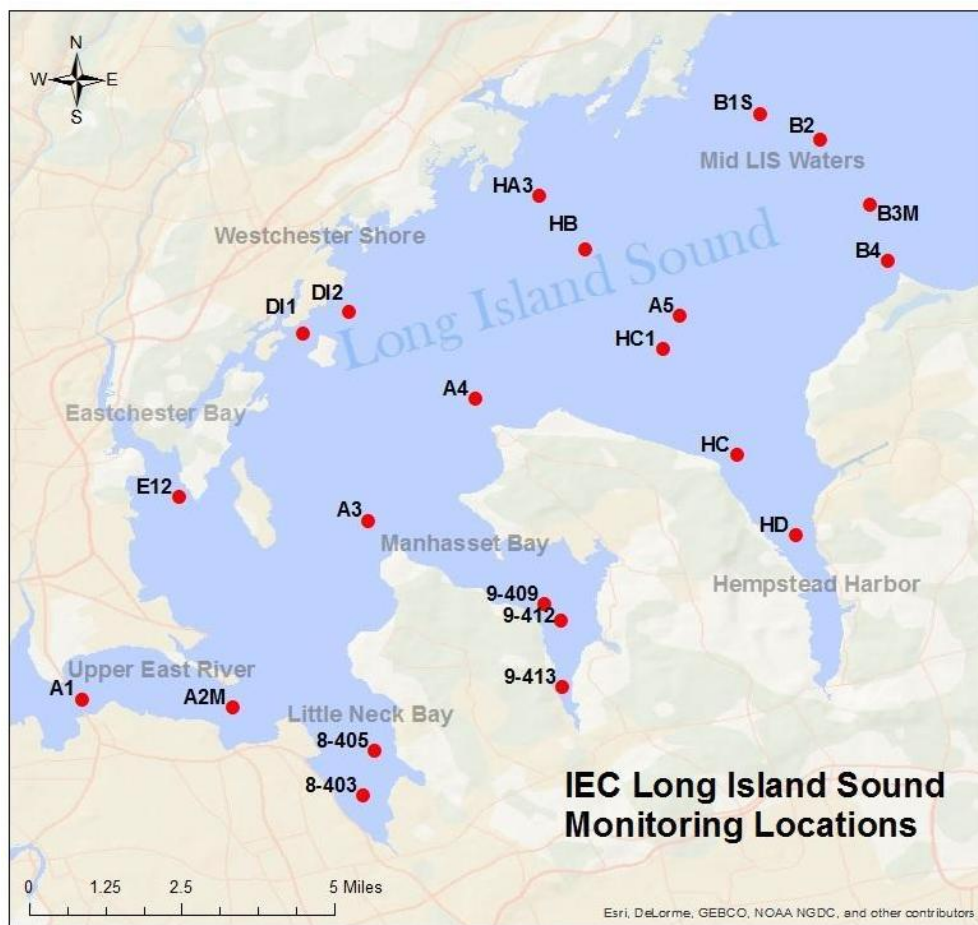




**Interstate  
Environmental  
Commission**  
NY · NJ · CT

# Western Long Island Sound Monitoring 2025 Summer Survey Biweekly Summary Surveys #9 & #10 Survey Dates: August 19, 2025 & August 26, 2025



| STATION      | LATITUDE | LONITUDE |
|--------------|----------|----------|
| <b>8-403</b> | 40.7778  | -73.7608 |
| 8-405        | 40.7888  | -73.7582 |
| 9-409        | 40.8240  | -73.7175 |
| <b>9-412</b> | 40.8200  | -73.7135 |
| 9-413        | 40.8041  | -73.7133 |
| A1           | 40.8013  | -73.8045 |
| <b>A2M</b>   | 40.7992  | -73.7913 |
| A3           | 40.8433  | -73.7590 |
| <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 |
| D11          | 40.8883  | -73.7748 |
| <b>D12</b>   | 40.8930  | -73.7642 |
| <b>E-12</b>  | 40.8487  | -73.8045 |
| <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 |

**Table 1.** List of IEC Western Long Island Sound sampling station coordinates in decimal degrees

As a part of the Long Island Sound Partnership’s ongoing water quality monitoring program, IEC started its 35<sup>th</sup> consecutive summer of weekly ambient monitoring surveys in western Long Island Sound and the upper East River on Tuesday, June 24<sup>th</sup>, 2025.

Throughout the summer of 2025, IEC staff will perform 12 weekly surveys at each of the 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, turbidity, 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** in Table 1). 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)

C/O BioBAT

Brooklyn Army Terminal,

Building A

140 58th Street

Brooklyn, NY 11220

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

In October 2022, IEC also began collecting dissolved inorganic carbon (DIC) and Total Alkalinity samples to monitor coastal acidification. In aquatic ecosystems, **DIC** acts as a source of carbon for photosynthesis and has a function in controlling the pH. Increased atmospheric CO<sub>2</sub> gas may lead to coastal acidification, which can pose a significant threat to marine life, including calcifying organisms like corals and shellfish that make hard shells and skeletons by combining calcium and carbonate from seawater. **Total Alkalinity** is the capacity of water to resist (buffer against) a change in pH when acidity is added. As CO<sub>2</sub> from the atmosphere and from decay of algal blooms increases in LIS, Total Alkalinity guards against pH changes and coastal acidification.

| Proposed 2025 Summer Schedule |               |                                                                       |
|-------------------------------|---------------|-----------------------------------------------------------------------|
| Date                          | Survey Number | Parameters                                                            |
| 06/24/2025                    | 1             | <i>In situ</i> , nutrients, chlorophyll a, BOD, TSS, Total Alkalinity |
| 07/01/2025                    | 2             | <i>In situ</i> parameters only                                        |
| 07/08/2025                    | 3             | <i>In situ</i> , nutrients, chlorophyll a, BOD, TSS, Total Alkalinity |
| 07/18/2025                    | 4             | <i>In situ</i> parameters only                                        |
| 07/24/2025                    | 5             | <i>In situ</i> , nutrients, chlorophyll a, BOD, TSS, Total Alkalinity |
| 07/29/2025                    | 6             | <i>In situ</i> parameters only                                        |
| 08/05/2025                    | 7             | <i>In situ</i> , nutrients, chlorophyll a, BOD, TSS, Total Alkalinity |
| 08/12/2025                    | 8             | <i>In situ</i> parameters only                                        |
| 08/19/2025                    | 9             | <i>In situ</i> , nutrients, chlorophyll a, BOD, TSS, Total Alkalinity |
| 08/26/2025                    | 10            | <i>In situ</i> parameters only                                        |
| 09/03/2025                    | 11            | <i>In situ</i> , nutrients, chlorophyll a, BOD, TSS, Total Alkalinity |
| 09/09/2025                    | 12            | <i>In situ</i> parameters only                                        |



Osprey on a sailboat in Manhasset Bay during Survey #10

## SURVEY #9 AT A GLANCE 08/19/2025

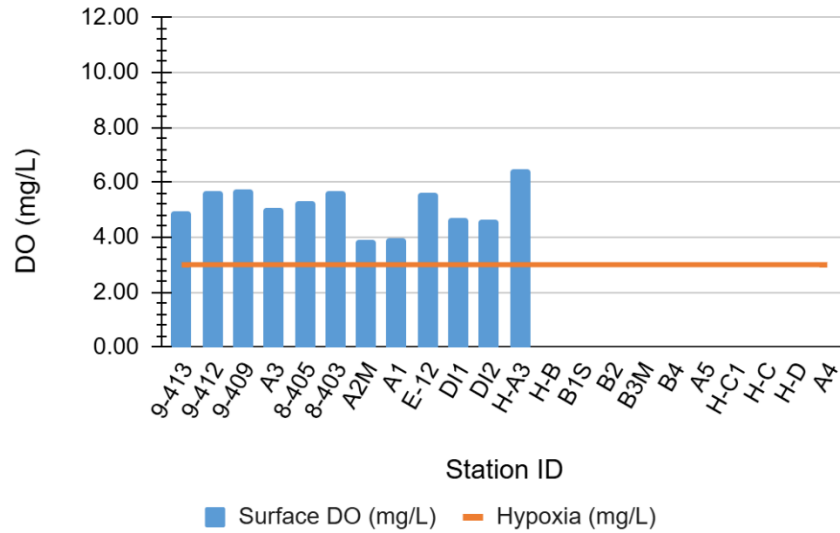
|                                                 |                                                                                                                                         |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Hypoxia (DO &lt; 3.00 mg/L)</b>              | <b>No stations exhibited hypoxia at surface depth</b><br><br><b>1 station exhibited hypoxia at bottom depth:</b><br>Mid-LIS Waters – A3 |
| <b>Lowest surface DO concentration</b>          | 3.88 mg/L (Station A2M in the Upper East River)                                                                                         |
| <b>Lowest bottom DO concentration</b>           | 1.91 mg/L (Station A3 in Mid-LIS Waters)                                                                                                |
| <b>Average surface DO concentration</b>         | 5.14 mg/L                                                                                                                               |
| <b>Average bottom DO concentration</b>          | 4.09 mg/L                                                                                                                               |
| <b>Average surface water temperature</b>        | 23.50 °C                                                                                                                                |
| <b>Average bottom water temperature</b>         | 23.40 °C                                                                                                                                |
| <b>Average water column ΔT (Surface-Bottom)</b> | 0.06 °C                                                                                                                                 |
| <b>Average surface salinity</b>                 | 25.89 ppt                                                                                                                               |
| <b>Average bottom salinity</b>                  | 26.18 ppt                                                                                                                               |
| <b>Lowest surface pH</b>                        | 7.28 S.U. (Station A1 in the Upper East River)                                                                                          |
| <b>Lowest bottom pH</b>                         | 7.21 S.U. (Station A3 in Mid-LIS Waters)                                                                                                |
| <b>Average surface pH</b>                       | 7.45 S.U.                                                                                                                               |
| <b>Average bottom pH</b>                        | 7.35 S.U.                                                                                                                               |

### Survey #9 Narrative Summary

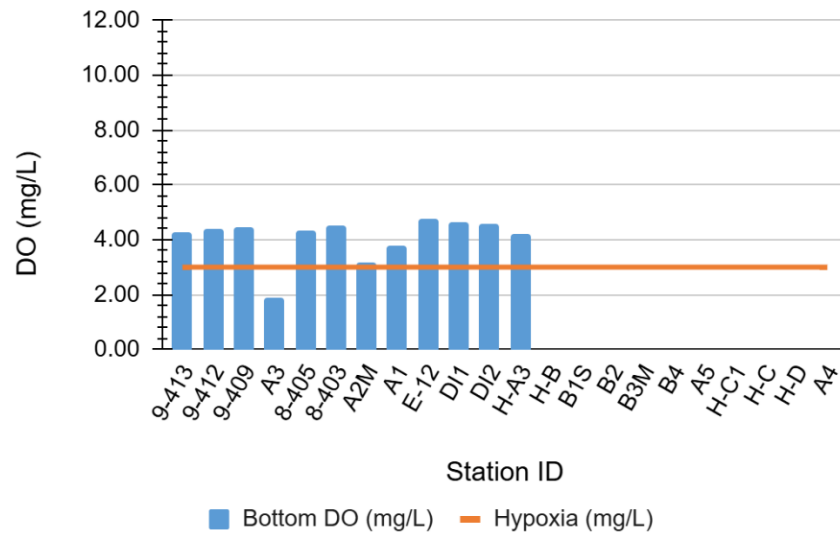
This survey began at 06:39 and ended at 11:01 with the most recent high tide at 08:53 and 09:09 at New Rochelle, NY and Kings Point, NY, respectively. The weather conditions were mostly cloudy, with cloud coverage varying between 0% and 70% throughout the survey. Air temperatures increased from 64°F to 72°F. The National Weather Service observations from LaGuardia Airport reported a total of 0.00" and 0.63" of precipitation during the 24- and 48-hour periods prior to the start of the survey, respectively. Secchi disk measurements ranged from 0.75 meters to 2.0 meters.

**Due to a YSI equipment malfunction during the 2025 WLIS Survey #9, a comparison to the 2024 data is not available. The statistics shown above for WLIS Survey #9 are based on YSI data collected from half of the sampling stations (Stations 9-413 through H-A3). Please refer to the graphs and maps below for visual context.**

### WLIS Surface Dissolved Oxygen, Survey #9 08/19/25



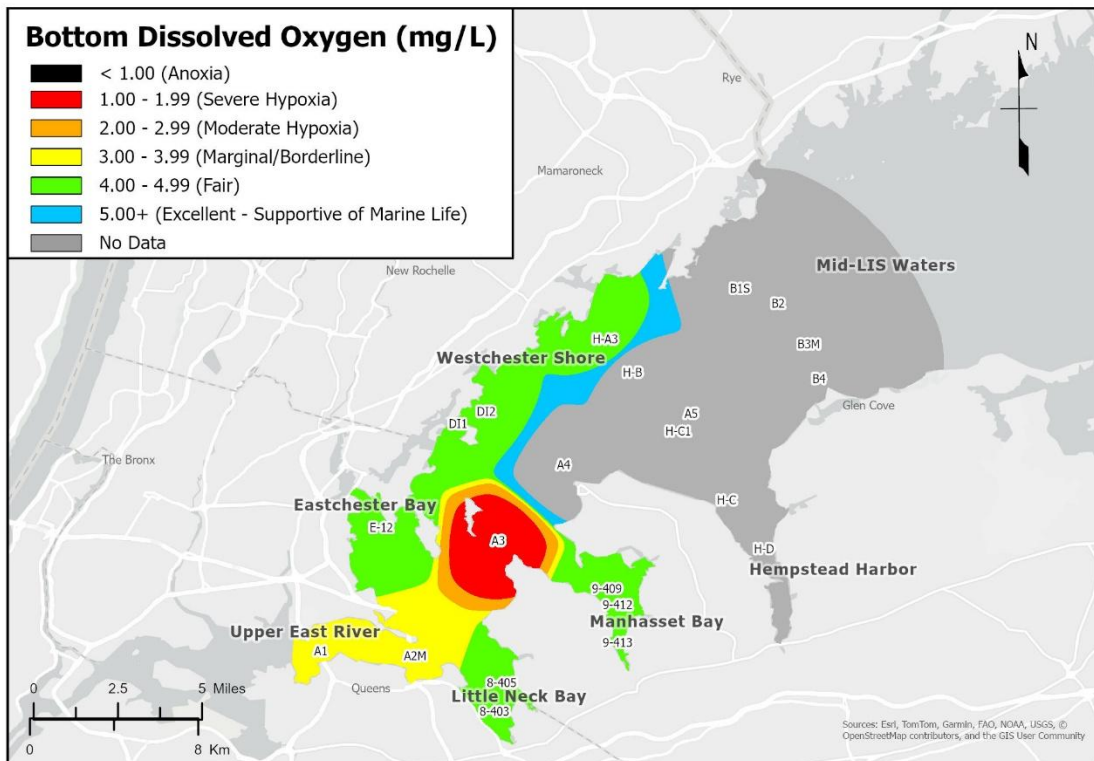
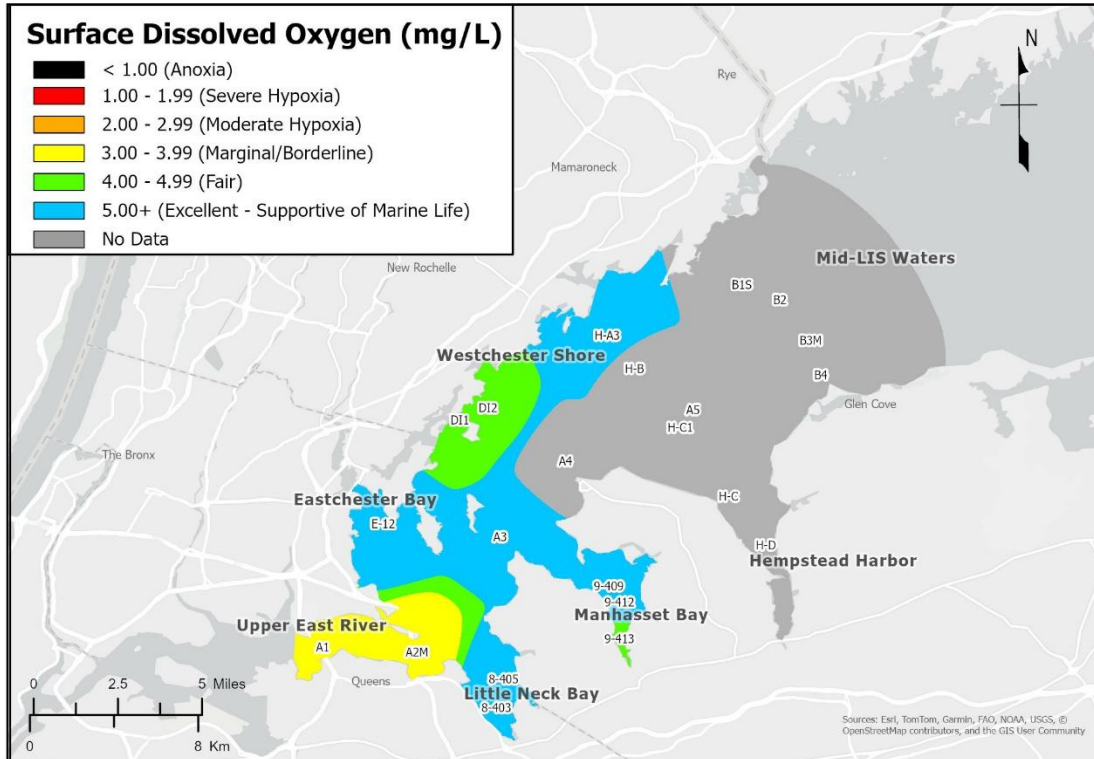
### WLIS Bottom Dissolved Oxygen, Survey #9 08/19/25



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

# Interstate Environmental Commission Ambient Water Quality Monitoring of the Western Long Island Sound

## Weekly Survey #9: August 19, 2025



IDW Interpolation, Power 10

Map by: Samantha Wilder

Map made: 09/24/2025

## SURVEY #10 AT A GLANCE 08/26/2025

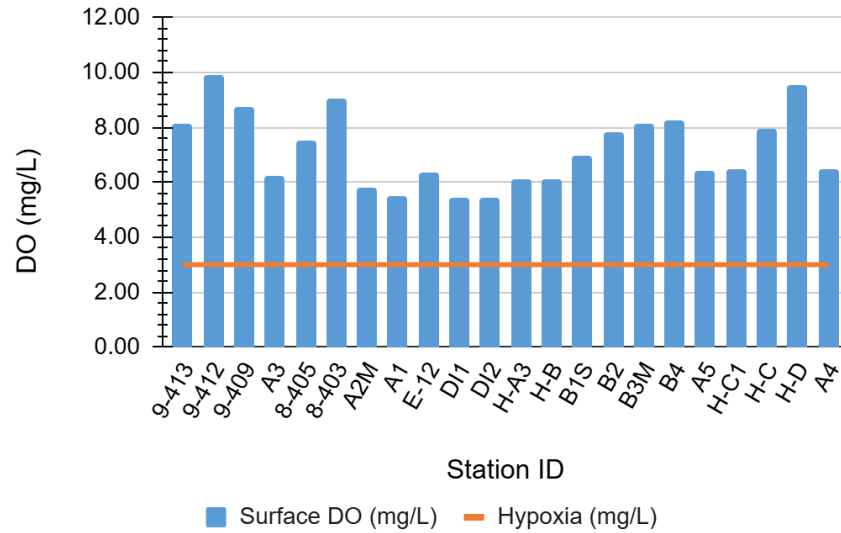
|                                                 |                                                                  |
|-------------------------------------------------|------------------------------------------------------------------|
| <b>Hypoxia (DO &lt; 3.00 mg/L)</b>              | <b>No stations exhibited hypoxia at surface or bottom depths</b> |
| <b>Lowest surface DO concentration</b>          | 5.43 mg/L (Stations DI1 and DI2 on the Westchester Shoreline)    |
| <b>Lowest bottom DO concentration</b>           | 4.34 mg/L (Station H-B on the Westchester Shoreline)             |
| <b>Average surface DO concentration</b>         | 7.19 mg/L                                                        |
| <b>Average bottom DO concentration</b>          | 6.27 mg/L                                                        |
| <b>Average surface water temperature</b>        | 22.55 °C                                                         |
| <b>Average bottom water temperature</b>         | 22.47 °C                                                         |
| <b>Average water column ΔT (Surface-Bottom)</b> | 0.08 °C                                                          |
| <b>Average surface salinity</b>                 | 26.01 ppt                                                        |
| <b>Average bottom salinity</b>                  | 26.31 ppt                                                        |
| <b>Lowest surface pH</b>                        | 7.29 S.U. (Station A1 in the Upper East River)                   |
| <b>Lowest bottom pH</b>                         | 7.28 S.U. (Station H-B on the Westchester Shoreline)             |
| <b>Average surface pH</b>                       | 7.55 S.U.                                                        |
| <b>Average bottom pH</b>                        | 7.47 S.U.                                                        |

### Survey #10 Narrative Summary

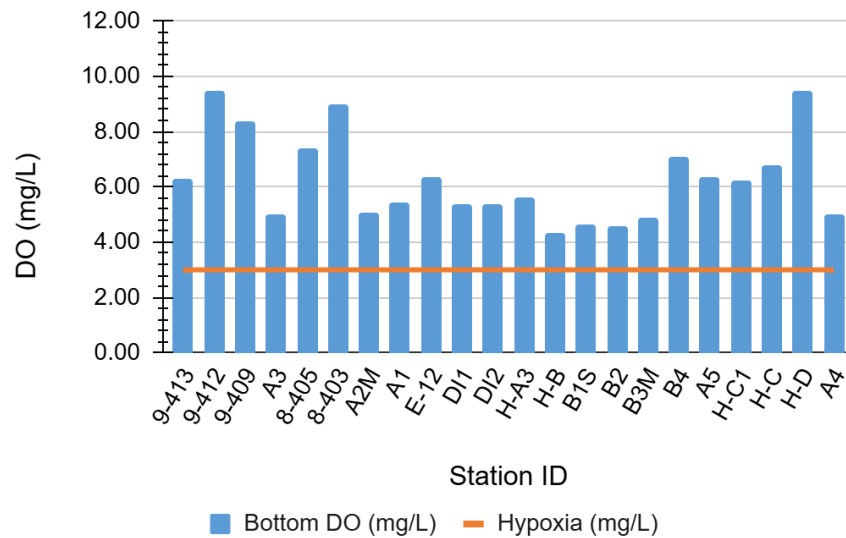
The survey began at 06:42 and ended at 10:10, with the most recent low tide at 08:06 and 08:24 at New Rochelle, NY and Kings Point, NY, respectively. The weather conditions were fair with 0% cloud coverage over the study area and air temperatures increased from 65°F to 73°F throughout the survey. The weather station at LaGuardia Airport reported a total of 0.00" of precipitation during the 24- and 48-hour periods prior to the start of the survey. Secchi disk measurements ranged from 0.25 meters to 1.25 meters.

**Due to a YSI equipment malfunction during the 2024 WLIS Survey #10, a comparison to the 2025 data is not available.**

### WLIS Surface Dissolved Oxygen, Survey #10 08/26/25



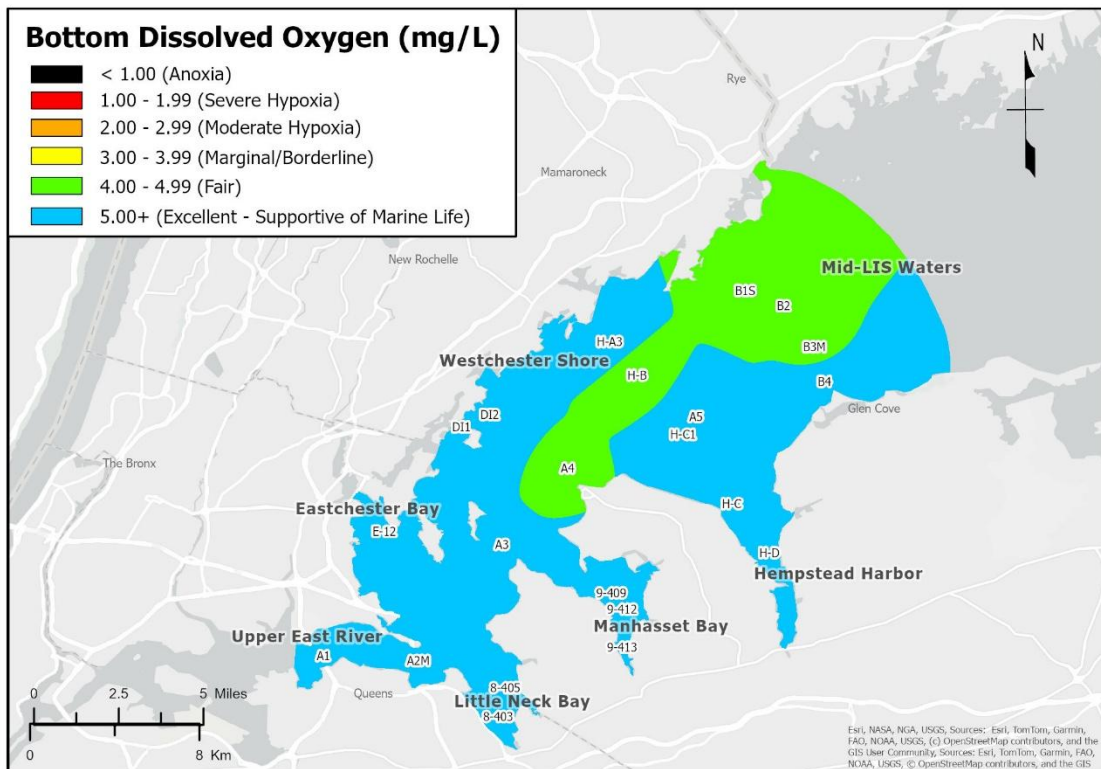
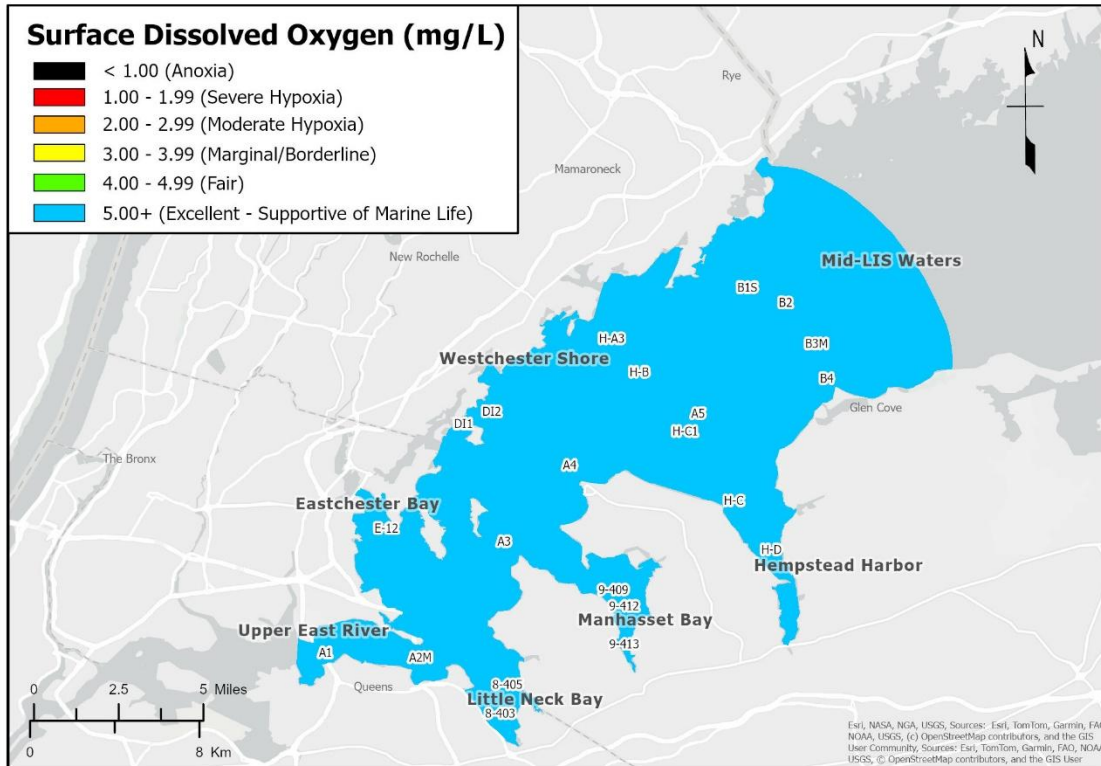
### WLIS Bottom Dissolved Oxygen, Survey #10 08/26/25



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

# Interstate Environmental Commission Ambient Water Quality Monitoring of the Western Long Island Sound

## Weekly Survey #10: August 26, 2025



IDW Interpolation, Power 10

Map by: Samantha Wilder

Map made: 09/24/2025