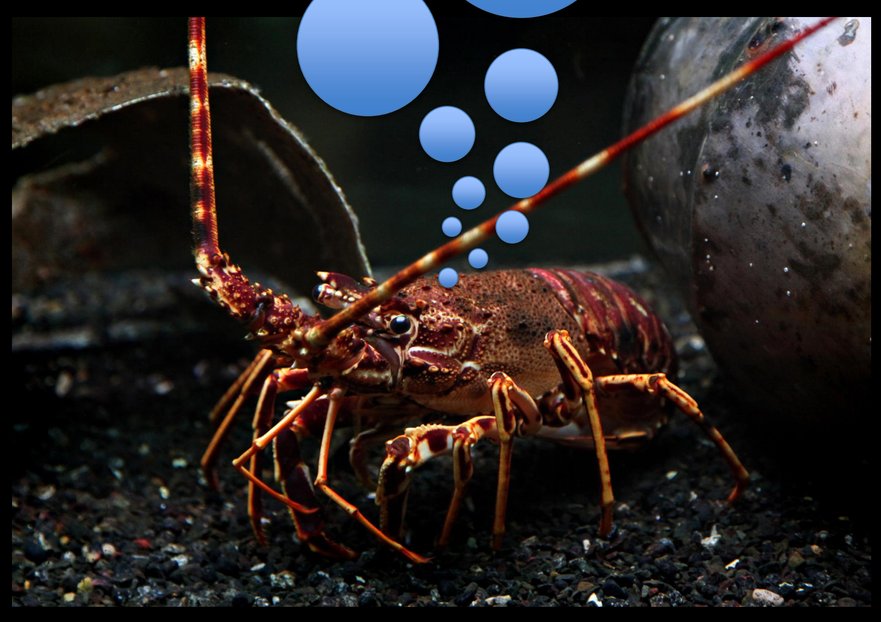
Does Hypoxia Pose a Threat to the Long Island Sound?

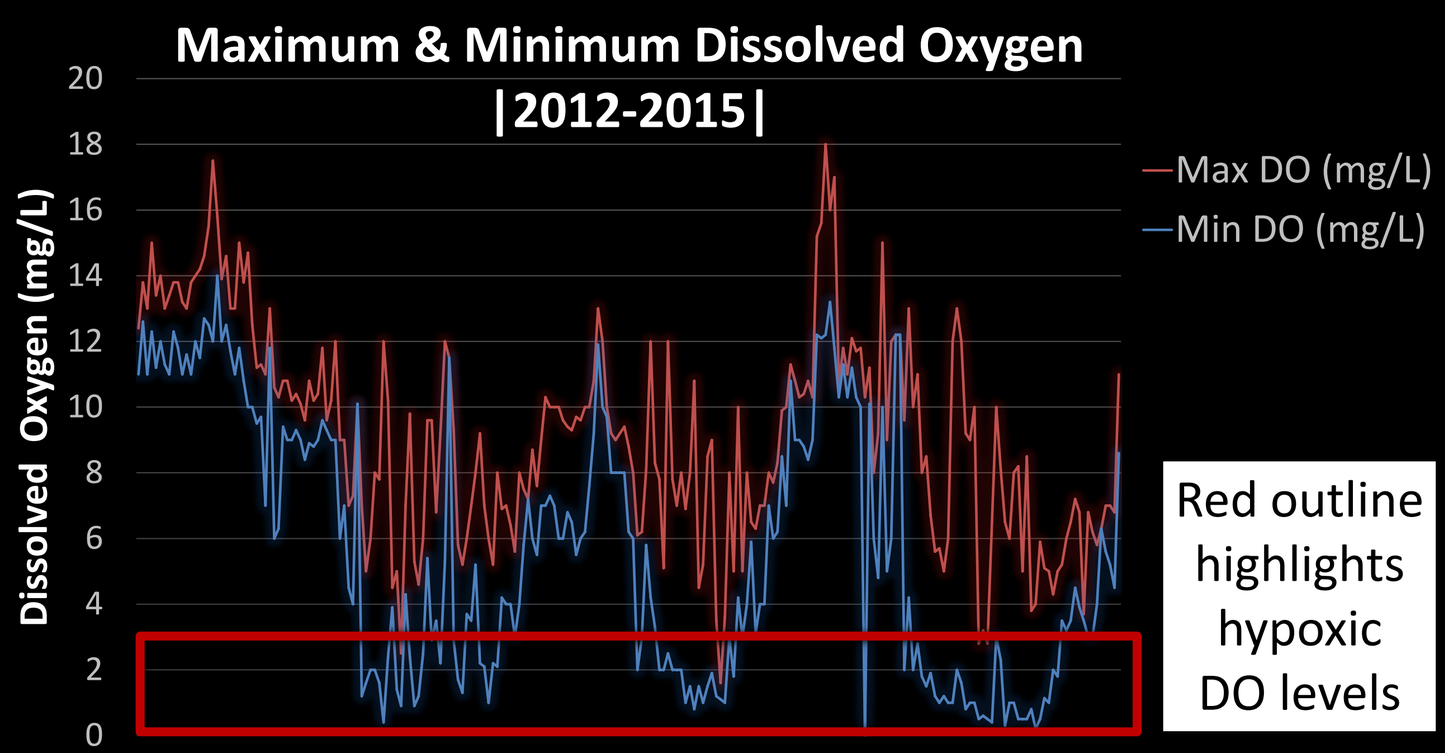


Like many organisms on earth, fish and other aquatic animals require oxygen to live.

In the water, oxygen is referred to as "dissolved oxygen" or DO for short.

Water is considered **Hypoxic** when DO is lower than **2-3 mg/L.**

Hypoxia renders certain areas of the Long Island Sound inhabitable or deadly for fish and other animals for certain periods of time.



Red outline highlights hypoxic DO levels

A min/max graph of daily DO readings taken near Norwalk, CT from 2012-2015 reveals a consistent pattern of hypoxic events.

Changes in DO Levels—CAUSES

Nitrogen Pollution
- Causes algae blooms
- Acidifies Water

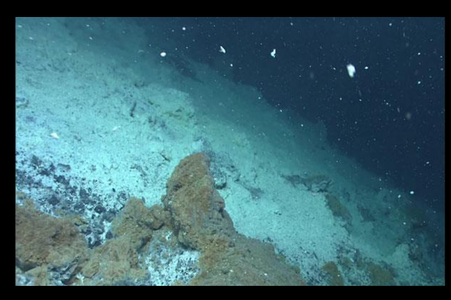
Algae Blooms
- Suffocate fish and other ocean organisms by clogging and irritating their gills

Algae + Bacteria
- Bacteria assist the decomposition of the algae cells
- This uses a lot of oxygen, leading to lower DO levels and hypoxia

Changes in DO—EFFECTS

Shellfish
- Decreasing populations due to lack of ability to move from hypoxic zones

Poor Water Quality
- Bacteria use oxygen to decompose organic material



Less Activity and Life
- Continued Hypoxia may lead to permanent damage to ecosystem of LIS and surrounding areas

Stanley Chen | Student | Stamford High School

Natural Resources Conservation Academy

The Maritime Aquarium at Norwalk

UCONN | College of Agriculture, Health and Natural Resources

Natural Resources and the Environment