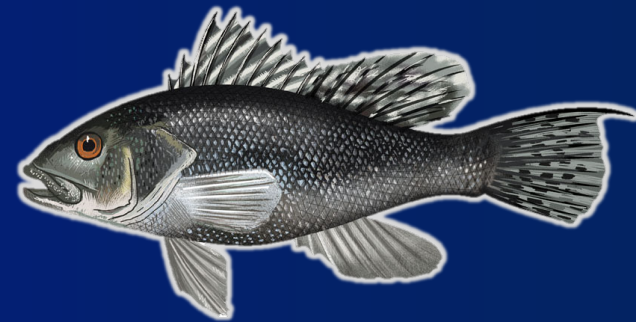# Black Sea Bass 2023 Recreational Measures

Council and Board

December 13, 2022

Timeline

- **Oct. 20:** Letter from GARFO on AMs evaluation
- **Nov. 15**: Monitoring Committee meeting
- **Nov. 30**: Advisory Panel meeting
- **Dec. 6:** Council received updated outputs from Recreational Demand Model (RDM)
- **Dec. 8:** Letter from GARFO on recreational models

Meeting Objectives

- Review recreational fishery performance
- Review Monitoring Committee recommendations
- Review Advisory Panel input
- Identify appropriate model to use for setting 2023 measures and resulting percent change needed under Percent Change Approach
- Adopt either:
  - Coastwide measures (bag, size, season)
  - Conservation equivalency, with non-preferred coastwide and precautionary default measures
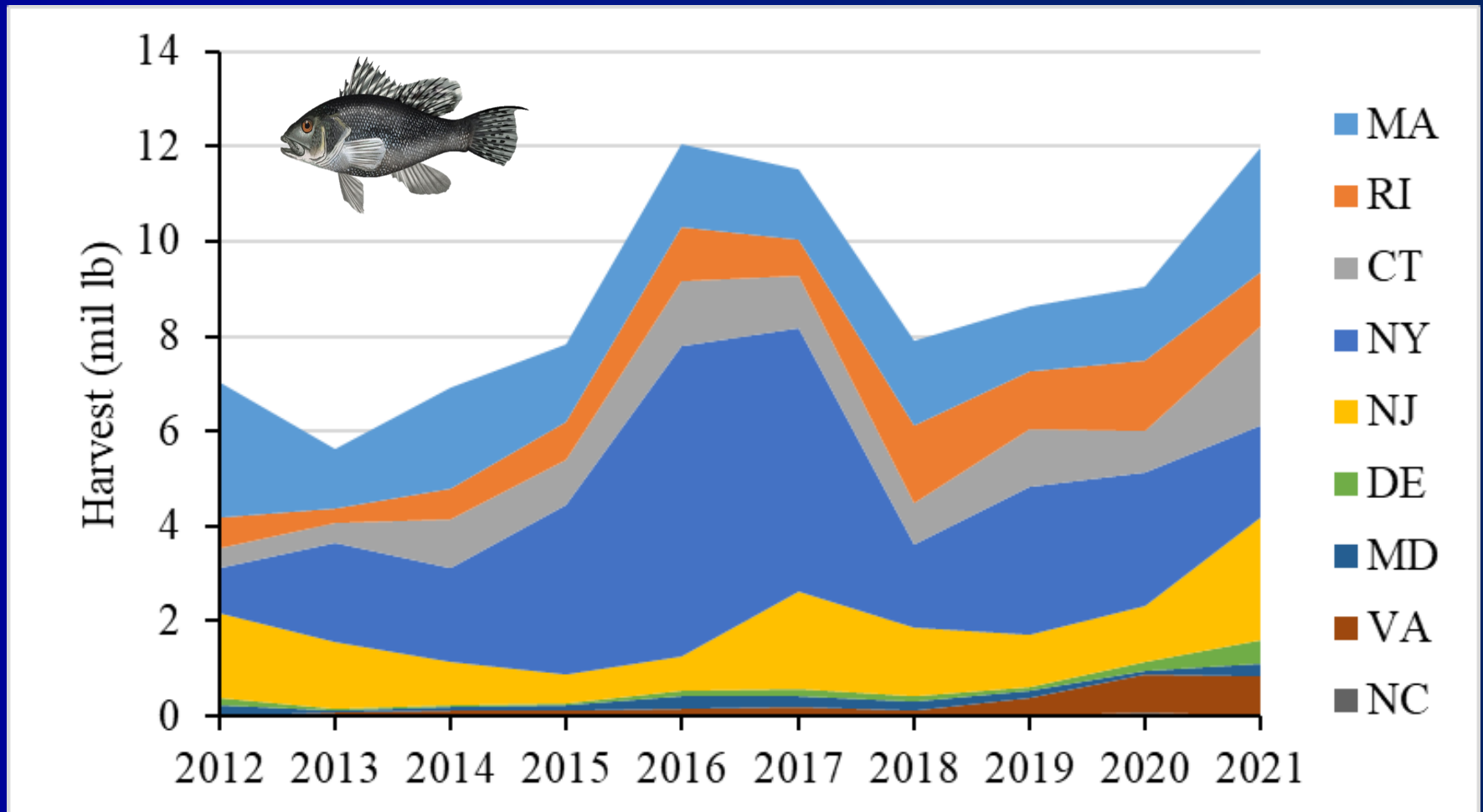- Board consideration of VA proposal for Feb fishery

2022 State Measures

State	Min. Size	Bag Limit	Open Season
ME	13"	10 fish	May 19-Sept 21; Oct 18-Dec 31
NH	13"	10 fish	Jan 1 - Dec 31
MA	16"	4 fish	May 21- Sept 4
RI private & shore	16"	2 fish	May 22-Aug 31
		3 fish	Sept 1-Dec 31
RI for-hire		2 fish	June 18-August 31
		6 fish	September 1-December 31
CT private & shore	16"	5 fish	May 19-December 1
CT authorized party/charter monitoring program vessels		5 fish	May 19-August 31
		7 fish	September 1-December 31
NY	16"	3 fish	June 23-August 31
		6 fish	September 1-December 31
NJ	13"	10 fish	May 17-June 19
		2 fish	July 1-August 31
		10 fish	October 7-October 26
		15 fish	November 1-December 31
DE – NC (north of Hatteras)	13"	15 fish	May 15-December 11

2022 Conservation Equivalency

- Non-preferred coastwide measures
  - Implemented in federal regulations, but waived in favor of state regulations
  - 14-inches, 5 fish, May 15 - Oct 8
- Precautionary default
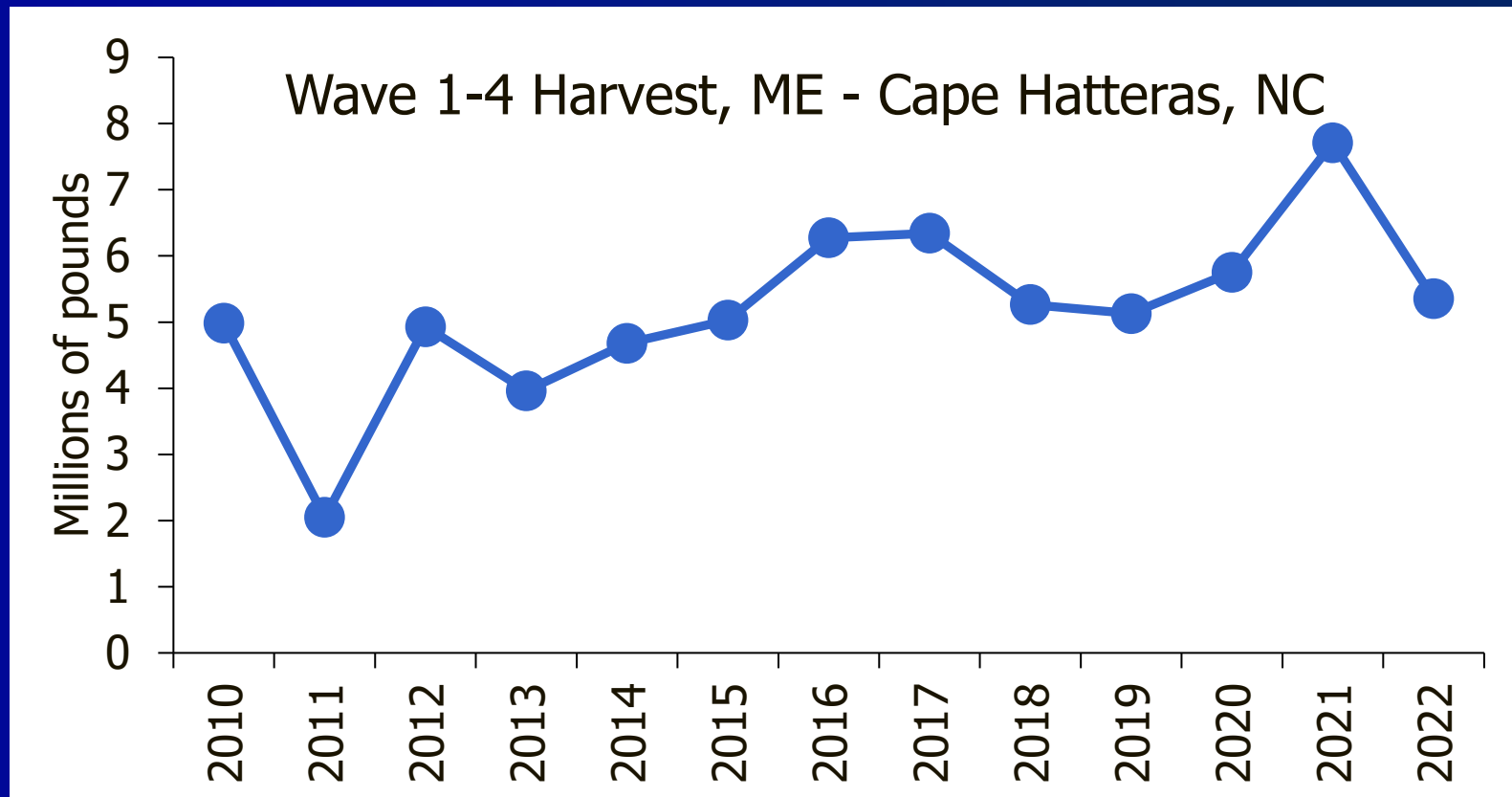 - "Deterrent" measures
  - 16-inch TL, 3 fish, June 24 – Dec 31

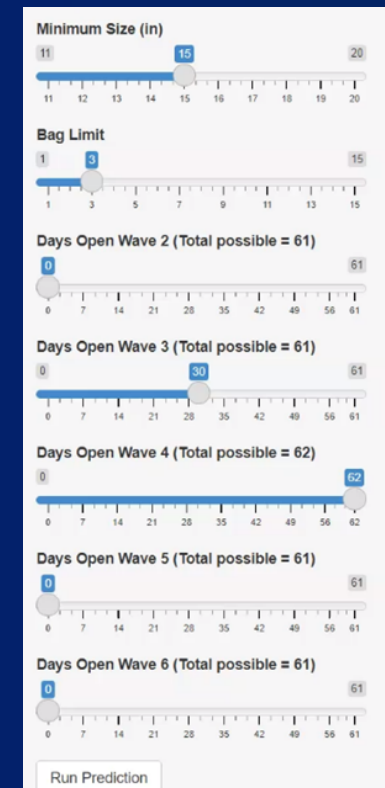# Rec. Harvest by State, 2012-2021

Preliminary 2022 Wave 1-4

- 5.36 mil lb
- 31% lower than 2021 wave 1-4
- Within 1% of 2018-2020 avg wave 1-4

Wave 1-4 Harvest, ME - Cape Hatteras, NC

Column 1 **2023 RHL vs expected harvest under 2022 measures**	Column 2 **Biomass compared to target level** (SSB/SSB_{MSY})	Column 3 **Change in Harvest**
RHL greater than upper bound of expected harvest CI (RHL underage expected)	**Very high** greater than 150% of target	**Liberalization** % = difference between harvest estimate and 2023 RHL, **not to exceed 40%**
	High at least target, but no higher than 150% of target	**Liberalization** % = difference between harvest estimate and 2023 RHL, **not to exceed 20%**
	Low below target stock size	**Liberalization: 10%**
RHL within expected harvest CI (harvest expected to be close to RHL)	**Very high** greater than 150% of target	**Liberalization: 10%**
	High at least target, but no higher than 150% of target	**No liberalization or reduction**: 0%
	Low below target stock size	**Reduction: 10%**
RHL less than lower bound of expected harvest CI (RHL overage expected)	**Very high** greater than 150% of target	**Reduction: 10%**
	High at least target, but no higher than 150% of target	**Reduction** % = difference between harvest estimate and 2023 RHL, **not to exceed 20%**
	Low below target stock size	**Reduction** % = difference between harvest estimate and 2023 RHL, **not to exceed 40%**

New Tools for Predicting Harvest

- Recreation Demand Model (RDM).

- Recreational Fleet Dynamics Model (RFDM).

- Both are an improvement over past methods.

- Neither are required under the Percent Change Approach.

- **MC recommends use of RFDM for setting 2023 black sea bass rec. measures**

  - Similar predictions of 2023 harvest as RDM

  - Predicted past MRIP estimates reasonably well

  - Can easily be used by MC/TC

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Confidence Interval Recommendation

- MC recommends use of **80% CI** for all 3 species in 2023

  - Recommended by Harvest Control Rule FMAT/PDT based on evaluation of MRIP data

  - Higher percentage CIs result in wider range of values; may result in action under Percent Change Approach that is not appropriate for "true" fishery condition

- MC supported continued discussion of this topic in 2023 for setting measures for 2024 and beyond.

2023 Harvest Under 2022 Measures

- Required for first step under Percent Change Approach.
- Under MC's recommendation to use Rec. Fleet Dynamics Model:
  - Predicted 2023 harvest under 2022 measures = 11.96 mil. lb*
  - 80% CI around that estimate = 8.17 to 16.81 mil lb*

    *Converted from numbers of fish to weight using avg. weight of harvested fish in 2021 (most recent year for model run shown here).
- 2023 RHL of 6.74 mil lb is below the CI.
  - I.e., harvest very likely to exceed 2023 RHL if measures left unchanged.

Resulting Percent Change for 2023

- 10% reduction in harvest needed.
- Applied to estimate of 2023 harvest under 2022 measures.
- Under MC recommendation using RFDM: 11.96 mil lb − 10% = 10.78 mil lb harvest target for 2023.

2023 RHL vs expected harvest under 2022 measures	Biomass compared to target level	Change in Harvest
RHL greater than upper bound of CI (RHL underage expected)	Very high	Liberalization % = difference between harvest estimate and 2023 RHL, not to exceed 40%
	High	Liberalization % = difference between harvest estimate and 2023 RHL, not to exceed 20%
	Low	Liberalization: 10%
RHL within CI (harvest expected to be close to RHL)	Very high	Liberalization: 10%
	High	No liberalization or reduction: 0%
	Low	Reduction: 10%
RHL less than lower bound of expected harvest CI (RHL overage expected)	**Very high**	**Reduction: 10%**
	High	Reduction % = difference between harvest estimate and 2023 RHL, not to exceed 20%
	Low	Reduction % = difference between harvest estimate and 2023 RHL, not to exceed 40%

Accountability Measures

If biomass is above the target: Adjustments to measures will be made, taking into account the performance of the measures and conditions that precipitated the overage.

Year	Rec. ACL	Rec. harvest	Rec. dead discards	Rec. dead catch	% Over (+) or Under (-) ACL
2019 old MRIP	4.59	3.46[a]	0.50[a]	3.96[a]	-14%
2020 new MRIP	8.09	9.05	3.46[b]	12.50	+55%
2021 new MRIP	7.93	11.97	4.20[b]	16.16	+104%
2019-2021 avg	**6.87**	**8.16**	**2.72**	**10.87**	**+58%**

[a] Provided to GARFO by the NEFSC.
[b] Provided by GARFO based on alternative methods due to lack of discard data in weight using typical methods.

Accountability Measures

- GARFO letter to Council: Due to recent actions taken by Council/Commission, no additional action needed beyond changes required by Percent Change Approach.

- MC recommends no additional restrictions beyond 10% reduction required under Percent Change Approach.

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MC Recommendation for Measures

- Continued use of conservation equivalency for 2023 to waive federal waters measures.

- Current non-preferred coastwide measures are too liberal (14 inches, 5 fish, May 15 – Oct 15).

- MC recommendation finalized via email after meeting: **15", 5 fish, June 10 – September 10th**

- Non-preferred coastwide measures are intended to be waived in favor of state measures; not intended to be implemented.

Precautionary Default Measures

- MC recommends 16", 2 fish, June 1 – August 31.

- Current precautionary default measures (16", 3 fish, June 24 – Dec 31) may be too liberal considering current measures in each state and need to restrict harvest by 10% in 2023.

- Precautionary default measures only used for states/regions that do not follow ASFMC conservation equivalency guidelines.

Advisor Feedback

Comments on High Availability

- 6 advisors and 1 member of the public strongly opposed restrictions given high availability
- 2 questioned why status quo considered for scup but not BSB
- Rec. fishery is exceeding limits because of high availability: catch cannot be effectively constrained
  - Hard to avoid; nuisance species; no trouble catching full bag limit; constantly discarding BSB they can't keep

Advisor Feedback

Impacts of Restrictions on For-Hire Vessels

- 5 advisors concerned about negative impacts of further restrictions on for-hire vessels

- Putting boats out of business

- MRIP data indicates 2022 restrictions did not achieve full intended reduction; seemed to more negatively impact for-hire sector vs. private rec.

Advisor Feedback

Data Concerns

- Concern with how uncertainty impacts results under Percent Change Approach

- 3 concerned about accuracy of data from private rec. anglers, vs. for-hire vessels which have mandatory reporting

- Management constantly behind what's happening on the water

- Confusing that model results suggest restrictions taken in 2022 don't achieve intended reduction; also confusing switch between numbers and weight

- Assessment may not be accurately capturing increasing recruitment (stock not adequately sampled)

Advisor Feedback

Changes to Management Approach

- Several felt overall approach was not working and recommended various changes

  - One advisor noted the need to start from scratch

- One advisor recommended bringing outside experts to review process, selected by fishermen

- Three advisors supportive of total length limit with no discards for the for-hire sector

- One advisor recommended spreading reductions over multiple years

Advisor Feedback

Changes to Management Approach

- One noted management (including Percent Change Approach) not appropriately considering stock dynamics
- One noted percent reduction under old method would be larger than under the Percent Change Approach
  - HCR intended to provide stability in measures
  - Outcome for scup and black sea bass indicates Percent Change Approach isn't considering the right starting point – should be further considered during HCR re-do
- Need for management to consider black sea bass biomass negatively impacting other species

Advisor Feedback

Other Comments

- One advisor wanted to recommend current size limit and extending the open season into January
  - Frustrated to learn further restrictions needed
- One advisor expressed need for greater private recreational accountability to avoid negative impact to for-hire
- Due to black sea bass biology, removing larger fish does not result in same negative impacts as other species
- Frustration that status quo for scup was recommended and not for black sea bass

Updated RDM Results: 12/6

Model	Estimated 2023 Harvest Under 2022 Measures	80% CI	2023 RHL	Stock Size	Percent Change Approach Requirement
RDM: Previous (Nov 10)	11.05	10.00 - 11.96			10% reduction
RDM: Current (Dec 6)	7.93	7.17 - 8.63	6.74	Very High	10% reduction
RFDM MC recommendation	11.96	8.17 - 16.81			10% reduction

- Updated results don't change the required percent change but do change harvest target.

Non-Preferred Coastwide Measures: RDM Outputs

- New model outputs
- Not reviewed by MC

NP Coastwide Measures	Median Estimate	% of revised target (7.14 mil lb under RDM)
A. Status quo (14 in, 5 fish, May 15-Oct 8)	9.35	131%
B. 15 in, 5 fish, May 15-Sept. 15	7.57	106%
C. 15 in, 5 fish, June 10-Sept 10	5.86	82%
D. 15 in, 5 fish, May 15-Sept 8*	**7.13**	**99.9%**

*Calculated by adjusting from outputs by 2-week period from model run B

Virginia's Proposal for a Wave 1 February Black Sea Bass Fishery

Summer Flounder, Scup, and
Black Sea Bass Board

December 13, 2022

Virginia 2023 BSB February Fishery

- Virginia proposes opening their recreational black sea bass fishery for February 1-28, 2023. They will:
  - Use 2022 measures: 13" minimum size limit and 15 fish bag limit
  - Use same process for monitoring landings as in previous years, with mandatory reporting of landings and biological data collection
  - Make adjustments through the recreational specs process to account for the additional landings in February

- MC, TC, and AP had no concerns with this proposal

Questions?

Move to approve Virginia's proposal for a Wave 1 black sea bass recreational fishery for February 1-28, 2023, with a 13 inch minimum size limit and 15 fish bag limit

Backup Slides

Revisions to Com/Rec Allocations

Allocation Changes		
Species	**Previous Allocations**	**Revised Allocations**
Summer flounder*	60% Com; 40% Rec *Landings-based*	55% Com; 45% Rec *Catch-based*
Scup	78% Com; 22% Rec *Catch-based*	65% Com; 35% Rec *Catch-based*
Black sea bass*	49% Com; 51% Rec *Landings-based*	45% Com; 55% Rec *Catch-based*

*Previous and revised allocations are not directly comparable due to the switch from landings-based to catch-based allocations.

Impacts on 2023 RHL		
Species	**2023 RHL prior to revised com/rec allocation**	**Revised 2023 RHL accounting for new com/rec allocation**
Summer flounder	10.36	**10.62** (+2.5%)
Scup	5.41	**9.27** (+71%)
Black sea bass	5.95	**6.57** (+10%)

Changes to Process Since Setting Last Year's Rec. Measures

- **Revisions to com/rec allocations**
  - Increased the 2023 RHLs compared to what would have been implemented under the previous allocations
- **Improved tools are available for analyzing impacts of measures on harvest and discards**
  - RDM and RFDM, both available for all 3 species
  - Not required, but recommended for use by staff and MC
- **Percent Change Approach**
  - Approved through Harvest Control Rule FW/addenda for setting rec. measures starting with 2023
  - Defines target level of coastwide harvest measures will aim to achieve
  - Target is no longer the RHL

Percent Change Approach vs. Targeting 2023 RHL

Species	Model	Estimated 2023 Harvest Under 2022 Measures	80% Confidence Interval	2023 RHL	Stock Size Category	Percent Change Approach Requirement	Change Necessary to Meet RHL (Old Method)
Summer Flounder	RDM: Previous (Nov 10)	8.38	7.56-9.52	10.62	Low	10% liberalization	27% liberalization
	RDM: Current (Dec 6)	10.92	9.23-12.94			10% reduction	3% reduction
	RFDM: Current (Nov 15)	12.77 (with NJ adjustment: 10.45 or 10.18)	7.01-22.26			10% reduction	17% reduction
Scup	RDM: Previous (Nov 10)	17.21	13.56-22.68	9.27	Very High	10% reduction	46% reduction
	RDM: Current (Dec 6)	14.31	9.90-17.40			10% reduction	35% reduction
	RFDM: Current (Nov 15)	14.42*	8.95-23.08*			10% liberalization	36% reduction
Black Sea Bass	RDM: Previous (Nov 10)	11.05	10.00-11.96	6.74	Very High	10% reduction	39% reduction
	RDM: Current (Dec 6)	7.93	7.17-8.63			10% reduction	15% reduction
	RFDM: Current (Nov 15)	11.96 *	8.17-16.81*			10% reduction	44% reduction

Converted to pounds based on average weight of harvest in 2021 from MRIP data

MC Recommendations Summary

- Monitoring Committee recommendations:
  - Use Rec. Fleet Dynamics Model for setting 2023 measures.
  - Under Percent Change Approach, must reduce expected coastwide harvest by 10%.
  - Use conservation equivalency to waive federal waters measures in favor of state waters measures.
    - Non-preferred coastwide measures: 15", 5 fish, June 10 – September 10th
    - Recommended precautionary default measures: 16", 2 fish, June 1 – August 31.

Rec. Accountability Measures

1. **If the stock is overfished, under a rebuilding plan, or stock status is unknown:** Exact overage amount must be paid back as soon as possible. Payback may be evenly spread over 2 years if doing so allows for identical measures for the upcoming 2 years.

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:** Adjust bag/size/season, taking into account performance of the measures and conditions that precipitated the overage.
   – **If most recent F exceeds Fmsy:** adjustment to the rec. ACT will be made as soon as possible as a payback that will be scaled based on stock biomass where payback = *(overage amount) * (Bmsy−B)/½ Bmsy.* Payback may be evenly spread over 2 years if doing so allows for identical measures for the upcoming 2 years. If F/Fmsy not available for most recent year of catch data, catch vs ABC comparison will be used.

3. **If biomass is above the target:** Adjustments to measures will be made, taking into account the performance of the measures and conditions that precipitated the overage.

Year	Rec. harvest		RHL	RHL overage/ underage[b]	Rec. dead discards		Rec. dead catch		ACL	ACL overage/ underage[b]
	Old MRIP units	New MRIP units			Old MRIP units[a]	New MRIP units[c]	Old MRIP units	New MRIP units		
2012	3.26	7.04	1.32	+147%	0.80	2.31	4.07	9.35	1.86	+119%
2013	2.64	5.69	2.26	+17%	0.65	1.65	3.29	7.34	2.9	+13%
2014	3.85	7.24	2.26	+70%	0.84	1.85	4.69	9.09	2.9	+62%
2015	4.11	9.06	2.33	+76%	0.82	2.17	4.93	11.23	2.9	+70%
2016	5.19	12.05	2.82	+84%	1.21	3.07	6.40	15.12	3.52	+82%
2017	4.50	11.50	4.29	+5%	1.27	3.60	5.77	15.10	5.38	+7%
2018	3.82	7.92	3.66	+4%	1.1	2.28	4.92	10.20	4.59	+7%
2019	3.46	8.61	3.66	-5%	0.5	3.24	3.96	11.85	4.59	-14%
2020	NA	9.05	5.81	+56%	NA	3.46	NA	12.51	8.09	+55%
2021	NA	11.97	6.34	+89%	NA	4.20	NA	16.17	7.93	+104%

[a] Based on the data update provided by the NEFSC in 2018 (most recent data from NEFSC in "old" MRIP units). Values for 2018 and 2019 were provided by GARFO.
[b] Based on a comparison with old MRIP data through 2019 and new MRIP data starting in 2020.
[c] Values through 2019 are from the 2021 management track stock assessment. Values for 2020-2021 were provided by GARFO.
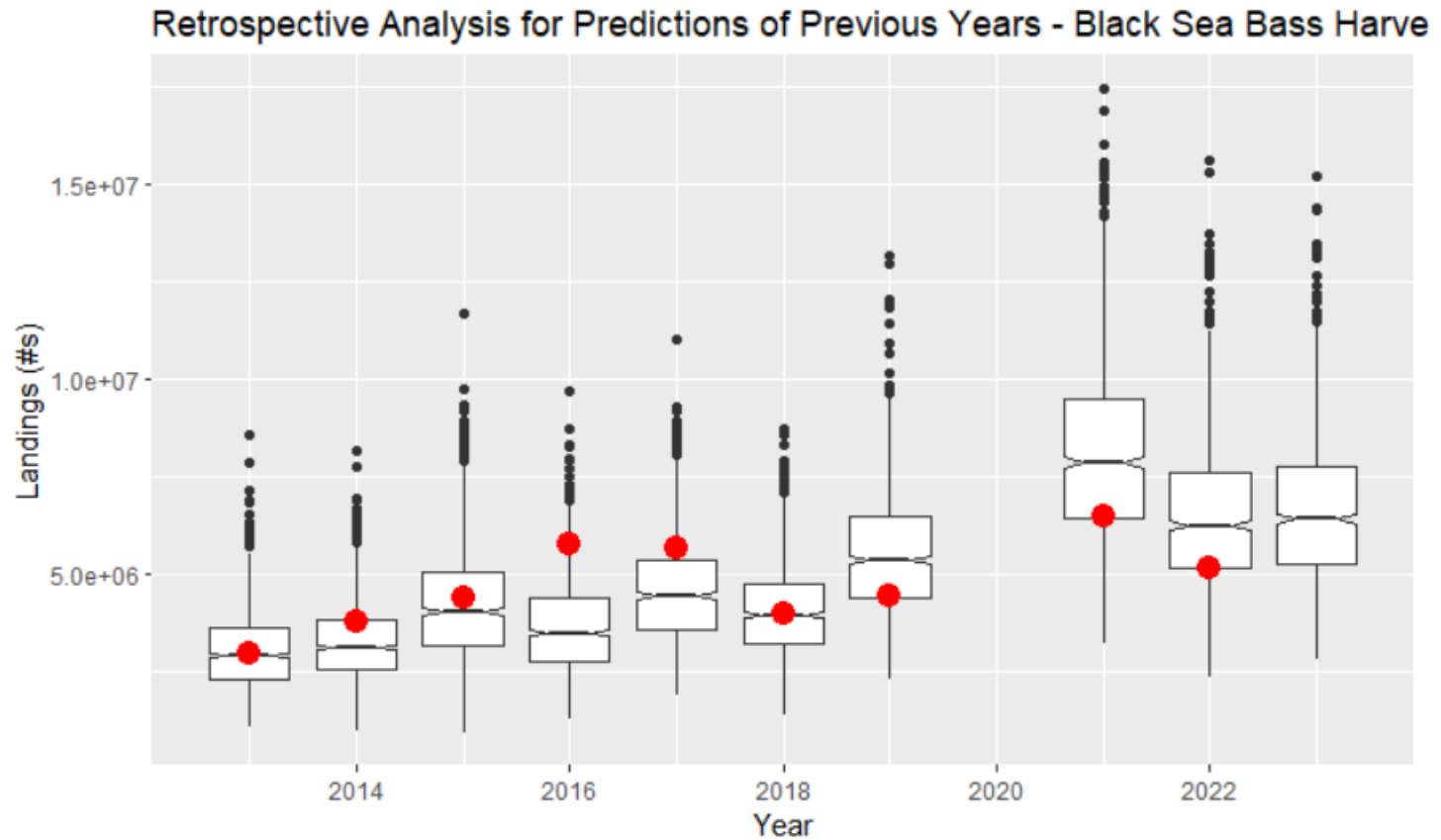
Average proportion of black sea bass recreational harvest in weight from federal and state waters, 2019-2021.

State	Federal waters	State waters
MA	6%	94%
RI	27%	73%
CT	21%	79%
NY	41%	59%
NJ	68%	32%
DE	96%	4%
MD	99%	1%
VA	88%	12%
NC	83%	17%

Proportion of recreational black sea bass harvest in weight by wave within each state in 2021. North Carolina is the only state in the management unit which conducts MRIP sampling during wave 1 (Jan/Feb).

State	Wave 1 Jan/Feb	Wave 2 Mar/Apr	Wave 3 May/Jun	Wave 4 Jul/Aug	Wave 5 Sept/Oct	Wave 6 Nov/Dec
MA	0%	0%	89%	8%	3%	0%
RI	0%	0%	2%	46%	40%	12%
CT	0%	0%	35%	14%	50%	2%
NY	0%	0%	13%	29%	31%	27%
NJ	0%	0%	58%	13%	14%	15%
DE	0%	0%	19%	18%	15%	48%
MD	0%	0%	54%	13%	25%	9%
VA	0%	0%	52%	17%	10%	22%
NC	3%	10%	34%	30%	16%	6%
ME-NC	0%	0%	46%	18%	23%	13%

RFDM – Retrospective Analysis

Retrospective Analysis for Predictions of Previous Years - Black Sea Bass Harve

RFDM – Out of sample predictions

Out of sample predictions: Black Sea Bass Harvest