HOUSE DOCKET, NO. 691 FILED ON: 1/11/2025

HOUSE . . . . . No. 1009

The Commonwealth of Massachusetts

PRESENTED BY:

Thomas W. Moakley

To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts in General Court assembled:

The undersigned legislators and/or citizens respectfully petition for the adoption of the accompanying bill:

An Act to overcome coastal and environmental acidification and nutrient pollution.

PETITION OF:

NAME:	DISTRICT/ADDRESS:	DATE ADDED:
Thomas W. Moakley	*Barnstable, Dukes and Nantucket*	*1/11/2025*
Kristin E. Kassner	*2nd Essex*	*6/18/2025*

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By Representative Moakley of Falmouth, a petition (accompanied by bill, House, No. 1009) of Thomas W. Moakley relative to coastal and environmental acidification and nutrient pollution. Environment and Natural Resources.

The Commonwealth of Massachusetts

In the One Hundred and Ninety-Fourth General Court
(2025-2026)

An Act to overcome coastal and environmental acidification and nutrient pollution.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

SECTION 1. Chapter 6 of the General Laws is hereby amended by inserting after Section 15LLLLLL the following section:-

Section 15MMMMMM. The governor shall annually issue a proclamation setting apart the third full week in August as Ocean Acidification Awareness Week and recommending that the day be observed in an appropriate manner by the people, promoting citizen science initiatives and action by the general public not only to preserve the health of the coastline but also to generate valuable scientific data for the commonwealth.

SECTION 2. Section 1 of chapter 21N of the General Laws, as appearing in the 2020 Official Edition, is hereby amended by inserting after the definition of "Carbon dioxide equivalent" the following 4 definitions:-

"Coastal acidification", the acidification of coastal waters driven by background ocean acidification, eutrophication, freshwater inputs, atmospheric deposition and any other natural or anthropogenic stressor.

"Coastal stressors", eutrophication, nutrient pollution, freshwater inputs and atmospheric deposition from the coast acidifying coastal waters.

"Coastal waters", any waters and associated submerged lands of the ocean, including the seabed and subsoil, lying between the coast and the seaward boundary of the commonwealth, as defined in 43 U.S.C. 1312.

"Coastal watershed", the Merrimack, Parker, Ipswich, North Coastal, Mystic, Neponset, Charles, South Coastal, Cape Cod, Islands, Buzzards Bay, Taunton and Narragansett watersheds.

SECTION 3. Said section 1 of said chapter 21N, as so appearing, is hereby further amended by inserting after the definition of "Entity" the following definition:-

"Eutrophication", a condition of coastal or fresh waters having elevated nutrient concentrations.

SECTION 4. Said section 1 of said chapter 21N, as so appearing, is hereby further amended by inserting after the definition of "Nature-based solutions" the following definition:-

"Ocean acidification", the acidification of the greater Atlantic ocean driven by atmospheric carbon deposition independent of coastal stressors.

SECTION 5. Section 10 of said chapter 21N, as so appearing, is hereby amended by inserting after the word "surge", in line 9, the following words:- , ocean and coastal acidification.

SECTION 6.. Said chapter 21N is hereby amended by adding the following section:-

Section 12. (a) There shall be an ocean acidification council to consist of 11 members: the secretary of energy and environmental affairs, who shall be the chair; the director of coastal zone management or a designee; the commissioner of environmental protection or a designee; the director of the Massachusetts environmental policy act office or a designee; the director of marine fisheries or a designee, the director of ecological restoration or a designee; the commissioner of agricultural resources or a designee; and 4 public members to be appointed by the governor, 1 of whom shall be a member of a private monitoring organization in the state, 1 of whom shall be a member of the state shellfishing industry, 1 of whom shall be a scientist specializing in coastal conservation and 1 of whom shall be a member of the Massachusetts Municipal Association, Inc.

(b) The council shall: (i) work to further understand and take action against the threat posed by ocean and coastal acidification; (ii) engage with and, to the extent practicable, coordinate public and private monitoring efforts; (iii) harmonize data gathering; (iv) provide monitoring hardware and technical training; (v) maintain a central repository for acidification data; and (vi) recommend mitigative interventions for coastal stressors or adaptive technologies for aquaculture, prioritizing nature-based solutions to manage stormwater and reduce nutrient pollution. The council may direct monies from the Ocean Acidification Fund established in section 2PPPPPP of chapter 29 to target existing programs and novel approaches to restore and buffer marine habitats and resources impacted by acidification.

(c) Within 1 year of the council's formation, the council shall perform and publish a gap analysis for ocean monitoring with recommended measures for creating an appropriate spatial

and temporal resolution to model ocean acidification in coastal waters and project acidification trends. The council shall convene a public workshop with local ocean monitoring groups to ascertain monitoring needs and inform the analysis, and hold 2 public hearings. The analysis shall identify appropriate monitoring technologies and select coastal waters where ocean acidification monitoring equipment shall be placed. The ocean acidification monitoring system shall enable modeling for long term pH changes in coastal waters and permit short-term monitoring of aragonite saturation in variable and sensitive coastal waters to protect critical habitat and shellfish.

(d) The council shall coordinate implementation of the ocean acidification monitoring system, implementing the system within 3 years of the effective date of this section. The council shall ensure that data derived from the monitoring system is publicly accessible in a standardized format useful for public and private research.

(e) The council may commission independent studies and agency reports to fill acidification knowledge gaps. The council shall commission the studies and reports as soon as practicable, beginning at a later date if dependent on data derived from the ocean acidification monitoring system described in subsection (d). The council shall avoid duplicating regional efforts, incorporating best available science with data from the ocean acidification monitoring system established in subsection (d) and data from local and private monitoring efforts where available. These efforts shall include, but shall not be limited to:

(i) modeling ocean and coastal acidification trends in coastal waters and project acidification trends;

(ii) studying the effects of acidification on marine species that are ecologically or economically important or understudied. The study shall examine the impact of multimodal stress and shall include, at minimum, a study of acidification effects on the American lobster, Eastern oyster, sea scallops, quahogs and fin fish;

(iii) clarifying the causal relationship between nutrient pollution, eutrophication and coastal acidification in coastal waters;

(iv) determining how different coastal stressors contribute to coastal acidification;

(v) estimating the economic impacts of modeled and projected acidification on the commonwealth's economy;

(vi) determining if current total maximum daily loads under the Massachusetts estuaries project are sufficient to keep acidity in Massachusetts embayments within the ranges required by 314 CMR 4.05 through 2050 and proposing changes to 314 CMR §§ 4 and 5 and total maximum daily loads if needed, taking into account ocean and coastal acidification as particularized stressors;

(vii) performing cost-benefit analyses of intervention strategies to determine where pollution reductions will most efficiently resilience acidification; and

(viii) developing best adaptive practices for the shellfishing industry to use to adapt to acidification.

(f) If the council determines that eutrophication has more than a de minimis impact on coastal acidification in any given embayment or coastal zone, the council may implement necessary improvements in the most efficient manner to reduce eutrophication. The council may

target funds from the Ocean Acidification Fund established in section 2PPPPPP of chapter 29 to existing state programs or proposed municipal projects for the purposes of:

(i) financing necessary upgrades to publicly owned treatment works located in coastal watersheds to achieve enhanced nutrient removal;

(ii) replacing septic systems in nutrient sensitive coastal watersheds with connections to new or existing publicly owned treatment works, or upgrading existing systems to nitrogen-reducing systems; and

(iii) implementing other appropriate measures, including but not limited to installing permeable reactive barriers and funding salt marsh restoration.

SECTION 7. Chapter 29 of the General Laws is hereby amended by inserting after section 2OOOOOO, as inserted by section 13 of chapter 358 of the acts of 2020, the following section:-

Section 2PPPPPP. (a) There shall be established and set upon the books of the commonwealth a separate fund to be known as the Ocean Acidification Fund. The ocean acidification council shall administer the fund. Notwithstanding any general or special law to the contrary, there shall be credited to the fund any revenue subject to appropriations or other money authorized by the general court and specifically designated to be credited to the fund and any gifts, grants, private contributions, investment income earned by the fund's assets and any designated funds from other sources. No expenditures from the fund shall cause the fund to be in deficiency at the close of the fiscal year. Any money in the fund at the end of the fiscal year shall not revert to the General Fund, shall be available for expenditure in the subsequent year and shall not be subject to section 5C.

(b) Amounts credited to the fund shall be expended, without further appropriation, for the purposes of restoring and buffering marine habitats and resources impacted by acidification and financing infrastructure improvements to reduce eutrophication as provided in section 12 of chapter 21N.

SECTION 8. Section 61 of chapter 30 of the General Laws, as appearing in the 2020 Official Edition, is hereby amended by inserting after the word “rise”, in line 16, the following words:- and coastal ocean acidification.