Peconic Estuary Program

Technical Advisory Committee Meeting Summary

February 17, 10:00am

Suffolk County Community College Culinary Arts & Hospitality Center

20 East Main Street

Riverhead, NY 11901

Attendees: Sarah Schaefer, Alison Branco, Gregg Rivara, Ron Paulson, John Sepenoski, Michael Collins, Barry Udelson, Laura McBride, Tristen Tagliaferrri, Charlie deQuillfeldt, Soren Dahl, Sherryll Jones, Julie Nace, Ed Bausman, Byron Young, Larry Penny, Glynis Berry, Dan Gulizio, Michael Jensen, Ray Huntington, Sean O'Neill, Matt Sclafani, Kevin McDonald. Phone: Lisa Liquori, Barley Dunne, Suzanne Paton

1. Welcome & Introductions – **Matthew Sclafani** (Chair, TAC)
2. Meetings Summaries – **Alison Branco** (PEP Director)
    - Nitrogen Workgroup Summary Document - A review of existing models identified a variety of different numerical methods, the workgroup concluded that the following two approaches used together had the most potential to achieve the management goals of the Peconic Estuary Program and should be explored:
        - Nitrogen Load Model, NLM (Valiela et al. 1997)
        - Solute/Mass Transport Groundwater model.
    - We still need to figure out funding and logistics for more sophisticated modeling.
    - The document has been distributed to and comments and edits were solicited by the Nitrogen Workgroup to finalize the document. The TAC motioned to support and passed the Nitrogen Workgroup Summary Document.
    - The Nitrogen Workgroup Summary Document is available here: http://www.peconicestuary.org/reports/482b4e58d723add2bb63a024fad29089984a4204.pdf

    Questions and comments:

    - Q (1)-Larry: Will modelling will include legacy nitrogen input and wells for testing?
    - A (1)-Alison: Modeling will take into account legacy nitrogen input.

- Q (2)-Ray: Can homeowners volunteer to use their own data to serve as private well data?
- A (2)-Alison: Using private well data is a useful idea and will be considered but there are privacy and security concerns that may prevent that use.
    - Glynis: We should create a system to invite private well owners to submit applications for well testing and we can select wells of interest to get groundwater data.
- Q (3)-Soren: How much of LINAP, LISS and PEP's nitrogen actions are going to overlap?
- A(3)-Alison: LINAP, LISS and PEP will try to coordinate and prevent overlap of nitrogen management actions. Nitrogen management is a long-term goal and PEP needs to figure out where it can fit into nitrogen actions across the state.
- Matt: We need updated input to resurrect Tetra Tech model.
- Dan: Nitrogen is not the only contaminant of concern (VOCs and pesticides are threats too).
- Kevin and Matt: Nitrogen is the largest threat for our watershed and a collective concern.
- Ron: Pesticide monitoring wells have been monitored by Suffolk County on the North and South Forks since 1991.
- Tristen: USGS plans to fill in gaps for pesticide monitoring in Long Island.

3. Presentation- **N Cycling in Muddy Sediments of Great Peconic Bay-** Stuart Waugh

    - Research is focused on sedimentary production of NH_4^+ and its loss from sediments as N2 (g). This balance regulates the quantity of dissolved, biologically available N in the overall estuary. Stuart's aim is to understand how natural processes anthropogenic inputs affect this transformation.
    - Summary: Research in Great Peconic Bay at one station (station 1) in a homogeneous mud basin. Results show that more denitrification happens in burrows of *Squilla empusa* (large holes) and *Amphioplus abiditus* (20 cm hole) in muddy sediment than on bottom water. Low denitrification produces a high NH_4 build up, NH_4 is higher in the spring and summer months. Current Peconic Estuary denitrification rate is 57% (Jamaica Bays denitrification rate is 21%). The system is handling the current nitrogen input but the turning point to an unhealthy system, like that at Jamaica Bay, could be close if nitrogen input increases. According to Stuart's calculations the N_2 flux estimates to the Great Peconic Bay are 644,504 lbs/year (assumes the entire Great Peconic Bay functions the same as Station 1). Future investigations could include quantifying N_2 production in Great Peconic Bay fringing sand and western creeks, investigating impacts of increased organic matter loading on *Squilla empusa* and *Amphioplus abiditus* and measuring copper in Great Peconic Bay sediments and assess impact of copper amendments on N_2 production. Full presentation available in PEP TAC Dropbox.

    Questions and comments:

- Q (1)-Glynis: Is there a trend in data over the years for denitrification?
- A (1)-Stuart: No. I could not see a trend in 4 year period of data.
- Q (2)- Larry: Should we measure denitrification closer to shore?
- A (2)-Stuart: Yes, future project needed on this topic.
- Q (3)- Ray: Do you suggest we oxygenate creeks?
- A (3)-Stuart: We should measure denitrification in creeks as the first step.
- Q (4)- Soren: What are the sampling details?
- A (4)-Stuart: Box cores, benthic chambers collect samples, sample in triplicate. Saw more of a variability in denitrification over time than spatially.
- Q (5)-Matt: What was the tipping point for a system like Jamaica Bay?
- A (5)-Stuart: Not sure, could make a mesocosm to test denitrification rate limits in the Peconic Estuary.

4. Draft PEP 2015 Environmental Indicators Report: Part I: Habitats and wildlife- Presentation/ Open discussion- **Julie Nace** (PEP State Coordinator)

- Discussion of Living Resources chapters- seagrass, wetlands, scallops, river herring, finfish and piping plover chapters. Many helpful comments were suggested to improve the document and additional feedback from the TAC was welcomed via email. Water Quality and Pathogen chapters will be discussed at ta future TAC meeting.

- Draft PEP 2015 Environmental Indicators Report is available here: http://www.peconicestuary.org/reports/1b77069e03343a5fde4dd72d94d51de21fddb631.pdf

5. PEP Monitoring Programs- Part I: Habitats and wildlife- **Sarah Schaefer** (PEP Program Coordinator) – Due to a vibrant discussion of the Environmental Indicators Report: Living Resources chapters there was not enough time to review the associated monitoring programs in detail. Monitoring surveys were handed out to attendees and TAC members to solicit comments and feedback. (Monitoring Survey is available here: http://files.ctctcdn.com/f119ccb3301/9cf8075c-9fc6-4390-acbe-37d6f8d299e7.pdf?ver=1455650293000).

6. Adjourn