



Spawning Potential Ratio Adjustment for Commercial Maximum Size Options

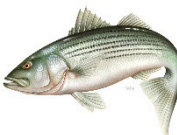


Striped Bass TC Report
October 18, 2023
Nicole Lengyel Costa (TC Chair)

Overview



- Background
- Striped Bass TC met in August 2023
 - Methods for spawning potential ratio (SPR) analysis
- Results of SPR analysis
- Technical committee comments



Background



- August 2023 Board motion:

Move to remove Options sets B and C from Section 3.2.1 (Options for Implementing a Commercial Maximum Size Limit) from Draft Addendum II. Task the PDT with conducting spawning potential analysis to determine quota reductions, using 2022 as the starting point, associated with each Option in Option sets D (Ocean Commercial Maximum Size Limits) and E (Chesapeake Bay Commercial Maximum Size Limits). Add a new Option Set to Section 3.2.1 containing the following options for reductions to commercial quotas:

Option A. Status Quo. All commercial fisheries maintain 2017 size limits and (or Addendum VI approved CE plans) and Amendment 7 quotas (and Addendum VI approved CE-adjusted quotas).

Option B. Commercial Quota Reductions. Quotas for all commercial fisheries will be reduced by 14.5% from 2022 commercial quotas (including quotas adjusted through approved Addendum VI CE plans).



SPR Analysis



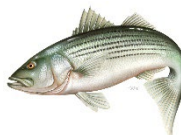
- Analysis run in Excel template with VBA macro
 - Same methodology as using *Fishmethods* in R
 - Additional optimization for F increment to increase precision
- From 2022 stock assessment update:
 - SSB weight-at-age
 - Catch weight-at-age
 - F target ($F=0.167$)
 - Ages 1 – 15+
 - Proportion mature at age
 - Age-specific natural mortality (M)



SPR Analysis



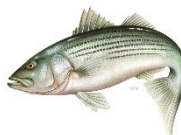
- Selectivity curve for base option and each max size limit option
- Developed from state-specific ALK's:
 - Pooled 2021 and 2022 data
 - < 10 lengths per age, borrow data from another year or a neighboring state
 - Estimate what proportion of each age class is legally harvestable under each option



SPR Results



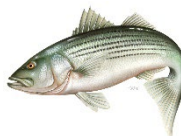
- Maximum size limits decrease the quotas for most states with active commercial fisheries
- NY and NJ quota increased:
 - Quota increases range from +5% to +49%
 - Due to current quotas being based on a maximum size limit lower than the proposed options
- All other states:
 - Quota decreases range from -5 to -26.9%



TC Comments



- Without a quota adjustment, implementation of a maximum size will increase removals in numbers of fish
- SPR quota adjustments attempt to maintain the same spawning potential under new maximum size limits so the management options remain conservationally equivalent to the status quo



TC Comments



- However, the SPR adjustments have multiple sources of uncertainty:
 - Characterizing change in selectivity (availability of fish, gear effects)
 - Commercial fishery behavior (market, gear)
 - Increased discards of oversized fish



TC Comments



- TC understands the Board intent with this option is to protect larger fish, but TC's earlier analysis on minimum size limits vs. slot limits showed no benefit of protecting older fish in terms of the rebuilding timeline or 2029 SSB
- Overall effect of maximum size limit option is increased uncertainty around rebuilding probabilities without positively impacting stock productivity or stock rebuilding





Questions?





Atlantic Striped Bass Draft Addendum II for Board Review



Atlantic Striped Bass Management Board
Oct 2023

Outline



- Overview and Timeline for Draft Addendum II
- Background Changes
- Management Options
 - Including PDT Memo Comments

Board action for consideration today: Consider approval of Draft Addendum II for public comment



Addendum II Timeline



| Date | Action |
|--------------------------|--|
| May 2023 | Board initiated the Draft Addendum |
| May – September 2023 | Plan Development Team (PDT) develops Draft Addendum document |
| October 2023 | Board reviews and approves Draft Addendum II for public comment |
| November – December 2023 | Public comment period, including public hearings |
| January 2024 | Board reviews public comment, selects management measures, final approval of Addendum II |

Note: The timeline is subject to change per the direction of the Board.

Draft Addendum Components



1.0 INTRODUCTION

2.0 Overview

- Statement of the Problem
- Background
- Management Status
- Status of the Fishery
 - FES Update

3.0 Proposed Management

- Recreational Measures
- Commercial Measures

4.0 Compliance Schedule

- Implementation may span 2024-2025



Introduction



- Board initiated Addendum II to Amendment 7 to address stock rebuilding beyond 2023
 - Measures to achieve F target from the '22 assessment
 - Ability to respond via Board action to the 2024 assessment



Statement of the Problem



- Stock to rebuilt by 2029
- Recent projections indicate a low probability of meeting the deadline
- Concern Am 7 measures in combination with the strong 2015 yc will lead to high level of catch in '24
- Concern the Addendum process will take too long to respond to the results of the '24 assessment update





MANAGEMENT OPTIONS

Projections



- Projection method was used in the 2022 Assessment to achieve F target in '24 with a 50% probability
- Used 2022 removals state and estimated 2023 removals accounting for the EA
- New selectivity curve for 2023 EA
- **14.5% Reduction needed to achieve F target in '24**
- If recreational sector is accountable for full reduction 16.1% reduction needed



3.1 Recreational Options



- Options for the recreational fishery are designed to reduce harvest (fishing mortality) to achieve the target F
- Options not designed to protect a specific year-class
 - they may offer protection to one or more strong year-classes.



Ocean Rec Options



Option A. Status Quo: 1 fish at 28" to <35" with 2017 season dates

- Can allow the continuation of the existing Addendum VI CE plans (Board decision)
- Option has little to no probability of achieving Ad II objective

Option B. 1 fish at 28" to 31" with 2022 seasons (all modes)
Any new size limit also applies to the Bay trophy fisheries with 2022 trophy season dates.

Option C. 1 fish at 28" to 31" with 2022 seasons for PV/SA; 1 fish at 28" to 33" with 2022 seasons for the for-hire mode
Any new size limit also applies to the Bay trophy fisheries with 2022 trophy season dates



Ocean Rec Options



| Ocean Options | Overall Reduction | Harvest Change | Rec. Release Mortality Change |
|--|-------------------|----------------|-------------------------------|
| Option A. 1 fish at 28" to < 35" with 2017 season dates (all modes) or approved CEs. | | | |
| Option B. 1 fish at 28" – 31" with 2022 seasons (all modes) | -14.1% | -49.9% | +2.0% |
| Option C. Private vessel/shore: 1 fish at 28" – 31" with 2022 seasons. For-hire: 1 fish at 28" – 33" with 2022 seasons. | -14.0% | -49.5% | +2.0% |



Bay Rec Options



Option A. Status Quo: 1 fish at 18" min size with 2017 season dates

- Allows for continuation of the existing Add VI CE plans
- Option has little to no probability of achieving Ad II objective

All below options evaluate max sizes of 23", 24", 25" and 26"

Option B. Apply standard max sizes to Bay jurisdictions' 2022 min sizes/bag limits

Option C. Apply a standard 20" min and max sizes to Bay jurisdictions' 2022 bag and seasons

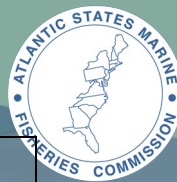
Option D. Apply a standard 19" min , 1 fish bag and max sizes to Bay jurisdictions' 2022 seasons.

Option E. Apply a standard 19" min size and maximum sizes, and mode-specific bag limits to the Bay jurisdictions' 2022 seasons.

- For-hire bag 2 fish and the PV/SA bag 1 fish



Bay Rec Options



| | Min. Size | Max. Size | Bag Limit | Season | Overall Reduction | Harvest Change | Rec. Release Mortality (RRM) Change |
|---|--|-----------|---------------|---------------------------|-------------------|----------------|-------------------------------------|
| Option A | 1 fish at 18" minimum size with 2017 seasons, or approved CEs. | | | | | | |
| <i>Chesapeake Bay Options with Consistent Maximum Size</i> | | | | | | | |
| Option B1 | Same as 2022: 18" DC, 19" MD, 20" VA & PRFC | 23" | same as 2022* | same as 2022 ⁺ | -17.8% | -31.6% | +4.9% |
| Option B2 | Same as 2022: 18" DC, 19" MD, 20" VA & PRFC | 24" | same as 2022* | same as 2022 ⁺ | -10.8% | -19.1% | +3.0% |
| Option B3 | Same as 2022: 18" DC, 19" MD, 20" VA & PRFC | 25" | same as 2022* | same as 2022 ⁺ | -6.6% | -11.8% | +1.8% |
| Option B4 | Same as 2022: 18" DC, 19" MD, 20" VA & PRFC | 25" | same as 2022* | same as 2022 ⁺ | -4.7% | -8.4% | +1.3% |

PDT Recommends Removing B3 and B4



Bay Rec Options



Chesapeake Bay Options with Consistent Minimum and Maximum Size

| | Min. Size | Max. Size | Bag Limit | Season | Overall Reduction | Harvest Change | RRM Change |
|------------------|----------------------------|------------------|------------------|---------------------------|--------------------------|-----------------------|-------------------|
| Option C1 | 20" (all jurisdictions) | 23" | same as 2022* | same as 2022 ⁺ | -24.2% | -43.0% | +6.6% |
| Option C2 | 20" (all jurisdictions) | 24" | same as 2022* | same as 2022 ⁺ | -17.2% | -30.5% | +4.7% |
| Option C3 | 20" (all jurisdictions) | 25" | same as 2022* | same as 2022 ⁺ | -13.0% | -23.2% | +3.6% |
| Option C4 | 20" (all jurisdictions) | 26" | same as 2022* | same as 2022 ⁺ | -11.1% | -19.7% | +3.0% |

PDT Recommends Removing C1



Bay Rec Options



| <i>Chesapeake Bay Options with Consistent Minimum Size, Maximum Size, and Bag Limit</i> | | | | | | | |
|---|----------------------------|------------------|-----------------------|---------------------------|--------------------------|-----------------------|-------------------|
| | Min. Size | Max. Size | Bag Limit | Season | Overall Reduction | Harvest Change | RRM Change |
| Option D1 | 19" (all jurisdictions) | 23" | 1 fish (all modes) | same as 2022 ⁺ | -22.4% | -38.4% | +6.7% |
| Option D2 | 19" (all jurisdictions) | 24" | 1 fish (all modes) | same as 2022 ⁺ | -15.9% | -27.5% | +4.8% |
| Option D3 | 19" (all jurisdictions) | 25" | 1 fish (all modes) | same as 2022 ⁺ | -12.1% | -21.1% | +3.7% |
| Option D4 | 19" (all jurisdictions) | 26" | 1 fish (all modes) | same as 2022 ⁺ | -10.3% | -18.1% | +3.2% |

PDT Recommends Removing D1



Bay Rec Options



Chesapeake Bay Options with Consistent Minimum Size, Maximum Size, and Mode-Specific Bag Limits (P/S=private vessel/shore anglers and FH= for-hire)

| | Min. Size | Max. Size | Bag Limit | Season | Overall Reduction | Harvest Change | RRM Change |
|------------------|----------------------------|-----------|-------------------------|---------------------------|-------------------|----------------|------------|
| Option E1 | 19" (all jurisdictions) | 23" | 1 fish P/S 2 fish FH | same as 2022 ⁺ | -17.9% | -31.4% | +4.9% |
| Option E2 | 19" (all jurisdictions) | 25" | 1 fish P/S 2 fish FH | same as 2022 ⁺ | -11.0% | -19.3% | +3.0% |
| Option E3 | 19" (all jurisdictions) | 24" | 1 fish P/S 2 fish FH | same as 2022 ⁺ | -7.0% | -12.2% | +1.8% |
| Option E4 | 19" (all jurisdictions) | 26" | 1 fish P/S 2 fish FH | same as 2022 ⁺ | -5.1% | -8.9% | +1.3% |

PDT Recommends Removing E3 and E4



3.1.3 Rec Filleting Allowance



Option A. Status quo. No requirement in the Interstate FMP for Atlantic Striped Bass related to at-sea/shoreside filleting.

Option B. States that authorize at-sea/shore-side filleting of SB, establish min requirements, including:

- Racks retained; skin left intact; and possession limited no more than two fillets per legal fish.
- States should consider including language about when and where racks may be disposed of, specific to each mode allowed to fillet at-sea/shore.



3.2 Commercial Measures



Two types of commercial options—quota reduction and maximum size—achieve different goals towards rebuilding

- *Quota reduction reduces harvest (fishing mortality) towards the goal of target F but not protect specific year-classes*
 - *Provides for increased certainty in achieving a harvest reduction, in contrast to the recreational fishery option.*
 - *Reduction in quota does not always translate into the same reduction in harvest*
- *A max size limit would protect larger/older fish and aim to maintain the same overall spawning.*
 - *changes to the commercial quotas from a max size are not credited towards the goal of achieving the target F .*
 - *Significant uncertainty with the spawning potential equivalency of this approach*



3.2.1 Com Quota Reduction



Option A. Status Quo

- Continue to managed by Am 7 quotas and size limits (i.e., 18% reduction from 2017 levels with 2017 size limits).
- Allows the continuation of existing Addendum VI CE plans
- Reduced probability to achieve the objective of addendum

Option B. Quota Reduction

- The commercial ocean and/or Chesapeake Bay fisheries would be reduced by up to a 14.5% reduction from their 2022 quotas with their 2022 size limits





| | Option A. Status Quo (Amendment 7 quotas and size limits; CE's not shown but may continue) | | Option B. Up to a 14.5% Reduction from the 2022 Quotas with the 2022 Size Limits | | | 2022 Commercial Harvest for Reference |
|-------------|---|---|--|----------------------------------|---|---------------------------------------|
| | Quota | Size Limit | Maximum Quota (-0% from 2022) | Minimum Quota (-14.5% from 2022) | Size Limit | |
| ME | 154 | N/A (28" min) | 154 | 131 | N/A (28" min) | 0 |
| NH | 3,537 | N/A (28" min) | 3,537 | 3,024 | N/A (28" min) | 0 |
| MA | 713,247 | 34" | 735,240 | 628,630 | 35" min | 770,101 |
| RI | 148,889 | 26" min FFT; 34" min GC | 148,889 | 127,300 | 26" min FFT; 34" min GC | 162,434 |
| CT | 14,607 | N/A (28") | 14,607 | 12,488 | N/A (28" min) | 0 |
| NY | 652,552 | 28 – 38" | 640,718 | 547,813 | 26 – 38" | 623,304 |
| NJ* | 197,877 | N/A (28") | 215,912 | 184,604 | bonus program 24 – <28" | rec bonus program: 36,807 |
| DE | 118,970 | 28", except 20" for gill nets in DE Bay/River 2.15-5.31 | 142,474 | 121,815 | 28", except 20" for gill nets in DE Bay/River 2.15-5.31 | 139,221 |
| MD | 74,396 | 24" min | 89,094 | 76,175 | 24" min | 88,069 |
| VA | 113,685 | 28" min | 125,034 | 106,904 | 28" min | 121,723 |
| NC | 295,495 | 28" min | 295,495 | 252,648 | 28" min | 0 |
| MD Ches Bay | 2,588,603 | 18 - 36" | 3,001,648 | 2,566,409 | 18 - 36" | 2,483,438 |
| PRFC | | 18" min, 36" max during 2.15-3.25 | | | 18" min, 36" max during 2.15-3.25 | |
| VA Ches Bay | | 18" min, 28" max during 3.15-6.15 | | | 18" min, 28" max during 3.15-6.15 | |



3.2.2 Commercial Max Size



- The intention of this option is not to contribute to the goal of reducing removals to the F target but preserving larger fish to contribute to the SSB
- Commercial quotas adjusted to account for maintaining the same spawning potential as under the current size limits and quotas
- TC Concern: a max size limit may increase dead discards of larger fish, produce levels of harvest that are not equivalent to the current quotas and size limits, and is not likely to increase the probability of rebuilding by 2029.
- The potential for increases in quota in some states
 - Noted: where the quota increased, accounting for the harvest of larger fish which could result in fewer total fish harvested
 - However, the fishery may not actually harvest larger fish due to market demands, availability of larger fish, and gear restrictions or limitations.
 - Bottom line is it has the potential to result in higher overall removals under the higher quota.



3.2.2 Commercial Max Size



Option A. Status Quo: No commercial maximum size limit is established within the plan; all commercial fisheries maintain 2017 size limits (or Addendum VI approved CE plans). Amendment 7 quotas (and Addendum VI approved CE-adjusted quotas) remain unchanged.

Option B. Ocean Commercial Maximum Size Limit (with a Spawning Potential Quota Adjustment) (*select one sub-option*)

- **B1.** 38" max size limit for all ocean commercial fisheries.
- **B2.** 40" max size limit for all ocean commercial fisheries.
- **B3.** 42" max size limit for all ocean commercial fisheries.

Option C. Bay Commercial Maximum Size Limit (with a Spawning Potential Quota Adjustment) (*select one sub-option*)

- **C1.** 36" max size limit for all Bay commercial fisheries Jun 1-Dec 31 and 28" max size Jan 1-May 31
- **C2.** 36" max size limit for all Bay commercial fisheries.



Ocean Max Size Limit



| | Option A. Status Quo (No maximum size applies) | | Option B1. 42" maximum size limit | | Option B2. 40" Maximum Size Limit | | Option B3. 38" Maximum Size Limit | |
|----|---|------------|---|------------------|--|------------------|--|--------------------|
| | 2022 Size Limit | 2022 Quota | Size Limit | Quota (% change) | Size Limit | Quota (% change) | Size Limit | Quota (% change) |
| ME | N/A* | 154 | 28 - 42" | 129 (-16.2%) | 28 - 40" | 122 (-20.8) | 28 - 38" | 113 (-26.6%) |
| NH | N/A * | 3,537 | 28 - 42" | 2,968 (-16.1%) | 28 - 40" | 2,796 (-21%) | 28 - 38" | 2,585 (-26.9%) |
| MA | 35" min | 735,240 | 35 - 42" | 634,400 (-13.8%) | 35 - 40" | 581,483 (-21%) | 35 - 38" | 545,161 (-25.9%) |
| RI | 26" min FFT; | 148,889 | 26 - 42" FFT | 133,040 (-10.6%) | 26 - 40" FFT | 128,735 (-13.5%) | 26 - 38" FFT | 119,905 (-19.5%) |
| | 34" min GC | | 34 - 42" GC | | 34 - 40" GC | | 34 - 38" GC | |
| CT | N/A ** | 14,607 | 28 - 42" | 10,677(-26.9%) | 28 - 40" | 11,548 (-20.94%) | 28 - 38" | 12,259 (-16.07%) |
| NY | 26 - 38" | 640,718 | 26 - 42" | 704,286 (9.9%) | 26 - 40" | 672,744 (5%) | 26 - 38" | 640,718 (0%) |
| NJ | bonus program 24 - <28" | 215,912 | 24 - 42" | 321,708 (49%) | 24 - 40" | 303,825 (40.7%) | 24" - 38" | 284,243 (31.7%) |
| DE | 28", except 20" for gill nets in DE Bay/River 2.15- 5.31 | 142,474 | 28 - 42", except 20 - 42" for gill nets in DE Bay/River 2.15- 5.31 | 133,506 (-6.3%) | 28 - 40", except 20 - 40" for gill nets in DE Bay/River 2.15- 5.31 | 128,252 (-10%) | 28 - 38", except 20 - 38" for gill nets in DE Bay/River 2.15- 5.31 | 118,854 (-16.6%) |
| MD | 24" min | 89,094 | 24 - 42" | 83,141 (-6.7%) | 24 - 40" | 78,160 (-12.3%) | 24 - 38" | 72,563 (-18.6%) |
| VA | 28" min | 125,034 | 28 - 42" | 118,768 (-5%) | 28 - 40" | 113,478 (-9.2%) | 28 - 38" | 107,008 9 (-14.4%) |
| NC | 28" min | 295,495 | 28 - 42" | 275,782 (-6.8%) | 28 - 40" | 264,820 (-10.3%) | 28 - 38" | 245,048 (-17.1%) |

Bay Max Size Limit



| | Option A. Status Quo (no maximum size applies) | | Option E1. 36" Maximum Size | | Option E2. 28" Maximum Size Limit Jan - May; 36" Maximum Size Limit Jun - Dec | |
|-------------|--|------------|-----------------------------|------------------|---|-------------------|
| | 2022 Size Limit | 2022 Quota | Size Limit | Quota (% change) | Size Limit | Quota (% change) |
| MD Ches Bay | 18 - 36" | 1,445,394 | 18 - 36" | 1,445,394 (0%) | 18 - 28" Jan-May; 18 - 36" Jun - Dec | 1,407,463 (-2.6%) |
| PRFC | 18" min, 36" max during 2.15-3.25 | 572,861 | | 558,626 (-2.5%) | | 554,767 (-3.2%) |
| VA Ches Bay | 18" min, 28" max during 3.15-6.15 | 983,393 | | 768,978 (-21.8%) | | 730,240 (-25.7%) |

3.2.3 Gill Net Exemption



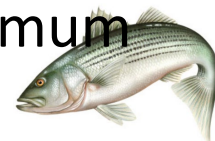
Option 1. Gill net fisheries are subject to the same maximum size limits as all other commercial striped bass gears.

Option 2. Gill Net Exemption- PDT Recommends Removal

- Gill net fisheries would not be subject to a maximum fish size limit, but instead subject to maximum mesh size requirement
- States would be required to discern between the fish caught in an exempted gill net fishery from fish caught in a maximum size limit fishery via implementation plans

Option 3. Gill Net Exemption through CE

- States may submit CE proposals requesting an exemption to maximum fish size limits for gill nets with the addition of maximum mesh size requirements
- States would be required to discern between the fish caught in an exempted gill net fishery from fish caught in a maximum size limit fishery via the CE proposal



Assessment Response



3.3 Response to Stock Assessment Updates: If the stock is not projected to rebuild by 2029 with a probability greater than or equal to 50%

Option A. Status Quo: Addendum or Amendment Process

- Includes a public comment period
- Based on assessment timing and document and implementation process, new measures likely not be **implemented** for two years following the assessment.

Option B. Respond via Board action where the Board could change management measures by voting to pass a motion at a Board meeting instead of developing an addendum.

- Public comment provided during Board meetings, and/or in writing to the Board prior to Board meetings.
- Allow a more expedited response to assessment updates
- E.g. Assessment completed in Oct 2024, the Board could change management measures at that meeting or a meeting shortly thereafter, which would enable new measures to be implemented for part of the 2025 season.



Draft Addendum II



Board action for consideration today: Consider approval of Draft Addendum II for public comment



Thank You PDT Members!!!



- Nichola Meserve (MA)
 - Nicole Lengyel Costa (RI)
 - Caitlin Craig (NY)
 - Brendan Harrison (NJ)
 - Jordan Zimmerman (DE)
 - Angela Giuliano (MD)
 - Emilie Franke (ASMFC)
-
- Additional thanks to Mike Celestino for helping out while Brendan is on leave



Questions?





Striped Bass Projections for Addendum II

K. Drew, ASMFC

Oct. 18, 2023

Projection Uncertainty



- NOT formal rebuilding projections
- A lot of uncertainty in terms of effort/removals/F rates in 2024-2029, effect of new measures on selectivity
- Projections do not include uncertainty around the estimates of expected reductions for each option
- ONLY useful to compare across options under consideration

Projections



- Projection methods
- Probability of being at or below F target in 2024 under different combinations of options
- Probability of being at or above SSB target in 2029 under different combinations of options

Projections Methods



- Terminal year of the assessment is 2021
- Data for projections
 - Removals or F rate
 - Recruitment
 - Selectivity, weight-at-age, natural mortality, maturity (taken from 2021 assessment)

Projections Methods



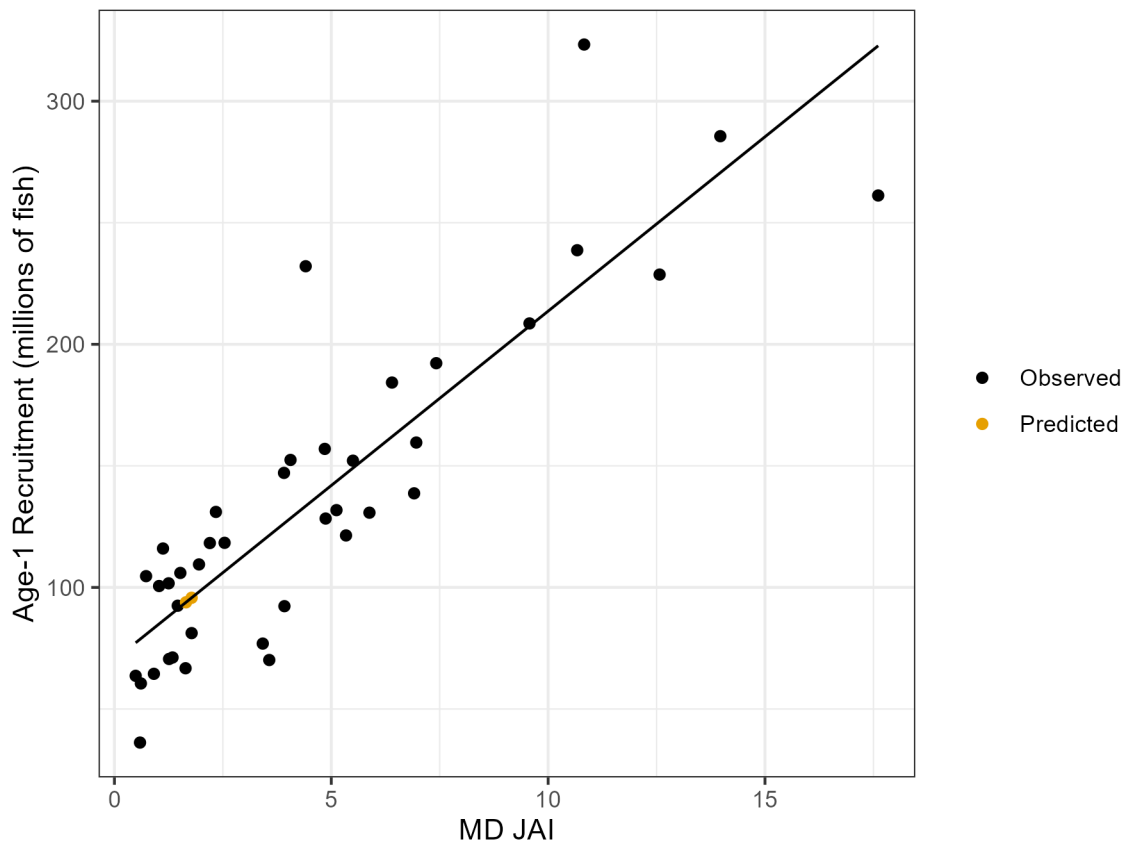
- Data for projections: Removals or F
 - 2022 removals: known
 - 2023 removals: estimated under EA regs
 - 2024 removals: estimated under different combinations of options based on estimated percent reduction

- For SSB projections, used predicted 2024 F for 2025-2029

Projections Methods



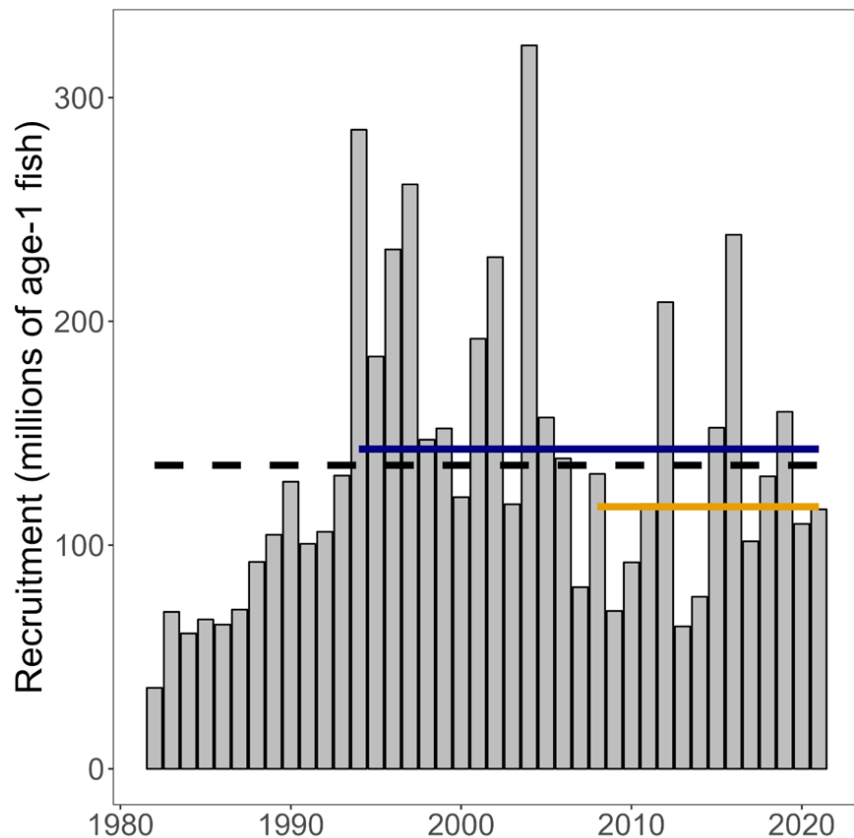
- Data for projections: Recruitment
 - Observed values from the MD JAI in 2021 and 2022 used to predict age-1 recruitment in 2022 and 2023



Projections Methods



- Data for projections: Recruitment
 - For 2024-209, drawn from the low recruitment regime values



→ F target for 2024 also calculated using the low recruitment regime

- 1994-2021 median
- Low recruitment regime
- Time-series average

Projection Results: F target



- Probability of F in 2024 being at or below the target:
 - Low: 33%
 - High: 56%
 - Options with higher percent reductions led to a higher probability of being at or below F target

Projection Results: SSB target



- NOT formal rebuilding projections
- A lot of uncertainty in terms of effort/removals/F rates in 2024-2029, effect of new measures on selectivity
- Projections do not include uncertainty around the estimates of expected reductions for each option
- ONLY useful to compare across options under consideration

Projection Results: SSB target



- Probability of SSB in 2029 being at or above the target:
 - Low: 33%
 - High: 51%
 - Options with higher percent reductions led to a higher probability of being at or above SSB target
- Projections with F=F target had a 48% probability of being at or above the SSB target in 2029

Projection Uncertainty



- NOT formal rebuilding projections
- A lot of uncertainty in terms of effort/removals/F rates in 2024-2029, effect of new measures on selectivity
- Projections do not include uncertainty around the estimates of expected reductions for each option
- ONLY useful to compare across options under consideration