SENATE DOCKET, NO. 294 FILED ON: 1/10/2025

SENATE . . . . . No.

The Commonwealth of Massachusetts

PRESENTED BY:

Julian Cyr

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:
Julian Cyr	*Cape and Islands*

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SENATE . . . . . No.

[Pin Slip]

[SIMILAR MATTER FILED IN PREVIOUS SESSION
SEE SENATE, NO. *467* OF 2023-2024.]

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 adding after Section 15ZZZZZZ the following section:-

Section 15AAAAAAA. 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 2022 Official Edition, is hereby amended by inserting after the word "change", in line 21, the following words:-

(ii) “coastal acidification”, the acidification of Massachusetts coastal waters driven by background ocean acidification, eutrophication, freshwater inputs, atmospheric deposition, and any other natural or anthropogenic stressor.

(iii) “coastal stressors”, eutrophication, nutrient pollution, freshwater inputs, and atmospheric deposition from the coast acidifying coastal waters.

(iv) “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.

(v) “coastal watershed”, merrimack, parker, ipswich, north coastal, mystic, Neponset, charles, south coastal, cape cod, islands, buzzards bay, taunton, and narragansett waters.

SECTION 3. Said section 1 of said chapter 21N, as so appearing, is hereby amended by inserting after the word "affairs", in line 41, the following words:-

(vi) “eutrophication”, a condition of coastal or freshwaters of having elevated nutrient concentrations. Eutrophication caused by human development is the primary cause of excessive algal growth and deoxygenation of coastal waters.

SECTION 4. Said section 1 of said chapter 21N, as so appearing, is hereby amended by inserting after the word "gases", in line 103, the following words:-

(i) “ocean acidification”, the acidification of the greater Atlantic driven by atmospheric carbon deposition independent of Massachusetts 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 13. (a) The secretary of energy and environmental affairs shall establish and chair the Ocean Acidification Council. Members shall include the directors or respective designees of the office of coastal zone management, the department of environmental protection, the environmental policy act office, the department of marine fisheries, the division of ecological restoration, and the department of agricultural resources. The council shall include public members appointed by the governor, including a member of a private monitoring organization in the state, a member of the state shellfishing industry, a scientist specializing in coastal conservation, a member of the Massachusetts municipal association.

(b) The council is established to further understand and take action against the threat posed by ocean and coastal acidification. The council shall engage with and, to the extent practicable, coordinate, public and private monitoring efforts, harmonize data gathering, provide monitoring hardware and technical training, maintain a central repository for acidification data, and commission The council shall recommend mitigative interventions for coastal stressors or adaptive technologies for aquaculture, prioritizing nature-based solutions to manage stormwater and reduce nutrient pollution. Funds may target existing programs and novel approaches to restore and buffer marine habitats and resources impacted by acidification, provided that, funds contributed from commercial license fees shall only be used for shellfishing adaptation efforts under this section.

(c) Within one year of this the council's formation, the council shall have performed and published a gap analysis for ocean monitoring, recommending measures 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 two public hearings. The analysis shall identify appropriate monitoring technologies, and select coastal waters where ocean acidification monitoring equipment shall be placed. The monitoring system should not only enable modeling for long term pH changes in coastal waters, but 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 monitoring system, implementing the system within three years from this act's passage. 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 such studies and reports as soon as practicable, beginning at a later date if dependent on the monitoring data derived under subsection (d) . The council shall avoid duplicating regional efforts, incorporating best available science with data from the state monitoring system established by 12(d) and data from local and private monitoring efforts, where available. These efforts should, but are not limited to:

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

(ii) study the effects of acidification on marine species that are ecologically or economically important, or understudied. The study should examine the impact of multimodal

stress, and should include, at minimum, a study of acidification effects on American lobster, eastern oyster, sea scallops, quahogs, and fin fish;

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

(iv) determine how different coastal stressors contribute to coastal acidification

(v) estimate the economic impacts of modeled and projected acidification on the Massachusetts economy;

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

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

(viii) develop 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 to existing state programs or proposed municipal projects for the following purposes;

(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;

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

SECTION 7. Section 61 of Chapter 30 of the General Laws, as so appearing, is hereby amended by inserting after the word “rise”, in line 16, the following words:- and coastal ocean acidification.