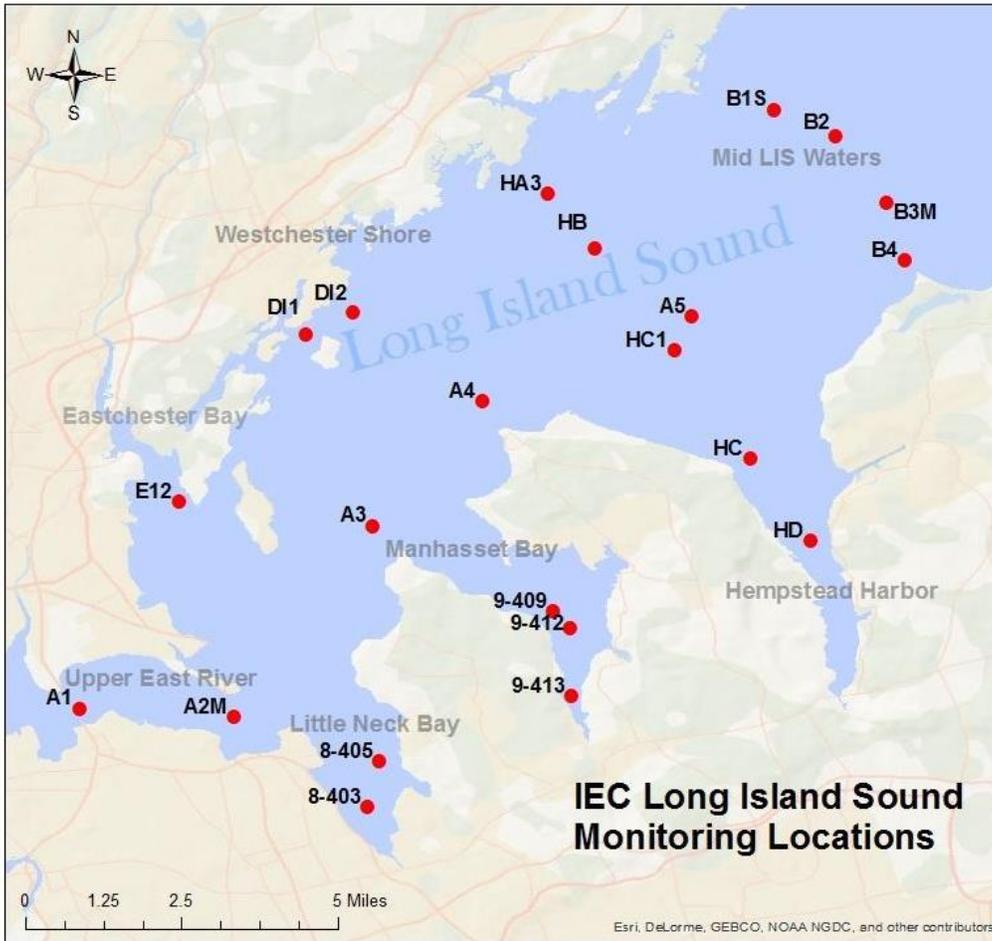




## Western Long Island Sound Monitoring 2021 Summer Survey Bi-Weekly Summary Surveys #1 & #2 Survey Dates: July 1, 2021 & July 7, 2021



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

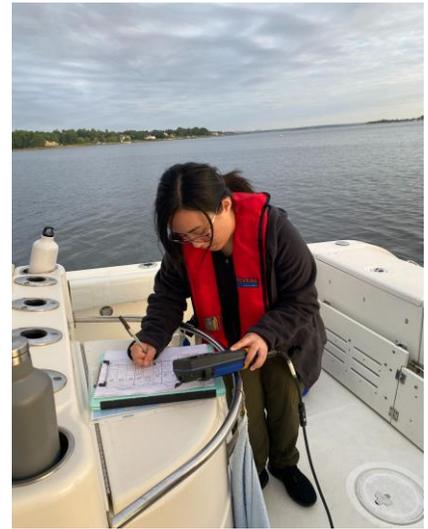
As part of the Long Island Sound Study’s ongoing water quality monitoring program, IEC started its 31st consecutive summer of weekly ambient monitoring surveys in western Long Island Sound and the upper East River on Thursday, July 1, 2021

Throughout summer 2021, 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 are taken half a meter below the surface, at mid-depth, and half a meter above the bottom. Biweekly 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.

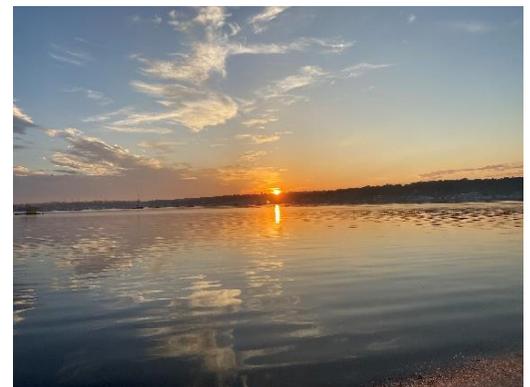
Interstate Environmental  
Commission  
[www.iec-nynjct.org](http://www.iec-nynjct.org)  
710 Parkside Ave.  
Brooklyn, NY 11226  
Phone: 347-803-0422  
epowers@iec-nynjct.org

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 2021 Summer Schedule</b>		
<b>Date</b>	<b>Survey Number</b>	<b>Parameters</b>
7/1/2021	1	<i>In situ</i> parameters only
7/7/2021	2	<i>In situ</i> , nutrients, chlorophyll a, BOD, TSS
7/13/2021	3	<i>In situ</i> parameters only
7/22/2021	4	<i>In situ</i> , nutrients, chlorophyll a, BOD, TSS
7/27/2021	5	<i>In situ</i> parameters only
8/3/2021	6	<i>In situ</i> , nutrients, chlorophyll a, BOD, TSS
8/10/2021	7	<i>In situ</i> parameters only
8/17/2021	8	<i>In situ</i> , nutrients, chlorophyll a, BOD, TSS
8/24/2021	9	<i>In situ</i> parameters only
8/31/2021	10	<i>In situ</i> , nutrients, chlorophyll a, BOD, TSS
9/7/2021	11	<i>In situ</i> parameters only
9/14/2021	12	<i>In situ</i> , nutrients, chlorophyll a, BOD, TSS



Kimarie Yap, Environmental Analyst II

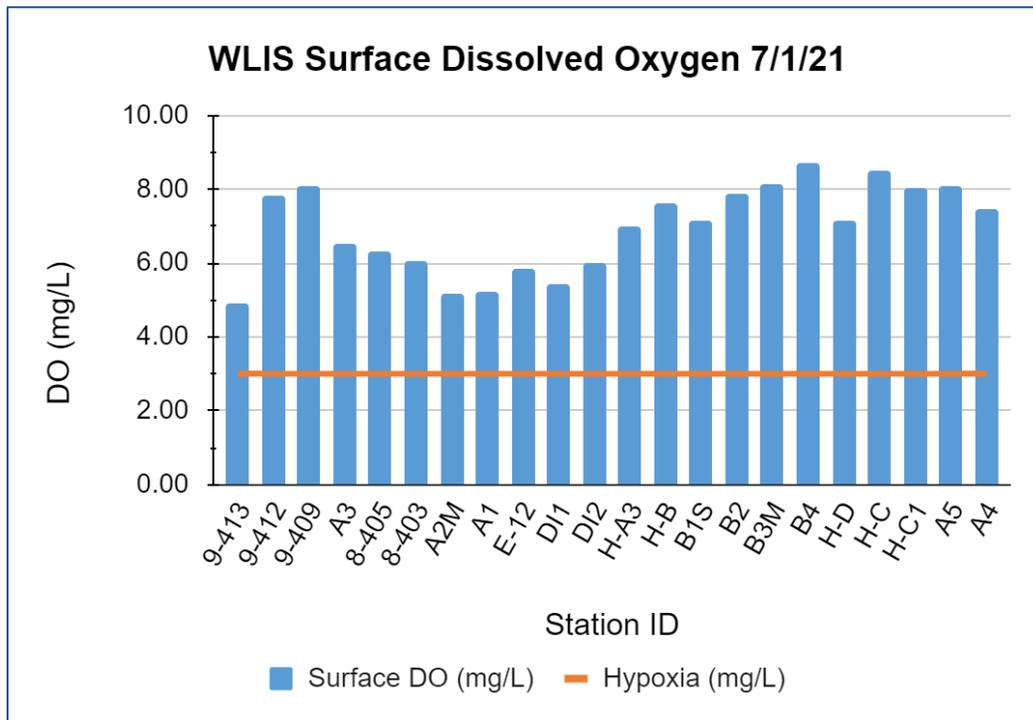


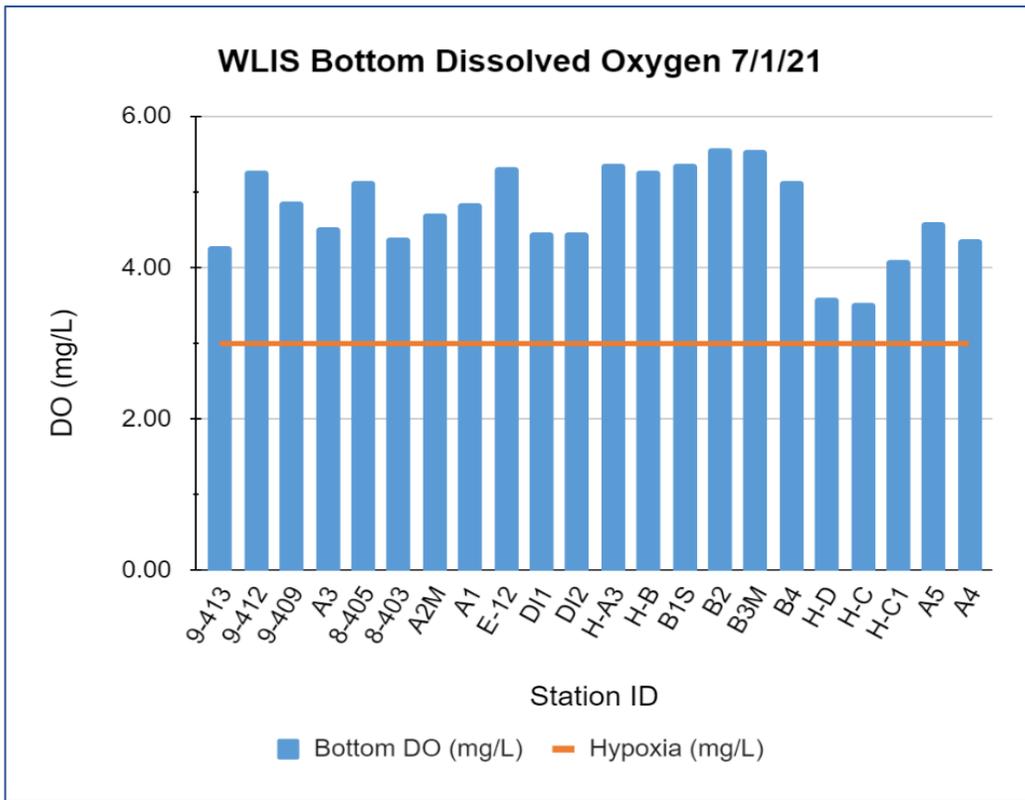
## SURVEY # 1 AT A GLANCE 07/01/2021

<b>Hypoxia (DO &lt;3.00 mg/L)</b>	No stations exhibited hypoxia! 😊
<b>Lowest surface DO concentration</b>	4.89 mg/L (Station 9-413 in Manhasset Bay)
<b>Lowest bottom DO concentration</b>	3.53 mg/L (Station H-C in Hempstead Harbor)
<b>Average surface DO concentration</b>	6.96 mg/L
<b>Average bottom DO concentration</b>	4.77 mg/L
<b>Average surface water temperature</b>	21.16 °C
<b>Average bottom water temperature</b>	17.68 °C
<b>Average water column ΔT</b>	3.48 °C
<b>Average surface salinity</b>	26.40 ppt
<b>Average bottom salinity</b>	27.10 ppt

### Survey #1 Narrative Summary

DO concentrations for all stations were >3.0 mg/L, thus no stations exhibited hypoxia. The survey began at 05:25 and ended at 09:20, with high tide at 05:44 and 05:28 at Kings Point, NY and New Rochelle, NY, respectively. The weather conditions were partly sunny throughout the survey with percent cloud cover ranging from approximately 5 to 100% across all stations. The weather station at LaGuardia Airport reported that no precipitation was reported for the 24-hour period prior to the start of the survey. Secchi disk measurements ranged from 1.5 ft in Manhasset Bay to 8.0 ft in the Mid-LIS waters.





*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 July 1, 2021



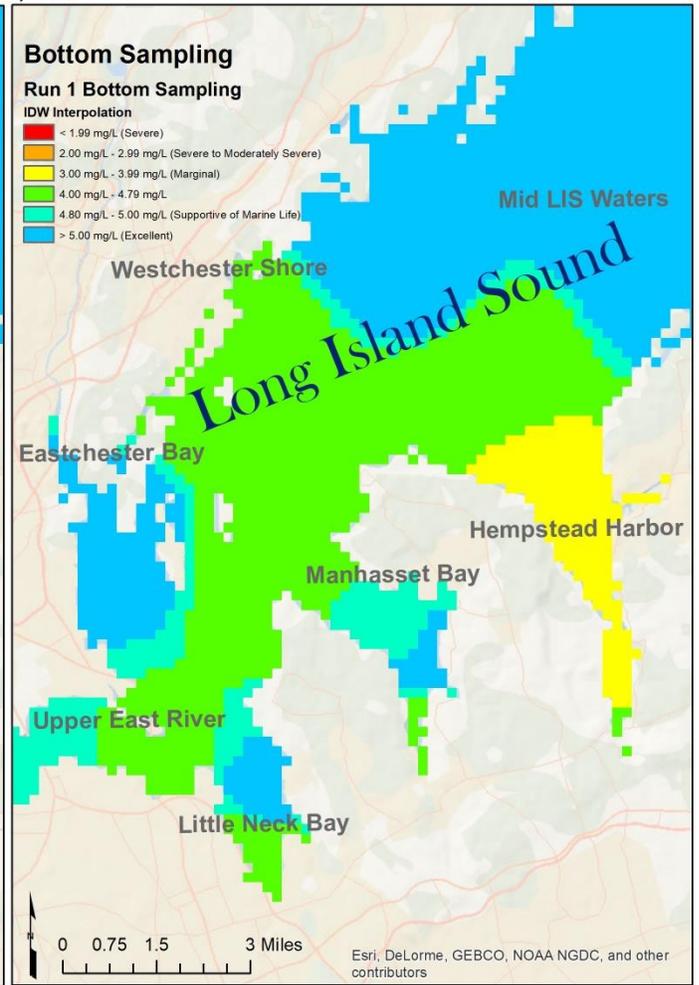
Map by: Jessica Bonamusa



Interstate Environmental Commission

Map Made: 7/21/21

Interstate Environmental Commission Western Long Island Sound Sampling  
July 1, 2021

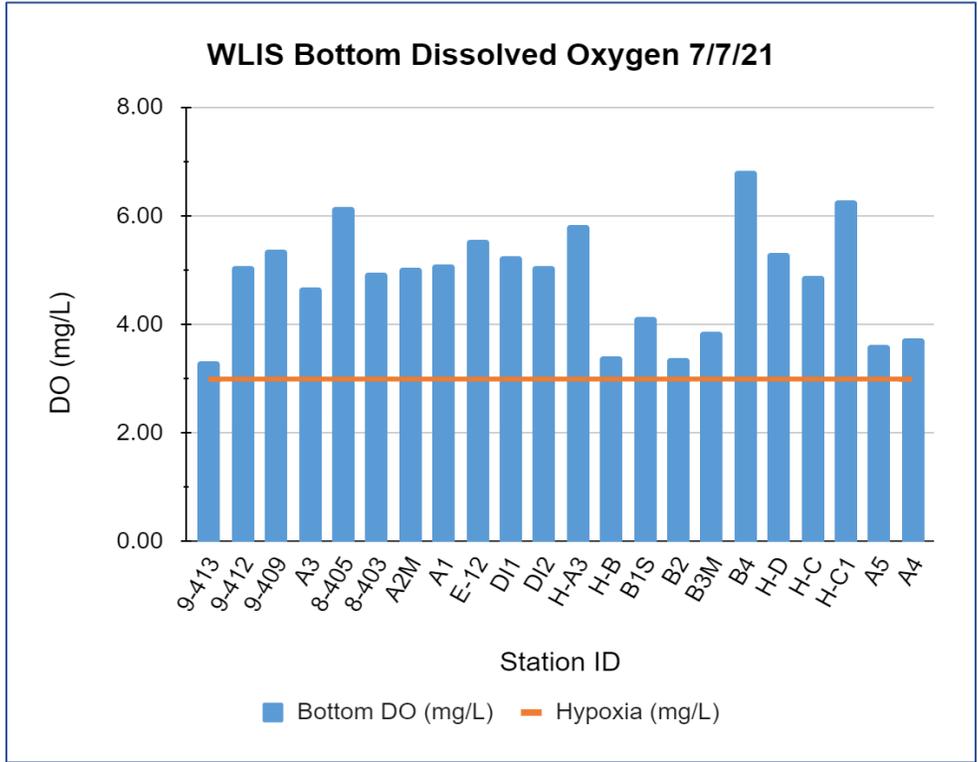
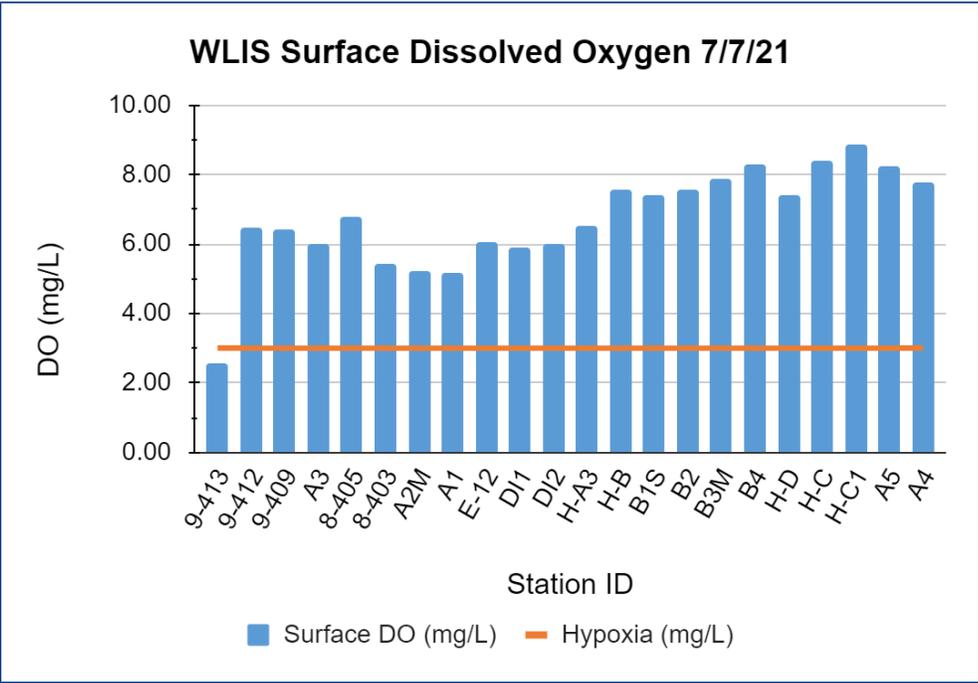


## SURVEY # 2 AT A GLANCE 07/07/2021

<b>Hypoxia (DO &lt;3.00 mg/L)</b>	One station (9-413 in Manhasset Bay) exhibited hypoxia.
<b>Lowest surface DO concentration</b>	2.58 mg/L (Station 9-413 in Manhasset Bay)
<b>Lowest bottom DO concentration</b>	3.32 mg/L (Station 9-413 in Manhasset Bay)
<b>Average surface DO concentration</b>	6.72 mg/L
<b>Average bottom DO concentration</b>	4.87 mg/L
<b>Average surface water temperature</b>	21.02 °C
<b>Average bottom water temperature</b>	19.76 °C
<b>Average water column <math>\Delta T</math></b>	1.26 °C
<b>Average surface salinity</b>	26.31 ppt
<b>Average bottom salinity</b>	26.60 ppt

### Survey #2 Narrative Summary

DO concentrations for all but one station were >3.0 mg/L. Station 9-413 in Manhasset Bay experienced the lowest surface and bottom DO concentrations, with the surface DO at a hypoxic concentration (2.58 mg/L). The survey began at 05:25 and ended at 09:26, with low tide at 05:11 and 04:52 at Kings Point, NY and New Rochelle, NY, respectively. The weather was sunny with clear skies throughout the survey, and percent cloud cover measured approximately 0% across all stations. The weather station at LaGuardia Airport reported that no precipitation was reported for the 24-hour period prior to the start of the survey. Secchi disk measurements ranged from 2.0 ft in Little Neck Bay to 7.5 ft near the Westchester Shore and in the Mid-LIS waters.



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 July 7, 2021



Map by: Jessica Bonamusa



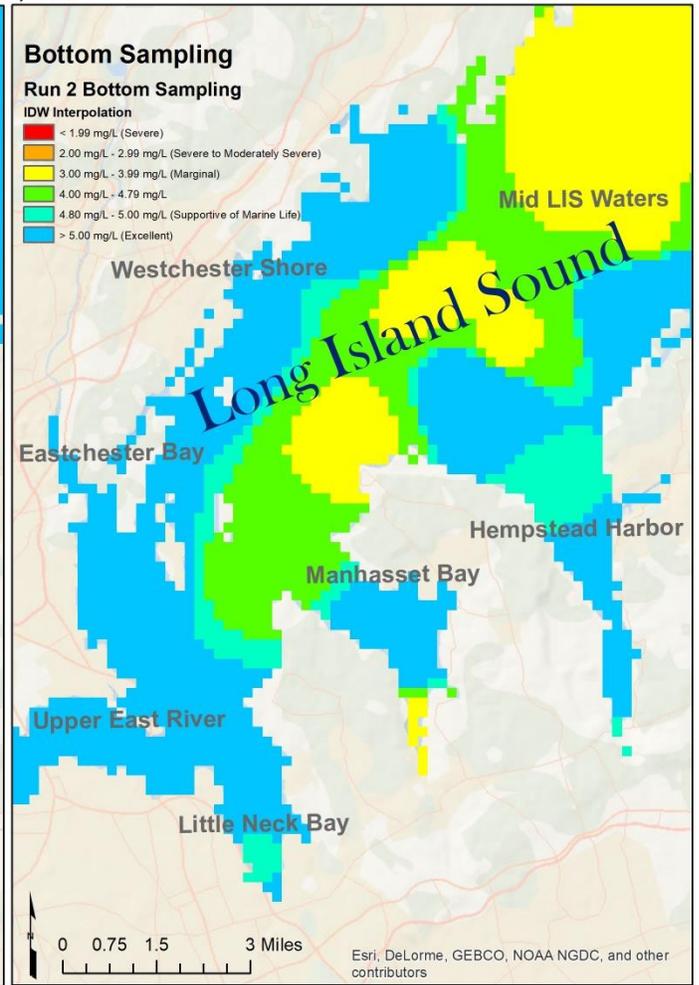
Interstate Environmental Commission

Map Made: 7/21/21

Interstate Environmental Commission Western Long Island Sound Sampling  
 July 7, 2021



Map by: Jessica Bonamusa



Interstate Environmental Commission

Map Made: 7/21/21