

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>

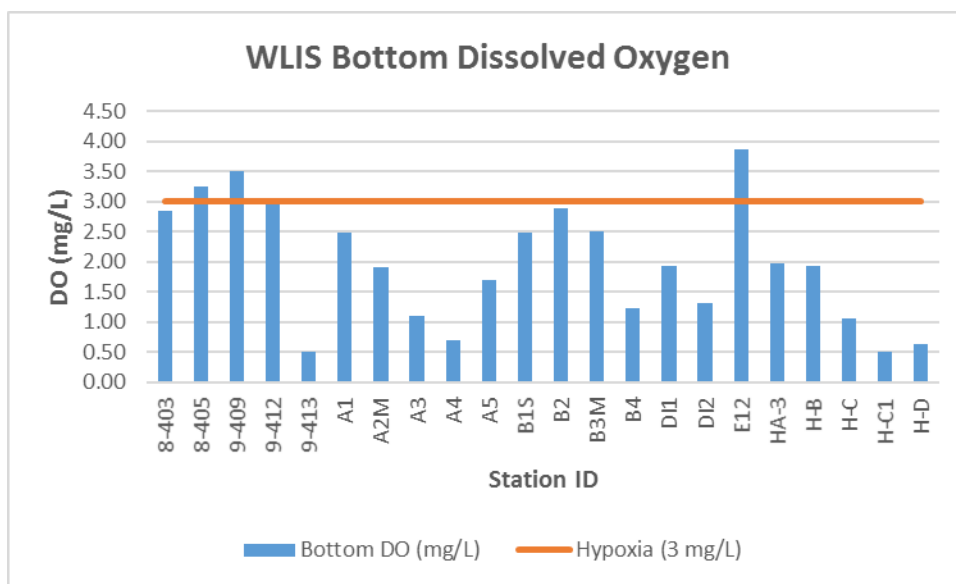
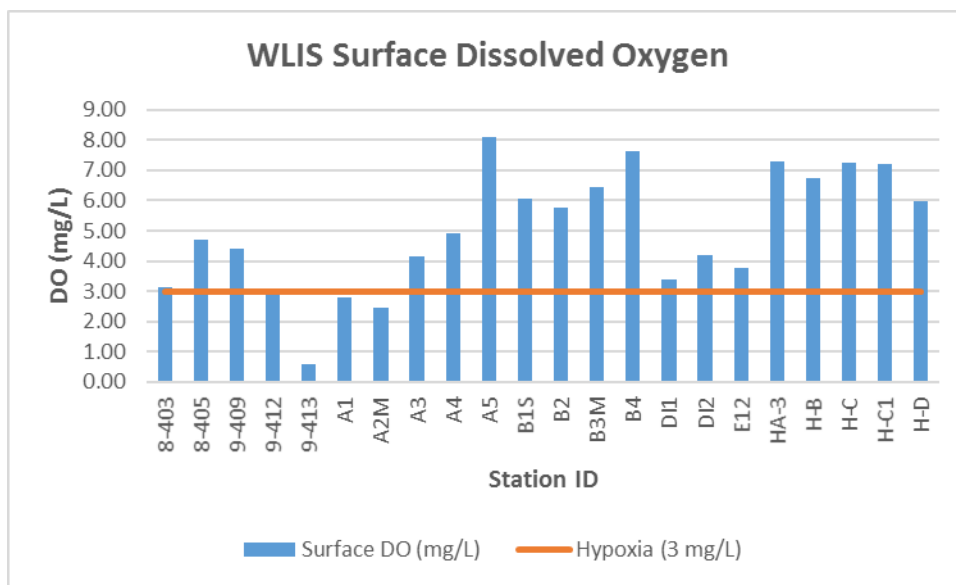


SURVEY # 6 AT A GLANCE

Hypoxia (DO <3.00 mg/L)	Bottom: 8-403, 9-413, A1, A2M, A3, A4, A5, B1S, B2, B3M, B4, DI1, DI2, H-A3, H-B, H-C, H-C1, H-D Surface: 9-412, 9-413, A1, A2M
Lowest Surface DO concentration	0.58 mg/L (Station 9-413)
Lowest bottom DO concentration	0.70 mg/L (Station A-4)
Average surface DO concentration	4.99 mg/L
Average bottom DO concentration	1.97 mg/L
Average surface water temperature	22.9 °C
Average bottom water temperature	18.7 °C
Average water column ΔT	4.2 °C
Average surface salinity	25.0 ppt
Average bottom salinity	25.8 ppt

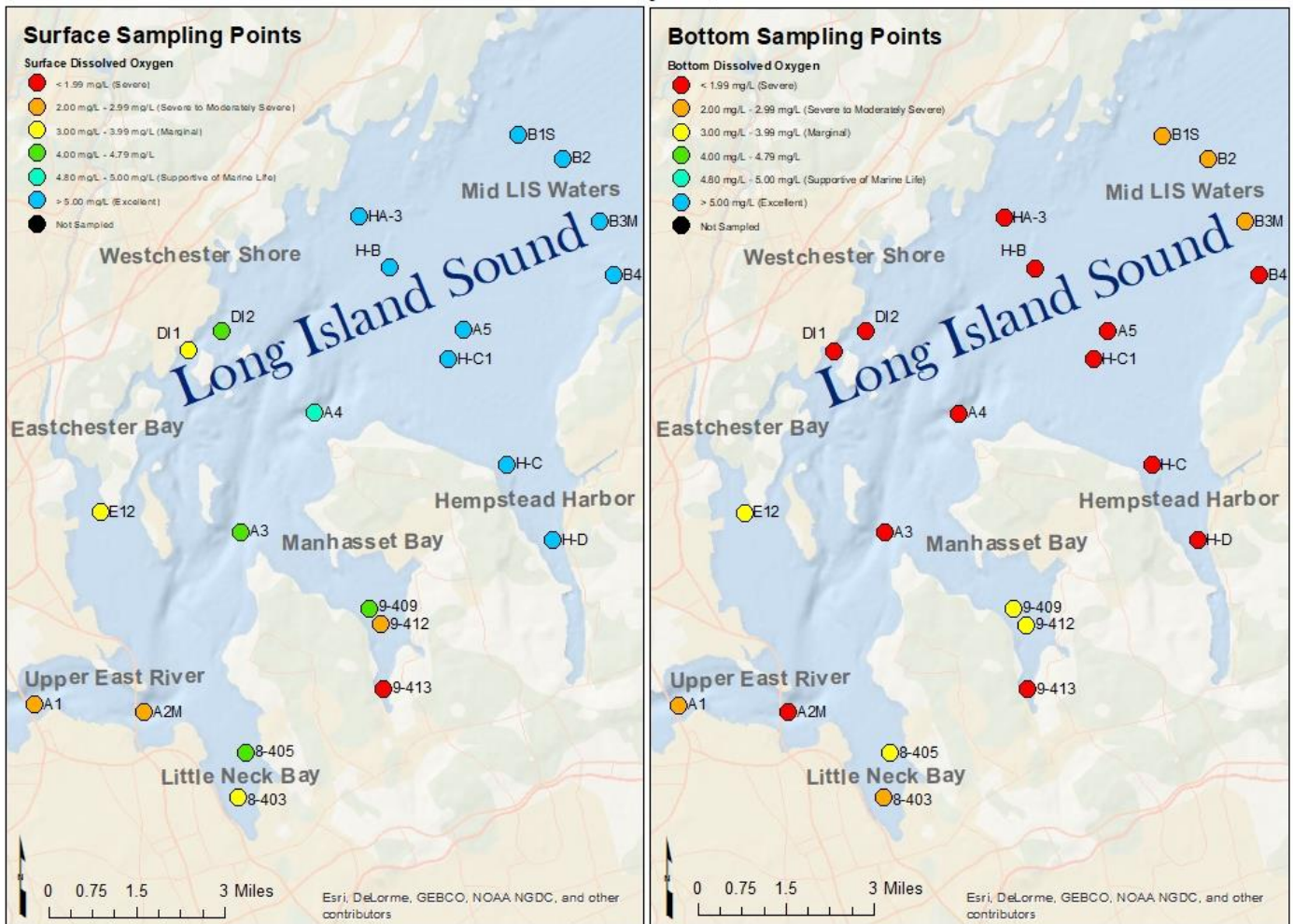
Survey 6 Narrative Summary

The 6th weekly summer survey took place on Tuesday, July 30th, 2019. The survey started at 05:44 and ended at 09:45, with high tide at 14:47 as per the NOAA tide table at New Rochelle. This survey had the greatest extent of hypoxia of the summer 2019 weekly surveys to date: **19 stations exhibited hypoxia, 18 of those observations occurred at bottom depths. The only stations that did not exhibit hypoxia were E12, 8-405, and 9-409.** A total of 20-30 floating bunker (menhaden) were observed during the survey, primarily in the vicinity of stations HC, HC-1, A5 and A4. Atmospheric temperatures during the time of the survey ranged between 81°F and 88°F. Secchi disk measurements ranged from 2.0 feet in Manhasset Bay to 6.0 feet at Station A1 (Whitestone Bridge) and DI1 (Westchester Shoreline). The weather conditions sunny during the survey with a calm sea state. LaGuardia airport reported **0.0"** precipitation during the 48- hour period prior to the start of the survey. No precipitation occurred during the survey.

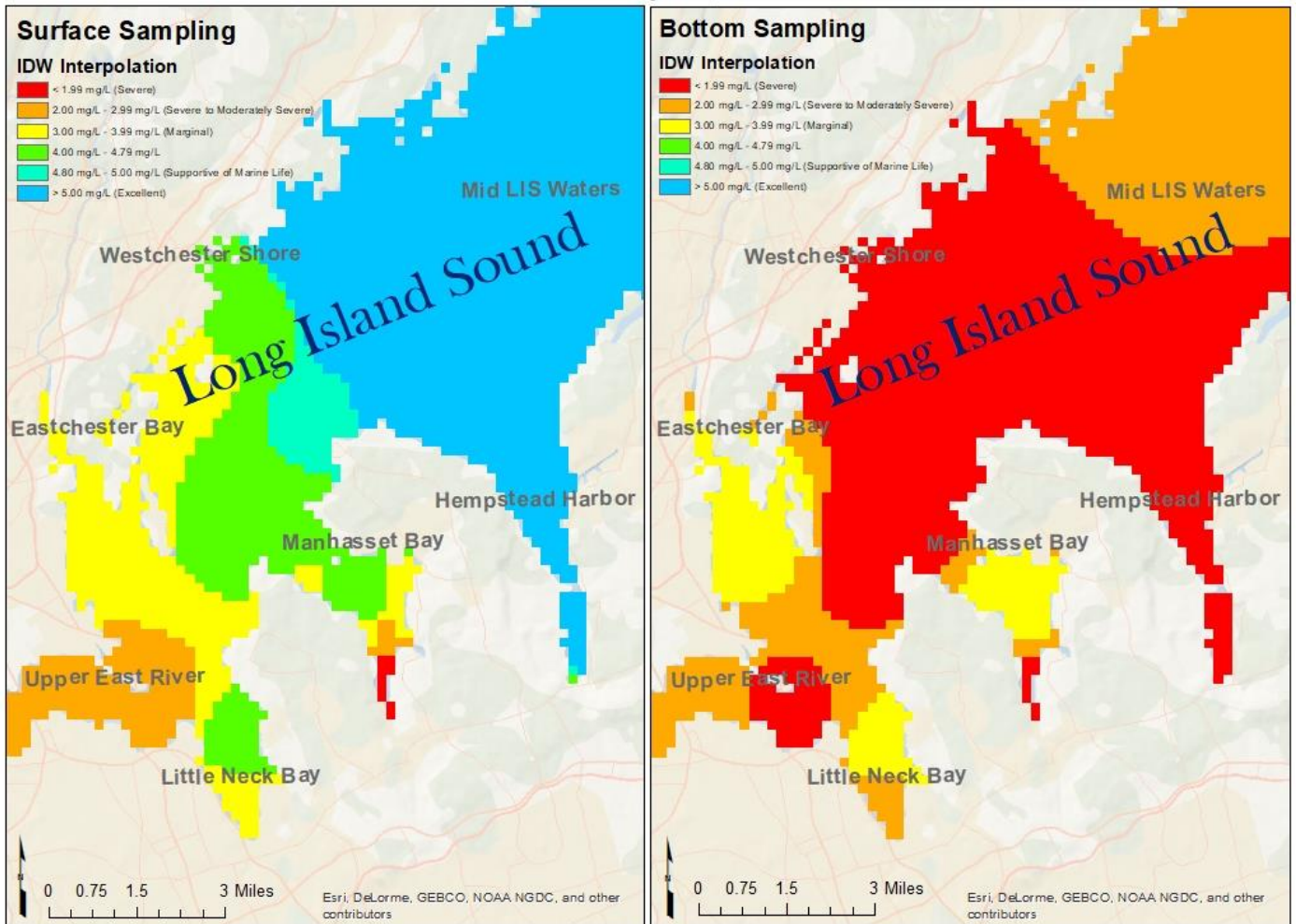


The Long Island Sound Study defines hypoxia as DO values which are below a concentration of 3.00 mg/L.

Interstate Environmental Commission Western Long Island Sound Sampling
Run 6: July 30, 2019



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Run 6: July 30, 2019



Map by: Jessica Bonamusa

Interstate Environmental Commission

Map Made: 8/9/19