



Recreational Harvest Control Rule Addenda/Framework



Options Reference Guide



Introduction

The Atlantic States Marine Fisheries Commission (Commission) and the Mid-Atlantic Fishery Management Council (Council) are considering changes to the process for setting recreational bag, size, and season limits (i.e., recreational measures) for summer flounder, scup, black sea bass, and bluefish. Key goals include providing greater stability and predictability in the recreational fishery management measures from year to year. The Commission is considering these changes through draft addenda, and the Council is considering an identical set of options through a framework action. Collectively, these management actions are referred to as the *Recreational Harvest Control Rule Draft Addenda/Framework*. Both groups will meet jointly to consider public comments before taking final action.

This reference guide provides an overview of the options under consideration in the Draft Addenda/Framework. This guide is intended to be used with the [Draft Document for Public Comment](#), which provides more detail on the options.

How to Provide Comments

Comments may be submitted at any of eight virtual public hearings held between **March 16** and **April 13, 2022**, or via written comment through **April 22, 2022**. Please visit <http://www.asmfc.org/about-us/public-input> for a hearing schedule and instructions for submitting comments.

Management Options to Set Recreational Management Measures

Section 3.1 of the Draft Addenda proposes five possible approaches for setting recreational measures. As described below and summarized in Table 5, key differences between the options include the information considered when setting measures and the circumstances under which measures would change. These differences have implications for how often measures would change, how responsive they are to changing conditions, and the primary conditions of concern (e.g., stock size, level of recreational harvest, or other factors). Please refer to the Draft Addenda for more details on each option.

None of the options would implement any specific bag, size, or season limits. Rather, they would define the process for establishing measures using different approaches and different types of information. Specific measures would be established and modified through separate future actions through the Commission and Council's specifications process.

As you review these options, we encourage you to think about the following questions:

- In your opinion, which option represents the best process for setting recreational management measures and why?
- What types of information are most important in guiding the selection of management measures (e.g., stock size, recent harvest levels, whether or not overfishing is occurring)?
- What circumstances should trigger changes in management measures (e.g., a change in stock size, an expected harvest limit overage or underage)?

Option A. No Action (Current Recreational Measures Setting Process)

Draft Addenda Section 3.1.A

Under this option, no change would be made to the current requirements for setting recreational bag, size, and season limits. Under the current requirements, measures aim to prevent recreational harvest from exceeding the annual recreational harvest limit (RHL). Generally, measures are determined based on a comparison of recent harvest estimates to the upcoming RHL. If recent harvest is higher than the RHL, then more restrictive measures are generally put in place. If harvest is lower than the RHL, measures are generally relaxed. This process does not vary based on stock status (how healthy the stock is) and generally does not account for expected differences in availability or other factors in the upcoming year compared to previous years. Under this option, measures are not pre-defined and can change as often as every year - especially if large RHL overages or underages are expected under status quo measures.

Option B. Percent Change Approach

Draft Addenda Section 3.1.B

This option uses the following two factors to determine if and how measures should change:

- (1) **Expected harvest compared to future recreational harvest limits (RHLs)** – based on a comparison of recent harvest estimates to upcoming RHLs
- (2) **Stock size (B/B_{MSY})** – a measure of how current stock size (B) compares to the target level (B_{MSY})

Table 1 below illustrates how information about expected harvest and stock size would be used to determine if management measures should be restricted, liberalized, or remain unchanged. Depending on the sub-options chosen, changes in measures would aim to achieve specific percentage changes in harvest. Under this option, changes would be considered every other year when new scientific information about the stock is available. Compared to the other options under consideration, this option is most similar to the current process as it relies heavily on comparisons of expected harvest to the RHL. This option differs from the current process in that the percent change in harvest varies depending on the size of the stock.

Table 1. Process for determining the appropriate percent change in harvest when developing management measures under the percent change approach.

Row	Estimated harvest compared to future limits	Stock Size (B/B_{MSY})	Target Change in Harvest	
A	Harvest expected to be below the upcoming recreational harvest limits	Very high (at least 150% of the target stock size)	Sub-Option B-1A: Liberalization amount based on difference between expected harvest and RHL	Sub-Option B-1B: Large liberalization: 40%
		High (between the target and 150% of the target stock size)	Sub-Option B-1A: Liberalization amount based on difference between expected harvest and RHL	Sub-Option B-1B: Medium liberalization: 20%
		Low (below the target stock size)	Sub-Option B-2A: Small liberalization: 10%	Sub-Option B-2B: No liberalization or reduction
B	Harvest expected to be close to the upcoming recreational harvest limits	Very high (at least 150% of the target stock size)	Small liberalization: 10%	
		High (between the target and 150% of the target stock size)	No liberalization or reduction	
		Low (below the target stock size)	Small reduction: 10%	
C	Harvest expected to be higher than the upcoming recreational harvest limits	Very high (at least 150% of the target stock size)	Sub-Option B-2A: Small reduction: 10%	Sub-Option B-2B: No liberalization or reduction
		High (between the target and 150% of the target stock size)	Sub-Option B-1A: Reduction amount based on difference between expected harvest and RHL	Sub-Option B-1B: Medium reduction: 20%
		Low (below the target stock size)	Sub-Option B-1A: Reduction amount based on difference between expected harvest and RHL	Sub-Option B-1B: Large reduction: 40%

Option C. Fishery Score Approach

Draft Addenda Section 3.1.C

This option combines multiple data inputs into one “fishery score” which would be used to guide the selection of management measures. The fishery score incorporates four data inputs:

- (1) **Stock size** (B/B_{MSY}) – current stock size (B) compared to the target level (B_{MSY})
- (2) **Recruitment** – the amount of new fish entering the population each year
- (3) **Fishing mortality** (F/F_{MSY}) – the rate at which fish are removed by the fisheries (F) compared to the threshold level that defines overfishing (F_{MSY})
- (4) **Expected harvest compared to future recreational harvest limits** (RHLs) – a measure of how effective the previous measures were at controlling harvest

Based on the resulting score, the stock would be placed into one of four “bins” with corresponding management measures, as illustrated in Table 2 below. Each bin would be associated with a range of stock status and fishery performance conditions, with Bin 1 representing the best conditions and the most liberal measures and Bin 4 representing the worst conditions and most restrictive measures. Each bin would have pre-defined measures. The measures for each bin would aim to achieve a target level of recreational harvest, dead catch (harvest and fish presumed to die when released), or fishing mortality that is appropriate for the stock conditions associated with that bin.

The intent is to consider changes in measures when new stock assessment information is available – typically every other year. Measures would only change when the stock moves to a different bin based on the data inputs listed above. Compared to all other options, measures may change less frequently under this approach because measures would remain in place over a greater range of conditions. However, compared to the other options, the changes would likely be greater in magnitude.

Table 2. Fishery score bins, associated stock status and fishery performance outlook, and relative differences in measures.

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

Option D. Biological Reference Point Approach

Draft Addenda Section 3.1.D

This option uses two primary factors to guide the selection of management measures:

- (1) **Stock size** (B/B_{MSY}) – current stock size (B) compared to the target level (B_{MSY})
- (2) **Fishing mortality** (F/F_{MSY}) – a measure of whether overfishing is occurring

As illustrated in Table 3 below, the stock would be assigned to one of seven bins based on these two factors. Each bin would have a set of default measures which would be implemented the first time the stock is placed in that bin. Subsequent stock assessment updates may require movement to a different bin. If, in a subsequent year, a stock assessment indicates no major change in stock condition, then other factors (stock size, recruitment, and trends in harvest levels) would be considered to determine if measures should be modified to the secondary measures within the same bin (i.e., slightly more restrictive or slightly more liberal than the default measures).

The primary and secondary measures in each bin would be pre-defined. The measures for each bin would aim to achieve a target level of recreational harvest, dead catch (harvest and fish presumed to die when released), or fishing mortality that is appropriate for the stock conditions associated with that bin.

This approach allows for stability of measures if stock status is unchanged and smaller changes in measures if warranted based on stock size, recruitment, and/or expected harvest. Compared to the fishery score and biomass-based matrix approaches, this option may result in more frequent changes in measures, but the changes may be smaller in magnitude.

Table 3. Summary of the Biological Reference Point Option illustrating bins of measures associated with different combinations of stock conditions. Green indicates the most liberal measures and red the most restrictive. B stands for stock biomass compared to the target level and R stands for recruitment.

Stock Biomass Compared to Target Level	Overfishing is Not Occurring Fish are being harvested sustainably	Overfishing is Occurring Too many fish are being removed through fishing
Very High At least 150% of the target stock size	<div style="text-align: center;"> $R \uparrow$ $R \downarrow$ $B \uparrow$ liberal liberal $B \downarrow$ default default </div>	<div style="text-align: center;"> $R \uparrow$ $R \downarrow$ Recent harvest limits $B \uparrow$ default restrictive have not been exceeded $B \downarrow$ restrictive restrictive Recent harvest limits $B \uparrow$ restrictive and re-evaluate measures have been exceeded $B \downarrow$ </div>
		1
High Above the target, but below 150% target stock size	<div style="text-align: center;"> $R \uparrow$ $R \downarrow$ $B \uparrow$ liberal liberal $B \downarrow$ default default </div>	<div style="text-align: center;"> $R \uparrow$ $R \downarrow$ Recent harvest limits $B \uparrow$ default restrictive have not been exceeded $B \downarrow$ restrictive restrictive Recent harvest limits $B \uparrow$ restrictive and re-evaluate measures have been exceeded $B \downarrow$ </div>
		2
Low Below the target stock size, but more than 50% of the target stock size	<div style="text-align: center;"> $R \uparrow$ $R \downarrow$ $B \uparrow$ default restrictive $B \downarrow$ restrictive restrictive </div>	<div style="text-align: center;"> $R \uparrow$ $R \downarrow$ Recent harvest limits $B \uparrow$ default restrictive have not been exceeded $B \downarrow$ restrictive restrictive Recent harvest limits $B \uparrow$ restrictive and re-evaluate measures have been exceeded $B \downarrow$ </div>
		3
Overfished (Too Low) Less than 50% of the target stock size	MOST RESTRICTIVE/REBUILDING PLAN	
		7

Option E. Biomass Based Matrix Approach

Draft Addenda Section 3.1.E

This option would set recreational measures based on two factors:

- (1) **Stock size** (B/B_{MSY}) – current stock size (B) compared to the target level (B_{MSY})
- (2) **Trend in stock size** – a measure of whether the stock size is increasing, decreasing, or stable

Based on these two factors, the stock would be placed into one of six “bins” with corresponding management measures, as illustrated in Table 4 below. Bin 1 represents the best conditions and the most liberal measures, while Bin 6 represents the worst conditions and the most restrictive measures. The measures for each bin would be pre-defined and would aim to achieve a target level of recreational harvest, dead catch, or fishing mortality that is appropriate for the stock conditions associated with that bin.

Under this option the placement of a stock in a bin is guided only by stock size and stock size trend. This approach considers fewer types of information compared to the fishery score and biological reference point approaches. This option is the least reliant on estimates of recreational harvest compared to all other options.

Table 4. Recreational management measure matrix under the Biomass Based Matrix approach.

Stock Size (i.e., biomass compared to target level)	Trend in stock size		
	Increasing	Stable	Decreasing
Very High: At least 150% of target stock size	Bin 1		
High: Above the target, but below 150% target stock size	Bin 1		Bin 2
Low: Below the target stock size, but more than 50% of the target stock size	Bin 3		Bin 4
Overfished (Too Low): Less than 50% of the target stock size	Bin 5		Bin 6

Table 5: Summary of information considered when setting recreational measures and expected number of sets of pre-determined measures under options A - E in Section 3.1 of the Draft Addenda.

Option in Section 3.1	Information used to set measures					Expected number of pre-set measures
	Expected harvest	Stock size	Fishing mortality	Recruitment	Stock size trend	
A: No action	Primary					Measures are not pre-set
B: Percent change	Primary	Primary				Measures are not pre-set
C: Fishery score	Primary	Primary	Primary	Primary		4
D: Biological reference point	Only when overfishing is occurring	Primary	Primary	Secondary	Secondary	13
E: Biomass based matrix		Primary			Primary	6

Additional Options Under Consideration

Target Metric for Setting Measures

The Fishery Score Approach, Biological Reference Point Approach, and Biomass Based Matrix Approach all use bins with pre-defined measures. If one of these approaches is selected, an option from Section 3.2 must be selected to specify whether the measures in each bin will aim to achieve a target level of recreational harvest (Option 3.3.A), recreational dead catch (harvest plus discarded fish that are presumed to die, Option 3.3.B), or fishing mortality (a measure of the rate of removal from the stock, Option 3.3.C).

Conservation Equivalency Options

Section 3.3 includes options to define the degree of flexibility states have in proposing alternative measures through the Commission's conservation equivalency process. Option 3.3.A allows individual states to propose alternative measures if they can demonstrate that they are expected to have the same impact on the stock as the measures which would otherwise be implemented. Option 3.3.B allows states to work together as regions to propose alternative measures which are expected to have the same impact on the stock as the measures which would otherwise be implemented. Option 3.3.C does not allow states or regions to propose alternative measures.

Key Terms

Biomass (B): The size of a stock of fish measured in weight.

Biomass target (B_{MSY}): The stock size associated with maximum sustainable yield (MSY), as defined by a stock assessment. When a stock's biomass is at or above its biomass target, the stock is able to replace more fish than are being removed through fishing and other sources of mortality.

Fishing mortality (F): The rate of fishery removals of fish from a stock, typically estimated through a stock assessment.

Fishing mortality threshold (F_{MSY}): The maximum rate of fishing mortality (the proportion of fish that are removed by fishing) that will, over the long term, result in maximum sustainable yield. When fishing mortality exceeds F_{MSY} , overfishing is occurring.

Fishing mortality target: A target level of fishing mortality used to set recreational management measures. Summer flounder, scup, black sea bass, and bluefish currently do not have recreational fishing mortality targets and instead are managed with recreational catch and harvest limits. Currently, stock-wide fishing mortality thresholds (F_{MSY}) are established for each stock and apply to all sources of fishing mortality combined, including the commercial and recreational fisheries.

Recreational Harvest Limit (RHL): The total allowable annual recreational fishery harvest, set based on information from the stock assessment, considerations about scientific and management uncertainty, allocations between the commercial and recreational sectors, and assumptions about dead discards.

Recruitment: The number of fish born within a given time period that survive to a certain stage (e.g., age 1).