Atlantic Bluefish

Council Meeting
August 9, 2021
Outline

- Objectives
- Management overview
- Stock Status
  - Management track assessment update
- Review recent fishery performance and regulations
- AP Fishery Performance Report
- Projections
- Staff, SSC and MC Recommendations
Meeting Objective

- Approve bluefish specifications for 2022-2023
  - Recent fishery performance
  - Management track assessment update
  - On the water observations
    - Factors influencing recent catch and landings
Specifications Process

Bluefish Specifications

2022

2023

Advisors
Fishery performance report

SSC
ABC (scientific uncertainty)

Monitoring Committee
ACT (management uncertainty)
Management measures

Council and Commission
Catch limits and management measures
Stock Status

- Last operational assessment: July 2021
- Stock is overfished
- Overfishing is not occurring
- Research track assessment in 2022
  - Will inform the 2024-2025 specifications package
Overfishing not occurring

(2019 $F = 0.172$; below $F_{\text{MSY proxy}} = F_{35\%\text{SPR}} = 0.181$)
Overfished

2019 SSB (95,742 mt) ≈ 5% below SSB_{Threshold} (100,865 mt)
## Management Measures

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<td>Rec. Possession Limit (# fish)</td>
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<td>15</td>
<td>15</td>
<td>15</td>
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<td>3: Private</td>
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<td>5.84</td>
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<td>Overage/Underage</td>
<td>-2.82</td>
<td>-5.03</td>
<td>-12.98</td>
<td>N/A*</td>
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<td>Total Catch</td>
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<td>Overage/Underage</td>
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<td>-4.99</td>
<td>-14.85</td>
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</table>

* N/A: Not available.
Catch (landings and discards)

Bluefish Total Catch 2000 to 2020

- Recreational Harvest (lbs)
- Dead Discards (lbs)
- Commercial Landings (lbs)

Pounds

0 10,000,000 20,000,000 30,000,000 40,000,000 50,000,000 60,000,000 70,000,000

Mid-Atlantic Fishery Management Council
<table>
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<th>State</th>
<th>Harvest</th>
<th>Catch</th>
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<td>Pounds</td>
<td>Number</td>
<td>Average Weight(^1) (pounds)</td>
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<td>ME</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>NH</td>
<td>1,800</td>
<td>376</td>
<td>4.8</td>
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<td>MA</td>
<td>553,242</td>
<td>162,128</td>
<td>3.4</td>
<td>906,269</td>
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<td>RI</td>
<td>508,227</td>
<td>220,556</td>
<td>2.3</td>
<td>1,089,449</td>
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<td>594,546</td>
<td>298,383</td>
<td>2.0</td>
<td>1,407,730</td>
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<td>1,478,719</td>
<td>885,517</td>
<td>1.7</td>
<td>3,701,474</td>
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<td>NJ</td>
<td>1,808,548</td>
<td>595,103</td>
<td>3.0</td>
<td>3,372,216</td>
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<tr>
<td>DE</td>
<td>94,901</td>
<td>53,751</td>
<td>1.8</td>
<td>219,288</td>
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<td>MD</td>
<td>214,991</td>
<td>173,846</td>
<td>1.2</td>
<td>494,214</td>
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<tr>
<td>VA</td>
<td>305,092</td>
<td>395,751</td>
<td>0.8</td>
<td>1,172,803</td>
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<td>2,124,224</td>
<td>2,108,296</td>
<td>1.0</td>
<td>8,666,047</td>
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<td>154,420</td>
<td>289,339</td>
<td>0.5</td>
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<td>GA</td>
<td>9,902</td>
<td>10,795</td>
<td>0.9</td>
<td>187,272</td>
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<td>FL</td>
<td>5,732,605</td>
<td>4,142,380</td>
<td>1.4</td>
<td>7,277,380</td>
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<tr>
<td>Total</td>
<td>13,581,217</td>
<td>9,336,221</td>
<td>-</td>
<td>30,681,825</td>
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Recreational Fishery

State vs. Federal Landings, 1991-2020

State vs. Federal Landings, 1991-2020

State | Federal


0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100%
Recreational Fishery

Recreational Landings by Mode

- For-Hire
- Private Rental
- Shore
Recreational Fishery

Recreational landings per “bluefish” trip

Number of Bluefish

Year:
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
Bluefish Landings, Value and Price

- Ex-Vessel Value ($)
- Landings (Pounds)
- Adjusted $/Pound

Landings (Pounds) and Ex-Vessel Value ($)
Commercial Fishery

2021 Coastwide Bluefish Landings

Quota: 2,767,798 lbs

Landings (Pounds)

Jan  | Apr  | Jul  | Oct  | Jan

2020 | 2021

July 26, 2021
Commercial Fishery

Landings by Gear - Dealer Data 2020
- Gillnet (52%)
- Unknown (24%)
- Otter trawl, bottom fish (15%)
- Handline (5%)
- Other (4%)
### Top Commercial Bluefish Ports

<table>
<thead>
<tr>
<th>Port</th>
<th>Pounds</th>
<th>% of total commercial bluefish landings</th>
<th># vessels</th>
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<tbody>
<tr>
<td>Wanchese, NC</td>
<td>368,942</td>
<td>17%</td>
<td>16</td>
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<tr>
<td>Hatteras, NC</td>
<td>269,655</td>
<td>12%</td>
<td>&lt;10</td>
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<tr>
<td>Point Judith, RI</td>
<td>216,060</td>
<td>10%</td>
<td>99</td>
</tr>
<tr>
<td>Montauk, NY</td>
<td>151,200</td>
<td>7%</td>
<td>74</td>
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<tr>
<td>Little Compton, RI</td>
<td>105,941</td>
<td>5%</td>
<td>&lt;10</td>
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</tbody>
</table>
Federal permits/activity

- 2020 Federally Permitted Statistics
  - 2,351 (2,442) commercial vessels
  - 863 (851) p/c vessels
  - 307 (389) dealers
  - 423 (483) commercial vessels landed bluefish
  - 258 (278) p/c vessels landed bluefish (VTR)
  - 107 (146) dealers purchased bluefish

* Parentheses indicate numbers from 2019
Advisory Panel Discussion

- What factors influenced recent catch and landings?
  - Markets/economy?
  - Environment?
  - Fishery regulations?
  - Other factors?

- What research priority recommendations do you have for bluefish?

- What else is important for the Council/Commission to know about?
Despite a decrease in MRIP estimates, AP members indicated abundance increased coastwide.

- 2021 season seems to be following a similar pattern

Reports of larger bluefish further offshore

Phenomenal bluefish year in NY, NJ, and MA – tied to an abundance of bait.

In NC, an abundance of small and medium fish are available – typically keep smaller fish (i.e., bait).

Smaller bluefish were seasonally available from shore
Commercial Fishery Comments

- Larger bluefish are offshore and available to commercial fishermen (NY/NJ)
- In NC, commercial landings are down because inlets are often not passable.
- If current trends continue, the commercial quota will be too low, especially given the reduction in commercial allocation.
- 2019 and 2020 were difficult years for FL fishermen due to a lot of bad weather early in the season
AP Fishery Performance Report

Market/Economic Comments

- Prices remain strong in the NY market (2-4 pounders often bring $1.40/lb)
- When the weather is good, prices vary from $1.35 (September 2020) to $2.01 (March 2021)
- COVID-19 has greatly impacted the for-hire and commercial sectors
- Bluefish demand has remained high
Management/Fishery Regulations Comments

- The for-hire fleet believes the 5-fish bag limit is too low (NY/NJ)
- Need to further explore for-hire sector separation
- AP members (NY) are very optimistic of the future years due to the current abundance of bait
Research, Environmental and Other Comments

- How does the harvest of fish in the south early in the season affect abundance in the north?
- Need to better understand bait abundance and the relationship with bluefish.
- AP members prefer regulations and management measures that remain stable.
Bluefish Unknowns/Uncertainties

- **Discard estimates**
  - MRIP-estimated (GARFO) vs. NEFSC
    - 2019: MRIP = 4.88 M lbs, NEFSC = 15.41 M lbs
    - 2020: MRIP = 4.19 M lbs, no NEFSC estimate

- **Recreational ACT overage of 3.65 M lbs**

- **2020 recreational harvest estimates**
  - 3 and 5-fish bag limit implemented in mid-2020

- **Research Track Assessment in 2022 to inform 2024-2025 specifications**
Council-Preferred Rebuilding Projections

- Bluefish Allocation and Rebuilding Amendment
  - 4-year Constant Harvest
  - 5-year P* Risk Policy
  - 7-year Constant F

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Catch</th>
<th>F</th>
<th>SSB</th>
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<tr>
<td>2020</td>
<td>9,041</td>
<td>0.093</td>
<td>112,892</td>
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<td>2021</td>
<td>7,385</td>
<td>0.068</td>
<td>135,081</td>
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<td>2022</td>
<td>18,463</td>
<td>0.154</td>
<td>146,103</td>
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<tr>
<td>2023</td>
<td>19,667</td>
<td>0.154</td>
<td>155,671</td>
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<td>2024</td>
<td>21,113</td>
<td>0.154</td>
<td>161,005</td>
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<td>2025</td>
<td>21,782</td>
<td>0.154</td>
<td>169,690</td>
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<td>2026</td>
<td>23,081</td>
<td>0.154</td>
<td>178,163</td>
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<td>2027</td>
<td>24,570</td>
<td>0.154</td>
<td>192,196</td>
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<tr>
<td>2028</td>
<td>25,646</td>
<td>0.154</td>
<td>202,299</td>
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</table>
For 2022 and 2023, staff recommends an acceptable biological catch (ABC) of 25.26 million pounds (11,460 mt) and 30.62 million pounds (13,890 mt), respectively – Option 2.

- Option 2 treats the total catch value from the 7-year constant fishing mortality rebuilding plan as an OFL proxy instead of an ABC.

- Accounts for the uncertainties present in the fishery.
• The SSC questioned the methods for estimating the weight of recreational discards and the disparity between the use of volunteer angler data and the assumptions used in MRIP.

• Selectivity patterns in the model could be affected by changes in assumptions regarding average weights of discards.

• The SSC noted low recruitment estimates in 2019. Is it was possible to detect shifts between spring vs late summer recruiting cohorts? Should be evaluated in the next benchmark study, scheduled for 2022.

• Owing to data gaps caused by Covid 19 restrictions, efficacy of newly instituted recreational regulations is unknown.
Bluefish—SSC Comments (2)

• Consideration of the Council-approved rebuilding schedule generated considerable discussion within the SSC.
  • How to treat rebuilding F proposed by the Council and its implications for generating ABCs.
  • The Council’s rebuild policy is to achieve rebuilding within a seven-year period commencing in 2022. A constant F strategy was selected such that biomass in 2028 has a 50% chance of exceeding the $B_{msy}$ proxy.
  • Given the basis for the rebuilding, the SSC determined that the constant F for rebuilding in seven years (denoted as $F_{\text{rebuild},7} = 0.154$) should be treated as a $F_{msy}$ proxy.
  • Thus the usual Council risk policy, $P^*$ criteria, and OFL CV process should apply.
  • Failure to include scientific uncertainty through the direct application of $F_{\text{rebuild},7}$ alone could generate instances where the probability of overfishing exceeded 0.5 between 2022 and 2028.
• **Recommends CV of 100% be applied to the OFL estimate as an appropriate ABC**
  • Chief uncertainty relates to revised MRIP estimates which average 80+% of landings.
  • Importance of dead discards has increased over time.
  • MRIP catch per angler data are important inputs to the ASAP model
• **ABC Calculation**
  • Use F-rebuild to calculate the OFL but apply the iterative P* approach and the Council’s risk policy.
• **Sources of Uncertainty**
  • Revised MRIP data are an important source of uncertainty in determination of stock status and in short term projections.
  • Increased importance of dead discards has implications for selectivity pattern
  • Approximately 60% of the population biomass is in the aggregated 6+ age group for which there is relatively little information.
  • The extent to which the MRIP index and MRIP catch are partially redundant in the assessment needs to be determined.
Bluefish—Terms of Reference—Recommendations

- Compare historical correction to the MRIP estimates for bluefish with other species to consider their plausibility.
- Investigate potential selectivity pattern changes in discards over time.
- Investigate recreational CPUE: evaluate species associations with recreational angler trips targeting Bluefish
- Investigate patterns and trends in recent recruitments.
- Develop a fishery-independent index that better captures older, larger fish, which would reduce reliance on MRIP sampling.
- Changes in the timing of the movement of juvenile Bluefish and the distribution of adults throughout the region due to climate changes.
- Changes in the selectivity of age-0 Bluefish in the survey relative to water column or surface temperature
- Evaluate methods for integrating disparate indices produced at multiple spatial and temporal scales.
- Initiate fishery-dependent and fishery-independent sampling of offshore populations of Bluefish.
# Bluefish—Bottomline

<table>
<thead>
<tr>
<th>Species</th>
<th>Year</th>
<th>Overfishing Limit (OFL) (mt)</th>
<th>Acceptable Biological Catch (ABC) (mt)</th>
<th>Probability of Overfishing (P*)</th>
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<tr>
<td>Bluefish</td>
<td>2022</td>
<td>18,399</td>
<td>11,460</td>
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<td>2023</td>
<td>20,490</td>
<td>13,890</td>
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MC Discussion

- Discards – ACTs to TAL
  - MRIP (mean wt.) or NEFSC (wt. at length, season)
  - Terminal year
  - Commercial: Negligible

- Management Uncertainty – ACL to ACTs

- Commercial Measures
  - States dictate trip limits

- Transfers

- Expected Rec. Landings
  - Prior years landings (terminal year)

- Recommend RHLs and CQs

- Discuss: Rec measures to constrain harvest to the RHL
<table>
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<tr>
<th>Management Measure</th>
<th>Option 2</th>
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<td>mil lb.</td>
<td>2023</td>
<td>mil lb.</td>
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<td>4.29</td>
<td>1,945</td>
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<td>13.89</td>
<td>6,298</td>
<td>22.14</td>
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<td>RHL</td>
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<td>6,298</td>
<td>22.14</td>
<td>10,044</td>
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Advisory Panel Discussion

- Commented on the RHL overage and questioned how it will affect 2022 specifications.
- Discussed upcoming assessments and how they will affect the ongoing rebuilding plan.
- If the quotas are increasing, the bag limits should also increase.
- Recreational measures will be further discussed in Oct/Nov for approval in December.
Questions/Next Steps

- We will have another MC meeting in November to identify rec measures for Council/Board approval at the Dec. meeting.

- **Goal**: Constrain recreational harvest to the RHL.
  - Bag limits
  - Seasonal closures (waves, days, etc.)
  - Gear restriction

- All bluefish uncertainties will be considered
Draft Motion

- Move to adopt, based on the Council-preferred rebuilding plan and SSC/MC recommendations, a 2022 and 2023 bluefish ABC of 25.26 M pounds and 30.62 M pounds, respectively. This results in a 2022 commercial quota of 3.54 M pounds and an RHL of 13.89 M pounds. For 2023, this results in a commercial quota of 4.29 M pounds and an RHL of 22.14 M pounds.