Understanding the Importance of

What is eelgrass?

Eelgrass is not a grass—it is a flowering plant that lives underwater and produces pollen and seeds that look like grains of rice, and its leaves can be as long as 6 feet. The scientific name for eelgrass is *Zostera marina*. It is the dominant seagrass species in the northeastern United States. In Massachusetts it forms underwater meadows in shallow bays at depths up to 15-25 feet.

Healthy eelgrass meadows act as a nursery, habitat, and feeding ground for fish, crabs, lobsters, and many other species. These meadows provide a multitude of ecosystem services including protecting the shoreline from heightened wave action especially during storms, and improving water clarity and quality. As the world increasingly focuses on strategies to reduce atmospheric carbon dioxide, seagrass is also being recognized as a powerful carbon storage system. All of these services are critical, especially with a changing climate.

Join Nahant S.W.I.M. Inc. Our mission is to protect our environment. **www.NahantSwim.org** Published by Nahant S.W.I.M. Inc. 2024 Printed on partially recycled paper.

PHOTOGRAPHY: ISTOCK/inusuke; Adobe/Bryan; ILLUSTRATION: Wikimedia Commons/Carl Axel Magnus Lindman

EELGRASS Fact Sheet

Why is eelgrass important?

Eelgrass meadows have multiple functions which affect our lives:

Provide habitat that nurtures fish, birds, crabs, lobsters—about 30 species.

Stabilize the sea floor and reduce damage caused by waves and storms. This function also improves water clarity and quality.

Store carbon dioxide —which is overwhelming our planet—in its leaves, roots, and underlying soils. Eelgrass produces oxygen, just as trees and other plants do.

Why should we worry about eelgrass?

It is estimated that during the past 300 years, about half of all eelgrass in Massachusetts has disappeared.

Why is eelgrass threatened?

Pollution of coastal waters affects their clarity and eelgrass needs sunlight to thrive. This pollution results from excess nitrogen from fertilizers, sewage, and runoff from streets, lawns and farmland.

Rising water temperatures damage eelgrass because it prefers cool water.

Dredging and construction damage/remove eelgrass and affect water clarity.

Boat moorings attached to the sea floor with chains drag on the sea floor and scrape away the eelgrass in a circle.

What can be done to protect and restore eelgrass?

Transplanting and seeding are being tried and there is hope for eelgrass to be restored.

What can we do to help?

Reduce or eliminate fertilizer use in your yard. Rain washes nitrogen-dense fertilizers into the ocean. Algae populations explode when nitrogen concentrations rise and block out sunlight for other species. Algae also devours oxygen at a rapid rate, choking animals and plants—including eelgrass—that try to compete with it.

Install permeable pavers outside your home so stormwater can soak into the ground rather than runnoff into storm drains and into the ocean.

Be a responsible boater. If possible, do not anchor in eelgrass meadows. Consider replacing traditional boat moorings (whose long chains drag over the seafloor and scour eelgrass meadows) with a less harmful type called a helical/conservation mooring.

Support/volunteer to help local non-profit organizations who monitor water quality through citizen science.

Organizations focusing on eelgrass restoration

ENVIRONMENTAL PROTECTION AGENCY

www.epa.gov

The EPA National Estuary Program is an ecosystem-based management program that works to protect and restore coastal habitats and maintain the water quality and ecological integrity of 28 estuaries of national significance. To learn more about the NEP program and its accomplishments go to: www.epa.gov/nep/overview-national-estuary-program

MASSACHUSETTS BAYS NATIONAL ESTUARY PARTNERSHIP

www.massbays.org

For the past decade, MassBays and its partners including the Division of Marine Fisheries and North and South Rivers Watershed Association have been actively investigating the cause of drastic eelgrass declines. MassBays and their partners hope to fulfil a plan to restore eelgrass habitat to 1995 levels by 2050.

MASSACHUSETTS DIVISION OF MARINE FISHERIES

www.mass.gov/orgs/division-of-marine-fisheries

The DMF eelgrass team provides expertise and leadership in issues related to eelgrass. It monitors eelgrass for health and growth and restores eelgrass in coastal areas of Massachusetts. The DMF is a partner in 2 seagrass monitoring programs—iSeaGrass and SeagrassNet.

SALEM SOUND COAST WATCH

www.salemsound.org

Salem Sound Coastwatch has worked with MassBays National Estuary Partnership and the Massachusetts Office of Coastal Zone Management to map eelgrass beds along the coast of Massachusetts, and along with the Massachusetts Division of Marine Fisheries has studied the effect floating docks have on eelgrass beds along Marblehead's west shore.

Watch the Video

Special thanks to Phil Colarusso (Colarusso.phil@epa.gov), who is our primary source of information for this fact sheet. We are very grateful for all the help Phil has provided to us. He works in the Ocean and Coastal Protection unit of the Boston EPA office. He has studied eelgrass for over 35 years and is one of the primary experts in the nation on this topic.

Phil created a video especially for SWIM: Eelgrass, the Little Known Wonder Plant. To view it go to:

https://drive.google.com/file/d/1fdNADv07LzIyxuQOYVMqr-JZTPaujFor2/view

You can also view the video at our website (www.nahantswim.org). Click the "Resources" tab on the home page and then "Reference" to find the video.