



PEP TAC 4/15/2024 Minutes
approved on 6/5/2024

MINUTES
Technical Advisory Committee Meeting
February 15th, 2024 10:00 AM

Recording: https://youtu.be/fZ_UUgtXVVg

10:00 AM **Welcome and Roll Call – *Brad Peterson (CCE, TAC Co-Chair)***

10:10 AM **Presentation: Long-term human impacts and associated *Zostera marina* habitat change on the Peconic Estuary – *Kristen Hutz (SBU)***

PEP Long-Term Eelgrass monitoring program run by CCE (Chris Pickerell and Stephen Schott)

There were issues with the data organization and accessibility, this project aims at compiling, organizing and representing the data for the time series. This will include catalog geodata into the Geospatial Data Hub and create a story map.

The project will include eelgrass coverage data at multiple station spanning multiple years, this will also include human impact data

One of the main points of this project is to analyze the metadata and check it for data consistency and transparency as well as updating the target or recommended environmental parameters such as light requirements.

The project will use data from Suffolk County regarding land use to estimate sources of Nitrogen into the watershed. Nitrogen has a direct detrimental effect on eelgrass fitness. Data analysis will include coverage by hardened shorelines for the same detrimental effects on eelgrass meadows. Nitrogen loading model used in the project is from a TNC and USGS

Looking forward: The data hub will be organized by a sampling site. The data will be downloadable and the user will be able to sort and select parameters as necessary.

We will also create a story map summarizing the trends on eelgrass via maps and figures. It will likely have a homepage explaining the project and methodologies and tabs or links to each of the sites with available data.

End of Feb → Dataset uploaded to data hub



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End of March → Web map layers published and web viewer application

End of April → Completed story map

Discussion

Kevin McDonald: Request for data to be translated and presented to CAC + public for communication. It was noted that the story map will be used for this once developed but PEP program office will work on this effort.

Mary Ann Eddy: Request for concise information on why eelgrass is important to be added to the storymap so it can be shared with stakeholders

John Aldred: Is this model going to include global trends in climate change and other issues?

In relation to climate change impact on seagrass it was noted that this project focuses on smaller scale past datasets. Still, changes in temperature and sea level in the Peconics are a reflection of global trends. Brad Peterson added the PEP initiative to investigate site suitability and habitat

Patrice Dalton: This is excellent “detective” work, organizing this data and being able to actually tell a story. It would be great if this data could be used in a “prospective” manner, besides only retrospectively.

Helen Roussel: Are oyster reefs included in your study? They (Friends of Haven’s beach) are interested in collaborating with eelgrass scientists to join restoration efforts. Aiming to build an oyster reef

This specific project does not look at oyster reefs but will provide the baseline data needed to assess potential areas for future work. Additionally, SoMAS has multiple scientists working on these two species.

Brad: ShiRP is looking at these two iconic species, where oyster reefs could help with wave refraction

Theresa Masin: Towns probably have more recent land use data (more recent than Suffolk County)

Data might need to be reviewed for consistency in categories between Towns.



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10:40 AM Presentation: Suboptimal Rootzone Growth Prevents Long Island Salt Marshes from Keeping Pace with Sea Level Rise – Nicole Maher (TNC)

Network of monitoring stations across LI to measure elevation shortfalls (marsh elevation changes).

Data was collected with SET (set elevation tables) and allows to measure marsh migration and it is an internationally recognized method that is growing in reach.

Measurements include elevation changes, surface accretion changes and changes in the root zone of the marshes.

Results show that both western and eastern sites are experiencing sea level rises between 4.5 and 5.2 mm/year. Next, is time to see if the marshes are able to keep up with this changes in the sea level

All sampled stations, except for Accabonac, are either losing or not gaining root zone. Accabonac is the site with the highest elevation, and not experiencing flooding.

The lack of growth in the marsh is related to death and collapse of the root zone and accumulation of biogenic matter.

What is causing root decay? This are some potential causes:

- Suboptimal elevation
- Waterlogged peat from past manipulations
- Excessive nutrients
- Increased temperatures

Real-life experiment in Bay Park around West Hempstead Bay. How would the marsh respond to a reduction in Nitrogen pollution?

Baseline data was collected before restoration efforts

Accabonac harbor → TNC, PEP and partners are going to restore healthy hydrology to the site to facilitate marsh migration, reduce mosquito production, pesticide application, ...

Tide-gates are not recommended to isolate marshes from SLR since they mute the natural response of the marshes to this events and leaves them exposed to future storms and further SLR

Take away:



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- LI marshes are not keeping up with SLR because they lack vertical elevation growth within rootzone
- Accabonac is a good model to follow with less surface accretion and positive rootzone growth
- Optimizing conditions for belowground growth & preservation of organic matter within peat matrix is key for restoring a positive elevation trajectory
- Experiments underway to answer how marsh responds to dramatic N reduction and restoration of surface hydrology

Discussion

Kevin McDonald: There have been discussions about high dispersion and dredging methodologies (dredged sediment can be dispersed in areas where it is needed) by the county. Unfortunately there is a financing issue with this improved methodologies.

Mary Ann Eddy: could you provide an example on how to improve hydrology in a marsh?

Nicole Maher: Marshes are not being able to properly drain with the receding tide. This creates pools of water that rot the root system and kills the marsh. The dead roots, which contain air pockets, collapse and create flooded "holes" on the ground that further retain water. Installing canalization that would help drain the marsh with the receding tide could prevent this from happening.

2007 planning started and data collection started in 2008. For consistency, SET data is in the Fall.

Lynn Mendelman: Does stormwater influx from the land enter the reports in your models? No. Stormwater was not directly included but changes in the marsh elevation and groundwater reflects stormwater events

Brad Peterson: Have you ever done C:N ratios of the core samples you collect.

We have sent samples to calculate % of C and N and plan on doing the same with some other stations. We would love to have someone with an interest look into this.

Matt Sclafani: Is there an upper threshold SLR that a marsh could keep up with?

There is current modeling work being done to forecast what this upper limit would be under different conditions.



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Alison Kocek: Are there alternative strategies for filling ditches with non-salt hay vegetation in areas where high marsh is lacking and taking away the thatch layer could impact saltmarsh sparrow nest site use?

Using tarps or core logs one could retain fibrous material within the marsh to help obligate marsh nesters. It doesn't always have to be natural thatch from the marsh, replacement fibers can be used, specially in areas where sparrows are known to breed.

11:20 AM Program Updates – PEP Staff

11:30 AM New Business / Public Comment

12:00 PM Adjourn

Attending in person: Bradley Peterson, Nicole Maher, Kevin McDonald, Sara Cernadas-Martin, Jade Blennau, Sung Gheel Jang, Kristen Hutz, Josh Hulsey, John Aldred, Paul Misut, Patrice Dalton, Joyce Novak

Attending remotely:

TAC February 15th 2024 - Remote attendees:

Lynn Mendelman, Association of marine Industries	Aimee Boucher, USEPA	Kathleen Fallon, NY SeaGrant
Tom Iwanejko, Suffolk County	Jennifer McGivern (Claudia Fabian), Suffolk County	Matthew Sclafani, CCE
Brian Frank, Town of East Hampton	Nora Catlin, CCE	Alison Kocek, USFWS
Terie Diat, North Haven WQ	Michele Golden, NYSDEC	Corey Humphrey, Suffolk County
Joe Finora, Shelter Island	Scott's OtterPilot	Gil Jang
Matt Richards, NYSDEC	Kalle Jahn, USGS	Suzanne Paton, USFWS
Robert Nyman, USEPA	Valerie Virgona, PEP	Sam Apgar, USFWS
Chris Engelhardt, NYSDEC	Alan Duckworth, Town of Brookhaven	Maureen Dunn, Seatuck
Nina Leonhardt, Pine Barrens Society	Pete Topping, Peconic Baykeeper	Alexa Fournier, NYSDEC
Shauna Kamath, NYSDEC	Gio (Jo) McClenachan	Sally Kellogg, SSER
		Della Campbell, NYSDEC



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Kaitlin Mattei, Seatuck

Helen Roussel

Ann Welker, Suffolk County
Legislator

Jeremy Campbell, NYSDOS,
SSER

Jessie McSwane, Peconic Land
Trust

Molly Graffam, CCE

Victoria O'Neill