

CCA Comments on Draft Addendum IV to Amendment 4 to the Weakfish Management Plan

The collapse of the Atlantic weakfish stock is an enigma. For the first time there is no 'smoking gun' one can discern that caused the decline. But it is abundantly clear from both anecdotal fishermen's reports and the most recent stock assessment that the decline is severe and continuing. Most disturbing is the Technical Committees projection that even under a total moratorium the stock will not recover by 2020.

In CCA's view, managers must act immediately to trim losses to maintain as much SSB as possible in the event conditions change and a recovery becomes more likely. Since the current estimate of percent spawning potential (spawner biomass/unfished spawner biomass) is less than 5%, CCA believes that maintenance of as much SSB as possible should be the essential management goal. While fishing mortality was not solely responsible for the decline, as has been the case in most other declining fisheries, it is the one source of mortality managers can control.

CCA's specific comments on Management Options are:

Biological Reference Points

CCA supports Option 3:

Option 3. Percentage-based spawning stock biomass reference points

Under this option, the SSB target and threshold would still be SSB30% and SSB20% as in Amendment 4. Absolute values can be provided based on current assessment modeling, but will likely change with subsequent assessments. Estimates of spawning stock biomass would be divided by estimates of unfished spawning stock biomass to be expressed as percent spawning potential, and this would be compared to the 30% target and 20% threshold. Figure 8 illustrates this approach. Regardless of the assessment approach, the weakfish stock is currently well below any calculated reference points.

CCA agrees with the Technical Committee recommendation that this is the most appropriate option for weakfish. In addition, percent spawning potential is similar to SPR, a concept well understood by many.

Recreational Fisheries and Commercial Fisheries

CCA supports Option 5 for the Recreational fishery and Option 4 for the Commercial fishery: *A complete harvest moratorium.*

While no one ever likes a moratorium, CCA believes the condition of this stock warrants such drastic action. Again, maintenance of SSB should be the management goal.

However, CCA requests that the ASMFC consider the following principles if a moratorium is enacted. They are similar to language from the recently reauthorized Magnuson-Stevens Act. While the ASMFC is not bound by MSA, CCA believes the ASMFC should apply the following criteria when any fishery is closed:

1. That there is good, peer reviewed science used to make the decision to institute a moratorium.
2. That there are quantifiable criteria specified apriori for reopening the fishery. The public should have some idea of what information will be used to reopen the fishery. Closing any fishery without a plan for reopening is unacceptable.
3. That there is periodic review of the closure to determine if it is still needed.
4. That the fishery will be reopened when the targeted conservation problem no longer exists.

2.3 Management Options

The following options are proposed to revise the weakfish biological reference points and reduce the level of weakfish fishery removals. The management options listed below are separated into recreational and commercial measures to provide the Management Board maximum flexibility in approving this Addendum. The exact impacts of these regulations are difficult to estimate due to many variables including fish availability, fishing effort, market conditions, weather patterns, etc. The Board may adopt measures that are estimated to generally have the same impact on both segments of the fishery. For example: a reduction to a one fish creel limit in the recreational fish has approximately the same reduction as a 100-pound trip limit for the commercial fish, 54% and 60% respectively.

2.3.1 Biological Reference Points

Amendment 4 established the existing biological reference points that are based on fishing mortality and spawning stock biomass. These reference points were estimated using VPA output from an assessment covering 1981-2000, and assuming a constant weakfish natural mortality (M) of 0.25. These reference point estimates are not appropriate for comparison to the F and SSB estimates from the current stock assessment because the new F and SSB estimates are from an index based approach using data from 1981-2007 and all evidence suggests that M has increased substantially since the late 1990s.

Amendment 4 also includes a stock rebuilding program centered on the existing biological reference points. If any option(s) rather than status quo are selected in this section, the rebuilding program can be revised to accommodate the changes. The Plan Development Team notes that regardless of the reference points in place and under any of the management options proposed, the weakfish stock is unlikely to rebuild to a target or threshold level in the 6 years or less required in the stock rebuilding program in the absence of a substantial decline in natural mortality.

The Technical Committee continues to work on issues associated with mid-year reference points vs. January 1 biomass estimates. The recent assessment used mid-year reference points and biomass estimates. Although the TC has recently recalculated biomass estimates to January 1 for this Addendum, the reference points remain for mid-year. This will not affect the options in this Addendum. The use of mid-year biomass only affects direct comparison with landings. For instance, one should not divide landings by mid-year biomass to estimate exploitation since the impact of half a year of mortality has already occurred. The TC will continue to develop reference points in an attempt to alleviate this issue prior to the Addendum being adopted in November.

The following measures are proposed to modify Amendment 4, Section 2.5 Definition of Overfishing.

Option 1: Status quo

Under this option, the existing reference points described in Amendment 4 would be maintained:

F target = F30% = 0.31, F threshold = F20% = 0.5, and SSB threshold = SSB20% = 31.8 million pounds.

Rationale: Continuity of reference points.

Additional Information: The Technical Committee recommends that the Management Board not select this option because of the inconsistencies between the data and models used to estimate the reference points and the current stock status.

Options 2: Review Panel recommendation – updated SSB20%

Under this option, SSB20% would be re-estimated using VPA data from 1981-2007 and assuming a constant $M = 0.25$. The SSB threshold would therefore be 22.4 million pounds, based on mid-year biomass. There would be no fishing mortality target or threshold. This would be an interim control rule until an assessment is done that allows for changes in M and on which reference point can be based, or until M stabilizes and steady-state reference points become more appropriate. The proposed reference point is compared to age 1+ biomass estimates in Figure 1.

Rationale: The stock assessment Review Panel stated that equilibrium reference points were inappropriate for managing the weakfish stock given existing conditions, but did not endorse the non-equilibrium reference points present in the stock assessment. However, the panel recognized a need for managers to have some reference points in order to assess the degree of depletion in this stock, and thus recommended an interim SSB threshold of SSB20% under $M = 0.25$. This value of natural mortality is the same one assumed in previous, equilibrium-based assessments, (Sullivan et al. 2009). The Panel found F reference points to be too meaningless under existing stock conditions to recommend any, but noted they could be estimated if M stabilizes, whether at a high or low level.

Additional Information: The Technical Committee agrees that F reference points should not be part of the weakfish management program under existing stock conditions. However, the Technical Committee does not support the adoption of the Panel recommended biomass threshold because of the assumption of $M = 0.25$ in the calculation and the change to January 1 biomass in this addendum.

Option 3. Percentage-based spawning stock biomass reference points

Under this option, the SSB target and threshold would still be SSB30% and SSB20% as in Amendment 4. Absolute values can be provided based on current assessment modeling, but will likely change with subsequent assessments. Estimates of spawning stock biomass would be divided by estimates of unfished spawning stock biomass to be expressed as percent spawning potential, and this would be compared to the 30% target and 20% threshold. Figure 8 illustrates this approach. Regardless of the assessment approach, the weakfish stock is currently well below any calculated reference points.

Rationale: Absolute values of spawning stock biomass and fishing mortality used as biological reference points in Amendment 4 are now inappropriate for weakfish management because of assessment changes and the weight of evidence that undermines underlying assumptions of unchanging natural mortality and growth needed to calculate

them. However, the target and limit percentages of unfished spawning stock sizes can still be used to evaluate the status of the stock since methods employed in the current assessment provide estimates of current biomass and unfished biomass. Use of percentages, rather than absolute values, should allow for the same evaluation of spawning stock status if assessment techniques change, minimizing the need for addenda to compensate for differences in assessment results.

Additional Information: Based on the above rationale, the Technical Committee recommends the adoption of this option.

2.3.2 Recreational Fisheries

The Weakfish Management Board requested several specific options for inclusion in this draft addendum, and also tasked the Plan Development Team (PDT) and Weakfish Technical Committee (TC) with developing additional options to reduce recreational harvest. The TC recently analyzed recreational fishery data for 2006 to 2008 to complete this task. The TC developed potential reductions for minimum size and maximum creel restrictions for each state and coastwide (Table 2). Although potential season reductions were also calculated, the PDT and the TC are reluctant to include these analyses due to poor precision of Marine Recreational Fisheries Statistics Survey (MRFSS) estimates. All recreational management options include *de minimis* and non *de minimis* states and jurisdictions.

The following measures are proposed to modify Amendment 4, Section 4.1 Recreational Fisheries Management Measures. Any adopted option would also supplant the recreational management program in Addendum II to Amendment 4.

Option 1: Status quo

Under this option, all states would be eligible to maintain regulations effective in 2008 (see Table 1 for a summary).

Option 2: Reduced creel limit at current minimum size limits

2a) Two fish creel limit

2b) One fish creel limit

Under these options, all states would be eligible to continue recreational fishing at current size limits, but would be required to reduce bag limits to two or one fish. Refer to Table 2 to see estimated harvest savings per state under two and one fish creel limits. Note that coastwide reductions in the tables describe the estimated harvest savings if all states reduce to that bag limit. For instance, in Table 2A, if all states reduce their bag limit to 2 fish and keep their current size limits, the reduction is estimated at 32.48%. If all states reduce to two fish and states with 12 and 13 inch size limits increase to 16 inches, the savings will result in a 77.14% reduction

Additional Information: If either of these options is selected, the PDT and the TC strongly recommend that conservation equivalency proposals to increase the creel limit via an increase in minimum size or seasonal closure not be allowed. The accuracy and precision of available recreational data for individual state analysis will not be adequate

to properly evaluate such proposals. If the Management Board selects option 2 above, then the TC recommends the adoption of Recreational Option 2.b. To increase the likelihood of stock rebuilding a sizeable reduction in harvest is needed. The one fish coastwide creel limit at current minimum sizes will achieve approximately 54 percent in harvest savings, discourages directed fishing for weakfish, and allow for a small harvest of weakfish while fishing for other species. The TC is uncomfortable with the accuracy and precision of state level data used to develop the creel/size combination tables, and use of a coastwide creel ameliorates this issue. The coastwide creel limit is also the most straightforward and will be more enforceable.

Option 3: Combined size and creel limit restrictions to reduce harvest by X percent or more

3a) X = 50%

3b) X = 75%

3c) X = 90%

Under these options, all states would be eligible to continue recreational fishing using minimum size and maximum creel restrictions that reduce harvest by 50, 75, or 90 percent or more. The Management Board could select a creel and size combination to be implemented coastwide based on the estimated coastwide reduction. In this scenario, no relaxation of current regulations would be permitted for any states having more restrictive regulations than those selected. The Management Board could also approve a desired reduction percent, allowing states the flexibility to implement a creel and size combination based on estimated state-specific reductions. Refer to Table 2 to see estimated harvest saving per state and coastwide under one and two fish creel limits and minimum size limits ranging from 12 inches to 18 inches.

Note: The Management Board considered using combinations of size, creel, and seasonal restrictions to achieve reductions in the recreational fishery. The Board did not include this option due to reservations about precision around the wave specific harvest data from MRFSS.

Option 5: Harvest moratorium

Under this option, all states would be required to prohibit the recreational harvest of weakfish. All weakfish incidentally caught must be immediately returned to the water. Figure 9 compares the projected stock response under a moratorium and maintaining the current regulations.

Additional Information: The TC notes that a harvest moratorium would have implications for catch at age modeling; however, the stock could be monitored and assessed via other means (e.g., relative abundance indices from fishery-independent surveys, catch curve analysis). The benefit of a harvest moratorium would outweigh loss of an age structure-based modeling option.

2.3.3 Commercial Fisheries

The Weakfish Management Board requested specific commercial options including a harvest moratorium and possession limits of 50, 100, and 150 pounds. The PDT and TC interpreted the motion to mean either trip limits under an open fishery or bycatch limits under a closed fishery. The TC analyzed commercial fishery data for 2005 to 2008 to evaluate the harvest reduction achieved under the three possession limits. The PDT notes concern that directed fisheries could occur despite these low bycatch levels if demand is high enough. All commercial management options include *de minimis* and non *de minimis* states and jurisdictions.

The following measures are proposed to modify Amendment 4, Section 4.2 Commercial Fisheries Management Measures. Any adopted option would also supplant the commercial management program in Addendum II to Amendment 4.

Option 1: Status quo

Under this option, all states would be eligible to maintain regulations effective in 2008 (see Table 1 for a summary).

Option 2: Trip limits

2.1) Allowable landings limit, per day or trip (whichever is the longer period of time), during currently established open seasons with all other regulations maintained, This option will also adopt an equal amount of allowable bycatch harvest, per day or trip (whichever is the longer period of time), during currently established closed seasons unless the Board makes a modification under option 3 below and all other regulations maintained.

2.1a) 150 pounds

2.1b) 100 pounds

2.1c) 50 pounds

Estimated harvest savings at 150, 100, and 50 pound trip limits are provided in Table 3. Note that the estimates are likely underestimated because of the assumption that all trips land the limit.

2.2) Finfish trawl fishery provision for undersized fish

2.2a) Status quo: up to 300 undersized (i.e., less than 12 inches total length) weakfish taken in finfish trawl fisheries may be landed. None of the undersized fish can be sold.

2.2b) Revise finfish trawl allowance of undersized fish to correspond with the bycatch limit, that is, to be either 150, 100, or 50 fish TC recommendation would be 100 to go with recommendation for possession limit. None of the undersized fish can be sold.

2.2c) Prohibit finfish trawls from landing any undersized weakfish

Additional Information: If the Management Board establishes trip limits and modifies the trawl provision for undersized fish, the TC recommends the adoption of Commercial

Options 2.1.b and 2.2.b. The 50% harvest savings achieved by a 100 pound trip limit is comparable to the harvest savings in the recreational option supported by the TC. There may be unintended consequences of implementing a bycatch only fishery year-round. Previous season closures enacted under Amendment 3, such as the closure south of Cape Hatteras to protect weakfish or banning bycatch harvest of hook-and-line could be lifted under this scenario. The TC therefore endorsed keeping current open and closed seasons, gear out of water provisions, and area closures with the same possession limit.

Option 3: Bycatch limits, The following options may apply to either individual fishermen or be applied to each vessel. The Board would like public comment on this distinction and will make a determination as part of the final approval of this Addendum.

- 3.1) Allowable bycatch limit, per day or trip (whichever is the longer period of time), effective year round
 - 3.1a) 150 pounds
 - 3.1b) 100 pound
 - 3.1c) 50 pounds
- 3.2) Poundage requirement for other species
 - 3.2a) Status quo: harvest must be composed of at least 50% of species other than weakfish
 - 3.2b) Harvest must be composed of at least X% of species other than weakfish ($5 < X < 50$)
- 3.3) Allowance for hook and line commercial fisheries
 - 3.3a) Status quo: at no time will the commercial hook and line fishery be permitted any bycatch allowance of weakfish
 - 3.3b) Commercial hook and line fisheries may harvest and sell weakfish caught under the recreational size and creel limits.
- 3.4) Finfish trawl fishery provision for undersized fish
 - 3.4a) Status quo: up to 300 undersized (i.e., less than 12 inches total length) weakfish taken in finfish trawl fisheries may be landed. None of the undersized fish can be sold.
 - 3.4b) Revise finfish trawl allowance of undersized fish to correspond with the bycatch limit, that is, to be either 150, 100, or 50 fish
 - 3.4c) Prohibit finfish trawls from landing any undersized weakfish
- 3.5) Pound net and haul seine fisheries provision for undersized fish
 - 3.5a) Status quo: pound net and haul seine fisheries within internal waters are allowed to harvest fish smaller than 12 inches total length, if conservation equivalency can be demonstrated.
 - 3.5b) Pound net and haul seine fisheries must abide by the 12 inch total length minimum size limit.

Option 4: Harvest moratorium

Under this option, all states would be required to prohibit commercial harvest and possession of weakfish. All weakfish caught incidentally must be returned to the water immediately. Figure 9 compares the projected stock response under a moratorium and maintaining the current regulations.

Additional Information: The TC again notes that a harvest moratorium would have implications for catch at age modeling; however, the stock could be monitored and assessed via other means (e.g., relative abundance indices from fishery-independent surveys, catch curve analysis). The benefit of a harvest moratorium would outweigh the loss of an age structure-based modeling option.

2.4 Monitoring Options

Existing monitoring requirements are contained in Addendum I to Amendment 4. The collection requirements include 6 lengths per commercial metric ton landed and 3 otoliths per total metric ton landed. The PDT believes that this mandate, upon which compliance findings can be based, would be impractical under any of the proposed management options, except status quo.

Option 1: Status Quo

Under this option, monitoring requirements in Addendum I to Amendment 4 are maintained.

Option 2: Addendum I Requirements Lifted

Under this option, states would not be required to sample the fisheries for lengths and otoliths as per Addendum I. States would be encouraged to sample weakfish when available in conjunction with other fishery sampling programs as well as fishery-independent surveys. The requirements in Addendum I could be reinstated in the future through Board action.

Additional Information: The TC agrees with the PDT and supports Option 2 if any of the management options other than status quo are adopted.

Figures

Figure 1. Estimated January 1, age 1+ weakfish biomass, which is roughly comparable to spawning stock biomass (SSB). SSB 20% (2002) is the estimate of the Amendment 4 SSB threshold, which used data covering 1981-2000. SSB 20% (2007) is an update of that estimate using data covering 1981-2007 (Source: NMFS 2009b).

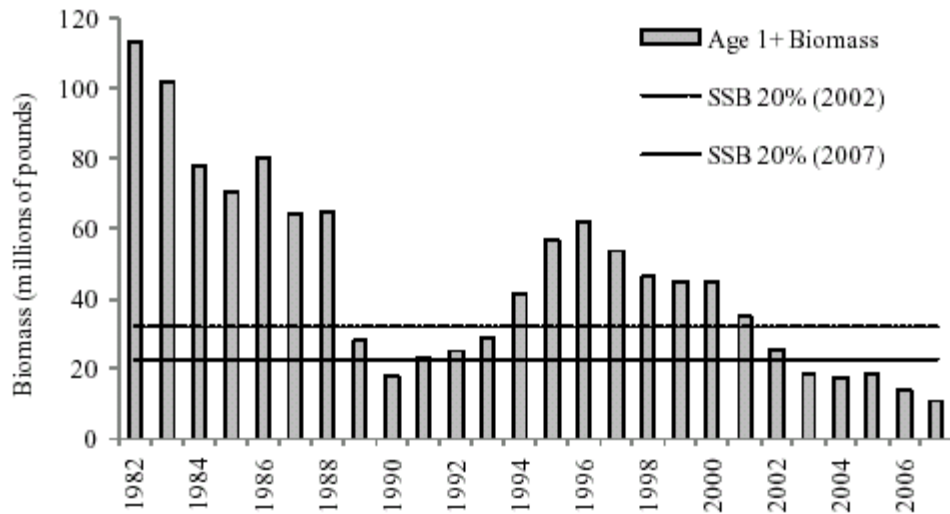


Figure 2. Estimated instantaneous rates of fishing and natural mortality based on changes in biomass over the time series (Source: NMFS 2009b).

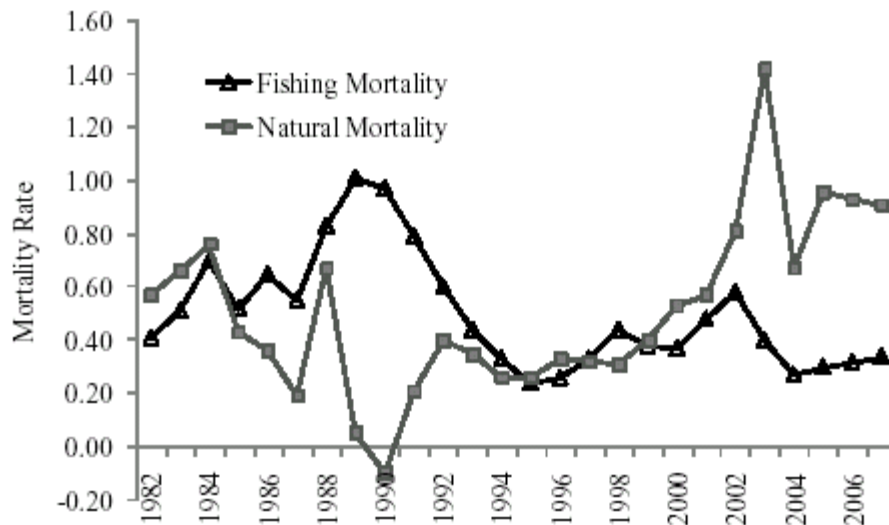


Figure 8. Changes in percent spawning potential ($[\text{spawner biomass (mid-year)} / \text{unfished biomass}] * 100\%$) of weakfish during 1982-2007 (Source: NMFS, 2009b). Estimates are compared to the Amendment 4 SSB20% threshold and SSB30% target.

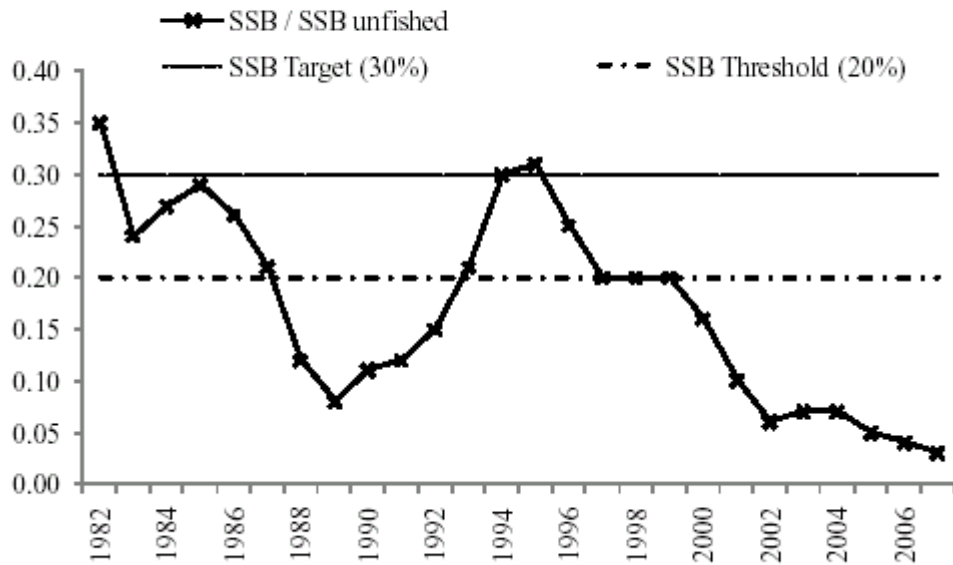


Figure 9. A projection through 2020 of total weakfish spawning stock biomass (TSSB) which simulates no moratorium as well as a harvest moratorium ($F=0$) beginning in 2009. The projection is based on the assumption that $M = 0.25$ from 1981-1998, followed by a rise to $M=0.65$ thereafter. All values in the figure, including SSB20% have been scaled, so they are indicative of relative trends in biomass in relation to SSB20%, and not absolute biomass. SSB20% was estimated assuming constant natural mortality of $M = 0.25$. Projections were conducted based on results of the Steele-Henderson model described in section C9.0 of the stock assessment report.

