REVIEW OF THE
INTERSTATE FISHERY MANAGEMENT PLAN FOR
BLUEFISH
(Pomatomus saltatrix)

2007 FISHERY

Prepared by:
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Bluefish Plan Review Team
Najih Lazar
Wilson Laney

2008
The bluefish fishery management plan (FMP) was adopted by ASMFC's member states in October 1989 and was approved by the Secretary of Commerce in March 1990. The FMP is the first plan developed jointly by an interstate commission (ASMFC) and a federal fishery management council (Mid-Atlantic Fishery Management Council or MAFMC).

ASMFC and MAFMC approved Amendment 1 to the FMP in October 1998 and the Secretary of Commerce partially approved the Amendment on July 29, 1999. On July 26, 2000 the National Marine Fisheries Service published the final rule to implement the measures contained in Amendment 1.

The goal of the Amendment is to conserve the bluefish resource along the Atlantic coast, specifically:

1. Increase understanding of the stock and fishery
2. Provide highest availability of bluefish to U.S. fishermen while maintaining, within limits, traditional uses of bluefish
3. Provide for cooperation among the coastal states, the various regional marine fishery management councils, and federal agencies involved along the coast to enhance the management of bluefish throughout its range
4. Prevent recruitment overfishing
5. Reduce the waste in both the commercial and recreational fisheries.

States with a declared interest in the Bluefish FMP include all member states, with the exception of Pennsylvania and the District of Columbia. Management issues are addressed through the ASMFC Bluefish Management Board and the MAFMC Coastal Migratory Species Committee. The ASMFC Bluefish Technical Committee provides technical advice. A joint ASMFC-MAFMC Technical Monitoring Committee conducts annual plan monitoring and provides framework adjustment recommendations. The ASMFC Stock Assessment Subcommittee addresses stock assessment matters.
II. Status of the Stock

The most recent ASMFC bluefish stock assessment was completed in 2005. The assessment passed peer review and was approved by the ASMFC Bluefish Management Board and the MAFMC Coastal Migratory Species Committee. The assessment developed biological reference points for both bluefish biomass and fishing mortality ($\frac{1}{2}B_{MSY} = 73,526$ mt; $F_{MSY} = 0.19$). The ASAP model used to calculate population abundance in this assessment has been updated annually since 2005. The output from this model is used to set the annual Total Allowable Catch (TAC).

The most recent stock status information indicates that bluefish are not overfished and overfishing is not occurring. Fishing mortality rates estimated in ASAP using state and federal indices show a low $F$, an increasing trend in population biomass, and an increasing trend in population numbers ($B_{2007} = 153,843$ MT; $F_{2007} = 0.15$). Abundance estimates peaked in 1982 at 163 million fish, declined to 58 million in the mid-1990s and have since increased to 103 million fish.

III. Status of the Fishery

Recreational catch of bluefish has averaged 18.3 million pounds since 1981. In 2007, recreational anglers along the Atlantic Coast caught 23.8 million bluefish. Recreational harvest has been increasing since a low of 3.7 million fish in 1999. Since then, recreational harvest averaged over 7.4 million fish annually with 8.3 million bluefish harvested in 2007. Most of the recreational activity occurred from May to October, when 88% of the bluefish harvest was taken.

Landings from the commercial bluefish fishery have been consistently lower than the recreational catch. Commercial landings decreased from 16.5 million pounds in 1981 to 7.3 million lbs in 1999. Commercial landings have been regulated by quota since implementation of Amendment 1 in 2000 and have averaged 7.57 million pounds annually. The landings estimates for 2007 is 7.51 million pounds.

V. Status of Research and Monitoring

Many states, NMFS, and SEAMAP conduct fishery-independent surveys. New Hampshire, Massachusetts, Connecticut, New York, New Jersey, Delaware, Maryland, and Florida monitor juvenile abundance. Rhode Island, Connecticut, New Jersey, Delaware, North Carolina, South Carolina, Georgia, and Florida monitor adult abundance. Year class strength is monitored through the NMFS autumn trawl survey.

Commercial landings information is collected by most states from dealer or fisherman reporting programs. Fishermen in the EEZ are required to report their landings to the NMFS. North Carolina and Virginia are the only states that significantly sample bluefish commercial fisheries for size and age composition of the catch. Recreational harvest is monitored by the Marine Recreational Fisheries Statistics Survey.
VI. Status of Management Measures and Issues

The ASMFC and MAFMC adjust the quota and harvest limit annually using the specification setting process detailed in Amendment 1. The recreational fishery is allocated 83% of the entire quota. Coastwide, the commercial fishery is limited to 17% of the total allowable landings each year. The commercial quota can be increased if it is anticipated that the recreational fishery will not land their entire allocation for the upcoming year. The coastwide commercial quota is divided into individual state-by-state quotas based on landings from 1981-1989.

The Technical Monitoring Committee is responsible for reviewing the best available data and recommending an annual commercial quota and recreational possession limit. Based on the latest stock assessment information and the rebuilding schedule in Amendment 1, the Technical Monitoring Committee recommended a total allowable landings (TAL) of 27.762 million pounds for 2007; a commercial quota of 9.5 million pounds; and a recreational harvest limit of 18.262 million pounds.

VII. Current State-by-State Implementation of FMP Compliance Requirements

These states or jurisdictions are required to comply with the provisions of the Bluefish FMP: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Potomac River Fisheries Commission, Virginia, North Carolina, South Carolina, Georgia, and Florida. The following are specific FMP compliance requirements:

- Each state must restrict the possession of bluefish by anglers to not more than fifteen fish per day, or have an ASMFC-approved equivalent conservation program.
- Each state must restrict its commercial fishery to the quota adopted under procedures specified in the FMP.

The final compliance criteria include:
- Monitoring requirements for the commercial fishery
- Commercial and party/charter vessel permitting requirements
- Dealer permitting requirements
- Annual compliance reporting

The Chair of the Plan Review Team has reviewed all of the compliance reports and recommends that each state be found in compliance with respect to implementing the recreational bag limit and limiting their commercial fishery to their state quota.

South Carolina and Georgia have requested de minimis status for 2008. The Chair of the Plan Review Team finds that the State of South Carolina and the State of Georgia qualify for de minimis status because their commercial landings from the most recent year were less than 0.1% of the coastwide commercial landings.

VIII. Prioritized Research Needs

1. Collect size and age composition of the fisheries by gear type and statistical area
2. Target commercial and recreational landings for biological data collection when possible
3. Initiate fisheries-dependent and independent sampling of offshore populations of bluefish during the winter months
4. Age any archived age data for bluefish and use the data to supplement North Carolina age keys
5. Test the sensitivity of the bluefish assessment to assumptions concerning age-varying M, level of age-0 discard, and selection patterns
6. Evaluate amount and length frequency of discards from the commercial and recreational fisheries
7. Continue work on catch and release mortality
8. Increase intensity of biological sampling of the NER commercial and coastwide recreational fisheries
9. Conduct research to determine the timing of sexual maturity and fecundity of bluefish
10. Study tag mortality and retention rates for ALS dorsal loop and other tags used for bluefish
11. Initiate research on species interactions and predator-prey relationships
12. Initiate a coastal surf-zone seine study to provide more complete indices of juvenile abundance
13. Investigate the long term, synergistic effects of combinations of environmental variables on various biological and sociological parameters such as reproductive capability, genetic changes, and suitability for human consumption
14. Conduct studies on the interactive effects of pH, contaminants, and other environmental variables on survival of bluefish.
Table 1. Estimated number of bluefish caught and the estimated number of bluefish landed by marine recreational fishermen each year, 1981 to 2007.

<table>
<thead>
<tr>
<th>Year</th>
<th>Catch ('000)</th>
<th>Landings ('000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>31,261</td>
<td>23,888</td>
</tr>
<tr>
<td>1982</td>
<td>27,220</td>
<td>23,724</td>
</tr>
<tr>
<td>1983</td>
<td>30,137</td>
<td>24,884</td>
</tr>
<tr>
<td>1984</td>
<td>26,508</td>
<td>20,798</td>
</tr>
<tr>
<td>1985</td>
<td>22,474</td>
<td>19,246</td>
</tr>
<tr>
<td>1986</td>
<td>30,411</td>
<td>24,441</td>
</tr>
<tr>
<td>1987</td>
<td>27,603</td>
<td>21,076</td>
</tr>
<tr>
<td>1988</td>
<td>13,365</td>
<td>9,905</td>
</tr>
<tr>
<td>1989</td>
<td>18,637</td>
<td>13,600</td>
</tr>
<tr>
<td>1990</td>
<td>16,446</td>
<td>11,365</td>
</tr>
<tr>
<td>1991</td>
<td>18,292</td>
<td>11,943</td>
</tr>
<tr>
<td>1992</td>
<td>11,440</td>
<td>7,158</td>
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<tr>
<td>1993</td>
<td>9,925</td>
<td>5,725</td>
</tr>
<tr>
<td>1994</td>
<td>11,920</td>
<td>5,768</td>
</tr>
<tr>
<td>1995</td>
<td>10,494</td>
<td>5,168</td>
</tr>
<tr>
<td>1996</td>
<td>9,521</td>
<td>4,205</td>
</tr>
<tr>
<td>1997</td>
<td>12,574</td>
<td>5,413</td>
</tr>
<tr>
<td>1998</td>
<td>9,204</td>
<td>4,202</td>
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<tr>
<td>1999</td>
<td>11,488</td>
<td>3,682</td>
</tr>
<tr>
<td>2000</td>
<td>16,260</td>
<td>4,897</td>
</tr>
<tr>
<td>2001</td>
<td>20,412</td>
<td>6,663</td>
</tr>
<tr>
<td>2002</td>
<td>15,217</td>
<td>5,300</td>
</tr>
<tr>
<td>2003</td>
<td>15,049</td>
<td>6,045</td>
</tr>
<tr>
<td>2004</td>
<td>19,011</td>
<td>7,214</td>
</tr>
<tr>
<td>2005</td>
<td>22,320</td>
<td>8,744</td>
</tr>
<tr>
<td>2006</td>
<td>19,783</td>
<td>7,547</td>
</tr>
<tr>
<td>2007</td>
<td>23,785</td>
<td>8,368</td>
</tr>
</tbody>
</table>
Table 2. Bluefish Commercial Landings and Recreational Catch (thousands of pounds), 1981-2007.

<table>
<thead>
<tr>
<th>Year</th>
<th>Commercial</th>
<th>Recreational</th>
<th>Total</th>
<th>% Commercial</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>16,457</td>
<td>95,288</td>
<td>111,742</td>
<td>15</td>
</tr>
<tr>
<td>1982</td>
<td>15,426</td>
<td>83,006</td>
<td>98,436</td>
<td>16</td>
</tr>
<tr>
<td>1983</td>
<td>15,798</td>
<td>89,122</td>
<td>104,921</td>
<td>15</td>
</tr>
<tr>
<td>1984</td>
<td>11,861</td>
<td>67,453</td>
<td>79,316</td>
<td>15</td>
</tr>
<tr>
<td>1985</td>
<td>13,497</td>
<td>52,515</td>
<td>66,016</td>
<td>20</td>
</tr>
<tr>
<td>1986</td>
<td>14,663</td>
<td>92,887</td>
<td>107,564</td>
<td>14</td>
</tr>
<tr>
<td>1987</td>
<td>14,502</td>
<td>76,653</td>
<td>91,157</td>
<td>16</td>
</tr>
<tr>
<td>1988</td>
<td>15,787</td>
<td>48,222</td>
<td>64,012</td>
<td>25</td>
</tr>
<tr>
<td>1989</td>
<td>10,450</td>
<td>39,260</td>
<td>49,601</td>
<td>21</td>
</tr>
<tr>
<td>1990</td>
<td>13,779</td>
<td>30,557</td>
<td>44,336</td>
<td>31</td>
</tr>
<tr>
<td>1991</td>
<td>13,580</td>
<td>32,997</td>
<td>46,578</td>
<td>29</td>
</tr>
<tr>
<td>1992</td>
<td>11,475</td>
<td>24,275</td>
<td>35,753</td>
<td>32</td>
</tr>
<tr>
<td>1993</td>
<td>10,600</td>
<td>20,292</td>
<td>30,414</td>
<td>33</td>
</tr>
<tr>
<td>1994</td>
<td>9,489</td>
<td>15,541</td>
<td>25,036</td>
<td>38</td>
</tr>
<tr>
<td>1995</td>
<td>7,998</td>
<td>14,306</td>
<td>22,310</td>
<td>36</td>
</tr>
<tr>
<td>1996</td>
<td>9,068</td>
<td>11,746</td>
<td>21,041</td>
<td>44</td>
</tr>
<tr>
<td>1997</td>
<td>8,960</td>
<td>14,302</td>
<td>23,366</td>
<td>39</td>
</tr>
<tr>
<td>1998</td>
<td>8,246</td>
<td>12,334</td>
<td>20,588</td>
<td>40</td>
</tr>
<tr>
<td>1999</td>
<td>7,351</td>
<td>8,253</td>
<td>15,346</td>
<td>38</td>
</tr>
<tr>
<td>2000</td>
<td>8,066</td>
<td>10,605</td>
<td>18,588</td>
<td>43</td>
</tr>
<tr>
<td>2001</td>
<td>8,698</td>
<td>13,239</td>
<td>21,916</td>
<td>40</td>
</tr>
<tr>
<td>2002</td>
<td>6,868</td>
<td>11,371</td>
<td>18,221</td>
<td>38</td>
</tr>
<tr>
<td>2003</td>
<td>7,403</td>
<td>13,135</td>
<td>21,200</td>
<td>34</td>
</tr>
<tr>
<td>2004</td>
<td>8,015</td>
<td>15,827</td>
<td>26,188</td>
<td>28</td>
</tr>
<tr>
<td>2005</td>
<td>7,052</td>
<td>18,132</td>
<td>22,880</td>
<td>27</td>
</tr>
<tr>
<td>2006</td>
<td>6,072</td>
<td>16,752</td>
<td>36,268</td>
<td>20</td>
</tr>
<tr>
<td>2007</td>
<td>7,507</td>
<td>21,180</td>
<td>28,687</td>
<td>26</td>
</tr>
</tbody>
</table>

Source: NMFS General Canvass and MRFSS data.
Table 3. 2007 state commercial bluefish quotas (Federal and ASMFC) based on a coastwide quota of 9.5 million pounds and 1981-1989 NMFS General Canvass Data and 2007 state landings.

<table>
<thead>
<tr>
<th>State</th>
<th>% of Federal Quota</th>
<th>2007 Federal Quota (lbs)*</th>
<th>2007 Transfers</th>
<th>Final Quota</th>
<th>2007 Landings**</th>
<th>% Quota Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME</td>
<td>0.6685</td>
<td>57,323</td>
<td>-25,000</td>
<td>32,323</td>
<td>4,479</td>
<td>11.6%</td>
</tr>
<tr>
<td>NH^</td>
<td>0.4145</td>
<td>35,543</td>
<td></td>
<td>35,543</td>
<td>10,642</td>
<td>27.0%</td>
</tr>
<tr>
<td>MA</td>
<td>6.7167</td>
<td>575,953</td>
<td></td>
<td>575,953</td>
<td>573,052</td>
<td>89.8%</td>
</tr>
<tr>
<td>RI</td>
<td>6.8081</td>
<td>583,790</td>
<td>155,000</td>
<td>738,790</td>
<td>644,071</td>
<td>80.3%</td>
</tr>
<tr>
<td>CT</td>
<td>1.2663</td>
<td>108,584</td>
<td></td>
<td>108,584</td>
<td>22,863</td>
<td>19.0%</td>
</tr>
<tr>
<td>NY</td>
<td>10.3851</td>
<td>884,278</td>
<td>450,000</td>
<td>1,334,278</td>
<td>1,365,660</td>
<td>95.1%</td>
</tr>
<tr>
<td>NJ</td>
<td>14.8162</td>
<td>1,270,480</td>
<td>309,125</td>
<td>1,579,605</td>
<td>1,399,059</td>
<td>81.5%</td>
</tr>
<tr>
<td>DE</td>
<td>1.8782</td>
<td>161,055</td>
<td>-80,000</td>
<td>81,055</td>
<td>19,541</td>
<td>19.9%</td>
</tr>
<tr>
<td>MD</td>
<td>3.0018</td>
<td>257,403</td>
<td>-50,000</td>
<td>207,403</td>
<td>81,897</td>
<td>34.8%</td>
</tr>
<tr>
<td>PRFC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VA</td>
<td>11.8795</td>
<td>1,018,660</td>
<td>-350,000</td>
<td>668,660</td>
<td>705,306</td>
<td>90.6%</td>
</tr>
<tr>
<td>NC</td>
<td>32.0608</td>
<td>2,749,194</td>
<td>2,330,779</td>
<td>2,749,194</td>
<td>2,330,779</td>
<td>76.5%</td>
</tr>
<tr>
<td>SC</td>
<td>0.0352</td>
<td>3,018</td>
<td>3,018</td>
<td></td>
<td>219</td>
<td>6.5%</td>
</tr>
<tr>
<td>GA^</td>
<td>0.0095</td>
<td>815</td>
<td></td>
<td>815</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FL</td>
<td>10.0597</td>
<td>862,613</td>
<td>-409125</td>
<td>453,488</td>
<td>167,024</td>
<td>30.6%</td>
</tr>
<tr>
<td>TOTAL^^</td>
<td>100</td>
<td>8,568,709</td>
<td>8,568,709</td>
<td>7,404,770</td>
<td></td>
<td>86%</td>
</tr>
</tbody>
</table>

*Quota less research set aside of 363,667 pounds.
**2007 Landings as reported in state compliance reports.
^2007 landings values are confidential data.
^^Totals in table may not match listed quotas due to rounding.

<table>
<thead>
<tr>
<th>State</th>
<th>Recreational Bag Limit</th>
<th>Recreational Season</th>
<th>Recreational Size Limit</th>
<th>Commercial Trip Limit</th>
<th>Commercial Open Season</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME</td>
<td>3 fish</td>
<td>All year</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NH</td>
<td>10 fish</td>
<td>All year</td>
<td>None</td>
<td>JUL 1 – SEP 30</td>
<td></td>
</tr>
<tr>
<td>MA</td>
<td>10 fish</td>
<td>All year</td>
<td>None</td>
<td>5,000 lbs/day</td>
<td></td>
</tr>
<tr>
<td>RI</td>
<td>10 fish</td>
<td>All year</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT</td>
<td>10 fish</td>
<td>All year</td>
<td>None</td>
<td>500 lbs/day</td>
<td>APR 15 – DEC 31</td>
</tr>
<tr>
<td>NY</td>
<td>15 fish</td>
<td>All year</td>
<td>Only 10 under 12” TL</td>
<td>Varies based on available quota</td>
<td></td>
</tr>
<tr>
<td>NJ</td>
<td>15 fish</td>
<td>All year</td>
<td>None</td>
<td>Gear-specific</td>
<td></td>
</tr>
<tr>
<td>DE</td>
<td>10 fish</td>
<td>All year</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MD</td>
<td>10 fish</td>
<td>All year</td>
<td>8” minimum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRFC</td>
<td>10 fish</td>
<td>All year</td>
<td>None</td>
<td>Daily limits when 80% of VA and MD quotas are met</td>
<td></td>
</tr>
<tr>
<td>VA</td>
<td>10 fish</td>
<td>All year</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NC</td>
<td>15 fish</td>
<td>All year</td>
<td>Only 5 greater than 24” TL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SC</td>
<td>15 fish</td>
<td>All year</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GA</td>
<td>15 fish</td>
<td>MAR 16 – NOV 30</td>
<td>12” minimum FL</td>
<td>15 fish</td>
<td>MAR 16 – NOV 30</td>
</tr>
<tr>
<td>FL</td>
<td>10 fish</td>
<td>All year</td>
<td>12” minimum FL</td>
<td>7,500 lbs/day</td>
<td></td>
</tr>
</tbody>
</table>
Figure 1. Estimate number of bluefish caught and the estimated number of bluefish landed (in pounds) by marine recreational fishermen each year, 1981-2007.

Figure 2. Bluefish commercial landings and recreational catch (thousands of pounds), 1981-2007.