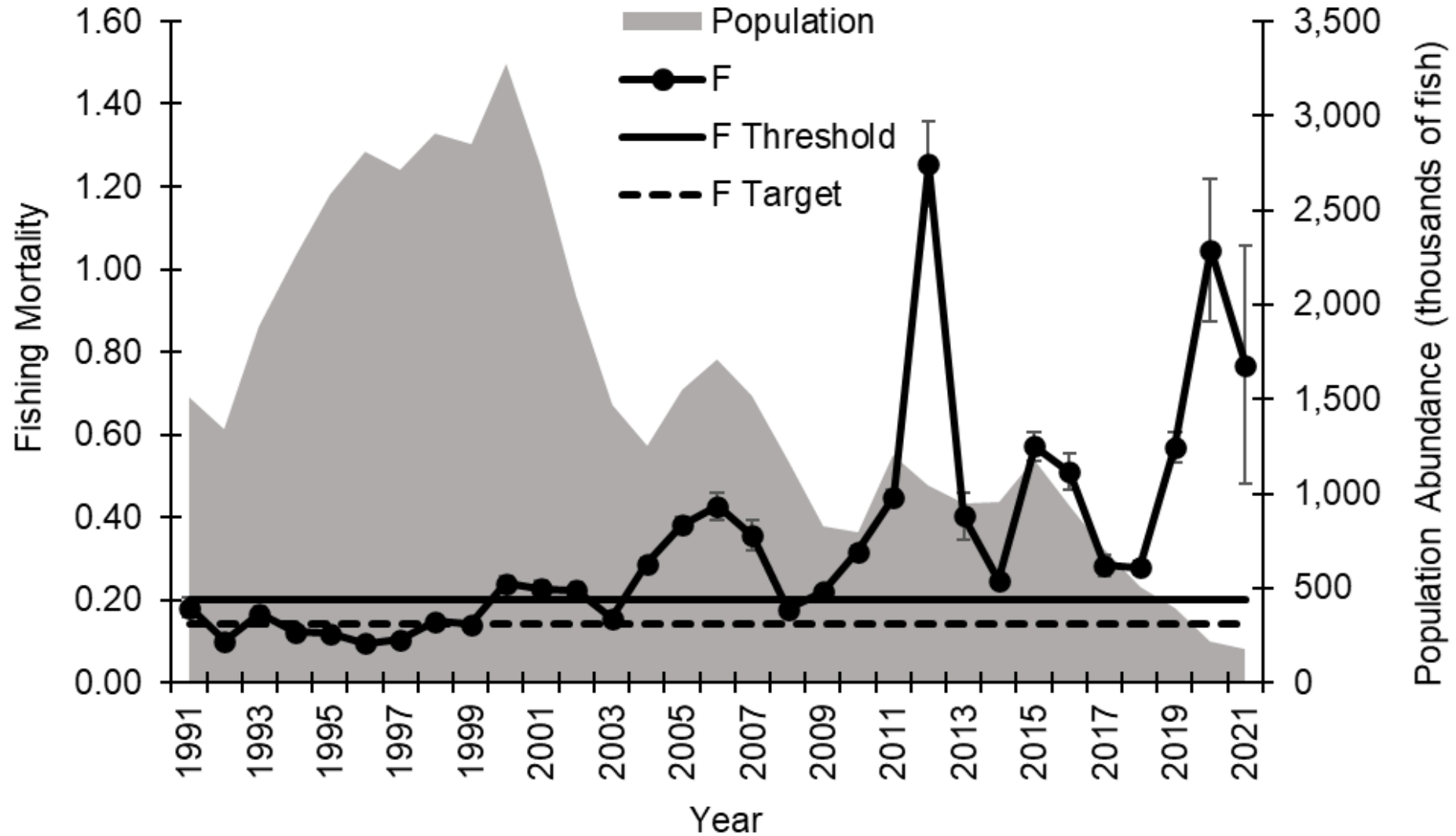
6. Adaptive Management: Use peer reviewed stock assessments and updates to recalculate the BRPs and/or TAL. The current TAL (at the time of adoption of Amendment 2, Nov. 2023) remains in place until a new TAL is determined. Stock assessments will be updated at least once between benchmarks. Increases or decreases in the TAL will be implemented through Adaptive Management. A harvest moratorium could be necessary if stock assessment results calculate a TAL that is too low to effectively manage, and/or the stock continues to experience spawning failures.



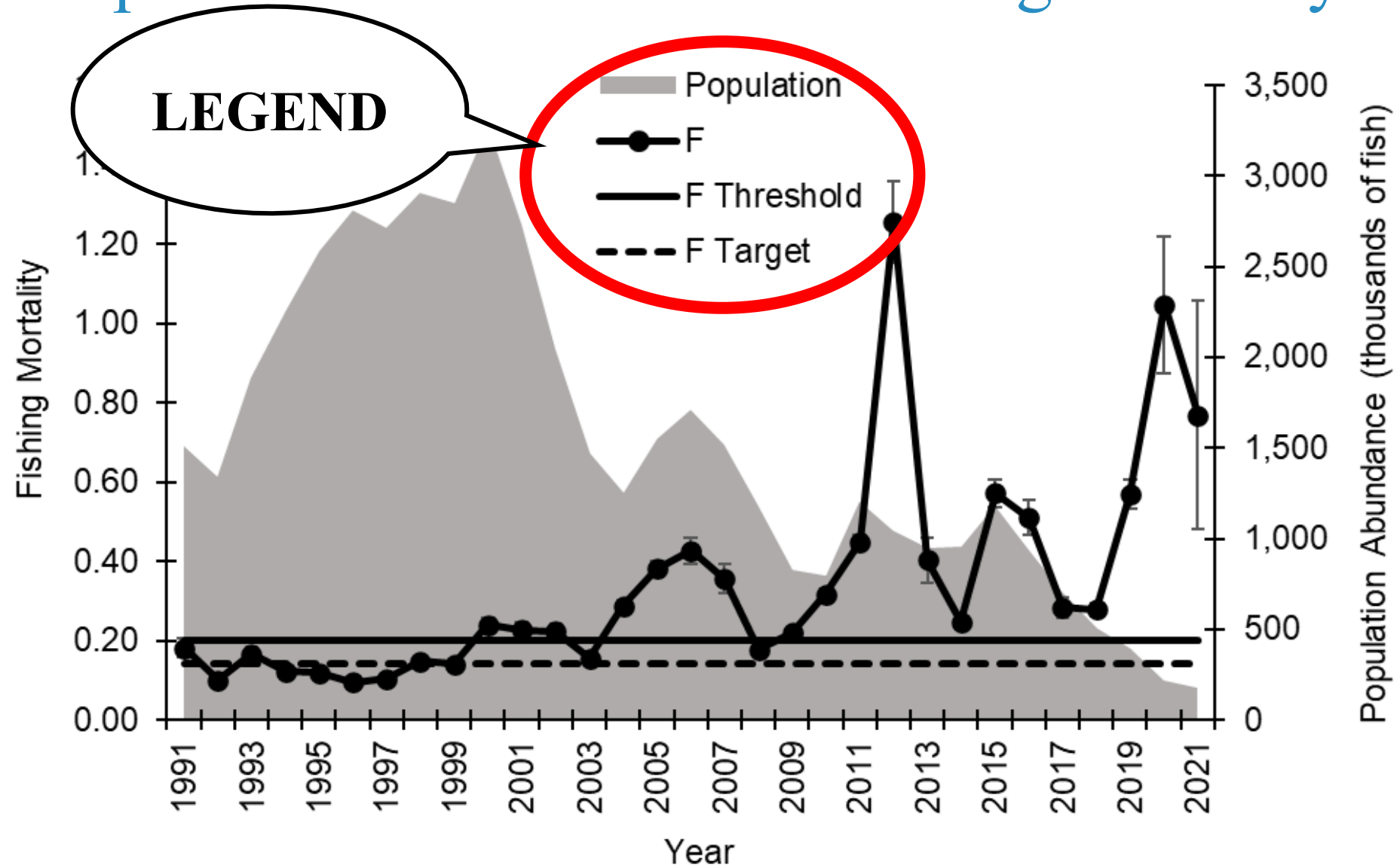
Review the A-R Striped Bass Stock Assessment Update 2023



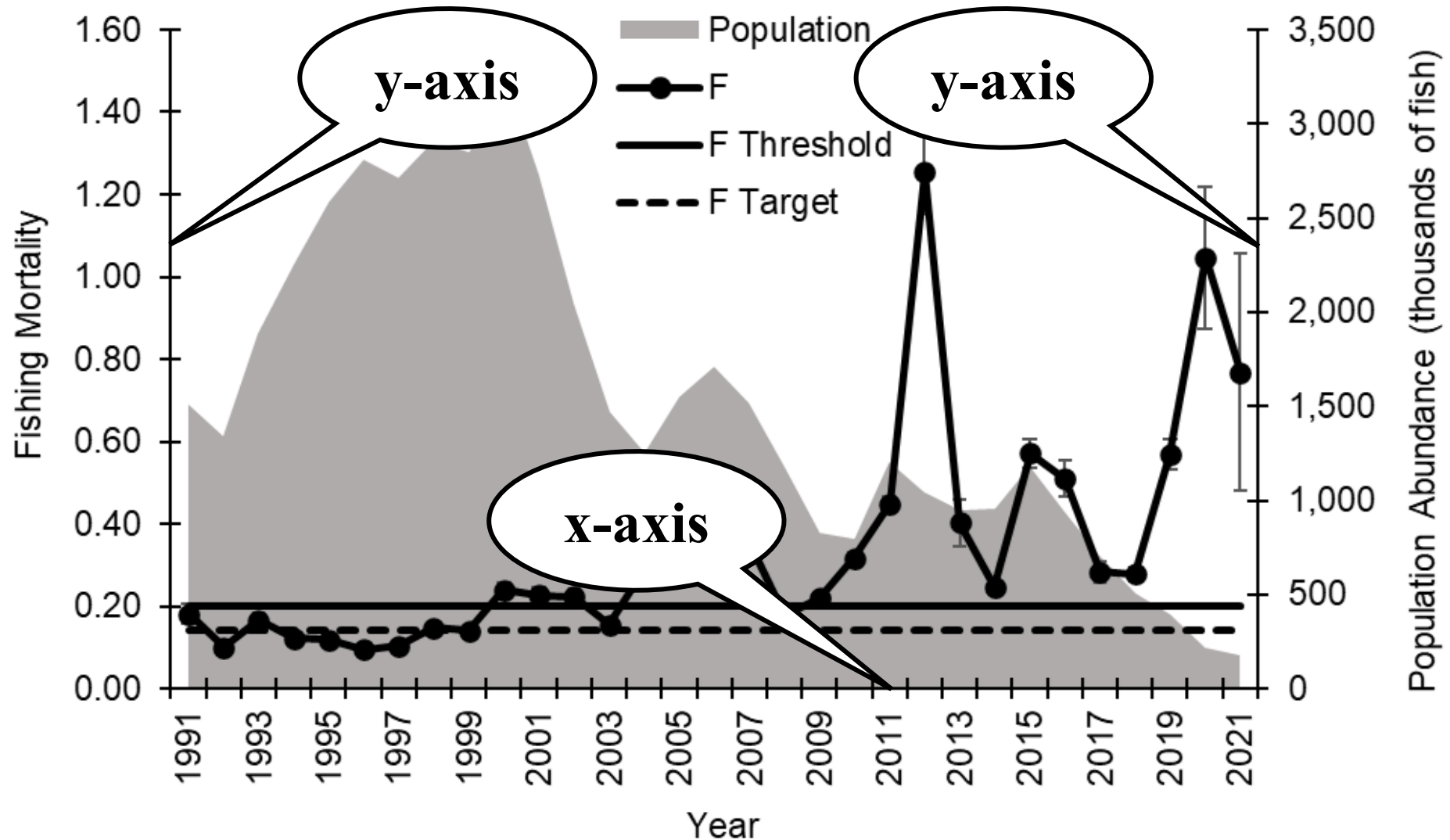
Population Abundance and Fishing Mortality



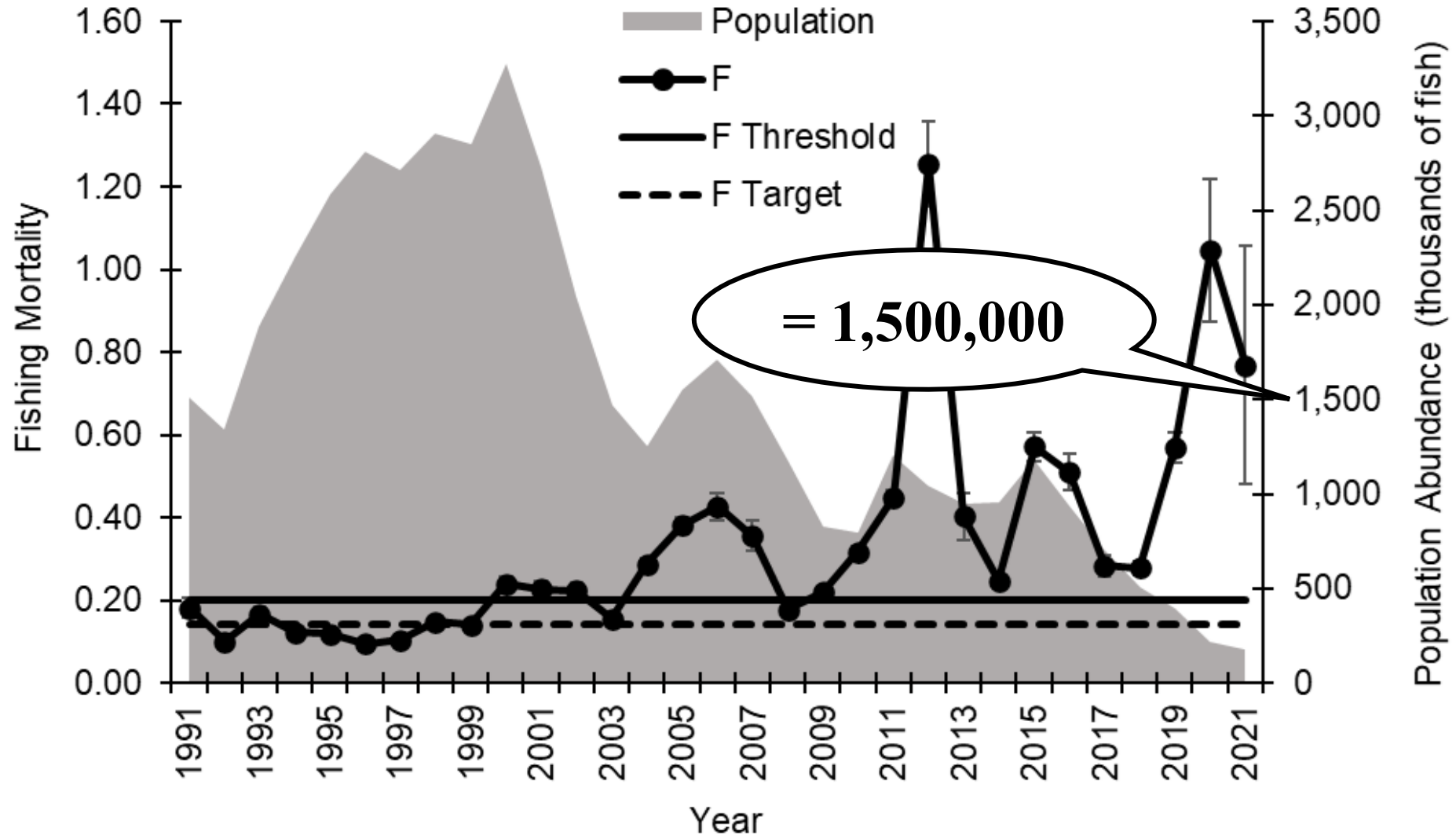
Population Abundance and Fishing Mortality



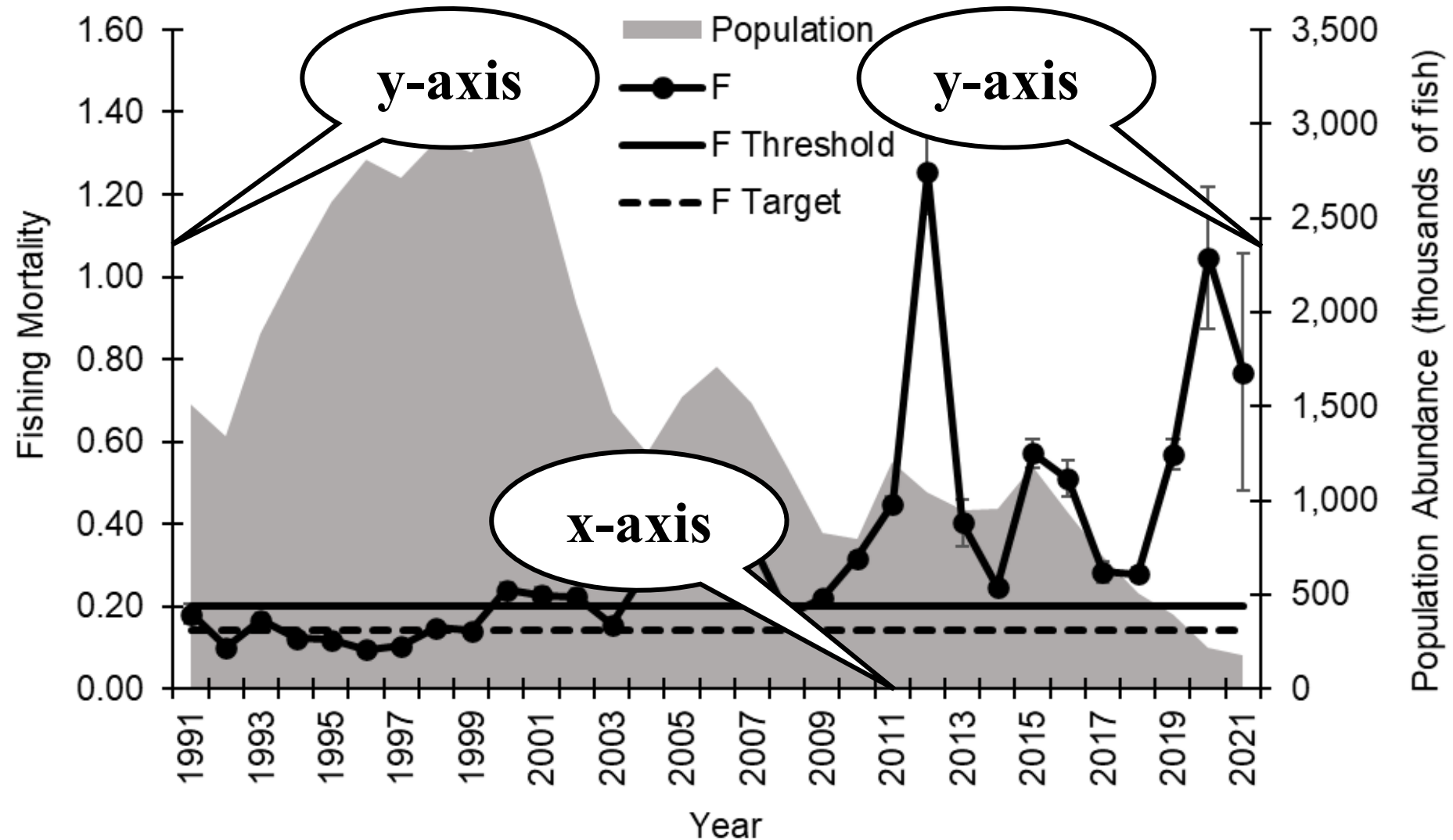
Population Abundance and Fishing Mortality



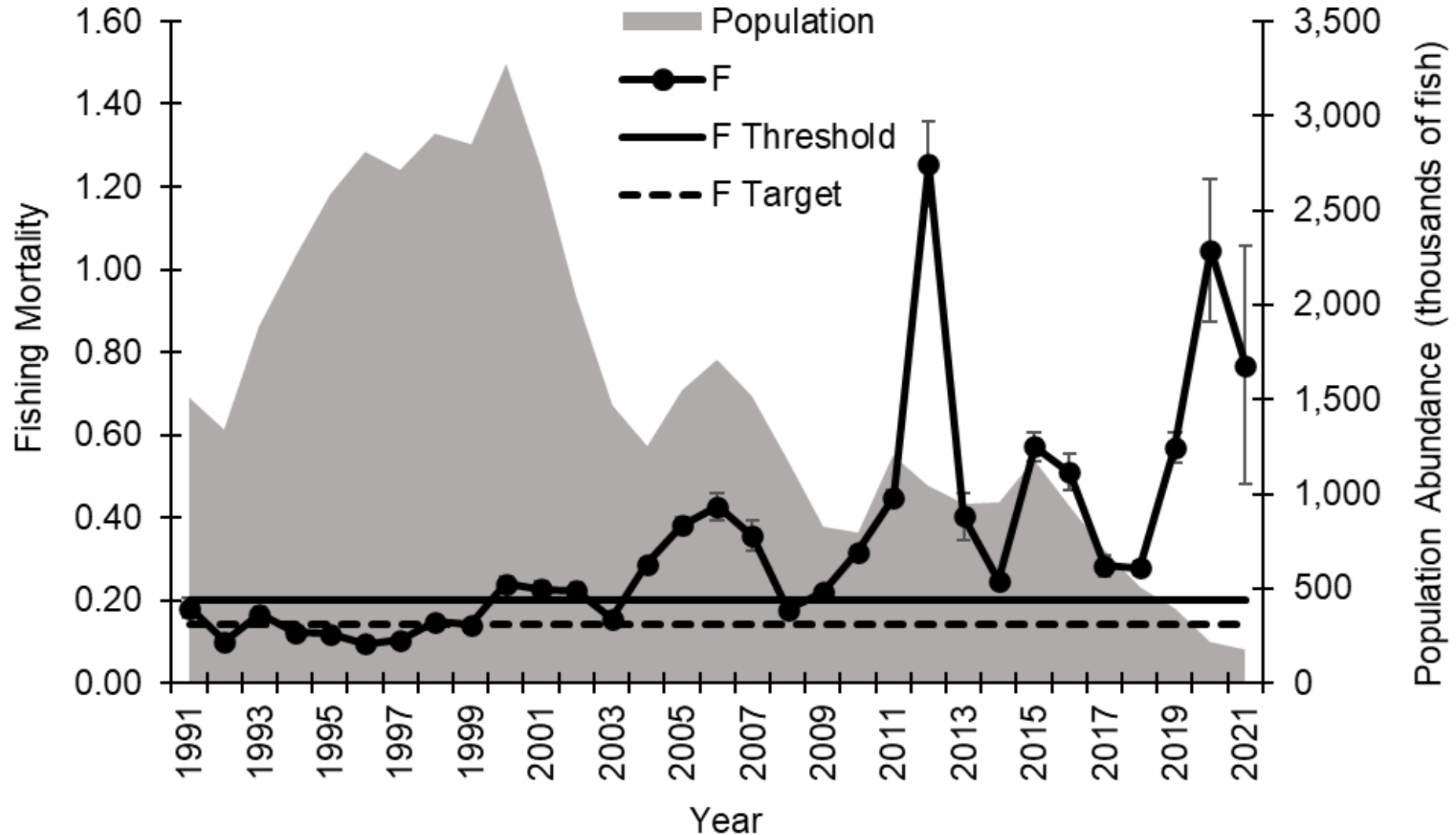
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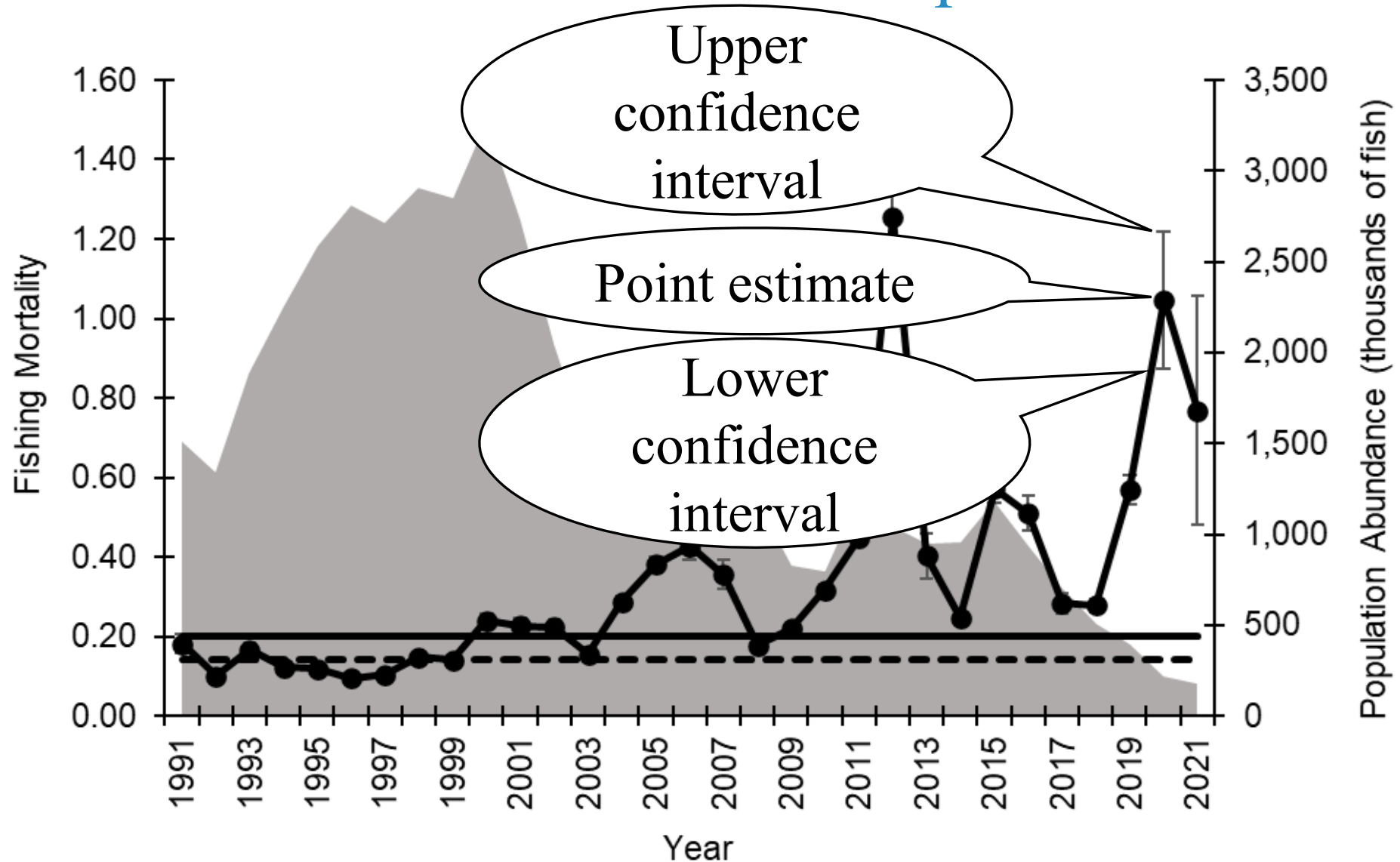
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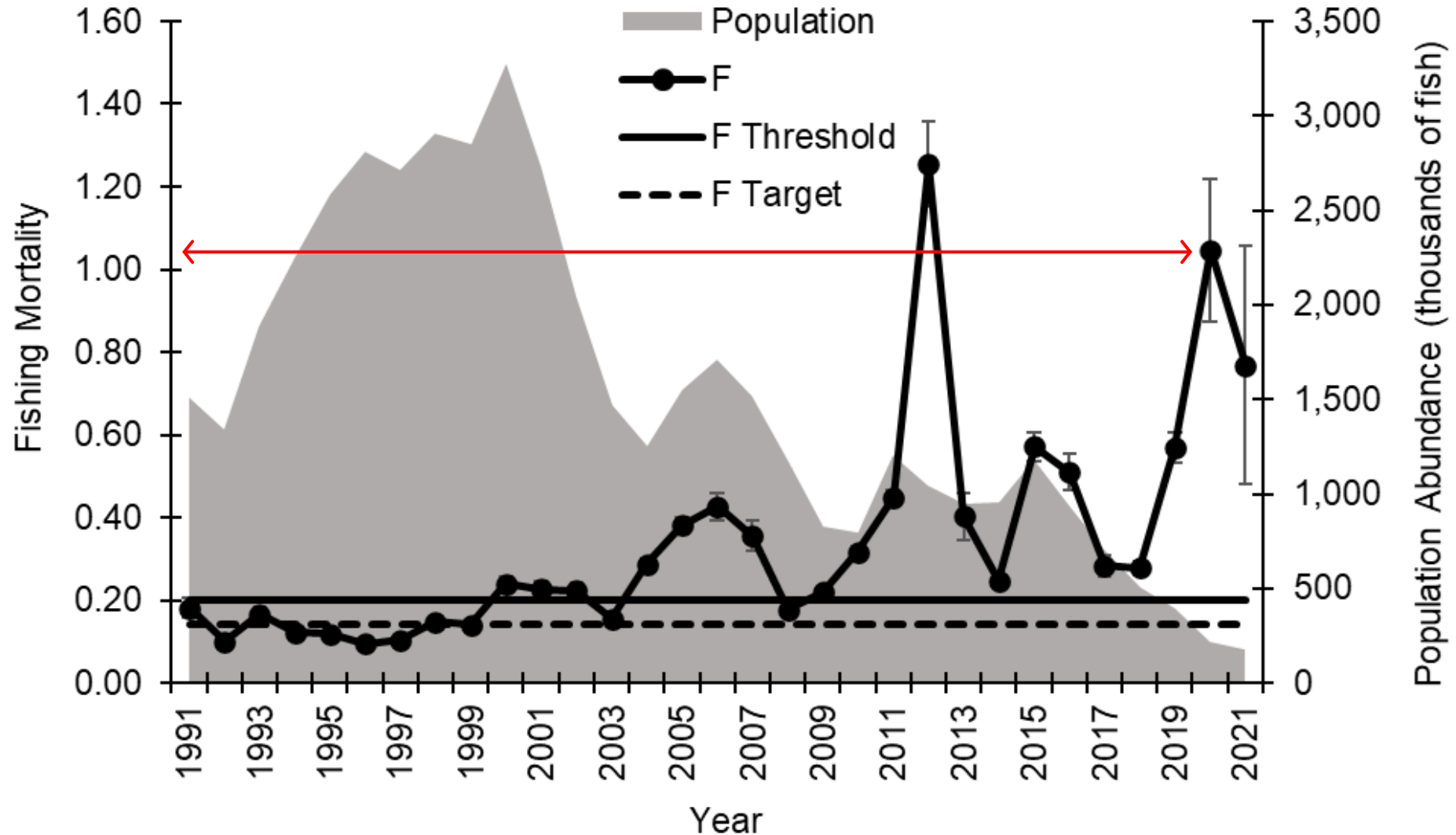
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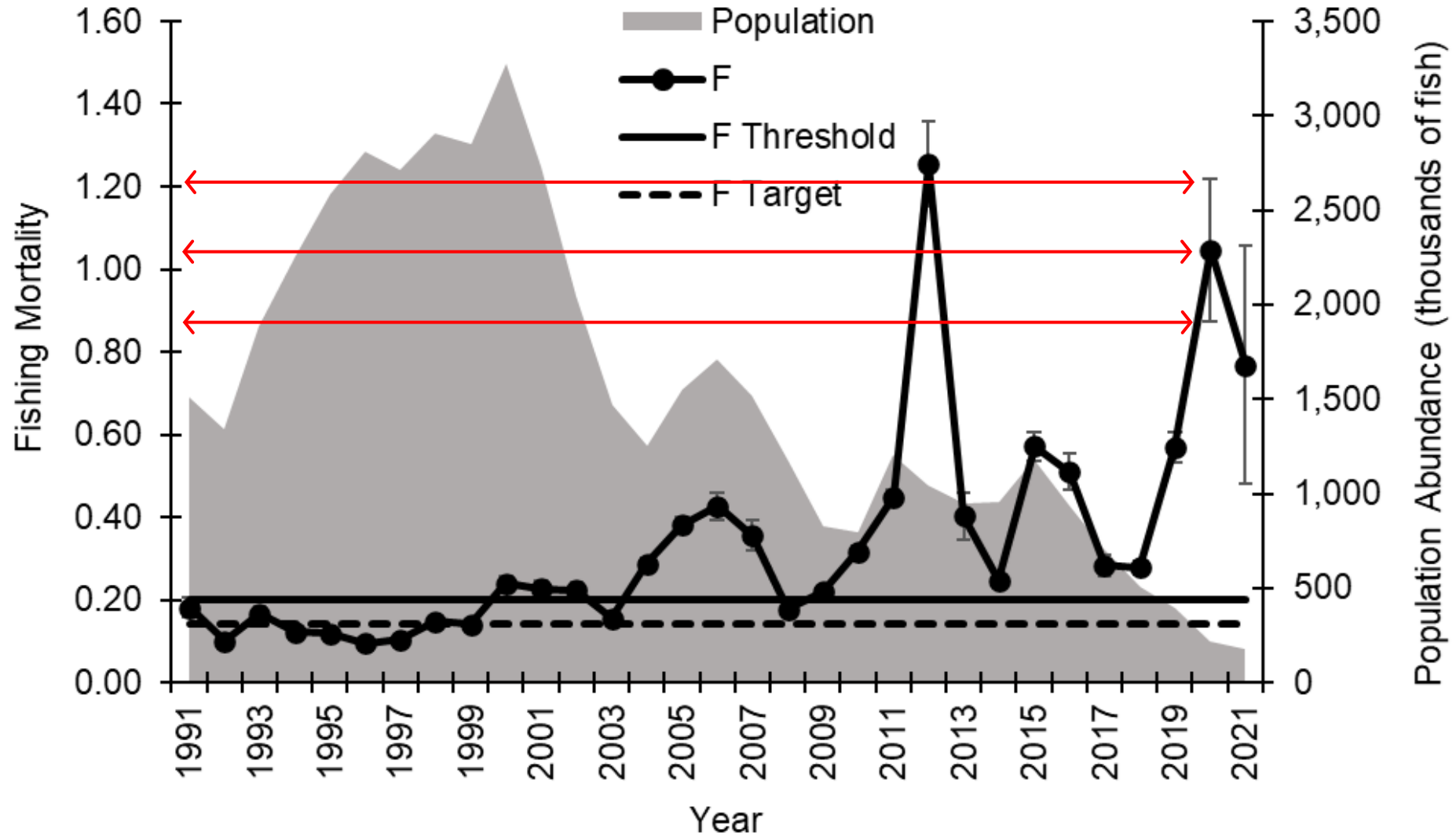
Confidence Intervals Explained



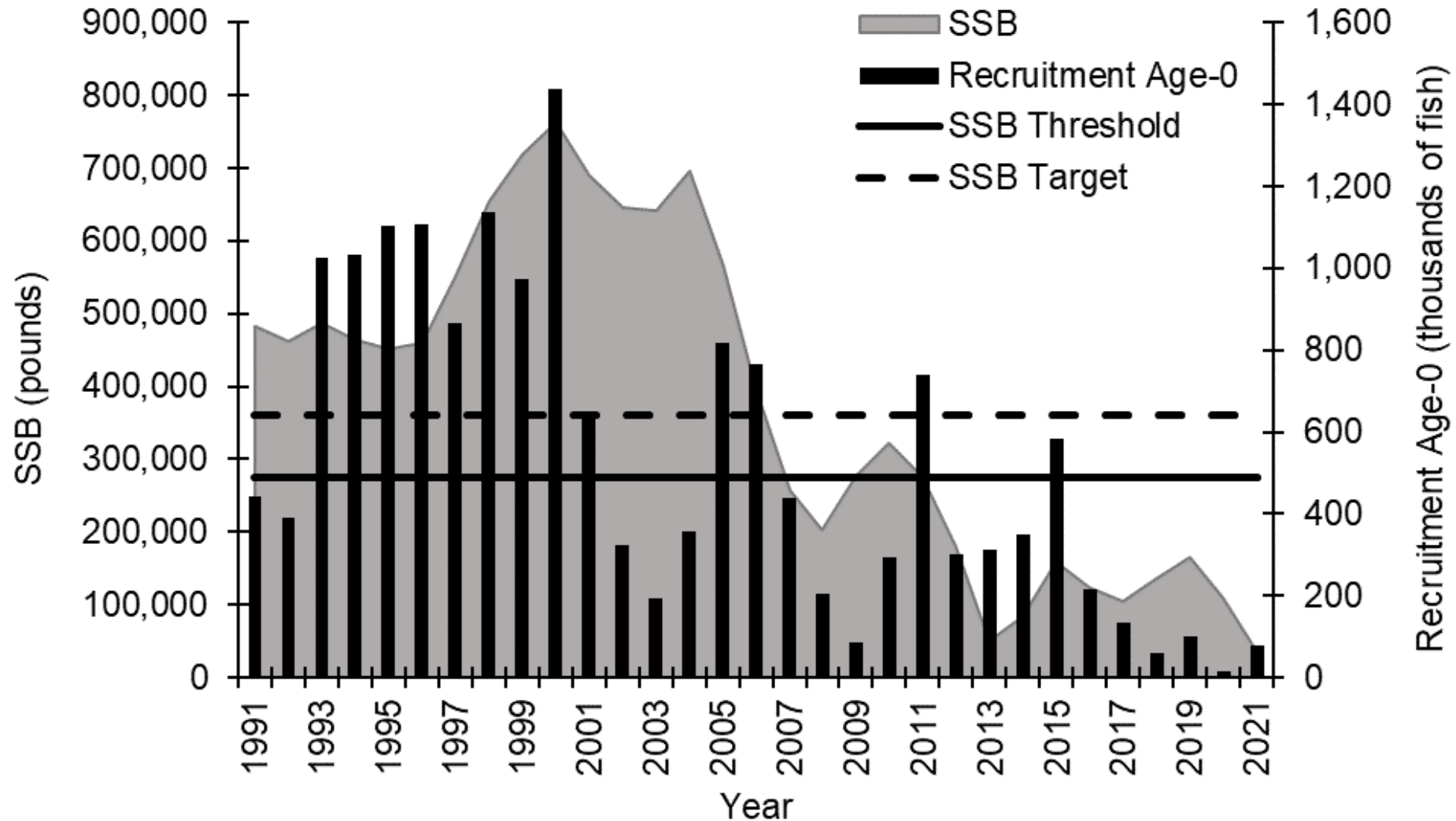
Confidence Intervals Explained



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Spawning Stock Biomass and Recruitment



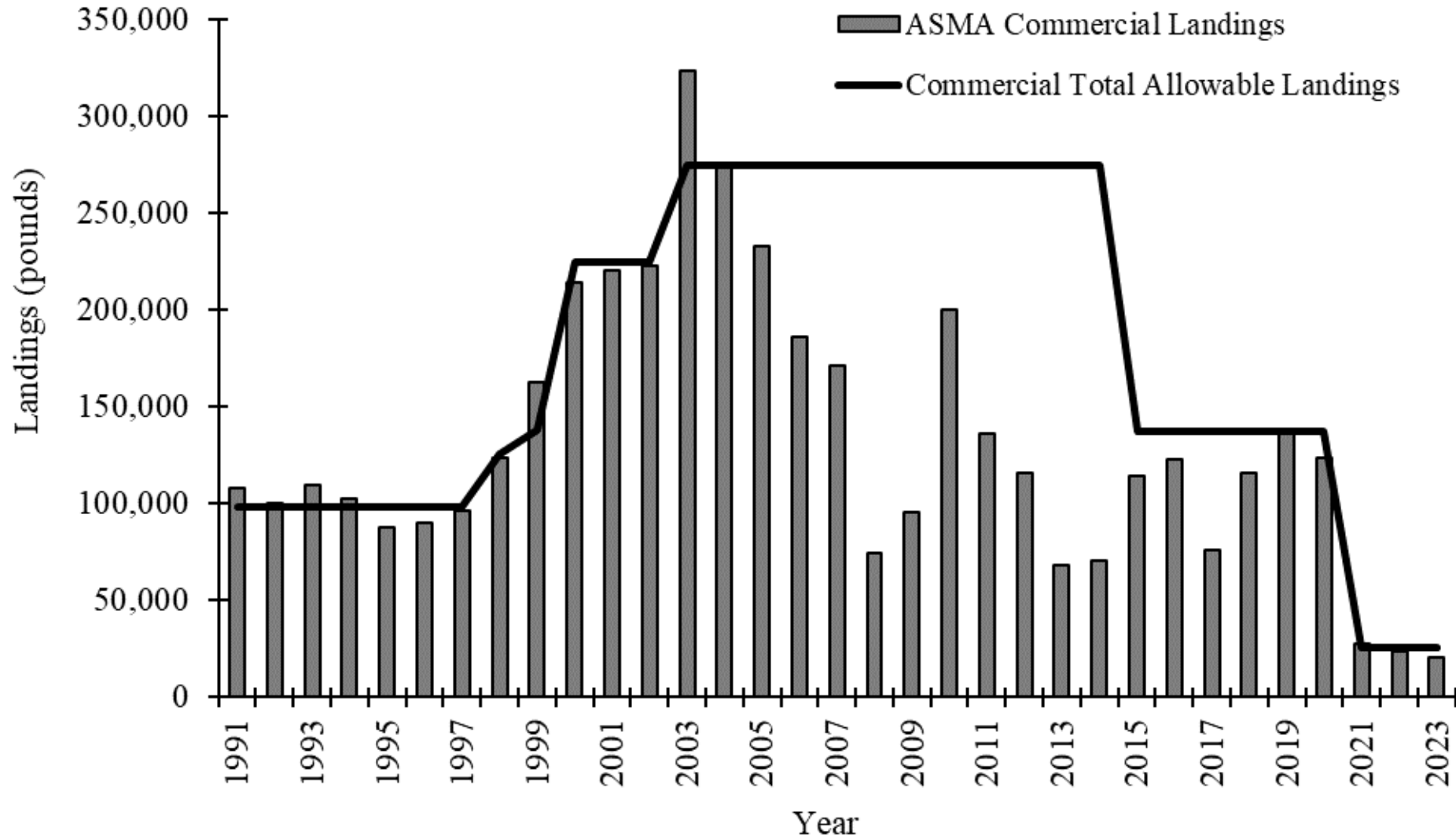
Total Allowable Landings (TAL)

Years	Total Allowable Landings	ASMA Commercial	ASMA Recreational	RRMA Recreational
1991–1997	156,800	98,000	29,400	29,400
1998	250,800	125,400	62,700	62,700
1999	275,880	137,940	68,970	68,970
2000–2002	450,000	225,000	112,500	112,500
2003–2014	550,000	275,000	137,500	137,500
2015–2020	275,000	137,500	68,750	68,750
2021–2023	51,216	25,608	12,804	12,804
2024–	8,349	4,175	2,087	2,087

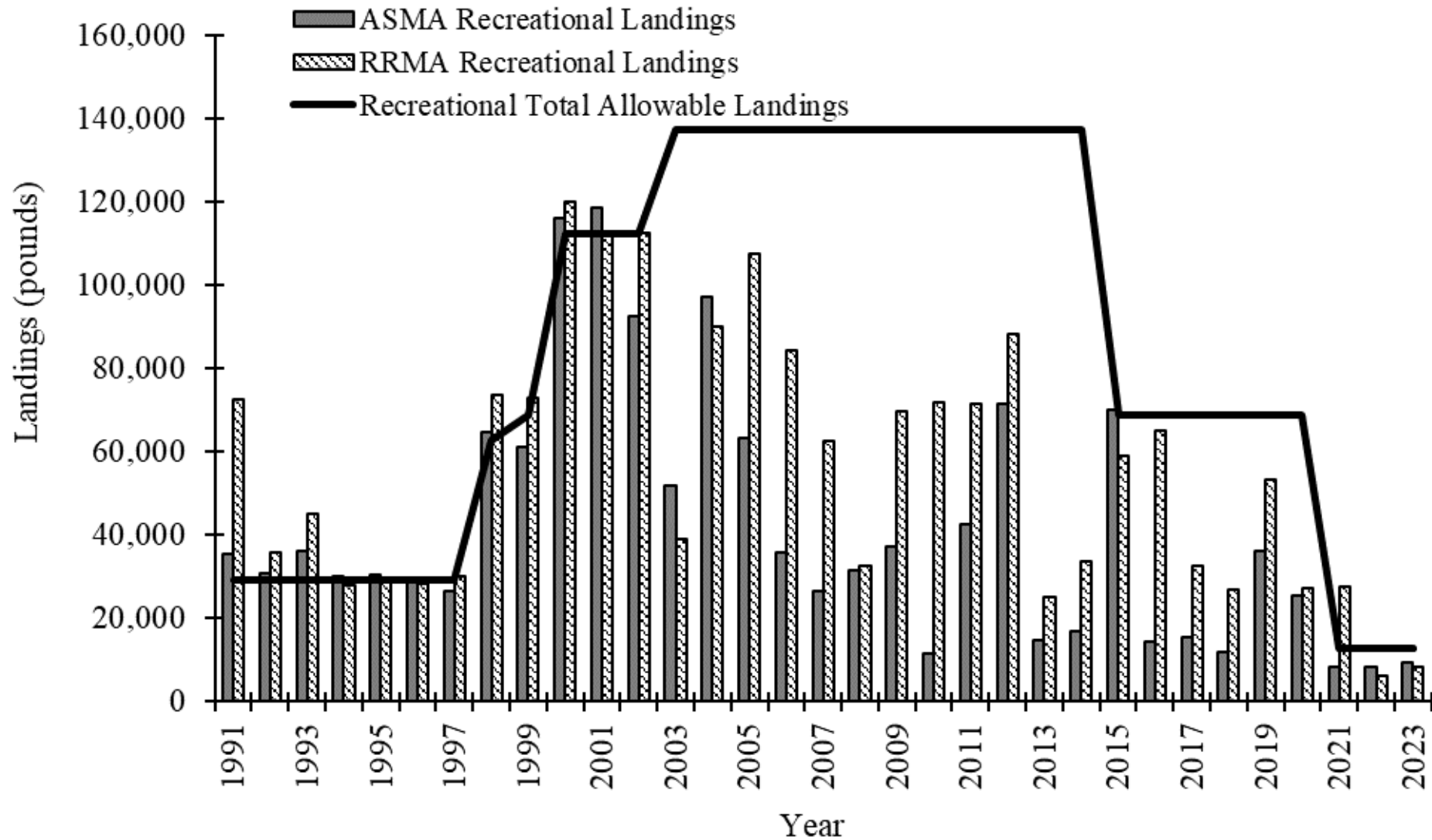
- A TAL of 8,349 lb is too low to effectively manage
- **More Importantly: SSB in 2021 = 35,566 lb**
- **SSB is less than 10% of the Target (360,720 lb)**



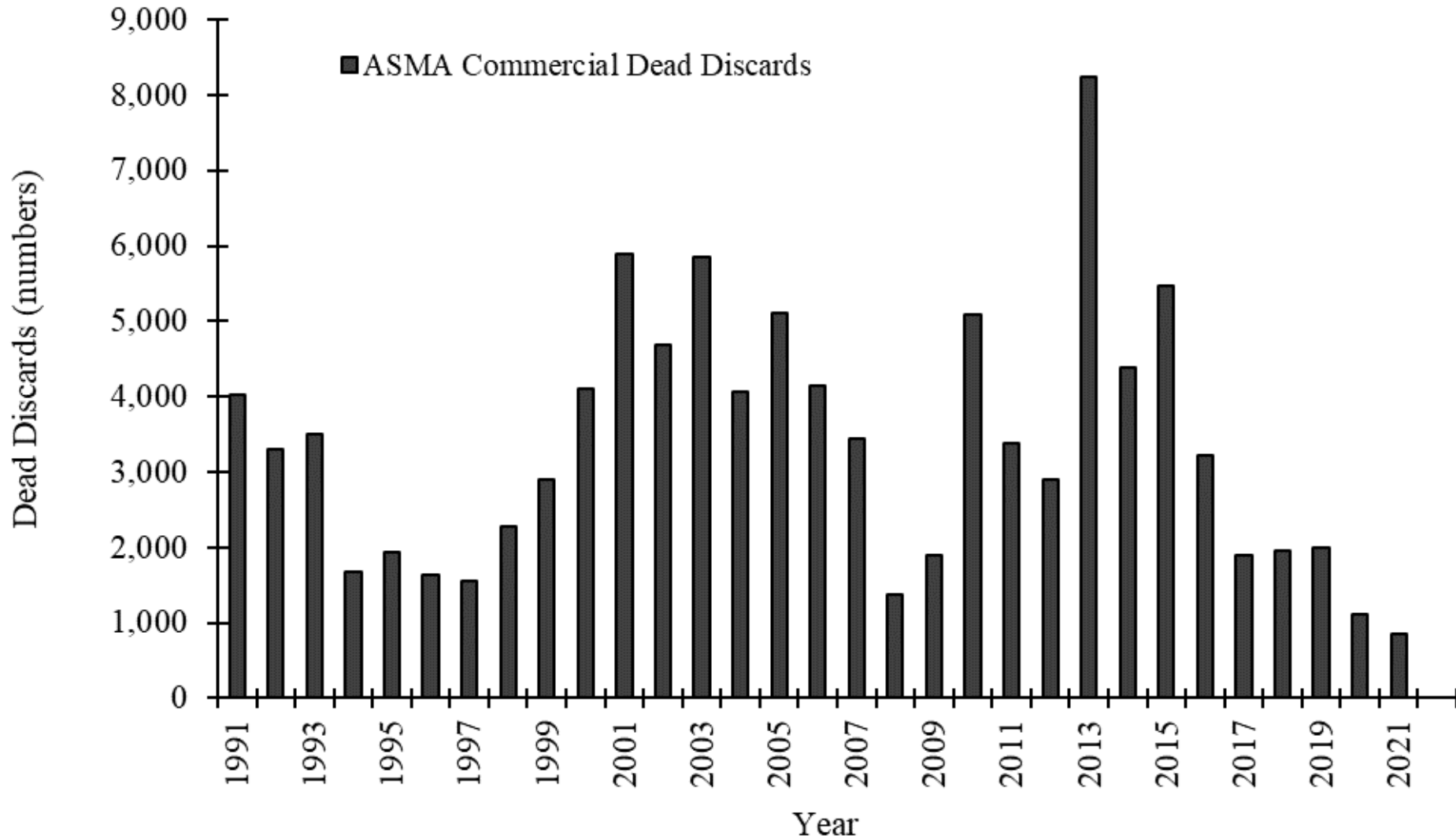
ASMA Striped Bass Commercial Landings



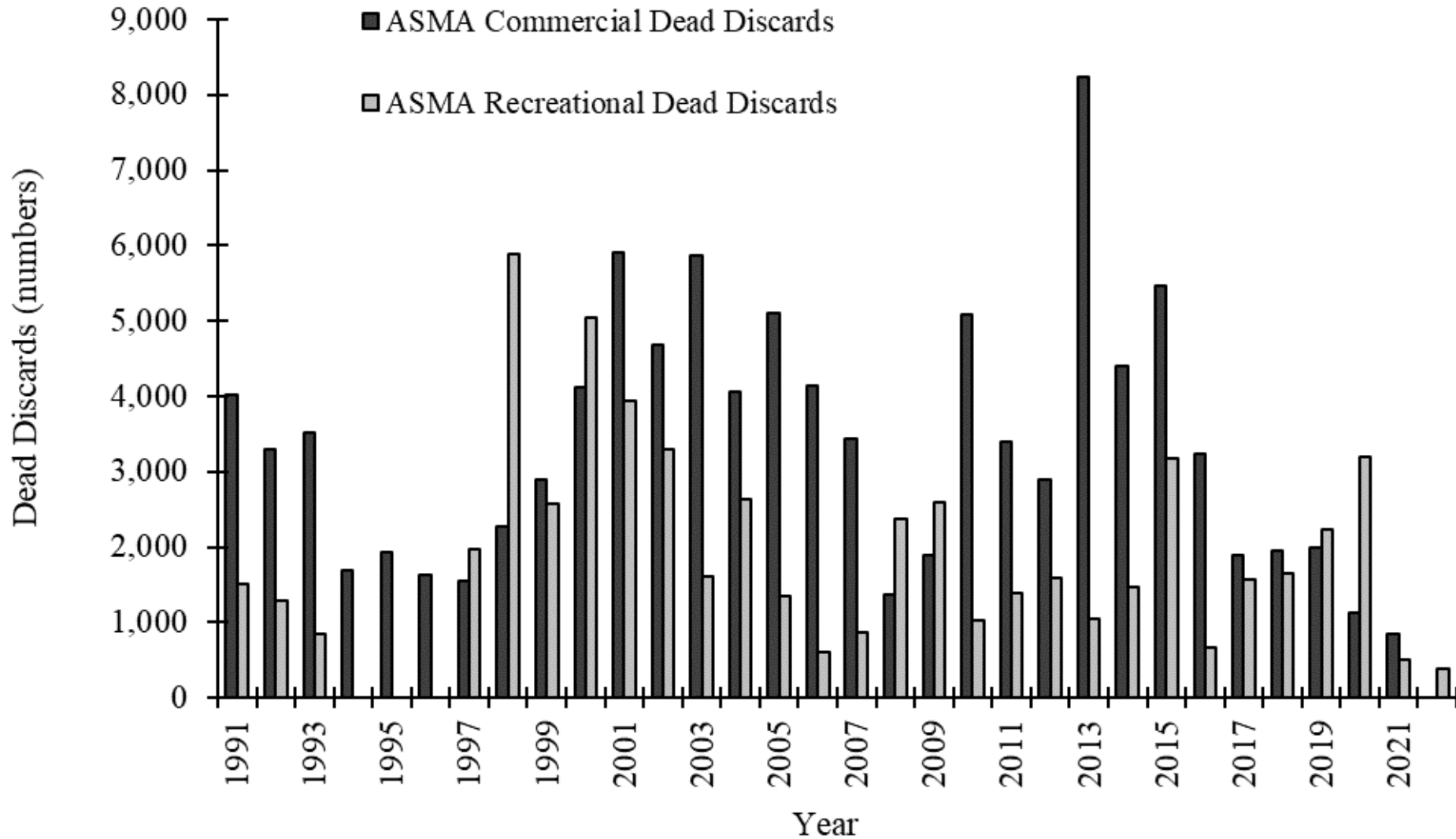
ASMA and RRMA Striped Bass Recreational Landings



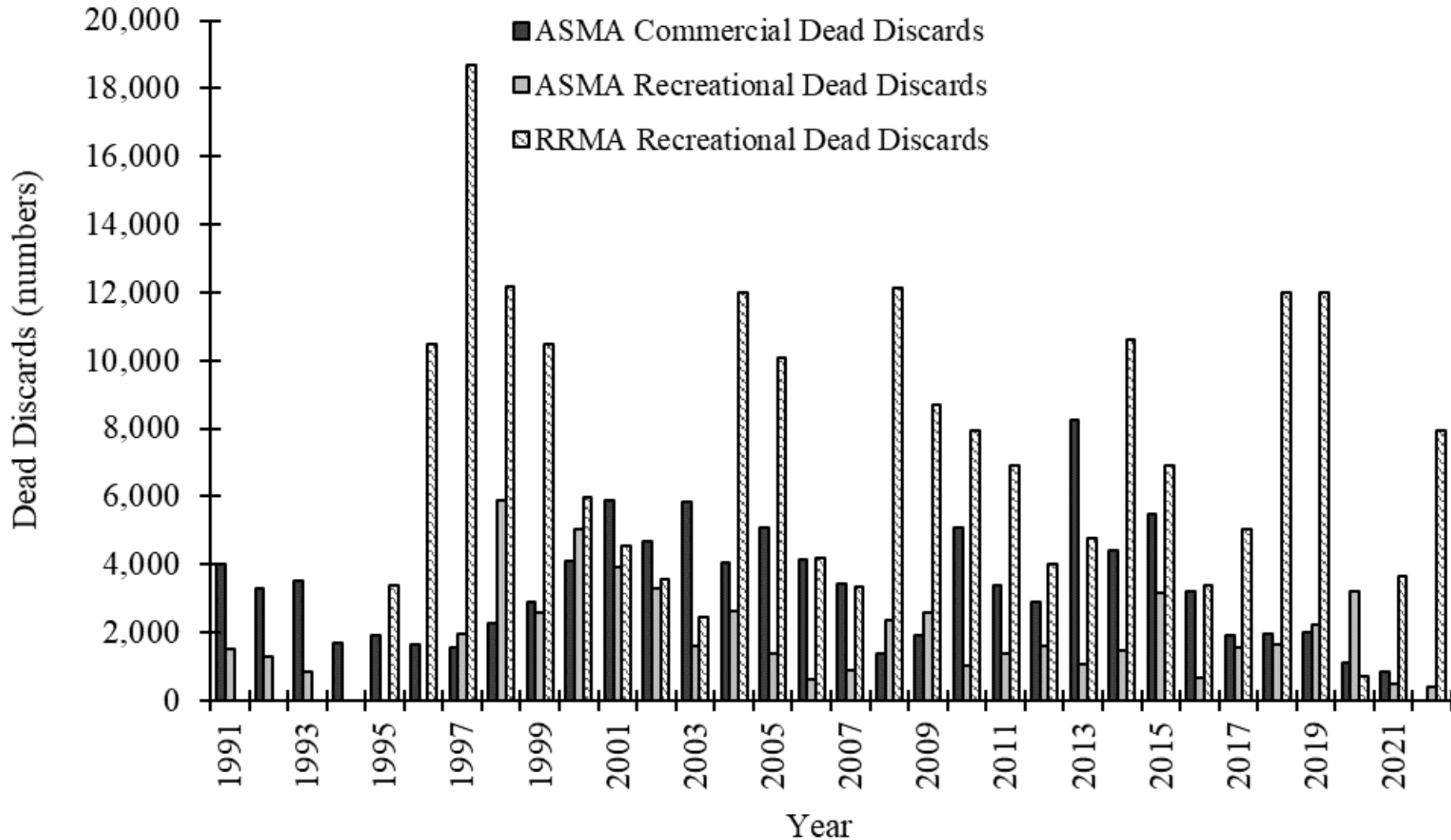
Striped Bass Dead Discards by Fishery



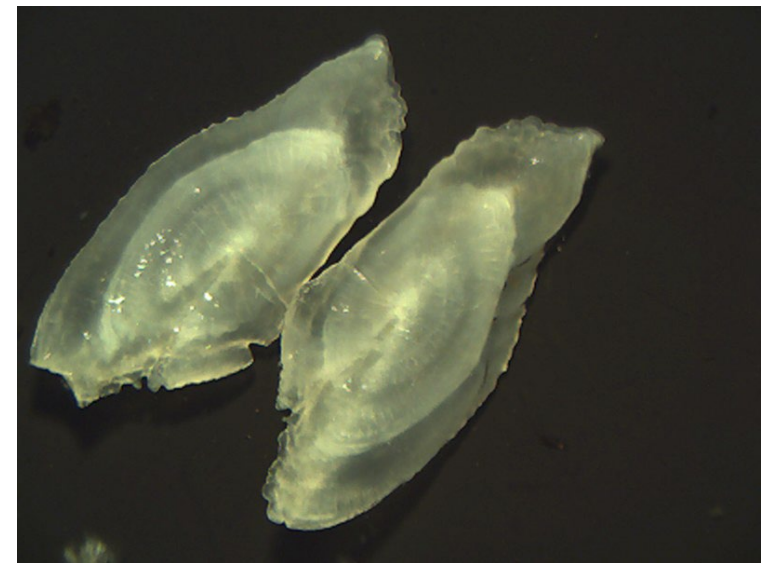
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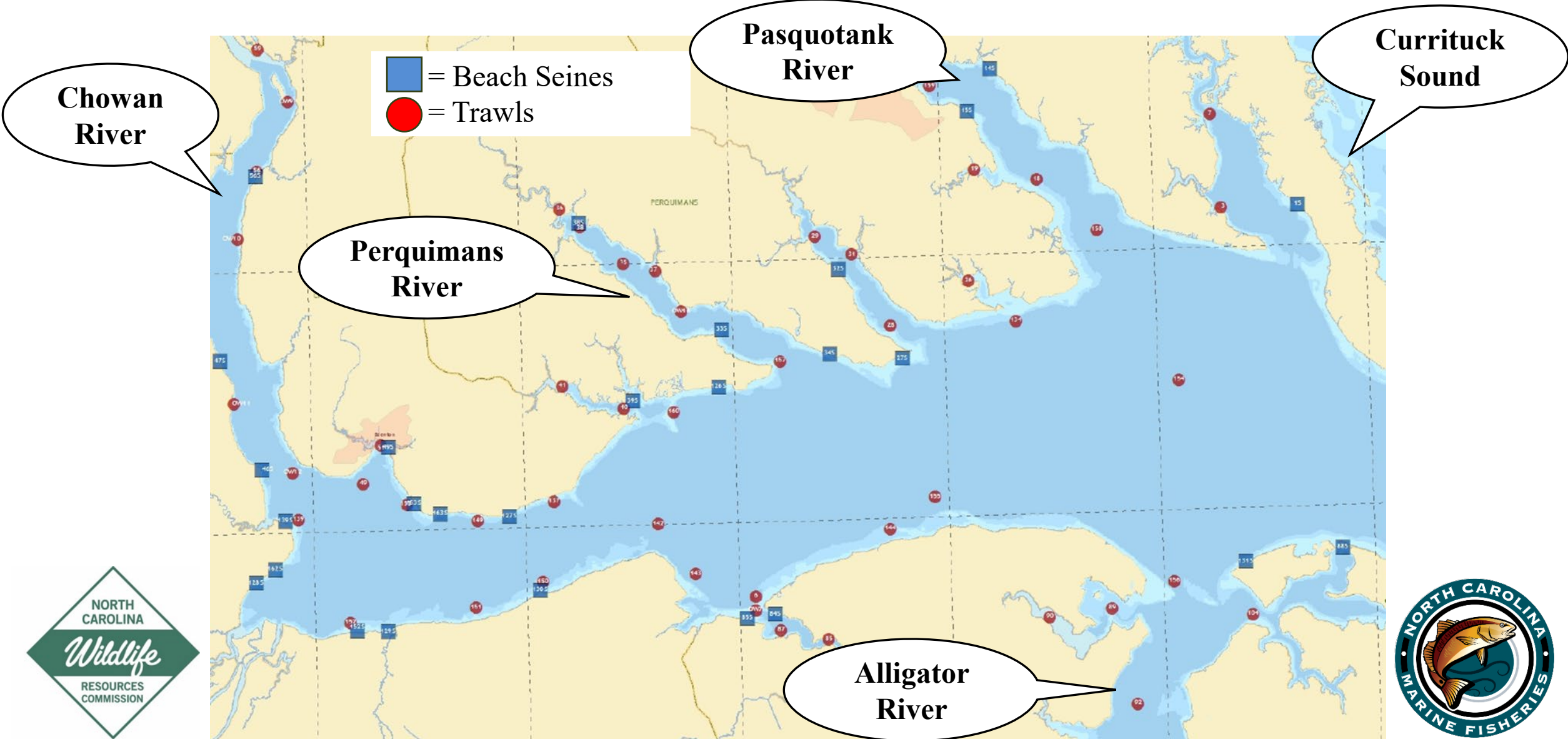
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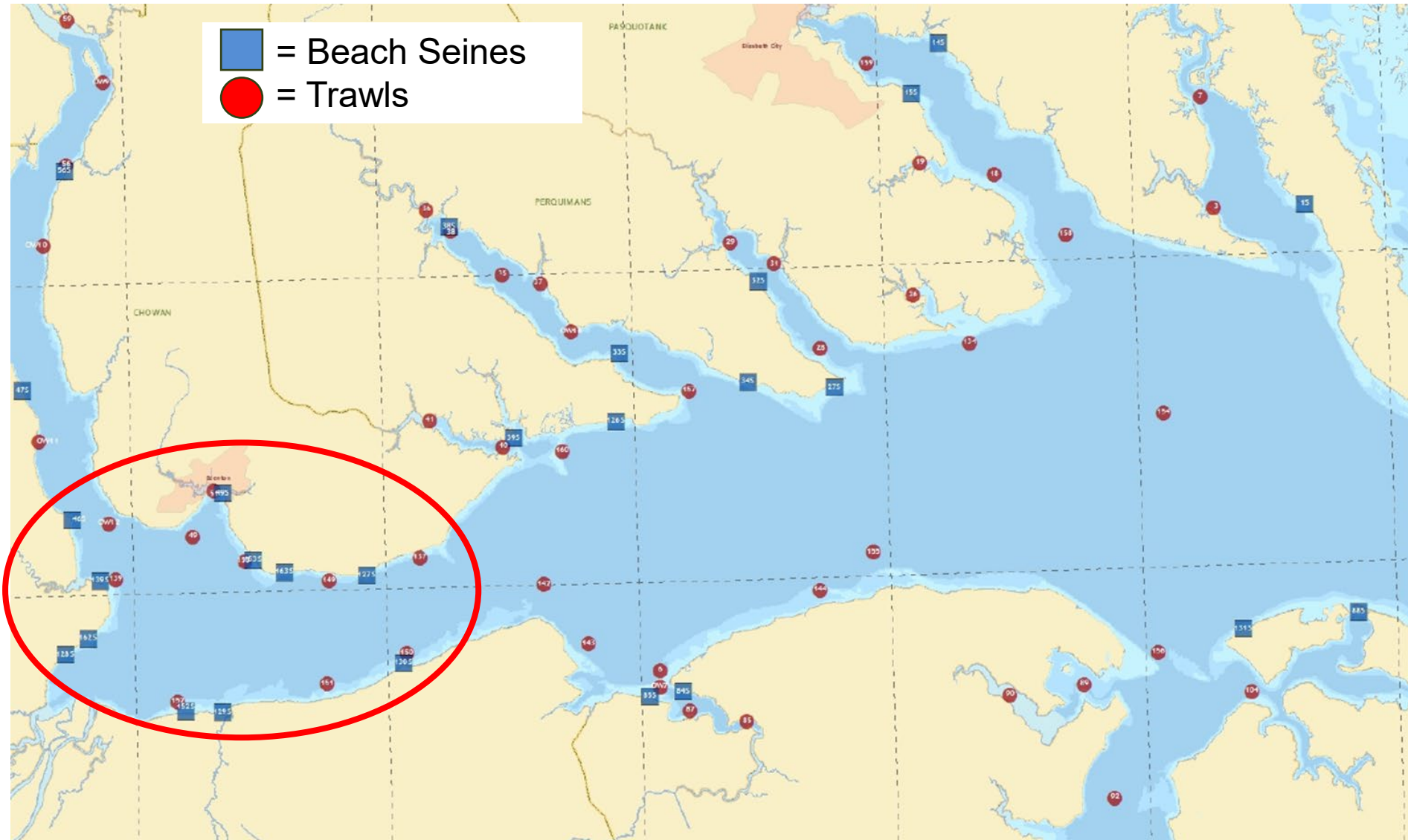
A-R Striped Bass Monitoring: Annual FMP Updates



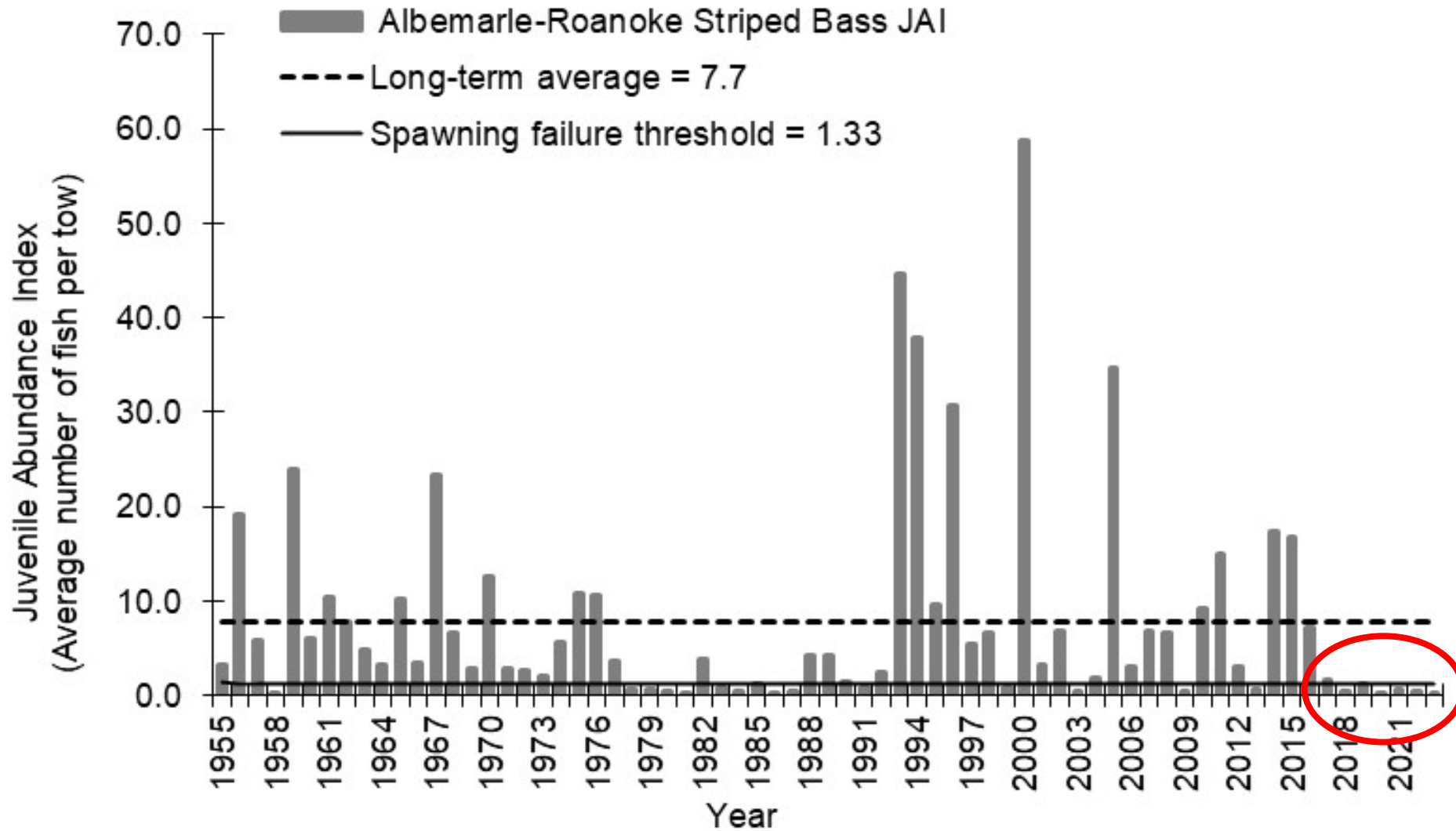
Juvenile Striped Bass Sampling Stations Albemarle Sound



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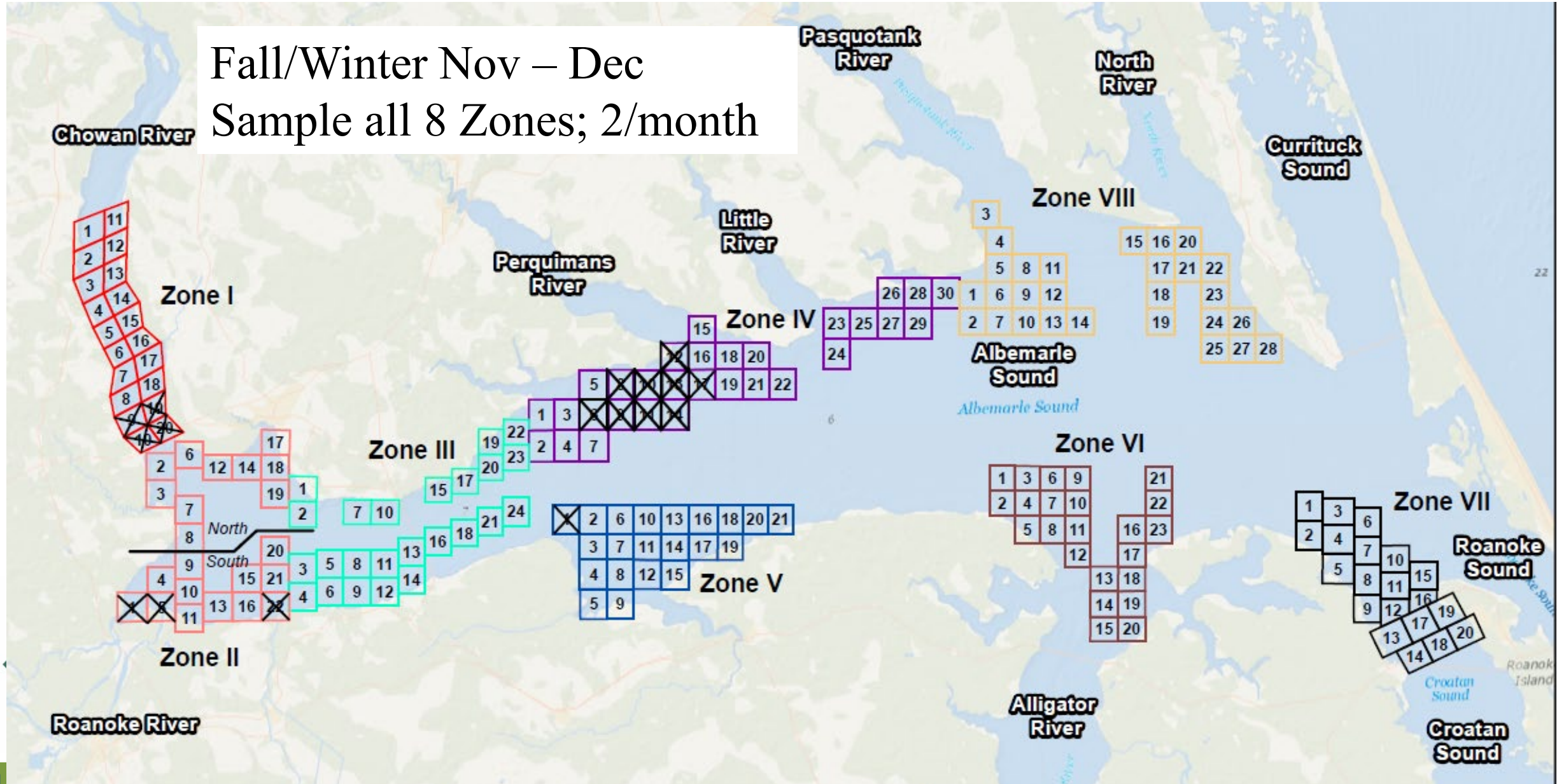


A-R Striped Bass Juvenile Abundance Index (JAI)



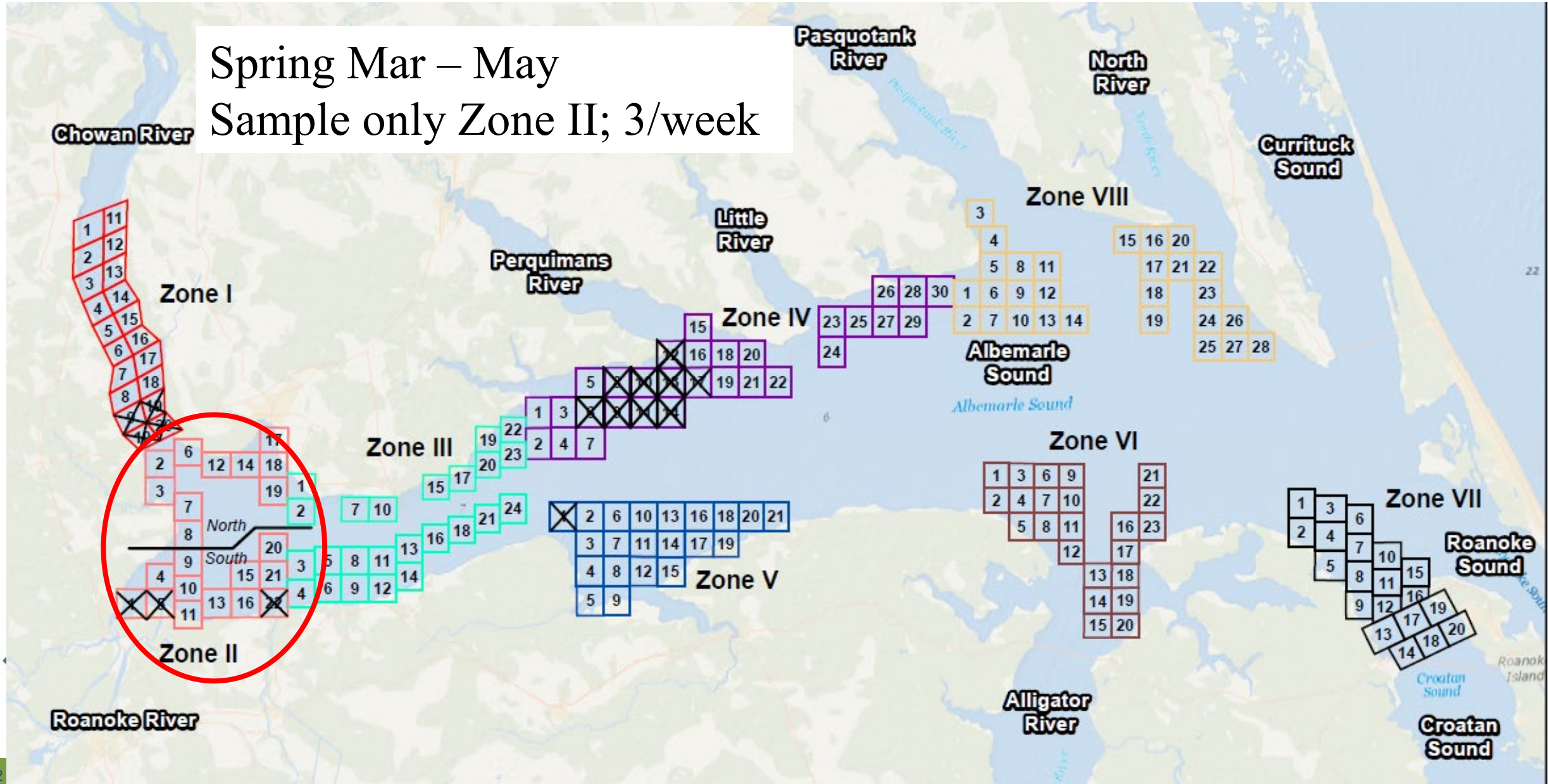
Striped Bass Gill Net Survey Sampling Zones Albemarle Sound

Fall/Winter Nov – Dec
Sample all 8 Zones; 2/month

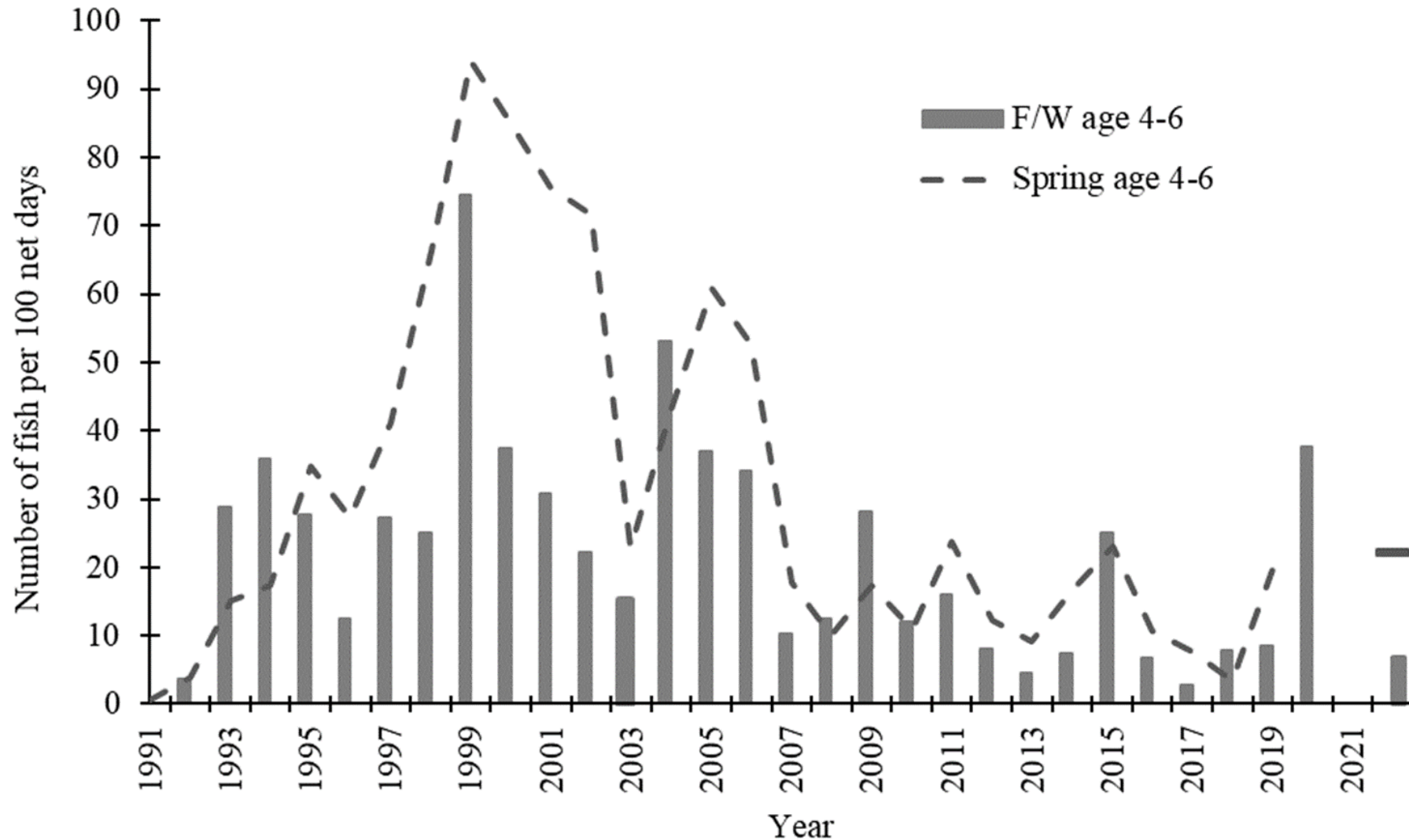


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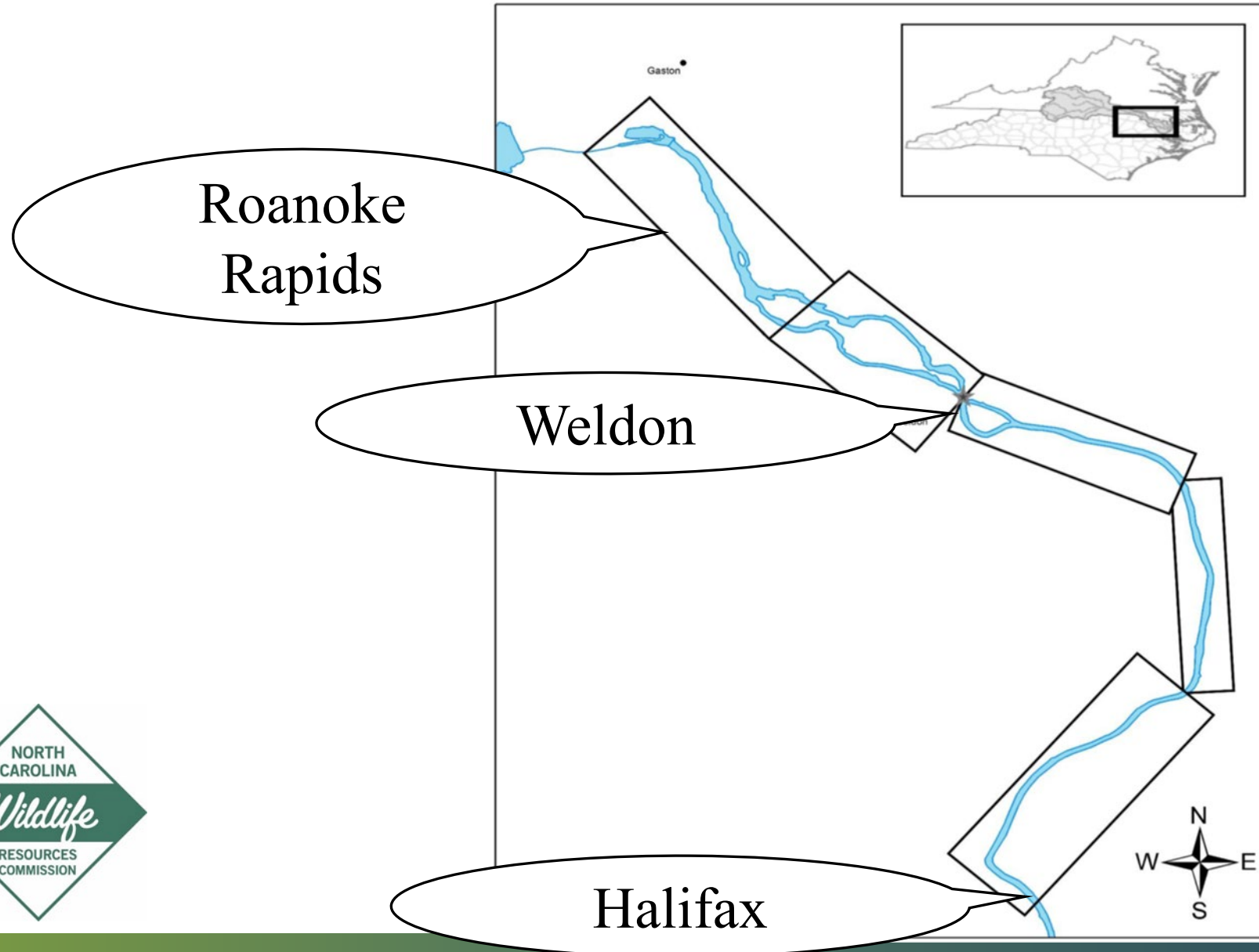
Spring Mar – May
Sample only Zone II; 3/week



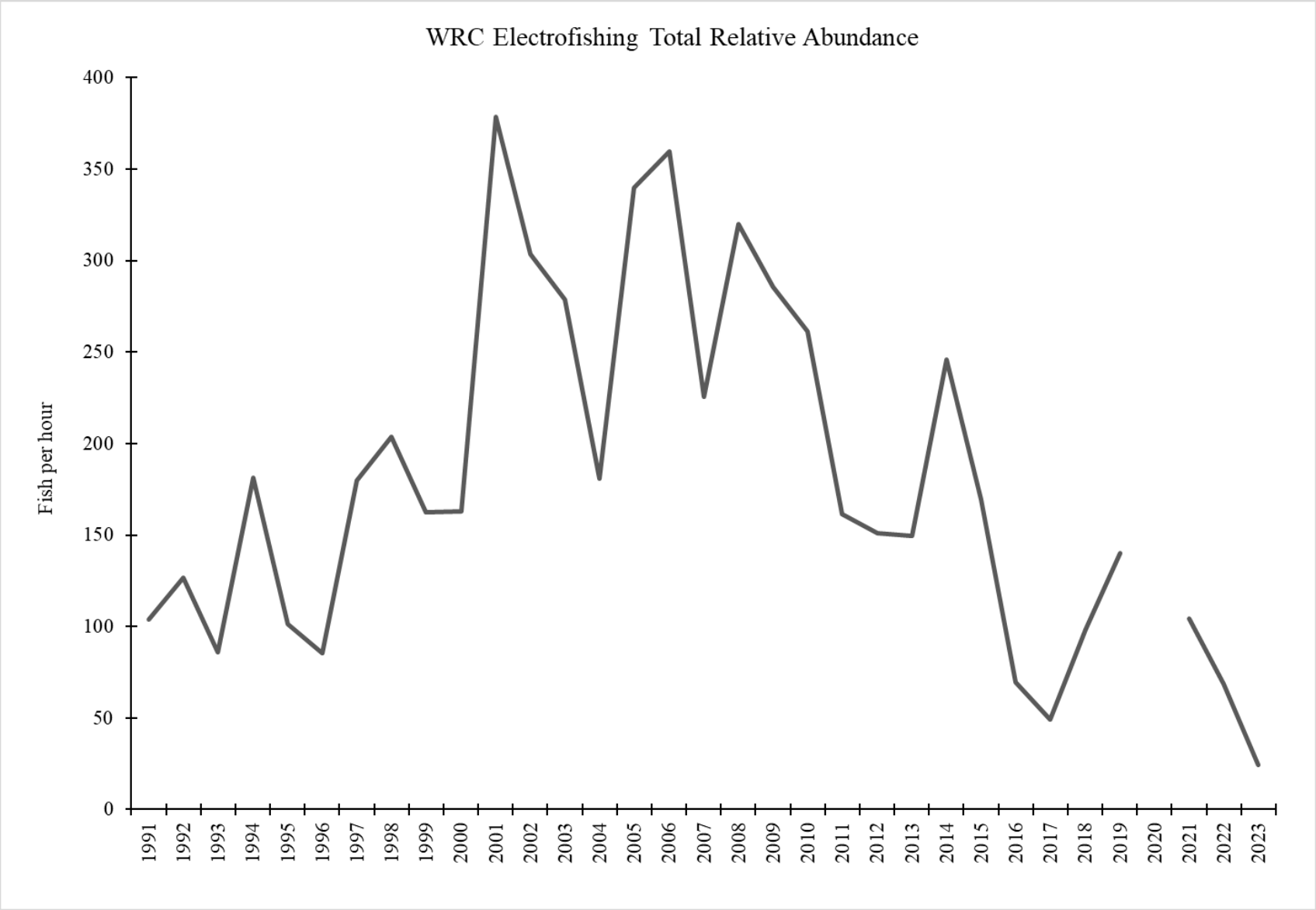
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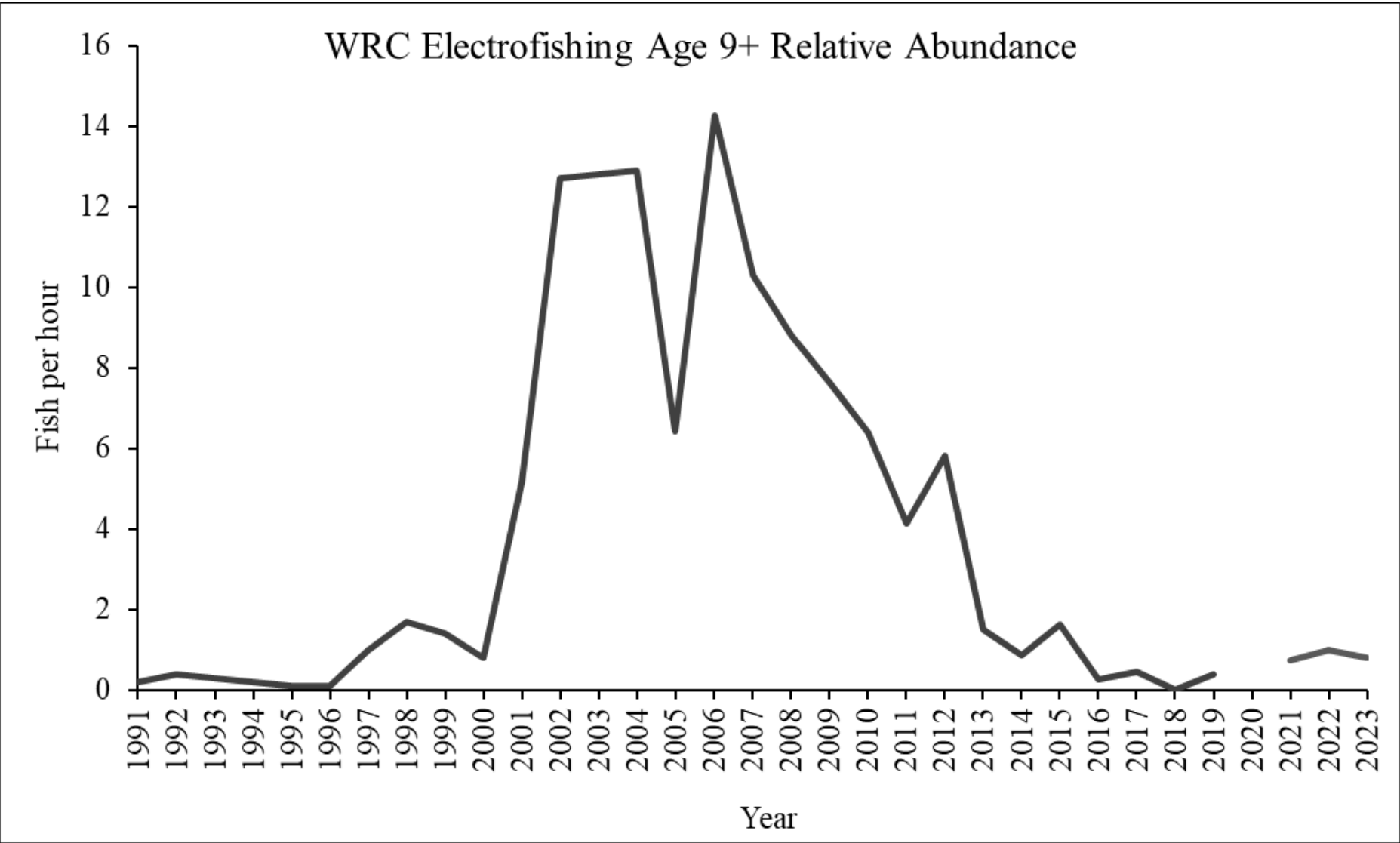
Electrofishing Survey Roanoke River Spawning Grounds



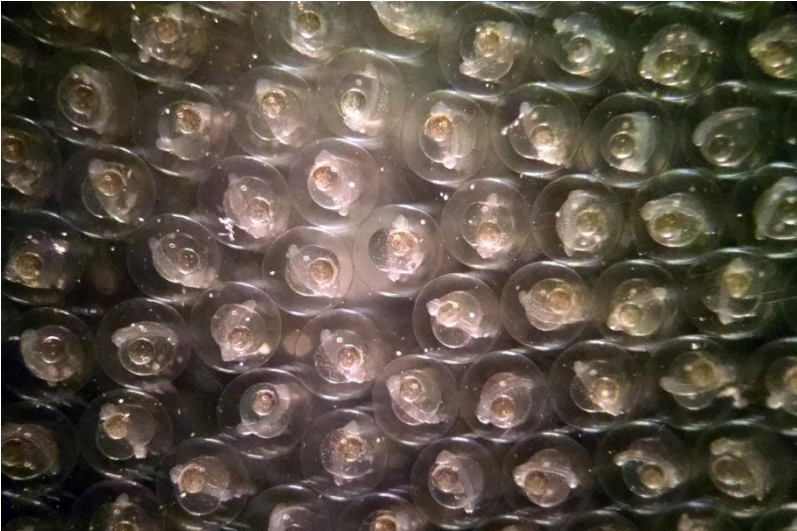
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2023 – 2024 Stocking Update



2023 – 2025 Stocking Update

Collaborative Effort USFWS, DMF, WRC

YEAR	SIZE	LOCATION	NUMBER
2023	Fry (~5 days post-hatch)	Lower Roanoke River	1,429,822
2023	Phase I (1-2 inches long)	Western Albemarle Sound	668,243
2024	Fry	Lower Roanoke River	2,800,000
2024	Phase I (1-2 inches long)	Western Albemarle Sound	Goal 500,000
2024	Phase II (5-8 inches long)	Western Albemarle Sound	Goal 150,000
2025	Fry	Lower Roanoke River	Surplus
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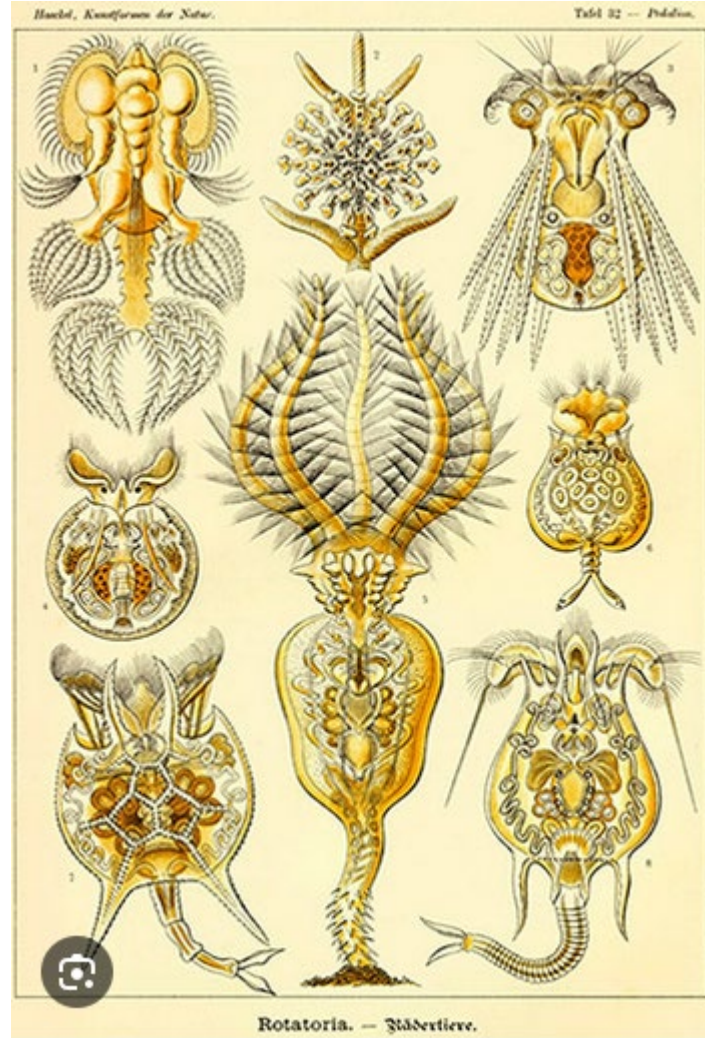
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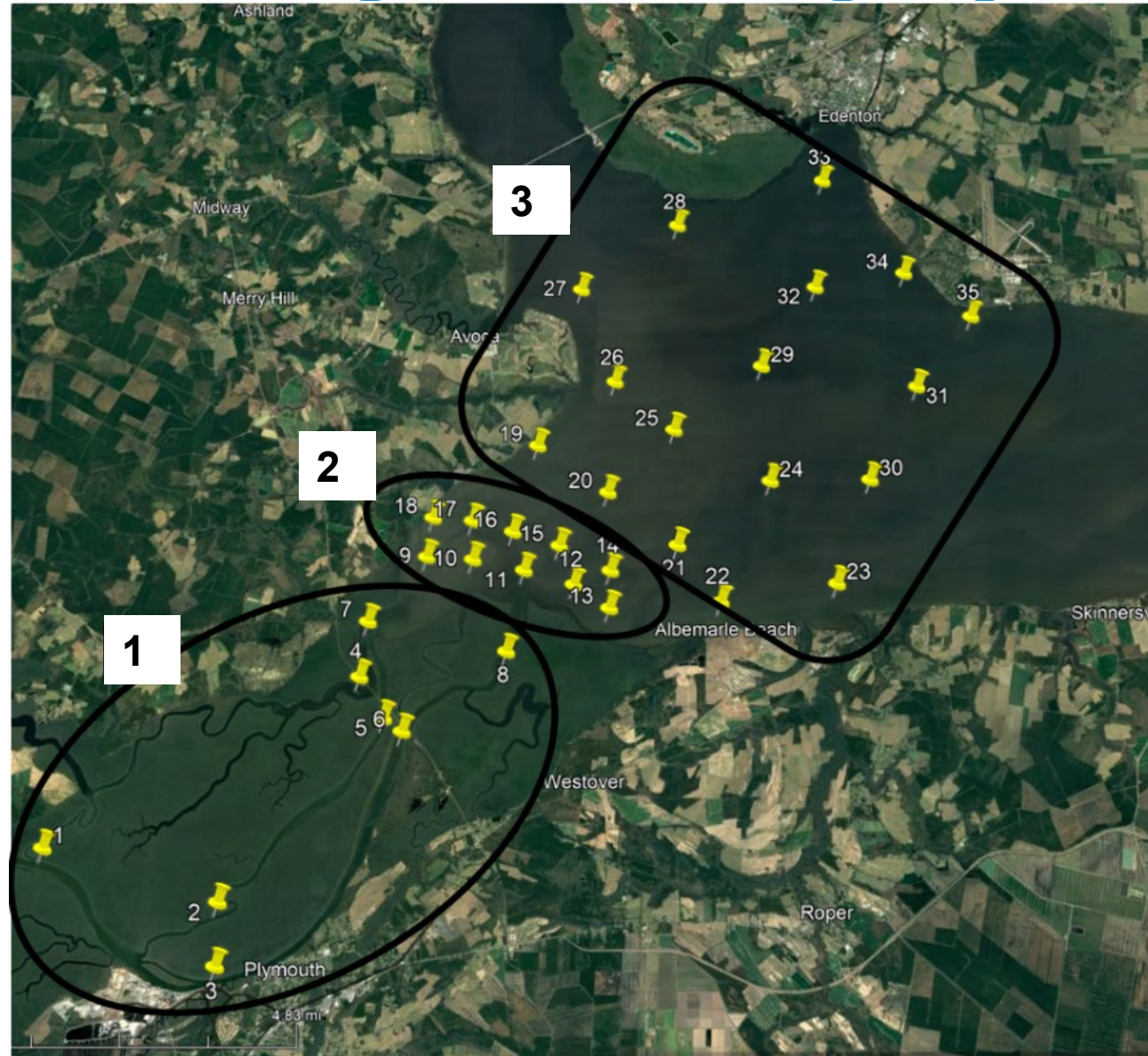
DMF Larval/Zooplankton Sampling 2023 – 2024



Zooplankton sample including several species of copepods (1–5), gastropod larva (6) doliolids (7), fish eggs (8), and decapod larva (9)



DMF Larval/Zooplankton Sampling 2023 – 2024



WRC Investigation of Organic Chemicals (PFAS) in N.C. Coastal Striped Bass Populations

- Organic chemicals possessing fluorinated-carbon molecules (PFAS type compounds) have been documented in coastal systems and their interference with biological processes is becoming more widely known.
- These chemicals have the potential to interfere with early life stages of striped bass by being passed maternally via ovaries and subsequently disrupting metabolic processes.
- The first step is to determine if these chemicals are being passed from the mother to her eggs.



Steps Moving Forward

2024 Revision to Amendment 2 to document adaptive management changes

- New TAL of 8,349 pounds is too low to effectively manage.
- Implement harvest moratorium due to low TAL, low SSB estimates, and seven consecutive years of spawning failures.



Moratorium in effect Jan 1, 2024, until stock improves (no harvest)

- Stock will be monitored through surveys annually and will be the first indication of improved stock conditions.
- Results of our surveys will be reviewed annually through the FMP Update.
- Future stock assessments will determine when the stock recovery is adequate, and biomass has rebounded to allow for future harvest.





Questions?

