

Regional Tautog Fishery Issue Paper

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Introduction- During the process for the last coastwide stock assessment for tautog, RI and MA were allowed to perform an assessment on a regional scale. Commissioners on the tautog management board concluded that there was validity to the notion that tautog, while not independent and separate stocks along the coast, did not undergo large scale migrations as other species do (i.e. fluke, scup, etc), but in fact stay within range of state waters throughout the year (Cooper, 1967; Lynch, 1993). Due to this life history trait, it was felt that if adequate data existed to perform a valid regional or state specific stock assessment, the states may avail themselves of this opportunity. RI and MA did this, and the regional assessment was approved in 2007.

As a result of this, RI is now bound by the results of this regional assessment, which is rerun at the beginning of each year. A condition of the regional stock assessment allowance stated that RI and MA would adjust their regulations if changes in stock status warranted adjustment. During the past 2 years, stock status in the RI and MA region has declined, thus as required this report seeks to outline the change in stock status as well as outline some possible adjustments that can be made to counteract the degradation of our local stock status.

Stock Status- Tautog are assessed at a regional level with RI falling in to a shared region with MA. The last regional assessment update indicated that this regional stock complex became subject to overfishing over the past 2 years (Figure 1) and that the spawning stock biomass levels have not increased significantly (Figure 2), and therefore remains in an overfished state. Locally, tautog abundance is below the long-term average (Figure 2 and Figure 4). Fishery landings are attributed almost entirely to the recreational fishery (Figure 3). The current lack of rebuilding suggests that increasing tautog biomass to former levels may not be possible at the current fishing mortality rate. A possible alternative hypothesis would be that portions of the catch are not being accounted for (black market, sold directly to restaurants, etc). The latter hypothesis is especially problematic for the type of assessment model being used as the ADAPT VPA software makes the assumption of complete catch information.

Management jurisdiction over the species is entirely vested in the Atlantic States Marine Fisheries Commission (ASMFC) in state waters. RI has made regulatory changes in response to the deteriorating stock in 2006 and 2008 by closing the month of June (2006)

and decreasing the bag limit in the fall from 10 to 8 fish per person per day (2008). In Rhode Island, despite these restrictions, catch rates continue to be high during the fall recreational fishery, upwards of 50 to 70 percent higher than the landings occurring in the MA recreational fishery (MRFSS data). One important factor that may lead to the discrepancy in landings amounts between the two states fisheries is that the MA recreational fishery has a much lower bag limit during their fall fishery (3 fish), which may in fact entice fishermen to cross over in to RI waters to avail themselves of RI's higher bag limit (8 fish), thus amplifying the fall recreational landings in RI.

Statement of Problem- The RI tautog fishery has seen an increase in landings during a period where landings should have been constricted by regulation. The occasional high spikes that occur in the recreational fishery in the fall are negatively impacting the local stock and are keeping it in an overfished state, thus negating the stocks ability to rebuild. Because RI has joined with MA to assess its local stock, we should be especially cognizant of the deterioration of our local stock status as it not only impacts our fishery, but MA as well.

As indicated above, tautog stock status has deteriorated according to the RI and MA regional assessment. The current terminal year F according to the regional assessment is $F_{2008}=0.36$ relative to the F target of $F=0.2$. This would require a 45% reduction in F to get back to the target.

Corroborating this evidence is the local RI biomass dynamic model (BDM) configured and run by Mark Gibson, Deputy Chief of the Division of Fish and Wildlife. The BDM also indicates poor stock biomass levels (Figure 4) and high fishing mortality rates (Figure 5), specifically in RI. While some of our state fishery independent indices appear to be either stable or increasing, the trends have not been adequate to compensate for the increasing catch rates over the recent past. In addition, the Narragansett Bay juvenile finfish seine survey is indicating a decreasing trend for the most recent years of juvenile tautog estimates (Figure 6). This may indicate problems with rebuilding the fishery in to the near future. It is also important to note that the decreasing trend is occurring during a period of time when a partial spawning closure has been implemented in state waters.

Given that rule making has already been conducted in 2010 regarding the tautog fishery, a possible reconfiguration of the fall recreational season may be needed. Under current regulations, the 2010 recreational fishery opened on April 15th. The June closure is still in place but the fishery reopens in July and then increases in bag limit in October. One of the first priorities should be to decrease the fall bag limit to match up more fully with the existing MA bag limit of 3 fish, thus making us consistent within the region with regard to bag limit. According to the bag limit reduction calculations done for Addendum 5 of the Tautog Fishery Management Plan (ASMFC, 2007), the decreased bag limit would result in a 25.3% reduction in landings (this calculation will be updated once current MRFSS intercept data can be obtained). As stated above, making our bag limit consistent with MA may actually result in a higher decrease as it may remove the incentive for MA fishermen to cross over in to RI waters. As a further measure we should consider closing the fishery on November 16, a 30 day reduction in season, which would result in an

additional 28% reduction according to 2009 MRFSS landings data. An alternative seasonal reduction configuration would be to keep the fishery closed until July 1st and then close on December 15th (status quo closure date), which results in a 24% reduction. This alternative option more fully encompasses the spawning period for tautog in RI and would serve to provide more protection during spawning. Both options, when combining both the bag and seasonal reductions, equate to at least a 43% total reduction (Table 1).

Possible Responses-

1. Status quo in 2010 and revisit for 2011 (not preferred by author).
2. Begin making adjustments to fall fishery (bag limit decrease) in 2010 and revisit in 2011 for further more comprehensive adjustments.
3. In either of the above cases, the public process should be started as soon as possible to give ample time to analyze and adjust.

Literature Cited

Cooper, R. A. 1967. Age and Growth of the Tautog, *Tautoga onitis* (Linnaeus), from Rhode Island. Transactions of the American Fisheries Society 96: 134 – 142.

Lynch, T. 1993. Tautog Studies - Narragansett Bay and Rhode Island Coastal Waters 1987 - 1993, Completion Report. RI Division of Fish and Wildlife Reference Document: TT - 396.

ASMFC. 2007. Addendum 5 to the interstate fishery management plan for tautog. Pp 5.

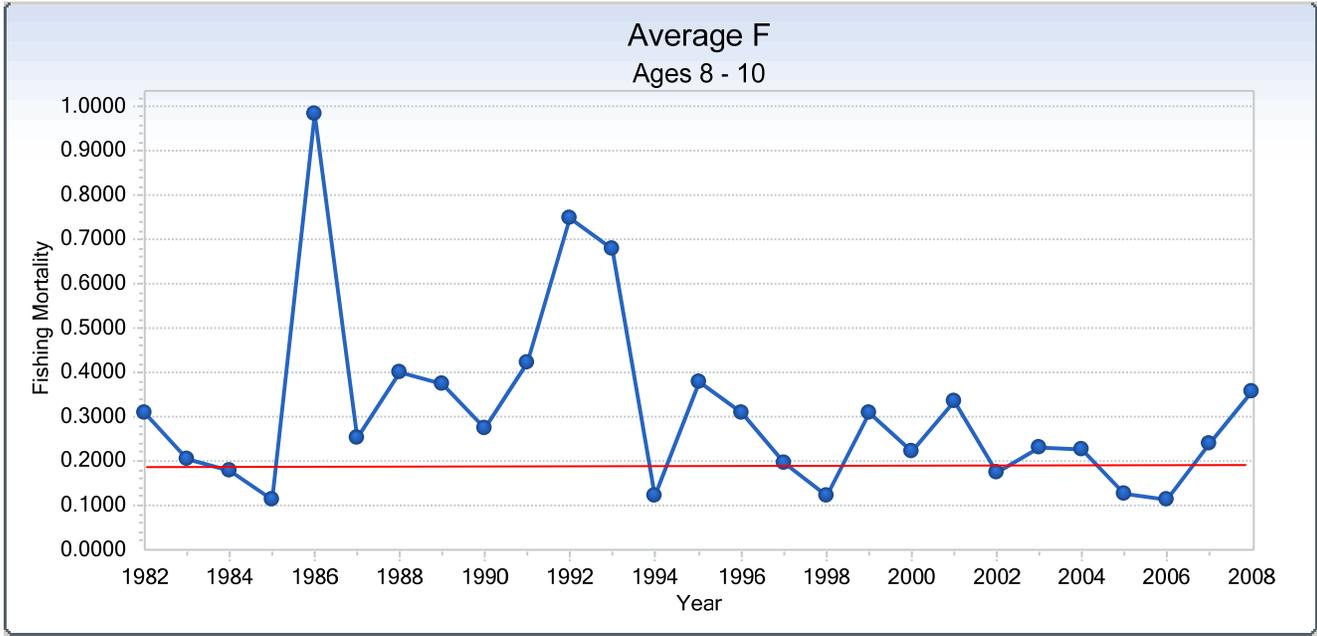


Figure 1 – Average fishing mortality rate (F ages 8 - 10) for the years 1982 – 2008 for the RI - MA regional assessment. Red line indicates F target (F=0.20).

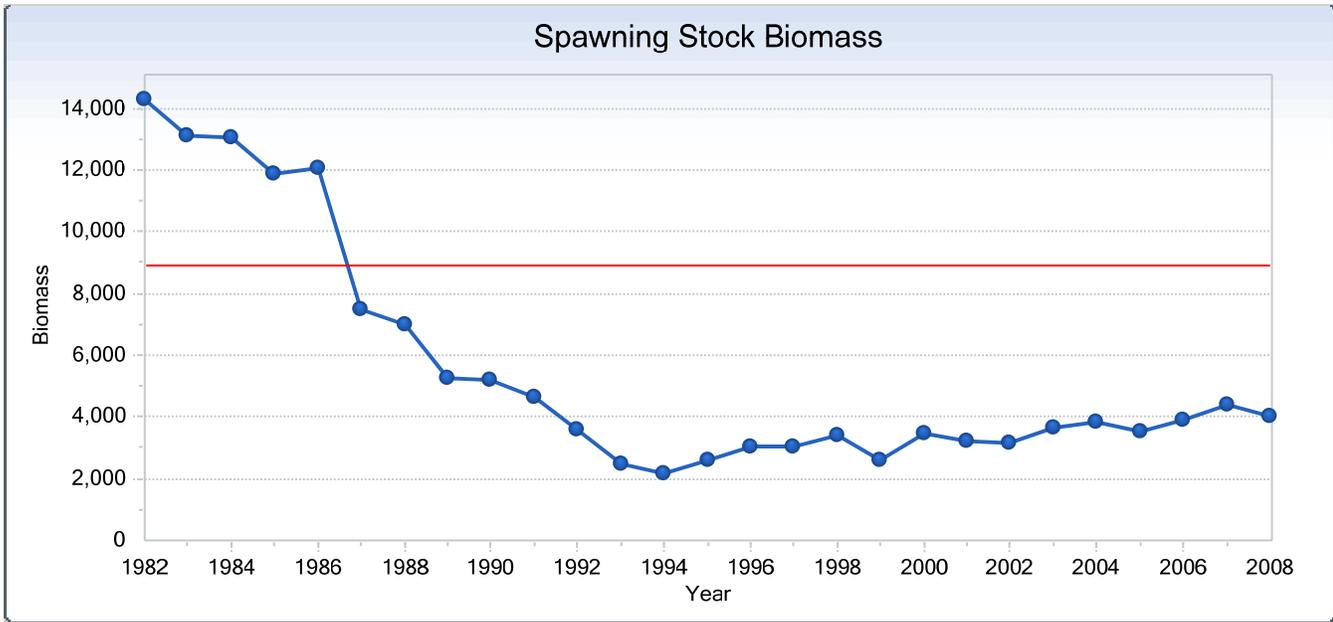


Figure 2 – Spawning stock biomass (SSB) for the years 1982 – 2008 for the RI - MA regional assessment. Red line indicates proposed regional SSB target (SSB=8,750 MT), which is the average harvest of the first 10 years of the dataset.

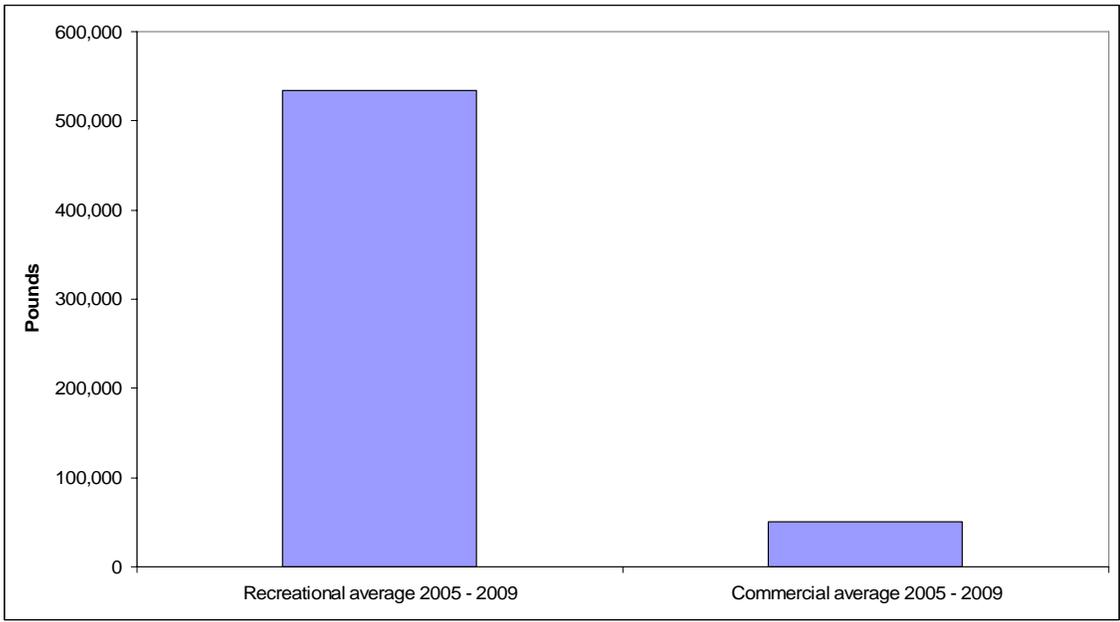


Figure 3 – Average pounds of tautog harvested/landed from 2005 – 2009 for the recreational (91%) and commercial (9%) sectors in Rhode Island.

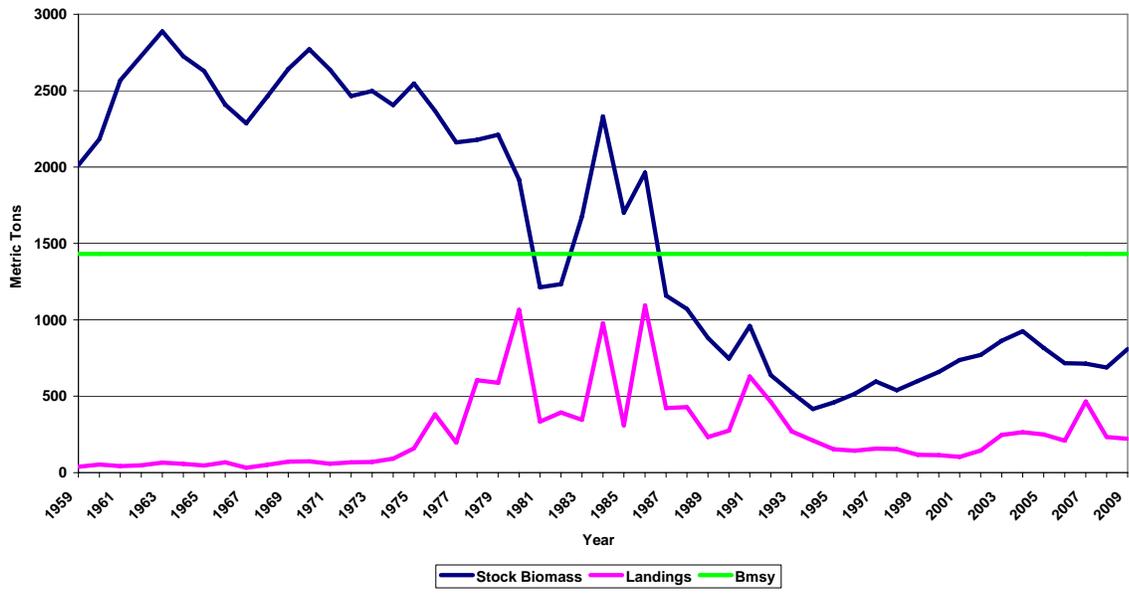


Figure 4 – Biomass levels according to the local RI Biomass Dynamic Model (Gibson, personal communication). Landings and Biomass of maximum sustainable yield are also indicated on the graph.

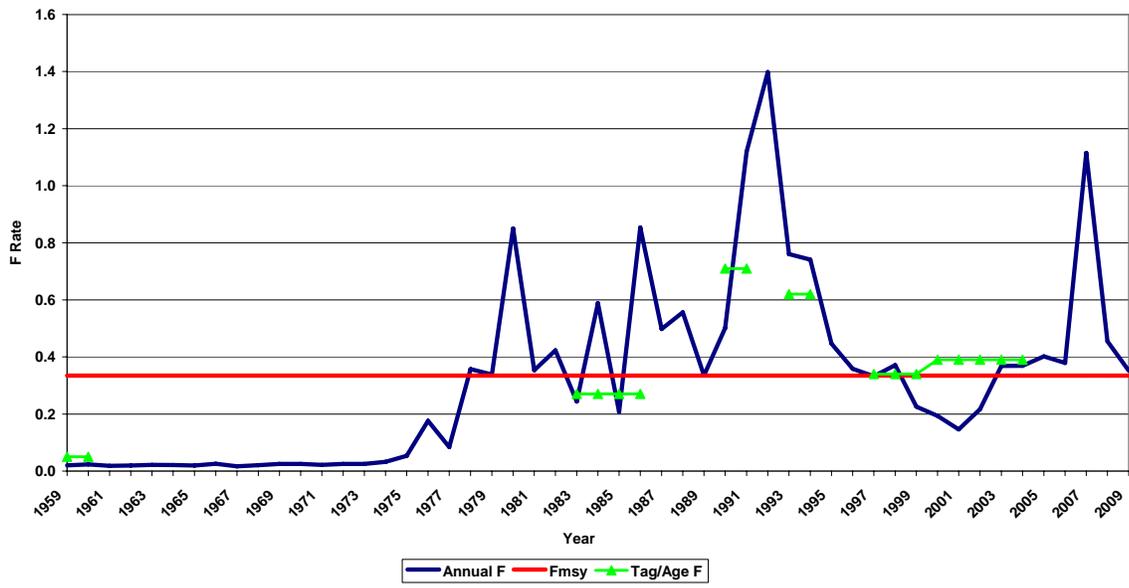


Figure 5 – Fishing mortality (F) estimates according to the local RI Biomass Dynamic Model (Gibson, personal communication). Tagging based fishing mortality estimates and F of maximum sustainable yield are also indicated on the graph.

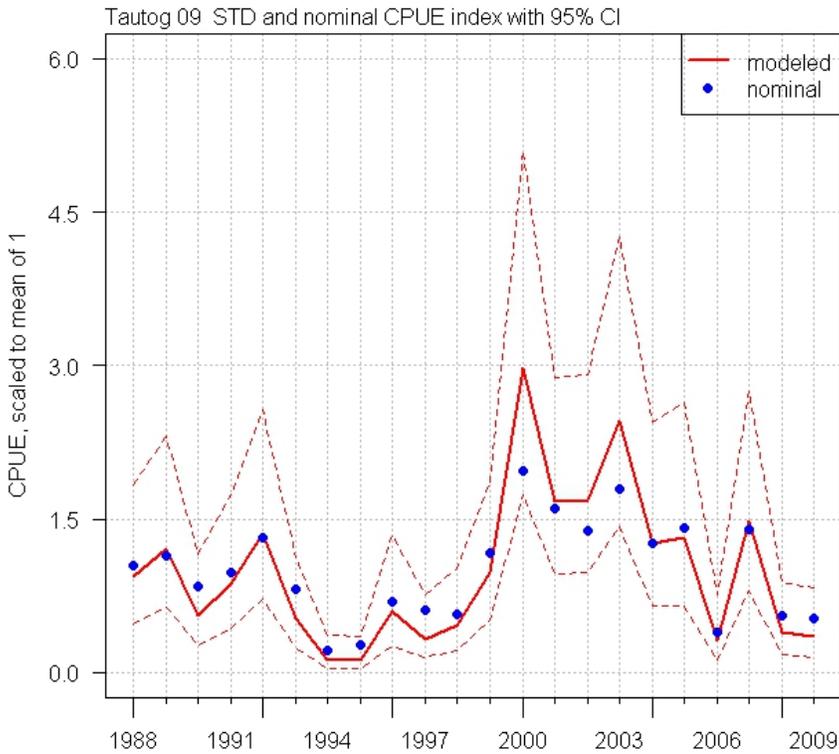


Figure 6 - Juvenile tautog standardized and nominal annual abundance index 1988 – 2009 from the Narragansett Bay juvenile finfish seine survey.

Table 1 – Reduction options with associated landings reductions.

	Bag Limit	Bag Limit reduction	Open Season	Season reduction	Total Reduction
Option 1	3 fish all year	25.3%	April 15 – May 31 July 1 – Nov. 15	28%	46%
Option 2	3 fish all year	25.3%	July 1 – Dec. 15	24%	43%