2019 Landings for Reduction

- One factory on Atlantic coast at Reedville, VA, since 2005
- Coastwide Total Allowable Catch limit (TAC) raised (216,000 metric tons)
  - 152,392 mt allocated for reduction (prior to set-aside)
- Landings for 2019 reduction fishery:
  - 145,671 mt (or 479 million standard fish)
  - Increased 3.5% from 2018 (141,314 mt)
  - Increased 9.3% from previous 5-yr average (136,435 mt)
Vessel Participation for 2019

• 9 Omega Protein vessels unloaded Atlantic menhaden for reduction in 2019 at Reedville

• 1 VA ‘snapper-rig’ boat (bait vessel) also unloaded for reduction at Omega
  • One landed for bait only

• ~4 purse-seiners reported catch for bait in Atlantic
Coastwide Stock

• Fourth year in a row of large menhaden landings in Northeast
  • “Episodic Event” declared for bait fishing

• Bait fisheries
  • New York, New Jersey, Rhode Island, Massachusetts, and Maine participated in the episodic event this season

• First months of season proceeded above average
  • After June, landings remained close to the 5-year average

• Relatively few hurricanes, many late-season tropical events
Reduction Landings and Nominal Fishing Effort

Atlantic menhaden landings (1,000 metric tons)
Nominal fishing effort (1,000 vessel-weeks)
2019 Landings by Month

Graph showing 2019 landings by month with data from 2014 to 2019, including a 5-year average line.
Age Compositions in 2019 by Fishing Area
from preliminary catch-at-age matrix

- Critical equipment failure at the beginning of the 2018 fishing season
- Menhaden Program updates already underway
- Data collection complete
- Preliminary results show:
  - High agreement between methods
  - Low Average Percent Errors (APE)
Coastwide Stock

- 2014 benchmark assessment
  - Stock is not overfished and overfishing not occurring
Coastwide Stock

• 2014 benchmark assessment
  • Stock is not overfished and overfishing not occurring

• Atlantic Menhaden Management Board
  • 2012 Established an 170,800 mt coastwide Total Allowable Catch
  • 2015 increase in TAC (187,880 mt)
  • 2017 TAC increased to 200,000 mt
    • Subject to the same allocation plan as described in Amendment 2
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• 2019 benchmark assessment
  • Single-species stock assessment passed peer review
  • Multi-species stock assessment also passed
### 2019 Atlantic Menhaden TAC, by allocation unit

<table>
<thead>
<tr>
<th>Unit</th>
<th>Percent of TAC</th>
<th>2019 (1,000 Metric Tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME</td>
<td>0.5%</td>
<td>1,106</td>
</tr>
<tr>
<td>NH</td>
<td>0.5%</td>
<td>1,069</td>
</tr>
<tr>
<td>MA</td>
<td>1.3%</td>
<td>2,725</td>
</tr>
<tr>
<td>RI</td>
<td>0.5%</td>
<td>1,107</td>
</tr>
<tr>
<td>CT</td>
<td>0.5%</td>
<td>1,103</td>
</tr>
<tr>
<td>NY</td>
<td>0.7%</td>
<td>1,477</td>
</tr>
<tr>
<td>NJ</td>
<td>10.9%</td>
<td>23,250</td>
</tr>
<tr>
<td>PA</td>
<td>0.5%</td>
<td>1,069</td>
</tr>
<tr>
<td>DE</td>
<td>0.5%</td>
<td>1,096</td>
</tr>
<tr>
<td>MD</td>
<td>1.9%</td>
<td>4,038</td>
</tr>
<tr>
<td>PRFC</td>
<td>1.1%</td>
<td>2,295</td>
</tr>
<tr>
<td>VA (Reduction)</td>
<td>70.8%</td>
<td>151,392</td>
</tr>
<tr>
<td>VA (Bait)</td>
<td>7.9%</td>
<td>16,821</td>
</tr>
<tr>
<td>NC</td>
<td>1.0%</td>
<td>2,044</td>
</tr>
<tr>
<td>SC</td>
<td>0.5%</td>
<td>1,069</td>
</tr>
<tr>
<td>GA</td>
<td>0.5%</td>
<td>1,069</td>
</tr>
<tr>
<td>FL</td>
<td>0.5%</td>
<td>1,108</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>213,840</strong>*</td>
</tr>
</tbody>
</table>

* Does not include the 1% episodic set-aside