

**Water Quality Monitoring Work Group
TEAMS Online Meeting
Oct. 9, 2020 – Meeting Summary**



Attendance

Jim Ammerman (Chair)—Long Island Sound Study (LISS)/New England Interstate Water Pollution Control Commission (NEIWPC)
Carol DiPaolo and Michelle McAllister—Coalition to Save Hempstead Harbor
Richard Friesner—NEIWPC
Michele Golden—New York State Department of Environmental Conservation (NYSDEC)
Peter Linderoth—Save the Sound (STS)
David Lipsky—New York City Department of Environmental Protection (NYCDEP)
Matt Lyman—Connecticut Department of Energy and Environmental Protection (CTDEEP)
Jon Morrison—United States Geological Survey (USGS)
Evelyn Powers—Interstate Environmental Commission (IEC)
Mark Tedesco—EPA, LIS Office
Jamie Vaudrey—University of Connecticut

Agenda

1. Monitoring updates from the very unusual summer of 2020.
2. Suggestions for improvements, new ideas, and proposals prior to the Management Committee next week.

Monitoring Updates

1. In general COVID-19 delayed most monitoring programs during the peak in the spring but since June most programs have resumed a normal or near-normal schedule. However, most also had limits on the number of people participating in each survey. This limited the participation of additional researchers and/or required additional boats. The various monitoring programs are to be commended for accomplishing a large fraction of their normally scheduled surveys under extraordinary conditions.
2. According to Matt Lyman, CTDEEP cancelled all March, April, and early June, but restarted with a modified survey on the 16-17 of June, resuming as normal a schedule as possible after that. The Dempsey operated largely out of Milford but did manage to cover the eastern stations on most surveys. July and August were particularly busy as they were also participating in the EPA 2020 National Coastal Condition Assessment (NCCA) and were out weekly between that and the regular LISS surveys, including September fish trawls for the NCCA. CTDEEP cruises are limited to three CTDEEP

personnel only. Collaborators, such as the University of Connecticut's RESPIRE Project, have brought equipment aboard for CTDEEP use, but cannot participate themselves. CTDEEP also collected samples for some of the collaborative projects. Matt said they were currently in the middle of their October survey. There were several questions about the maximum area of LIS hypoxia in 2020 and after checking his records Matt concluded that it was 56 square miles on the July 20-22 survey. On that same survey, the area with 3-4.8 mg/l dissolved oxygen was a large 515 square miles.

3. Evelyn Powers said that IEC restarted its normal summer schedule of 12 weekly surveys on June 30th (through September 16th) after canceling April and May monthly surveys, though nutrient sampling was delayed until late July because of limited lab access. Regular monthly fall surveys start next week. Collection of nutrient samples was also delayed until late July. The boat was limited to two staff plus the captain and the worst hypoxia was seen on July 28th. Hurricane Isaias re-aerated the water column but dissolved oxygen decreased again until another ventilation event about mid-August after which hypoxia was limited. A similar pattern was seen at the Execution Rocks LISICOS buoy. IEC was not involved in the NCCA. IEC also currently has a staff position open to coordinate its surveys.
4. Jon Morrison of USGS said that monitoring efforts were suspended in April but resumed in May. Studies include the nitrogen load network in CT, monitoring for the new HSPF model, and the major tributaries project started in June for Thames, Housatonic and Connecticut Rivers. There were areas of hypoxia in upper rivers, especially the Housatonic and Thames, which is notorious for low oxygen, probably due to both physical parameters and nutrient loading. Some streams had actually gone dry due to the drought. USGS also had continuous monitors on the Pawcatuck River which recorded the onset of hypoxia in June with the inflow of a salt water wedge. There was also a substantial algal bloom (probably cyanobacteria) with 200% oxygen saturation at the surface and hypoxia below at Pawcatuck Point.
5. Jamie Vaudrey noted that she saw chlorophyll of 180 ug/l in the Niantic River instead of the usual 5 ug/l. Hot, dry and windless conditions encouraged blooms. Jamie could not push 20 ml through a chlorophyll filter.
6. Dave Lipsky of NYCDEP said that Beau Ranheim and crew were out most of season monitoring the Harbor because of compliance issues that must be addressed.
7. Carol DiPaolo and Michelle McAllister of the Coalition to Save Hempstead Harbor said they were delayed by two weeks, starting in early June and using two boats to limit the number of people per boat. There was a hypoxic event in mid-July in upper harbor and Hurricane Isaias did not completely mix it away unlike it did in the main Sound. The lower harbor had more dissolved oxygen but also a persistent brown-colored algal bloom with less of a bloom in the upper harbor. Secchi depths were low due to the bloom, which could have been caused by the dredging of Roslyn pond, an outfall in lower harbor, runoff or other issues.

8. The Unified Water Study (UWS) delayed its start from May until June but resumed then with modified protocols that were QA cleared, according to Peter Linderoth. This years' sampling included 23 groups in 38 embayments, with another embayment in eastern CT outside the QAPP. Sampling continues through the end of October, followed by QA/QC on the data and transmission to WQX. Save The Sound found low oxygen in all three of its western Sound embayments including fish die-offs in Eastchester Bay which were reported to NYSDEC. Peter also suggested future leveraging of the UWS partners to work on HAB identification by collecting grab samples for expert analysis.
9. Mark Tedesco congratulated all the monitoring groups for their valiant efforts under challenging circumstances, especially CTDEEP with their extra NCCA sampling. This was seconded by Jim Ammerman.
10. There was a brief discussion about the new report just released by Jamie Vaudrey and Sarah Crosby entitled "*Water Quality Data in Long Island Sound: Stakeholder Needs and Opportunities for Collaborative Data Management, Sharing, and Visualization*" (a copy is attached). They also presented a recent webinar about their findings. With funding from the Long Island Sound Stewardship Fund, the authors surveyed and interviewed data generators and users on database features and visualization tools. Many groups struggle to find a place to put data, groups are happy using excel to enter data, but WQX is challenging to use, and visualization and downloading are major needs. While this effort is directed at groups like the UWS, it is broader than that and may incorporate more parameters and freshwater sampling in the future. STS is developing the next phase of this effort with database experts at Chesapeake Commons.
11. In the concluding discussion Jim mentioned that Maria Tzortziou from City College has two new NSF grants, one rapid response grant to examine decreased atmospheric nitrogen emissions because of traffic declines during the pandemic, and another to provide an autonomous underwater vehicle (AUV) for LIS and harbor deployment. Several people noted that wastewater from sewers was being used for early detection of COVID-19, including in university dormitories. Carol asked if the smoke plumes from the California fires resulted in local nitrogen deposition. While no such information is available, some of the plumes were locally visible in September.