



Atlantic States Marine Fisheries Commission

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Shad & River Herring Technical Committee Call Summary

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The Shad and River Herring Technical Committee (TC) met via conference call to review sustainable fishery management plans (SFMP) from Maine (river herring), New York (river herring) and the Delaware River Basin Cooperative (shad). In addition, Florida presented a habitat plan for shad.

1) Review of the New York SFMP for River Herring

The New York Division of Marine Resources (DMR) submitted an updated SFMP to harvest river herring in the Hudson River and some of its tributaries. The plan includes recent data and brings forward more restrictive management measures that were implemented in 2013. The sustainability benchmark remains unchanged from the 2012 SFMP.

The primary sustainability benchmark is based on young-of-year-indices (YOY). Management action is triggered if the YOY indices indicate three consecutive years below the 25th percentile of the time series (1983-2015). Additional sustainability measures are collected annually to evaluate stock status and include: mean length at age, total mortality, frequency of repeat spawning and catch per unit effort (CPUE) of commercial harvest.

Bobby Adams and Wes Eakin (DMR) reviewed the details of the plan with the TC and responded to TC questions, summary below:

- Are there plans for a creel survey?
Most river herring taken in the Hudson and tributaries are used as bait in the recreational striped bass fishery. At this time they have some recreational harvest estimates from their Cooperative Angler Program and they are actively trying to start a full scale MRIP creel survey.
- Is DMR planning on using mean length at age for a future sustainability target? If so, what ages?

When there is sufficient data over a 10 year period, they will look at age of full recruitment as the initial criteria.

- The blueback herring YOY index had two consecutive years below the 25th percentile of the juvenile index. Any ideas on the cause and is this a future concern?
DMR believes that was due to the destruction of habitat (e.g. submerged aquatic vegetation, etc.) caused by strong storms (e.g. Hurricane Sandy).

The TC recommends the Board approve the New York SFMP.

2) Review of the Delaware River Basin Cooperative SFMP for Shad

The Delaware River Basin Cooperative submitted a revised SFMP to harvest shad, which includes a request to move the mixed stock demarcation line and add a new mixed stock benchmark. Commercial exploitation of shad is permitted by New Jersey and Delaware in the Basin. In total, the plan includes five sustainability benchmarks:

- 1) Non-tidal juvenile abundance index (JAI) (1988-2015)
- 2) Tidal JAI (1987-2015)
- 3) Smithfield Beach CPUE index (1990-2015)
- 4) Ratio of commercial harvest to Smithfield Beach (1990-2015)
- 5) Mixed stock landings (1985-2015)

Regarding benchmarks 1-3, management action is triggered if indices indicate three consecutive years below the 25th percentile of the time series. Regarding benchmark 4, management action is triggered if harvest is above the 85th percentile benchmark for two consecutive years. Regarding the new mixed stock benchmark, management action is triggered if harvest is above the 75th percentile benchmark for two consecutive years.

From a management perspective, the mixed stock demarcation line estimates the northern most extent for the proportional assignment of mixed stock landings estimated for the Bay. In the 2012 SFMP, a demarcation line from Leipsic River, DE to Gandys Beach, NJ was established, where landings in the upper Bay and Delaware River are considered 100% Delaware American Shad stock, while landings in the lower Bay are of mixed stock, with an estimated 40% of Delaware origin.

Delaware commercial fishers harvest shad from the Delaware River stock and the mixed stock fishery. Currently the demarcation line extends to a point in Delaware that does not align with Delaware's four reporting regions. The Delaware River Basin Cooperative (Co-op) has identified three places for the line to move to and the Delaware River Basin Cooperative Policy Board recommends moving the line from its current position at Leipsic River to Bower's Beach (12 miles south) (Figure 1, orange line is the proposed line).



Figure 1. State of Delaware reporting regions and historical tagging information for American Shad in Delaware Bay. Stars represent the northern extent of Delaware’s reporting regions. The blue line is the 2012 SFMP demarcation line for the mixed stock fishery. The orange line represents the newly proposed demarcation line.

Prior to the TC call, NY DMR submitted a statement of concern to the TC (Appendix 1) and the Board regarding the request to move the mixed stock demarcation line closer to the mouth of the bay. On the call, some TC members voiced additional concerns, which include:

- This action could expand effort on the mixed stock fishery, given some shad that were previously in the mixed stock portion of the Bay would now be deemed 100% Delaware River stock. Additional fishing effort (directed or bycatch) on a mixed stock could diminish shad stocks that are under restoration and cannot support fisheries in other areas along the Atlantic Coast.
- The mixed stock landings benchmark is artificially high because it is derived from landings that stretch back to the eighties when harvest exceeded 100,000 lbs. The chosen percentile could be more conservative or the time series could be restricted to

harvest in more recent years to acknowledge that adult stock status indices in many east coast rivers have declined by various metrics, as reported in the 2007 benchmark stock assessment.

- A new Delaware Bay genetic study is scheduled to begin in 2017, the TC could review the results of this study to make a more informed decision.
- The plan says low market values have caused a decline in landings, but Figure 41 suggests the price of shad is increasing. If price were to continue to increase it could lead to unsustainable harvest.
- There were several comments regarding why Bower's Beach was chosen as the new Delaware demarcation point instead of Port Mahon.
- Acknowledgement of ocean bycatch in federal waters, combined with very little information on shad mixed stocks, were a concern.

Other TC comments:

- A TC member noted the mixed stock fishery may have been much larger when the majority of the tagging papers were published (1960s).
- It was also acknowledged that the Commission has reduced effort on mixed stock as a result of the closure (phase out started in 2000) of the shad commercial ocean-intercept fishery in state waters.

The TC could not come to a consensus regarding a recommendation to the Board. To align with Delaware's reporting regions, several members of the TC recommended moving the Delaware demarcation point from the Leipsic River to Port Mahon (two miles south), not Bower's Beach. If this recommendation is approved, then the TC could evaluate the impact of moving the demarcation further south (to Bower's Beach) after the 2017 genetic study results are published. Another portion of the TC recommended the Board approve the plan as written.

3) Review of the Maine SFMP for River Herring

The Maine Department of Marine Resources (Maine DMR) submitted a revised SFMP to harvest river herring, which includes a request to open the Card Mill Stream in the town of Franklin for commercial harvest. Currently 24 municipalities actively harvest river herring on tributaries of larger rivers.

The primary sustainability threshold is an escapement number equal to 35-fish per surface acre of spawning habitat. Escape numbers are measured through passage counts above commercial fisheries and managed by closed fishing days, season length, gear restrictions or continuous escapement. If the escapement threshold is not met than the commercial fishery will close for conservation.

Maine DMR requests the Card Mill Stream fishery reopen to commercial harvest of river herring using the aforementioned sustainability threshold. Biological information has been collected since 2008 and will be used to monitor sustainability.

Mike Brown (DMR) reviewed the details of the plan with the TC and responded to TC questions, summary below:

- Will you continue to stock Donnell Pond?
No, it was only stocked one time and there are no plans to stock it again. If they were to stock it again then the fishery would shut down.
- There was concern from the TC regarding low sample size and if suitable samples were collected to separate differences in location and sex. Is it possible to increase the number of samples that are collected per year?
Maine requires commercial harvesters to collect scale samples once per week from 25 fish; DMR gets 2000-3000 commercial samples each year. They also get a handful of recreational samples. It would be difficult to collect many more samples per year.
 - *ACTION: The TC would like to have a call to review length and age sample sizes by state to evaluate if the current sample sizes are adequate to reliably characterize length and age distribution of the run.*
- Can the plan include a secondary sustainability threshold, such as repeat spawning ratio, mortality rates or length at age?
Where possible, Maine will add a three-year repeat spawning ratio as a secondary threshold in a future SFMP. Maine will determine repeat spawning historically, what it is now with different sources of variation and how that relates to the numbers passed above their existing escapement threshold.

The TC recommends the Board approve the SFMP. In a future SFMP Maine DMR will add, where possible, a secondary sustainability threshold (repeat spawning ratio) for each run.

4) Review of the Shad Habitat Plan from Florida

Florida Division of Marine Fisheries Management submitted a Habitat Plan for American Shad in the St. Johns River, Econlockhatchee River, and St. Mary's River.

The TC acknowledged that Florida followed the format of the existing state habitat plans and recommends Board approval of the plan.