

| STATION | LATITUDE DD | LONGITUDE DD |
|--------------|-------------|--------------|
| E-12 | 40.8487 | -73.8045 |
| A1 | 40.8013 | -73.8268 |
| A2M | 40.7992 | -73.7913 |
| 8-403 | 40.7778 | -73.7608 |
| 8-405 | 40.7888 | -73.7582 |
| A3 | 40.8433 | -73.7590 |
| 9-409 | 40.8240 | -73.7175 |
| 9-412 | 40.8200 | -73.7135 |
| 9-413 | 40.8041 | -73.7133 |
| A4 | 40.8725 | -73.7343 |
| A5 | 40.8923 | -73.6853 |
| B1S | 40.9403 | -73.6667 |
| B2 | 40.9343 | -73.6520 |
| B3M | 40.9187 | -73.6403 |
| B4 | 40.9054 | -73.6360 |
| DI1 | 40.8883 | -73.7748 |
| DI2 | 40.8930 | -73.7642 |
| H-A3 | 40.9207 | -73.7187 |
| H-B | 40.9080 | -73.7090 |
| H-C | 40.8590 | -73.6717 |
| H-C1 | 40.8853 | -73.6903 |
| H-D | 40.8402 | -73.6572 |

As part of the Long Island Sound Study’s ongoing water quality monitoring program, IEC started its 29th consecutive summer of weekly ambient monitoring surveys in western Long Island Sound and the upper East River on Tuesday, June 25th, 2019

Throughout summer 2019, IEC staff will perform 12 weekly surveys to each of 22 stations in the far western Long Island Sound to assess seasonal hypoxic conditions. Hypoxia occurs when dissolved oxygen (“DO”) concentrations become low. Marine organisms need oxygen to live, and low oxygen concentrations can have serious consequences for a marine ecosystem. The 12 surveys include weekly *in situ* measurements of water temperature, salinity, dissolved oxygen, pH, and Secchi disk depth. Measurements at each station will be taken one meter below the surface, at mid-depth, and one meter above the bottom. 6 of the 12 surveys will include collection of additional samples for parameters relevant to hypoxia at 11 of the 22 stations (stations listed in **bold** on table, upper right). These samples will be analyzed for nutrients, Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS), and chlorophyll *a*, in addition to the suite of *in situ* parameters listed above.

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Nutrient parameters that will be analyzed include Ammonia, Nitrate+Nitrite, Particulate Nitrogen, Orthophosphate/DIP, Total Dissolved Phosphorus, Particulate Phosphorus, Dissolved Organic Carbon, Particulate Carbon, Dissolved Silica, and Biogenic Silica.

| Proposed Summer Schedule | | |
|---------------------------------|----------------------|---|
| Date | Survey Number | Parameters |
| 6/25/2019 | 1 | <i>In situ</i> , nutrients, chlorophyll a, BOD, TSS |
| 7/2/2019 | 2 | <i>In situ</i> |
| 7/9/2019 | 3 | <i>In situ</i> , nutrients, chlorophyll a, BOD, TSS |
| 7/16/2019 | 4 | <i>In situ</i> |
| 7/23/2019 | 5 | <i>In situ</i> , nutrients, chlorophyll a, BOD, TSS |
| 7/30/2019 | 6 | <i>In situ</i> |
| 8/6/2019 | 7 | <i>In situ</i> , nutrients, chlorophyll a, BOD, TSS |
| 8/13/2019 | 8 | <i>In situ</i> |
| 8/20/2019 | 9 | <i>In situ</i> , nutrients, chlorophyll a, BOD, TSS |
| 8/27/2019 | 10 | <i>In situ</i> |
| 9/3/2019 | 11 | <i>In situ</i> , nutrients, chlorophyll a, BOD, TSS |
| 9/10/2019 | 12 | <i>In situ</i> |

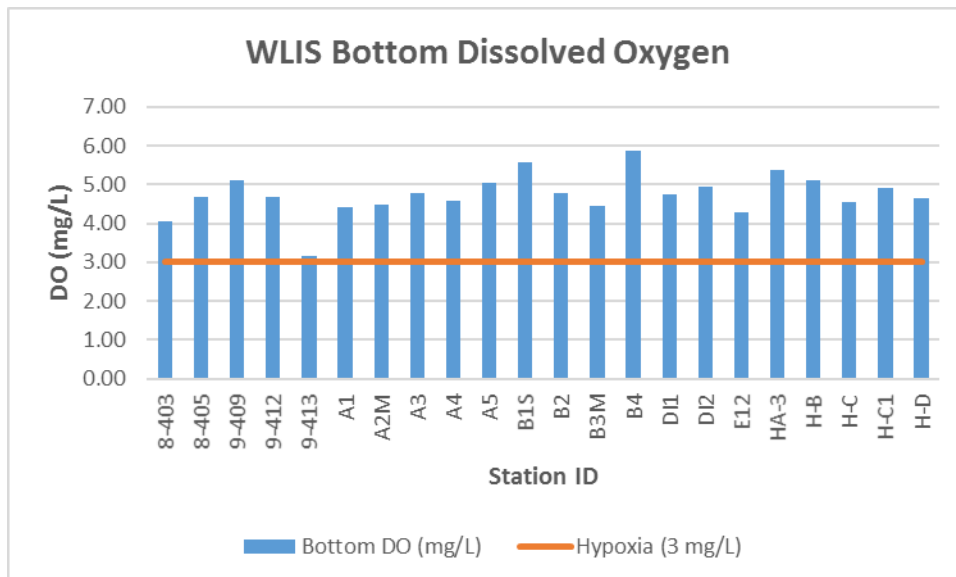
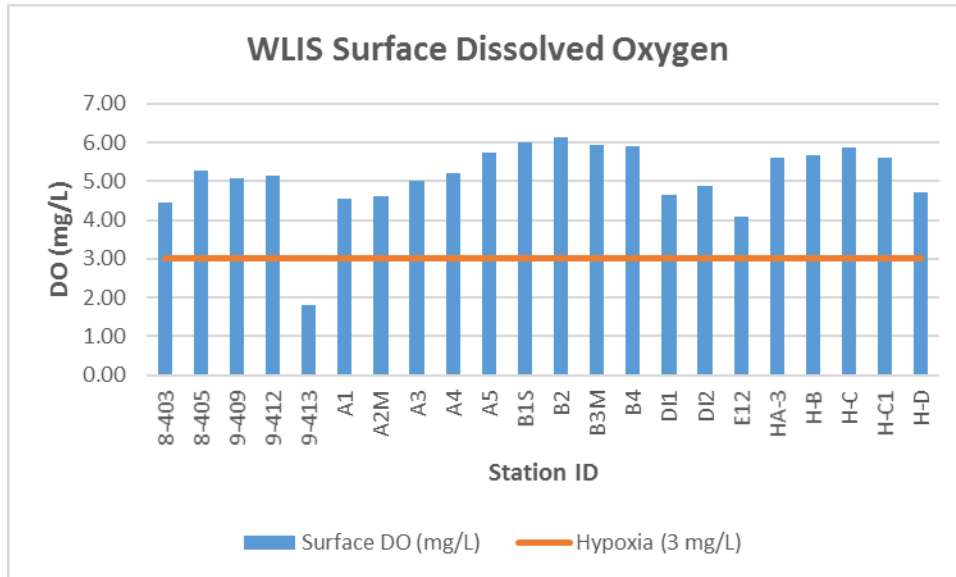


SURVEY # 10 AT A GLANCE

| | |
|--|----------------------------------|
| Hypoxia (DO <3.00 mg/L) | Station 9-413 (Surface) |
| Lowest surface DO concentration | 1.80 mg/L (Station 9-413) |
| Lowest bottom DO concentration | 3.16 mg/L (Station 9-413) |
| Average surface DO concentration | 5.09 mg/L |
| Average bottom DO concentration | 4.74 mg/L |
| Average surface water temperature | 23.07° |
| Average bottom water temperature | 22.85 ° |
| Average water column ΔT | 0.23° |
| Average surface salinity | 26.02 ppt |
| Average bottom salinity | 26.26 ppt |

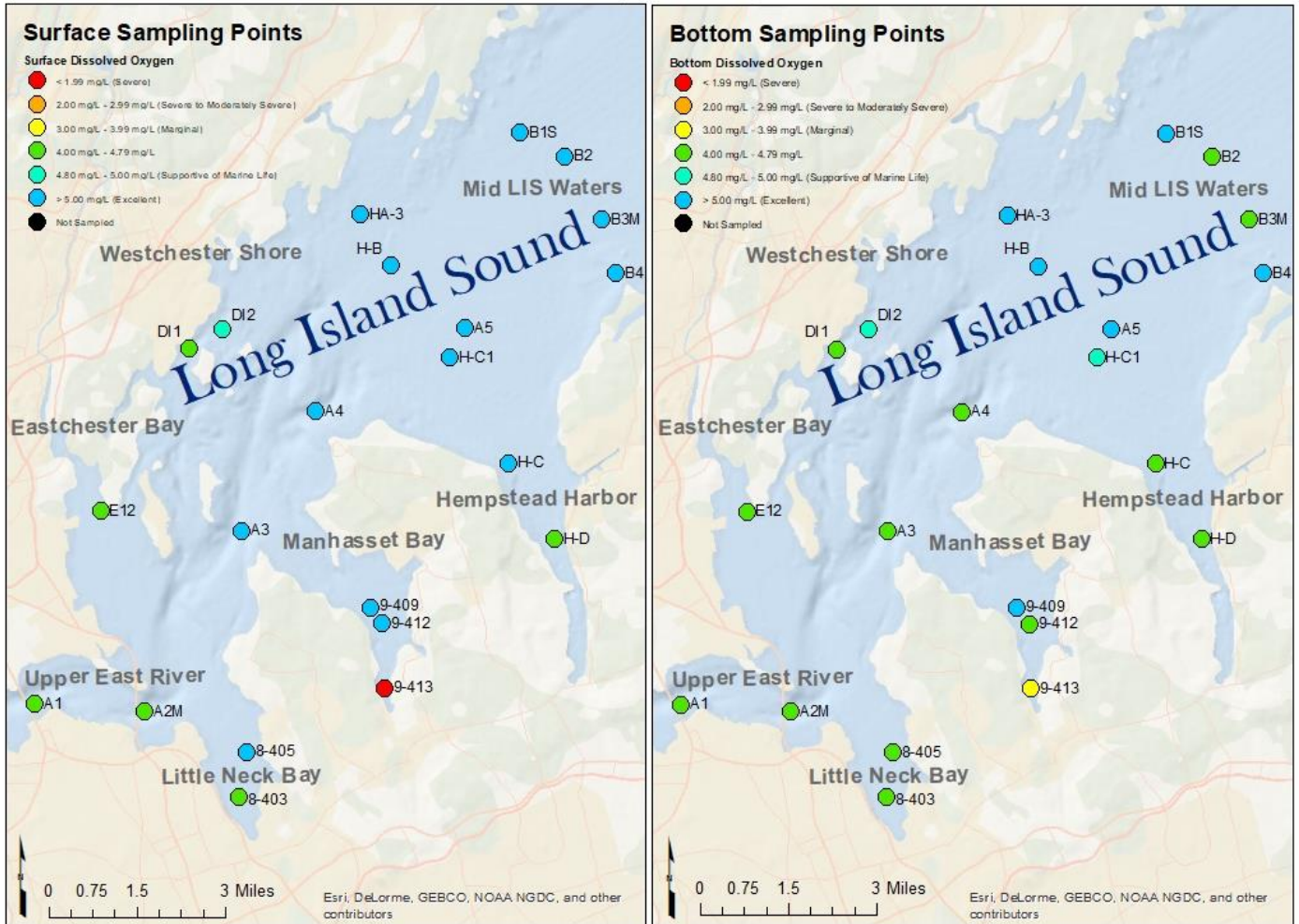
Survey 10 Narrative Summary

The 10th weekly summer survey took place on Tuesday, September 3rd, 2019. Strong east winds and sea state kept IEC off the water the week of 8/26. Monitoring began at 05:51 and ended at 09:13, with high tide at 07:53 as per the NOAA tide table at New Rochelle. 16 stations exhibited hypoxia at the bottom. One station (9-413) exhibited hypoxia at the surface. Atmospheric temperatures during the time of the survey ranged between 69°F and 73°F. Secchi disk measurements ranged from 2.5 feet in Manhasset Bay to 6. feet at A2M (Throgs Neck Bridge), H-B and B2 (mid-sound waters). The weather conditions were sunny during the survey, with a calm (ripples) sea state in the western region progressing to 1-2' waves in the easternmost reached of the survey area. LaGuardia airport reported **0.51"** precipitation during the 48- hour period prior to the start of the survey, all of which occurred within 24 hours of the start of the survey. No precipitation occurred during the survey.



The Long Island Sound Study defines hypoxia as DO values which are below a concentration of 3.00 mg/L.

Interstate Environmental Commission Western Long Island Sound Sampling
Run 10: September 3, 2019



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 Run 10: September 3, 2019

