

# Scup 2023 Recreational Measures

Council and Board  
December 13, 2022



# Timeline of Recent Developments

- **Oct. 20:** Letter from GARFO on AMs evaluation
- **Oct. 26:** First Monitoring Committee meeting
- **Nov. 15:** Second 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



# Objectives

- Recent 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 federal waters measures



# 2022 Federal Recreational Measures

Possession  
limit

- 50 scup

Size limit

- 10 inches total length

Updated  
in 2022

Season

- January 1-December 31

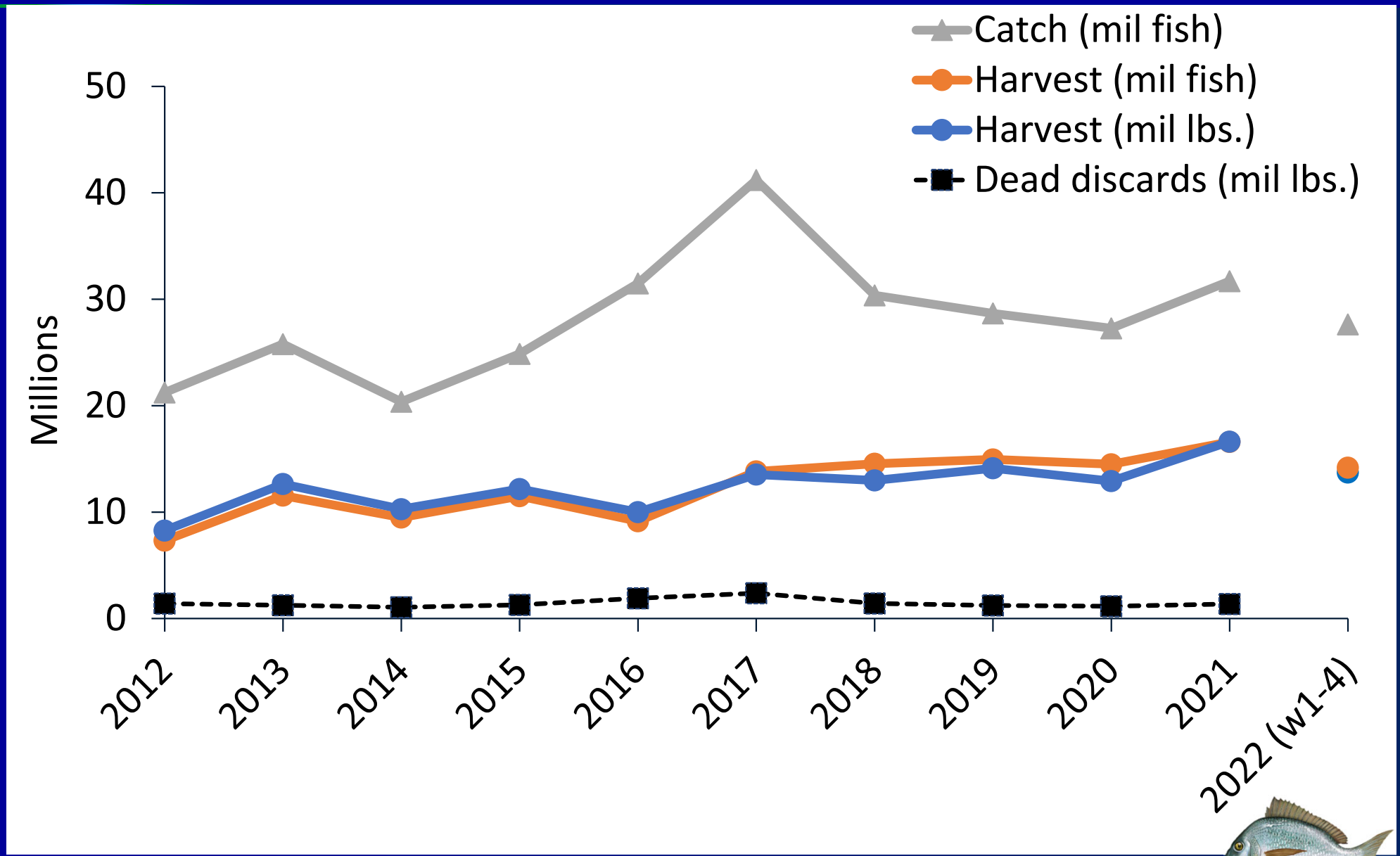


# 2022 State Recreational Measures

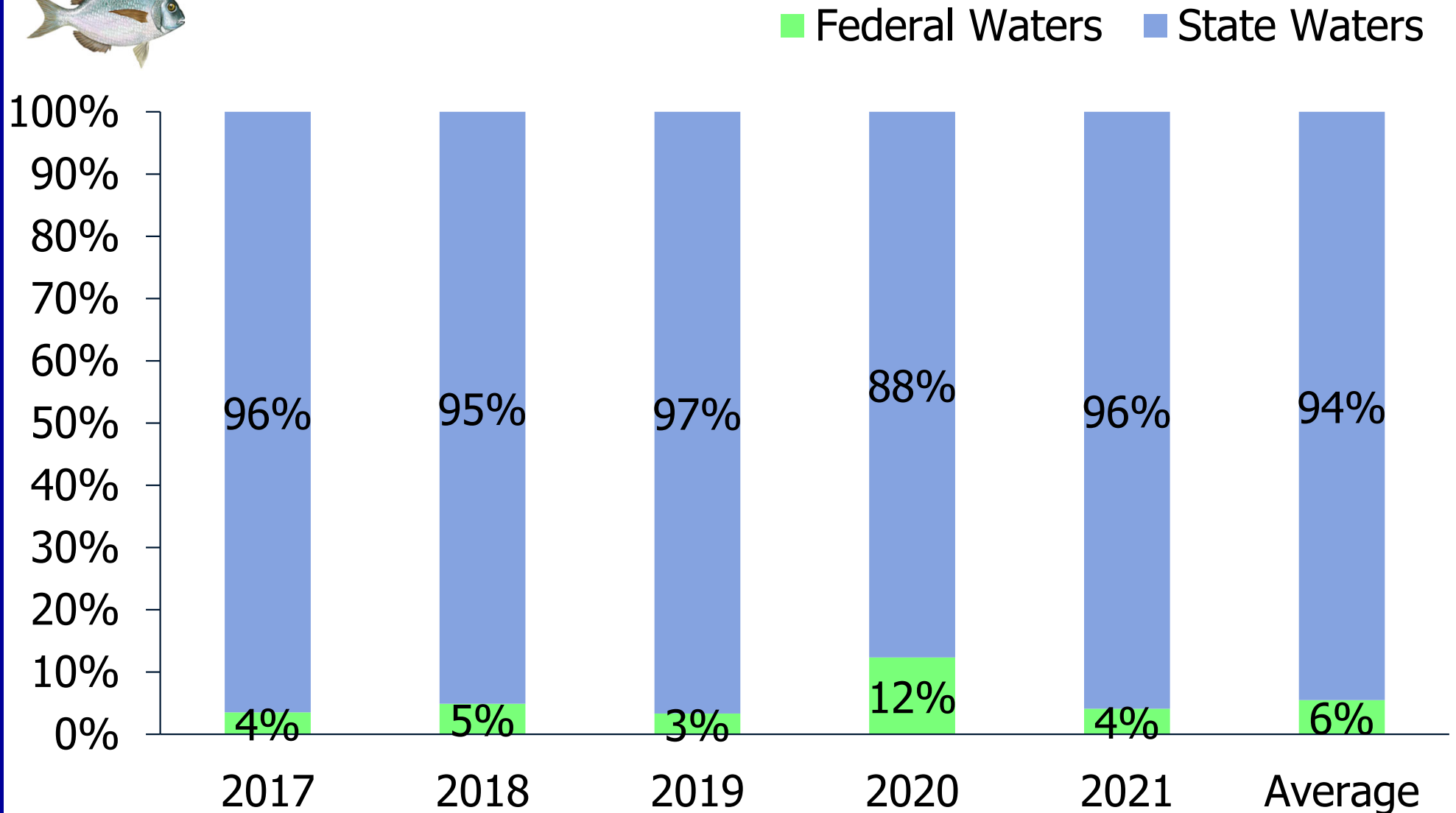
| State  | Min. Size (inches) | Possession Limit                         | Open Season                        |
|--|--------------------|--|------------------------------------|
| <b>MA (private &amp; shore)</b>                        | 10                 | 30 fish;<br>150 fish/vessel w/5+ anglers | Jan. 1-Dec. 31                     |
| <b>MA (party/charter)</b>                              | 10                 | 30 fish                                  | Jan. 1-April 30;<br>July 1-Dec. 31 |
|  |                    | 50 fish                                  | May 1-June 30                      |
| <b>RI (private &amp; shore)</b>                        | 10                 | 30 fish                                  | Jan. 1-Dec. 31                     |
| <b>RI shore program<br/>(7 designated shore sites)</b> | 9                  |  |                                    |
| <b>RI (party/charter)</b>                              | 10                 | 30 fish                                  | Jan. 1-Aug. 31;<br>Nov. 1-Dec. 31  |
|  |                    | 50 fish                                  | Sept. 1-Oct. 31                    |
| <b>CT (private &amp; shore)</b>                        | 10                 | 30 fish                                  | Jan. 1-Dec. 31                     |
| <b>CT shore program<br/>(45 designed shore sites)</b>  | 9                  |  |                                    |
| <b>CT (party/charter)</b>                              | 10                 | 30 fish                                  | Jan. 1-Aug. 31;<br>Nov. 1-Dec. 31  |
|  |                    | 50 fish                                  | Sept. 1-Oct. 31                    |
| <b>NY (private &amp; shore)</b>                        | 10                 | 30 fish                                  | Jan. 1-Dec. 31                     |
| <b>NY (party/charter)</b>                              | 10                 | 30 fish                                  | Jan. 1-Aug. 31;<br>Nov. 1-Dec. 31  |
|  |                    | 50 fish                                  | Sept. 1- Oct. 31                   |
| <b>NJ</b>  | 10                 | 50 fish                                  | Jan. 1- Dec. 31                    |
| <b>DE</b>  | 9                  | 50 fish                                  | Jan. 1- Dec. 31                    |
| <b>MD</b>  | 9                  | 50 fish                                  | Jan. 1- Dec. 31                    |
| <b>VA</b>  | 9                  | 30 fish                                  | Jan. 1- Dec. 31                    |
| <b>5 NC (North of Cape Hatteras)</b>                   | 9                  | 50 fish                                  | Jan. 1- Dec. 31                    |

# Recreational Catch and Landing Trends

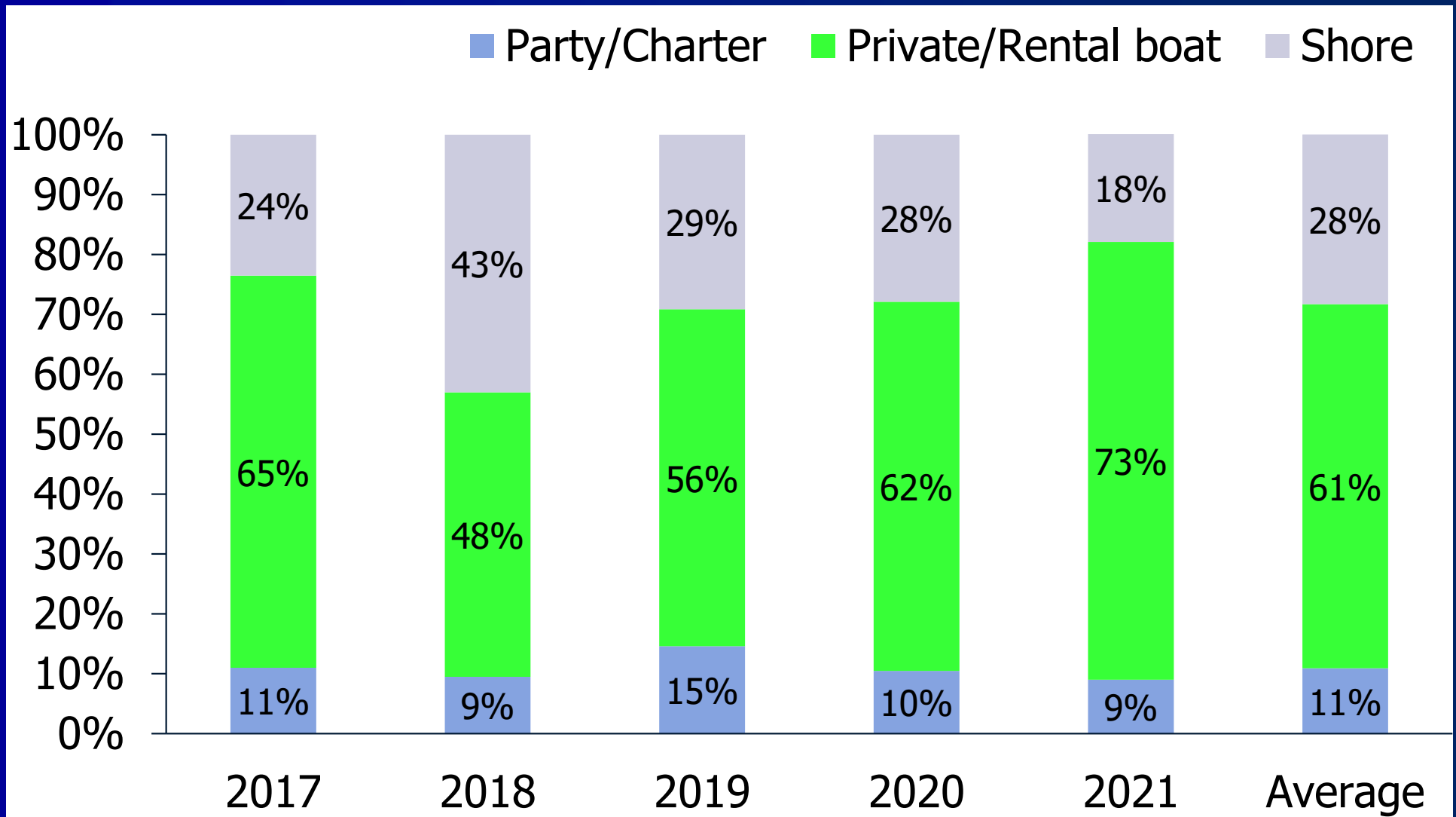
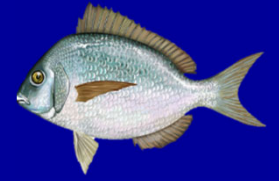
With 2022 Waves 1-4



# Harvest in Federal and State Waters



# Harvest By Mode





# Harvest By State



| State | 2017       | 2018       | 2019       | 2020       | 2021       | 2022<br>(w1-4) |
|-------|------------|------------|------------|------------|------------|----------------|
| ME    | 0          | 0          | 0          | 0          | 0          | 0              |
| NH    | 2,156      | 0          | 0          | 0          | 0          | 0              |
| MA    | 2,363,922  | 3,021,958  | 1,924,202  | 1,174,791  | 3,763,515  | 1,994,630      |
| RI    | 1,113,035  | 2,030,259  | 2,856,461  | 1,330,398  | 2,467,933  | 2,362,071      |
| CT    | 1,712,421  | 2,574,308  | 2,242,549  | 2,951,959  | 2,856,535  | 1,162,622      |
| NY    | 6,626,059  | 4,906,041  | 6,970,872  | 6,253,478  | 7,177,771  | 8,150,145      |
| NJ    | 1,708,354  | 443,700    | 118,832    | 1,200,942  | 194,090    | 47,087         |
| DE    | 118        | 362        | 0          | 316        | 1,179      | 0              |
| MD    | 6          | 369        | 444        | 578        | 331        | 0              |
| VA    | 0          | 0          | 229        | 0          | 157,455    | 0              |
| NC    | 508        | 420        | 2,637      | 1,346      | 2,831      | 1,302          |
| Total | 13,526,579 | 12,977,417 | 14,116,226 | 12,913,808 | 16,621,640 | 13,717,857     |

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

# 2023 RHL vs. Expected Harvest under 2022 Measures

## Step 1:

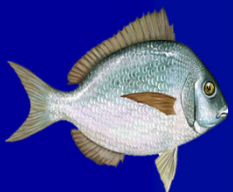
- Compare 2023 RHL to confidence interval around expected 2023 harvest under current (2022) measures

*Column 1*  
**2023 RHL vs  
expected harvest  
under 2022 measures**

**RHL greater than  
upper bound of  
expected harvest CI**  
(RHL underage  
expected)

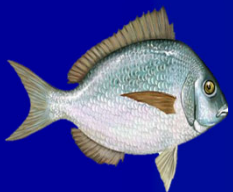
**RHL within expected  
harvest CI**  
(harvest expected to be  
close to RHL)

**RHL less than lower  
bound of expected  
harvest CI**  
(RHL overage expected)




# MC Recommended Approach to Estimate Harvest under 2022 Measures

- MC recommends using the **RFDM** to estimate 2023 harvest under 2022 measures and adjusting measures
  - Predicted past MRIP estimates reasonably well
  - Capable of considering recreational mode
  - Can easily be used by MC/TC



# 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.

*Column 1*   
**2023 RHL vs  
expected harvest  
under 2022 measures**

**RHL greater than  
upper bound of  
expected harvest CI**  
(RHL underage  
expected)

**RHL within expected  
harvest CI**  
(harvest expected to be  
close to RHL)

**RHL less than lower  
bound of expected  
harvest CI**  
(RHL overage expected)

# MC Recommendation - 2023 Harvest Under 2022 Measures



| Model                             | Model estimate for 2023 harvest (median) | 80% CI        | 2023 RHL |
|-----------------------------------|--|---------------|----------|
| <b>RDM</b><br><i>(as of 11/8)</i> | 17.21                                    | 13.56 – 22.68 | 9.27     |
| <b>RDM</b><br><i>(as of 12/6)</i> | 14.31                                    | 9.90 – 17.40  |          |
| <b>RFDM*</b>                      | 14.42                                    | 8.95 – 23.08  |          |

*\*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:
  - Outside of the 80% CI for **RDM**
  - Within lower bounds of 80% CI for **RFDM**
- MC did not reach consensus, but majority recommend using **RFDM** for 2023 process

# Resulting Percent Change for 2023 using RFDM



| 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%      |

# Rec. Accountability Measures

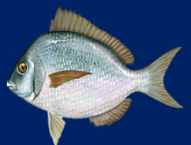
**3. If biomass is above the target:** Adjustments to measures will be made, taking into account the performance of the measures and conditions that precipitated the overage

| Year           | Rec. Harvest (mil lbs.) | Rec. Dead Discards (mil lbs.) | Total Dead Rec. Catch (mil lbs.) | Rec. ACL (mil lbs.) | % Over/Under ACL |
|----------------|-------------------------|-------------------------------|----------------------------------|---------------------|------------------|
| 2019           | 5.41                    | 0.41                          | 5.82                             | 8.01                | -27%             |
| 2020           | 12.91                   | 1.15                          | 14.06                            | 7.87                | +79%             |
| 2021           | 16.62                   | 1.36                          | 17.98                            | 7.66                | +135%            |
| <b>Average</b> | <b>11.65</b>            | <b>0.97</b>                   | <b>12.62</b>                     | <b>7.85</b>         | <b>+61%</b>      |

*2019 data based on Old MRIP estimates (provided by GARFO)*

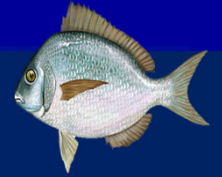
*2020 recreational estimates were developed using imputation methods*

*2020 and 2021 dead discards for 2020-2021 calculated using alternative methods.*



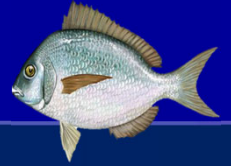


# Rec. Accountability Measures continued



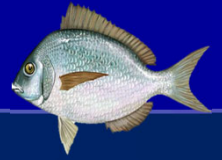
- AMs triggered for scup
  - Scup biomass greater than target, therefore, regulations require adjustments to measures
  - Regulations do not specify how
  - GARFO letter to the Council: Due to recent actions taken by Council/Commission, no additional action needed beyond changes required by Percent Change Approach
- **MC recommend status quo measures in place of 10% liberalization**

# MC Discussion for 2023 Recreational Measures RDM



- Unclear if status quo would satisfy triggered AM
- The MC initially considered identifying the RDM as preferred model
- Therefore, the MC did discuss preferred action under the resulting percent change required using the RDM
- However, MC ultimately recommend use of RFDM and status quo

# Resulting Percent Change for 2023 using RDM



- 10% reduction in harvest needed
- Applied to estimate of 2023 harvest under 2022 measures
- Under RDM: 14.31 mil lbs. – 10% = **12.88 mil lbs. harvest target for 2023**

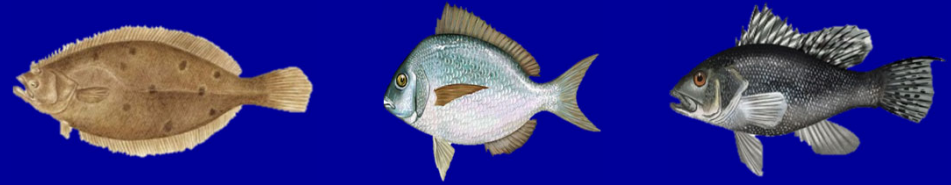
| 2023 RHL vs expected harvest under 2022 measures                        | Biomass compared to target level | Change in Harvest  |
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|   | Low                              | Reduction % = difference between harvest estimate and 2023 RHL, not to exceed 40%      |

# RDM Analysis of Additional Measures

| Set of measures analyzed  | Est. harvest under analyzed set of measures (mil lbs.) | Percent reduction achieved | Est. harvest under 2022 measures (mil lbs.) |
|---|--|----------------------------|---|
| <b>15 fish possession limit</b> , status quo size limits and seasons            | 13.79  | 4%                         | 14.31                                       |
| <b>1-inch increase to size limit</b> , status quo possession limits and seasons | 10.49  | 27%                        |   |

- MC agreed given 2022 changes and challenges with setting a coastwide season, adjustments to possession limit would be appropriate
- Concerns about large possession limit decrease negatively impacting for-hire fleets
- **MC preferred option:**
  - 15 fish possession limit with additional adjustments to state waters measures through Commission process to achieve full 10% reduction

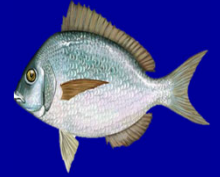
# AP Feedback



## *General comments on all 3 species*

- One advisor expressed interest in using other RDM outputs to inform measures in future years
- One advisor appreciated having two models in beginning years, but expressed concern about divided efforts to maintain both models in the future
- One advisor noted challenges following this year's process given the substantial changes made
- An advisor noted the RDM is similar to the model the NEFMC uses for cod and haddock
- One advisor noted concerns about MRIP and that MRIP is still a main component of models

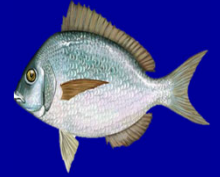
# AP Feedback



## *Comments on MC recommendation*

- Several generally frustrated with MC recommendations for status quo in place of liberalization
- Four questioned point of going through process and provided feedback
  - No point if no one is going to consider it
  - Seems like the MC is continuing to operate under an ad hoc approach rather than fully utilizing Percent Change Approach
- One advisor concerned about the differing model results and resulting percent change required

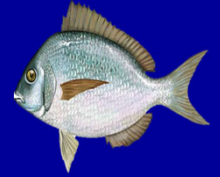
# AP Feedback



## *Comments on MC recommendation*

- Three advisors in favor of 10% liberalization
  - Two recommended decreasing the minimum size limit by 1 inch in state and federal waters
- Three advisors in favor of MC recommendation
  - Agreed it was appropriate due to scup biomass, restrictions put in place last year, and continued expected RHL overages
- One advisor expressed statue quo was appropriate due to one model requiring liberalization and other reduction
  - Median harvest estimate similar for both models

# Advisor Feedback

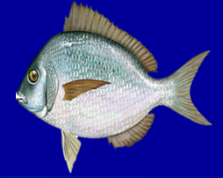


## *Other Comments*

- One advisor expressed disbelief in discard estimates and questioned why regulations that allow for dead discards are put in place
  - Recommended a total length limit with mandatory retention of all fish up to that cumulative limit
  - Recommended mandatory private recreational reporting
- One advisor concerned with how current AMs are designed
  - Mismatch between Percent Change Approach and AMs
  - Recommended the Council/Board take action to incorporate fishing mortality



# Choice of Model for 2023



- MC recommend using RFDM for setting 2023 scup measures
  
- GARFO 12/8 letter:
  - GARFO makes determination on best available science when approving management measures
  - GARFO considers Recreational Demand Model to be best available science for setting 2023 measures for all 3 species
    - Incorporates data on angler behavior
    - Has narrower confidence intervals than RFDM

# Summary



## *MC Recommendation*

- Use RFDM for setting 2023 recreational scup measures
- Under Percent Change Approach results in a 10% liberalization
  - Due to Accountability Measures and recent fishery performance MC recommends **status quo** instead

## *Other Considerations*

- GARFO's 12/8 letter stating RDM is best available science

| Model | Model estimate for 2023 harvest (median) | 80% CI       | Percent change required | 2023 harvest target |
|-------|--|--------------|-------------------------|---------------------|
| RDM   | 14.31                                    | 9.90 – 17.40 | 10% reduction           | 12.88               |

- MC didn't discuss letter but during 11/15 meeting discussed 10% reduction scenarios
  - 15 fish possession limit with additional adjustments to state waters measures to achieve full 10% reduction