

## **South Shore Estuary Reserve Technical Advisory Committee Meeting**

**December 7<sup>th</sup>, 2021 10:00am – 11:30am  
Zoom Meeting**

In attendance:

### **South Shore Estuary Reserve (SSER) Office:**

Jeremy Campbell  
Sally Kellogg  
Rachel Neville

### **Technical Advisory Committee (TAC) Members:**

Lane Smith, TAC Chair, New York Sea Grant  
Corey Humphrey, TAC Co-Chair, Suffolk County Soil and Water Conservation District  
Cassie Bauer, New York State Department of Environmental Conservation (NYSDEC)  
Michael Bilecki, National Parks Service (NPS)  
Maureen Dolan-Murphy, Citizens Campaign for the Environment  
Maureen Dunn, Seatuck Environmental Association  
E. Christa Farmer, Hofstra University  
Artie Kopelman, Coastal Research and Education Society of Long Island (CRESLI)  
Tara Schneider-Moran, Town of Hempstead  
Chris Shubert, USGS

### **Guests**

Jim Browne, Town of Hempstead  
Chantal Collier, The Nature Conservancy (TNC)  
Michele Golden, NYSDEC  
Paul Misut, USGS  
Nancy Pierson, Suffolk County Department of Health Services

**Meeting called to order at 10:06am.**

### **Review/Approve October Meeting Minutes**

MOTION: pass October meeting minutes. Seconded. Approved.

### **Chris Schubert, USGS - “Delineation of Areas Contributing Groundwater and Travel Times to Receiving Waters in Kings, Queens, Nassau, and Suffolk Counties, New York”**

New USGS report released delineating areas contributing groundwater to surface receiving water bodies as well as associated travel times to receiving water. Focuses on pre-development and recent conditions. Report written by Paul Misut, Nicole Comasina, and Don Walter. To assist resource managers and planners in developing informed strategies to address nitrogen loading to coastal water bodies of Long Island, New York, the U.S. Geological Survey and New York State Department of Environmental Conservation initiated a program to delineate areas contributing groundwater to coastal water bodies by assembling a comprehensive dataset of areas contributing groundwater, travel times, and groundwater discharges to streams, lakes, marine surface waters, and subsea discharge boundaries. Two steady-state conditions were simulated: recent conditions from 2005 to 2015 and predevelopment conditions of about 1900.

Travel times ranged from less than 2 years to greater than 10,000 years. Areal delineation of travel-time intervals and areas contributing groundwater to water bodies were generated and are summarized with total groundwater outflow for each water body. Some findings include freshwater and wastewater from the south shore being diverted from groundwater recharge to the bay/ocean due to sewerage. Additionally, changing salinity levels of the bays contribute to HABs.

A substantial portion of the water budget for Long Island is bypassing natural mechanisms of discharge. Loss of long groundwater travel times in more disturbed areas of the island, due to large pumping of water for public supply. Accelerating the downward flow of water. Streams intercept a lot of groundwater discharge on Long Island. Less return of water in areas served in sewers. Lowering of water table in many parts of Nassau County, particularly the south shore. Legacy agriculture on Long Island, historical sources: residential, agricultural, urban areas, duck farming, coastal development. 1938 vs. 2015 land space map shows high agriculture on Long Island in 1938. Nitrogen sources have changed from agriculture and crops, to septic, fertilizer for turf, and atmospheric. Simulated total nitrogen loads in the watersheds on Long Island. In the SSER the history of loading shows a switch from mostly agriculture to residential. Hypothetical graph shows how quickly the system can clean itself, which depends on the system (which estuary). Peconic Estuary Partnership and Long Island Sound Study (LISS) have funded modeling work for Long Island, LISS funded an east and west inset for Long Island Sound and PEP funded the Peconic Estuary.

Water going from the aquifer to recharge is decreasing because we are taking so much water out of the intermediate aquifer on Long Island. We have steepened the gradient of water falling from the shallow system to the deeper system.

Do we start contaminating water by injecting water that has been treated? Standards exist for groundwater and surface water, and surface water standards are greater. Water is treated for disposal into the aquifer.

See publication link for further details <https://pubs.er.usgs.gov/publication/sir20215047>. Any questions should be emailed to Chris, [schubert@usgs.gov](mailto:schubert@usgs.gov).

### **SAV in the SSER Subcommittee Update - Corey Humphrey**

Will have a document completed for the full TAC to review. The final document is on track to be completed in January. The document is available on the Google Drive for all to view. Next SAV meeting is 12/8 at 11am and is open to all.

### **Partner Updates and Other Business**

M. Bilecki: NPS has a program called "Scientists in Parks" for internships in National Parks across the country. The program is hiring for positions. R. Neville will include in the January newsletter.

C. Humphrey: LI Envirothon is happening April 27<sup>th</sup> for high school students in Nassau and Suffolk Counties. Each member of the winning team receives a \$500 scholarship for education after graduating high school. Corey will reach out to TAC members for volunteering. 2024 National Envirothon will be held in NY State.

L. Smith: Ocean Science Bowl will happen in January at SoMAS.

New chair and co-chair will run the next February TAC meeting.

**Office Updates – Jeremy Campbell**

CMP comments were received and will be reviewed and incorporated.

Next meeting will be Tuesday, February 8<sup>th</sup>.

**Motion to adjourn meeting. Seconded.**

**Meeting adjourned at 11:05am.**