



Friends of Casco Bay Casco BAYKEEPER

March 05, 2021

Senator Stacy Brenner
Representative Ralph Tucker
Environment and Natural Resources Committee
c/o Legislative Information Office
100 State House Station
Augusta, ME 04333
ENR@legislature.maine.gov

Re: Friends of Casco Bay Testimony in Support of LD 593: An Act to Restore Regular Eelgrass Mapping in the State

Dear Senator Brenner, Representative Tucker, and Esteemed Members of the Environment and Natural Resources Committee,

Please accept this letter as Friends of Casco Bay's testimony in support of LD 593: An Act To Restore Regular Mapping of Eelgrass Beds in the State.

Friends of Casco Bay is a marine stewardship organization formed in 1989 to improve and protect the environmental health of Casco Bay. We monitor the health of Casco Bay, and use that data to inform our advocacy and engage our communities in efforts to protect and restore our coastal waters.

We wrote to you a year ago, in support of the predecessor of today's bill, LD 559. Coast-wide eelgrass mapping is now even more important. **This mapping is critical to achieving goals set forth in Maine's Climate Action Plan,** particularly strategies put forth by the Coastal and Marine Working Group (CMWG). **This mapping is also necessary to Maine Department of Environmental Protection's (DEP) mandate to develop nutrient criteria for coastal Maine,** a process they have just commenced.

As the Maine Climate Council and its working groups recognized, **healthy eelgrass beds are a natural solution to shoreline erosion and flooding as they stabilize sediments and dissipate wave action.** Moreover, **eelgrass can capture and store high amounts of carbon, serving as a carbon sink** or way to mitigate our greenhouse gas emissions. **By storing carbon in the near shore environment, eelgrass beds also buffer against ocean acidification** which is detrimental to Maine's valuable shellfish.

When you add these critical functions to the reasons we previously supported funding eelgrass mapping, we hope you will agree this work must occur and must be funded. Those prior reasons include that eelgrass: (1) is a federally-designated Essential Fish Habitat; (2) is an indicator of clean, healthy marine water which is used to set limits in pollution discharge permits; and, (3) mapping is relied upon by oil spill responders to make decisions about habitats to protect and/or restore after a spill.

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Historically, DEP used oil spill response funds to hire an oil spill response coordinator who mapped each segment of the coast twice; once from 1992-1997, and again from 2001-2010. That position and funding no longer exist. Since then, only Casco Bay has been mapped, in 2013 and 2018. To fund this mapping, DEP had to divert funds from other monitoring efforts and solicit additional funding from outside organizations. Such a model is not sustainable.

Without funding for mapping, Maine is missing critical information it needs to protect its valuable coastal and marine resources. Without mapping, Maine cannot achieve goals set forth in its Climate Action Plan and be resilient to climate change. Without mapping, DEP is missing critical information it needs to set appropriate discharge limits in pollution discharge permits issued under its federally delegated authority.

Maine's Climate Action Plan

The CMWG recommended that eelgrass be mapped, restored and protected as part of a blue carbon strategy and a nature-based solutions strategy. Both of these recommendations are in the Climate Action Plan. In relevant part, eelgrass and salt marsh grasses have a higher capacity to store carbon than our forests, although they are not as abundant. Conversely, if we allow our eelgrass beds to degrade, they will release carbon into the near shore environment and contribute to the acidifying of our coastal marine waters. Ocean acidification can cause problems for the development of larval shellfish, slow growth and pit shells.

Eelgrass also serves as a natural solution to buffer our coastline from the impacts of more intense storms. Healthy, natural coastal environments, such as eelgrass beds have more capacity to absorb storm surge and hold sediments in place.

Underlying these recommendations, the CMWG acknowledged the critical importance of eelgrass as an essential fish habitat and indicator of clean healthy water.

Eelgrass as Indicator of Clean Water:

Eelgrass needs clean, clear marine water. If water is clouded with suspended solids or other pollutants, eelgrass dies off. If too much nitrogen from land sources—such as effluent pipes and stormwater pipes regulated under the Clean Water Act—flows into water near eelgrass, it grows less densely and looks slimy, as it will be covered with epiphytes (plants that grow on other plants). This growth impedes the ability of eelgrass to photosynthesize.

Nitrogen pollution is a serious issue in near shore environments. In addition to harming eelgrass, it fertilizes blooms of large mats of green algae on clam flats. We have seen this in coves of Casco Bay, from South Portland to Harpswell. We have found that some of these blooms smother clams and other marine organisms, lower the pH of the sediment, and kill juvenile clams that get entangled in the algae when they try to settle onto the flats. In addition, as these algal blooms die, they release carbon dioxide which contributes to acidification of marine waters in the very areas relied upon as habitat by our valuable shellfish species.

DEP uses the health of eelgrass as an indicator of nitrogen pollution. If the receiving water near a wastewater discharge pipe has a concentration of .32 mg/l of nitrogen, then DEP examines nearby

eelgrass beds to see if they are healthy. If the beds are thin and slimy in appearance, DEP determines whether the effluent from the discharge pipe could be contributing to the ill health. DEP can then limit the amount of nitrogen that can be discharged from the pipe to restore water quality.

In January 2021, DEP convened stakeholders to develop Maine's first set of coastal nitrogen criteria. This work occurs under a legislative resolve issued in 2007, and has been delayed by historic lack of funding and staffing to complete necessary work. **One fundamental underlying basis for the criteria will be to set a threshold limit for the Greater Portland Harbor area, above which eelgrass cannot thrive.** DEP cannot set this threshold limit without the funds and staff to routinely map eelgrass beds.

Eelgrass as Habitat:

Eelgrass is designated by the federal government as an Essential Fish Habitat. It grows in shallow marine environments with clear water and plenty of light. It forms a base of food production and provides shelter for juvenile fish, invertebrates and mollusks, including lobsters, winter flounder, and cod.

Oil Spill Response:

In the event of an oil spill, the US Coast Guard, in concert with other federal and state officials, sets up a command center and calls in trained experts to aid response. DEP's maps are critical to these efforts. Eelgrass maps are used to make decisions regarding where to set out booms and can be used to make restoration decisions.

Ought to Pass:

DEP should not have to cobble together resources for sporadic and incomplete mapping of eelgrass. It should be funded and staffed to provide on-going mapping of the entire coast on five year cycles. In this manner, DEP can best meet its regulatory obligations and protect our valuable marine waters. Friends of Casco Bay respectfully requests that this committee unanimously recommend that LD 593 ought to pass.

Thank you for considering our testimony.

Respectfully submitted,



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