

**Addendum IV
to the
Interstate Fishery Management Plan
for Tautog**



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1.0 INTRODUCTION

1.1 BACKGROUND INFORMATION

Tautog management authority from 0-3 miles offshore lies with the coastal states and is coordinated through the Atlantic States Marine Fisheries Commission (ASMFC). Responsibility for compatible management action from 3 – 200 miles offshore lies with the Secretary of Commerce through the Atlantic Coastal Fisheries Cooperative Management Act in the absence of a federal fishery management plan (FMP). The ASMFC adopted the Tautog FMP in March 1996. The FMP required states to implement a minimum possession size to increase spawning stock biomass and yield to the fishery. It also included fishing mortality targets intended to rebuild the stocks and prevent overfishing.

Shortly after the FMP's approval, the states expressed concern about their ability to meet the FMP's compliance schedule because of continuing problems with data deficiencies. Specifically, several states felt that the plan did not allow adequate time to determine state-specific fishing mortality rates. Further, the compliance schedule required states in the species' northern range to implement management measures prior to states at the southern extent of the species range', whereas some states supported consistent compliance dates throughout the range of the species.

In response, the Tautog Management Board (Board) approved Addendum I to the FMP in May 1997. Addendum I required all states to implement management measures to reach an interim fishing mortality target ($F=0.24$) and a 14" size limit by April 1, 1998. Additionally, all states would be required to implement management measures to achieve a fishing mortality target of $F = 0.15$ by April 1, 2000. The Addendum also included *de minimis* requirements and corrected several typographical errors in the original FMP.

In the fall of 1999, the Board requested that Addendum II be developed to adjust the compliance schedule and compile a list of issues to be address in a later addendum. Addendum II was approved November 1999 and extended the compliance schedule to April 2, 2002. Addendum II also introduced the following issues to be addressed in a subsequent addendum: (1) set the target fishing mortality rate (F) equal to the natural mortality rate (M) for tautog, (2) clarified of the fishing mortality targets in the FMP with respect to individual state management program flexibility, (3) established monitoring requirements in the FMP, and (4) standardized data requirements to analyze management options by fishing modes within commercial and recreational fisheries.

Addendum III, approved February 2002, addressed the four issues above as well and updated information pertaining to tautog habitat and data collection provisions under the Atlantic Coastal Cooperative Statistics Program. Addendum III revised the plan target and compliance requirement of $F=M=0.15$ to $F_{40\% SSB}$. Technical Addendum 1 to Addendum III corrected a typographical error in Addendum III to the FMP

Addendum IV establishes spawning stock biomass target and threshold reference points allowing the ASMFC to determine whether or not the stock is overfished.¹ This Addendum also establishes a new rebuilding fishing mortality rate of $F = 0.20$ to initiate rebuilding to the spawning stock biomass threshold and target levels.

¹ The analysis supporting the selection of the biomass reference points and fishing mortality rate are fully described in a document by the ASMFC Tautog Technical Committee. The document is titled *Development of Fishing Mortality and Spawning Stock Biomass Reference Points Option for Addendum IV to the Tautog Fishery Management Plan*.

1.2 CURRENT MANAGEMENT REGULATIONS

1.2.1 Recreational Fishery

Recreational regulations on tautog harvest vary greatly from state to state. As a baseline, the fishery management plan for tautog required that all states implement (by April 1, 1998) and enforce a 14” minimum size for recreational fisheries. Massachusetts, Rhode Island, and Delaware have gone beyond this requirement by implementing a 16” minimum size limit for Massachusetts and Rhode Island state waters, and a 15” minimum size limit for Delaware state waters. Possession limits, size limits, and seasonal closures have been implemented by the states in order to achieve the Addendum III target of $F_{40\%SSB}=0.30$ See Table 1 for a list of the recreational tautog regulations by state that were in place in 2005.

Table 1: 2005 Recreational Tautog Regulations

STATE	SIZE LIMIT	POSSESSION LIMITS	OPEN SEASONS
Massachusetts	16”	3	All Year
Rhode Island	16”	3	May 1-May 31
	16”	3	July 1-October 21
Connecticut	16”	10	October 22-December 15
	14”	4	January 1-April 30
	14”	4	June 15- September 7
New York	14”	4	September 22-December 13
	14”	10	January 1 – May 31
	14”	10	October 1 – December 31
New Jersey	14”	4	January 1-May 31
	14”	1	June 1-November 14
	14”	8	November 15-December 31
Delaware	14”	10	January 1-March 31
	15”	3	April 1 - June 30
	14”	10	July 1-August 31
	14”	10	October 1-December 31
Maryland	14”	5	January 1-November 30
Virginia	14”	7	All Year

1.2.2 Commercial Fishery

Commercial regulations on tautog harvest vary greatly from state to state as well. As a baseline, the Tautog FMP required that all states implement (by April 1, 1998) and enforce a 14” minimum size for commercial fisheries. This Addendum does not require additional reductions in the commercial fishery to meet the coastwide $F = 0.20$ (section 4). States are not permitted to relax commercial tautog regulations under this Addendum and must maintain at least as stringent regulations as were in place for the 2006 fishing season. See Table 2 for a list of commercial tautog regulations by state that were in place in 2005.

Table 2: 2005 Commercial Tautog Regulations

STATE	SIZE LIMIT	POSSESSION LIMITS	OPEN SEASONS	QUOTA	GEAR RESTRICTIONS
Massachusetts	16"	40	April 16-May 15 July 11-October 31		
Rhode Island	16"	10	Closed		Yes
Connecticut	14"	a	January 1-April 30 June 15-Dec 31		Yes
New York	14"	b	April 8 – February 28		Yes
New Jersey	14"		January 1-January 15 April 15-June 30 November 1-December 31	103,000 lbs	Yes
Delaware	14"	10	January 1-March 31		
	15"	3	April 1 - June 30		
	14"	10	July 1-August 31		
	14"	10	October 1-December 31		
Maryland	14"	5	All Year		Yes
Virginia	14"		Jan 1- April 30		Yes
			Sept 1- Dec 31		
<p>a.) The bottom trawl fishery has a possession limit of 75 fish/day, the commercial hook, fish pot, trap net, fyke net, and gill net fisheries the possession limit is 25 fish/day, and in the lobster pot fishery the possession limit of 10 fish/day. Holders of a Connecticut Marine Pound Net Registration may possess up to 12 fish/day year round except during the May 1 through June 14 closed season when all female tautog must be released without avoidable injury</p>					
<p>b.) New York has a 25 fish/vessel trip limit for commercially caught tautog, except only 10/ vessel are allowed when lobster pot gear and more than six lobsters are in possession.</p>					

1.3 ANNUAL HARVEST

1.3.1 Recreational Fishery

Recreational catches fluctuated without trend from 1981 to 1985. Harvest peaked at approximately 17 million pounds in 1986 and declined steadily, reaching the 1.7 million pound mark in 1998. The most recreationally landed tautog were caught in Massachusetts, New York, and New Jersey during the 1981 to 1995 time period (pre-plan), with those states accounting for 58 % of the recreational harvest by weight. Since plan implementation New Jersey and New York have been the top two recreational landing states, accounting for approximately 49% of the catch, although fishing pressure appears to have shifted since implementation of Addendum III in 2002 (Table 3 and Figure 1).

Table 3. Tautog recreational harvest (A + B1) in weight (lbs.) of fish, 1996-2005 by state. Data from MRFSS.

Year	CT	DE	MD	MA	NJ	NY	RI	VA	NC	Total
1996	245,817	158,751	26,484	397,284	1,123,173	193,046	248,840	778,314	13,190	3,184,899
1997	84,297	204,419	182,995	166,042	483,639	331,530	301,109	319,257	58,750	2,132,038
1998	231,622	257,347	27,648	96,694	41,431	208,743	316,338	273,516	26,420	1,479,759
1999	61,142	358,329	37,677	363,472	511,672	761,447	223,762	203,249	11,940	2,532,690
2000	58,475	373,580	56,127	442,816	1,812,959	258,099	203,601	188,187	3,194	3,397,038
2001	63,157	159,961	72,357	502,248	1,482,613	171,928	165,380	127,556	3,413	2,748,613
2002	447,139	646,664	56,178	521,611	858,046	2,137,521	205,654	44,707	4,447	4,921,967
2003	596,302	167,314	17,077	177,878	117,558	380,263	469,251	281,289	20,512	2,227,444
2004	514,977	424,405	15,798	118,438	183,185	1,185,453	516,315	484,293	36,151	3,479,015
2005	303,613	221,377	125,894	253,597	120,316	376,962	494,595	423,241	20,886	2,340,481
'96-05 Average	260,654	297,215	61,824	304,008	673,459	600,499	314,485	312,361	19,890	
'03-05 Average	471,631	271,032	52,923	183,304	140,353	647,559	493,387	396,274	25,850	

1.3.2 Commercial Fishery

Commercial landings fluctuated without trend, around the 200,000-pound mark, from 1950 until 1980. Landings began to increase in the early 1980s reaching a high of 1.16 million pounds in 1987. Commercial interest in tautog increased substantially during the mid-1980s in response to higher market prices. From 1986 through 1992 landings remained at around one million pounds. A steep decline in landings began in 1993 and continued through 1999, when commercial landings dropped to under 210,000 pounds following implementation of the FMP. Landings have fluctuated moderately between about 250,000 and 350,000 pounds in recent years (Table 4 and Figure 1). Tautog are caught by otter trawls, gillnets, hook and line, fish pots, and lobster traps. Massachusetts, Rhode Island, New York, and New Jersey have been the predominant states for commercially caught tautog in recent years, accounting for approximately 80% of coastwide commercial landings.

Table 4. Commercial landings in pounds, 1996-2005 by state. (Source: NMFS Fisheries Statistics Division, 2006)

Year	CT	DE	MD	MA	NJ	NY	RI	VA	NC	Total
1996	33,327		3,622	32,579	89,435	105,466	64,876	26,137	452	355,894
1997	14,519	841	7,663	64,275	49,726	78,228	39,601	25,471	623	280,947
1998	6,905	1,715	5,682	91,424	42,426	69,004	20,327	14,770	2,173	254,426
1999	12,961	844	6,489	75,685	27,392	38,033	26,107	20,901	728	209,140
2000	8,504	272	3,896	96,001	39,636	38,839	43,719	14,794	674	246,335
2001	22,259	287	4,591	84,330	60,152	62,795	56,065	14,587	414	305,480
2002	26,781	629	5,101	148,073	36,605	60,805	50,007	22,834	705	351,540
2003	40,784	3,816	5,213	86,205	65,186	72,264	54,650	10,705	98	338,921
2004	26,037	3,064		88,176	51,057	76,606	36,934	12,388	84	294,346
2005	23,822	2,207	2,751	93,911	56,175		46,122	5,532	56	230,576
Average	21,590	1,368	5,001	86,066	51,779	66,893	43,841	16,812	601	

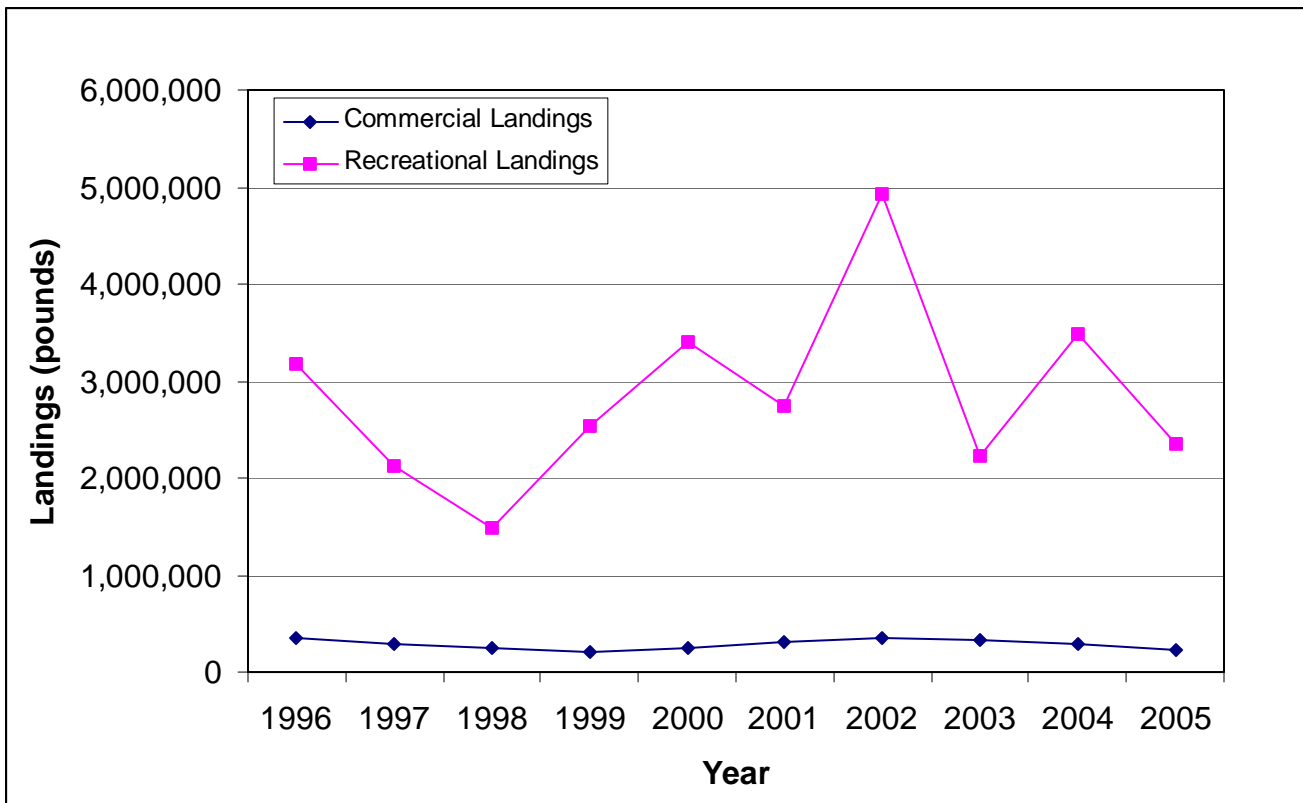


Figure 1. Tautog Commercial and Recreational Landings, 1996-2005

1.4 DESCRIPTION OF THE RESOURCE

1.4.1 Status of the Stock

The 2005 peer reviewed benchmark assessment was updated in 2006 to include the 2004 catch data and the 2005 fishery independent surveys. A coastwide estimate of fishing mortality was derived with a virtual

population analysis model (VPA) using fisheries dependent and independent data (independent data from Massachusetts through New Jersey only). Results indicate that fishing mortality rates have declined from a high of 0.71 in 1993, to 0.28 in 2004. Since the 2004 rate did not exceed the Addendum III target of $F = SSB_{40\%}$ ($F=0.30$), overfishing was not occurring on tautog in 2004 (Table 5). Abundance indices through 2004 show a slight increase in biomass and recruitment in recent years. The trend in total stock biomass and spawning stock biomass has been generally flat and at low levels since 1994 (Figure 4).

Table 5. Landings, fishing mortality estimate, and Stock Size estimates for Tautog, 1995-2004

Year	Landings (Millions of pounds)	VPA Estimated Fishing Mortality	Stock Size (Millions of fish)	Spawning Stock Biomass (Millions of pounds)	Age 1 Recruits (Millions of fish)
1995	3.6	0.59	12.1	22.0	2.3
1996	2.6	0.45	11.1	21.1	2.4
1997	1.8	0.35	11.4	19.7	2.9
1998	2.8	0.23	12.9	21.3	3.8
1999	3.6	0.45	15.2	16.0	4.5
2000	3.0	0.36	16.1	19.0	3.7
2001	5.7	0.31	16.5	20.6	3.5
2002	2.7	0.50	16.7	21.0	3.4
2003	4.1	0.28	17.6	22.0	4.8
2004	2.7	0.28	12.1	22.0	3.8
Averages 1995 - 2004	3.3	0.38	14.2	20.5	3.5

1.4.2 Fishing Mortality

Updated VPA runs calculated F for 2004 at 0.28 (Figure 2) slightly below the target of $F_{40\%}=0.30$. The fishing mortality rate declined significantly beginning in 1995 and following implementation of the plan has fluctuated above and below the target.

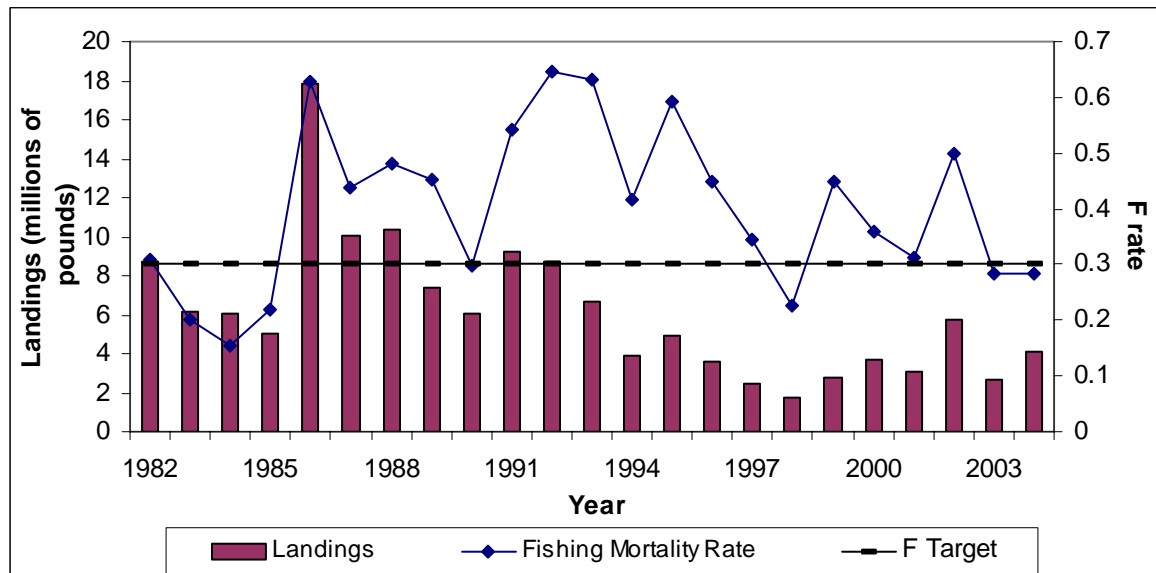


Figure 2. Tautog landings and fishing mortality rate.

1.4.3 Recruitment

Young-of-the-year indices and VPA outputs indicate stronger year classes in 1998 and 2002 (Figure 3).

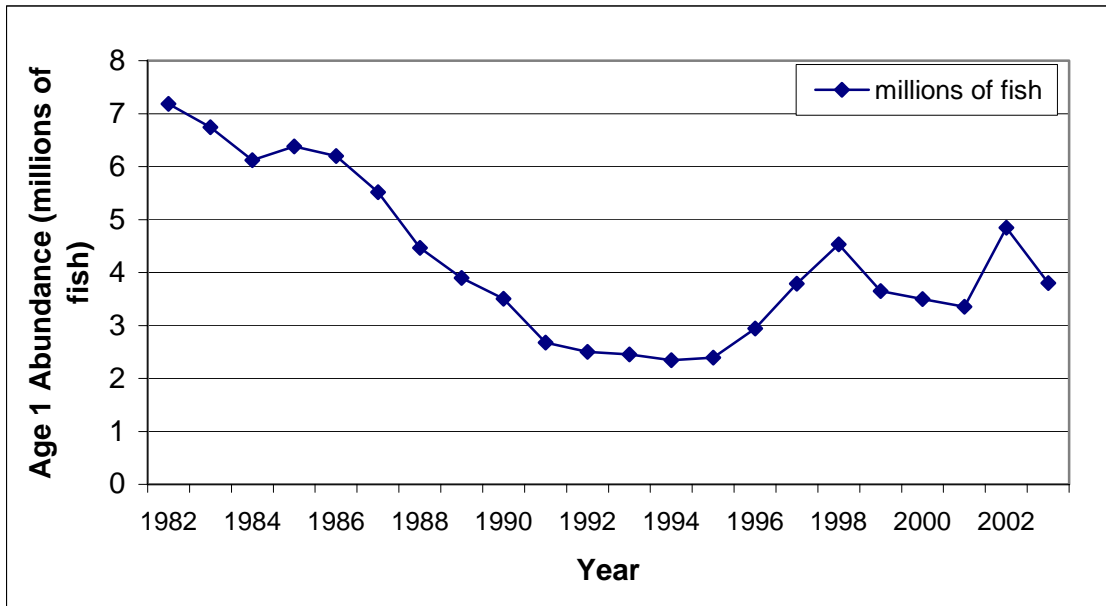


Figure 3. Tautog year class strength

1.4.4 Spawning Stock Biomass

The most recent estimate of stock size (total number of fish) and spawning stock biomass are both below their time series average (Figure 4).

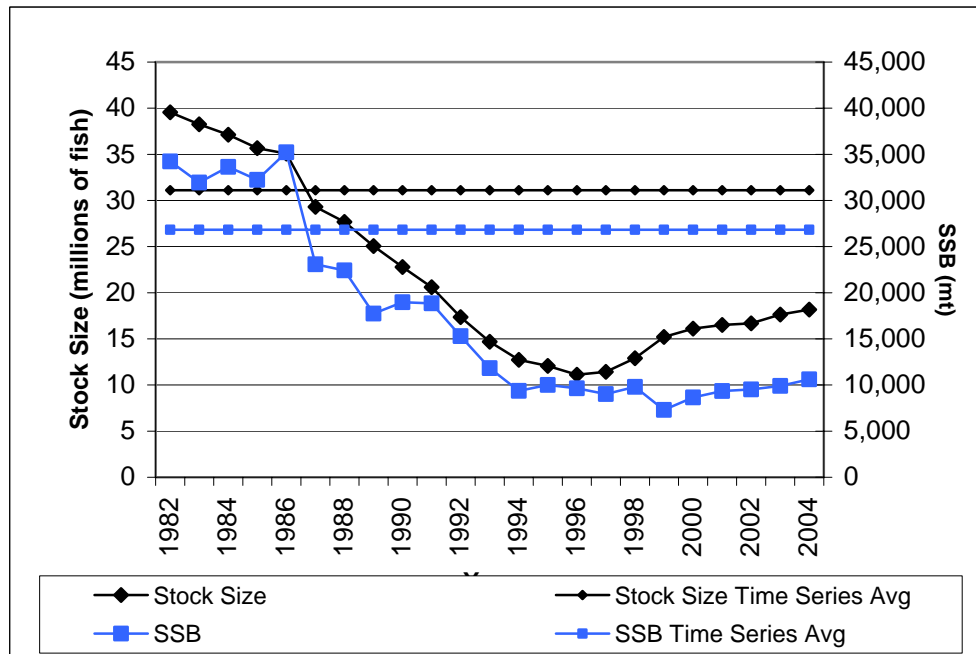


Figure 4. Stock size (number of fish) and spawning stock biomass (metric tons), 1982-2005.

1.4.5 Special Comments

Commercial landings have not risen appreciably since plan implementation and the recreational fishery accounts for approximately 90% of the total harvest. This suggests that recreational landings are a significant driver of recent fishing mortality rate estimates. One possible reason for the recent increase in recreational landings is that fishermen are now catching fish that were initially protected by increased minimum sizes but have since grown to lengths exceeding size restrictions in most states.

Recreational fishermen may have also shifted effort to tautog based on changing availability of other recreationally important species. Examples include a decrease in the abundance of weakfish and increased regulation in the fluke fishery. Additionally, the adoption of higher possession limits during some months of the year, and seasonal closures that were adopted based on the assumption that catches are evenly distributed within MRFSS sampling waves may not have effectively reduced landings of tautog. Imprecision of recreational fisheries data, especially at the state-specific level, also plays an unknown role in the calculation of expected harvest savings from the selection of various management options.

2.0 GOALS AND OBJECTIVES

2.1 BIOLOGICAL REFERENCE POINTS

One purpose of this Addendum is to define the biological reference points for the tautog management program. A common tool in fisheries management, biological reference points act as a control rule for evaluating the need for management action as determined by stock status. The control rule is based on two metrics: exploitation or fishing mortality rate (F), and total biomass or spawning stock biomass (SSB). Overfishing is defined relative to F, the rate of removals from the population. The level of biomass as the result of fishing mortality is the basis for determining if a stock has become overfished. A biomass target and threshold determine the condition of the stock whereas the mortality rate determines how fast the population is moving toward achieving the appropriate level of biomass.

Prior to this Addendum, there were no biomass reference points used for tautog management. The Board determined that a biomass reference point was needed and that this reference point should be based on SSB rather than total biomass. From 1982 to 1986, SSB was estimated to range from 30,000 to 35,000 MT. In 1987, SSB dropped to 23,000 MT and continued a gradual decline to a time series low of 7,250 MT in 1999. By 2004, SSB had increased to approximately 10,600 MT, but is still less than one-third of historic levels (Figure 4).

2.2 STOCK REBUILDING PROGRAM

The purpose of this Addendum is to require that states maintain current or more restrictive fishing regulations during calendar year 2007 and implement management measures to meet $F = 0.20$ by January 1, 2008.

Stock projections were developed for various levels of fishing mortality using two different assumptions about stock-recruit relationships. A comparison of stock projection results using these two methods indicated that the SSB estimates were similar during the initial years of rebuilding. These similarities lasted for two to five years, depending on the fishing mortality rate applied.

Based on these observations, and the assumption that the tautog stock assessment will be updated in five years or less, the Tautog Technical Committee recommended using projections based on constant recruitment (a five-

year geometric mean of recruitment) over a five-year time horizon. Constant recruitment predicts slower rebuilding because it assumes recruitment does not increase even as stock size increases substantially. Projections based on a Beverton-Holt (BH) spawner-recruit relationship are more optimistic.

SSB levels were estimated over time using a range of fishing mortality levels ($F = 0.28, 0.20, 0.15, 0.10,$ and 0.00) assuming constant recruitment (Table 6 and Figure 5). At the current target mortality rate of $F = 0.28$, SSB is expected to increase to 12,700 MT in five years, while a moratorium would allow rebuilding to the threshold level 20,100 MT in the same time period. The remaining three fishing mortality levels provide intermediate rates of stock rebuilding.

Estimates of SSB based on constant recruitment can be compared with estimates based on BH recruitment (Table 7, Figure 6) for rebuilding periods beyond five years. It should be stressed that there is significant uncertainty surrounding projections beyond five years because of the assumptions used. These values should be used as guidance only. As the stock rebuilds and more information is gained regarding stock-recruitment relationships, projections over longer periods will be possible.

It should be noted that the rebuilding schedules presented above assume that fishing mortality is a primary influence on the stock. Other constraints on the stock, such as habitat loss, changes to natural mortality, and environmental factors, can also affect rebuilding rates and were not considered in these analyses. The Technical Committee also discussed how localized individual stocks may respond differently to management measures. Finally, the rebuilding schedules assume a management option is selected and implemented directly, without an interim period. Additional analysis would be necessary to evaluate how the stock would respond to a phased-in management approach.

3.0 MANAGEMENT PROGRAM SPECIFICATIONS

3.1 BIOMASS REFERENCE POINT

This Addendum establishes SSB target and threshold reference points of 26,800 and 20,100 metric tons respectively (Figures 5 and 6). The target value is the average SSB from the first 10 years of available data (1982 – 1991), estimated from the VPA. The threshold is 75% of the target value.

3.2 FISHING MORTALITY REFERENCE POINT

This Addendum establishes a rebuilding fishing mortality rate of $F = 0.20$ (F_{rebuild}). This reduction in fishing mortality will initiate rebuilding of the tautog stock to achieve the spawning stock biomass target. This level of fishing mortality is projected to rebuild the SSB to 14,300 metric tons five years after implementation (Figures 5 and 6).

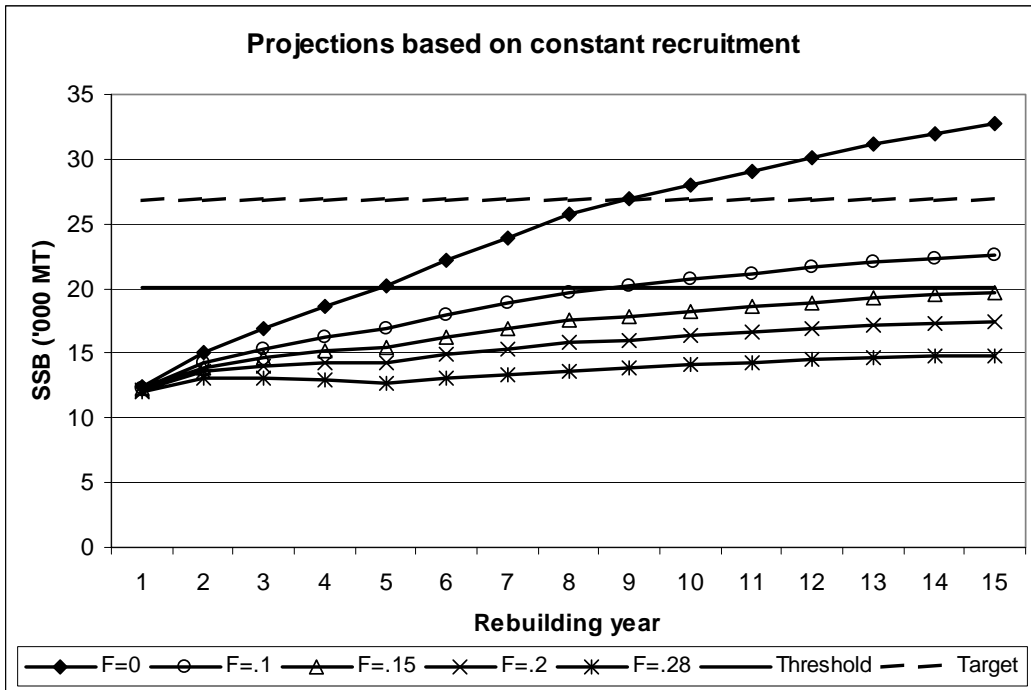


Figure 5. Tautog target and threshold SSB reference points, and rebuilding projections based on constant recruitment (geometric mean of the past 5 years data)

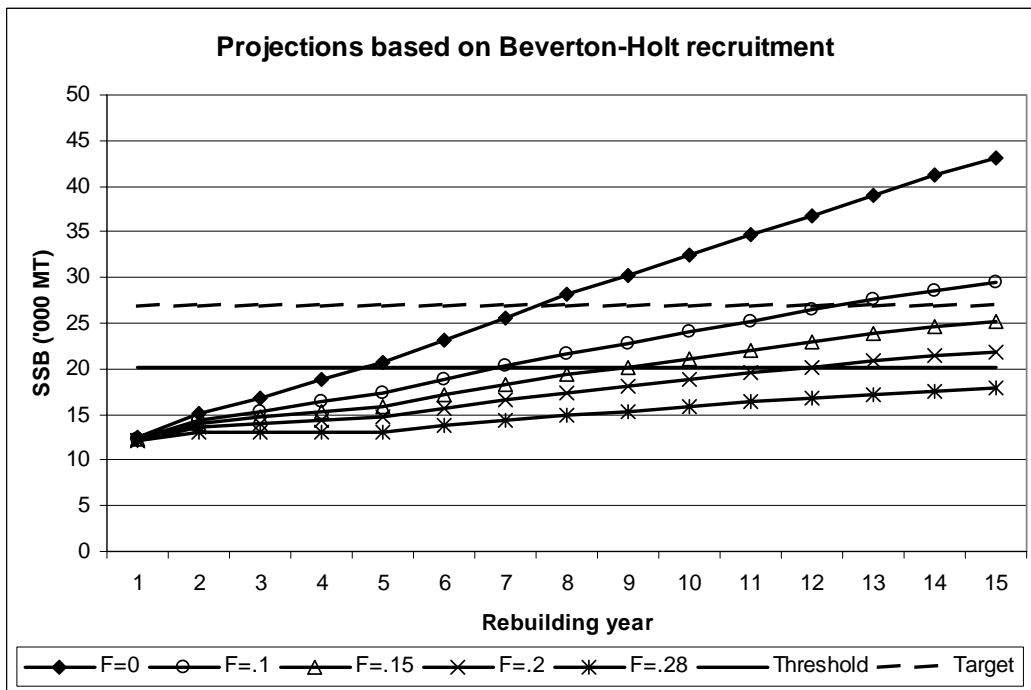


Figure 6. Tautog target and threshold SSB reference points, and rebuilding projections based on Beverton-Holt spawner-recruit relationship

Table 6. SSB projections at various fishing mortality rates based on constant recruitment.

Year	Fishing Mortality				
	0	0.1	0.15	0.2	0.28
1	12,452	12,311	12,240	12,171	12,061
2	15,023	14,278	13,926	13,587	13,070
3	16,855	15,347	14,667	14,031	13,096
4	18,614	16,220	15,190	14,254	12,929
5	20,153	16,858	15,509	14,322	12,702
6	22,134	17,942	16,307	14,910	13,072
7	23,957	18,854	16,951	15,368	13,348
8	25,714	19,712	17,566	15,822	13,657
9	26,930	20,190	17,877	16,039	13,810
10	28,032	20,680	18,243	16,340	14,067
11	29,118	21,180	18,624	16,650	14,316
12	30,114	21,620	18,949	16,907	14,508
13	31,122	22,050	19,257	17,139	14,666
14	31,990	22,385	19,485	17,302	14,769
15	32,738	22,647	19,654	17,418	14,836

Table 7. SSB projections at various fishing mortality rates based on Beverton-Holt spawner-recruit relationship.

Year	Fishing Mortality				
	0	0.1	0.15	0.2	0.28
1	12,452	12,311	12,240	12,171	12,061
2	15,023	14,278	13,926	13,587	13,070
3	16,869	15,361	14,680	14,044	13,108
4	18,775	16,372	15,338	14,398	13,066
5	20,637	17,302	15,932	14,725	13,074
6	23,148	18,837	17,144	15,690	13,763
7	25,646	20,285	18,259	16,555	14,349
8	28,197	21,734	19,371	17,420	14,941
9	30,302	22,842	20,198	18,047	15,355
10	32,414	24,019	21,115	18,779	15,880
11	34,625	25,250	22,070	19,530	16,400
12	36,820	26,428	22,962	20,214	16,848
13	39,069	27,585	23,818	20,855	17,254
14	41,170	28,609	24,559	21,397	17,589
15	43,131	29,526	25,213	21,874	17,884

4.0 MANAGEMENT PROGRAM

4.1 Recreational Fisheries

States must implement regulations to reduce fishing mortality in the recreational fishery only to achieve the target ($F_{rebuild} = 0.20$), according to the schedule outlined in Section 6 of this Addendum. The states are required to implement recreational management programs that achieve a 28.6% reduction in fishing mortality relative to the 2005 estimates. Reductions to the recreational harvest will have the most effect in reducing F since commercial landings appear to be adequately controlled by previously implemented regulations and overall tautog landings are composed primarily of recreational catch (~90% of the time series average).

Reductions in the recreational fishery to achieve the F target may be achieved through possession limits, seasons, or a combination of both. The fishing mortality reductions associated with possession limits and seasonal closures have been developed for each state based on (2005) catch data. A discard mortality rate of 2.5% has been incorporated into Table 8 below.

States may implement more restrictive regulations in the recreational fishery at any time.

Table 8. Percent reductions in tautog recreational fisheries at different possession limits by state; 2005

Possession limit	MA	RI	CT	NY	NJ	DE	MD	VA
1	41.2	56.8	60.2	57.0	31.3	59.6	70.4	67.3
2	14.7	30.1	31.9	27.9	22.9	35.0	48.0	43.2
3	0.0	14.6	11.7	13.6	16.8	20.7	29.0	27.6
4	0.0	6.4	0.0	3.7	12.4	15.9	10.8	17.1
5	0.0	1.4	0.0	2.3	8.7	12.1	0.0	10.3
6	0.0	0.5	0.0	1.4	5.4	8.7	0.0	0.0
7	0.0	0.3	0.0	0.7	2.4	6.0	0.0	0.0
8	0.0	0.2	0.0	0.3	0.0	4.0	0.0	0.0
9	0.0	0.1	0.0	0.0	0.0	2.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: Percent reductions based upon maintaining all existing possession limits and seasons or maintenance of existing lower possession limits and seasons. See * below.

Table 9. Percent reduction in tautog recreational landings for bi-monthly seasonal closures (percent landings from MRFSS by state and wave); 2005

Wave	MA	RI	CT	NY	NJ	DE	MD	VA
1	-	-	-	-	-	-	-	-
2	0.21	0.00	0.00	0.54	0.82	3.52	0.00	46.19
3	68.20	15.53	0.00	0.00	25.42	25.35	24.66	1.29
4	24.06	16.85	17.39	0.00	1.47	9.92	0.68	1.59
5	5.57	21.01	42.08	52.67	29.70	35.50	46.31	7.05
6	1.96	46.61	40.53	46.78	42.59	25.71	28.35	43.87

Note: No data is available from MRFSS to evaluate percent reductions in wave 1. Percent reductions for all other waves are based upon maintaining all existing seasonal closures. See * below.

The values in Tables 8 and 9 are not additive. Therefore, if both possession limits and seasonal closures are used, the total reduction is not the sum of the values from each table. To determine the total reduction, it is necessary to account for the effects of one measure on the others. This can be done using the following formula:

$$* \text{ Total reduction} = X + \{(1-X)*Y\};$$

X = the percent reduction value from the seasonal closure table,

Y = the percent reduction value from the possession limit table.

4.2 Commercial Fisheries

While states are not required to take reductions in commercial fisheries to reach the plan target, states may implement more restrictive regulations in the commercial fishery at any time. Further restriction in a state's commercial management program will not be applied to the 28.6% reduction in F required by this Addendum. States are given the flexibility to develop a commercial fishery management regime that will best meet their particular needs. The fishing mortality reductions for commercial seasonal closures are given in Table 10.

The relative burden of the conservation program and management measures will vary from state to state relative to the importance of the fishery in that state as compared to its importance in other states throughout the species range.

Table 10. Potential percent reduction in commercial landings for monthly seasonal closures (from percent commercial landings by month and state, 2004)

	CT	DE	MD	MA	NJ	NY	RI	VA
JAN	0.45	1.22	0.00	0.02	5.85	1.85	0.00	10.56
FEB	0.56	0.00	0.00	0.00	0.00	0.86	0.00	0.40
MAR	0.14	0.00	0.00	0.00	0.00	0.06	0.00	6.76
APR	2.96	0.79	0.00	0.47	5.52	3.22	5.21	32.01
MAY	0.23	2.86	0.00	24.09	15.85	17.98	32.34	1.93
JUN	26.74	3.83	0.00	0.02	15.15	19.88	0.72	1.05
JUL	12.24	0.00	100.00	7.55	0.08	11.41	0.00	0.06
AUG	7.07	28.01	0.00	13.11	0.00	6.06	14.61	0.04
SEP	6.37	0.00	0.00	16.19	0.07	6.36	4.17	0.65
OCT	19.87	45.87	0.00	38.21	0.00	8.17	19.20	10.57
NOV	20.10	13.77	0.00	0.36	40.46	16.42	10.32	18.15
DEC	4.41	4.87	0.00	0.00	22.86	10.50	13.42	35.55
% Total	100	100	100	100	100	100	100	100

4.3 Determination of Fishing Mortality Reduction

The results of the 2005 stock assessment and 2006 update are to be used as a benchmark for determining fishing mortality reductions. If a state can provide evidence, at the same level of precision as most recent assessment, of fishing mortality rates below those indicated in the assessment, then that state is only required to implement restrictions that will be sufficient to reach the target fishing mortality level. Any state utilizing this option must monitor its fisheries to assure that the fishing mortality target is achieved and maintained. Individual states or groups of states are authorized to develop SSB and fishing mortality rate targets and thresholds appropriate for that geographic region to be reviewed and approved by the Technical Committee and Management Board. A state or regional fishing mortality rate target must maintain the same rebuilding timeline as established by the coastwide fishing mortality target.

Compatible regulations between adjacent states are desirable to prevent the shift of fishing effort to areas with more liberal regulations, or to area with an open season, if seasonal closures are implemented. Regulations cannot be split by mode of fishing unless the state can provide data at CV less than 0.2.

4.4 Fishery Regulation Enforcement

The tautog fishery has many unique harvest, transportation, and marketing characteristics, which increase demand for small live fish. This Addendum emphasizes the need for state and federal enforcement agencies to place a high priority on the enforcement of tautog regulations. In addition, the public may also play an important role by reporting information on illegal harvest and sale of tautog to their state's marine fishery enforcement agency.

4.5 Data Collection

The recreational tautog fishery occurs throughout the year. The majority of the landings are captured through the Marine Recreational Fisheries Statistics Survey (MRFSS) administered by the National Marine Fisheries Service. However, the MRFSS does not sample landings during January and February (sampling wave 1). This Addendum recommends that the states initiate a sampling program to estimate the recreational harvest of tautog during January and February.

4.6 Adaptive Management

The Management Board may vary the requirements of this Section as a part of adaptive management as necessary to achieve the goals and objectives of the FMP. Because specific measures for achieving fishing mortality targets are to be determined by each state, each state may change those regulations, providing such changes are made in accordance with procedures established in Section 4.4 of the Interstate Fishery Management Plan for Tautog.

5.0 RECOMMENDATIONS FOR ACTIONS IN FEDERAL WATERS

The Atlantic States Marine Fisheries Commission (ASMFC) believes that the measures contained in the Interstate Fishery Management Plan and Addenda I - IV are essential for effective management of the tautog fishery. The ASMFC recommends that the federal government promulgate all necessary regulations to implement compatible measures in the exclusive economic zone (EEZ). Specifically, the ASMFC recommends that the Secretary of Commerce fully implement regulations for tautog in the EEZ that are in accordance with state minimum sizes, possession limits, closed seasons, as well as other landing requirements.

6.0 COMPLIANCE

6.1 REGULATORY REQUIREMENTS

To be considered in compliance with Addendum IV, all state programs must implement a regime of restrictions on tautog fisheries consistent with the requirements of Sections 3 and 4. Under Section 4.4 of the Interstate Fishery Management Plan for Tautog, the Management Board may vary the requirements specified as part of adaptive management as necessary to achieve the goals and objectives listed in the FMP.

Each state must submit its required tautog regulatory program to the Commission through ASMFC staff for Technical Committee review and approval by the Board. During submission, until the Board makes a decision on a state's program, a state may not adopt a less restrictive management program than is currently in place.

6.2 COMPLIANCE SCHEDULE

States must implement Addendum IV according to the following schedule to be in compliance:

April 6, 2007: States submit proposals to meet fishing mortality target

May 7 - 10, 2007: Management Board reviews and takes action on state proposals

January 1, 2008: States implement regulations to meet fishing mortality target, $F = 0.20$

May 1, Annually: Plan Review Team reviews state compliance reports

Summer ASMFC Meeting Week: Management Board reviews state compliance