

Atlantic States Marine Fisheries Commission

American Eel Technical Committee Meeting

Meeting Summary

September 14-15, 2016

The Hotel at Arundel Preserve

Attendees

Tim Wildman (chair; CT DEEP), Jordan Zimmerman (vice-chair; DE DNREC), Carol Hoffman (NYSDEC), Allan Hazel (SC DNR), Sean Doyle (DC DEE), Todd Mathes (NC DMF), Jennifer Pyle (NJ DFW), Lindsay Aubart (GA), Patrick McGee (RI DEM), Bradford Chase (MA DMF), Sheila Eyler (US FWS), Ellen Crosby (PRFC), Troy Tuckey (VIMS), Kim Bonvechio (FL FWC), Keith Whiteford (MD DNR), Gail Wippelhauser (ME DNR), Laura Lee (SAS chair; NC DMF)

ASMFC Staff: Kirby Rootes-Murdy, Kristen Anstead

Members of the Public: Desmond Kahn and Zoemma Warshafsky (VIMS)

Members of the American eel technical committee (TC) met during TC meeting week to:

1. Review the methods and results of the coastwide young of year (YOY) surveys and evaluate differences, challenges, and future considerations,
2. Discuss the upcoming stock assessment update scheduled for 2017,
3. Get updates on nematode research, the Maine life cycle study, and otolith exchange,
4. Discuss landings versus harvester reports, and
5. Discuss research items needed to be completed ahead of the next Benchmark stock assessment and potential timing.

Review of state YOY surveys

Each state presented their methods, results, challenges, and status of their YOY surveys, with the exception of Georgia since it recently switched from a YOY survey to a yellow eel pot survey. States discussed their site locations, timing of sampling, gear type, and biological sampling protocol and results. More information on each state's survey can be found on the spreadsheet and combined presentations pdf document.

After each state presented, the TC discussed how to determine if a site should be discontinued and how a new site should be developed to replace it. Consensus was that many of these sites were chosen opportunistically due to logistics (limited staff, restricted options for other locations, gear, etc.) and if a YOY survey was going to be discontinued in a state, another survey should replace it – YOY, yellow, or silver eel – to be decided on a case by case basis and discussed with the TC. Some exploratory analysis should be done to see if a single YOY survey in a region could be tracking the whole region, and thus have the supporting surveys altered to

measure a different population (yellow or silver). Additionally, many states are using different gear types and the TC discussed the preferred gears while recognizing that many of these are not options in other locations and some states may have restrictions that cannot accommodate them. Specifically, the group recommended that if a state switches to new site or gear type, all the same environmental data (dissolved oxygen, temperature, etc.), and flow attractant (additional possible rain gauge if possible) should be recorded. Additionally, eel mops are not a good replacement gear type for other conventional YOY gears (fyke net, eel ramp, etc.) because of area covered and difficulties in standardizing across river systems and sites.

Brad Chase and Laura Lee outlined their previously developed analysis on YOY surveys. They pursued publishing this work, but there were issues with data ownership and the need for official permissions from member states. In seeking to better understand the significance of YOY surveys and their trends (at the state, regional, and coastwide level) there has been difficulty in quantifying which are tracking overall stock abundance trends. The group has discussed the standardization of YOY surveys since 2006, but there has not been much process. Kirby highlights that there was a data and survey standardization meeting last fall for river herring. The river herring group summarized the main conclusions of survey standardization were: 1) identifying the goal of the survey at the beginning is important- whether for state purposes or for assessment purposes, and revisiting it to make sure its continually useful for that goal 2) to try and have minimum biosampling requirements by gear type 3) when switching gear types, or sites, to consult with other states/agencies that implemented the same survey to ensure Best Management Practices are being used. Some of these considerations could be kept in mind for further evaluating eel YOY surveys in the future.

The TC discussed that not all YOY surveys equally provide information to the stock assessment and that some track a signal better than others. Sheila Eyler pointed out this has been a problem in trying to provide the Board with guidance on whether to fund YOY surveys or continue to require them as part of FMP compliance. As part of the publication's analysis, Brad and Laura were looking at a power analysis that would demonstrate which YOY surveys best track overall coastwide abundance and that correlate with environmental factors. The concluding notion from the group was that this analysis may help inform the Board in how to treat different regions of the coast that may not have good YOY surveys 'signals'/lack structure/and/or would be better suited to a different life stage survey. **Brad and Laura are interested in continuing to pursue this work, the TC is in agreement that it should be done, and Troy Tuckey is willing to contribute.**

Stock Assessment Update Planning

A stock assessment update - which consists of adding the most recent years of data to existing models from the 2012 benchmark - is scheduled for next year. The life history and habitat sections will be updated with any new research or published literature and the description of the fisheries will be reviewed and changed by each member state to reflect the current status. Because both the DB-SRA and TLA models were not recommended for management use and would require additional work that would need a peer-review, only the trend (Mann-Kendall, Manly, and ARIMA) and growth analyses will be updated. The TC discussed when states could

have their data available and submitted to the stock assessment subcommittee. **All surveys and biological data that was previously used in the trend or growth analyses will need to be updated through the terminal year of 2016- the group agreed to the deadline of submitting updated survey information from 2016 by March 1st 2017.** Landings and harvester data will also be updated, but only through 2015 because of the timing of the update.

On the end of the first day, Des Kahn asked the group to consider revisiting recreational MRIP data for the Assessment update. The group was generally indicated there are significant caveats with the MRIP data and that drawing conclusions from the data regarding stock condition is not advised, although this data will be revisited during the next benchmark assessment.

Presentation & Discussion on Nematode Research

Zoemma Warshafsky, a graduate student at VIMS, presented her thesis work regarding the effect of the parasitic nematode *A. Crassus* on the American eel. This research addresses one of the research recommendations in the benchmark (2012) and could potential adjust mortality rates for the next benchmark assessment. Each state previously submitted their methods for evaluating the nematode's presence/absence to Warshafsky and these differed along the Atlantic coast. **Warshafsky will present her finalized results next year to the TC, but in the meantime she hopes to develop a standardized methodology for TC members to identify the nematode and stage of infection.**

Update from Maine on Life Cycle Monitoring program

The TC received an update on Maine's life cycle study. Due to staffing, gear, and construction issues at the site, as well as a drought, sampling did not go smoothly this year and the beginning of the YOY run was missed and only one yellow eel was caught. With a new dedicated staff member for the project and lessons learned from this past year, Maine is confident that the second year will be more productive.

Otolith Exchange for American Eel

Many states along the coast have provided otolith samples and are participating in an ageing exchange that is currently underway. Samples represent rivers from Maine to Florida and the goal is to develop a standardized protocol for processing and reading samples, compare ageing accuracy in and between ageing labs, and identify any persisting issues along the coast. Participants will review the results after the hard part exchange and decide at a later time if an in-person workshop is needed. **In the future there may be an ageing workshop that in addition to the ageing data could include sexing as well as incorporating information from Zoemma's research.**

Discuss Landings vs Harvester Reports

The TC revisited the issue of how some states use harvester reports and others use landings for yellow eel. These terms are often used interchangeably but measure different things and have implications for quota monitoring and allocation. Kirby highlighted that making sense of the best data will be important for both the Stock Assessment Update and possible management response the assessment in terms of revisiting quota & allocation (items laid out in Addendum

IV). The TC agreed that states should be using harvester reports, but that they should also look at landings data (if available) to evaluate discrepancies and improve their data. Right now, the standard approach is to take the higher of two numbers- ahead of the Assessment Update, folks should ensure their data as up to date and as accurate as possible.

Next, the group revisited outstanding questions that were raised during the workshop on 1) downstream fish passage mortality at hydropower dams 2) where to transport eels when moving them upstream and 3) the question of how best to decipher when to classify an eel YOY or glass eel. While there was good discussion on each questions, the only clear consensus was to transport eels over dams that eels should be deposited within the same watershed when moving them upstream. For the other two questions, there was not clear consensus on how to move forward. **The group was in agreement that these questions should be addressed as research recommendations. An additional research recommendation that was discussed was evaluating the effectiveness of 1/8 sieve (something like a soil sieve) for collecting and counting eels.**

Review TC reporting out & Future Assessment Planning

Lastly, the group discussed the hurdles to be overcome to complete the next benchmark stock assessment. The group provided information in May 2016 on a number of items that had been identified as needing to be improved based on the 2012 Benchmark stock assessment. The group was in agreement that seeking to engage scientists and managers outside of the ASMFC's process- specifically Canada DFO and Gulf of Mexico (specifically Robby Maxwell)- are important for addressing the research recommendation of moving the stock assessment to a 'continental' stock assessment. **Kirby will work to re-establish communication again with interested parties from both regions.**

Next Steps

- The states will get their survey information updated through 2016 and submit them to Kirby and Kristen no later than March 1, 2017
- The Board is not meeting at the Annual Meeting, so the TC report will be submitted if needed ahead of the next Board Meeting in 2017
- States should continue to track their eel landings with harvester reports.