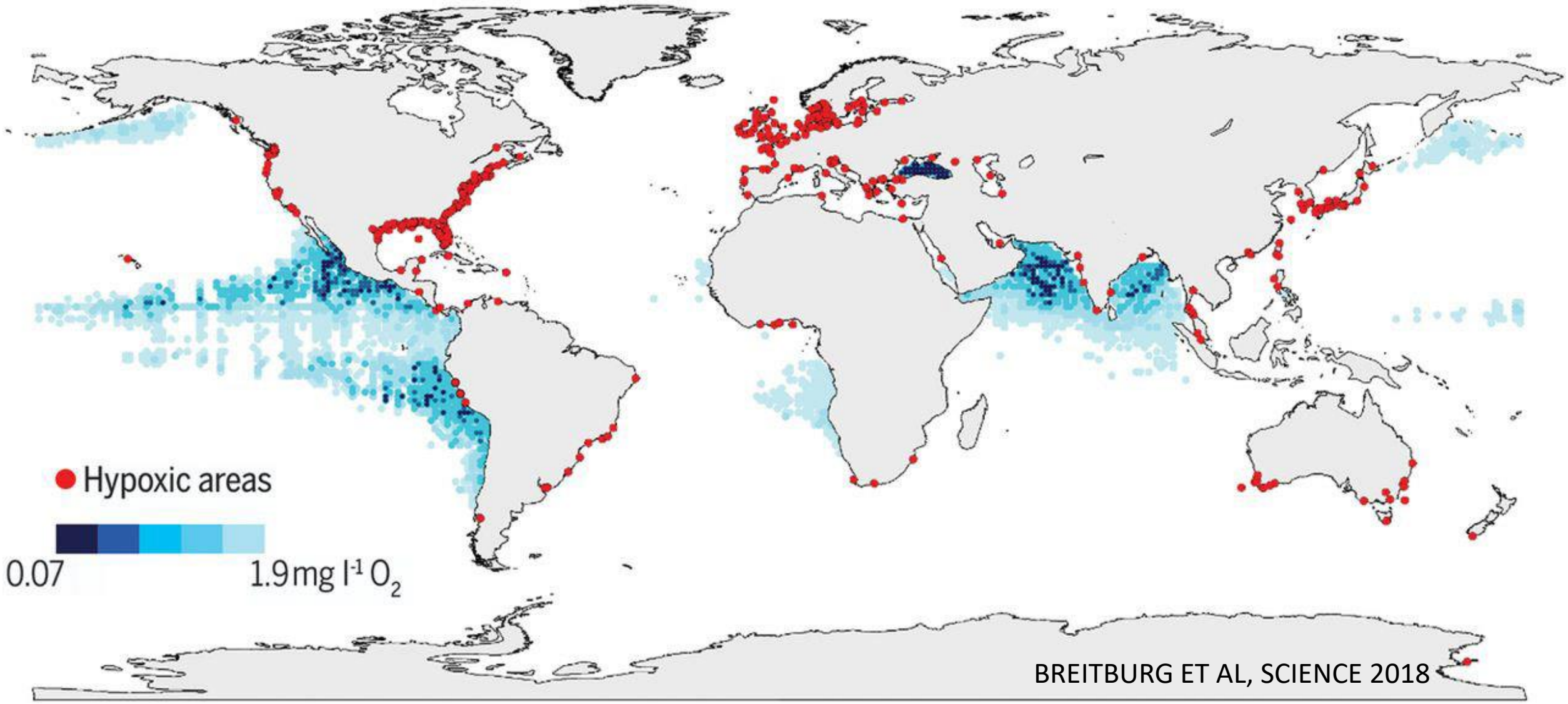
Long Island Sound Seaweed Bioextraction Symposium

Kristin Kraseski, PhD
LISS Bioextraction Coordinator

Nitrogen Pollution is a Worldwide Problem



BREITBURG ET AL, SCIENCE 2018

Nitrogen Pollution in the Sound

- Nitrogen is a leading cause of water quality deterioration in the Long Island Sound
- Sources of Nitrogen Pollution
  - Wastewater treatments systems
    - On-site systems
    - Wastewater Treatment Plants
  - Stormwater Runoff
  - Fertilizer Use
  - Atmospheric Deposition

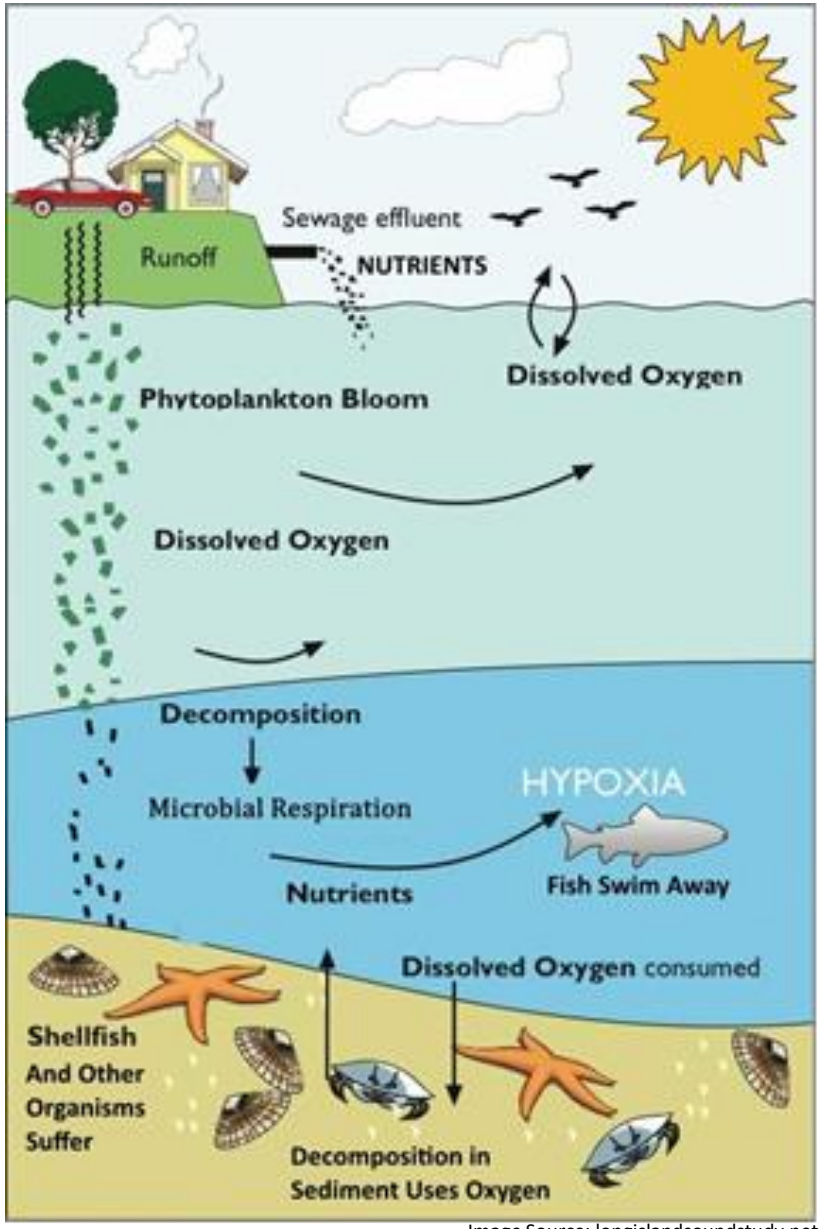


Image Source: longislandsoundstudy.net

What is Nutrient Bioextraction?

- Growth and harvest of shellfish and seaweed to remove nitrogen and other nutrients from coastal waters
- An effective nonpoint nutrient management strategy in addition to existing land-based nutrient management efforts
- An ecosystem service

Photo Credit: Nelle D'Aversa

Long Island Nitrogen Action Plan

A broad, multi-year initiative to reduce nitrogen impacts on water quality

Goals:

- Assess nitrogen pollution in LI waters
- Identify sources of nitrogen to surface and ground waters
- Establish nitrogen reduction endpoints
- Develop implementation plans to achieve reductions

LINAP Bioextraction Initiative

Mission: To improve water quality in NY and CT marine and coastal waters by removing excess nitrogen through the cultivation and harvest of seaweed and shellfish.

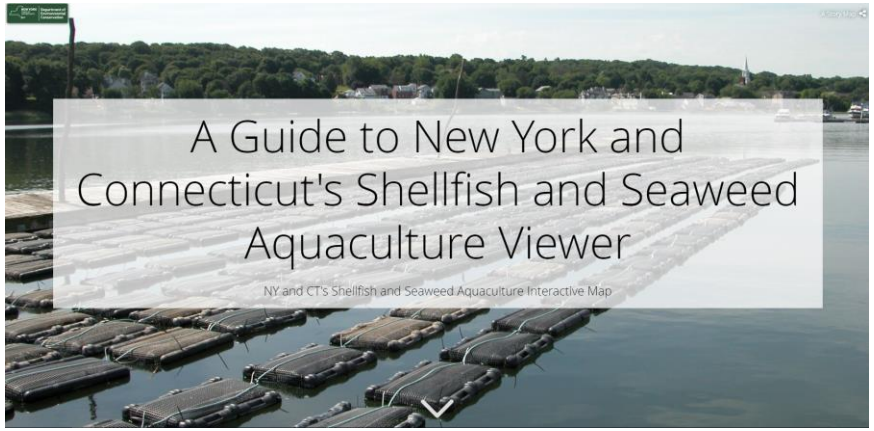
Bioextraction Coordinator hired in 2018

The initiative will provide information to help decision makers with the guidelines needed to facilitate public and private seaweed and shellfish farming and harvest operations in their coastal waters.

Bioextraction Initiative Projects

Pilot Projects

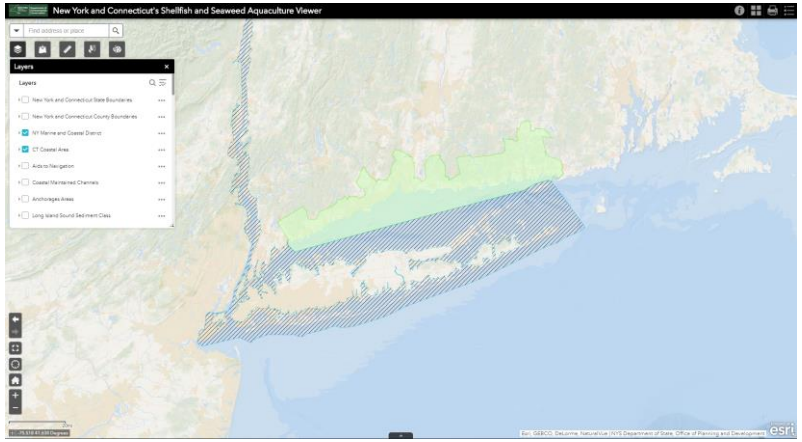
- Sugar Kelp Project
- Ribbed Mussel Project



Aquaculture Viewer

Economic Study

New York marine shellfish aquaculture permitting guidance



Seaweed Bioextraction Symposium

Sugar Kelp (*Saccharina latissima*) Pilot Project

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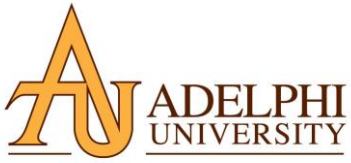

Symposium Structure

- Session 1 – Current Bioextraction Research
- Session 2 – Bioextraction in Context
- Session 3 – Seaweed Regulations and State Perspectives
- Session 4 – Seaweed Economics
- Session 5 – Identifying Next Steps

Long Island Sound Seaweed Bioextraction Symposium

Day 1

Session 1 – Current Bioextraction Research

An overview of research that is currently being done on bioextraction using seaweed, within the Sound and Beyond

Session 2 – Bioextraction in Context

An overview of work being done to look at potential uses of bioextracted materials and how bioextraction can be used as a training or workforce development tool in urban areas

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Day 2

Session 3 – Seaweed Regulations and State Perspectives

An overview of the current and/or potential future regulatory environment around seaweed, how commercial seaweed is being viewed around the Sound, and connections to bioextraction

Session 4 – Seaweed Economics

An overview of economic projects going on in and around the Sound that will have implications for commercial seaweed production and seaweed bioextaction

Session 5 – Identifying Next Steps

An open forum on how to move bioextraction forward within the Long Island Sound with input from all attendees