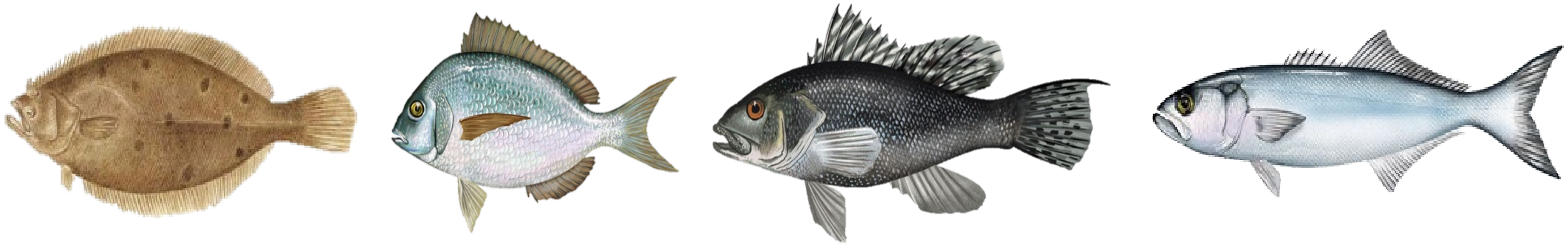
Recreational Measures Setting Process Framework/Addenda



SSC Sub-Group Meeting

April 23, 2024

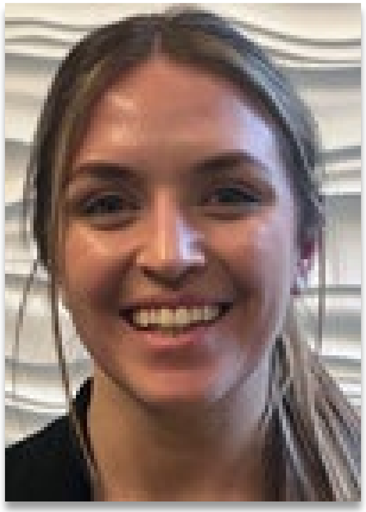
Outline

- Background
- Draft alternatives and other topics to be addressed
- Planned analysis
- Timeline

Staff Leads

Tracey Bauer
ASMFC

Julia Beaty
MAFMC



Chelsea Tuohy
ASMFC

FMAT/PDT

Name	Agency	Role/Expertise
Tracey Bauer	ASMFC	FMAT/PDT Co-Chair
Julia Beaty	MAFMC	FMAT/PDT Co-Chair
Chelsea Tuohy	ASMFC	FMAT/PDT Co-Chair
Mike Celestino	NJ DEP	Technical analysis and state management
Alexa Galvan	VMRC	Technical analysis and state management
Carolyn Iwicki	NMFS GARFO	Scientific and technical analysis of federal fisheries management
Emily Keiley	NMFS GARFO	Fisheries policy and legal requirements
Marianne Randall	NMFS GARFO	NEPA
Scott Steinback	NEFSC	Recreational fisheries economist
Rachel Sysak	NY DEC	Technical analysis and state management
Corinne Truesdale	RI DFW	Technical analysis and state management
Sam Truesdell	NEFSC	Stock assessments
Sara Turner	NMFS GARFO	Scientific and technical analysis of federal fisheries management

Challenges With Previous Process

- Uncertainty and variability in MRIP data.
- Frequent changes in measures.
- Perception that measures were not reflective of stock status.
- Measures did not always have their intended effect on harvest.

Harvest Control Rule FW/Addenda

Establish process for setting recreational measures that:

- prevents overfishing,
- is reflective of stock status,
- appropriately accounts for uncertainty in the recreational data,
- takes into consideration angler preferences, and
- provides an appropriate level of stability and predictability in changes from year to year.

Percent Change Approach

- First used for 2023 measures.
- Will sunset at the end of 2025.
- Improved, longer-term process starting with 2026 measures.

Rec. Measures Setting Process Framework/Addenda

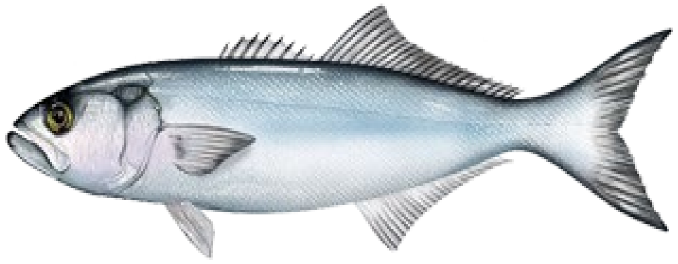
- New management action to consider process for 2026 and beyond.
- Draft alternatives
  - –No action
  - –Continued use of Percent Change Approach
  - –Modified versions of Percent Change Approach
  - –Biological Reference Point Approach
  - –Biomass Based Matrix Approach

Recreation Demand Model

- Developed by the NEFSC for summer flounder, scup, and black sea bass.
  - Will not be developed for bluefish
- Can be used under any alternatives in the framework/addenda, including no action.
- Discrete choice model + fishery simulation model.
- Predicts the effects of proposed bag/size/season on
  - Fishing effort
  - Harvest
  - Discards
  - Angler satisfaction
- Accounts for angler preferences and length distribution of the stocks.

Rebuilding Plans

- None of the alternatives will change the requirements for rebuilding plans.
- Stocks under in a rebuilding plan are subject to the requirements of that plan.
- Alternatives could be used to set measures for overfished stocks until a rebuilding plan is in place.



No Action Alternative

- Percent Change Approach sunsets at the end of 2025.
- Revert back to approach previously required by FMP.
- Measures set with the primary goal of allowing harvest to meet but not exceed the RHL.
- Measures set for one year at a time.

No Action

- **Pros**
  - –Immediate corrective action to avoid exceeding RHL and overall overfishing of the stock.
  - –Continuous response.
- **Cons:**
  - –Challenges with predicting catch in upcoming year.
  - –Stakeholder frustration.

Percent Change Approach

Column 1 **Future RHL vs Estimated Harvest**	*Column 2* **Biomass compared to target level** (B/B_{MSY})	*Column 3* **Change in Harvest**
Future 2-year avg. RHL is **greater than** the upper bound of the harvest estimate CI (harvest expected to be lower than the RHL)	**Very high** (>150% SSB_{MSY})	**Liberalization** percent equal to difference between harvest estimate and 2-year avg. RHL, not to exceed 40%
	High (at least B_{MSY}, but no higher than 150% of B_{MSY})	**Liberalization** percent equal to difference between harvest estimate and 2-year avg. RHL, not to exceed 20%
	Low (below B_{MSY})	Liberalization: 10%
Future 2-year avg. RHL is **within** harvest estimate CI (harvest expected to be close to the RHL)	**Very high** (>150% SSB_{MSY})	Liberalization: 10%
	High (at least B_{MSY}, but no higher than 150% of B_{MSY})	No liberalization or reduction: 0%
	Low (below B_{MSY})	Reduction: 10%
Future 2-year average RHL is **less than** the lower bound of the harvest estimate CI (harvest is expected to exceed the RHL)	**Very high** (>150% B_{MSY})	Reduction: 10%
	High (at least B_{MSY}, but no higher than 150% of B_{MSY})	**Reduction** percent equal to difference between harvest estimate and 2-year avg. RHL, not to exceed 20%
	Low (below B_{MSY})	**Reduction** percent equal to difference between harvest estimate and 2-year avg. RHL, not to exceed 40%

Percent Change Approach

- **Pros:**
  - Uses readily available data.
  - Broad categories of B/B_{MSY}.
  - Easily understandable.
  - Use of CI can provide more stability.
- **Cons:**
  - May suggest finer scale control of catch than has historically been achieved.
  - Duplicating use of B/B_{MSY} may increase variability in catches.
  - Allows liberalizations in some cases when $B<B_{MSY}$.
  - Compounding effects of increasing stock size and effort can increase likelihood of overfishing.
  - Potential instability – repeated over or under shooting targets.

Column 1 **Future RHL vs Estimated Harvest**	*Column 2* **Biomass compared to target level** (SSB/SSB_{MSY})	*Column 3* **Change in Harvest**
Future 2-year avg. RHL is **greater than** the upper bound of the harvest estimate CI (harvest expected to be lower than the RHL)	**Very high** (150+%)	**Liberalization** % = difference between harvest estimate and 2-year avg. RHL, **not to exceed 40%**
	High (110% - 150%)	**Liberalization** % = difference between harvest estimate and 2-year avg. RHL, **not to exceed 20%**
	Around the target (90% - 110%)	**Liberalization: 10%**
	Low (50% - 90%)	**No liberalization or reduction: 0%**
Future 2-year avg. RHL is **within** harvest estimate CI (harvest expected to be close to the RHL)	**Very high to low** (at least 50%)	**No liberalization or reduction: 0%**
Future 2-year avg. RHL is **less than** the lower bound of the harvest estimate CI (harvest expected to exceed the RHL)	**Very high** (150+%)	**No liberalization or reduction: 0%** Unless an AM is triggered
	High (110% - 150%)	**Reduction: 10%**
	Around the target (90% - 110%)	**Reduction** % = difference between harvest estimate and 2-year avg. RHL, **not to exceed 20%**
	Low (50% - 90%)	**Reduction** % = difference between harvest estimate and 2-year avg. RHL, **not to exceed 40%**

Biomass compared to target level (SSB/SSB_{MSY})	**Change in Harvest**
Overfished (<50%)	No liberalizations allowed. Reduction % = difference between harvest estimate and 2-year avg. RHL. To be replaced with rebuilding plan measures as soon as possible

Biological Reference Point Approach

Biomass Compared to Target Level	Overfishing is Not Occurring	Overfishing is Occurring
Very High At least 150% of the target level	R↑ R↓ B↑ liberal B↓ initial **1**	R↑ R↓ Recent harvest limits not exceeded: B↑ initial / restrictive; B↓ restrictive Recent harvest limits exceeded: B↑ B↓ restrictive **4**
High At least the target, but below 150% of the target level	R↑ R↓ B↑ liberal B↓ initial **2**	R↑ R↓ Recent harvest limits not exceeded: B↑ initial / restrictive; B↓ restrictive Recent harvest limits exceeded: B↑ B↓ restrictive **5**
Low Below the target level, but at least 50% of the target level	R↑ R↓ B↑ initial / restrictive B↓ restrictive **3**	R↑ R↓ Recent harvest limits not exceeded: B↑ initial / restrictive; B↓ restrictive Recent harvest limits exceeded: B↑ B↓ restrictive **6**
Overfished Less than 50% of the target level	**Most restrictive/rebuilding plan**	**7**

Biological Reference Point Approach

- **Pros:**
  - Primary determinants use readily available information (B/B_{MSY} and F/F_{MSY})
- **Cons:**
  - High number of categories may suggest unlikely level of precision in data and management.
  - Will averaging approaches capture strong year classes?
  - Elements of this alternative are already incorporated into the process used to derive the ABCs.
  - Should replace historical harvest comparisons with F comparisons.

Biomass Based Matrix Approach

<table>
<tr><th rowspan="2">B/Bmsy</th><th colspan="3">Biomass Trend</th></tr>
<tr><th>Increasing</th><th>Stable</th><th>Decreasing</th></tr>
<tr><td>Very High
>= 150%</td><td colspan="3">Bin 1 (most liberal measures)</td></tr>
<tr><td>High
100-150%</td><td>Bin 1</td><td colspan="2">Bin 2</td></tr>
<tr><td>Low
50-100%</td><td>Bin 3</td><td colspan="2">Bin 4</td></tr>
<tr><td>Overfished
<50%</td><td>Bin 5</td><td colspan="2">Bin 6 (most restrictive measures)</td></tr>
</table>

Biomass Based Matrix Approach

- **Pros:**
  - Uses existing data.
- **Cons:**
  - Not clear how it leads to stability.
  - Does not explicitly consider overfishing as a basis for action. Does this violate the MSA?

2022 SSC Review

- Performance cannot be determined without more details on how bag/size/season limits would change under all alternatives.
- Substantial differences between past specified and realized harvest for all species except summer flounder.
- Alternatives do not account for angler behavior and motivation.
- Biennial stock assessments will likely limit the impacts of poor performance.

2022 SSC Review

- Approaches that lead to harvests that are substantially above the respective limits could result in lower ABCs.
- Incremental responses may not be consistent with risk policy.
- If one sector is less well constrained to its limits, this can result in catch patterns that differ from the com/rec allocations.

Thermostat example simulation:

- Impacts of binning and random recruitment increased likelihood of OFL overages.
- Rebuilding was slower compared to continuous response.
- More outcomes of stocks that were previously above B_{MSY} falling below B_{MSY}.

Other Topics

- Not management alternatives
- Considered in the context of the management alternatives.
  - Target metric for setting measures
  - Starting point for measures
  - Management uncertainty
  - Impacts to the commercial sector
  - Accountability Measures

Target Metric

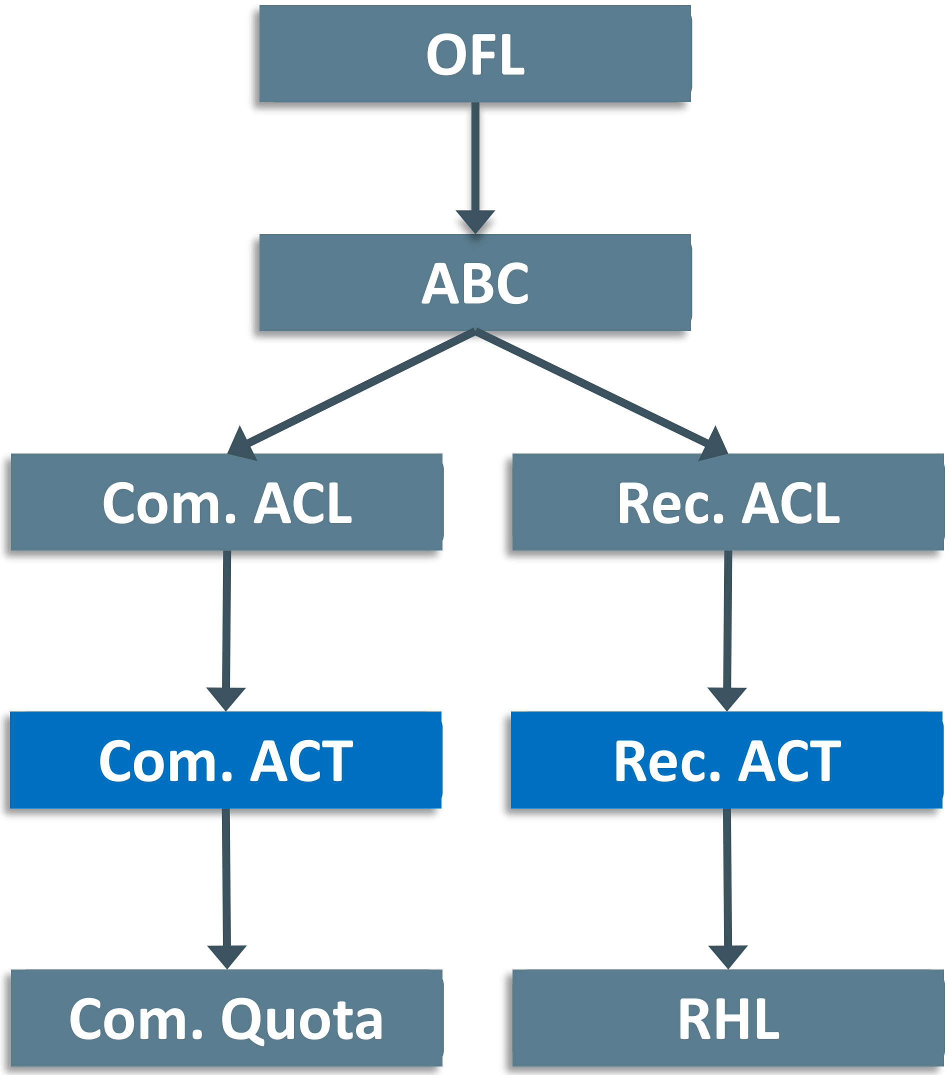
Should recreational measures in state and federal waters collectively aim to achieve a target level of

- Recreational **harvest** (current practice)
- Recreational **dead catch**, or
- Recreational **fishing mortality**?

Starting Point

- Many stakeholders have expressed frustration that current measures do not feel aligned with stock status.
- Council/Policy Board directed the FMAT/PDT to consider if the current measures are the appropriate starting point under all alternatives.

Management Uncertainty



Annual Catch Limits
Defined by com/rec allocations

Annual Catch Targets
Less than or equal to ACLs to account for management uncertainty

Landings Limits
ACTs minus expected discards

Impacts to Commercial Sector

- None of the alternatives will change the management process for the commercial fishery.
- Transfer of quota between the commercial and recreational sectors will not be considered through this action.
- However, recreational measures can have indirect impacts to commercial sector.
- Indirect impacts will be evaluated.

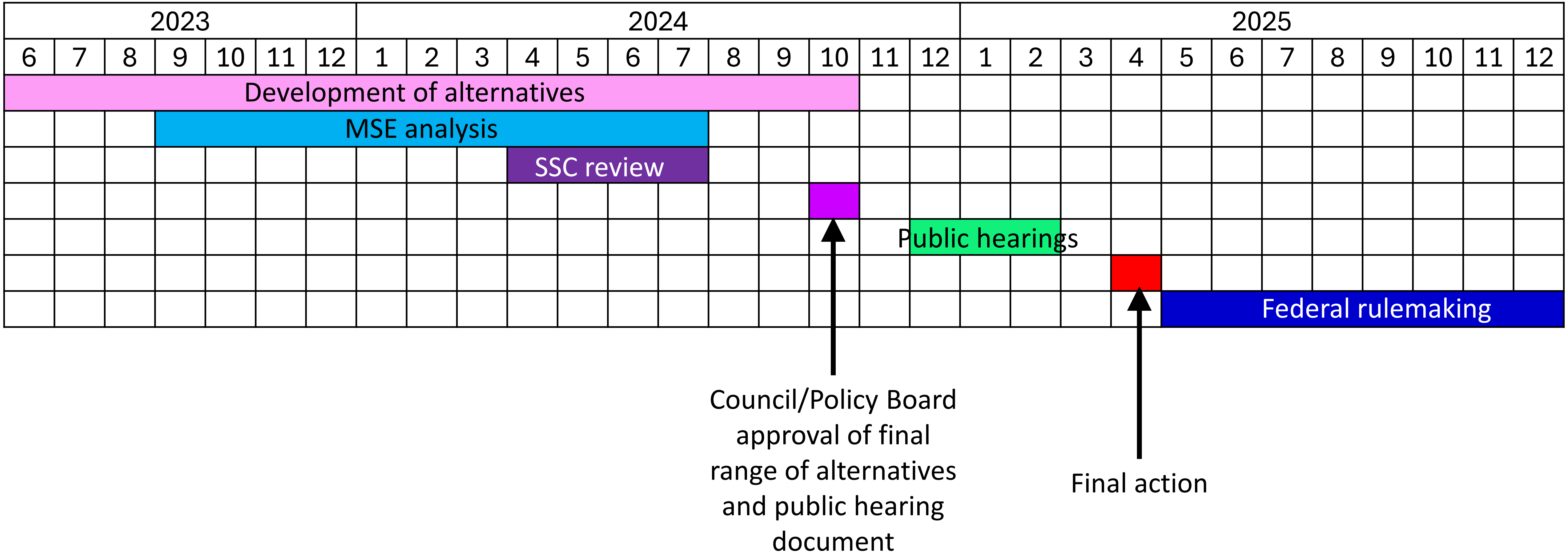
Accountability Measures

- MSA requires annual catch limits (ACLs) and "measures to ensure accountability."
- National Standards Guidelines:
  - AMs are "are management controls to prevent ACLs, including sector-ACLs, from being exceeded, and to correct or mitigate overages of the ACL if they occur."
  - "AMs should address and minimize both the frequency and magnitude of overages and correct the problems that caused the overage in as short a time as possible."
- AMs will need to be defined under all alternatives.

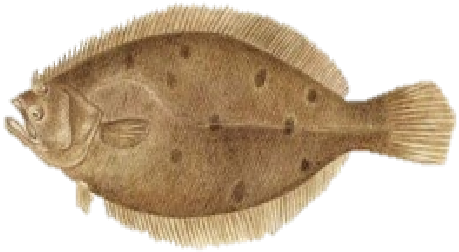
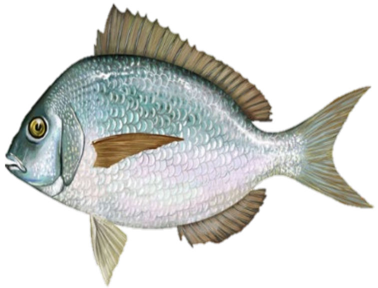
Planned and Ongoing Analysis

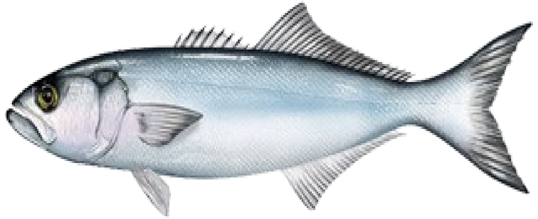
- Evaluation of percent liberalization/reductions.
- F-based management.
- Summer Flounder MSE analysis.
- Impacts of each alternative on the four stocks, non-target species, protected species, habitat, and socio-economic impacts.

Draft Simplified Timeline



Questions?



Backup Slides

Recruitment and Biomass Trend

- **Recent recruitment**
  - –**High**: most recent 3 yr avg >= median from time series for ABC projections
  - –**Low**: most recent 3 yr avg < median from time series for ABC projections

- **Biomass trend**
  - –**Stable**: avg. change of +/-4% over most recent three years.
  - –**Increasing**: increase of at least 4% on avg over the most recent 3 years.
  - –**Decreasing**: decrease of at least 4% on avg over the most recent 3 years.

Rec. Accountability Measures (AMs)

1. If the stock is overfished, under a rebuilding plan, or the stock status is unknown:

The exact amount, in pounds by which the most recent 3-year avg. rec. ACL has been exceeded will be deducted in the following year, or as soon as possible once catch data are available. This payback may be evenly spread over 2 years if doing so allows for use of identical rec. measures across the upcoming 2 years.

2. If biomass is above the threshold, but below the target, and the stock is not under a rebuilding plan:

a. If only the rec. ACL has been exceeded, then adjustments to the rec. measures, taking into account the performance of the measures and conditions that precipitated the overage, will be made in the following year, or as soon as possible thereafter, once catch data are available, as a single-year adjustment.

b. If the most recent estimate of total fishing mortality exceeds F_{MSY}, then an adjustment to the rec. ACT will be made as soon as possible as a payback that will be scaled based on stock biomass.

The calculation for the payback amount in this case is: (3-year avg. overage amount) * $(B_{MSY}-B)/½\ B_{MSY}$.

This payback may be evenly spread over 2 years if doing so allows for use of identical rec. measures across the upcoming 2 years. If an estimate of total F is not available for the most recent complete year of catch data, then a comparison of total catch relative to the ABC will be used.

3. If biomass is above the target:

Adjustments to the rec. measures, taking into account the performance of the measures and conditions that precipitated the overage, will be made in the following fishing year, or as soon as possible thereafter, once catch data are available, as a single-year adjustment.

June 2022 Council/Policy Board

Move to further develop Alt. B (Pct Change Approach), Alt. D (Biological Reference Point Approach) and Alt. E (Biomass Based Matrix Approach) for implementation no later than the beginning of the 2026 fishing year. Further development should consider, at minimum, F-based approaches for Alt. B and development of measures using modeling or other approaches for Alts. D and E. Further evaluate the issue of “borrowing” as raised by the SSC for alt B, D, and E.

Council: Motion carries by consent

Policy Board: Motion carries by consent