

Brief Summary of Atlantic Herring RT and MT Assessments

Jonathan Deroba

NOAA Fisheries NEFSC

Meeting of ASMFC Atlantic Herring Board

August 4, 2026

RT Summary

- WG
 - Matt Cieri (Chair)
 - Jon Deroba (assessment lead)
 - Kiersten Curti
 - Sarah Gaichas
 - Jamie Cournane
 - Ashley Asci
 - Micah Dean
 - John Wiedenmann
 - Gavin Fay
- Significant Contributors
 - Adelle Molina
 - Addie Binstock
 - Emily Bodell
 - Mark Wuenschel
 - Mike Jech
 - James Gartland
 - Sean Hardison
 - Those collecting and processing data
 - Engaging industry and stakeholders

RT Peer review completed March 10-14, 2025

- Panel
 - Conor McManus (Chair)
 - Henrik Sparholt (retired, University of Copenhagen, Denmark)
 - Gary Melvin (retired, DFO Canada)
 - Florian Berg (IMR, Norway)
- All TORs met and methods accepted

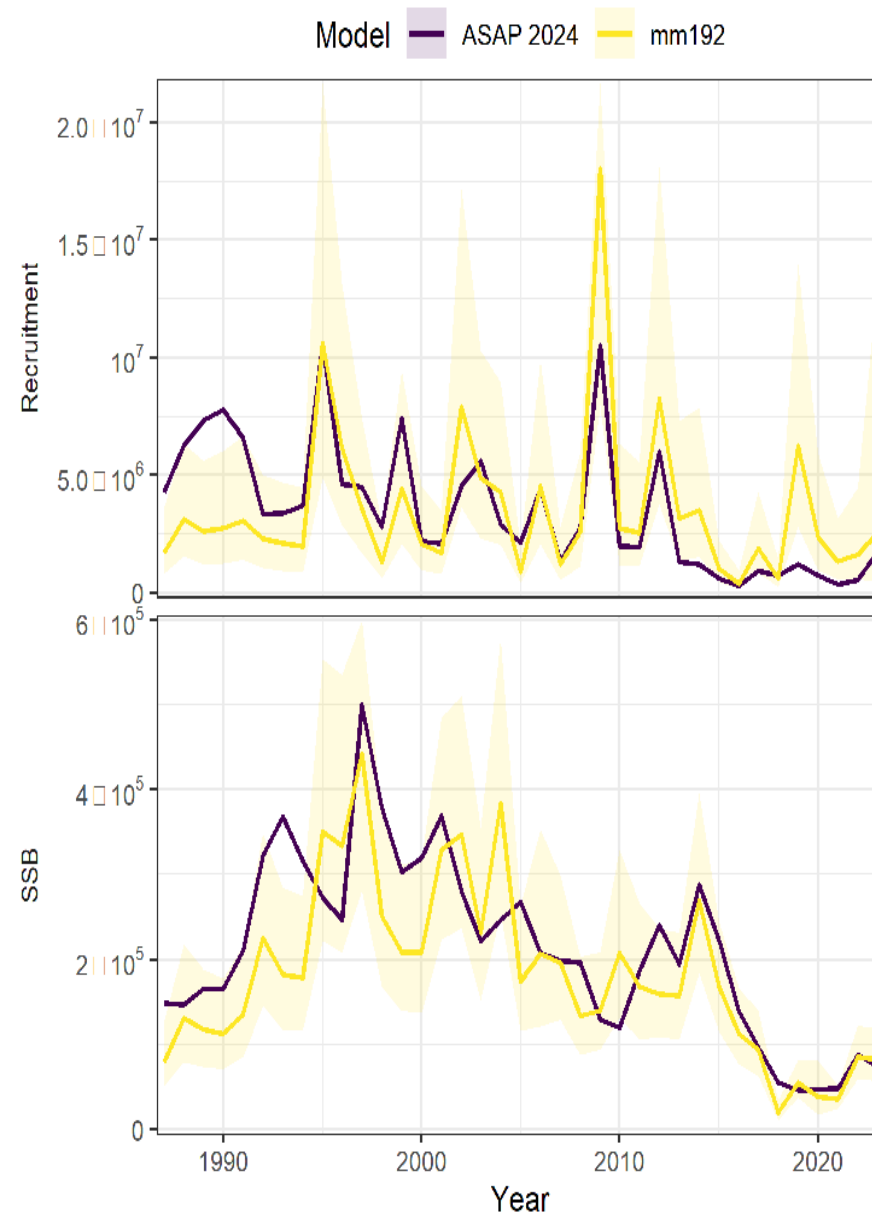
TORs 1-3

- TOR 1: ecosystem and climate influences
 - Massive undertaking
 - Informed covariates, particularly for recruitment, to be tested in TOR 4
 - Identified temperature, planktonic food sources, and haddock as most likely drivers
- TOR 2: catch
 - Generally similar to previous assessments
 - Switch to using catch from CAMS beginning in 2020
- TOR 3: surveys
 - Generally similar to previous assessments
 - NMFS spring, fall, and summer BTS and an acoustic survey included
 - Examined ME/NH and MA BTS and trends consistent with assessment, but not included
 - Tried using an index of recruitment based on seabird diet, but needs refinement

TOR 4: do a stock assessment

- Priority was a move to WHAM
- Used a broad range of model selection criteria
- Evaluated start year, likelihood options, selectivity, natural mortality, random effect structures, recruitment covariates, among other things
- ~300 model variants
- No single recruitment covariate was main driver
- Preferred model
 - 2 fishing fleets
 - Begins in 1987
 - Constant $M = 0.35$ (presented evidence for time-invariant M)
 - Time invariant selectivity
 - Recruitment is iid random effect
 - NAA transition random effects correlated among ages (AR1_a)

TOR 4: do a stock assessment



TOR 5: reference points

- Continued use of F40% and B40% as MSY proxy reference points
 - F40% only for mobile fleet is used for official overfishing status
- A truncated recruitment time series, as was status quo, is no longer supported
 - Used the recruitment scaling parameter; i.e., log-scale mean recruitment

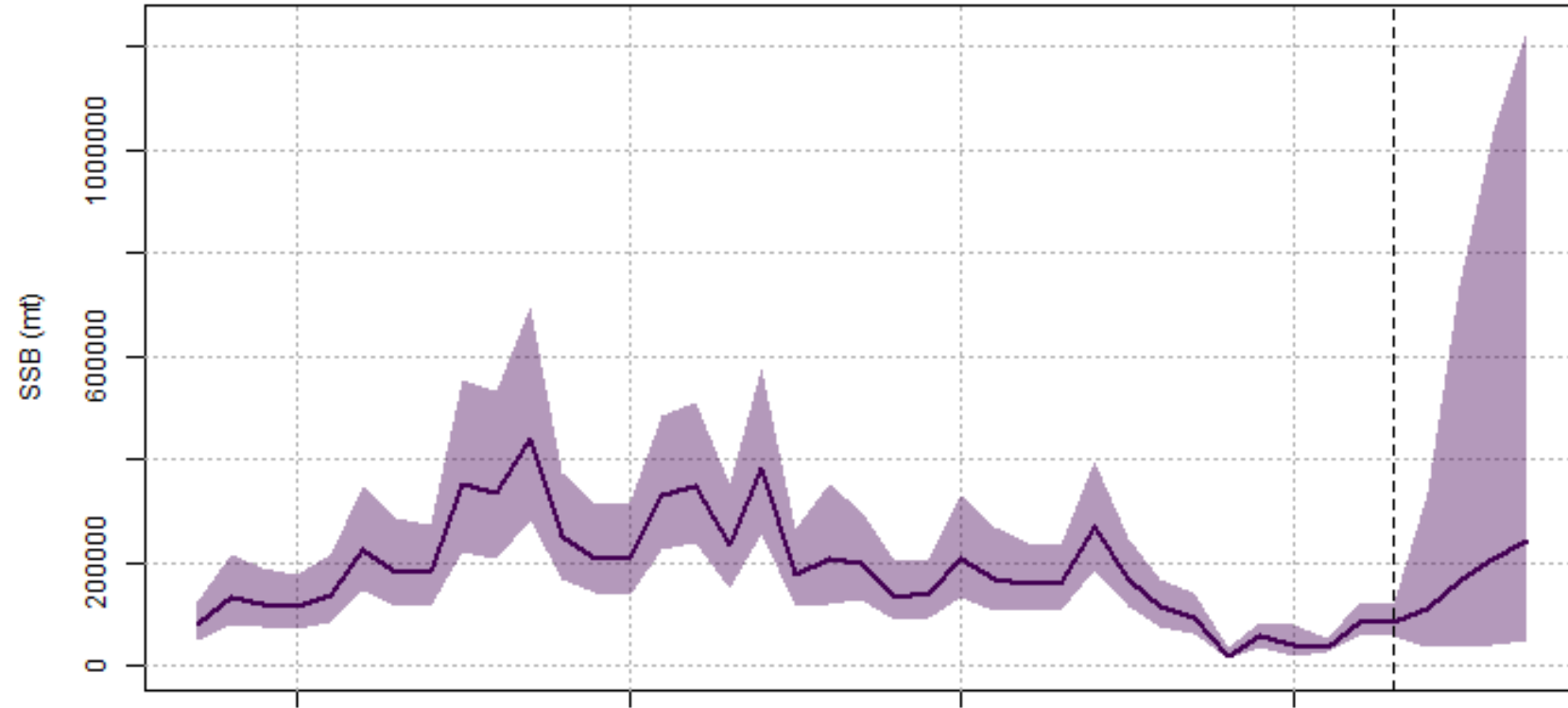
TOR 5 – Reference Points

- Using this approach:
 - $B_{40\%} = 233,176\text{mt}$ (90%CI 152,540-356,439)
 - $F_{40\%}$ mobile fleet = 0.349 (90%CI 0.305-0.440)
 - $MSY = 63,835\text{mt}$
 - Terminal year SSB = 82,402mt (90%CI 60,582-112,082)
 - Terminal year mobile fleet $F = 0.225$ (90%CI 0.16-0.32)
 - Retrospective pattern adjustments were unnecessary

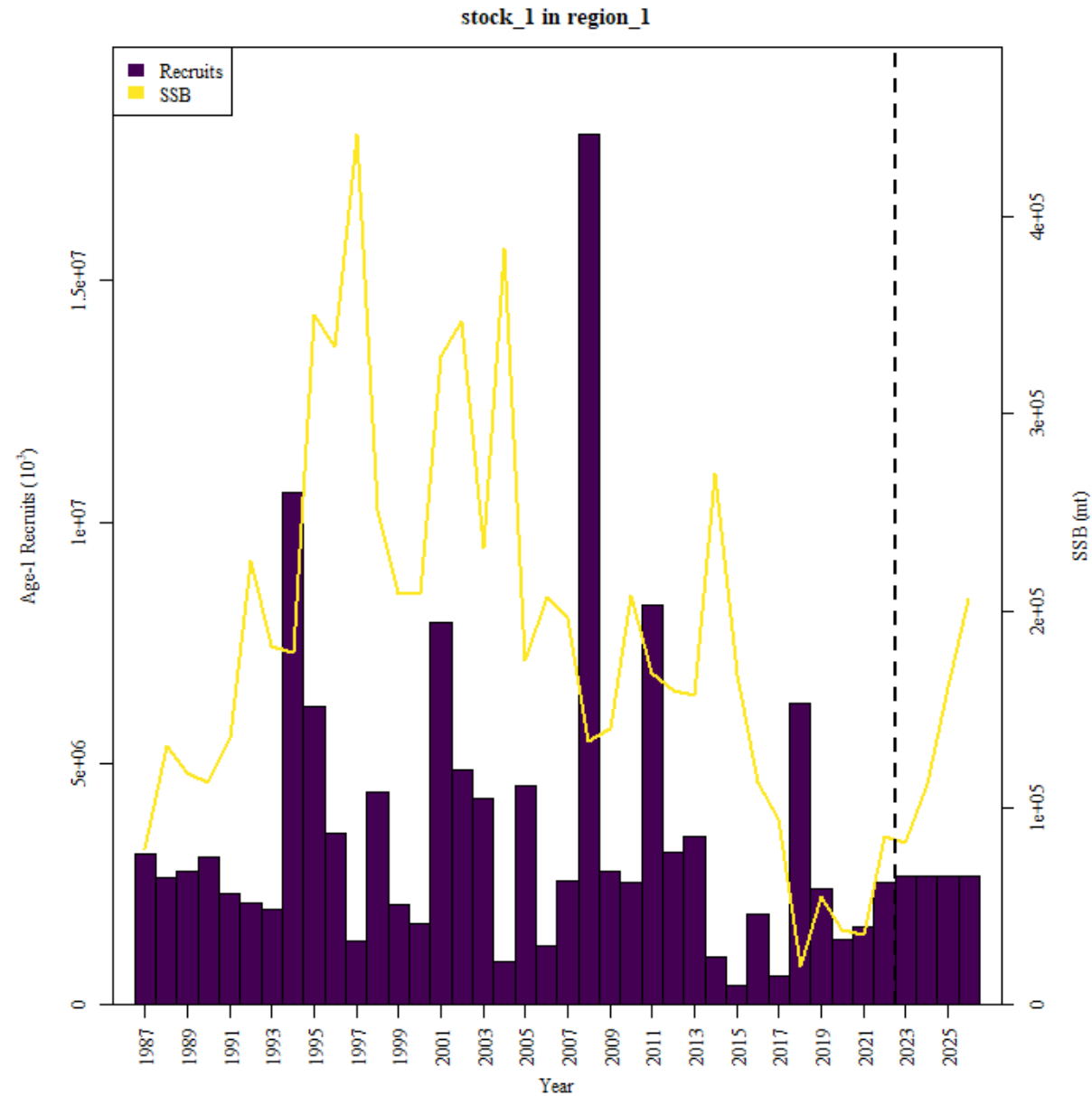
TOR 6: projections

- Continue the iid recruitment random effect process
 - Differs from the status quo of an ar1_y process
- NAA random effects do not continue (i.e., effectively zero)
- Life-history traits equal 5-year averages
- Mobile fleet catches projected using NEFMC “hockey-stick” control rule
- Fixed fleet is not quota controlled and set equal to 10 year average
 - This is considered management uncertainty and is specified by NEFMC
- SSB increases relatively quickly with great uncertainty
- WG and review panel had concerns that these are overly optimistic

TOR 6: projections



TOR 6: projections



TORs 7-8

- TOR 7: research recommendations from 2024 MT
 - Not going to review these in detail
 - Addressed many of them in the RT
- TOR 8: backup approach
 - Not needed



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Atlantic Herring

Jonathan J. Deroba

NEFSC

Population Dynamics Branch

Management Track Assessment

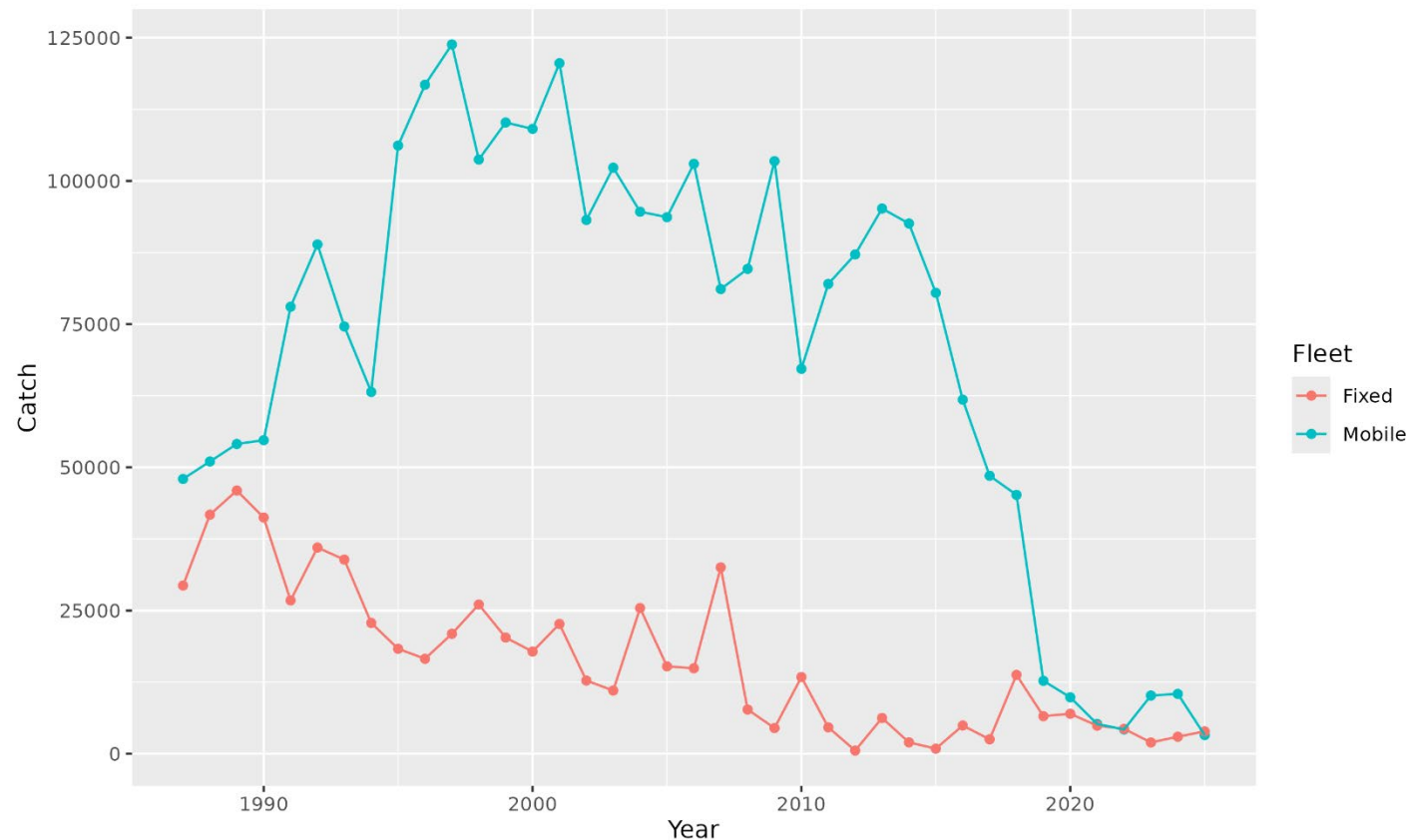
Spring 2026

MT Summary

- Assessed using WHAM
 - No structural changes since the RT
 - 1987-2025
 - Two fleets (fixed and mobile gears); fixed catch >90% Canadian
 - Four surveys: spring BTS, fall BTS, summer/shrimp BTS, acoustic time series collected during fall BTS
 - Constant $M=0.35$
 - No ability to estimate SR relationship; MSY reference points use $F_{40\%}$ as proxy
 - Strong correlation among ages in NAA random effects

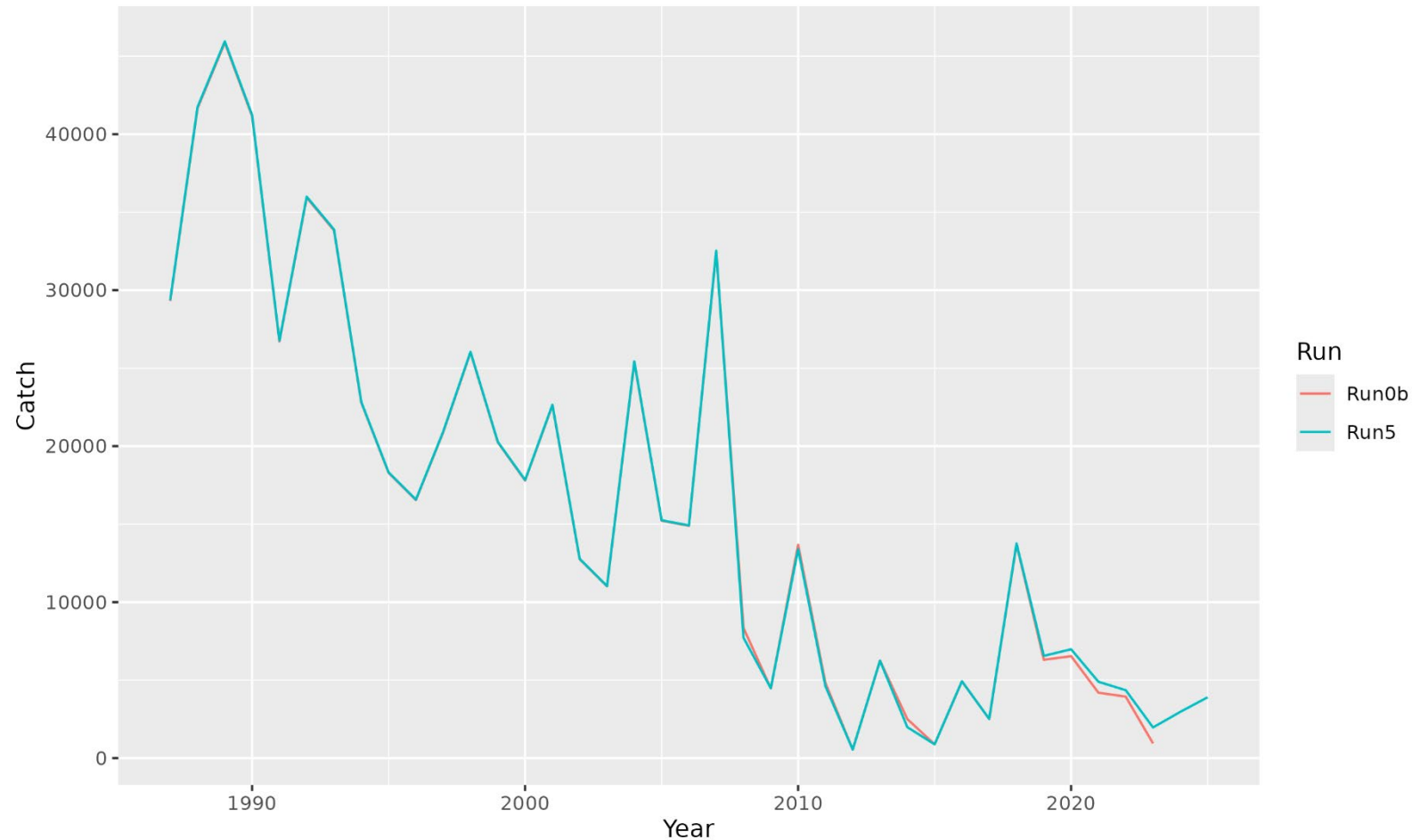
TOR 1: Estimate catch from all sources including landings and discards

- Catch = landings + discards (metric tons)
 - Discards only available since 1996, but generally <1% of landings
 - Used CAMS since 2020

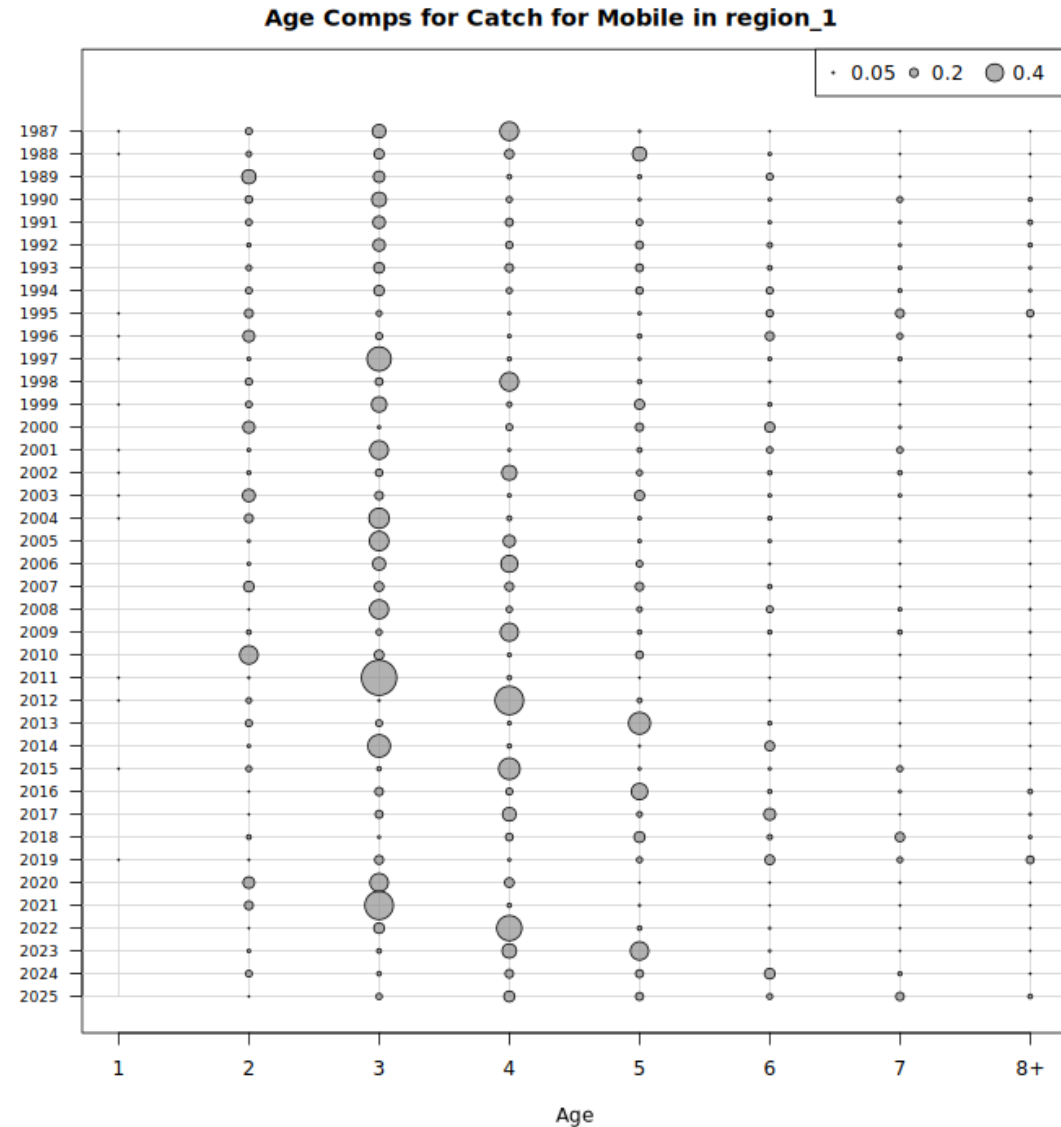


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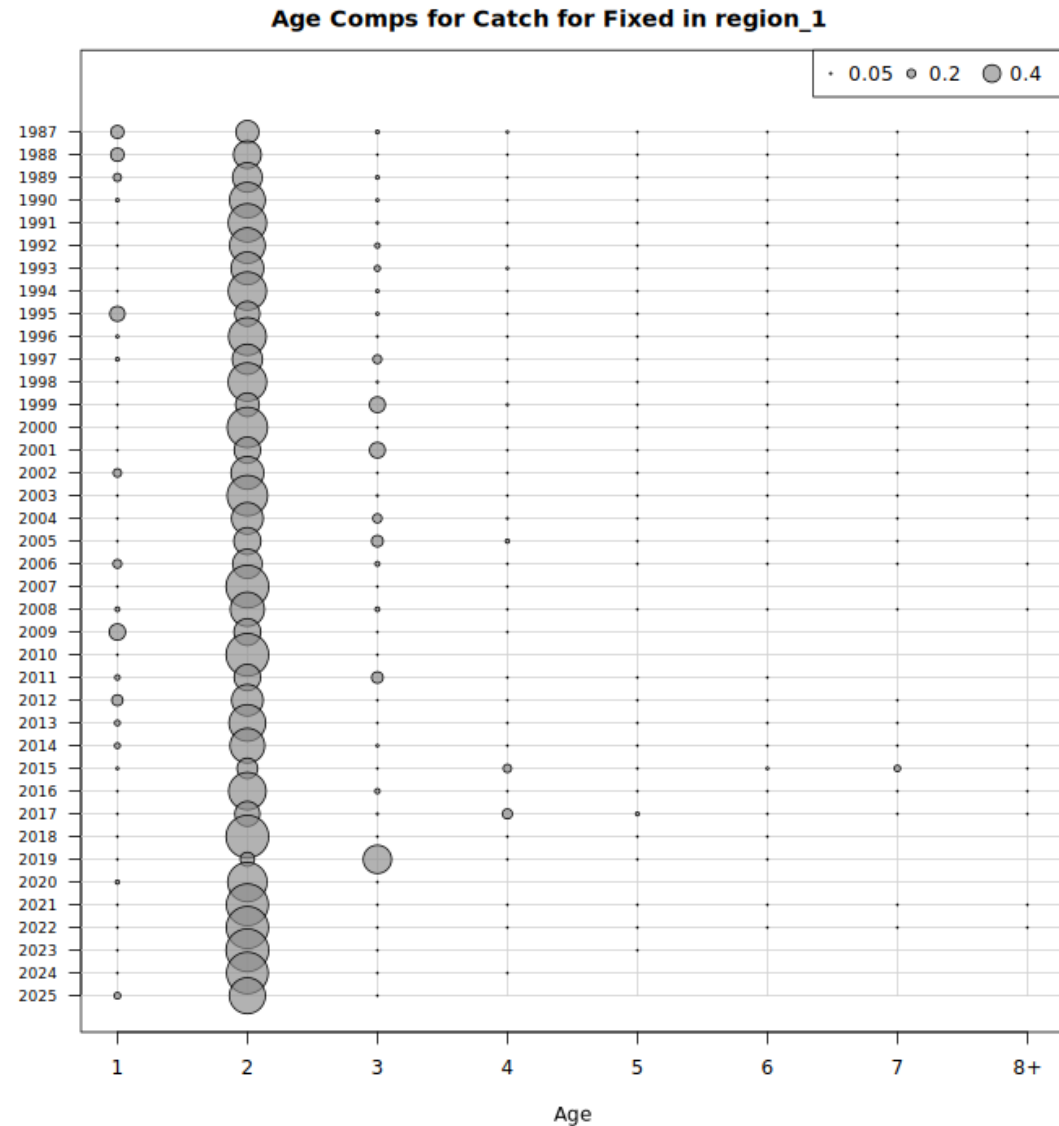
- Catch = landings + discards (metric tons)
 - Canada revised their time series, affecting the fixed gear catches



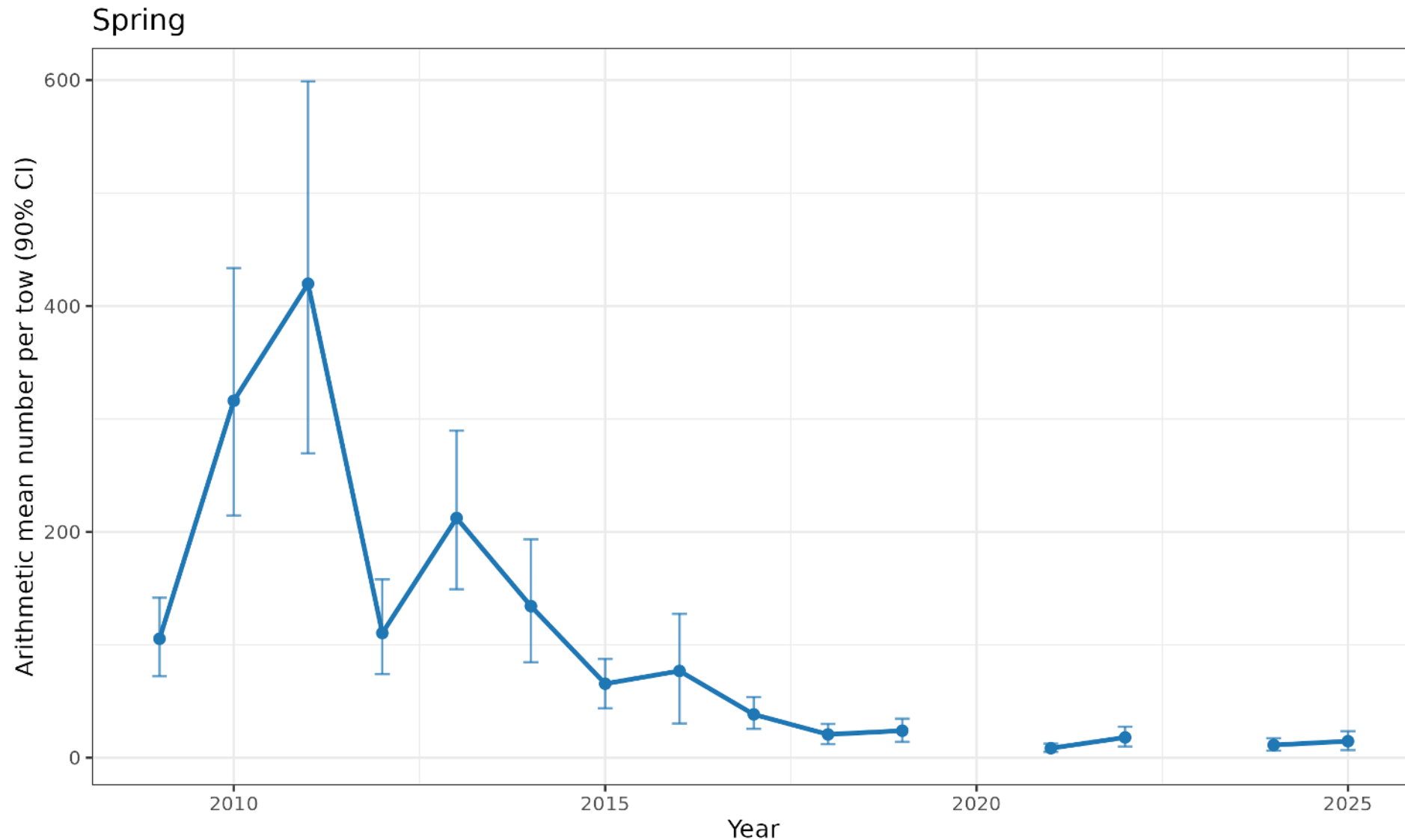
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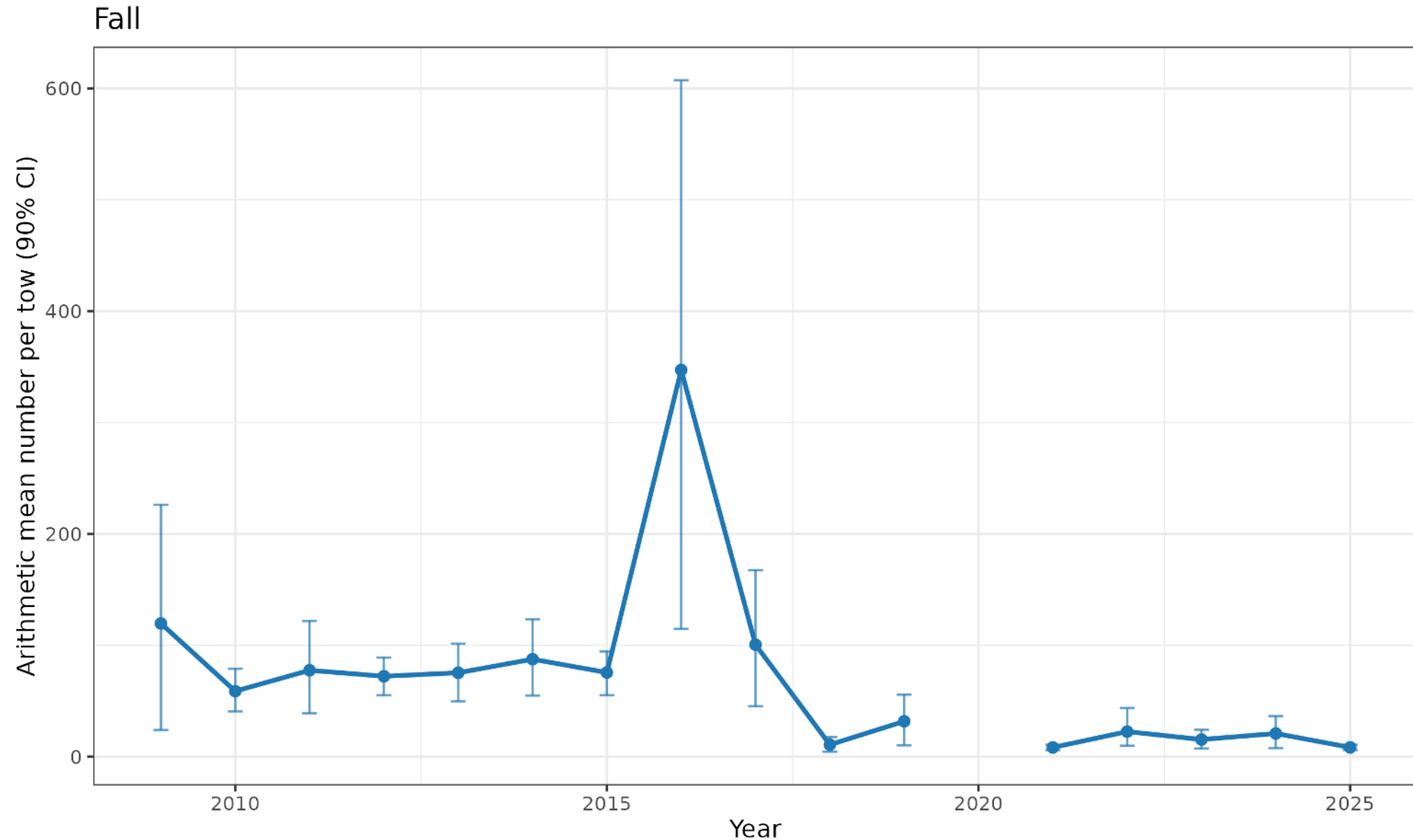
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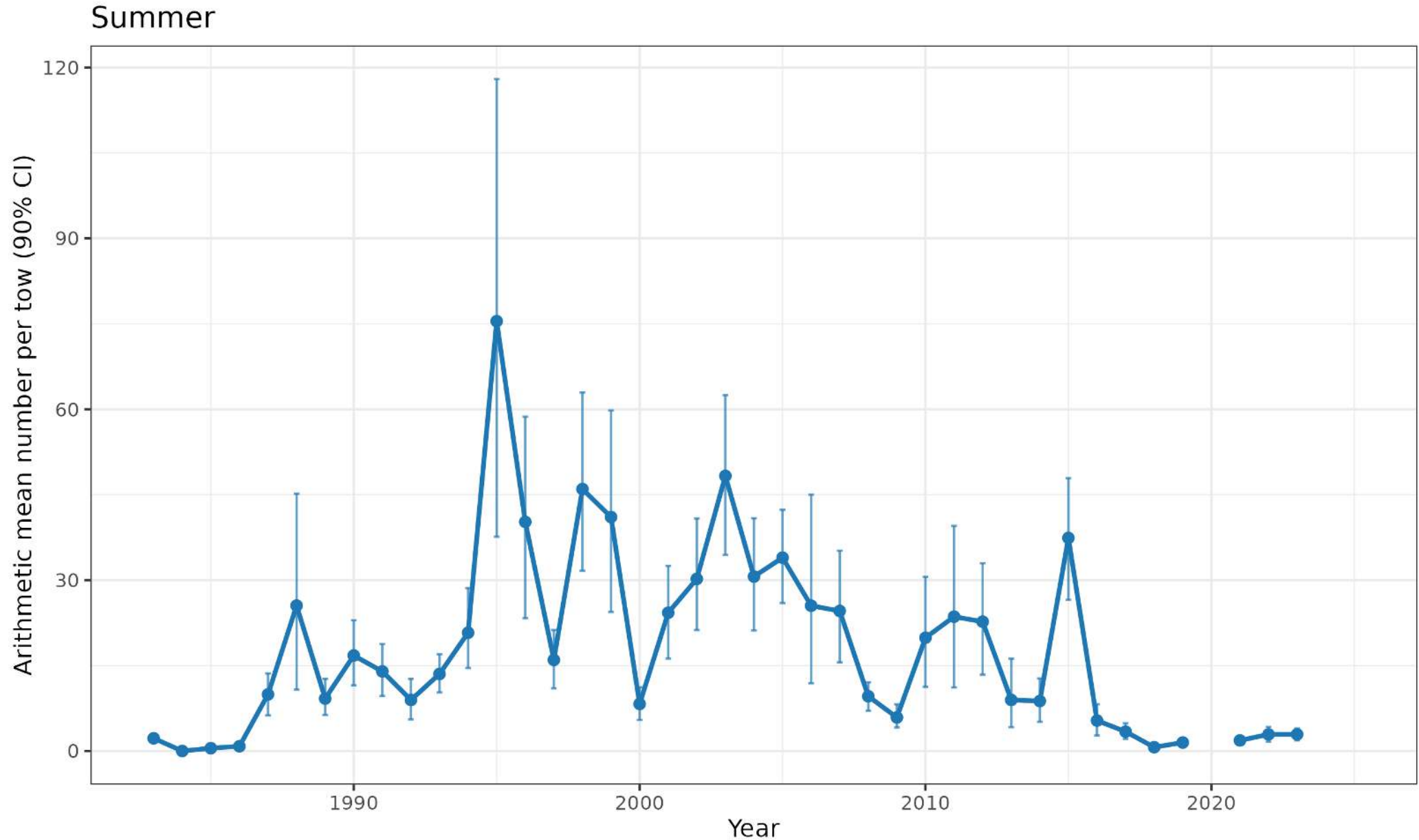
TOR 2: Evaluate indices used in the assessment



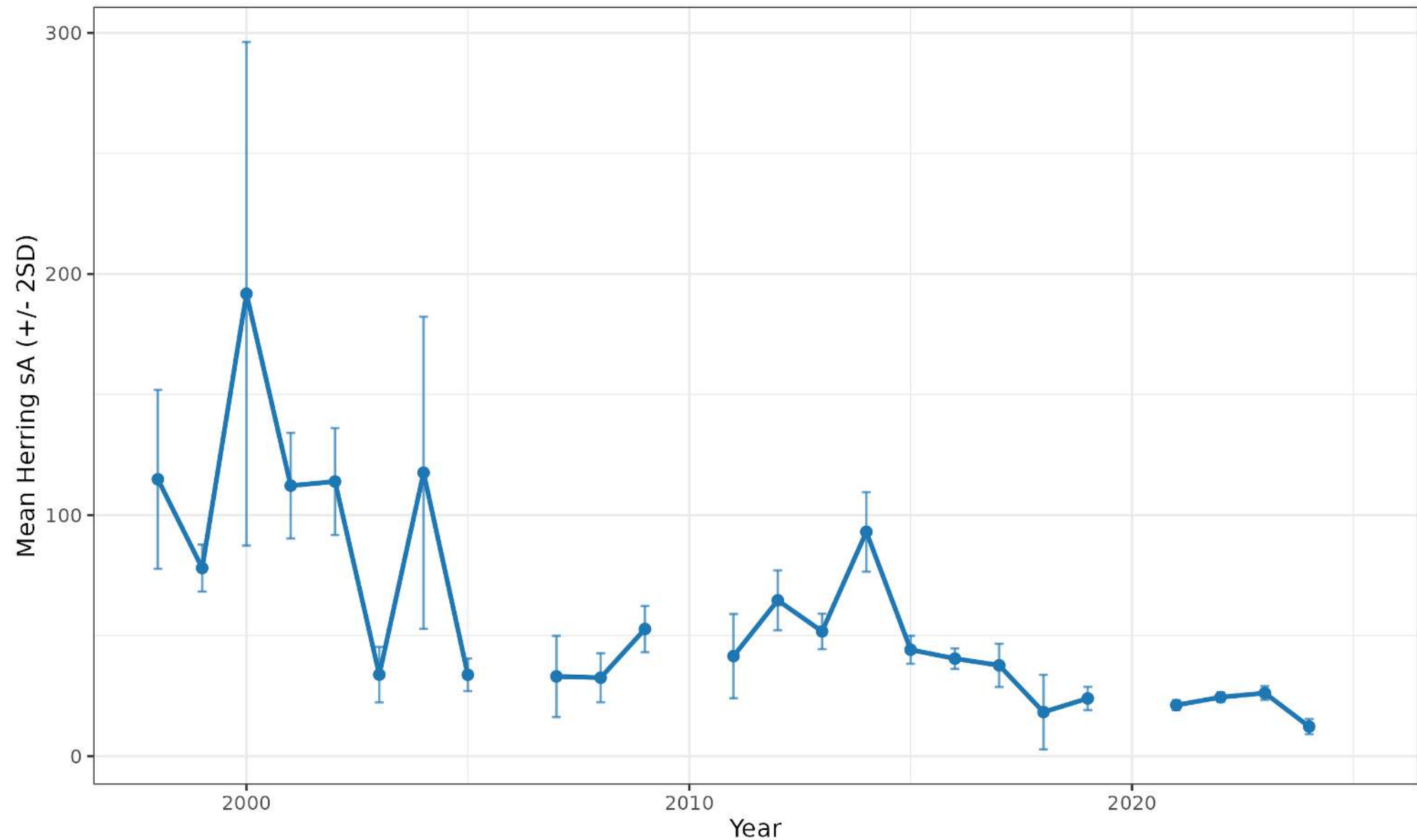
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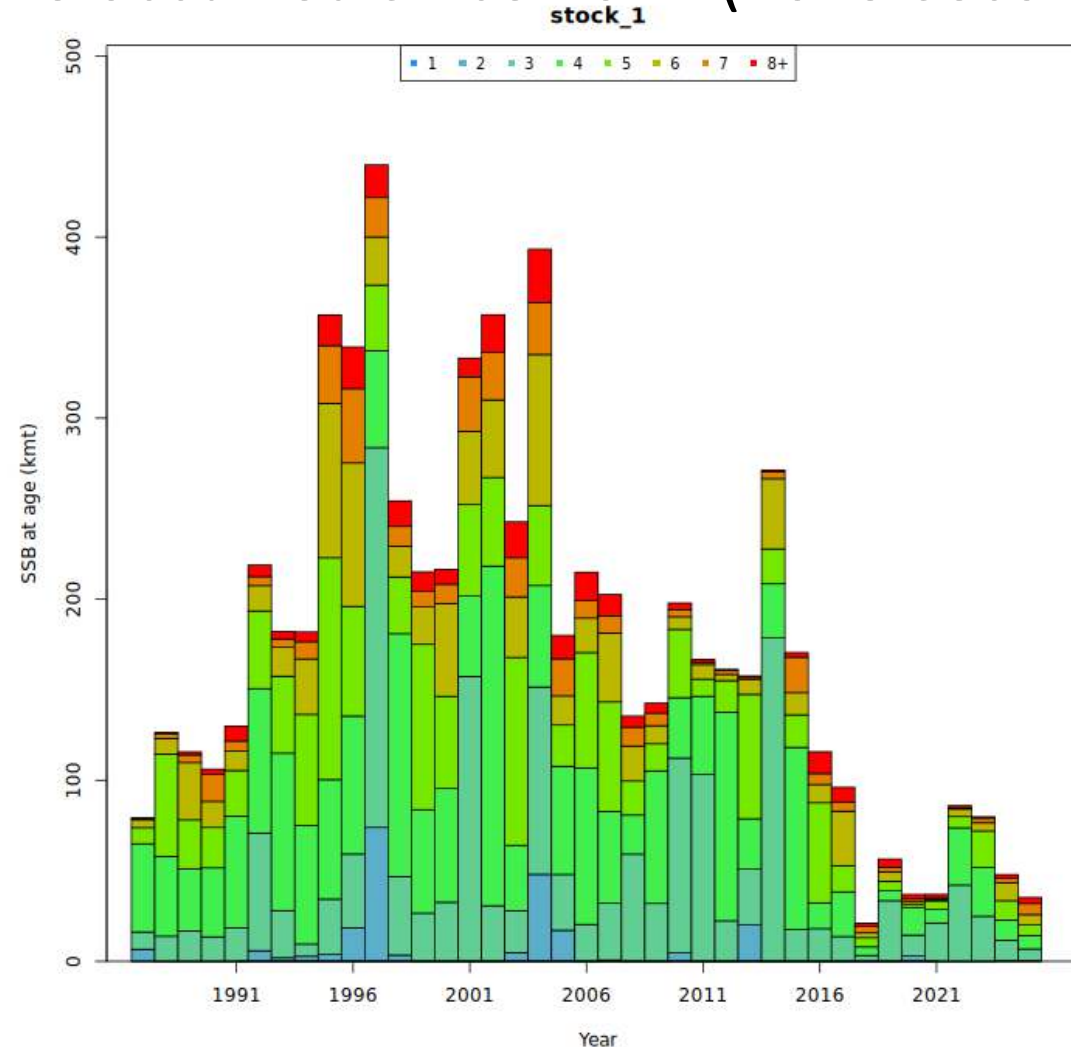


TOR 3: Estimate...

- A few minor changes since the RT that had relatively small effects
 - New WHAM version
 - Added 2 years of data
 - Revised Canadian catch data
 - Changed input ESS
 - Corrected SSB WAA
 - Relatively minor effect on BRPs

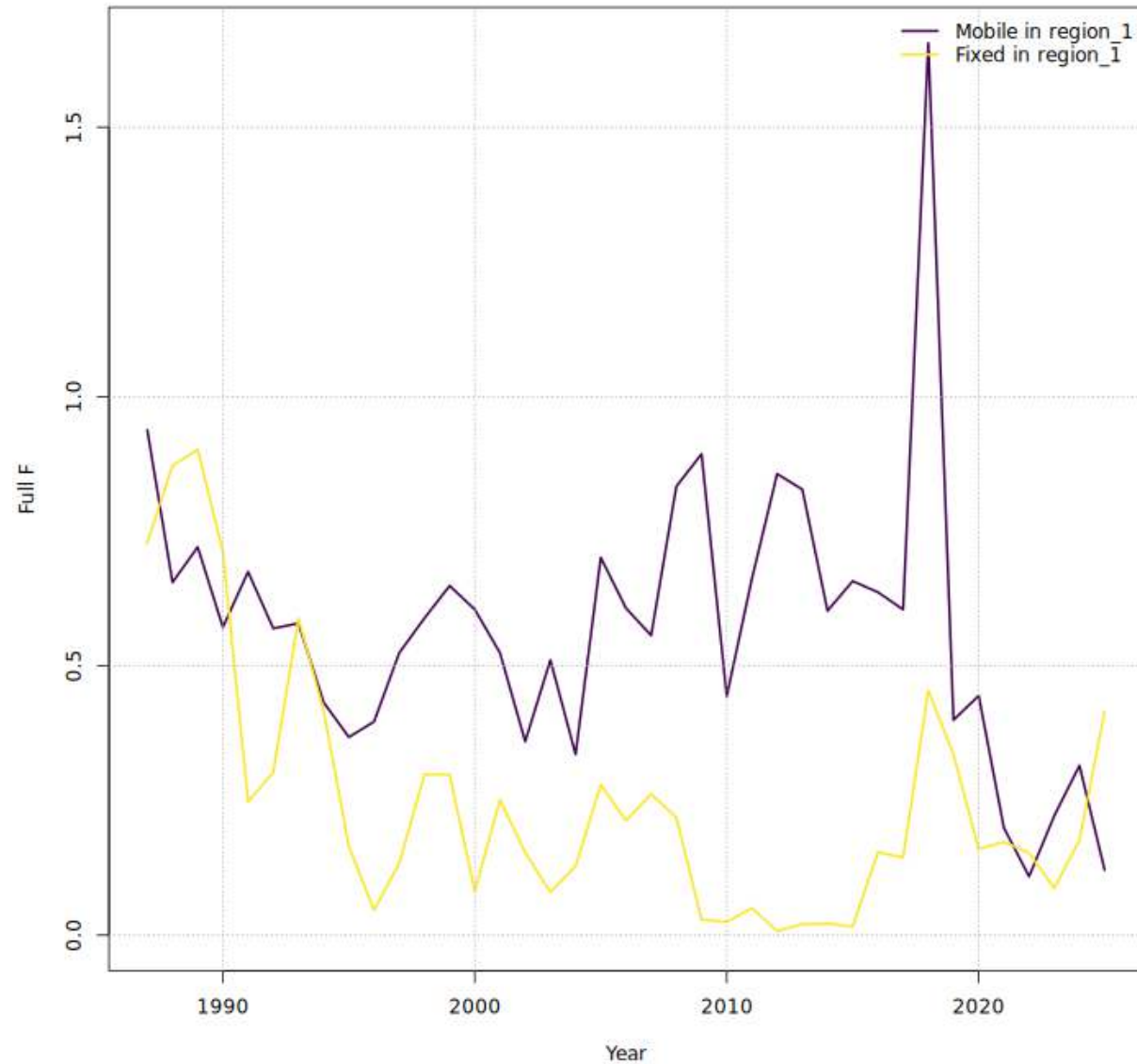
TOR 3: Estimate...

- SSB
- 9 of the 10 lowest have occurred since 2017 (2025 second lowest in the series)



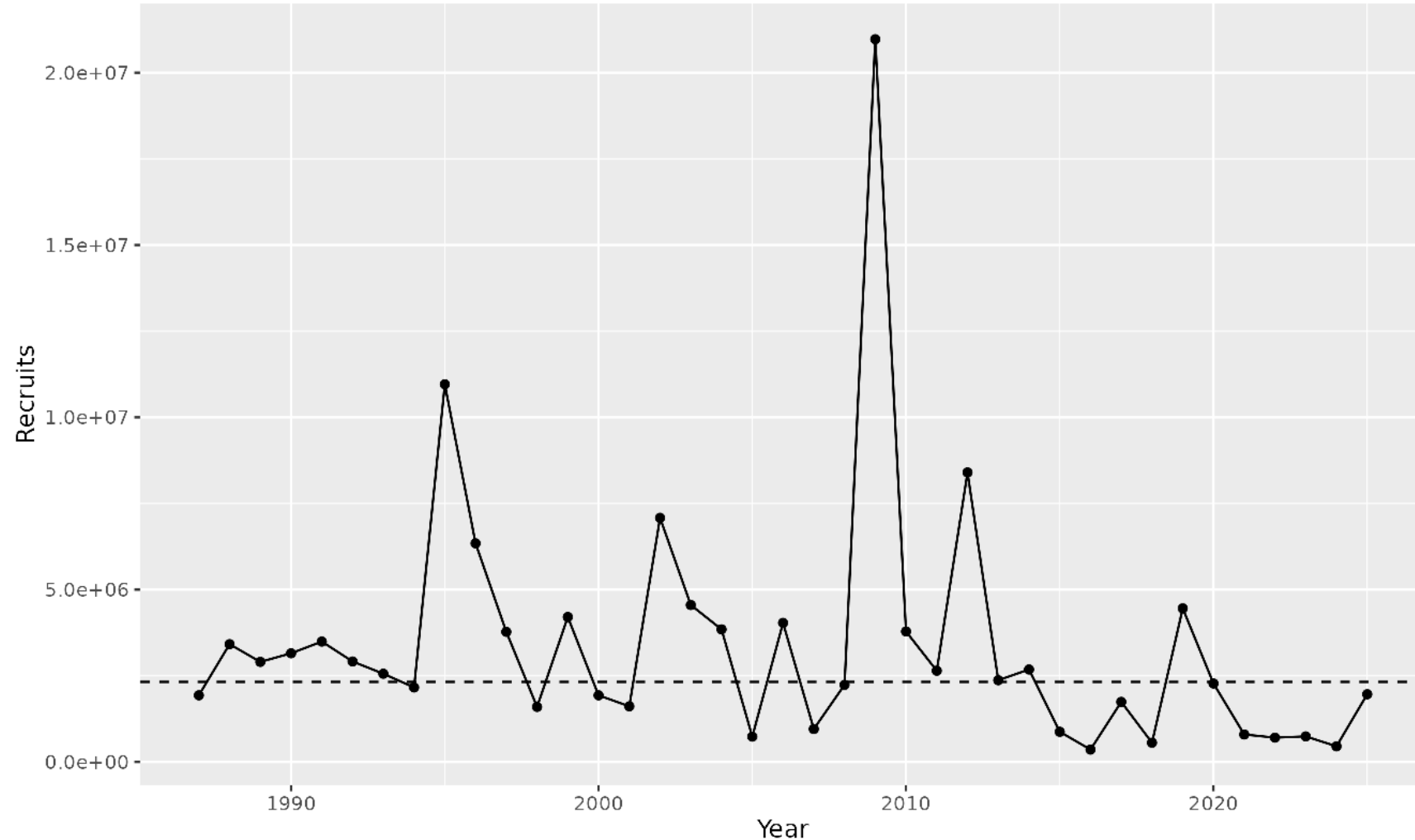
TOR 3: Estimate...

- F



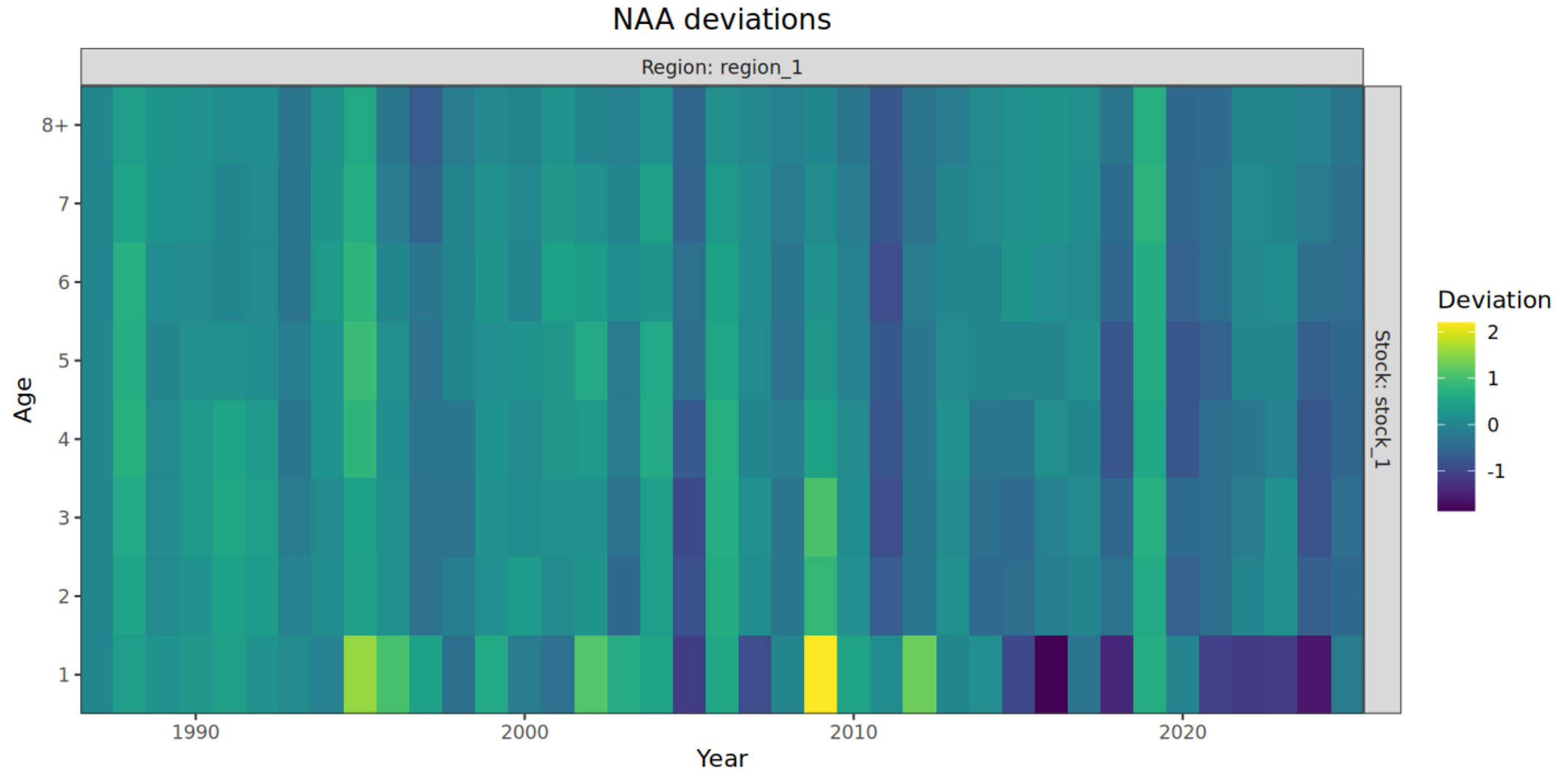
TOR 3: Estimate...

- Recruitment
- 7 of the 10 lowest have occurred since 2015 (2024 was second lowest in the series)



TOR 3: Estimate...

- NAA random effects
- AR(a) correlation = 0.84; no support for AR(y)

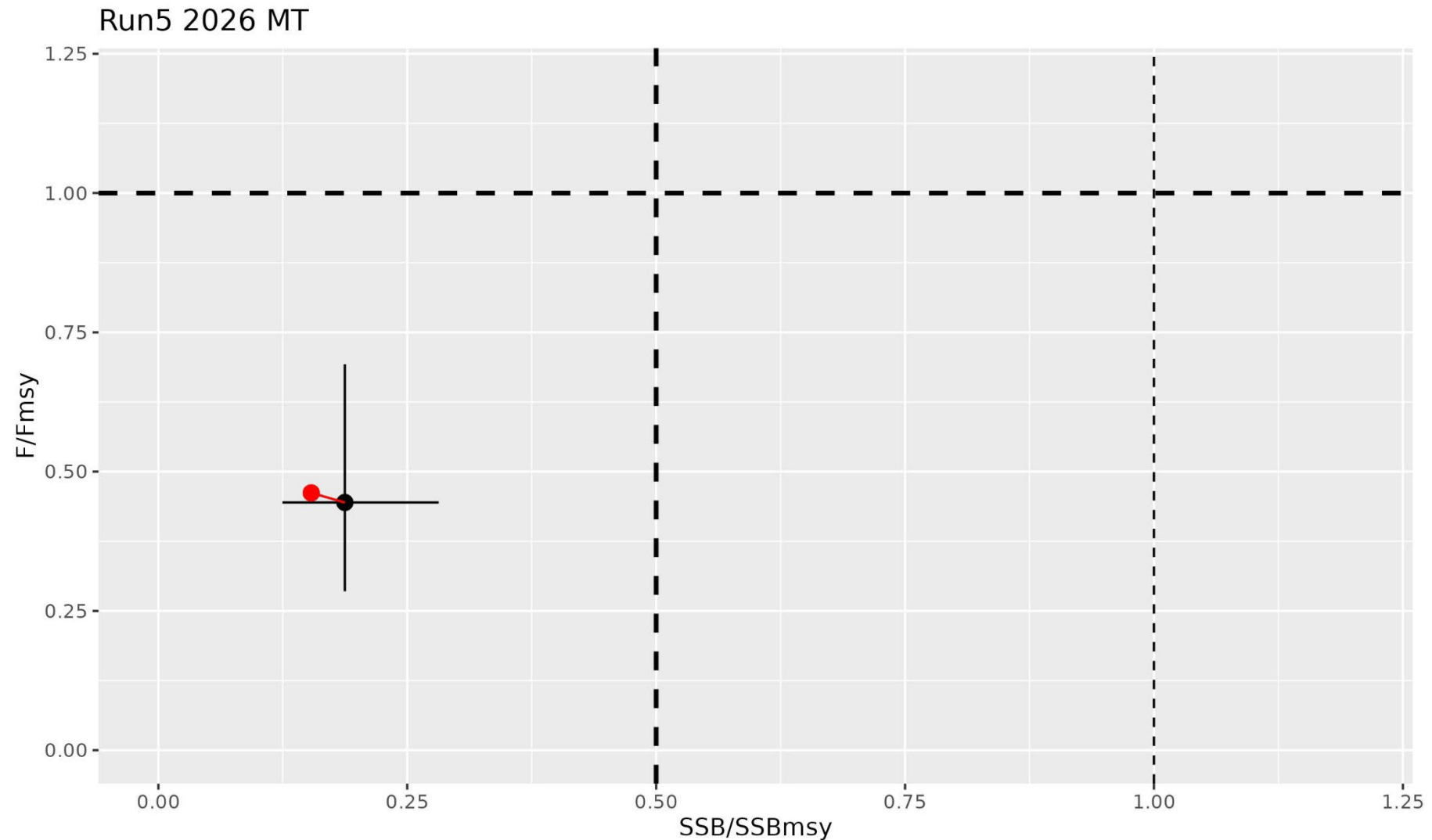


TOR 4: Reference Points

- $B_{40\%} = 188,214\text{mt}$ (90%CI 123,672-286,439)
- $F_{40\% \text{ mobile fleet}} = 0.272$ (90%CI 0.224-0.331)
- $MSY = 55,211\text{mt}$
- Terminal year SSB = 35,258mt (90%CI 23,463-52,984)
- Terminal year mobile fleet $F = 0.121$ (90%CI 0.078-0.189)

TOR 4: Reference Points

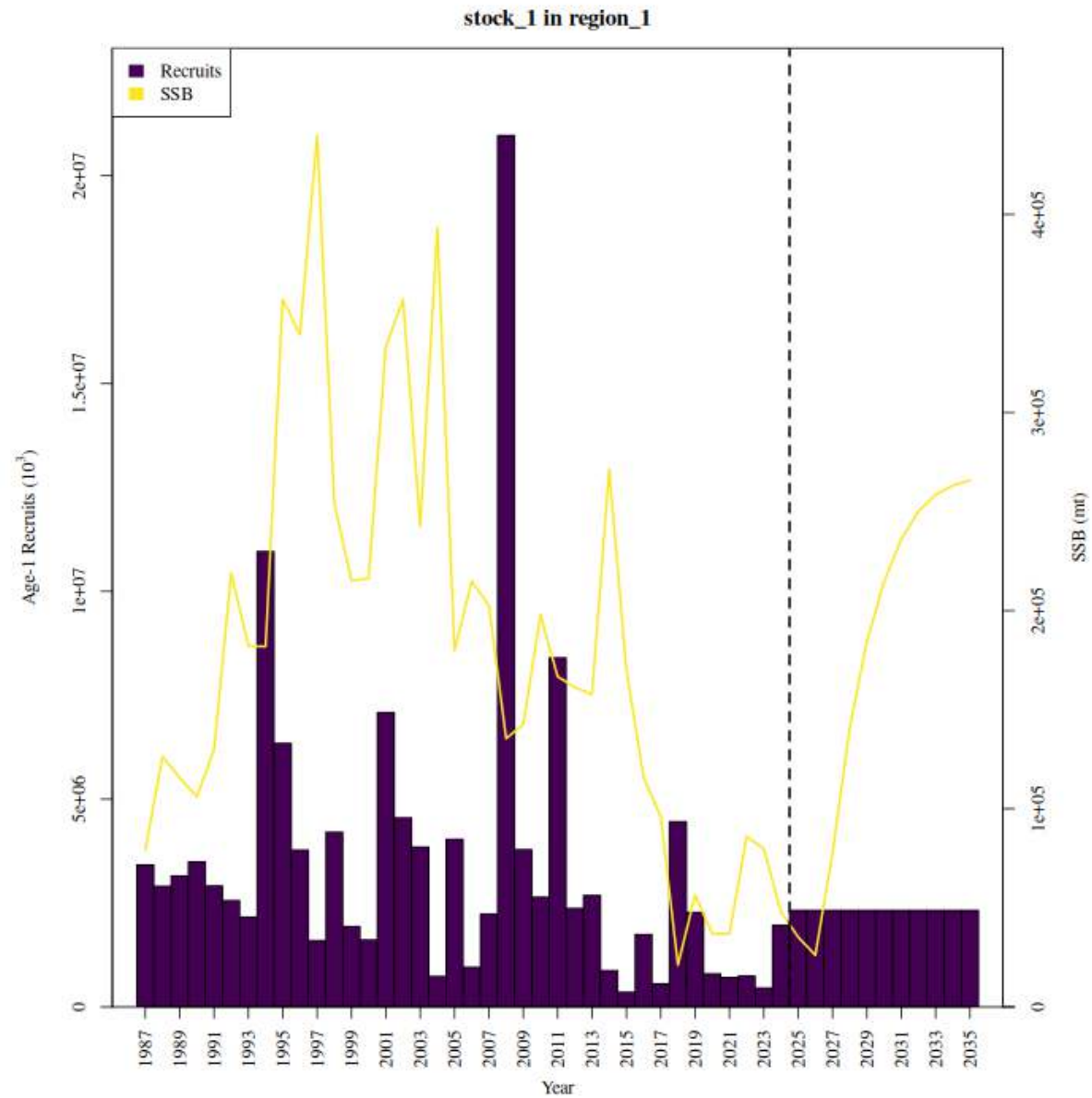
- Stock is overfished; overfishing is not occurring



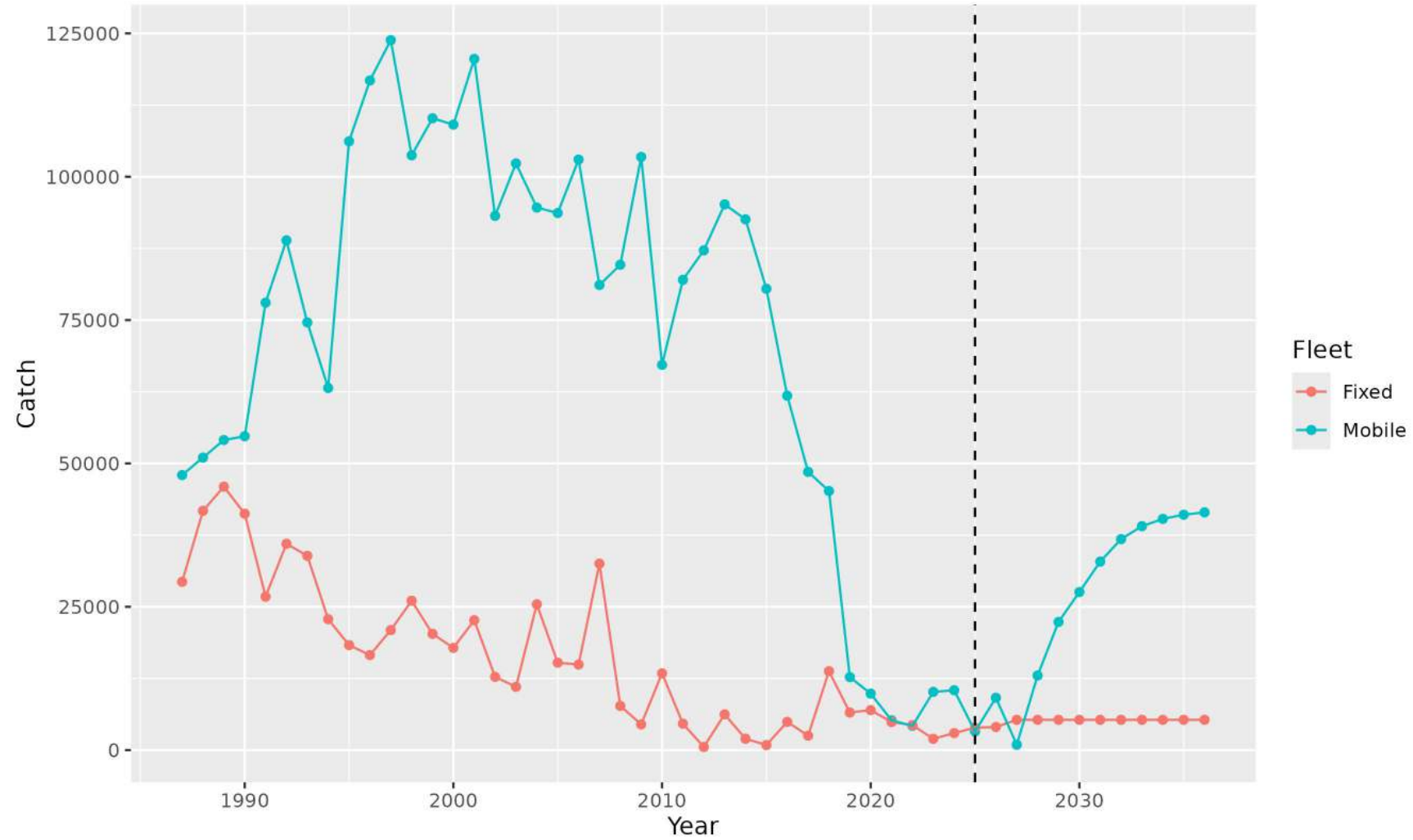
TOR 5: Projections

- No change to RT methods
 - Continue iid recruitment random effect process
 - NAA random effects do not continue (i.e., effectively zero)
 - Mobile fleet catch uses NEFMC ABC control rule
 - Fixed fleet set to recent 10 year average

TOR 5: Projections



TOR 5: Projections



Tor 6 Research Recommendations

- Lots of recommendations from the RT
 - Not a lot of progress given the short time frame since the review
- 10 recommendations identified during this MT and the panel highlighted 2
 - Continue work on the development of the VAST model to integrate state and federal surveys particularly with respect to use of surveys that include information on age-1 fish (ME-NH survey). Development of model-based indices for this stock could also address potential for time varying catchability.
 - Investigate the potential for autocorrelation in annual recruitment, as well as explore covariate(s) aliased in the NAA random effects and determine which is having the most effect on interannual patterns.

Thank you.

New England Fishery Management Council Atlantic Herring Update

ASMFC ATLANTIC HERRING MANAGEMENT BOARD

AUGUST 4, 2026

ARLINGTON, VA AND BY WEBINAR



**New England Fishery
Management Council**

2026 Atlantic Herring Outlook by Quarter

Council Priority	Jan – Mar	Apr - Jun	July - Sept	Oct - Dec
Atlantic herring specifications 2027-2031		Council: update on action	SSC meets: August 11-12 Council: Final action	Action submission NOAA: review; target Jan 1 implementation
Action: River herring /shad measures & other management measures	PDT completes Council tasking on river herring/shad		PDT develops measures and impacts analysis	
		Council: update on action; split from specifications	Council: update on action	Sub-Panel SSC meets RH/S Council: update on action
Management Track Stock Assessment		Peer Review: June 29-30		
2027 Council Priorities			Preliminary discussion/list	Council: Set 2027 Priorities

Ongoing: Coordinate with MAFMC/ASMFC on Atlantic herring, Atlantic mackerel and river herring and shad issues

Updated July 21, 2026, NEFMC Staff

Multi-year: Amendment 10/user group conflicts (paused)

New: Modifications to Vessel Baseline Restrictions (in response to EO 14276)



New England Fishery
Management Council

JUNE 2026 COUNCIL MEETING

Motion:

To set Atlantic herring specifications for fishing years 2027-2031 as a stand alone action for final action in September.

In a separate action, for April 2027 final action target date, the Plan Development Team would continue working on:

- 1) Modify Atlantic herring management measures to avoid or minimize the catch of river herring and shad through time/area closures with and without the existing catch cap methodology
- 2) Update the Atlantic herring specifications process
- 3) Modify carryover provisions for unharvested catch

The main motion as amended carried by consensus.

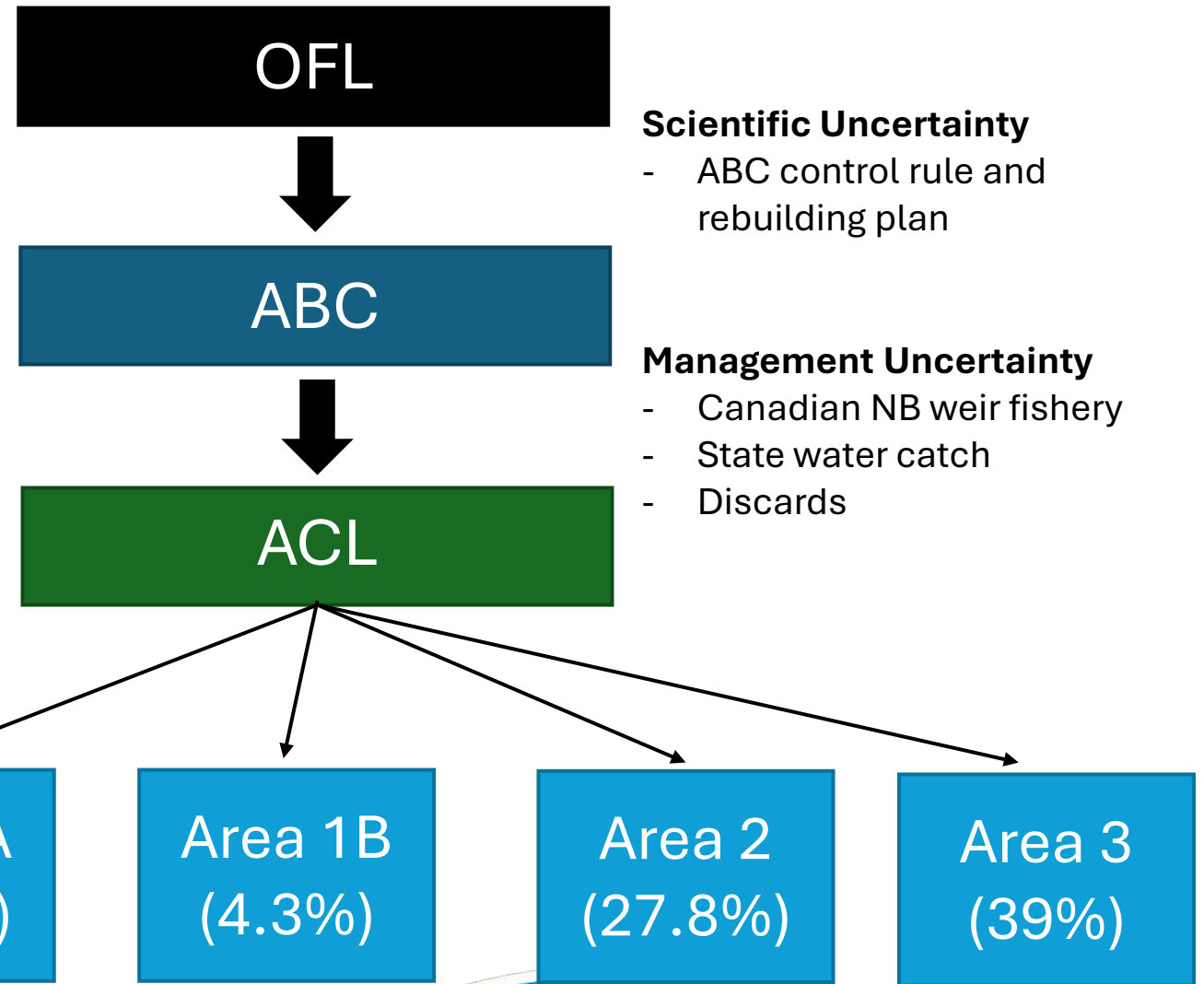


2027-2031 SPECIFICATIONS ACTION

To include:

Overfishing limit (OFL), acceptable biological catch (ABC), Management uncertainty, annual catch limit (ACL), management area sub-ACLs, river herring and shad catch caps, and other components

- Considering adjustment to fixed gear set-aside



UPCOMING MEETINGS

- August 11-12 → NEFMC Scientific and Statistical Committee
 - New Bedford, MA and Webinar
- August 18 → Herring AP & Committee Webinar
- September 2 → Herring AP & Committee
 - Boston, MA and Webinar
- September 15-17 → NEFMC Meeting ****Final Action****
 - Plymouth, MA and Webinar

Jan 1, 2027 → Target Implementation



New England Fishery
Management Council

RIVER HERRING & SHAD AND OTHER MANAGEMENT MEASURES

- **Action:** River herring and shad management measures, updates to Atlantic herring specifications process, carryover provisions for unharvested catch
- **Recent Activity:**
 - Committee recommended developing 2 alternatives for carryover, continuing development on an alternative to update the specifications process
 - Herring PDT completed June 2024 Council tasking re: river herring and shad, presented to Council in June 2026



RIVER HERRING AND SHAD: PDT TASKING

1. Assess data availability and analyze/develop alternatives that implement time/area closures for portions of Atlantic Herring Management Areas 2 and 3 where aggregations of river herring and shad overlap with the directed Atlantic herring fishery.
 - Developed species distribution models for river herring, shad, and Atlantic herring; hypothetical time/area closures
2. Assess data availability and analyze/develop alternatives that implement revisions to the basis of river herring and shad catch cap values that: (1) are reflective of regional river herring/shad abundance, and (2) scale (with ceilings and floors) to changes in Atlantic herring abundance and/or regional river herring abundance.
 - Summarized possible catch cap approaches; supported using CAMS modified approach to summarize river herring and shad catch data by gear type, year, catch cap area, and trip landing thresholds; data analysis is ongoing
3. Analyze/develop recommendations for implementing improvements to the accuracy and precision of river herring and shad catch estimates in the directed Atlantic herring fishery.
 - Developed 4 analyses to compare estimation methods; PDT did not recommend any major changes to current RH/S estimation methods, suggested using a gear-specific global rate when available



UPCOMING MEETINGS

- Fall 2026 (Date TBD) → SSC Subpanel review of river herring and shad work
 - Webinar
- April 2027 → NEFMC Meeting
 - Mystic, CT and Webinar
 - Target date for final action

Note: additional meetings to be scheduled as needed.



QUESTIONS?



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