



**Technical Advisory Committee-Natural Resource Sub-Committee Joint Meeting
August 17th, 2023, 10:00 am**

10:00 AM Welcome and Roll Call

– Matt Sclafani (CCE, TAC Co-Chair) and Brad Peterson (SBU, TAC Co-Chair)

In person attendees:

Matt Sclafani (CCE, TAC co-chair), Louise Harrison (Save the Sound), Barry Volson (PEP), Joyce Novak (PEP), Valerie Virgona (PEP), Sara Cernadas-Martin (PEP), Robert Cerrato (SBU), Robert Nyman (USEPA), Mary Ann Eddy (Sag Harbor), Josh Halsey (PLT) and Elliot Sivel (SBU)

Virtual Zoom attendees:

Kim Shaw (EH), Matt Richards, Byron Young (NYSDEC), Kellie McCartin (SCCC), Peter Daniel (HU), Steve Schott (CCE), Nicole Maher (TNC), Alexa Fournier (NYSDEC), Pete Topping (PBK), Jennifer McGivern (SC), Claudia Fabian (SC), Lynn Mendelman (EH), Shauna Kamath (NYSDEC), Jade Blennau (PEP), Aimee Boucher (USEPA), Henry Bokuniewicz (SBU), Michele Golden (NYSDEC), Elizabeth Cole (LIRPC), Cassie Bauer (NYSDEC), Sally Kellogg (SSER), Patrice Dalton (APC), Sam Apgar (USFWS), Maureen Dunn (Seatuck), Nora Catlin (CCE), Ray Hinkle (AKRF), Corey Humphrey (SC S&W), Jack Monti (USGS), Tom Iwanejko (SCDPW), Brian Frank (EH), Nancy Pierson (SCDHS), Della Campbell (NYSDEC) and John Aldred (EH)

10:10 AM Presentation: Peconic River Alewife run 2023 and Woodhull monitoring updates

– Dr. Kellie McCartin (SCCC)

Update on alewife run 2023 in Byron Young Fish Passage (formerly known as Woodhull Fish passage).

Short overview on the basic ecology of alewives. For monitoring purposes, usually underwater cameras for run estimates. The problem is that fish swim by the camera multiple times (multiple spawn runs within the same season). The numbers collected from the camera are inflated by the fish that cross multiple times. This issue led to a partnership with Hofstra to tag fish, that way it was possible to get an estimate on the % of the alewife population exhibiting this multiple spawning behavior.

Grangebel: Camera running 24h, snippets of shorter time (hours) are analyzed and extrapolated. Fish run had been declining since 2020 but from 2022 to 2023 it looks like it almost doubled. Unfortunately, this includes the fish doing multiple runs. These results need to be corrected with the data from the pit tagging effort. These results showed that fishes exhibiting multi-passage rate accounted for almost $\frac{2}{3}$ of the detected fish. Thus, data should be corrected for this factor. This rate is specific for this fish passage, which is very easy to transverse, other passages will probably have lower rates. More research is needed for accurate estimates for the whole fish run, including multiple passages.

Overview of the Byron Young Fish Passage Design, which includes the aforementioned camera set-up. This camera includes an analysis software that selects the video fragments that had fish in frame. Unfortunately, the camera stopped working early April and there were some issues with the overall set-up. This was the first year of using this camera, so issues were expected. These problems will be addressed and a better survey for next year is expected.



Another issue is that fish are pooling by the entrance to the fish passage, which indicates a need to implement some modifications to the passage and make it more attractive to the fish, as well as making the camera set-up more accessible to the scientific team, so they can troubleshoot as needed.

Discussion:

- Peter Daniel: Do we know what's the status with the county about getting the camera out and fixed?
- Barry Volson: We are waiting a call back from the camera company
- Matt Sclafani: With respect to the fall back, do you think there is a methodological reason why it is happening. Could it be that the LED light of the camera stunts the fish when they are crossing?
- Kellie McCartin: Two types of fall back; one is the struggle to make a full passage (45 minutes). The other type happens with a break of multiple days and the record is a fish crossing 17 times. There are also some trends in the data of when we see this fall-backs (type 2), so it might be linked to a spawning strategy. Also passing efficiency is very high (100%) in this passage so fishes are not struggling to cross.
- Peter Daniel: In the process of fixing the camera maybe we should try to get an infrared camera light instead of LED to minimize possible issues.

10:25 AM Presentation: Assessing Vulnerability of Species and Communities in the Peconic Estuary – Dr. Robert Cerrato (SBU)

GOAL: Analysis of DEC trawl data that has been running since 1987 (small mesh trawl survey, 16 stations per week, takes place from May to November) to study potential environmental variables driving the distribution and temporal variability of the all finfish, some mobile invertebrates (horseshoe crab, mantis shrimp, blue crab,...) with the potential of analyzing specific species. We also want to look for patterns on the catch and the driving environmental variables that are more regional.

Considerations:

- Spatial-temporal analysis focused on CPUE, removed 54 rare species that were caught less than 10 times during the whole trawl data. Some species were also grouped together (squids, herrings, anchovies,...)
- Environmental variables: Atmospheric variables (AMO, NAO) were taken into account and also lagged by 1-2 years to account for the structure of fish populations and their potential delayed response
- Due to COVID and staffing issues, we are requesting DEC to extend the deadline of this project to being able to reach all future tasks/goals

Results:

- 19 taxa significantly increased or decreased over time. SST was the main driver, in 1999-2000 there was a AMO shift from cold regime to warm regime which occurred abruptly.
- There was another shift of the NAO (negative NAO-2, suppressed westerlies). Anchovies show peaks at the times when this shift occurs (twice)
- Spatial analysis: Fauna showed geographic structure with eastern (scup, spider crabs,...), inshore (Atlantic silverside, northern pipefish) and offshore (weakfish, butterfish,...) groups



- Temporal patterns better explained by regional atmospheric patterns, not local changes → Local temp changes driven by regional patterns
- Spatial pattern: Surprisingly no west/east gradient. All three regions responded to regional atmospheric patterns
- Community shifts are regional, decadal and caused by regional patterns → They can be predicted

Remaining tasks:

- Analyze occupancy and abundance relationships over time for individual species and species assemblages
- Develop an Ecopath with Ecosim model and analyze structural changes in ecosystem properties over time

Discussion:

- Barry Volson: Since this community is responding to Regional changes, could these shifts be happening some other places
- Bob Cerrato: Yes, we have seen similar shifts in other estuaries along the Eastern seaboard that seem to coincide with this same regional atmospheric patterns
- Louise Harrison: Bay scallop is listed as increasing, but we know it has gone down. How do you explain this?
- Bob Cerrato: The survey doesn't discriminate scallop by size (commercial/non commercial), also the locations where the trawl took place are not overlapping the spots where the die-offs have been recorded
- Matt Sclafani/Bob Cerrato: Being able to predict shifts in the communities based on regional patterns opens exciting prospects for research and management. We would have 1-2 years to prepare for a community shift after observing a weather shift in AMO
- Maureen Dunn: Have you look at warm core rings that can be affected by the gulf stream and other currents
- Bob Cerrato: Yes, we did check for those in the model but it didn't bring
- Maureen Dunn: Have you look at american sandlance?
- Bob Cerrato: Yes, american sandlance have declined
- Tom Iwanejko: Did you include ichthyoplankton data into your model? We collected this for a while
- Bob Cerrato: No, we didn't receive this data but the trawl mesh is pretty small, so the survey is quite good at capturing small specimens, but not so much for very large highly mobile fish species such as bluefish for example
- Joyce Novak: This presentation is an update on the project, once it is finalized the report will be circulated and Bob will be back to present the final results of the research.

11:00 AM Presentation: Envision Plum Island Preserved – Louise Harrison (Save the Sound)

- Refresh and update on the project. Plum Island is found between two NEPS (LIS and PEP).
- Save the Sound leading environmental group in Long Island Sound.
- Overview of Plum Island (location, photos and structures within the island → docks, lab, fort, dunes)
- The animal disease lab in the island has performed groundbreaking research that has positively affected food security of nations around the world
- The Heritage Program has obtained permission to perform research on the island, which has multiple significant natural ecological communities, around the year.
- Audubon NY has done bird surveys in the island, so far 229 different bird species. It is impressive that in such a small area (>800 acres) about ¼ of North America's bird species have been identified

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- Largest seal resting area in NY and one of the largest in New England
- The Heritage program was able to spend most of their time above land, but Save the Sound was able to hire divers to characterize the substrate under the water around the island. Extreme biodiversity was found, every single inch of hard underwater surface was covered with life (finding available in Youtube webinar and pdf online in Save the Sound Website)
- Many rare plant species that were almost lost due to mowing during the time the army was in the Island. Some of these plant species are protected in the USA
- Roseate Tern forage in Plum Island for American Sandlance → Fish are decreasing so there's concern how this will affect this bird species.
- US Government for sale! In federal hands but Southold concerned if a developer buys it → Town did some bold zoning and most of the island was declared a preserve.
- Preserve Plum Island Coalition: 26 regional and national organizations → Working towards preserving and protecting the Island. It is hard to preserve the land because it is owned by the Federal government → State officials said zoning it's not enough, a plan is needed
- "Envision Plum Island": Three formal workshops, many more meetings, multiple partners (SBU, BNL,...) to gather ideas for land preservation, management and heritage preservation. New zoning plan was produced with more divisions. Report available online at www.preserveplumisland.org/envision-report. Goals: Preserve ecological value, history and cultural heritage. Sustainable, equitable access and education.
- Still having a problem with the Legislation that opens Plum Island for sale to private buyers → Presented plan to government → December 2020 the auction was removed! The problem is that if no management agency takes ownership for managing the island, it will be listed for auction again
- Some elected officials are helping with this effort. Adding Island management into the Federal Budget
- The President has the power to list Plum Island in the National Monument Act but Save the Sound needs help. Some elected officials are supporting the request but local stakeholders can help by texting to the President!: "STS PLUM to 52886"

11:25 AM Update: PEP Program Office Updates – Barry Volson (PEP)

- Check summary slides included in TAC presentation
- 2023 Eelgrass Aerial survey: No usable data for the 2023 season. Although the airplane was able to take off one day the light refraction made the gathered data unusable. No more flights were possible due to heavy rains and the canadian fires
- 2023 PEP Mini-grant winners in the topic of "Resilient Communities Prepared for Climate Change"

11:40 AM TAC Organizational Items - Joyce Novak (PEP Director)

- Core member list addition: Vote to add Trustees to the TAC core member list: No concerns or comments were received so we are moving forward and adding them to the core member list
- TAC chair: Nomination to have Matt Sclafani for a second term (Oct 2023 to Oct 2025) → Core voting entities please reach out to us in the next couple of weeks if you have any concerns, questions or nominations. After those two weeks we will have an official vote.



- NRS Co-Chair: PEP nominates Teresa Maslin (Principal Planner for the Town of Southampton Planning Division). Core members have 2 weeks to reach out to the program office to voice concerns, questions or suggest other nominations. After those two weeks we will have an official vote.

11:50 AM New Business/Public Comment Period

No public comment

12:00 PM Wrap Up/Adjourn

Next TAC meeting will take place on Thursday November 16th, 2023