

Dear Governor Sununu:

The Great Bay Municipal Coalition is seeking your assistance in resolving the current impasse with EPA Region I regarding appropriate nutrient restrictions to protect the resources of Great Bay. Based on our prior meeting, we know that you are well aware of the long history associated with the technical aspects of this issue and that DES and the Coalition convened an independent peer review in 2014, which concluded existing information does not demonstrate that nitrogen is responsible for the decline in eelgrass for this system. While we endeavored to find a reasonable solution, EPA has insisted that the communities accept NPDES and stormwater permits now based on TN load reduction targets (100 kg TN/ha-yr) from a 2010 paper that our communities have determined would, to a certainty, impose severe economic impacts throughout the watershed and preclude future development, including the Lonza project. This was not how EPA portrayed its approach to either the communities or DES in November 2018.

Recently, we learned that, in 2015, EPA Region I concluded that the 100 kg TN/ha-yr loading approach developed by Dr. Latimer *was not* scientifically defensible for setting nutrient limitations for systems like Great Bay that have major riverine sources of nutrients. In fact, on behalf of EPA Region I, Dr. Latimer was part of the review committee that rendered this determination. Nonetheless, EPA has insisted that it be applied to the Great Bay system. The enclosure provides a quick summary regarding how Great Bay is being treated differently from other major estuarine systems that EPA has evaluated. (Enclosure).

At this point, we believe that the only reasonable way to resolve the matter is for EPA Headquarters to conduct an independent peer review of the Region's intended approach and we have requested such action. (Enclosure). EPA has previously conducted independent peer reviews for nutrient reduction decisions affecting Massachusetts, Connecticut, and New York communities. Your support of such action would be most appreciated and would help to accelerate decision making regarding all key New Hampshire NPDES permit matters presently outstanding (*i.e.*, Dover, Rochester and the Pease Tradeport). The following briefly discusses the basis for seeking your support of this request.

Background

As you know, in November 2018, EPA Region I informed the Great Bay area cities that EPA still considered the system impaired by nitrogen (TN), contrary to the findings of the 2014 Peer Review and the proposal by DES to delist the waters. EPA stated that, based on "new scientific information," the systemwide TN loadings for Great Bay cannot exceed 100 kg TN/ha-yr to protect eelgrass. The "new scientific information" was a paper published by Latimer and Rego (EPA researchers) in 2010. Thereafter, EPA provided the communities with a spreadsheet showing that extreme TN reduction would be required at both the wastewater plants and throughout the watershed to achieve EPA's loading target. This action by EPA has prevented the Lonza Project from moving forward. Thereafter, the communities submitted detailed analyses documenting that (1) the "Latimer paper" recommendations were not relevant to this system, as confirmed by Dr. Latimer himself, (2) the proposed reduction was far more restrictive than the TN levels EPA had found protective of eelgrass in other New England estuaries, (3) the extreme

TN reduction target would cost several hundred million dollars to implement by Dover and Rochester alone, and (4) imposing this the load reduction target would freeze growth in Southeastern New Hampshire.

With the assistance of Senator's Watters and Gray, the communities met with DES in March 2019 to review the scientific validity of EPA's position and the high costs to comply with the proposed load limit. The communities were asked to review costs of compliance with EPA and provide water quality modeling analyses to investigate whether EPA's 100 kg/ha-yr mandate was rational for this system. Over the past six months that assessment was completed.

Cost Impact Analysis Meetings with EPA

Two meetings were held with EPA Region I to discuss the cost impact analyses developed by the City's stormwater BMP experts. At these meetings EPA did not provide any basis to dispute that the costs of compliance for *Dover and Rochester alone would exceed \$200 million for stormwater controls. Basin wide non-point source TN reduction costs to meet EPA's load reduction targets would easily be triple this amount.* EPA also stated that the WWTP loads needed to be frozen at existing performance, with a minimum effluent performance of 8 mg/l TN – *annual average* for all major facilities. Previously, EPA had focused its reduction requests only on the growing season (warm weather months). This change also effectively froze growth for all major communities since TN reduction is far more difficult to achieve during the cold winter months that would now be included in any compliance assessment. Needless to say, the costs to attain EPA's load reduction targets would economically cripple Southeastern New Hampshire. Nonetheless, EPA was largely ambivalent with respect to the costs and suggested that the Cities seek to fund efforts on private property outside of the Cities to comply with EPA's mandate.

Hydrodynamic Modeling Results

In August 2019, the Coalition Cities completed hydrodynamic modeling to confirm whether or not EPA's load reduction requirements were reasonable. Modeling has confirmed that EPA's load reductions would produce TN concentrations in Great Bay Estuary essentially equal to the Gulf of Maine, which DES has stated is not scientifically defensible. The modeling has also confirmed that the Great Bay system is currently meeting TN concentrations EPA has repeatedly found protective of eelgrass resources in other New England systems (0.34-0.4 mg/l TN). In fact, the existing ambient TN concentrations in the Great Bay System would be considered protective of eelgrass based on EPA's own literature analyses and case specific evaluations used for other nearby estuarine systems. These assessments, using state-of-the-art evaluation procedures, independently verify that EPA's load reduction demands are neither scientifically defensible nor necessary to protect eelgrass resources.

New Information Regarding EPA's TN Reduction Demands

Coalition consultants recently obtained EPA Region I documents for Long Island Sound (LIS) which concluded that the loading thresholds created by Latimer and Rego (2010) were not a scientifically defensible basis for establishing nutrient reduction requirements to protect eelgrass in estuarine systems. This document was distributed by EPA Region I in December 2015 as part

of the Long Island Sound nutrient strategy. After a detailed review, the Latimer and Rego (2010) approach was specifically found inappropriate for systems with significant riverine nutrient sources (as exist in the Great Bay System) and EPA's experts concluded that the results in one estuary cannot be directly transferred to another. Dr. Latimer was part of this review process and concurred in the result. In 2018/2019, EPA funded an independent peer review which concluded that the scientifically defensible approach was to identify the protective ambient TN concentration and use hydrodynamic modeling to determine what, if any, load reductions are needed. That is precisely the approach the Coalition Cities recently undertook and EPA Region I has repeatedly refused to endorse for New Hampshire. Given the 2019 EPA-funded LIS peer review, it is apparent that an independent peer review of EPA's proposal for regulating TN in Great Bay would not survive scientific scrutiny. Moreover, one would anticipate that, if asked, Dr. Latimer could clarify the inapplicability of his earlier work to this estuary, as occurred in LIS.

Conclusions and Requested Actions

The Cities have expended well over \$200,000 to evaluate EPA's TN reduction demands and it has created further conflict with DES where none should have existed. The Lonza Project could have moved forward promptly but for the TN controversy created by EPA Region I. *New Hampshire communities should not be treated differently from those in CT, MA, and NY, where the TN requirements are properly set considering site-specific needs, system hydrodynamics and relevant literature recommendations.* To preserve the economic future of Southeastern New Hampshire and the health of the Estuary, we ask that the following actions be undertaken:

1. DES promptly inform EPA that it no longer supports the load reduction mandate presented by EPA, but instead will utilize the hydrodynamic modeling approach and protective TN concentrations that have been found acceptable for all other New England estuaries.
2. Support our request for an independent review of EPA Region I's actions. As occurred in Long Island Sound, Cape Cod and Chesapeake Bay, EPA should fund an independent peer review to confirm the proper scientific method for setting TN limitations protective of eelgrasses in Great Bay Estuary.
3. Request that Dr. Latimer come to your offices in Concord and explain whether he concluded it was proper to apply his suggested TN load restrictions to the Great Bay system.

Thank you for your assistance in this matter.

Mayors

cc. Clark Frieze, Assistant Commissioner DES

Great Bay TN Endpoint Development Not Consistent with Scientific Methods Used for Other New England Estuaries

Consideration	Long Island Sound	Massachusetts Embayments	Great Bay Estuary
Use TN target concentration to protect eelgrass.	YES Recommendation from literature review (0.40 mg/L TN)	YES Site-specific evaluation through MEP (0.35 – 0.45 mg/L TN)	NO Great Bay Estuary already below lowest TN endpoint EPA has approved.
Use Peer Review to ensure scientifically defensible action	YES Peer review confirmed that TN endpoint approach was scientifically defensible	YES Peer review assessed site-specific approach and confirmed scientifically defensible	NO The GMBC has requested an independent peer review which was denied by EPA
Use Latimer and Rego (2010) to Establish TN Load Reduction Requirements to protect eelgrass	NO Considered and rejected as not appropriate. Peer review confirmed approach not scientifically defensible, particularly for systems with larger river sources	NO Peer review confirmed that site-specific TN conc. should be set to protect eelgrass, then calculate load necessary to attain the target	YES EPA insisted that the loading approach rejected for Long Island Sound should be used for Great Bay Estuary
Use Hydrodynamic Model to Assess Pollutant Fate and Transport	YES Using water quality model to predict ambient TN level and identify load reduction needed	YES Using water quality model to predict ambient TN level and identify load reduction needed	NO EPA repeatedly refused to support use of hydrodynamic model for this system