

Chesapeake Executive Council

Annual Progress Report

Chesapeake Bay Striped Bass
Fishery Management Plan

Chesapeake Bay Program

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April 1991

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Chesapeake Bay Striped Bass Fishery Management Plan

A Commitment Progress Report from
the Living Resources Subcommittee

Annapolis, Maryland
April 1991

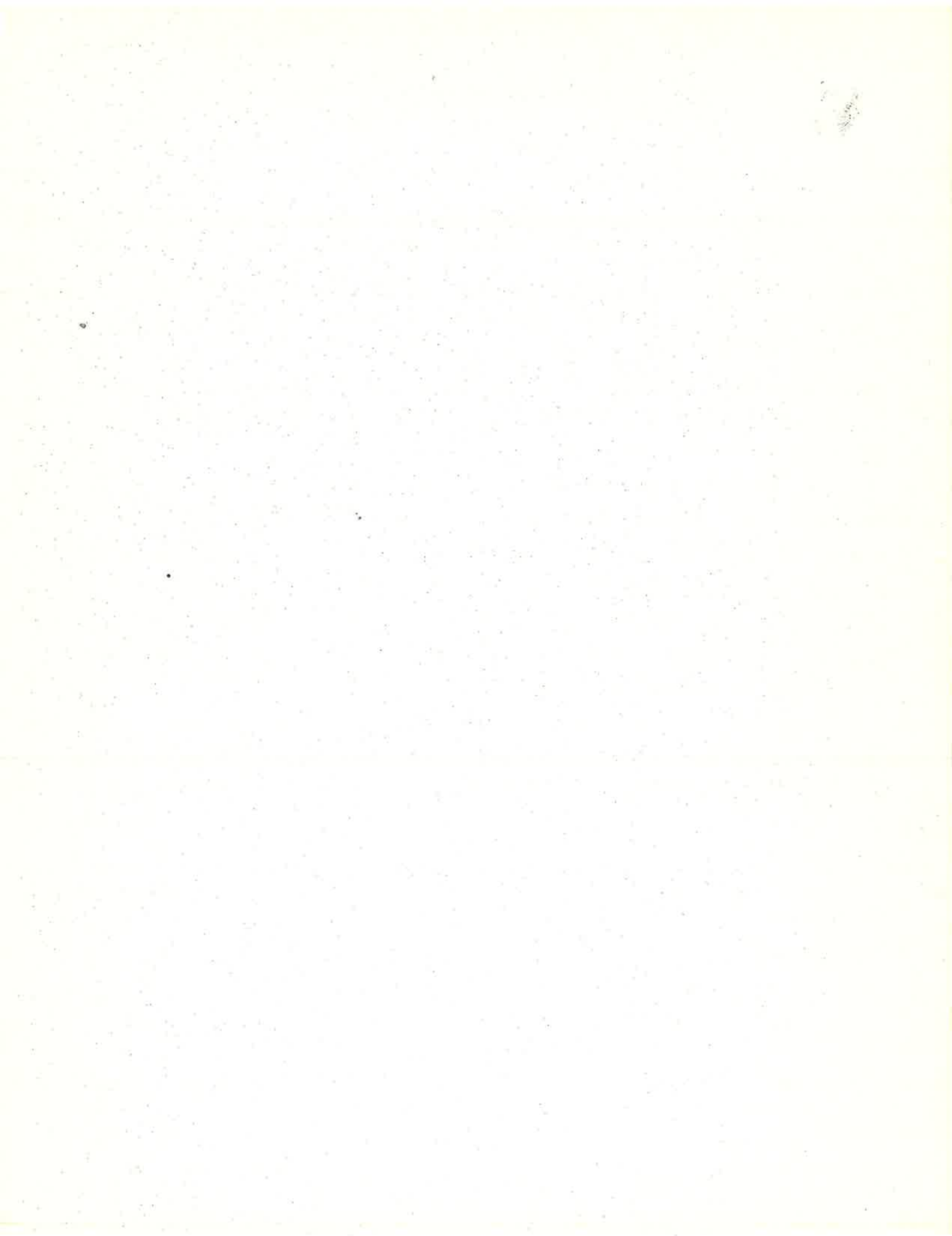
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EXECUTIVE SUMMARY

Growth of the Chesapeake Bay striped bass spawning population and improvements in the species' reproductive success from 1987 to 1989 resulted in the reopening of the Chesapeake rockfish fishery, on a very limited and controlled basis, in 1990. Before opening the fishery, states were required to meet certain minimum standards established by the Atlantic States Marine Fisheries Commission (ASMFC). Pennsylvania, Maryland, Virginia, the District of Columbia, and the Potomac River Fisheries Commission agreed to take a coordinated approach to striped bass management via the 1987 Chesapeake Bay Agreement. In December 1989, Bay Agreement signatories adopted the Chesapeake Bay Striped Bass Management Plan in which they outlined how, in accordance with ASMFC requirements, the reopened fishery would be conducted.

The Chesapeake Bay striped bass fishery was conducted during several periods in different locations from September 1990 through February 1991. Systems were put in place to allocate the catch among different user groups, to monitor the catch, and to enforce fishery regulations. The large turnout of fishermen necessitated an early closure of some of the individual state fisheries. However, the monitoring and regulatory systems in place worked successfully and kept the catch within target levels designed to allow the striped bass population to continue growing. Given the magnitude of fishing effort, few violations of fishing regulations were reported; this indicates the public's support and awareness of the need to protect this species.

Deliberations are underway for the 1991 - 1992 striped bass fishery. Valuable knowledge gained from the 1990 - 1991 fishery is being used to make improvements this year. With continued wise management of the resource, striped bass fishing in the Chesapeake Bay will continue to improve over time.



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Introduction

One of the living resources commitments of the 1987 Chesapeake Bay Agreement was the development of baywide fishery management plans (FMPs) for several important fish and shellfish species. Striped bass or rockfish was among these. The Fisheries Management Workgroup formed to develop the striped bass FMP was composed of members from government agencies, the academic community, the fishing industry, and public interest groups representing Pennsylvania, Maryland, Virginia, the District of Columbia, and the federal government. The Chesapeake Bay Striped Bass Management Plan was completed in December 1989. It addressed requirements of the Atlantic States Marine Fisheries Commission (ASMFC) and formed the basis of a coordinated response to striped bass management among Chesapeake Bay jurisdictions. The striped bass FMP, along with recommendations from various advisory committees, resulted in state fishery regulations that were compatible, and where possible, identical.

A number of restrictions were implemented in the 1980s to counteract the severe decline in striped bass landings and recruitment from the previous decade. Maryland enacted a moratorium on striped bass fishing on January 1, 1985. Virginia enacted size limits and seasonal restrictions. Four years later, the Potomac River and the Virginia fisheries were also closed. An increase in Maryland's striped bass reproduction (the juvenile index) through 1989 and strong recovery of striped bass stocks allowed a very conservative Chesapeake Bay fishery to be opened for the 1990-1991 season. This report gives an overview of the goals, regulations, enforcement, and harvests pertaining to the fishery.

The Fisheries

Amendment 4 to the ASMFC Interstate Striped Bass Management Plan (ASMFC Plan), adopted in October 1989, specified strict measures to control and monitor fishing. State measures had to limit fishing mortality rate to 0.25 (equivalent to about 18% of the legal size fish being harvested) by enacting measures at least as conservative as the following: restriction of commercial fishing to those months which accounted for 20% of the average commercial catch from 1972 to 1979; a year-round recreational creel limit of one fish per person per day; and minimum sizes of 18 inches total length (TL) for resident stocks in inland waters and 28 inches TL for migratory stocks (generally captured in the Atlantic Ocean). The ASMFC also recommended a prohibition of directed fisheries on striped bass spawning grounds during spawning season.

Each coastal state was required to submit a detailed description of its regulations and monitoring program to the ASMFC for approval. States could submit alternative measures to achieve the same effect as ASMFC's preferred actions.

The major fishing regulations adopted by each Chesapeake jurisdiction during the 1990-1991 season are presented in Table 1. These include seasons, creel limits, size limits, and quotas or caps. There were also gear, area, and other types of restrictions; many of these are included in Table 2. Table 2 gives an overview of all actions taken in response to the Chesapeake Bay Striped Bass Management Plan.

Fishery Dependent Monitoring Programs

Fishery dependent monitoring included collecting commercial and recreational catch and effort data. The following is a brief summary of the fishery dependent monitoring programs for each jurisdiction.

Maryland

Commercial striped bass fishermen were required to declare their intent to fish with a single gear prior to the season. Individual quotas and quota tickets were assigned to each participant. Commercial fishermen were also required to maintain daily logs and submit weekly reports. Check-in stations were established to tag and identify fish, with the number of pounds caught per day telephoned to the Maryland Department of Natural Resources (MDNR). MDNR staff surveyed check-in stations to sample catch, effort and bycatch. Daily and weekly harvests were calculated to determine how close the total was to the season quota. The total reported striped bass catch for the 1990-1991 commercial season was 124,699 pounds from the Chesapeake Bay and 5,533 pounds from the Atlantic Ocean.

The recreational striped bass fishery (from shore or privately owned boats) was monitored by telephone, intercept, volunteer and aerial surveys. Catch rates, obtained from telephone and creel surveys, the number of sportfishing licenses, and the number of angler trips were used to calculate total catch. The recreational season was closed at the end of October 14, 1991, after just ten days of fishing. The recreational harvest was estimated at 381,376 pounds. The short season was attributed largely to fish that were bigger than estimates had projected and a turnout of fishermen much larger than expected. The Atlantic Ocean recreational fishery remained open for the entire season.

Charter boat captains were required to fill out daily logs for each fishing trip and mail them to MDNR every week. The charter boat harvest was calculated using logbook catch rates and average

weight from access interviews. The charter catch rate was higher than expected, so the creel limit was reduced on October 15, 1991 from 5 fish/person/day to 2 in an effort to extend the season. The charter creel limit was further reduced to 1 fish/person/day on October 19 and the fishery was closed on December 20, 1991. The charter fishery caught an estimated 97,971 pounds. The Atlantic Ocean charter fishery remained open for the entire season.

Virginia

Virginia's fishery dependent monitoring included daily telephone reports by buyers and self-marketers, special fishing permits, mandatory daily and weekly reporting, and supplemental log reports. Each commercial gear was uniquely permitted and provided detailed effort information. In addition, the Virginia Marine Resources Commission (VMRC) Stock Assessment Program conducted biological sampling of the commercial catch. This program provided size, sex and age composition of the 1990 Virginia fishery. The commercial season opened on November 9, 1991 with a lot of fishing activity. Reports indicated that Virginia's 858 commercial striped bass permit holders would reach their quota in the first four days of the season, so the commercial season was closed on December 9. The preliminary commercial catch estimate is 260,000 pounds.

Virginia's private recreational and charter season was open from November 5th through December 5th. There were approximately 43,000 recreational permit holders in Virginia. In addition to permit and report systems, expanded telephone and intercept surveys were conducted to provide an improved measure of catch and effort. Preliminary harvest estimates are 180,000 pounds for the recreational fishery and 8,000 pounds for the charter boat fishery.

Potomac River

The Potomac River changed its mandatory commercial catch reporting period from monthly to weekly. They continued their strict enforcement policies of license suspensions for failure to report. Catch data was improved by adding more detailed effort information. Maryland and Virginia buyers supplied the Potomac River Fisheries Commission (PRFC) with reports of striped bass purchases attributed to the Potomac River. This system helped verify fisheries reports and provided an early warning system for harvest activity. Except for the commercial pound netters, each of the gear types had a shorter season than proposed. The commercial catch reported from the Potomac River was 168,479 pounds.

The Potomac River recreational fishery was subsampled by the Maryland telephone survey. The recreational fishery for both private and charter boats on the Potomac River, was closed on October 17th. The estimated recreational catch for individual hook and line and charter boat was 63,186 pounds and 18,204 pounds,

respectively. The total estimated recreational catch was 14% over the target cap of 71,381 pounds.

The District of Columbia reported no recreational catch. The normal creel survey was increased from four to eight days during the six week fishing period.

Fishery Independent Monitoring

Fishery independent monitoring programs were implemented to characterize striped bass population dynamics, a critical part of effective management. These programs included juvenile surveys, spawning stock assessments, tagging, and stock discrimination research.

Maryland DNR assessed striped bass spawning populations in the Upper Chesapeake Bay, Potomac River and Choptank River by age, size, sex, and relative abundance. Characterization of the 1990 spring spawning population provided evidence that the number of striped bass females in the Upper Bay and Choptank River have increased and more age classes are represented. The Virginia Institute of Marine Science (VIMS) is currently processing biological data from the Rappahannock River striped bass spawning population. The District of Columbia's Fisheries Management Program also conducted stock assessments of striped bass in the upper Potomac River.

The juvenile striped bass index for the Maryland portion of the Chesapeake Bay and tributaries was 2.1, a dramatic decrease from the record 1989 index of 25.2. Although large numbers of mature fish were on spring spawning grounds, environmental conditions (a period of rain and a cold spell in April, 1990) probably helped account for the low index. The 1990 Virginia juvenile index was 7.3. Although this was lower than the previous three years, it exceeds any value prior to this period. Surveys in both states during 1990 indicated numerous one year old striped bass.

Enforcement Program

In response to heavy fishing activity generated by reopening a limited fishery, increased effort and aggressive enforcement of striped bass regulations were conducted by natural resources police officers throughout the Bay. In addition to the high visibility of official enforcement efforts, the public was solicited to participate in reporting fishing violations. Routine checks were directed at shoreside fishermen, boat fishermen, dockside boats, and wholesale and retail establishments.

Officers inspected approximately 40,000 fishermen and boats and over 700 establishments, issuing about 250 citations and written warnings. Most ticketed violations were for fishing without a license and possession of undersized fish. The majority of fishing violations were committed by recreational fishermen. The strict baywide enforcement strategy effectively upheld the striped bass regulations, thereby protecting the resource and establishing a good precedent for future striped bass fishing seasons.

Conclusion

With the opening of a limited striped bass fishery, it was critical that the jurisdictions monitor harvest in a timely fashion and, if necessary, react with appropriate management measures. The monitoring and regulatory systems worked very successfully to keep harvest within target goals. On-going fishery independent monitoring projects continue to provide measures of striped bass reproductive success and stock growth.

The strategies recommended by the Chesapeake Bay Striped Bass Management Plan allowed each jurisdiction flexibility in determining their specific management needs, yet forged a compatible and consistent management regime in the Chesapeake Bay. Information gained during the 1990 - 1991 striped bass fishery will be used in successive years to maintain stock growth, yet provide an enjoyable recreational fishing experience and generate valuable economies associated with the fishery.

Areas that need to be emphasized during 1991 to improve management of the striped bass fishery include:

1. Continue to conduct striped bass stock assessments, assessments of fishing and natural mortality, and studies on reproduction, including the development of a Baywide juvenile index;
2. Refine management actions for the 1991 - 1992 Chesapeake Bay striped bass fishing seasons based on new scientific information and results of the 1990 - 1991 seasons;
3. Continue to coordinate management efforts with other ASMFC states having an interest in striped bass to protect stocks and promote stock growth.

Table 1. 1990 - 1991 Striped Bass Fishing Regulations in the Chesapeake Bay.

<u>SEASONS</u>	<u>Maryland</u>	<u>Virginia</u>	<u>PRFC</u>	<u>D.C.</u>
Commercial				
Gill Net	Jan 2-31	Nov 5-Dec 5	Nov 8-14 Dec 8-14 Feb 8-28	No commercial fishery
Pound Net	Nov 12-Dec 7	Nov 5-Dec 5	Oct 1-7 Nov 1-7 Dec 1-7	
Hook/Line	Nov 12-Dec 7	No season	Sep 18-30	
All other	Nov 12-Dec 7	Nov 5-Dec 5	Dates above*	
Recreational	Oct 5-Nov 9	Nov 5-Dec 5	Oct 5-Nov 15	Oct 5-Nov 1
Charter	Oct 5-Nov 9	Nov 5-Dec 5	Oct 5-Nov 15	No fishery
<u>CAPS/QUOTAS (lbs)</u>				
Commercial	318,750	211,000	158,000	No fishery
Recreational	318,750	No cap	57,000	No cap
Charter	112,500	No cap	14,000	No fishery
<u>CREEL LIMITS</u>				
Recreational /person/day	2	2	2	2
Charter /person/day	5	2	5	-
<u>LEGAL SIZE</u>				
MIN (inches)	18	18	18	18
MAX (inches)	36	36	36	36

*Other gear allocated only 1,000 lbs.; may catch and sell during commercial seasons for pound nets, gill nets, and hook and line.

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PROBLEM AREA	ACTION	DATE	RESPONSIBLE AGENCY & METHOD	COMMENTS/NOTES
1.1 Over-fishing	1.1.1 The jurisdictions will utilize a combination of harvest restrictions to meet target fishing mortality rates	1990	MDNR - R DCFM - R PRFC - R VMRC - R	Commercial harvest caps, seasons, area restrictions, gear restrictions, minimum size and other measures were implemented. See actions below.
	1.1.2 The jurisdictions will cap commercial harvest with a quota not to exceed 20% of the average annual commercial catch from 1972-1979.	1990	MDNR - R PRFC - R VMRC - R	1990 - 1991 commercial harvest caps: MD Bay: 318,750 lbs; Ocean: 25,000 lbs; PRFC: 158,000 lbs; VA: 211,000 lbs. DC: No commercial fishing. Commercial allocations were further subdivided by gear type. MD also established individual quotas. See section 2.1 below.
1.2 Reduced Spawning Stock	1.2.1 The jurisdictions will establish a minimum size limit of 18" in the Bay.	1990	MDNR - R DCFM - R PRFC - R VMRC - R	Each jurisdiction established a minimum size of 18 inches in the Bay. The minimum size in the Atlantic Ocean was 28 inches. MD is planning a 2 week May Trophy fishery with a minimum size of 36".
	1.2.2 The jurisdictions will prohibit the keeping and sale of sublegal striped bass bycatch.	1990	MDNR - R PRFC - R VMRC - R	Gill net mesh sizes were set to target fish larger than 18" (see 2.2.1), minimizing harvest of small fish. Regs prohibited keeping and selling fish under 18 inches.
	1.2.3 The jurisdictions will establish a maximum size limit of 36" in the Bay.	1990	MDNR - R DCFM - R PRFC - R VMRC - R	Not required by ASMFC, but established as a conservation method. No maximum size was established in the ocean and coastal bays.

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PROBLEM AREA	ACTION	DATE	RESPONSIBLE AGENCY & METHOD	COMMENTS/NOTES
1.3 Poor Recruitment	1.3.1 During the transition fishery, age VIII and older females will be protected so they become sufficiently represented in the spawning pop.	1990	MDNR - A DCFM - A PRFC - A VMRC - A	The combination of size limits, minimum mesh sizes, harvest caps, and other actions will keep fishing mortality low enough for sufficient numbers of age VIII and older females to become part of the spawning stock.
	1.3.2 During a recovered fishery, females age VIII and older will be protected so they continue to be represented in the spawning population	Open	MDNR - A DCFM - A PRFC - A VMRC - A	Action date depends on when a recovered fishery is reached.
	1.3.3 Maryland and Virginia will continue hatchery production to enhance the striped bass spawning stock.	Continue	MDNR - A VMRC - A USFWS - A	Are continuing to produce larvae and fingerlings; also are tagging hatchery fish to assess their contribution to the population.
	1.3.4 Hybrid and non-native SB stocking will be restricted according to ASMFC guidelines.	1990	MDNR - A PFC - A USFWS - A	MDNR, PFC & USFWS are discussing stocking issues for the Susquehanna. MD is providing PA with about 600,000 larvae & 20,000 fingerlings annually.
2.1 Allocation Issues	2.1.1 Maryland quota will be allocated as follows- 42.5% commercial; 42.5% recreational 15% charter. VA and PRFC will use various restrictions to equitably allocate harvest.	1990	MDNR - R PRFC - R VMRC - R	MD, VA, & PRFC are sub-allocating for various commercial gears. Transfer of allocations will be prohibited. Allocations will be reviewed annually. Other 1990-1991 SB Target Caps: MD Recreational - 318,750 lbs, Charter - 112,500 lbs; PRFC Recreational - 57,381 lbs, Charter - 14,000 lbs;

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PROBLEM AREA	ACTION	DATE	RESPONSIBLE AGENCY & METHOD	COMMENTS/NOTES
	2.1.2 Commercial fishing seasons will be closed when harvest caps are reached, regardless of time during season. Same for other MD seasons.	1990	MDNR - A, R PRFC - A, R VMRC - A, R	Each jurisdiction monitored effort to calculate harvest; fishing was terminated as appropriate and notification was given to the public. Preliminary catch figures: MD: Recreational - 381,367 lbs; Charter - 97,971 lbs; Bay Commercial - 127,614 lbs; Atl. Commercial - 4,927 lbs; VA: Recreational - 180,000 lbs; Charter - 8,000 lbs; Commercial - 260,000 lbs; PRFC: Recreational - 63,186 lbs; Charter - 18,204 lbs; Commercial - 168,479 lbs.
2.2 Gear Restrictions	2.2.1 The jurisdictions will establish minimum mesh sizes for gill nets.	1990	MDNR - R PRFC - R VMRC - R	Minimum mesh sizes established: VA - 4 7/8"; MD - 5"; PRFC - 5 1/4". These target 18" and larger fish.
	2.2.2 MD and VA will require drift gill nets to be marked, tended, and recovered daily. Other VA gill nets must be marked. PRFC will continue fixed location for gill nets.	1990	MDNR - R PRFC - A VMRC - R	Appropriate regulations were implemented; MD and VA established similar drift net marking systems to reduce confusion.
	2.2.3 Maryland and Virginia will establish a maximum length of gill net allowed. PRFC will establish a maximum number of gill net licenses.	1990	MDNR - R PRFC - R VMRC - R	MD - 400 yds/licensee or 1200 yds/boat for 3 licensees; VA - 600 yds/vessel; PRFC - 200 yds/stand (licensed location), 2 stands/person or 4/boat.
	2.2.4 Maryland and Virginia will establish annual quotas for their commercial fisheries	1990	MDNR - R PRFC - R VMRC - R	Commercial harvest caps were enacted; see Action 1.1.2. Caps for 1991-1992 are being discussed.

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PROBLEM AREA	ACTION	DATE	RESPONSIBLE AGENCY & METHOD	COMMENTS/NOTES	
2.3 Selling and Buying Striped Bass	2.3.1 A) MD will establish check stations;	1990	MDNR - R	A) MD established 22 check stations for the November 1990 season and 26 for the January 1991 season. Each consignment of fish required tags.	
	B) VA dealers and watermen will be required to have a special permit to sell;			VMRC - R	B) VA established permit system for harvestors and dealers.
	C) Sale by recreational and charter fishermen will be prohibited.				C) Regulations were established.
2.4 Seasons, Creel Limits, and Fishing Areas	2.3.2 Will establish weekly reporting systems for buyers and commercial watermen.	1990	MDNR - R	MD: daily logs and weekly transmittal by watermen, weekly reports by dealers.	
	2.4.1 A-E The jurisdictions will establish fishing seasons in the Bay with as much consistency as possible.		PRFC - R	VA: weekly reports from watermen and buyers.	
			VMRC - R	PRFC: weekly reports from watermen. MD & VA provided buyer data to PRFC during their seasons.	
2.4.2 Maryland will prohibit commercial SB fishing on weekends and at night.		1990	MDNR - R	Seasons differed slightly because of fish migration patterns and local practices. Seasons established:	
			DCFM - R	MD Bay - commercial gill net: Jan 2 - Jan 31; other commercial gears: Nov 2 - Dec 7; recreational and charter: Oct 5 - Nov 9.	
			VMRC - R	MD Ocean - commercial: Jan 2 - 31; rec & charter: Oct 5 - Nov 9.	
			MDNR - R	VA - all fisheries: Nov 5 - Dec 5; PRFC - commercial: various times from July to Feb; recreational and charter: Oct 5 - Nov 15.	
			MDNR - R	DC - Recreational: Oct 5 - Nov 16.	
			MDNR - R	Regulations enacted; changed during season to allow some weekend fishing.	

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PROBLEM AREA	ACTION	DATE	RESPONSIBLE AGENCY & METHOD	COMMENTS/NOTES
	2.4.3 The jurisdictions will maintain striped bass fishing areas.	1990	MDNR - A, R PRFC - A VMRC - A, R	Striped bass fishing will not be allowed in spawning areas during spawning season.
	2.4.4.1 The jurisdictions will establish creel limits of up to 5 fish for the recreational and charter fisheries.	1990	MDNR - R DCFM - R PRFC - R VMRC - R	Each jurisdiction established a 2 fish/person/day private recreational limit; VA had 2, MD & PRFC had 5 fish per day for charter fishermen.
	2.4.4.2 Maryland may allow one trophy fish per boat during a May trophy season.	Open	MDNR - R	MD proposed a 1 fish/person/season (<17 days long) May trophy season.
2.5 Monitoring	2.5.1 The jurisdictions will monitor striped bass harvest using a variety of methods.	1990	MDNR - A, R PRFC - A, R VMRC - A, R	Used combination of creel surveys, check station and access point sampling, aerial counts, and reports from harvesters/dealers.
	2.5.2 DC will conduct an angler survey to determine striped bass catch & effort.	1990	DCFM - A	Designed and implemented.
2.6 Management and Enforcement Authority	2.6.1 The jurisdictions will develop appropriate mechanisms for timely management of the striped bass resource.	1990	MDNR - R, L DCFM - R PRFC - R VMRC - R	MD has new authority to manage SB and other species. Other jurisdictions have adequate authority. Jurisdictions continue to coordinate management actions.
	2.6.2 The jurisdictions will adopt consistent enforcement policies.	1990	MDNR - A, R DCFM - A, R PRFC - A, R VMRC - A, R	Major regulations were compatible among jurisdictions. Resource police were involved in process and evaluated enforcement needs.

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PROBLEM AREA	ACTION	DATE	RESPONSIBLE AGENCY & METHOD	COMMENTS/NOTES
3.1 Stock Assessment and Research Needs	3.1 The jurisdictions will continue their efforts to collect stock information.	Continue	MDNR - A DCFM - A PRFC - A VMRC - A	These programs include assessment of juvenile and adult abundance, monitoring the fisheries, tagging for stock discrimination.
	3.2 The jurisdictions will review, update, and initiate studies as needed on reproduction, early mortality, etc.	Variable	MDNR - A DCFM - A PRFC - A VMRC - A	Information is being collected on direct & by-catch fishing mortality, survival of early life stages, and other data.
4.1 Water Quality	4.1 The jurisdictions will continue to support the commitments under the 1987 Chesapeake Bay Agreement.	Continue	MDNR - A DCFM - A PRFC - A VMRC - A	The habitat requirements document is being updated, and information on MD anadromous fish spawning areas is being computerized with water quality and other data.

LEGEND

- ASMFC = Atlantic States Marine Fisheries Commission
- DCFM = District of Columbia Fishery Management Program
- MDNR = Maryland Department of Natural Resources
- PFC = Pennsylvania Fish Commission
- PRFC = Potomac River Fisheries Commission
- USFWS = U.S. Fish & Wildlife Service
- VMRC = Virginia Marine Resources Commission
- A = Administrative Action
- L = Legislation
- R = Regulation