



## Friends of Casco Bay Casco BAYKEEPER

April 22, 2025

Committee on Health and Human Services  
Maine State Legislature  
Cross Building, Room 209  
Augusta, Maine

*Re: Friends of Casco Bay's Testimony in support of LD 1550: Resolve, Directing the Department of Health and Human Services to Amend Its Rules to Protect Water Quality by Reducing Nutrient Pollution from Septic Systems*

Dear Senator Ingwersen, Representative Meyer and Distinguished Members of the Committee on Health and Human Services,

Friends of Casco Bay submits this testimony in support of *LD 1550: Resolve, Directing the Department of Health and Human Services to Amend Its Rules to Protect Water Quality by Reducing Nutrient Pollution from Septic Systems* and respectfully requests that you vote that the Resolve Ought to Pass. Established in 1989, Friends of Casco Bay works to improve and protect the health of Casco Bay and its watershed. We monitor water quality using methodology approved by the US EPA and Maine DEP, and use that data to inform actions that keep Casco Bay healthy for Maine's fisheries, shellfisheries, recreation, tourism, and more. Bacteria and nutrient pollution from failed septic systems degrade water quality and harm all of those uses. LD 1550 will help address that problem in coastal Casco Bay.

Our monitoring includes collecting quantitative and observational data of nutrient pollution. With respect to quantitative data, for almost 20 years, we have collected water samples to be analyzed for Total Nitrogen and Dissolved Inorganic Nitrogen. We know that above a certain amount, nitrogen loading in marine waters over-fertilizes plant growth and degrades water quality. In some coves of Casco Bay, we first learn of excess nitrogen loading by observing its consequences. This observational data includes documenting macroalgae blooms, thick green mats of filamentous algae, that become so extensive and dense that they deplete oxygen and acidify the sediment. When those conditions are present, clams under the bloom suffocate to death. Juvenile clams, floating in the water column and attempting to settle in the flats, get caught in the algae and die. Too much nitrogen also fuels phytoplankton blooms (think red tide) that can be toxic to humans, resulting in closure of shellfish harvesting and many aquaculture operations. Further, excess nitrogen degrades eelgrass beds, which are listed as Essential Fish Habitat under federal law. In nearshore areas of Casco Bay, eelgrass beds in areas of excess nitrogen loading have epiphytic and macroalgae growth both on it and in the water column. This growth blocks sunlight from reaching the eelgrass, which is very light sensitive. Loss of light leads to dying, thinner, and smaller eelgrass beds. Finally, too much nitrogen loading

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contributes to acidification of nearshore marine waters, which can be detrimental to shell forming species. Coastal acidification is an increasingly serious water quality problem as our marine waters acidify secondary to climate change. Our data confirms that the pH of coastal Casco Bay is indeed falling, as our waters become more acidic.

Much of coastal Casco Bay, from Cumberland through Phippsburg, is served by on-site septic systems where connection to a public sewer system is not possible. When sited in soils that can filter water at necessary rates and maintained, septic systems do not typically pose a problem. However, when sited in coarse textured soil horizons or bedrock fractures, septic systems can short circuit. This happens when effluent from the leach field freely drains into a coarse textured soil horizon or bedrock fractures without being treated first. When that occurs near a water body, such as coastal Maine, excess nutrients leach into the environment. Based on a soil type analysis, a large portion of coastal Casco Bay, where septic systems are installed, has high to very high potential for short circuiting. The soil analysis suggests this is especially true in Harpswell and Phippsburg.

So you now know that we document excess nitrogen loading in coastal Casco Bay. You also know that a large portion of eastern Casco Bay, where our valuable shellfisheries exist, have unsuitable soils for traditional septic systems and cannot connect to sewer lines. We have investigated blooms in areas where the only possible source of nitrogen is septic systems; *i.e.* we trace the bloom by taking water samples from obvious sources of fresh water to the areas, such as streams and drainage ditches, as well as from the nearshore marine waters, and then send those samples to a lab to be analyzed for nitrogen content. When we eliminate all other sources, but see homes along the shoreline with a pattern of the bloom extending from them, we suspect that the septic systems may be leaching nitrogen and causing the bloom.

LD 1550 can help solve this problem. It will require design modifications to new septic systems in areas where the soils will not properly filter effluent, so that the leach fields will have adequate time to process waste and filter excess nutrients. This will be a positive step toward ensuring that our marine waters remain healthy for all uses, including swimming and harvesting the food that we eat. For this reason, we respectfully request that you vote that LD 1550 Ought to Pass. Thank you for considering our testimony.

Respectfully submitted,



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