

2025 NORTHEAST AQUATIC BIOLOGISTS CONFERENCE

DISSOLVED OXYGEN TRENDS IN LONG ISLAND SOUND: HYPOXIA IN MAJOR TRIBUTARIES AND EMBAYMENTS

Abstract: The U. S. Geological Survey (USGS), in cooperation with the Connecticut Department of Energy and Environmental Protection (CT DEEP) and the Environmental Protection Agency (EPA), has collected water-quality and hydrologic data in multiple locations across coastal Connecticut since 2021. Monitoring activities include a wide range of data collection for streamflow, discrete samples for nutrients and carbon analysis, and continuous water-quality monitoring at selected sites. Among the primary goals of the data collection is to assess and characterize the health of the ecosystem.

Dissolved oxygen (DO) is a crucial indicator of aquatic ecosystem health, particularly along coastal areas, and estuarine systems. This poster examines DO levels over time at the monitored sites along the Connecticut coastline. Using vertical profile measurements and continuous water-quality data, we assessed spatial and temporal variations in DO. Observed data reveal patterns of seasonal and depth-related fluctuations, with certain areas experiencing sustained low DO levels, particularly in summer months. These findings highlight the importance of monitoring and addressing factors that contribute to hypoxia in Connecticut's coastal and estuarine waters. Our data will help inform decision makers of the need for targeted interventions to mitigate the impacts of low DO on local aquatic life and supports state and federal efforts to enhance water-quality management strategies for the region.

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