

2001 REVIEW OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
FISHERY MANAGEMENT PLAN FOR
WEAKFISH
(Cynoscion regalis)

Plan Review Team

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I. Status of the Fisheries Management Plan

The Atlantic States Marine Fisheries Commission is currently developing Amendment #4 to the Weakfish Fishery Management Plan. This plan is expected to be completed in 2002 with implementation in 2003.

The Atlantic States Marine Fisheries Commission (ASMFC) adopted its first Fishery Management Plan for Weakfish in 1985. Amendment #1 to the FMP, which superseded the original plan, was adopted in 1992, and Amendment #2 was adopted in October 1994. Weakfish are currently managed under the guidelines contained in Amendment 3, which was approved by the Commission in May 1996 and completely replaced all previous amendments. Addendum one of this Amendment continues all management measures until Amendment #4 is completed.

The goals of Amendment #3 are to utilize interstate management so that Atlantic coastal weakfish recover to healthy levels which will maintain commercial and recreational harvest consistent with self-sustaining spawning stock and to provide for restoration and maintenance of essential habitat. The management objectives are: 1) to restore the weakfish population over a 5-year period; 2) to reach and maintain a target fishing mortality rate of 0.5; 3) to restore the expanded age and size structure; 4) to achieve compatible and equitable management measures among jurisdictions; 5.) to promote cooperative interstate research, monitoring and law enforcement; 6) to promote identification and conservation of habitat; and 7) to establish standards and procedures for both the implementation of Amendment 3 and for determination of states' compliance with provisions of the management plan.

Weakfish are managed under this plan as a single stock throughout their coastal range. All states from Massachusetts to Florida and the Potomac River Fisheries Commission have a declared interest in the Weakfish FMP. Responsibility for the FMP is assigned to the Weakfish Management Board, Plan Review Team, Technical Committee, Stock Assessment Subcommittee and Citizen's Advisory Panel.

II. Status of the Stock

The status of the stock was updated in the fall of 1999 based upon new information and recommendations from SAW 26. The new stock assessment, as peer reviewed by the 30th Stock Assessment Review Committee (SARC), confirms preliminary trends of increasing abundance, spawning stock biomass, expanding age structure, and decreasing fishing mortality rates. Data extending through terminal year 1998 was considered by the 30th SARC in determining current fishing mortality. The SARC approved 1998 fishing mortality estimate of 0.20 is below the management plan's projected 2000 rebuilding goal of $F = 0.50$. Caution should be afforded in acceptance of the SARC approved fishing mortality estimate in that terminal year estimates are commonly associated with higher degrees of scientific uncertainty.

In addition to the peer review, the ASMFC Technical Committee also reviewed the status of Weakfish stocks. The Technical Committee estimated fishing mortality to be around 0.28 for 1998. This estimate is also well below the management plan's projected 2000 rebuilding goal of $F = 0.50$. Caution should be afforded in acceptance of the Technical Committee approved fishing mortality estimate in that terminal year estimates are commonly associated with higher degrees of scientific uncertainty.

The status of the stock is currently being updated this Fall of 2001. The updated information will be included in this report once it is completed.

III. Status of the Fishery

Commercial landings increased steadily from 7.2 million pounds in 1996 to 8.4 million pounds in 1998 (Table 2). However a slight decrease in commercial landings occurred in 1999 (6.9 million pounds) and 2000 (5.3 million pounds). In 2000, landings from Virginia, North Carolina and New Jersey accounted for 80% of the coastwide landings. Recreational landings have been fairly stable from 1997 through 2000 (Table 3). The 2000 coastwide landings were 4 million pounds.

When comparing coastwide landings for both recreational and commercial fisheries in 2000 to other years we find a 6% increase over landings in 1992. However, there has been a 4.8% drop in landings since 1996 and a 24.7% drop in landings since 1998.

IV. Status of Research and Monitoring

Young-of-year indices of relative abundance are produced by Rhode Island, New York, Delaware, Maryland (2 different indices), Virginia, North Carolina and Florida. North Carolina also produces an age 1 index, while Connecticut, New Jersey and Delaware produce age-structured indices of relative abundance from research trawl surveys. The National Marine Fisheries Service also produces an age-structured index for the Mid-Atlantic coast, while SEAMAP produces one for the South Atlantic Coast.

The Marine Recreational Fisheries Statistics Survey collects data on recreational landings. North Carolina, Virginia, Maryland and Delaware collect biological data from commercial landings, including age data. There is no biological data from commercial landings north of Delaware.

North Carolina has submitted an exempted fishery request endorsed by the ASMFC Weakfish Board. This study would begin during the 2001 fishing year. Georgia is continuing their BRD testing program as well as the bycatch characterization study.

The U.S. Fish and Wildlife Service completed analysis of a gill net selectivity study conducted in Delaware Bay. The Stock Assessment Review Committee (SARC), co-ordinated by the National Marine Fisheries Service, in the 30th SARC, produced a review of the ASMFC

Weakfish Stock Assessment. The Delaware Division of Fish and Wildlife subsequently conducted a sensitivity analysis of the virtual population analysis to the selection of tuning indices. The Technical Committee developed a new suite of biological reference points for the Management Board's consideration, and a set of options for revising the recreational bag and size limits.

Biological sampling of commercial landings is an important component of catch-at-age analysis, such as the virtual population analysis currently used to assess weakfish status. Currently, only four states conduct such sampling: North Carolina, Virginia, Maryland and Delaware. Development of sampling programs for states with significant commercial landings is needed to insure accurate assessments. Recent research suggests there are many separate weakfish spawning stocks. Consequently, assuming the catch composition of northern areas is equivalent to that of southern areas is highly questionable and weakens confidence in assessment results.

V. Status of Management Measures

Each state is required to implement harvest reduction strategies designed to recover weakfish over a 5-year period. Restoration of historic age and size structure, represented currently by the average percentage of fish numbers at each age from 1979 to 1994, is also a plan goal. However in Amendment #4 the Board has discussed using a different method of determining whether we have reached this goal which would not be represented by the percentage of fish numbers at each age during that time period. Table 1 describes the necessary reductions under Amendment #3 for fishing years 1996-2000. According to the 26th SAW, the projected fishing mortality for 1996 was achieved and according to the most recent stock assessment fishing mortality is below 0.50. The Board has discussed modifying the fishing mortality target in Amendment #4 to be 0.31.

Table 1: Required reduction schedules for fishing mortality rates (F) for Atlantic Coast weakfish, 1996 - 2000. All reductions in F are based on a 12-inch minimum size limit.

| | Fishing Year | | | | |
|--------------------|--------------|------|------|------|------|
| | 1996 | 1997 | 1998 | 1999 | 2000 |
| Projected F | 1.27 | 1.27 | 1.01 | 0.76 | 0.50 |

VI. Current State-by-State Implementation per Compliance Requirements as of (fishing year established date)

As of October 11, 2001, all states were in compliance with Amendment #3 to the Weakfish Fishery Management Plan. The states of South Carolina and Georgia remain *de minimis* states as defined in Amendment #3. Their landings for 1999 and 2000 are well below the standard for *de minimis* of 1% of coastwide commercial and recreational directed landings for 1999 and 2000.

VII. Status of Assessment Advice

The Plan Review Team will offer Status of Assessment Advice once the current on-going Stock Assessment has been completed.

VIII. Recommendations

The Plan Review Team recommends that:

1. States continue to maintain harvest restrictions.
2. Review the Evaluation Manual and if necessary make changes that will clarify mortality adjustments and an appropriate baseline period.
3. The appropriateness of recreational creel limits should be examined and revised if necessary.
4. The criteria, procedures, and requirements for *de minimis* status should be revisited.
5. That section 3.3.9 concerning bycatch reduction devices be reconsidered and the credits referred to be explained further.
6. Revise annual report outline to encourage consistency among reports and aid the data collection efforts for the stock assessments.

Table 2: Atlantic coast commercial fisheries weakfish landings (in pounds), by state and year (1982-2000).

| YEAR | MA | RI | CT | NY | NJ | DE | MD | VA | NC | SC | GA | FL | Total |
|------|--------|---------|--------|-----------|-----------|-----------|---------|-----------|------------|-----|-------|---------|-------------------|
| 1982 | 22,900 | 176,800 | 25,600 | 1,257,100 | 2,073,500 | 1,294,500 | 249,200 | 2,149,200 | 12,052,232 | 443 | 596 | 176,203 | 19,478,274 |
| 1983 | 6,900 | 163,700 | 42,800 | 850,000 | 2,172,700 | 901,800 | 390,000 | 2,592,900 | 10,233,734 | | 2,749 | 117,720 | 17,475,003 |
| 1984 | 4,800 | 167,600 | 31,300 | 484,500 | 2,751,600 | 782,400 | 325,000 | 2,109,000 | 12,990,726 | | 862 | 125,799 | 19,773,587 |
| 1985 | 3,100 | 163,100 | 28,200 | 386,200 | 3,030,100 | 990,800 | 316,110 | 2,082,186 | 9,821,188 | | 82 | 132,291 | 16,953,357 |
| 1986 | 5,700 | 127,600 | 13,700 | 359,900 | 3,208,600 | 723,500 | 336,700 | 1,994,100 | 14,309,372 | | 75 | 108,726 | 21,187,973 |
| 1987 | 1,700 | 78,600 | 29,500 | 329,100 | 2,094,100 | 577,800 | 366,900 | 1,962,800 | 11,508,389 | | 189 | 123,081 | 17,072,159 |
| 1988 | 3,800 | 19,400 | 2,400 | 124,500 | 2,332,800 | 530,700 | 832,600 | 1,473,200 | 15,091,878 | | | 115,124 | 20,526,402 |
| 1989 | 1,900 | 9,600 | 2,300 | 103,500 | 1,458,500 | 530,200 | 743,800 | 1,025,200 | 10,115,747 | 113 | | 171,318 | 14,162,178 |
| 1990 | 1,720 | 24,646 | 1,281 | 19,924 | 968,318 | 613,000 | 662,361 | 1,207,560 | 5,802,159 | | 33 | 137,188 | 9,438,190 |
| 1991 | 1,912 | 25,009 | 21,300 | 111,629 | 1,174,181 | 497,300 | 328,251 | 1,059,679 | 5,308,574 | | | 164,925 | 8,692,760 |
| 1992 | 3,033 | 30,277 | 3,500 | 168,087 | 940,695 | 362,400 | 385,426 | 549,961 | 4,862,551 | | | 147,858 | 7,453,788 |
| 1993 | 1,080 | 9,991 | 1,477 | 88,379 | 834,446 | 194,700 | 181,863 | 1,088,047 | 4,309,249 | | | 144,347 | 6,853,579 |
| 1994 | | 18,155 | 11,000 | 99,470 | 695,280 | 261,900 | 140,907 | 1,294,224 | 3,490,002 | | | 179,582 | 6,190,520 |
| 1995 | 535 | 52,728 | 6,431 | 172,567 | 867,263 | 281,200 | 69,417 | 1,485,065 | 4,113,310 | | | 50,310 | 7,098,831 |
| 1996 | 86 | 43,723 | 6,937 | 365,646 | 822,041 | 310,849 | 132,795 | 1,587,186 | 3,977,671 | | | 4,493 | 7,251,427 |
| 1997 | 55 | 31,211 | 10,958 | 336,795 | 1,036,488 | 558,919 | 192,634 | 1,557,980 | 3,561,099 | | | 11,720 | 7,297,859 |
| 1998 | 410 | 77,095 | 14,482 | 500,183 | 1,805,938 | 552,644 | 244,467 | 1,863,928 | 3,354,060 | | | 11,518 | 8,424,725 |
| 1999 | 2,550 | 126,793 | 22,172 | 490,596 | 1,292,749 | 440,295 | 223,455 | 1,674,117 | 2,613,727 | | | 17,486 | 6,903,940 |
| 2000 | 527 | 189,362 | 7,920 | 335,943 | 1,071,428 | 320,067 | 208,315 | 1,362,829 | 1,869,073 | | | 7,208 | 5,372,672 |

Note: Maine reported 5 pounds of weakfish in 1995.

SOURCE: National Marine Fisheries Service

Table 3: Atlantic Coast Recreational Fisheries Landings of Weakfish (in pounds), by State and Year (1982-2000).

| Year | MA | RI | CT | NY | NJ | DE | MD | VA | NC | SC | GA | FL | Total pounds |
|------|--------|---------|--------|---------|-----------|-----------|-----------|-----------|---------|---------|--------|---------|--------------|
| 1982 | | 154,609 | 0 | 725,194 | 613,223 | 1,330,769 | 2,127,679 | 2,994,879 | 276,047 | 14,786 | | 48,137 | 8,285,323 |
| 1983 | 22,452 | 588,805 | 12,976 | 164,227 | 6,080,018 | 2,205,140 | 1,215,376 | 738,671 | 338,100 | 4,515 | 12,165 | 348,175 | 11,730,620 |
| 1984 | 16,272 | 0 | 11,358 | 51,464 | 3,987,542 | 1,279,594 | 254,962 | 850,169 | 189,031 | 5,150 | | 368,237 | 7,013,779 |
| 1985 | | 131,884 | 17,269 | 638,913 | 1,876,608 | 1,102,095 | 898,313 | 508,980 | 184,485 | 105,151 | 3,422 | 21,907 | 5,489,027 |
| 1986 | | 41,142 | 61,281 | 242,217 | 3,184,095 | 1,598,932 | 2,406,643 | 2,032,394 | 417,470 | 44,185 | 12,621 | 100,805 | 10,141,785 |
| 1987 | | | 4,286 | 51,830 | 3,353,362 | 1,072,198 | 831,615 | 647,692 | 710,002 | 23,781 | 9,491 | 45,637 | 6,749,894 |
| 1988 | | | 0 | 26,127 | 833,198 | 1,664,477 | 1,679,702 | 1,677,694 | 359,606 | 1,841 | 0 | 89,004 | 6,331,649 |
| 1989 | | | | 46,133 | 575,110 | 521,648 | 344,658 | 424,463 | 139,979 | 5,963 | 8,175 | 111,105 | 2,177,234 |
| 1990 | | 897 | | 4,317 | 358,457 | 207,131 | 388,662 | 256,690 | 63,420 | 11,186 | 961 | 55,538 | 1,347,259 |
| 1991 | | | 0 | 35,931 | 896,800 | 427,778 | 278,176 | 280,075 | 99,824 | 25,210 | 5,597 | 81,173 | 2,130,564 |
| 1992 | | 20,154 | 908 | 19,824 | 677,811 | 232,204 | 121,403 | 206,710 | 27,363 | 40,459 | 1,014 | 51,127 | 1,398,977 |
| 1993 | | | 6,510 | 18,889 | 312,839 | 291,627 | 173,952 | 89,992 | 78,982 | 6,929 | 12,791 | 109,827 | 1,102,338 |
| 1994 | | | 0 | 2,579 | 706,206 | 319,491 | 300,831 | 142,265 | 149,159 | 25,163 | 783 | 149,038 | 1,795,515 |
| 1995 | | 0 | | 24,467 | 898,564 | 419,527 | 141,511 | 211,494 | 72,412 | 22,875 | 21,283 | 43,413 | 1,855,546 |
| 1996 | | 0 | | 19,081 | 1,730,055 | 690,121 | 185,074 | 194,485 | 79,317 | 4,980 | 5,060 | 17,218 | 2,925,391 |
| 1997 | | 0 | 1,367 | 220,718 | 1,817,034 | 734,800 | 188,339 | 463,652 | 165,032 | 1,728 | 34,356 | 65,690 | 3,692,716 |
| 1998 | 4,087 | 0 | 9,808 | 63,298 | 1,910,868 | 616,422 | 377,820 | 839,245 | 192,210 | 11,288 | 690 | 19,237 | 4,044,973 |
| 1999 | | 5,866 | 6,371 | 63,058 | 1,374,169 | 484,157 | 544,474 | 399,588 | 161,291 | 4,383 | 1,614 | 98,457 | 3,143,428 |
| 2000 | | 1,795 | 33,283 | 156,873 | 1,858,145 | 604,903 | 675,996 | 483,495 | 83,215 | 6,111 | 3,366 | 108,122 | 4,015,304 |