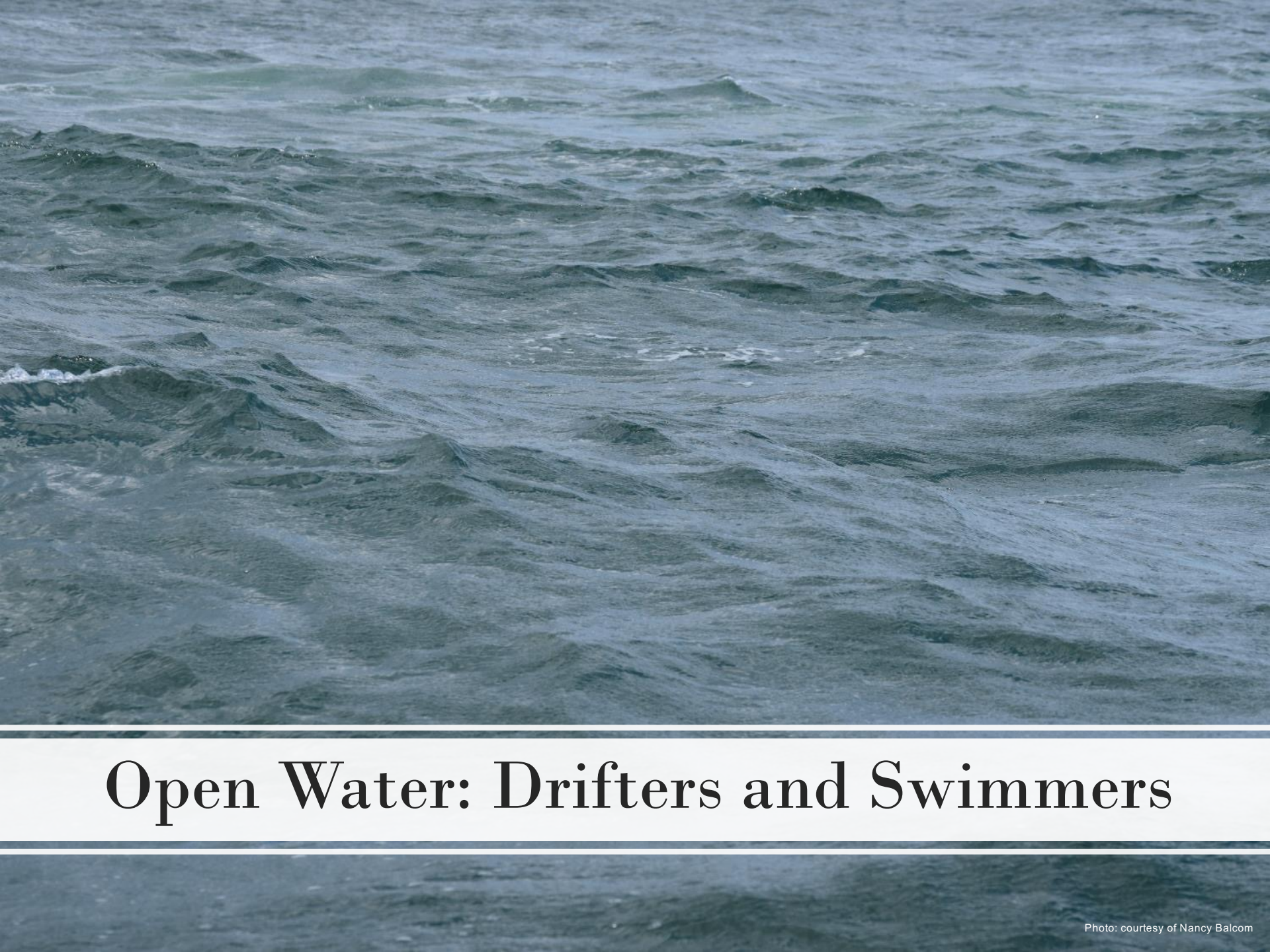


Open Water: Drifters and Swimmers

Photo: courtesy of Nancy Balcom

The water column, or pelagic zone, of Long Island Sound is home to finfish and other interesting organisms, such as squid, jellyfish, and marine mammals

Drifting microalgae or phytoplankton form the base of the food web in estuaries; here are a variety of microscopic marine diatoms common to Long Island Sound waters

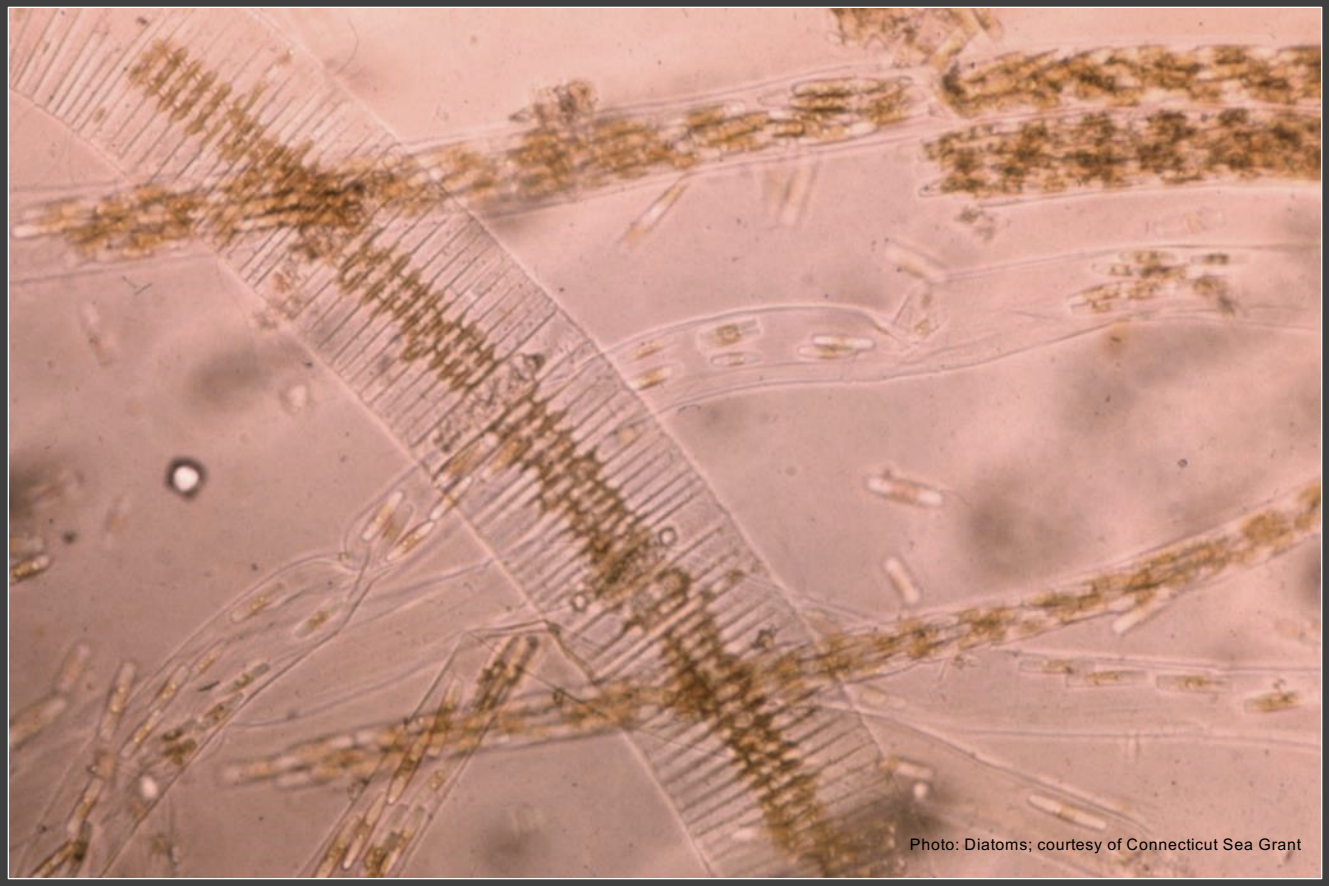
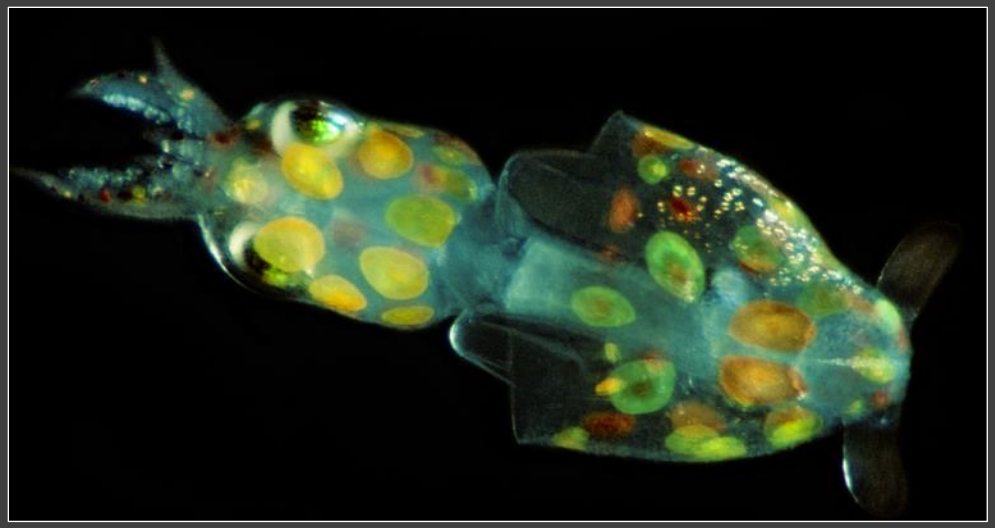


Photo: Diatoms; courtesy of Connecticut Sea Grant

Zooplankton are drifting or weakly swimming organisms, ranging in size from this tiny (2-3mm) copepod to large jellyfish

Most animals in the Sound, such as fish, crabs and clams, begin life as part of the zooplankton community

Photo: Copepod, *Acartia hudsonica*; courtesy of Amy N. Smith and Barbara Costas



Photos: (top) Longfin squid, *Loligo pealeii*; and (bottom) American lobster, *Homarus americanus*; courtesy of Robert Bachand

A newborn longfin squid (top) and a larval American lobster (bottom) spend the early part of their life cycle among the zooplankton

Photo: Northern comb jelly, *Bolinopsis infundibulum*; courtesy of Robert Bachand

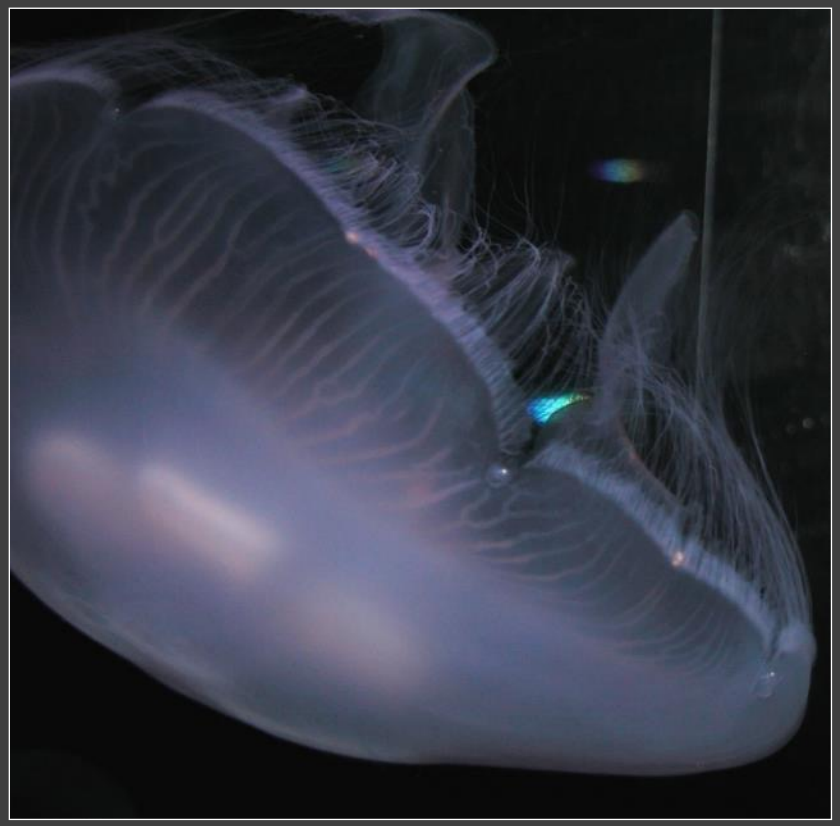
Comb jellies are planktonic animals, propelled through the water by cilia comprising the luminescent bands running along their bodies; unlike true jellyfish, they have no stinging cells

Photos: (left) Sea nettle jellyfish, *Chrysaora quinquecirrha*, and (right) lion's mane jellyfish, *Cynea capillata*; courtesy of Robert Bachand

Semi-transparent Atlantic sea nettles (left) are jellyfish with long thin tentacles and frilly mouth-arms

Lion's mane jellyfish (right), with reddish-purple stripes radiating from the center of the umbrella, are common in the Sound during the summer and early fall

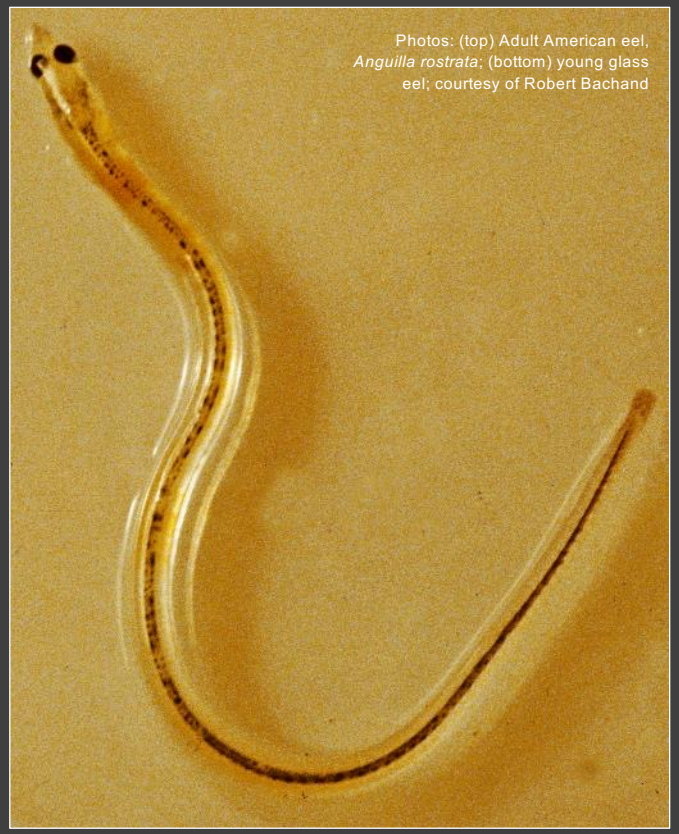
Commonly found in the Sound's waters during late spring, the moon jelly is one of the larger members of the zooplankton community, with a nearly flat, pale pink, orange, or milky-white bell, and a fringe of short tentacles



Photos: Moon jelly, *Aurelia aurita*; courtesy of Nancy Balcom

Striped bass are anadromous fish, spending their adult lives at sea and returning to fresh rivers to spawn; while they do not spawn in Long Island Sound tributaries, they are popular sport fish migrating into the Sound in the summer to feed on squid and finfish

Photo: Striped bass, *Morone saxatilis*; courtesy of Robert Bachand



Photos: (top) Adult American eel, *Anguilla rostrata*; (bottom) young glass eel; courtesy of Robert Bachand

American eels are catadromous, meaning they have the reverse migration pattern of anadromous fish

Adult American eels migrate from freshwater streams or nearshore habitats to the Sargasso Sea, south of Bermuda, to spawn; the adults die there, but the young glass eels return to the streams and shore areas

The only true marine mammals that inhabit the Sound regularly are harbor seals (above) and gray seals; migrating from northern pupping grounds to winter in the Sound, they haul out to rest on rocky outcrops

Osprey or fish hawks are a common sight around Long Island Sound, especially in eastern regions

They arrive in March to nest, mostly on man-made platforms which keep their nests out of the reach of predators

Photo: Osprey, *Pandion haliaetus*; courtesy of Thomas Morris

Photo: Kayakers at Bluff Point, Groton, courtesy of Nancy Balcom

Long Island Sound is a tremendous resource of fascinating, ecologically and economically-important organisms. Humans have the greatest impact on the Sound's health and viability, so it is up to all of us to protect Long Island Sound, a living treasure.

- **The Long Island Sound Study (LISS)** is a partnership of federal, state, and local government agencies, private organizations, and educational institutions working together to restore and protect Long Island Sound. This research, management, and education project began in 1985 as part of the National Estuary Program under the federal Clean Water Act.

- **The Connecticut Sea Grant College Program** is a partnership between the NOAA National Sea Grant College Program and The University of Connecticut. Along with New York Sea Grant, it is one of a network of 34 university-based programs in the coastal and Great Lake states. Established by Congress in 1966, Sea Grant fosters the conservation and wise use of our coastal and marine resources by supporting research, providing extension and technology transfer services, and raising public awareness of coastal and marine environments through educational programs.

- **Connecticut Sea Grant thanks the following individuals who generously shared their digital images for use in this PowerPoint:** Peter Auster, Ivar Babb, Robert Bachand, Briarpatch Enterprises, Nancy Balcom, Judy Benson, Barbara Costas, Robert DeGoursey, Chris Elphick, Tessa Getchis, Carina Gjerdrum, LISMaRC Science Team, Thomas Morris, Judy Preston, Lauren Rader, Amy N. Smith and the Long Island Resource Center.

Contacts

Connecticut Sea Grant
University of Connecticut
1080 Shennecossett Road
Groton CT 06340
https://seagrant.uconn.edu

New York Sea Grant
SUNY at Stony Brook
146 Suffolk Hall
Stony Brook NY 11794
https://seagrant.sunysb.edu/

Environmental Protection Agency
Long Island Sound Study
888 Washington Blvd
Stamford CT 06904
https://longislandsoundstudy.net

Photo: Latimer Reef Lighthouse, courtesy of Nancy Balcom