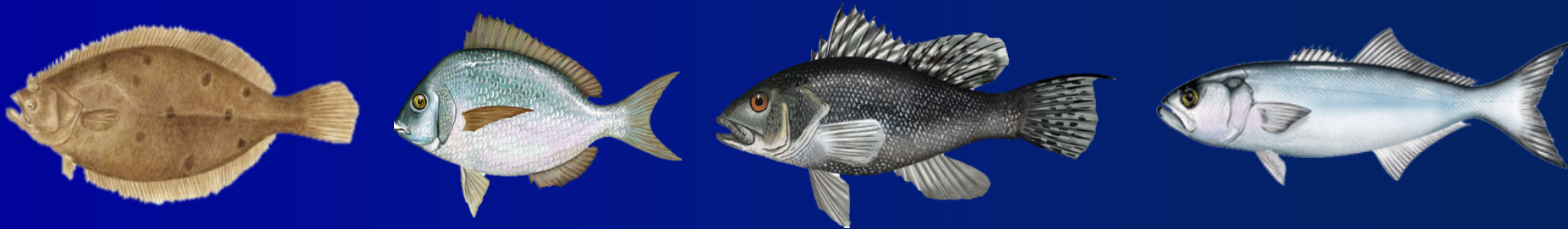




# Recreational Harvest Control Rule Framework/Addenda



Joint Council and ASMFC Policy Board Meeting  
February 8, 2022

# Presentation Outline

- Range of options:
  - Section 3.1 Management options to set recreational measures
    - A: No Action
    - B: Percent Change
    - C: Fishery Score
    - D: Biological Reference Point
    - E: Biomass Based Matrix
  - Section 3.2 Target metric for measures setting
  - Section 3.3 Conservation equivalency
  - Section 3.4 Accountability measures comparisons
- Next steps
- Council staff recommendation
- Discussion:
  - Consider approval of final range of options
  - Consider approval of Draft Addenda for public comment

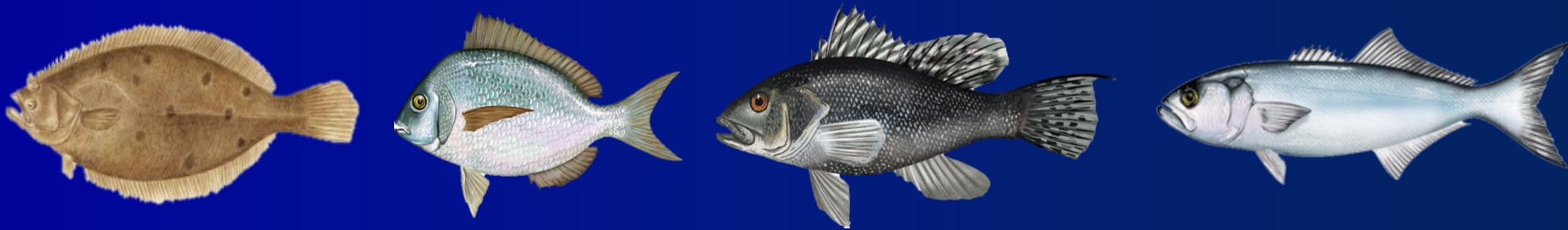
# Goal Statement

Establish process for setting rec 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.

# Section 3.1

## Management options to set recreational measures



# Option A: No action

- The current process.
- Aim to prevent RHL overages, and therefore ACL and ABC overages.
- MRIP data from one or more recent years used to predict the impacts of status quo measures or changes in bag/size/season limits.

# Option A: No action

## Accountability Measures

When dead catch exceeds rec. ACL (single year comparison for bluefish, 3 yr avg for summer flounder, scup, and black sea bass):

1. **If overfished, under a rebuilding plan, or stock status unknown:** Exact overage amount must be paid back as soon as possible.
2. **If biomass is above the threshold but below the target, and stock not under a rebuilding plan:**
  - **If only the ACL exceeded:** Adjust bag/size/season, taking into account performance of the measures and conditions that precipitated the overage.
  - **If the ABC also exceeded:** Single year deduction will be made as a payback, scaled based on biomass.
    - $\text{Payback} = (\text{overage amount}) * (B_{msy} - B) / \frac{1}{2} B_{msy}$
3. **If biomass is above the target:** Adjustments to bag/size/season will be made, taking into account performance of the measures and conditions that precipitated the overage


# Rebuilding Plans

- Stocks under an approved rebuilding plan are subject to the measures of that rebuilding plan.
- None of the options in this action are meant to replace rebuilding plan measures.
- In some instances, measures implemented through the HCR options may be used as temporary measures until a rebuilding plan is implemented, which can take up to two years after the stock is declared overfished.

# Option B: Percent Change

- Step 1: MRIP vs. RHL comparison.
  - RHL within, above, or below 80% joint distribution confidence interval (CI) of MRIP estimate.
  - Can be replaced with a statistical model-based estimate of harvest and associated CI.
- Step 2: compare biomass (B) to target ( $B_{MSY}$ ).
  - Below target, above target but less than 150% of target, or more than 150% of target?
- Percentage liberalization or reduction, or status quo, depends on magnitude of difference between MRIP and RHL and biomass relative to target.



Row	Future RHL vs Harvest Estimate	B/B <sub>MSY</sub>	Change in Harvest	
A	Future 2-year avg. RHL greater than upper bound of harvest estimate CI	> 1.5	Sub-Option B-1A: Liberalization percent equivalent to difference between harvest estimate and 2-year avg. RHL	Sub-Option B-1B: 40% Liberalization
		1 - 1.5	Sub-Option B-1A: Liberalization percent equivalent to difference between harvest estimate and 2-year avg. RHL	Sub-Option B-1B: 20% Liberalization
		< 1	Sub-Option B-2A: 10% Liberalization	Sub-Option B-2B: 0%
B	Future 2-YR avg. RHL within CI of harvest estimate	> 1.5	10% Liberalization	
		1-1.5	0%	
		< 1	10% Reduction	
C	 Future 2-YR avg. RHL less than lower bound of harvest estimate CI	> 1.5	Sub-Option B-2A: 10% Reduction	Sub-Option B-2B: 0%
		1-1.5	Sub-Option B-1A: Reduction percent equivalent to difference between harvest estimate and 2-year avg. RHL	Sub-Option B-1B: 20% Reduction
		< 1	Sub-Option B-1A: Reduction percent equivalent to difference between harvest estimate and 2-year avg. RHL	Sub-Option B-1B: 40% Reduction

# Option B: Percent Change Accountability Measures




- No change needed from current AMs except that when a payback is required, it can be spread evenly across 2 years to allow for consistent measures.
- When a payback is applied, the percent change would be determined based on the reduced RHL.

# Option C: Fishery Score

- Combine multiple metrics into one fishery score.
  - Fishing mortality (F) relative to the threshold ( $F_{MSY}$ ).
  - Biomass (B) relative to the target ( $B_{MSY}$ ).
  - Recruitment percentile.
  - Comparison of average RHL to MRIP CI (or statistical model-based estimate of harvest and CI).
- Each metric is weighted.

$$\frac{F}{F_{MSY}}(W_F) + \frac{B}{B_{MSY}}(W_B) + R(W_R) + \text{Fishery performance}(W_{FP}) \\ = \text{Fishery Score}$$

# Option C: Fishery Score

Fishery Score	Stock Status and Fishery Performance Outlook	Measures
1-1.99 	Very Poor	Most Restrictive
2-2.99	Poor	Restrictive
3-3.99 	Moderate	Liberal
4-5 	Good	Most Liberal

# Option C: Fishery Score Accountability Measures

## Sub-Option C-1

- 1. If the stock is overfished, under a rebuilding plan, or stock status is unknown:** Most restrictive measures implemented. If most restrictive measures were previously implemented or those are otherwise expected to continue to result in overages, then they must be further restricted to prevent future overages.
- 2. If biomass is above the threshold but below the target, and stock is not under a rebuilding plan:**
  - **If only the ACL exceeded:** Stock remains in current bin. Measures for all bins are re-evaluated to prevent future ACL overages.
  - **If the ABC or  $F_{MSY}$  is also exceeded (depending on other sub-options):** Stock drops down a bin and measures for all bins are re-evaluated to prevent future ACL overages. However, an additional step down is not needed if the stock steps down due to a decrease in the fishery score.
- 3. If biomass is above the target:** Measures for all bins will be adjusted, taking into account performance of the measures and conditions that precipitated the overage.

# Option C: Fishery Score Accountability Measures




## Sub-Option C-2

If overfishing is occurring ( $F$  is greater than  $F_{MSY}$ ), even if a change in bin was not triggered through re-calculation of the fishery score, the management measures for all bins will be re-evaluated and modified as needed to appropriately constrain recreational catch and end overfishing.

# Option D: Biological Reference Point Approach

- Primary metrics are terminal year  $B/B_{MSY}$  and  $F/F_{MSY}$  from most recent stock assessment.
- Secondary metrics evaluated when stock conditions are unchanged:
  - Recruitment and trends in biomass.
  - Expected catch or harvest compared to ACL or RHL only considered when overfishing is occurring.

# Option D: Biological Reference Point Approach

	$F \leq F_{msy}$	$F > F_{msy}$																										
$B \geq 150\% B_{target}$	<p>R↑      R↓</p> <table border="1"> <tr> <td>B↑</td> <td>liberal</td> <td>liberal</td> </tr> <tr> <td>B↓</td> <td>default</td> <td>default</td> </tr> </table>  <p>1</p>	B↑	liberal	liberal	B↓	default	default	<table border="1"> <tr> <td></td> <td></td> <td>R↑</td> <td>R↓</td> </tr> <tr> <td>MRIP ≤</td> <td>B↑</td> <td>default</td> <td>restrictive</td> </tr> <tr> <td>RHL/ACL</td> <td>B↓</td> <td>restrictive</td> <td>restrictive</td> </tr> <tr> <td>MRIP &gt;</td> <td>B↑</td> <td colspan="2">restrictive &amp; re-evaluate measures</td> </tr> <tr> <td>RHL/ACL</td> <td>B↓</td> <td colspan="2">evaluate measures</td> </tr> </table> <p>4</p>			R↑	R↓	MRIP ≤	B↑	default	restrictive	RHL/ACL	B↓	restrictive	restrictive	MRIP >	B↑	restrictive & re-evaluate measures		RHL/ACL	B↓	evaluate measures	
B↑	liberal	liberal																										
B↓	default	default																										
		R↑	R↓																									
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$B < B_{threshold}$	<p><b>MOST RESTRICTIVE/REBUILDING PLAN</b></p>  <p>7</p>																											


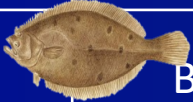



## **Option D: Biological Reference Point Approach Accountability Measures**

- Reactive AMs are built into the bins to respond to declining stock status.
- No additional reactive AMs are needed under this approach.

# Option E: Biomass Based Matrix

- Measures based on two factors:
  - Biomass ( $B$ ) compared to target ( $B_{MSY}$ )
  - Most recent trend in biomass.

Stock Status	Biomass Trend		
	Increasing	Stable	Decreasing
<b>Abundant</b> At least 150% of target	Bin A		
<b>Healthy</b> Above target, but less than 150% of target	Bin A	Bin B	
<b>Below Target</b> but above threshold	 Bin C	Bin D	
<b>Overfished</b> Below threshold	Bin E	Bin F	

# Option E: Biomass Based Matrix Accountability Measures

## Sub-Option E-1

1. **If the stock is overfished, under a rebuilding plan, or stock status is unknown:** Most restrictive measures implemented. If most restrictive measures were previously implemented or are otherwise expected to continue to result in overages, then they must be further to prevent future overages.
2. **If biomass is above the threshold but below the target, and the stock is not under a rebuilding plan:**
  - **If only the ACL exceeded:** Stock remains in current bin, but measures associated with all bins are re-evaluated to prevent future ACL overages.
  - **If the ABC or  $F_{MSY}$  is also exceeded (depending on other options):** Stock drops down a bin and measures associated with all bins are re-evaluated with to prevent future ACL overages. However, an additional step down is not need if the stock steps down due to a decrease in biomass.
3. **If biomass is above the target:** Measures for all bins will be adjusted, taking into account the performance of the measures and the conditions that precipitated the overage.

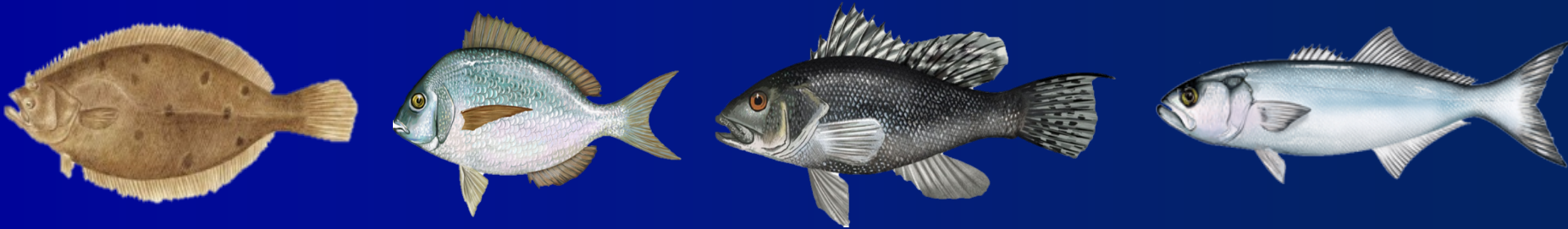
# Option E: Biomass Based Matrix Accountability Measures

## Sub-Option E-2

If overfishing is occurring ( $F$  is greater than  $F_{MSY}$ ), even if a change in bin was not triggered through an updated comparison of the biomass metrics, the management measures for all bins will be re-evaluated and modified as needed to appropriately constrain recreational catch and end overfishing.

# Section 3.2

## Target for Measures

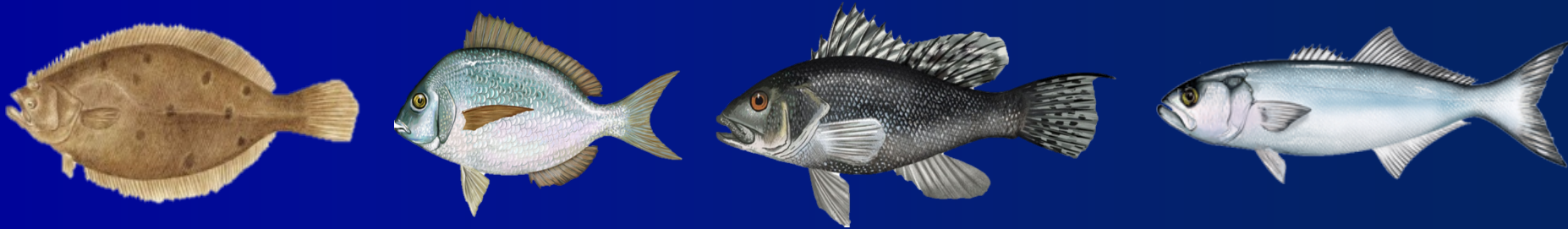


# Target for Measures

- Options C-E Only
- All aim to achieve but not exceed
  - A. Recreational Harvest Limit
    - Calculated by removing dead discards estimate
  - B. Annual Catch Limit
    - Total dead catch including dead discards
  - C. Recreational Fishing Mortality Target
    - Recreational specific F target

# Section 3.3

## Conservation Equivalency Options



# ASMFC Conservation Equivalency

Only considered for options B-E

## A. No Action

- States retain ability to individually apply for CE as is already allowed

## B. Regional Conservation Equivalency

- Regions (as defined in Appendix 4) may apply for regional CE

## C. Conservation Equivalency is Disallowed

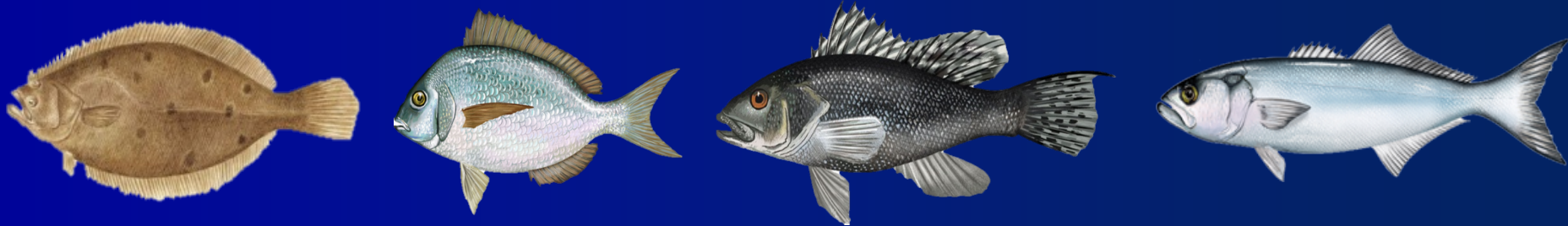
- CE is not permitted at the state or regional level



# Section 3.4

## Accountability Measures

### Comparisons



# Accountability Measures

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

- If only the ACL exceeded ...
  - If the ABC or  $F_{MSY}$  is also exceeded (depending on other options) ...
- Option A: Catch compared to the ABC
  - Option B: Fishing mortality compared to  $F_{MSY}$
  - In both cases:
    - Comparison is to a stock-wide metric, not specific to the recreational fishery.
    - Intent: Was the stock likely harmed by the rec. ACL overage?
    - If so, AM response is more strict.

# Overview of Options

Option	Metrics used to set measures					Measures pre-determined	Expected # of sets pre-determined measures	Measures specified for 1 or 2 years
	Expected harvest*	B/B <sub>MSY</sub>	F/F <sub>MSY</sub>	Recent recruitment	Biomass trend			
<b>No action</b>	Primary					No	N/A	1
<b>Percent change</b>	Primary	Primary				No	N/A	2
<b>Fishery score</b>	Primary**	Primary**	Primary**	Primary**		Yes	4	2
<b>Biological reference point</b>	Only when $F > F_{MSY}$	Primary	Primary	Secondary	Secondary	Yes	13	2
<b>Biomass based matrix</b>		Primary			Primary	Yes	6	2

\*Expected harvest in upcoming years under status quo measures, either based on recent MRIP estimates or a model-based harvest estimate.

\*\* Fishery score metrics can have different weights.

# Next Steps

- **Today:** Consider approval of final range of options and draft addenda for public comment
- **March - April 2022:** Public hearings on Draft Addenda
- **May 2022:** FMAT/PDT and AP meetings on recommendations for final action
- **June 2022: Final action**
- **June 2022- late 2022:** Development of NEPA document for framework; federal rulemaking
- **Fall 2022:** Development of 2023 measures using preferred Harvest Control Rule option
- **Dec 2022:** Board, Council set 2023 rec. measures

# Recreational Fishery Models

- MAFMC and ASMFC supporting development of two rec. fishery statistical models.
  - Recreational Economic Demand Model (REDM)
  - Recreational Fleet Dynamics Model (RFDM)
- Both models could inform the setting of measures under any HCR option.
- None of the HCR options require use of these models.
- Neither model anticipated to be available for use for most species until ~fall 2022 or later.
  - Exception: REDM for summer flounder completed by June 2022 as part of ongoing summer flounder management strategy evaluation.
- HCR timeline assumes models would be used after final action to develop measures for 2023 and beyond.

# Council Staff Recommendation

- Approve a range of alternatives for this this action and approve the Draft Addendum for public hearings.
- If not ready to take these steps today, FMAT/PDT will need guidance on desired improvements.
- Range of alternatives should not be split into multiple actions with different timelines.
  - FMAT/PDT has not determined that some alts. are strongly preferred over others; therefore, it would be inappropriate to place a higher priority on further development of a small subset of alts while delaying further development of the remaining alts.

# Discussion Points

- Consider approval of final range of options.
- Consider approval of document for public comment through ASMFC process.