

## Nature in Neighborhood – August 2021

### Eelgrass – The Plant That Can Save the Planet

Got eelgrass? Yes! Swampscott does! There's a large underwater meadow of *Zostera marina* (or, as it's commonly known, eelgrass) in the town harbor, off the pier. And that's a very good thing for the environment and for us. According to the National Oceanic and Atmospheric Administration (NOAA), eelgrass is "nature's most valuable and productive habitat in the marine environment." The functions it performs are impressive -- and includes, as you'll see, helping fight climate change:

- Found in subtidal and intertidal estuaries, bays, and coves, eelgrass beds offer safe habitat for newly hatched marine life to hide in and grow. In essence, it acts as an underwater nursery. Consequently, eelgrass beds are a benefit to commercial and recreational fishing as they provide nursery habitat for the fish that are caught, or the prey those fish feed upon. Eelgrass also benefits the lobstering industry. A 2001 Univ. of NH Scholars' Repository investigation showed that "adolescent lobsters burrow in eelgrass beds, utilize eelgrass as an overwintering habitat, and prefer eelgrass to bare mud." *see: [scholars.unh.edu](http://scholars.unh.edu)*
- Fish and marine life aren't the only wildlife to benefit. These flowering underwater plants with long ribbon-like leaves (they're not seaweeds) are also a source of food for certain shore birds. Every winter migratory Brants (which look like stunted Canadian Geese) flock to Swampscott Harbor to feed on eelgrass, their primary winter meal.
- Eelgrass filters pollutants out of the water. A 2019 PEW Trust article notes that "recent studies show a drastic reduction in harmful chemicals such as polychlorinated biphenyls (PCBs) in areas with eelgrass beds. Other studies on the West Coast have shown that bacteria found in the beds help prevent harmful algal blooms." *see: [pewtrusts.org/en/research-and-analysis/articles/2019/06/07/six-reasons-to-protect-eelgrass](https://pewtrusts.org/en/research-and-analysis/articles/2019/06/07/six-reasons-to-protect-eelgrass)*

- Seagrasses such as eelgrass have been called the "lungs of the sea" because "one square meter of seagrass can generate 10 liters of oxygen every day through photosynthesis." *see: [ocean.si.edu/ocean-life/plants-algae/seagrass-and-seagrass-beds](http://ocean.si.edu/ocean-life/plants-algae/seagrass-and-seagrass-beds)*
- Eelgrass absorbs climate-warming carbon and stores it in its root system. As the PEW Trust article also observes, "an acre of seagrass can sequester 740 pounds of carbon per year, about the same amount emitted by a car traveling 3,860 miles. Research suggests that eelgrass's carbon sequestration also moderates the effects of ocean acidification, which can inhibit the ability of some marine life to form shells."

Audubon notes that coastal habitats including eelgrass beds remove carbon from the atmosphere three times the rate of land-based forests. "Known as 'blue carbon,' these habitats store carbon in their sediments for thousands of years." But if destroyed, these blue carbon habitats will release the carbon back into the atmosphere. All the more reason to protect them. *see: [audubon.org/news/eelgrass-climate-fighting-hero-ocean-needs](http://audubon.org/news/eelgrass-climate-fighting-hero-ocean-needs)*

- Eelgrass beds protect the coastline, providing a natural buffer against coastal storms by absorbing the force from waves and, through their extensive root systems, preventing some shoreline sediments from washing away. For a coastal community like Swampscott, this is a most valued environmental service that eelgrass performs.

Both the federal and state government recognize the importance of eelgrass ecosystems and they are explicitly mentioned in statutes such as the federal Clean Water Act, the Coastal Zone Management Act, the Water Resource Development Act, and the Massachusetts Wetlands Protection Act. And, at the local level, Swampscott's recent Harbor and Waterfront Plan identifies as one of its goals: protecting the Town's abundant eelgrass population, which offers habitat for juvenile fish and crustaceans.

But we're in trouble of losing this beneficial seagrass, not just in Swampscott, but worldwide. As the PEW Trust article concludes,

eelgrass “is disappearing because of pollution, dredging, development, sea level rise, and other impacts, Approximately 30 percent of the world’s seagrass has vanished since the 1870s. Globally, we’re now losing an area of eelgrass that would cover two football fields every hour.”

One take-away here is that we can all help by learning more about this important natural resource and supporting ways to ensure that it is protected.

To that end, on **August 22 at 4:30 pm at Fisherman’s Beach** the Swampscott Conservancy will be hosting an eelgrass program with Dr. Phil Colarusso, marine biologist and diver for EPA New England.

**The event will feature a family-friendly in-field exploration of eelgrass habitat by seining (netting) and using iNaturalist app to document the species that are caught. Great activity for the kids!**

For a preview on eelgrass, view this short EPA sponsored video entitled “Eelgrass – The Plant That Can Save the Planet”:

<https://www.youtube.com/watch?v=TVbxuN7TwEE>

