

STATION	LATITUDE DD	LONGITUDE DD
<b>E-12</b>	40.8487	-73.8045
A1	40.8013	-73.8268
<b>A2M</b>	40.7992	-73.7913
<b>8-403</b>	40.7778	-73.7608
8-405	40.7888	-73.7582
A3	40.8433	-73.7590
9-409	40.8240	-73.7175
<b>9-412</b>	40.8200	-73.7135
9-413	40.8041	-73.7133
<b>A4</b>	40.8725	-73.7343
<b>A5</b>	40.8923	-73.6853
<b>B1S</b>	40.9403	-73.6667
B2	40.9343	-73.6520
<b>B3M</b>	40.9187	-73.6403
B4	40.9054	-73.6360
DI1	40.8883	-73.7748
<b>DI2</b>	40.8930	-73.7642
<b>H-A3</b>	40.9207	-73.7187
H-B	40.9080	-73.7090
H-C	40.8590	-73.6717
H-C1	40.8853	-73.6903
<b>H-D</b>	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 25<sup>th</sup>, 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.

<b>Proposed Summer Schedule</b>		
<b>Date</b>	<b>Survey Number</b>	<b>Parameters</b>
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>

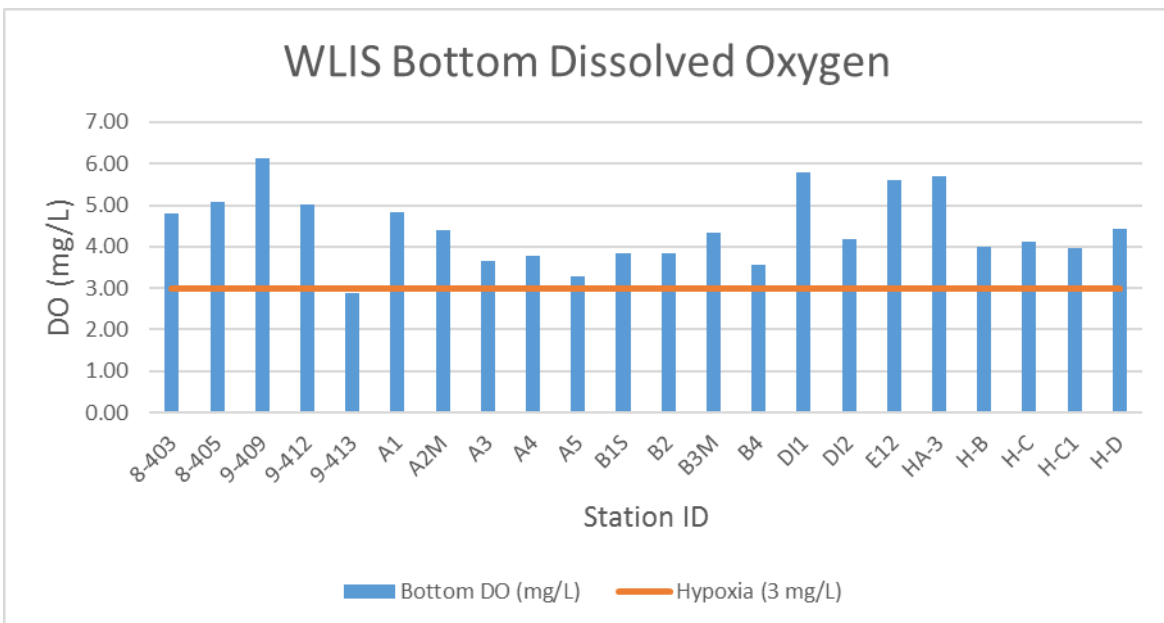
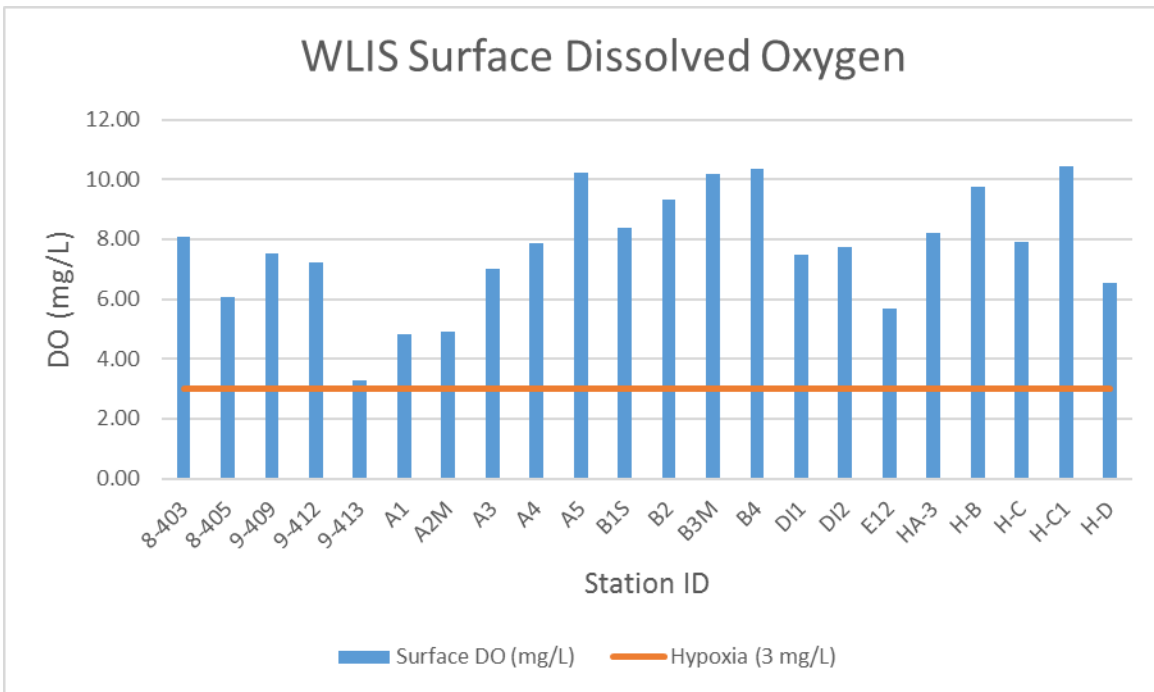


### SURVEY # 3 AT A GLANCE

<b>Hypoxia (DO &lt;3.00 mg/L)</b>	One station exhibited hypoxia: Station 9-413 (Manhasset Bay, Bottom)
<b>Lowest Surface DO concentration</b>	3.28 mg/L (9-413)
<b>Lowest bottom DO concentration</b>	2.89 mg/L (9-413)
<b>Average surface DO concentration</b>	7.69 mg/L
<b>Average bottom DO concentration</b>	4.42 mg/L
<b>Average surface water temperature</b>	20.63°C
<b>Average bottom water temperature</b>	18.08°C
<b>Average water column ΔT</b>	2.55°C
<b>Average surface salinity</b>	25.38 ppt
<b>Average bottom salinity</b>	25.84 ppt

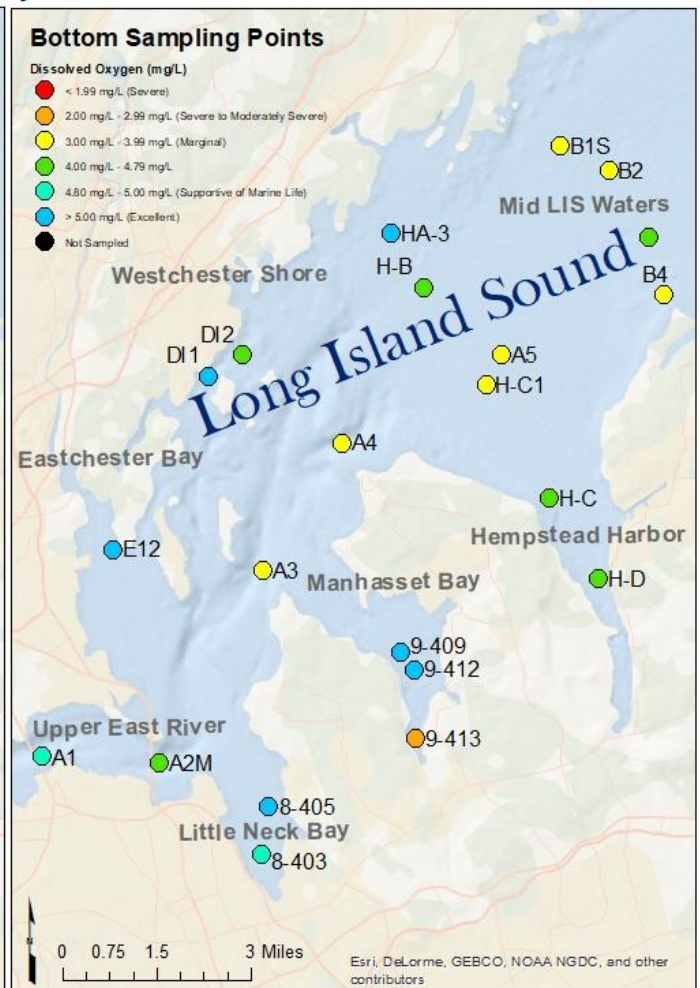
## Survey 3 Narrative Summary

The 3rd weekly summer survey took place on July 9th, 2019. One Station (Station 9-413 bottom, in Manhasset Bay) exhibited hypoxia. The survey started at 05:26 and ended at 09:14, with high tide at 05:14 as per the NOAA tide table at New Rochelle. Atmospheric temperatures during the time of the survey ranged between 78°F and 84°F. Secchi disk measurements ranged from 3.0 feet in Manhasset Bay to 7.0 feet at Stations B2, B4 and HB. The weather conditions were sunny during the survey, with a calm sea state. LaGuardia airport reported 0.02” of precipitation during the 48- hour period prior to the start of the survey. No precipitation occurred during the survey.



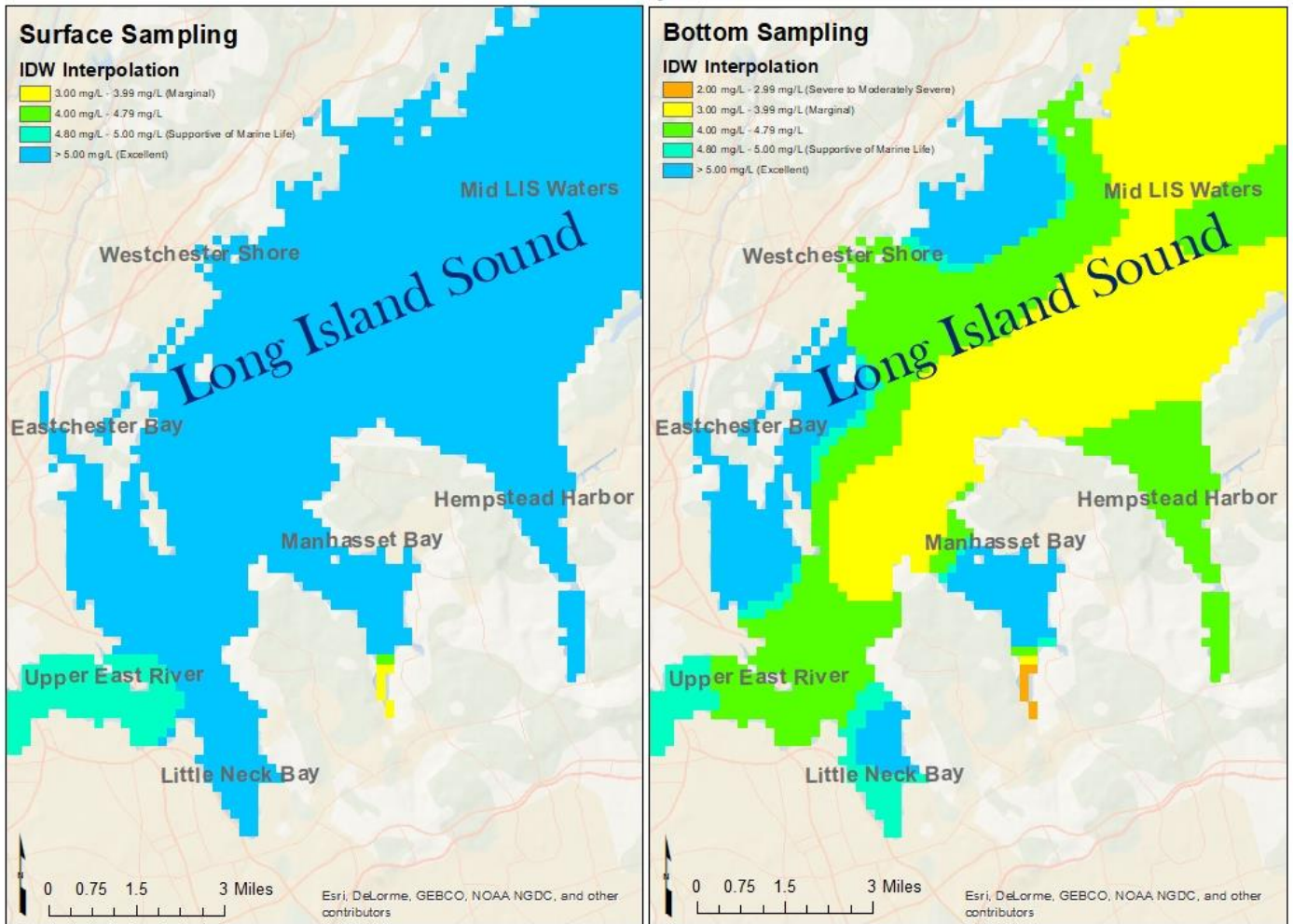
*The Long Island Sound Study defines hypoxia as DO values which are below a concentration of 3.00 mg/L.*

Interstate Environmental Commission Western Long Island Sound Sampling  
Run 3: July 9, 2019





Interstate Environmental Commission Western Long Island Sound Sampling  
Run 3: July 9, 2019



Map by: Jessica Bonamusa

Interstate Environmental Commission

Map Made: 7/19/19