# Manchester-by-the-Sea Conservation Commission Eelgrass FAQs

(9/22/21)

1. **What is eelgrass?**

Eelgrass (*Zostera marina*) is a type of marine, flowering seagrass that exists in temperate zones around the world. It thrives in soft seafloor environments, typically in the shallow waters of bays, inlets, harbors, and estuaries where it is fully submerged, rooted in the sediment, and protected by the coastline.

2. **How does eelgrass function as an important part of Land Under Ocean (LUO)?**

Land Under Ocean is a protected Resource under the State Wetlands Protection Act. This protected resource contains eelgrass beds, which form dense underwater meadows that provide habitat for invertebrates, substrate for diatom and algae growth, and food and cover for a myriad of species. Eelgrass beds are recognized as "nursery" areas for many marine species. Eelgrass provides food, shelter and protection from predators for many juvenile fish and shellfish of ecological, commercial and recreational importance. Eelgrass beds play an important role in the life cycles of shellfish, crabs, finfish, and waterfowl (https://gibsons.ca/wp-content/uploads/2017/12/eelgrassfacts.pdf). Eelgrass beds can also store carbon, an increasingly important factor mitigating climate change. Eelgrass is an important contributor to a healthy underwater ecosystem that fosters marine life and protects the shoreline. When eelgrass is damaged or destroyed, sea life is threatened.

3. **Is eelgrass affected by human activity?**

Any activity that affects local water chemistry or clarity can negatively affect eelgrass. For this reason nutrient pollution, dredging, shoreline or over-water construction, spilled oil , herbicide runoff, shellfish production and harvest, boating and mooring (propellers and anchors) can all directly damage eelgrass beds.

4. **How are eelgrass beds studied, and what do the data show?**

Eelgrass beds can be assessed through high resolution interpretation of historic or current photos, as well as by acoustical mapping of existing eelgrass. Using these techniques, the Division of Marine Fisheries reported in 2017 a complete loss of eelgrass within inner Manchester Harbor since 1995, as well as a reduction in eelgrass beds at Sand Dollar Cove (https://www.salemsound.org/PDF/Salem_Sound_EelgrassDMFreport2017.pdf). Aerial imagery can also detect scarring from mooring block chains. In Manchester, mooring

monitoring studies have found that such scarring has resulted in an estimated 4-6 acres of eelgrass loss in the 2013-2014 time frame.

5. **What steps can/are being taken to protect eelgrass beds in Manchester Harbor?**

The Manchester Conservation Commission works closely with the Manchester Harbormaster to understand how boats, anchors, and moorings currently affect eelgrass beds. Use of helical mooring anchors is a proactive example to help reduce scarring from mooring block chains. In 2019, the Conservation Commission organized an eelgrass re-seeding pilot program in Manchester Harbor. To further protect local Manchester eelgrass beds, the Conservation Commission added regulations that specifically include eelgrass habitat as a protected part of Land Under Ocean (Manchester General Wetlands Regulations, Amended August 31, 2021). The amended regulation (9.8) highlights several changes in environmental conditions that can harm eelgrass. All residents should be aware that excess fertilizers, pesticides, and herbicides can be carried by water directly into the harbor, with adverse effects. Finally, boaters should slow or avoid cruising over eelgrass beds, and never anchor directly in eelgrass if there is a reasonable alternative. As more citizens become involved with eelgrass restoration efforts, and if our waterways can be protected from overuse, we feel confident in our ability to help protect and preserve eelgrass beds in Manchester.