



For a thriving New England

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Via Electronic Mail (cobb.michael@epa.gov)

Mr. Michael Cobb
EPA Region 1 Water Division
5 Post Office Square, Suite 100 (06-1)
Boston, MA 02109-3912

Re: Draft NPDES Permit No. NHG58A000 (Draft Great Bay Total Nitrogen General Permit)

Dear Mr. Cobb:

Conservation Law Foundation (“CLF”) appreciates the opportunity to comment on the above-referenced Draft National Pollutant Discharge Elimination System (“NPDES”) Great Bay Total Nitrogen General Permit (“the Draft Permit”), published by the U.S. Environmental Protection Agency (“EPA”) on January 7, 2020. CLF is a non-profit environmental advocacy organization working to protect New England’s environment for the benefit of all people. Working in New Hampshire and states across the region, CLF seeks solutions to protect natural resources, build healthy communities, and sustain a vibrant economy. For years, CLF has engaged in advocacy under the Clean Water Act to ensure our waters benefit from the full protection of the law.

CLF has long been concerned about the declining health of the Great Bay estuary and has been working for more than 15 years – through legal advocacy, and through our Great Bay-Piscataqua Waterkeeper program – to restore and protect this critically important resource of local, regional, and national significance. We have been particularly concerned about excessive nitrogen levels that are a significant cause of the estuary’s declining health and the failure of waters throughout the estuary to attain state water quality standards. We appreciate the attention EPA and the New Hampshire Department of Environmental Services (“NHDES”) have given to the problem of nitrogen pollution in the estuary, including their intent to craft an integrated approach – built around an adaptive management framework – to drive additional nitrogen reductions in the Great Bay estuary.

More specifically, CLF agrees with the concept of addressing nitrogen pollution “on a system-wide, holistic level,” including reducing nitrogen pollution not only from wastewater treatment facilities but also non-point sources (“NPS”) and stormwater point-sources. Fact Sheet at 5. However, as discussed below, we are greatly concerned that the Draft Permit misses the mark in achieving essential requirements of the Clean Water Act, including the requirement that permitted discharges not cause or contribute to the violation of water quality standards. We



offer our comments in the hope that EPA will substantially amend the Draft Permit to ensure a clear, expeditious path to recovery for the Great Bay estuary.

INTRODUCTION

The Great Bay Estuary's Values and the Challenges it Faces

As the Fact Sheet describes well, the Great Bay estuary is a highly valuable natural resource. It provides a diversity of critically important habitats, including eelgrass habitat, that has significant value for a broad range of aquatic and other species; it provides important recreational, aesthetic, and cultural values for the New Hampshire Seacoast and southern Maine communities; and, in recognition of its values, it has been designated an estuary of national significance. Fact Sheet at 11-14.

Despite its important values, the Great Bay estuary is, and for years has been, in a state of decline. The Fact Sheet effectively describes disturbing trends in the estuary, as studied by the National Oceanic and Atmospheric Administration ("NOAA"), and as closely observed and reported over time by the Piscataqua Region Estuaries Partnership ("PREP") in its sequence of State of Our Estuaries Reports. Fact Sheet at 14-17. As these and other studies demonstrate, the estuary has experienced elevated levels of nitrogen, significant decreases in eelgrass cover and biomass, and a proliferation of macroalgae which is displacing eelgrass habitat and the critically important ecosystem functions it provides. Fact Sheet at 14-17. Directly related to those conditions, the estuary's watershed has experienced significant population growth and, with it, a substantial increase in impervious cover. *See* PREP, *2018 State of Our Estuaries*.

Consistent with the estuary's declining health, water bodies throughout the estuary are violating state water quality standards – including Rule Env-Wq 1703.19 (Biological and Aquatic Community Integrity), Env-Wq 1703.14 (Nutrients), and Env-Wq 1703.01 (Designated Uses) – and are appropriately designated as impaired pursuant to Section 303(d) of the Clean Water Act.¹ Fact Sheet at 17-18. As EPA and NHDES have determined: "the overall nitrogen loading to the Great Bay estuary has exceeded the estuary's assimilative capacity," and "[g]iven the tidal nature of the estuary, all significant discharges of nitrogen throughout the watershed (including

¹ As stated in comments previously submitted by CLF to EPA, CLF opposes recent proposals to remove certain nitrogen-related impairments from the state's Section 303(d) list of impaired waters. *See* Attachments 1 and 2. CLF strongly agrees with EPA's assessment that de-listing cannot be lawfully premised on the notion that nitrogen is not the sole cause of water quality violations.

the 13 WWTFs subject to this permit) are clearly contributing to this excessive load and are, therefore, contributing to a variety of excursions of water quality standards.” Fact Sheet at 19.

In light of the foregoing, CLF strongly agrees with EPA’s assessment with respect to estuaries, including the Great Bay estuary, that “sound environmental policy favors a pollution control approach that is both protective and undertaken expeditiously to prevent degradation of these critical natural resources.” Fact Sheet at 13.

Past Nitrogen Regulation in the Great Bay Estuary

EPA has taken important, science-based actions to address the challenge of nitrogen pollution in the Great Bay estuary. It has continued to maintain nitrogen- and eelgrass-related impairment designations for waters throughout the estuary, and several years ago it engaged in important permitting actions addressing nitrogen loads from major wastewater treatment facilities (“WWTFs”). In particular, and as described in greater detail in Part 2 of our comments, below, EPA issued final NPDES permits to the Towns of Newmarket and Exeter, and a draft NPDES permit to the City of Dover, establishing seasonal (April through October) concentration-based Total Nitrogen effluent limitations of 3 mg/l, accompanied by WWTF-specific Total Nitrogen mass limitations. As part of these permitting activities, and on the basis of thorough scientific analysis of conditions in the estuary, EPA concluded that controlling Total Nitrogen at these levels, *coupled with* significant reductions in nonpoint source discharges of nitrogen, was necessary to ensure compliance with water quality standards.

Unfortunately, EPA’s and NHDES’s actions leading up to, and following, the above-referenced permitting actions generated strong and persistent efforts by a small and ever-diminishing group of municipalities, self-described as the Great Bay Municipal Coalition, to oppose necessary nitrogen regulation. Those efforts, many of which have relied on obfuscation, shifting and inconsistent positions, and aggressive denial that nitrogen pollution is degrading the estuary’s health, have included the following actions:

- Correspondence on May 4, 2012 to then-EPA Administrator Lisa Jackson and EPA Inspector General Arthur A. Elkins asserting that EPA had issued draft NPDES permits for Newmarket, Exeter, and Dover seeking to impose Total Nitrogen effluent limitations of 3 mg/l on the basis of “serious regulatory violations, bias, and scientific misconduct.” Corresp. from Hall & Associates to EPA Administrator Jackson and Inspector General Elkins (May 4, 2012) at 1. The Municipal Coalition’s correspondence relied heavily on misleading statements and obfuscation, *see* Corresp. from CLF to EPA Administrator Jackson and Inspector General Elkins (June 19, 2012) (provided as Attachment 3) and,

upon information and belief, did not lead to any findings adverse to EPA. See Corresp. from EPA to Hall & Assoc. (Sept. 27, 2012) (provided as Attachment 4).

- Orchestration of a June 4, 2012 hearing of the Congressional Committee on Oversight and Government Reform in Exeter, New Hampshire, over which Congressman Darrell Issa, joined by Congressman Frank Guinta, presided. The hearing, entitled “EPA Overreach and the Impact on New Hampshire Communities,” featured a panel consisting of Municipal Coalition members, as well as the Coalition’s attorney. The Municipal Coalition panel questioned the science underlying, and benefits of, EPA’s regulation of total nitrogen at the limit of technology and included claims, by the Coalition’s attorney, of EPA having engaged in bias and scientific misconduct. See, e.g., Testimony of John C. Hall (June 4, 2012) at 2 (“It is now apparent that serious regulatory violations, bias, and scientific misconduct underlie the Region’s actions.”). The Municipal Coalition expressed a desire to engage in an adaptive management approach that would include addressing nitrogen loads from both point and non-point sources and that would avoid “legal appeals which waste financial resources and delays implementation of nitrogen reductions.” Testimony of Dean M. Peschel (June 4, 2012) at 4.
- Outreach to NHDES in August 2012 asserting various claims about conditions in the estuary which NHDES found to be inaccurate. See Corresp. from Commissioner Burack, NHDES (Oct. 19, 2012) (provided as Attachment 5).
- An appeal to the EAB by the Municipal Coalition (“representing” Dover and Rochester) of the Newmarket Permit (an appeal in which Newmarket, as permittee, did not participate). The Municipal Coalition’s appeal once again challenged the science underlying EPA’s regulatory action; it was strongly opposed by EPA and denied by the EAB. See CLF’s Comments, Part II.A, *infra*.

The Great Bay Total Nitrogen General Permit – A New Approach

In light of delays in further permitting action (e.g., finalization of the City of Dover’s NPDES permit), CLF was heartened to learn of EPA’s and NHDES’s interest in developing a general permit to regulate nitrogen pollution in a holistic, system-wide manner that would achieve nitrogen load reductions at a faster pace, and at a lower cost, as compared to the traditional facility-by-facility permitting approach. CLF has been, and continues to be, open to such an approach – provided that the path to nitrogen reductions is clear, enforceable, expeditious, and will ensure compliance with water quality standards.

In furtherance of a Total Nitrogen General Permit that meets the above criteria, CLF commissioned a report by Robert Roseen, Ph.D., of Waterstone Engineering to assess the feasibility of achieving a 45 percent reduction in nitrogen loading from non-point sources and stormwater point sources. Dr. Roseen’s report, provided herewith as Attachment 6, demonstrates that achieving a 45% reduction in stormwater and non-point source nitrogen load by the twelve regulated communities in NH, and four communities regulated by MEDEP, is both feasible and can be achieved at costs within national norms. It also reveals that many communities can cost-effectively reduce far more than 45% particularly if stormwater management requirements are applied to future development of non-municipally owned land, and if this permit enables regulated communities to get credit for nitrogen reductions wherever they can be most effectively achieved.

While we believe EPA and NHDES initiated the process of developing a general permit with the best intentions, we have grave misgivings with the manner in which the general permit model has evolved, as currently set forth in the Draft Permit. CLF remains open to, and interested in, a general permit that regulates nitrogen on a system-wide basis and at a more expeditious pace than might otherwise be achieved through individual permits, but only if it meets the criteria described above, including the touchstone requirement of the Clean Water Act that it ensure compliance with state water quality standards. We offer the following comments in the hope that EPA will cure deficiencies and revise its approach before proceeding down the path of a final Total Nitrogen General Permit.

COMMENTS

I. The Draft Permit Fails to Contain Effluent Limitations Necessary to Achieve Water Quality Standards

As EPA acknowledges in its Fact Sheet, “[i]f a discharge is found to cause, have the reasonable potential to cause, or contribute to an exceedance of a numeric or narrative state water quality criterion, NPDES regulations implementing section 301(b)(1)(C) provide that a permit *must* contain effluent limits as necessary to achieve state water quality standards.” Fact Sheet at 21 (*citing* 40 C.F.R. §§ 122.44(d)(1), 122.44(d)(5)) (emphasis in original). *See also id.* at 8 (“Pursuant to CWA § 301(b)(1)(C) and 40 C.F.R. § 122.44(d)(1), NPDES permits must contain any requirements in addition to TBELs that are necessary to achieve water quality standards established under § 303 of the CWA . . . including State narrative criteria for water quality.”) (*citing* 33 U.S.C. § 1311(b)(1)(C), 40 C.F.R. § 122(d)(1)(i)). For each of the following reasons, the

Draft Permit is deficient because it fails to include effluent limitations necessary to achieve state water quality standards.

A. The Draft Permit’s effluent limitations are premised on a nitrogen loading rate that will not achieve water quality standards.

In the absence of established numeric criteria for nitrogen, EPA relied on scientific studies to establish a maximum loading threshold of 100 kg/ha/year as the “level of nitrogen [that] will ‘attain and maintain applicable narrative water quality criteria and will fully protect the designated use.’” Fact Sheet at 22 (*citing* 40 C.F.R. § 122.44(d)(1)(vi)(A)). Those studies, however, demonstrate that eelgrass begins to show signs of stress at levels between 20-50 kg/ha/year and declines exponentially from there, with essentially no eelgrass survival at loading levels of 100 kg/ha/yr or greater. While we understand that achieving even a 100 kg/ha/yr threshold will require significant load reductions, the Draft Permit must be designed to achieve water quality standards, which includes not just enabling eelgrass to survive in the estuary, but ensuring eelgrass can thrive and provide the critically important ecosystem functions that support and maintain a balanced, integrated, and adaptive community of organisms in compliance with Rule Env-Wq 1703.19 (Biological and Aquatic Community Integrity). Moreover, the intensifying impacts of climate change will add further stresses to the estuary and exacerbate the impacts of nitrogen. To ensure compliance with water quality standards, the Draft Permit should be revised to adopt a much lower, more protective nitrogen loading threshold.

B. Even if the Draft Permit’s nitrogen loading rate were sufficiently protective, its effluent limitations will not lead to achievement of water quality standards.

The Total Nitrogen effluent limitations set forth in Table 2 of the Draft Permit are grossly insufficient to achieve water quality standards. EPA has already determined that WWTF effluent limitations of 3 mg/l, coupled with significant reductions in non-point source nitrogen pollution, are necessary to achieve state water quality standards.² The Draft Permit – without providing a scientific basis that less stringent effluent limitations, coupled with non-point source measures, will ensure compliance with water quality standards – adopts significantly less protective effluent limitations premised on nitrogen effluent concentrations of 8 mg/l for the seven largest

² See Final NPDES Permits for Newmarket and Exeter, and Draft NPDES Permit for Dover, discussed in detail in Part II, *infra*.

WWTFs and “holding the load” at the remaining WWTFs³, and does so on the basis of a non-point source/stormwater point source approach that is entirely *optional*. Draft Permit at 4, Table 2; Draft Permit Appendix II.

Effluent limitations of 8 mg/l and “hold the load” will not result in a nitrogen loading threshold of 100kg/ha/yr⁴ and, consistent with EPA’s science-based determinations in prior permitting activities, will not ensure compliance with state water quality standards. And the Optional Non-Point Source and Stormwater Point Source Nitrogen Reduction Pathway (“Optional Nitrogen Reduction Pathway”), including the percentage load reductions it envisions, is, as its name makes clear, not mandatory or enforceable.⁵ EPA acknowledges that the effluent limits in Table 2, alone, will not be sufficient to achieve its targeted nitrogen load of 100 kg/ha/yr (a threshold that, as described above, is itself insufficiently protective). *See, e.g.* Fact Sheet at 26 (“To achieve acceptable nitrogen loads consistent with the established nutrient threshold, significant point source *and* non-point source reductions are necessary”) (emphasis added).⁶ EPA cannot

³ Fact Sheet at 26. The Draft Permit could be more transparent by explicitly stating that the effluent limitations in Table 2 are based on 8 mg/L and “hold the load.”

⁴ According to EPA’s Waste Load Allocation spreadsheet and outlined in the Fact Sheet at 26 – 29, the effluent limitations in Table 2, without further reductions achieved elsewhere, would result in an annual nitrogen loading of approximately 142 to 152.4 kg/ha/yr. This number is derived from EPA’s estimate of total WWTF allocations delivering 35.4 kg/ha/yr and non-point source and stormwater point source loads of approximately 106.6 to 117.0 kg/ha/yr. Fact Sheet at 28.

⁵ The Draft Permit states: “In the event the [optional Pathway] activities . . . are not carried out and water quality standards are not achieved, EPA may reopen the General Permit within the timeframe of the permit (5 years) or reissue the General Permit beyond the timeframe of the permit (5 years) and incorporate any more stringent nitrogen effluent limits for the WWTFs necessary to ensure compliance with water quality standards.” Draft Permit, Appendix II at 3. This language provides little in the way of assurance that nitrogen load reductions will be achieved through the meaningful and effective implementation of non-point source and stormwater point-source load reductions, as the remedy of reopening the permit is not mandatory but only a matter within EPA’s discretion. Moreover, it is unclear how the Draft Permit would address circumstances in which some municipalities achieve necessary load reductions from non-point sources and stormwater point-sources and others do not.

⁶ *See also id.* at 28 (“Given this normalized load [of 117.0 kg/ha/yr] the necessary non-point source and stormwater point source reduction is approximately 45% to achieve the chosen threshold.”); at 29 (“EPA has determined ... that the numeric limitations and optimization requirements for the WWTFs through the GBTN GP, along with significant non-point source and stormwater point source reductions which are planned to occur outside the requirements of this permit, will ensure that the discharges do not cause

lawfully rely on an optional approach that may or may not be implemented effectively (if at all) to supplement the effluent limitations in Table 2 to achieve water quality standards under the Clean Water Act.

As mandated by the Clean Water Act, the Draft Permit must contain effluent limits that achieve water quality standards. CLF urges EPA to set default effluent limitations at the limit of technology and no greater than the 3mg/l standard included in permits for Newmarket and Exeter, and to then use an adaptive management framework to provide municipalities flexibility to achieve somewhat higher Total Nitrogen effluent limits (*i.e.*, 5 mg/l or 8 mg/l) based on demonstrable, offsetting load reductions from non-point sources and stormwater point sources.

II. The Draft Permit Violates the Clean Water Act’s Anti-Backsliding Requirements

Section 402(o) of the Clean Water Act and regulations promulgated by EPA prohibit, with limited exceptions, “backsliding” from effluent limitations established in previously issued NPDES permits. *See* CWA §§ 402(o), 303(d)(4) and 40 C.F.R. § 122.44(l)(1),(2). According to the Fact Sheet, the Draft Permit “is collectively more stringent than the existing nitrogen-related permit requirements for the subject facilities and, therefore, complies with the anti-backsliding requirements of the CWA.” Fact Sheet at 8. CLF disagrees. The Draft Permit, if finalized, would violate the Clean Water Act’s important anti-backsliding requirements, as follows.

A. The Draft Permit violates anti-backsliding for the Town of Newmarket’s WWTF.

In 2012, EPA issued an NPDES permit for the Town of Newmarket’s WWTF, which discharges into the Lamprey River. NPDES Permit No. NH0100196 (“Newmarket Permit”).⁷ The Newmarket Permit established a concentration-based, seasonal (April 1 through October 31) effluent limitation for Total Nitrogen of 3.0 mg/l accompanied by a monthly average mass limit of 21 pounds per day (April 1 through October 31). Newmarket Permit Part I.A.1; Newmarket Permit Fact Sheet at 10. In its Fact Sheet for the Newmarket Permit, EPA stated:

EPA has concluded that at existing levels, nitrogen in the Newmarket facility’s effluent discharge contribute to water quality violations at the point of discharge in the Lamprey

or contribute to violations of applicable water quality standards, including narrative water quality standards for nutrients, in accordance with Section 301(b)(1)(C) of the CWA.”).

⁷ The Newmarket Permit is available at <https://www3.epa.gov/region1/npdes/permits/2012/finalnh0100196permit.pdf> (last visited May 7, 2020).

Rivers, as well as further downstream in Great Bay. EPA's analysis of available information, including the NHDES report "Analysis of Nitrogen Loading Reductions for Wastewater Treatment Facilities and Non Point Sources in the Great Bay Estuary Watershed – Draft," shows that *the facility's nitrogen discharge has a reasonable potential to cause or contribute to a violation of water quality standards and that a total nitrogen effluent limitation of 3 mg/l, coupled with significant reductions in nonpoint source discharges of nitrogen, is necessary to ensure compliance with water quality standards.* EPA is therefore including a monthly average concentration limit of 3 mg/l, applicable during the months of April through October. Also, in accordance with 40 CFR 122.45(f), EPA is imposing a monthly average mass limit of 21 lbs/day for the months of April through October. This mass limit is based on the monthly average concentration limit and the design flow of the facility.

EPA believes the combination of concentration and mass limits is reasonable and warranted given the degree of existing nitrogen impairments in the receiving waters. The concentration limit will ensure that the treatment facility is operated as efficiently as possible, thus producing a mass discharge load less than the mass limit at flows less than design flow. *This protective approach is especially important in this watershed, since controls on point source loading alone will not be sufficient to ensure attainment of water quality standards, and controls on nonpoint sources may lag behind treatment plant construction.*

Newmarket Permit Fact Sheet at 10-11 (emphases added). EPA further stated:

The 3.0 mg/l total nitrogen limit will ensure that the discharge from the facility does not cause or contribute to a water quality standards violation, including those parameters identified in the approved Section 303(d) list related to dissolved oxygen and aquatic habitat (eelgrass) in the Great Bay estuary, provided achievement of the 3.0 mg/l effluent limitation occurs in conjunction with non-point source and storm water point source reductions within the subwatershed.

Id. at 29. Contributing to EPA's analysis was its reliance on draft numeric nitrogen criteria of 0.3 mg/l for the protection of eelgrass. *Id.* at 30.

The Municipal Coalition, representing the Cities of Dover and Rochester, petitioned the EPA's Environmental Appeals Board ("EAB") for a review of the Newmarket Permit, challenging *inter alia* "whether and how nitrogen limitations are necessary to ensure compliance with applicable State narrative water quality criteria." Petition for Review, EAB, NPDES Appeal No. 12-05 at 1. Following EPA's defense of its permit, supported by NHDES and CLF as amici, the EAB upheld

the Newmarket Permit, including its reliance on an instream target of 0.3 mg/l to achieve the state’s narrative water quality standards. See EAB Order Denying Review, NPDES Appeal No. 12-05 (Dec. 13, 2013).⁸

The Draft Permit proposes a new Total Nitrogen effluent limit for the Newmarket WWTF, premised on a concentration of 8 mg/l and establishing an annual average Total Nitrogen mass limit of 35 pounds per day. Draft Permit at 4, Table 2. This new effluent limit is less stringent than the effluent limit established in the Newmarket Permit and successfully defended by EPA before the EAB. EPA has offered no reason why this change does not violate anti-backsliding, other than to state that the Draft Permit “is collectively more stringent than the existing nitrogen-related permit requirements for the subject facilities.” Fact Sheet at 8. This is simply not the case for the Newmarket WWTF. First, under the Draft Permit, the Newmarket WWTF’s mass limitation for Total Nitrogen would increase, and in direct contravention of the Newmarket Permit’s findings about limits necessary to achieve water quality standards. Second, to the extent EPA is suggesting that the Draft Permit’s regulation of *other* WWTFs would somehow result in a collective net reduction in Total Nitrogen load, there is no suggestion in the record that this would be the case in the Lamprey River. To the contrary, the only other WWTF in the Lamprey River, owned and operated by Epping, is approximately nineteen miles upstream of the Newmarket WWTF in the freshwater portion of the Lamprey River and, under the terms of the Draft Permit, would only be required to maintain existing Total Nitrogen loads. Newmarket Permit Fact Sheet at 12; Draft Permit at 2. EPA cannot rely on a reduced load across the entire estuary to avoid anti-backsliding protections for the Lamprey River.

B. The Draft Permit Violates anti-backsliding for the Town of Exeter’s WWTF.

In 2012, EPA issued NPDES Permit No. NH0100871 to the Town of Exeter for its WWTF, which discharges into the Squamscott River (“Exeter Permit”).⁹ Similar to the Newmarket Permit, the Exeter Permit established a total nitrogen concentration-based effluent limit of 3 mg/l for the months of April through October. It also established a mass limitation of 75 pounds per day for the same seasonal time period. As EPA stated in a Partially Revised Fact Sheet for the Exeter Permit:

⁸ The EAB also denied a motion for reconsideration filed by the Municipal Coalition.

⁹ The Exeter Permit is available at available at <https://www3.epa.gov/region1/npdes/permits/2012/finalnh0100871permit.pdf> (last visited May 7, 2020).

EPA has concluded that at existing levels, nitrogen in the Exeter facility's discharge contribute to water quality violations at the point of discharge in the Squamscott River, as well as further downstream in Great Bay. The analysis of available information by EPA, including the information in the NHDES report "Analysis of Nitrogen Loading Reductions for Wastewater Treatment Facilities and Non Point Sources in the Great Bay Estuary Watershed – Draft" shows that a total nitrogen effluent limitation of 3 mg/l, coupled with significant reductions in non point source discharges of nitrogen *is necessary to ensure compliance with water quality standards*. EPA is therefore including a monthly average concentration limit of 3 mg/l, applicable during the months of April through October. Also, in accordance with 40 CFR 122.45(f), EPA is imposing a monthly average mass limit of 75 lbs/day, also applicable during the months of April through October. This mass limit is based on the monthly average concentration limit and the design flow of the facility, and *represents the highest load that the facility can discharge consistent with achieving water quality standards*. This concentration limit will ensure that the treatment facility is operated as efficiently as possible, thus producing a mass discharge load less than the mass limit at flows less than design flow. *This is especially important in this watershed, since controls on point source loading alone will not be sufficient to ensure attainment of water quality standards, and controls on nonpoint sources may lag behind treatment plant construction.*

Exeter Permit Fact Sheet at 3 (emphasis added).

The Draft Permit proposes a new Total Nitrogen effluent limit for the Exeter WWTF, premised on a concentration of 8 mg/l and establishing an annual average Total Nitrogen mass limit of 108 pounds per day. Draft Permit at 4, Table 2. This new effluent limit is less stringent than the effluent limit established in the Exeter Permit and violates the prohibition against backsliding.

EPA has offered no reason why this change does not violate anti-backsliding, other than to state that the Draft Permit "is collectively more stringent than the existing nitrogen-related permit requirements for the subject facilities." Fact Sheet at 8. This is simply not the case for the Exeter WWTF. First, under the Draft Permit, the Exeter WWTF's mass limitation for Total Nitrogen would increase, and in direct contravention of findings by EPA that limits in the Exeter Permit are necessary to meet water quality standards. Second, to the extent EPA is suggesting that the Draft Permit's regulation of *other* WWTFs would somehow result in a collective net reduction in Total Nitrogen load, there is no suggestion in the record that this would be the case in the Squamscott River. Rather, the only other WWTF in the Squamscott River, owned and operated by Newfields, would, under the Draft Permit, only be required to maintain its existing

Total Nitrogen load. Draft Permit at 2. EPA cannot rely on a reduced load across the entire estuary to avoid anti-backsliding protections for the Squamscott River.

C. The Draft Permit violates anti-backsliding for most of the remaining WWTFs.

In 2012, EPA issued for public review and comment a draft NPDES permit and accompanying Fact Sheet for the City of Dover's WWTF. Similar to the Newmarket and Exeter Permits, EPA's draft Dover Permit included a concentration-based, average monthly effluent limitation of 3 mg/l to apply during the months of April through October accompanied by a seasonal mass limit. Draft Dover Permit at 2. The mass limit proposed for the Dover WWTF was 118 pounds per day.

As in EPA's analysis supporting the Newmarket and Exeter Permits, the Fact Sheet for the draft Dover permit concluded that "the [Dover] facility's nitrogen discharge has the reasonable potential to cause or contribute to a violation of water quality standards, and that at total nitrogen effluent limitation of 3 mg/l, coupled with significant reductions in non-point source discharges of nitrogen is necessary to ensure compliance with water quality standards. . . . EPA believes the combination of concentration and mass limits is reasonable and warranted given the degree of existing nitrogen impairments in the receiving waters." Draft Dover Permit Fact Sheet at 10.

EPA's analysis in the Newmarket and Exeter Permits and draft Dover Permit clearly establish a standard to be applied to WWTFs across the estuary, with the possible exception of Portsmouth's Peirce Island WWTF, for which EPA has previously communicated 8 mg/l as the likely concentration-based effluent limitation for Total Nitrogen. EPA's adoption of less stringent effluent limitations – including less stringent mass limits and a lack of concentration-based limits – violates anti-degradation. Moreover, as discussed above, because no scientific justification has been presented for abandoning EPA's prior, science-based analyses warranting more stringent effluent limitations (which rested not only on the legal mandate of achieving water quality standards, but also on the explicit recognition that substantial load reductions from non-point sources would be necessary), adoption of the Draft Permit's less stringent effluent limitations is unsupported (and unsupportable) as meeting the requirement that the permit ensure compliance with state water quality standards.

III. The Draft Permit Does Not Comply With Enforceable Coastal Zone Management Policies

Enforceable policies established for New Hampshire's Coastal Zone Management require the restoration of coastal and estuarine environments (NH CZM Policy #1), measures to maintain,

restore, and enhance fish and wildlife resources (NH CZM Policy #2), and protection of the chemical, physical, and biological integrity of coastal water resources, including surface waters (NH CZM Policy # 11). Fact Sheet at 45-46. According to the Fact Sheet, EPA expects that the New Hampshire CZM program “will find the discharge of total nitrogen as proposed under the Draft GBTN GP consistent with its policies.” *Id.* at 44. It reaches this conclusion, with respect to the above-cited policies, on the assumption that the Draft Permit will prohibit discharges having the reasonable potential to cause or contribute to the violation of water quality standards. *Id.* As set forth in Part I of these comments, *supra*, the Draft Permit does not satisfy the Clean Water Act’s requirement that it ensure compliance with water quality standards. Accordingly, the Draft Permit does not support a finding that it complies with the state’s enforceable policies for the protection of coastal and estuarine resources.

IV. The Draft Permit Cannot Lawfully Allow “Trading” Between Portsmouth’s Peirce Island WWTF and the Pease Tradeport WWTF

The Draft Permit provides a special condition in its effluent limitations relative to Portsmouth’s Peirce Island WWTF (the largest WWTF in the watershed) and the Pease International Tradeport WWTF, operated by the City of Portsmouth. Draft Permit at 4, Table 2, n. 6. Specifically, the Draft Permit allows these two facilities to be treated in the aggregate, stating:

The City of Portsmouth is the operator for both the Portsmouth and Pease ITP wastewater treatment facilities. The City shall report the rolling annual average load from each facility and compliance will be based on the sum of the discharges compared to the total load allocation of 356 lb/day (*i.e.*, 269 lb/day for Portsmouth plus 87 lb/day for Pease ITP).

Id. CLF objects to this special arrangement, which effectively enables nitrogen trading between the Peirce Island and Pease WWTFs without regard to localized water quality concerns. Upon information and belief, when, several years ago, the City of Portsmouth studied the feasibility of shifting wastewater effluent away from Peirce Island to the Pease WWTF, NHDES raised significant concerns, including concerns related to antidegradation, about shifting pollutant loads upriver, closer to upstream estuarine resources.

While CLF supports providing municipalities geographic flexibility for purposes of implementing nitrogen reductions from non-point sources and stormwater point sources (because not all municipalities have the same capabilities within their jurisdictional boundaries),¹⁰ WWTFs – as

¹⁰ See Part IV.E, *infra*.

major point sources of nitrogen pollution in locations of varying ecological impact – should be treated individually, without aggregation and the ability to trade loads.

V. The Draft Permit’s Optional Nitrogen Reduction Pathway is Inadequate and Should be Strengthened

As discussed above, CLF supports the concept of managing nitrogen pollution in a holistic manner to achieve load reductions more effectively and on an accelerated basis. We also recognize the important benefit of reducing other pollutants, in addition to nitrogen, by reducing pollution from non-point sources and stormwater point sources. Dr. Roseen’s report (Attachment 1) provides valuable analyses supporting ambitious efforts to reduce loads from these sources. Unfortunately, the Draft Permit’s approach to driving greater load reductions from non-point sources and stormwater point sources falls short, and should be improved, in the following ways.

A. The Nitrogen Reduction Pathway approach should be directly linked to WWTF effluent limitations to ensure achievement of water quality standards.

As discussed above, the Draft Permit’s effluent limitations, as set forth in Table 2 of the Draft Permit, are deficient, in part, because they rely on the assumption that a 45 percent load reduction from non-point sources and stormwater point sources will occur despite the *optional* nature of the program set forth in Appendix II. The Draft Permit needs to explain the relationship between effluent limitations in the Draft Permit and control measures taken under the Optional Nitrogen Reduction Pathway, and incorporate consequences for measures taken, or not taken, under the Pathway approach.

The nitrogen load reductions to be achieved by the Nitrogen Reduction Pathway approach must be directly linked to WWTF effluent limitations to ensure net load reductions that will achieve water quality standards. This should be accomplished by one of two means: (1) establishing a mandatory Nitrogen Reduction Pathway program and WWTF effluent limits based on 5 mg/l or 8 mg/l concentrations to achieve net load reductions that achieve water quality standards, or (2) establishing default WWTF effluent limitations based on the limit of technology (3 mg/l concentrations), but allowing the default effluent limitation to be offset by demonstrable and expeditious reductions in nitrogen loads from non-point sources and stormwater point sources.

B. The Optional Nitrogen Reduction Pathway should be enforceable, with clear offramps in the event specific load reductions are not being achieved.

Appendix II should make explicit that implementation of nitrogen non-point source and stormwater point source control plans must be implemented throughout the course of each

relevant time increment and that achieving the percentage reductions attached to each time period are mandatory and enforceable requirements.¹¹ The “re-opener” language in Appendix II should be greatly strengthened to clarify that EPA will amend the terms of the General Permit and/or require municipalities to obtain individual permits if the enumerated percentage reductions are not demonstrated and achieved.

C. The timeframe for implementation is too protracted.

CLF is greatly concerned that the Draft Permit will not deliver on the promise of achieving more rapid reductions in nitrogen loads than would be possible through a traditional NPDES facility-by-facility permitting process. The Draft Permit establishes a 23-year timeline for municipalities to achieve 45% load reductions should they proceed with the Optional Nitrogen Reduction Pathway. See Appendix II at 3. This timeline is unacceptably long. We urge EPA to amend the Draft Permit to require the achievement of 45% load reductions on a more aggressive time schedule, not to exceed fifteen years.

D. The timeline should frontload larger nitrogen load reductions.

During the stakeholder scoping sessions on this permit, there were several discussions about the “time value of nitrogen” – that is, the sooner nitrogen loads are reduced, the more likely it is the estuary will have a chance to recover, and the sooner that recovery will be achieved. Achieving greater load reductions on a more accelerated timeline is especially critical in light of climate-change related stressors that are already occurring in our region, such as increasingly frequent and intense storm events, rising water temperatures, changes in pH, and sea level and groundwater rise. Rather than establishing required reductions in roughly even increments over four 5-year permit periods (i.e., 11%, 22%, 33%, and 45%), the permit should front-load nitrogen reductions with greater percentages required in the first five to ten years of implementation. CLF urges EPA to consider a more progressive approach that incentivizes earlier reduction of nitrogen.

E. The permit should enable a nitrogen credit mechanism.

Dr. Roseen’s report (Attachment 6) demonstrates that across the regulated communities, it is feasible to reduce Total Nitrogen loads by 45% over the 20-year permit period at an average

¹¹ The Draft Permit should clarify the municipality-specific baseline from which all reductions are measured. EPA should identify the data in the 2014 Great Bay Non-Point Source Study to be used to establish the baseline or provide a formula for establishing the baseline, in order to ensure uniformity among municipalities.

cost of \$561 per pound of nitrogen, a fraction of the typical cost for equivalent removal at a WWFT and well within national norms. However, because of varying land uses and densities of development, these costs are not equal across each community. Some communities can cost-effectively achieve much greater than 45% reduction while others cannot. CLF urges EPA to create a mechanism through PTAP for municipalities to achieve nitrogen reductions where they are most cost-effective, even if they are outside municipal boundaries. Regulated communities choosing the optional pathway should be able to get credit for actions such as investing in wetland buffers, septic system retrofits, and non-structural measures that can achieve significant reductions at relatively low cost, no matter where in the watershed they are implemented.

F. Nitrogen Reduction Pathway programs should be subject to public review.

Given the importance of reducing nitrogen loads from non-point source and stormwater point sources, municipalities should be required to make their plans available for public review and comment before submitting them to NHDES. Comments received from the public should be submitted to NHDES as an appendix to submitted plans.

VI. The Draft Permit Should Be Amended to Ensure Coordinated Monitoring and Assessment

CLF urges EPA to link the monitoring and assessment protocols outlined in the Total Nitrogen General Permit with two PREP initiatives: the Piscataqua Region Monitoring Collaborative (PMRC), and the Integrated Research and Monitoring Plan (IRMP). PREP already serves as the point-of-contact for contracting monitoring services and collecting contributions from partners to fund monitoring work throughout the estuary, and facilitates workgroup meetings and discussions regarding what will be monitored, and how data is stored and shared.¹² The new IRMP will include conceptual models of the dynamics that link many stressors and habitats within the estuary, prioritized research questions for all critical habitats, and detailed monitoring plans for each of those habitats. See PREP Comments on Draft Permit (April 28, 2020). CLF believes that closer linkage between the Total Nitrogen General Permit and PREP will minimize redundancies and maximize reliability and coordination of water quality, habitat and other data that will ultimately inform management and regulatory decisions.

¹² See <https://prepestuararies.org/what-we-do/monitoring-and-research/>.

VII. The Draft Permit Should Be Amended To Establish Clear Benchmarks for Adaptive Management

The promise of the adaptive management approach embodied in the Draft Permit is that, through monitoring and estuarine assessment, EPA will determine whether nitrogen reduction efforts by regulated municipalities are leading to ecological recovery in the estuary. That determination will inform whether – at five year intervals – the permit is continued or amended. The Draft Permit lacks an explicit mechanism for determining how adaptive management will be triggered and what constitute adequate benchmarks of recovery.

The EPA-funded Piscataqua Region Estuaries Partnership (PREP) – a neutral convener of scientists, managers, municipal officials and other stakeholders – produces a State of Our Estuaries (SOOE) Report every five years, including goals for each parameter that is monitored and assessed year over year. Advised by a widely representative Technical Advisory Group, the PREP SOOE report is widely regarded as a reliable assessment of estuarine health based on best available science and monitoring data. CLF urges EPA to tie benchmarks of recovery and the adaptive management framework to the indicators of estuarine health identified in PREP’s SOOE reports.

VIII. Other Amendments

In addition to the foregoing, the Draft Permit should be revised to name the municipalities, as opposed to the individual WWTFs, as the permittees. The Draft Permit identifies the permittees as the 13 WWTFs in Table 1. Draft Permit at 3, Table 1. However, the existing NPDES permits for these WWTFs have been issued to the municipalities that operate the facilities. Issuing NPDES permit coverage to the municipalities is especially important because the facilities lack the authority to implement many of the permit provisions (e.g., Section 2.3, the Adaptive Management Ambient Monitoring Program, and Appendix II, Optional Non-Point Source and Stormwater Point Source Nitrogen Reduction Pathway).

Finally, the permit should explicitly incorporate the appendices and the Fact Sheet, as is the practice with other NPDES permits, and should clarify what elements are considered part of the adaptive management approach (presumably the entire Draft Permit and appendices).

CONCLUSION

The concept of an integrated, system-wide permit that would ensure expeditious compliance with state water quality standards, while providing municipalities flexibility to significantly reduce nitrogen loads in the most cost-effective manner is one that CLF openly embraced



nearly two years ago when DES first began holding conversations with stakeholders. From the start, we have maintained that we are open to such an approach so long as the regulatory path included three conditions: clear accountability for municipalities; expeditious achievement of water quality standards and a healthy estuary; and enforceability. *See, e.g.,* Attachment 7. As we have enumerated in many ways in these comments, the Draft Permit does not satisfy these conditions nor meet the letter or intent of the Clean Water Act.

We continue to believe there is a viable path forward with an integrated permit that could satisfy the requirements of the Clean Water Act and municipal interests in greater flexibility. Such a path, however, must be premised on the requirement that WWTFs throughout the Great Bay estuary achieve nitrogen effluent concentrations at the limits of technology or expeditiously achieve the functional equivalent through WWTF improvements combined with significant reductions in nitrogen loading from non-point sources and point source stormwater, all within the context of an adaptive management approach supported by robust monitoring, clear benchmarks related to the health of the estuary, and clear, enforceable implementation requirements to achieve water quality standards. We urge EPA to substantially amend the Draft Permit to ensure such an outcome.

Respectfully submitted,

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