



## **Peconic Estuary Partnership**

### **Technical Advisory Committee (TAC) Meeting**

**November 18, 2020 10:00am**

Zoom Conference Call

Attendees: Sarah Schaefer (PEP), Joyce Novak (PEP), Lauren Scheer (PEP), Elizabeth Hornstein (PEP), Matthew Scalfani (CCE), Stephen Tettelbach (CCE), Bassem Allam (SUNY Stony Brook), Roger Tollefsen, Alexa Fournier (NYSDEC), Cassandra Bauer (NYSDEC), Gregg Rivara (CCE), John Aldred (Town of East Hampton Trustees), Ed Bausman (Town of Shelter Island), Nancy Pierson (SCDHS), Scott Curatolo Wagemann (CCE), Pat Aitken (PEPC), Chris Schubert (USGS), Josh Halsey (PLT), Debbie Aller (CCE), Michele Golden (NYSDEC), Sally Kellogg (SSER), Brian Frank (Town of East Hampton), Nicole Maher (TNC), Julia Socrates (NYSDEC), Kate Rossi- Snook (CCOM), Mary Ann Eddy (Sage Harbor- Harbor Committee), Maureen Dunn (Seatuck), Michael Collins (Town of Southold), Paul Misut (USGS), Ron Busciolano (USGS), Peter Topping (Peconic Baykeeper), Ken Zegel (SCDHS), Kathleen Fallon (NY Sea Grant), Emily Hall (Seatuck), Steve Schott (CCE), Tom Iwanejko (SC).

1. **Welcome & Introductions** –Matthew Scalfani (TAC Chair)
2. **TAC Meeting Summary** – Matthew Scalfani
  - Review of the [August Technical Advisory Committee \(TAC\) Meeting Summary](#) - minutes approved by the committee.
3. **PEP July Program Update Review** – Sarah Schaefer (PEP Program Coordinator) & Elizabeth Hornstein (PEP State Coordinator)
  - The committee was asked to come with any questions after reviewing the [November PEP Program Update](#).
  - PEP provided updates in the November PEP Update project table (attached).
  - The PEP CCMP 20202 is final as of October 29<sup>th</sup>, 2020 and available on the PEP website here: <https://www.peconicestuary.org/ccmp2020/>. Printed copies of the CCMP 2020 can be requested through [ccmp@peconicestuary.org](mailto:ccmp@peconicestuary.org) or by emailing the PEP staff.
4. **Updates from the PEP Natural Resources Subcommittee on PEP Habitat Restoration Plan-**  
Elizabeth Hornstein (PEP State Coordinator)

Slides 1-7 of the linked presentation: <https://www.peconicestuary.org/pep-nrs-and-water-monitoring-collaborative-updates-for-11-18-2020-tac-meeting/>

- EPA is reviewing the 2020 PEP Habitat Restoration Plan and upon approval will be incorporated into CCMP 2020.
- The 2020 Habitat Restoration Plan has 5 new projects added to the plan and 2 projects updated. 46 total projects in the Plan, Interactive ArcGIS Map of Habitat Restoration Projects to be updated soon: <https://www.peconicestuary.org/news-and-events/maps-gis/habitat-restoration/>
- The projects in the 2020 Habitat Restoration Plan are classified into 3 tiers:
  - Tier 1: Priority habitat (wetland, SAV, diadromous fish), good/proven methods, and supported by land owners/stakeholders
  - Tier 2: Priority habitat, but some concerns with the methods OR additional baseline info is needed OR still need to get support of owners/stakeholders.
  - Tier 3: Not a high priority habitat but still aligns with overall habitat restoration goals described in this plan. *Phragmites* control projects that do not include a wetland restoration component are also included in this tier.
- PEP asked the Natural Resources Subcommittee (NRS) and TAC members to rank Tier 1 and Tier 2 projects to further prioritize the projects, ranking results were presented at the October 28<sup>th</sup> NRS meeting.
- Prioritization of project was also done using existing prioritization tools and ecological criteria:
  - 2019 Critical Lands Protection Strategy (wetland/shoreline projects)
  - Salt Marsh Sparrow Prioritization Tool (wetlands)
  - New USGS Wetland Synthesis Products (wetlands)
  - TNC Road Stream and Tidal Crossing Prioritization Tool (fish passage and wetland-tidal exchange)
  - Restoration Size (all)
  - Eelgrass Bio-optical and Habitat Suitability Model (seagrass)
- Results of the partner rankings and the prioritization were presented on slide 5 and 6 of the linked presentation.
- The following in-progress project should continue to be prioritized: Alewife Creek Habitat Enhancement, Narrow River Wetland Restoration, Widow's Hole Living Shoreline Phase II, Peconic River Shoreline/Wetland Restoration, Lake Montauk Alewife Access, Upper Mills Dam Fish Passage Project, and Meetinghouse Creek Wetland Creation/Restoration\* (\*important for stormwater management)
- The following projects that have not yet been initiated should be prioritized: Horseshoe Crab Protection and Restoration Strategy, Paul Stoutenburgh Wetland

Restoration, Accabonac Harbor Wetland Restoration, Shelter Island Wetland Restoration and Napeauge Harbor Hydrodynamic Study

- The next NRS meeting is expected to be held in March 2021 and will include a presentation on Peconic horseshoe crab data and discussion on development of a horseshoe crab restoration/protection strategy.
- Sub work groups may be setup to help initiate these priority projects
- PEP will convene a small seagrass work group to determine next steps for seagrass management and protection.
- TAC approved the NRS updates on the 2020 PEP Habitat Restoration Plan.

5. **Presentation: Peconic Estuary Scallop Update** – Bassem Allam (SUNY Stony Brook) and Stephen Tettelbach (CCE)

- Stephen Tettelbach presented the linked presentation: [The State of the Peconic Bay Scallops in 2020](#)

Main takeaways:

- Main reason for lack of recovery of the Peconic Bay Scallops after the last Brown Tide in 1995- Low population density/ abundance= low fertilization success/recruitment limitation. This is the reason the CCE restoration efforts focused the large scale planting of hatchery-reared scallops at high densities in the Peconic Estuary.
- There is a strong connection between restoration work conducted by CCE since 2006 in the Peconic Estuary, and the increases in Peconic Bay scallop larval recruitment, benthic populations and fishery landings. The restoration work created higher scallop density/abundance and recruitment.
- Scallop surveys in May/June 2019 to October 2019 revealed an average 95% decline in adult scallop density at 20 sites that are routinely monitored. This correlated with a 95% decline in Peconic Bay scallop landings in the 2019/2020 season. It is thought most scallops were able to spawn before the 2019 adult scallop die off.
- Issues in 2019 that may have caused the 2019 scallop die off are all aligned with climate change: high water temperature and low dissolved oxygen. The climate related impacts were exacerbated by cownose rays feeding in the Peconic Estuary. Climate related factors made the scallops more vulnerable to disease.
- Scallop surveys in May/June 2020 to October 2020 revealed in most places a 100% decline in adult scallop density at 20 sites that are routinely monitored. The 2020 adult scallop die off is hypothesized to have happened over the summer 2020.
- Very high densities of cluckers (empty scallop shells) were found in late July 2020 but none were found in August 2020. This suggests that cluckers were not present due to cownose rays feeding on the scallops and crushing the scallop shells.
- Cownose rays are a southern species and the reason they are now seen in the Peconic Estuary is because of the high water temperatures. Cownose rays were

first seen in Long Island waters at the end of July/ first week of August 2020. Cownose rays have been seen and caught in Plum Gut, around Shelter Island, Orient Harbor, Shinnecock Bay, and Flanders Bay.

- Declines in 2020 adult bay scallop populations were 1.5 to 2 months before the rust tide blooms and cownose rays were seen in the Peconic Estuary. Therefore, this suggests the 2020 adult scallop die-off was due to factors other than rust tide blooms and cownose rays. Bringing more weight to the theory that low dissolved oxygen and high temperature, in combination with scallop spawning and prevalence of scallop disease, caused the adult scallop die-off.
- Mean densities of juvenile bay scallops in October 2020 are relatively high at a number of places, indicating adult scallops were able to spawn before the 2020 die-off. The hope is all of these scallops will survive over the winter.

- Bassem Allam presented on the linked presentation: [Towards a better understanding of bay scallop health and disease](#)

Main takeaways:

- The discovery of a member of the apicomplexan (coccidian- dubbed bay scallop coccidian or BSC) was found in scallop kidneys in samples taken from surviving scallops in November 2019. These results were reported out on 1/31/20.
- The coccidian parasite was described earlier in the 1980s and 1990s in Long Island bay scallop samples. The coccidian parasite is likely not new, but would need access to samples from those periods of time to verify.
- Field and lab investigations in 2020 were funded with a 1 year National Science Foundation grant that was awarded. Project title: *A matter of life or death: Identifying factors that regulate susceptibility or resistance of bay scallops to an emergent coccidian parasite*. Work started 6/15/2020.

The project goals were to:

- Answer basic biological questions to characterize BSC (life cycle, virulence factors)
- Identify biological (scallop immunity, genetic background) and environmental factors that regulate disease development
- Host-pathogen interactions and disease outcomes
- The Hypothesis: Stressful environmental factors exacerbate scallop physiological conditions leading to severe BSC infections and scallop mortality
- The field component of the study involved:
  - Wild and aquacultured scallops (2019 year class) collected from Orient Harbor on 6/23/2020
  - Deployed in replicated lantern nets and ADPI bags in 2 sites: Orient Harbor and Flanders Bay
  - Resampled monthly on 4 occasions (July through October)
  - A total of 840 scallops processed (include control samples from CCE's long lines, and 2 control samples from Nantucket)
  - Findings:

- A sensitive rapid test was developed to assess presence of parasite cells in scallop kidney fresh preparations
  - Parasite found in each and every scallop processed
  - Parasite numbers and activity (cell division) were much higher in summer as compared to the (few) samples we analyzed during winter 2020
  - Parasite not only limited to kidney but can severely infect other tissues
  - Marked difference in mortality trends between sites, strains and deployment method- generally the wild scallops had greater survivorship than the aquaculture scallops in both the lanterns and ADPI at both sites.
- The lab component involved:
  - Same batch of wild and aquacultured scallops used in the field experiment
  - Used in replicated lab experiments to evaluate the effect of key environmental factors on BSC progress and scallop health and survivorship- temperature
  - Findings:
    - The temperature experiments (22C, 25C, 28C) on aquaculture and wild scallops show that there is a significantly higher mortality in the 28C treatment in aquaculture and wild scallops. Aquacultured scallops have a significantly lower survivorship compared to wild scallops at all of the temperature treatments.
- Additional questions that need to be answered - Does the parasite infect other species or does it just complete its life cycle in the scallop? Currently, work is being done to use available molecular information to identify BSC specific DNA sequences and generate and use new molecular information.
- Summary:
  - Is this a new parasite? Unlikely
  - Does it infect only kidney tissues? No, significant alterations are seen in other tissues
  - Does it infect other species? No information yet (need highly specific detection methods)
  - Why now? Disease seems to worsen in summer and lab experiments strongly suggest a role for temperature (other parameters are being investigated too)
  - What is its impact on the bay scallop population? Likely different in different areas, need a real survey!
  - Can it be mitigated/managed? Likely
- Future and ongoing work:
  - Characterization of the parasite (life cycle, factors affecting virulence, other hosts?)

- Identification of factors that modulate disease intensity and resulting mortality (ongoing, need more funding)
- Understanding of spatial and temporal distribution of the disease in the Peconic (need funding)
- Evaluation of mitigation strategies (need funding -selective breeding seed proposal pending with the USDA –B. Allam (lead), E. Pales Espinosa, S. Tettelbach, K. Rivara, E. Green-Beach)

6. **Updates from the Peconic Estuary Water Quality Monitoring Collaborative-** Sarah Schaefer  
 Slides 8-18 of linked presentation: <https://www.peconicestuary.org/pep-nrs-and-water-monitoring-collaborative-updates-for-11-18-2020-tac-meeting/>

- The TAC approved the [Peconic Estuary Water Quality Monitoring Strategy](#) in May, 2020 and the Management Committee and Policy Committee approved it in June 2020. The final document is being formally approved by the EPA and incorporated into the CCMP.
- The PEP Water Quality Monitoring Strategy also included a summary of the approved Next Steps by year (2020-2023), to facilitate tracking and planning.
- The PEP has developed a Peconic Estuary Monitoring Collaborative to help advise the completion of the Next Steps outlined in the Strategy. The Collaborative will function as a sub-committee of the Technical Advisory Committee (TAC) and is composed of main water quality monitoring programs in the Estuary- members of NYSDEC, USGS, Suffolk County, CCE, Academic monitoring groups. The Collaborative has met our goals for 2020.
- Targets/decisions adopted by the PEP Monitoring Collaborative:
  - Targets for water clarity (Secchi disk depth), chlorophyll-a, and dissolved oxygen (DO) as proposed in the Suffolk County Subwatersheds Wastewater Plan (SWP):
  - Median Secchi disk depths should be 2 meters (m) or greater during the April 1 through October 31 growing season
  - Median chlorophyll-a concentrations should be no greater than 5.5 ug/l during the April 1 through October 31 growing season
  - Dissolved oxygen concentrations should comply with New York State’s acute (never less than 3 mg/l) and chronic (> 4.8 mg/l as daily average in 90% of samples) dissolved oxygen criteria.
  - Enterococcus counts at estuarine/marine swimming beaches should not exceed 104 colony forming units per 100 milliliter water sample (104 cfu/100ml). New Enterococcus standards are currently in review. Once these standards are in place, revise the target to reflect the new standards going forward.
  - Adopt three estuary segments—west, central and east for reporting.
  - Use ‘stoplight graphics’—green = target met; red = target not met—for public-facing documents, collating data by estuary segment. Update annually as soon as monitoring data are available from the previous year. Where possible, also include a yellow (intermediate) category in each stoplight

graphic to reflect small-magnitude and/or short-duration failures to meet targets.

- Track and report water temperature, salinity, pH and harmful algal blooms on an annual basis as the adoption of numerical targets are not currently anticipated for these parameters.
- Finalize and adopt PEP water quality targets for pathogens, water clarity (Secchi depth), and chlorophyll-a and dissolved oxygen concentrations in time for the 2021 PEP Conference.
- A goal for 2020 is to use open science tools to track and report progress toward water quality goals- bridge the divide between scientific products and management needs and specifically to evaluate the use of the Peconic R-based open science package to report annual water quality reports. Through the process of developing the PEP Water Quality Monitoring Strategy, CoastWise Partners had been in contact with Marcus Beck from the Tampa Bay Estuary Program (TBEP). TBEP uses open science to analyze data and develop 2 page reports for distribution using the TBEP R-tools package.
- We had a presentation from Marcus Beck on 10/19/20 to the PEP and the Monitoring Collaborative to learn more about open science and the Peconic R-based open science tools. We were shown the advantages of moving away from the old way of analyzing data and producing reports and moving toward using an open source tool kit to analyze an external data source and make the data reports easily available, sharable, and easily updated.
- The goal is to use these R-tools with the approved targets to track progress towards CCMP goals and inform management efforts for 2020 and beyond. This is a tool that will help PEP track successes and areas that need more attention in the watershed and easily represent the data for our stakeholders. A first PEP Water Quality Report will be ready in time for the PEP Conference in April 2021.

## 7. **Next Steps and Meetings – Matthew Sclafani**

2021 TAC Meeting Schedule:

February 17th, 2021 10:00 am – 12:30 pm - TBD location

May 19th, 2021 10:00 am – 12:30 pm - TBD location

August 18th, 2021 10:00 am – 12:30 pm - TBD location

November 17th, 2021 10:00 am – 12:30 pm - TBD location

## 8. **Public Comment Period-** meeting attendees were asked to indicate in the Zoom chat if you would like to speak.

- No comments.

## 9. **Adjourn**

[November 2020 PEP Update](#)

| Project  | Status   | Current Activity  |
|--|--|---|
| <u><a href="#">Living Shoreline Project at Widows Hole-Greenport</a></u><br>Partners: CCE and PLT  | <ul style="list-style-type: none"> <li>✓ Complete</li> <li>○ Monitoring ongoing</li> <li>○ Seeking funding for Phase II</li> </ul>   | Phase II of the project scope, extending the living shoreline to the entire property, has been developed by CCE and added to PEP Habitat Restoration Plan- seeking funding with partners. |
| <u><a href="#">Seagrass Bio-optical Model</a></u><br>Partner: SUNY Research Foundation   | <ul style="list-style-type: none"> <li>✓ Complete</li> <li>○ Developing ArcGIS tool for stakeholders</li> </ul>  | Creating an ArcGIS online map of project results to make site specific information easily available to inform eelgrass management and restoration programs in the Peconic Estuary.        |
| <u><a href="#">CLPS Update and Climate Ready Assessment Services for PEP and Shinnecock Indian Nation</a></u><br>Partner: Anchor QEA, LLC. | <ul style="list-style-type: none"> <li>✓ Complete</li> <li>○ Developing training workshops</li> </ul>  | Planning training workshops for municipal staff and resource managers to utilize updated Critical Lands Protection Strategy (CLPS) prioritization maps and climate resiliency tools.      |
| <u><a href="#">Water Quality Monitoring Assessment</a></u><br>Partner: CoastWise Partners, LLC.  | <ul style="list-style-type: none"> <li>✓ Complete</li> <li>○ EPA reviewing WQ Monitoring Strategy</li> </ul>   | Monitoring Strategy will be incorporated into CCMP 2020.  |
| <b>Monitoring Collaborative</b>  | <ul style="list-style-type: none"> <li>✓ 2020 goals met</li> <li>○ 2021- 2023 next steps outlined in Water Quality Monitoring Strategy</li> </ul>                              | Monitoring Collaborative met 10/19/2020 to formally accept WQ targets and explore R-tools for reporting and analysis. Next meeting in early 2021.   |
| <b>2020 Habitat Restoration Plan Update</b>  | <ul style="list-style-type: none"> <li>✓ Complete</li> <li>○ EPA reviewing Habitat Plan</li> <li>○ Developing updated <u><a href="#">interactive ArcGIS map</a></u></li> </ul> | Will be incorporated into CCMP 2020. 5 new projects added to the plan and 2 projects updated. 46 total projects in the Plan, ArcGIS online map will be updated accordingly.               |
| <b>Non-Point Source Pollution Management Project</b><br>Partner: Village of Sag Harbor   | <ul style="list-style-type: none"> <li>✓ Complete</li> </ul>   | Two rain gardens were installed at Havens Beach in Sag Harbor on 6/26/20. Educational sign was installed 9/23/20  |
| <b>Spring 2020 Alewife Monitoring</b>  | <ul style="list-style-type: none"> <li>✓ Complete</li> </ul>   | Video camera installed at Grangebelle fishway on Peconic River for second year. From 02/28/20 - 05/18/20, 57,924 alewife are estimated to have passed through the camera.                 |
| <b>Woodhull Dam Fish Passage Construction</b>  | <ul style="list-style-type: none"> <li>○ Pending grant funding award</li> </ul>  | Construction of the fish passage can begin when all necessary grant funding is available and a contractor is selected.  |
| <b>Upper Mills Fish Passage Engineering Design and Permitting</b><br>Partner: L.K. McLean Associates                                       | <ul style="list-style-type: none"> <li>○ Engineering Design and Permitting ongoing. Expected completion 8/2021</li> </ul>  | Design alternative selected at April 9th, 2019 stakeholder meeting. Engineering designs have been finalized, permitting is in progress. Anticipated completion 8/2021.                    |
| <u><a href="#">Lake Montauk Alewife Access and Habitat Enhancement</a></u>   | <ul style="list-style-type: none"> <li>○ Partial funding secured from SC Capital Budget (availability uncertain)</li> </ul>  | Partial funding secured for Lake Montauk portion and will move forward with construction project in coordination with partners. Seeking funding for Stepping Stone Pond portion.          |
| <u><a href="#">Meetinghouse Creek Main Road Wetland Construction/Restoration</a></u>   | <ul style="list-style-type: none"> <li>○ Funding is secured, RFP has been advertised for Engineering Design and Permitting</li> </ul>  | An RFP for Engineering Design and Permitting was advertised 10/19/20, responses are due 12/1/2020. PEP will begin work with selected contractor.  |
| <u><a href="#">Narrow Road Wetland Restoration</a></u>   | <ul style="list-style-type: none"> <li>○ Seeking funding to develop engineering design plans</li> </ul>  | Working with NYSDEC and Ducks Unlimited to secure grant funding for engineering design.   |



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|--|---|--|
| <p><b>Paul Stoutenburgh Preserve Habitat Restoration</b></p>   | <ul style="list-style-type: none"> <li>○ Pending funding availability from SC Capital Budget (availability uncertain)</li> </ul>  | <p>An RFP for Engineering Design and Permitting was planned to be advertised for habitat restoration at the site.</p>  |
| <p><b>Expansion and Monitoring of the Town of Southold Living Shoreline Project</b><br/>Partner: CCE</p>                                       | <ul style="list-style-type: none"> <li>○ Ongoing, will be completed 9/2021</li> </ul>   | <p>Expansion to an existing Town of Southold Living Shoreline Demonstration Project and the addition of monitoring services at the project site. Quantification of nitrogen uptake of <i>Spartina alterniflora</i> and ribbed mussels.</p>   |
| <p><b>Nitrogen Load Reduction Assessment Project</b><br/>Partner: Anchor QEA, LLC.</p>   | <ul style="list-style-type: none"> <li>○ Ongoing, will be completed 9/2021. Presentation at 2/17/2021 TAC meeting</li> </ul>      | <p>Compile and assess the cost per pound of nitrogen reduction to groundwater for various nitrogen reduction best management practices (BMPs) currently being employed throughout the country to provide a decision-making tool to guide cost effective management scenarios to reduce nitrogen on a subwatershed basis in the Peconic Estuary.</p>  |
| <p><b>Peconic Estuary Ecosystem Study</b><br/>Partners: NYSDEC and SUNY Stony Brook</p>  | <ul style="list-style-type: none"> <li>○ Advertising for a post-doctoral position. Anticipated completion 3/2023</li> </ul>       | <p>Analyze spatial and temporal trends in the Peconic Estuary finfish trawl survey dataset, and develop risk metrics from ecological relationships for the Peconic Estuary. Develop an ECOSIM quantitative modeling framework that can represent all major ecosystem functional groups and can be used to identify and assess structural changes in the ecosystem in response to environmental change.</p> |
| <p><b>New USGS Continuous Tide-warning Station</b><br/>Partners: NYSDEC and USGS</p>   | <ul style="list-style-type: none"> <li>○ Ongoing, WQ equipment funding from SC Capital Budget (availability uncertain)</li> </ul> | <p>Establishing a third continuous station on at the South Ferry dock on Shelter Island. Parameter equipment purchased will be prioritized as funding is available with guidance from the PEP TAC and PEP Management Conference approval.</p>  |
| <p><b>Peconic Estuary Solute Transport Model</b><br/>Partner: USGS</p>   | <ul style="list-style-type: none"> <li>○ Ongoing, will be completed spring 2021</li> </ul>  | <p>A tool to estimate time-varying nitrogen loading rates to the Peconic Estuary. USGS is in the final model development phase and scenario finalization. Next project meeting January/February 2021.</p>  |
| <p><b>Hardened Shoreline Analysis</b></p>  | <ul style="list-style-type: none"> <li>○ Complete, report will be completed and shared</li> </ul>                                 | <p>ArcGIS mapping of current hardened shoreline vs 2003 hardened shoreline analysis.</p>   |
| <p><b>Quality Assurance Project Plan Development for Supplemental Water Quality Sediment Data Collection</b><br/>Partner: Tetra Tech, Inc.</p> | <ul style="list-style-type: none"> <li>○ Ongoing, QAMP/QAPP will be complete and sent for approval 12/2020</li> </ul>             | <p>A NYSDEC and EPA approved Quality Assurance Management Plan (QAMP) is under development; goal is to use QAMP/ QAPPs to identify and prioritize subwatersheds in the Peconic Estuary that should be targeted for water quality improvement activities; ensure water bodies are properly listed on the NYS Impaired Waters list.</p>  |
| <p><b>Organizational Assessment</b><br/>Partner: CoastWise Partners, LLC.</p>  | <ul style="list-style-type: none"> <li>○ Ongoing, review underway</li> </ul>  | <p>After Management and Policy Committee approval of the PEP Organizational Strategy the document will be formally approved by the EPA and incorporated into CCMP.</p>   |
| <p><b>Wildlife Monitoring Network</b></p>  | <ul style="list-style-type: none"> <li>○ Developing webpage content</li> </ul>  | <p>Working with Seatuck to develop the Wildlife Monitoring Network webpage to create a brand and central website where all LI wildlife monitoring projects are housed together (links to surveys).</p>   |