



# Atlantic States Marine Fisheries Commission

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## American Eel Technical Committee Meeting Summary

July 6, 2017

**TC Attendance:** Robert Eckert (NH), Patrick McGee (RI), Carol Hoffman (NY), Jennifer Pyle (NJ), Michael Kaufmann (PA), Jordan Zimmerman (DE; TC Vice-Chair), Keith Whiteford (MD), Troy Tuckey (VIMS), Todd Mathes (NC), Jason Rock (NC), Andrew Watson (SC), Ryan Harrell (GA), Wilson Laney (USFWS), Sheila Eyler (USFWS), Kirby Rootes-Murdy (ASMFC), Kristen Anstead (ASMFC)

**Board Members:** Michelle Duval (NCDMF; Commissioner Proxy)

**Members of the public:** Rick Allyn (AEF), Michael Yates (AEF), Zoemma Warshafsky (VIMS), Steve Murphy (NC DMF)

The American eel Technical Committee (TC) met via conference call July 6th, 2017 to get an update on Zoemma Warshafsky's nematode research project at VIMS, review and make recommendations regarding an aquaculture plan from North Carolina for 2018-2020, get an update on ongoing American eel ageing projects, and discuss the progress and timeline of the stock assessment update.

### 1) Updated Nematode Research & Discussion

Zoemma Warshafsky updated the TC on the progress of her master's thesis work at VIMS investigating if the parasitic nematode, *Anguillicoloides crassus*, is contributing to the decline of the American eel in the Chesapeake Bay. She is also collecting information for upcoming stock assessments to better estimate mortality. Her results indicate that glass eels have more larval stage nematodes than adults and that glass eels have lower infection rates than yellow eels and elvers which are highly infected. The probability of swim bladder damage increases with length and there is more damage in the winter than in the summer months. The highest force of infection, or the transition from disease negative to positive, was at age 2 and during winter months (Nov-Feb). Ultimately she did find that the disease increased mortality for diseased versus healthy fish. If the TC is interested in Warshafsky developing a quick reference field guide so that state samplers who collect biological data for American eels can score the rate of infection using the same protocol coast-wide, she is willing to work with the TC to accomplish that goal. She will also continue to update the TC as her thesis progresses.

### 2) NC Update to Eel Aquaculture Plan & Discussion

**Background:** Addendum IV to the Interstate Fishery Management Plan for the American Eel includes a provision for states to submit an Aquaculture Plan to allow for the harvest of glass eels. In December 2015, NC and the American Eel Farm (AEF) submitted an aquaculture plan for

2016 which was reviewed by the TC. After amending the plan to reflect the recommendations of the TC, it was presented to the American Eel Management Board and approved in February 2016. Due to delays in NC permitting, fishing began late in the season and no glass eels were captured in 2016. Therefore, NC amended the plan for the TC to consider as a second year pilot program for 2017. This plan was also amended and then approved by the Board.

*2017 Glass Eel Harvest Activities:* Todd Mathes updated the TC on the 2017 fishing season which served as a second year pilot program. The AEF fishermen encountered some mechanical issues with their boat and gear and were not able to set nets the first few weeks of January. AEF experienced some challenges with the reporting requirements and also received violations by NC Marine Patrol and Wildlife Resources Commission unrelated to reporting requirements. Despite some setbacks, they did fish 12 of the 17 weeks, catching approximately 0.25 lbs (775 glass eels) of the maximum 200 pounds allowed for use in domestic aquaculture.

*Proposed 2018-2020 Aquaculture Plan:* Todd Mathes presented the NC Aquaculture Plan for American eel for 2018-2020. He indicated that the plan has been revised by the AEF and was being submitted by NCDMF on AEF's behalf. Multiple changes were made from the previously approved plans including an extended 3-year term (2018-2020) and fishing season (addition of one month, now January 1-May 30), use of an Irish eel ladder, expanding the location of the harvest (from 11 creeks and rivers to 2 sounds and 2 rivers), removing multiple monitoring program requirements, and increasing the number of harvesters and allowable pieces of gear. The TC asked questions and discussed the changes. Mathes explained that the extended terms and fishing season, as well as the expanded sites to include northern waters in NC, were to give the AEF more opportunity to be successful and to provide more stability from a business perspective. There was concern that by harvesting in northern waters using an Irish eel ramp, for example, bottlenecks could occur and taking 200 lbs of glass eels from one river system could represent a large proportion of the entire run of glass eels in that river. It was pointed out by Mathes that this could be a concern regardless of gear and that the AEF is restricted to Coastal and Joint fishing waters and not allowed to fish in inland waters where bottlenecks would be present. Similarly, some members of the TC found the expansion of fishing area problematic since the previously stated intent was to target areas that were more urban and in smaller watersheds where removal of glass eel was less likely to affect future adult eel recruitment. As was discussed the last two years, the TC conceded that it was not possible at this time to prove or disprove that the 200 lbs represents a minimal contribution in any of these systems, particularly without a dedicated YOY survey in the region.

The TC was concerned about many of the removed reporting requirements, such as removing ID tags on gear and not requiring tamper evident tags as well as expanding the fishing area but Mathes stated that the NC Marine Patrol Colonel has reviewed this, has officers in all the proposed areas, and feels confident they could enforce the requirements although ID tags should still be used to identify individual gears. Additionally, the tamper evident tags did not work as planned according to Mathes and there was no reported tampering by the AEF. Removing the requirement to fish fyke nets at least once every 24-hours also did not seem prudent to some TC members because of the possibility of eel mortality and bycatch. There

were also many concerns about other removed reporting requirements, such as not requiring the collection of CPUE data, since one of the justifications for the previous plan was that it would provide the TC with data on glass eel ingress and abundance from NC. Some TC members acknowledged that the CPUE data may not be that informative initially, but that if this proposal continued for future years the data would be necessary. Ultimately, several TC members expressed that some of their concerns were ameliorated by the fact that the maximum amount of harvest allowed in Addendum IV for aquaculture purposes is 200 lbs of glass eels.

The TC does not support the AEF's proposal in its current form. Given that the project has thus far failed to fish for AEF's full time and gear allocation and has come in well below the quota, the proposal would be accepted by the TC contingent on the following recommendations:

- The proposal should be for one year, not three, and if the 2018 fishing year is successful and in compliance with the requirements then the implementation period could be increased to two years. This would also prevent the AEF from having the entire 200 lbs of allowable harvest for the state for several years, and thus preventing the entry of any other aquaculture companies.
- Remove the language 'While we have no quantitative data on the abundance of glass eels, it could be argued the harvest of 200 lb. of glass eels is limited enough to have a minimal impact on the spawning stock of American eel.' This statement is not the opinion of the TC and the NC Memo further elaborated on this opinion that many TC members found misleading.
- Require net ID numbers and that gear specifications need to be reported so that CPUE calculations can be properly interpreted. [ **Please note:** NC staff indicated following the call that AEF will mark their nets with unique ID numbers.]
- Require that fyke nets shall be fished at least once every 24 hours due to concerns over inducing addition mortality. [**Note:** NC DMF staff noted concern with this recommendation in cases of inclement weather that may not allow harvesters to get back to gear location within a 24 period.]
- Require CPUE data collection, including the time the gear began and ended fishing and the number of glass eels harvested from each piece of gear (individual fyke or dip net), as well as the location of the gear (even if location changes daily and/or weekly). This data should continue to be provided by the 10<sup>th</sup> of the following month.

In addition to the TC recommendations, ASMFC staff indicated that members of the Commission's Law Enforcement Committee will be reviewing the harvest reporting, monitoring, and gear modifications indicated in the new proposal and will aim to provide the Board will feedback at the ASMFC Summer Meeting. Lastly, the TC recommendations will be shared with NC DMF staff and the AEF staff to allow for them to reconsider elements of their proposal the TC raised concerns over.

### 3) **Progress on the Stock Assessment Update**

Kristen Anstead updated the TC on the progress of the stock assessment update which is scheduled to be presented to the Board in October. Landings and fishery-independent data sets that were previously used in the trend or growth analyses will all be updated. The trend

analyses and tests will include ARIMA, Mann-Kendall, Manly, and power. Progress has been made on the analyses and report writing and thus far the stock assessment subcommittee is on target to meet their deadline. The TC should anticipate reviewing and discussing this document in late August-early September.

#### **4) American Eel Ageing Project**

Anstead also updated the TC on the ASMFC American eel ageing project that has been underway since last year. The sample exchange and analysis indicated a lot of bias and imprecision in eel ageing along the coast. To address this, an in-person ageing workshop is scheduled for January next year. At the workshop, participants will develop processing and age reading protocols and revisit the exchange samples. The ageing workshop will be open to one ager per state/ageing lab with preferential treatment given to those that participated in the exchange. For any questions contact Anstead.

#### **5) Other Business**

*Preliminary yellow eel landings:* Kirby Rootes-Murdy presented the preliminary 2016 yellow eel landings to the TC. Addendum IV established a coast-wide catch cap set at 907,671 lbs which was based on the average harvest of 1998-2010. There are two management triggers: (1) the coast-wide cap is exceeded by more than 10% in a given year or (2) the coast-wide cap is exceeded for two consecutive years regardless of percent over. If either triggers is tripped, there would be an implemented state-by-state commercial yellow eel quota. Preliminary 2016 landings indicate that 928,358 lbs of yellow eel were harvested coast-wide, exceeding the catch cap but not by 10%. If the landings also exceed the cap in 2017, there is a likelihood of going to state-by-state quota. In the meantime, Rootes-Murdy is working on drafting a memo to the Board regarding this issue and finalizing the landings.

*NC's Senate Bill 410:* Dr. Michelle Duval updated the TC on a recent NC bill that was passed by both houses of the NC legislature and has implications for American eel in that state. The bill would exempt American eels imported from Virginia or South Carolina intended for aquaculture operations from some permitting requirements. Currently, imported marine organisms entering NC need an importation permit and health certification from a pathologist to prove that they are disease-free and do not pose a risk to NC. The bill was introduced to address industry concerns regarding the extra expense associated with the health certification which has limited the import of yellow eel sold as bait. The bill is currently on the desk of the governor who will need to sign or veto it in 10 or 30 days or it will automatically become law. As it is written now, it applies to all eel life stages (glass, yellow, silver) although it was noted that Virginia does not have a glass eel fishery.