

EXHIBIT - 51



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MA 02109-3912

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

OCT 22 2012

Mr. John C. Hall
Hall & Associates
1620 I Street, NW, Suite 701
Washington, DC 20006-4033

RE: Freedom of Information Act Request Nos. 01-FOI-00252-12; 01-FOI-00253-12; 01-FOI-00254-12; 01-FOI-00255-12; 01-FOI-00256-12; 01-FOI-00257-12; 01-FOI-00258-12; 01-FOI-00259-12; 01-FOI-00260-12; 01-FOI-00261-12; 01-FOI-00262-12; 01-FOI-00263-12; 01-FOI-00264-12; 01-FOI-00265-12; 01-FOI-00266-12; 01-FOI-00267-12; 01-FOI-00268-12; 01-FOI-00269-12

Dear Mr. Hall:

This is in response to your eighteen Freedom of Information Act requests of September 26, 2012, which seek records associated with EPA Region 1's Draft National Pollutant Discharge Elimination System Permits for Exeter, New Hampshire (Permit No. NH01000871); Newmarket, NH (Permit No. NH0100196); and Dover, NH (Permit No. NH0101311).

Each FOIA requests "all analyses of information from the Great Bay Estuary that shows" a particular factual proposition or theory is *incorrect*. These assertions fall into three categories: statements that have been made in a July 13, 2012 letter from you to Ms. Ellen Gilinsky, Senior Policy Advisor in EPA's Office of Water, entitled "Confirmation of Major Scientific Errors/Uncertainties Regarding Proposed TN reduction for Great Bay Estuary in Depositions of Mr. Philip Trowbridge and Dr. Fred Short"; statements attributed to Mr. Trowbridge and Mr. Short made in depositions in connection with *City of Dover, et al. v. New Hampshire Department of Environmental Services* (Docket No. 217-2012-CV-00212), a civil action pending in a New Hampshire Superior Court; and statements from EPA's fact sheets for the draft permits.¹

¹ See **01-FOI-00252-12** (all analyses of information from the Great Bay Estuary showing that a statement from Dr. Fred Short in a deposition is incorrect); **01-FOI-00253-12** (all analyses of information from the Great Bay Estuary showing that a statement regarding eelgrass loss in tidal rivers is incorrect); **01-FOI-00254-12** (all analyses of information from the Great Bay Estuary showing that a statement regarding a large increase in rainfall and eelgrass loss is incorrect); **01-FOI-00255-12** (all analyses of information from the

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The Region has concluded these requests do not reasonably describe the records being sought as required by 40 C.F.R. § 2.102(c) and are improper. The FOIAs as currently formulated do not permit the Region to identify and locate the requested records in a manner consistent with its obligations under the statute. These record requests are, in effect, asking Region 1 to examine thousands of pages of records within the agency to ascertain whether any information in them can be construed as relevant to the statements in the requests. Upon making those interpretative judgments, the Region must further determine whether such materials amount to “analyses of information from the Great Bay Estuary.” A FOIA request that necessitates the agency to formulate opinions and analyses or to effectively conduct research or other services in order to respond to a request is not appropriate under FOIA. *See, e.g., Lamb v. IRS*, 871 F. Supp. 301, 304 (E.D. Mich. 1994) (finding requests outside scope of FOIA when they require legal research, are unspecific, or seek answers to interrogatories).

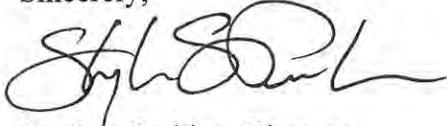
In accordance with our regulations, we offer you the opportunity to discuss and modify your requests to meet the requirements of the regulations. Please contact Samir Bukhari at (617) 918-1095 if you would like to discuss modifications. If we have not heard from you within 30 calendar days of the date of this letter, we will assume you are no longer interested in pursuing your requests, and your files will be closed.

If you consider any portion of this response to be a denial, you may appeal it by addressing your written appeal to the National Freedom of Information Officer U.S. EPA, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, N.W. (2822T), Washington, DC 20460 (U.S. Postal Service Only), FAX: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight

Great Bay Estuary showing that a statement related to numeric TN criteria for eelgrass is incorrect); **01-FOI-00256-12** (all analyses of information from the Great Bay Estuary showing that a statement related to increasing TN levels and the eelgrass population in tidal rivers is incorrect); **01-FOI-00257-12** (all analyses of information from the Great Bay Estuary showing that a statement related to macroalgae growth and the eelgrass population is incorrect); **01-FOI-00258-12** (all analyses of information from the Great Bay Estuary showing that a statement related to excessive macroalgae growth in tidal rivers is incorrect); **01-FOI-00259-12** (all analyses of information from the Great Bay Estuary showing that a statement related to epiphytes and eelgrass populations is incorrect); **01-FOI-00260-12** (all analyses of information from the Great Bay Estuary showing that a statement related to algal levels is incorrect); **01-FOI-00261-12** (all analyses of information from the Great Bay Estuary showing that a statement regarding transparency and eelgrass populations is incorrect); **01-FOI-00262-12** (all analyses of information from the Great Bay Estuary showing that a statement regarding data for specific tidal rivers, TN control and transparency is incorrect); **01-FOI-00263-12** (all analyses of information from the Great Bay Estuary showing that a statement regarding existing transparency, high turbidity, CDOM, and eelgrass in specific tidal rivers is incorrect); **01-FOI-00264-12** (all analyses of information from the Great Bay Estuary showing that the statement “Great Bay is not a transparency limited system because eelgrass populations receive sufficient light during the tidal cycle” is incorrect); **01-FOI-00265-12** (all analyses of information from the Great Bay Estuary showing that a statement regarding transparency in Great Bay and Lower Piscataqua River from 1990 to 2005 is incorrect); **01-FOI-00266-12** (all analyses of information from the Great Bay Estuary showing that a statement regarding transparency, algal growth, CDOM and turbidity in the major tidal rivers (Squamscott, Lamprey, Upper Piscataqua) is incorrect); **01-FOI-00267-12** (all analyses of information from the Great Bay Estuary showing that a statement regarding site-specific to evaluate the cause of eelgrass decline is incorrect); **01-FOI-00268-12** (all analyses of information from the Great Bay Estuary showing that the statement ‘the various DES analyses [submitted to EPA] that confirmed (1) TN increases did not cause changes in transparency, algal levels or DO and (2) a “cause and effect” relationship between TN and transparency/DO did not exist, were excluded from the technical information presented in the 2009 numeric nutrient criteria document and, therefore, were never presented to EPA’s internal peer review panel’, is incorrect); **01-FOI-00269-12** (all analyses of information from the Great Bay Estuary showing that a statement regarding dissolved nutrient concentrations (2009-2011) and eelgrass populations is incorrect).

delivery, you must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20001. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 calendar day limit. The appeal letter should include the RIN listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal."

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen Perkins". The signature is fluid and cursive, with a long horizontal stroke at the end.

Stephen Perkins, Director
Office of Ecosystem Protection

cc:

Cristeen L. Schena, R1 FOIA Officer

EXHIBIT - 52

HALL & ASSOCIATES

Suite 701
1620 I Street, NW
Washington, DC 20006-4033
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Reply to E-mail:
jhall@hall-associates.com

November 6, 2012

VIA E-MAIL

Samir Bukhari, Esq.
U.S. EPA, Region I (OARMO 1-6)
5 Post Office Square, Suite 100
Boston, MA 02109-3912
E-mail: bukhari.samir@epa.gov

RE: Freedom of Information Requests Nos. 01-FOI-00252-12; 01-FOI-00253-12; 01-FOI-00254-12; 01-FOI-00255-12; 01-FOI-00256-12; 01-FOI-00257-12; 01-FOI-00258-12; 01-FOI-00259-12; 01-FOI-00260-12; 01-FOI-00261-12; 01-FOI-00262-12; 01-FOI-00263-12; 01-FOI-00264-12; 01-FOI-00265-12; 01-FOI-00266-12; 01-FOI-00267-12; 01-FOI-00268-12; 01-FOI-00269-12

Dear Mr. Bukhari:

In Stephen Perkins' October 22, 2012 letter in reference to the FOIA requests listed above, EPA Region I "concluded these request do not reasonably describe the records being sought as required by 40 C.F.R. § 2.102(c) and are improper." While we disagree that there was any uncertainty regarding the records that were requested or that the Region may deny FOIA action due to the scope of the search requested, to enable the Region to promptly respond, we would like to clarify the scope of the documents and search we are seeking.

For the past two years, Region I and the Great Bay Communities have corresponded about the Region's (and DES') belief that a transparency-based 0.3 mg/l TN instream requirement and stringent TN reduction requirements are necessary to allow recovery of eelgrass in the tidal rivers and Great Bay. The specific scientific issues identified in the individual FOIA documents have been part of the permit comments for the past year and a half. The Region has attended several public presentations where these issues have been repeatedly raised. Therefore, it is rather surprising that the Region indicates that it lacks an understanding of the issues presented and has yet to identify where in the agency's records these issues are addressed. In any event, the FOIA requests at issue specifically concern technical issues also previously raised by the Coalition in its science misconduct letter submitted to EPA Headquarters on May 4, 2012, and supplemental correspondence to Ms. Ellen Gilinsky. Ms. Stoner responded, in a letter dated

September 27, 2012, stating there is no evidence that Region I has engaged in scientific misconduct but failed to provide any documentation supporting this position. Moreover, not a single scientific issue presented in the original or subsequent correspondence to EPA and the Inspector General's Office was addressed in Ms. Stoner's response.

During EPA Headquarters' investigation into the science misconduct allegations submitted by the Coalition, the Region would have had to submit records showing that the specific allegations made by the Coalition were incorrect. Under this FOIA, we are looking for the documents that Region I would have had to have sent EPA Headquarters refuting the Coalition's specific scientific allegations. Therefore, there are only three possible outcomes to this FOIA request:

- (1) EPA HQ did not ask the Region to produce any materials demonstrating that specific technical issues raised by the Coalition were in error (therefore, no responsive documents exist);
- (2) EPA HQ asked for documents on specific issues and those documents provided to EPA HQ are readily available; or
- (3) EPA HQ asked the Region for documents verifying the specific technical issues were in error but the Region was unable to locate such information (In which case the Region's correspondence to EPA HQ confirming that contrary information does not exist should be provided).

Based on this clarification, Region I does not need to "examine thousands of pages of records within the agency to ascertain whether any information in them can be construed as relevant to the statements made in the FOIA request." We are simply asking for the specific documents that Region I may have already gathered and sent to EPA Headquarters during EPA Headquarters' investigation into the Coalition's allegations of science misconduct on specific issues identified in each of the individual FOIA requests. If you have any further questions regarding these requests, please do not hesitate to contact this office so as to ensure that agency resources are conserved and only the necessary documents are reproduced.

Sincerely,

/s/ John C. Hall

JOHN C. HALL

Cc: Stephen Perkins, EPA Region 1, Director Office of Ecosystem Protection
Dan Arsenault, EPA Region 1
Cristeen Schena, EPA Region 1 FOIA Officer

EXHIBIT - 53



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region I – New England
5 Post Office Square, Suite 100
Boston, MA 02109-3912

VIA U.S. AND ELECTRONIC MAIL

November 30, 2012

Mr. John C. Hall
Hall & Associates
1620 I Street, NW, Suite 701
Washington, DC 20006-4033

RE: Freedom of Information Act Request Nos. 01-FOI-00252-12; 01-FOI-00253-12; 01-FOI-00254-12; 01-FOI-00255-12; 01-FOI-00256-12; 01-FOI-00257-12; 01-FOI-00258-12; 01-FOI-00259-12; 01-FOI-00260-12; 01-FOI-00261-12; 01-FOI-00262-12; 01-FOI-00263-12; 01-FOI-00264-12; 01-FOI-00265-12; 01-FOI-00266-12; 01-FOI-00267-12; 01-FOI-00268-12; 01-FOI-00269-12¹

Dear Mr. Hall:

This is in response to your eighteen Freedom of Information Act requests of September 26, 2012, which at EPA Region 1's request you clarified by your letter of November 6, 2012.

Your September 26 request generally seeks records associated with EPA's Draft National Pollutant Discharge Elimination System Permits for Exeter, New Hampshire (Permit No. NH01000871); Newmarket, NH (Permit No. NH0100196); and Dover, NH (Permit No. NH0101311). Each of the eighteen FOIAs requests "all analyses of information from the Great Bay Estuary that shows" a particular factual proposition or theory is *incorrect*. These assertions in your requests fall into three categories: statements that have been made in a July 13, 2012 letter from you to Ms. Ellen Gilinsky, Senior Policy Advisor in EPA's Office of Water, entitled "Confirmation of Major Scientific Errors/Uncertainties Regarding

¹ For administrative reasons related to the use of EPA's electronic FOIA management system, the FOIA Request Numbers above have been superseded by the designations appearing in parentheses: 01-FOI-00252-12 (EPA-R1-2013-000014); 01-FOI-00253-12 (EPA-R1-2013-000015); 01-FOI-00254-12 (EPA-R1-2013-000016); 01-FOI-00255-12 (EPA-R1-2013-000017); 01-FOI-00256-12 (EPA-R1-2013-000018); 01-FOI-00257-12 (EPA-R1-2013-000019); 01-FOI-00258-12 (EPA-R1-2013-000020); 01-FOI-00259-12 (EPA-R1-2013-000021); 01-FOI-00260-12 (EPA-R1-2013-000022); 01-FOI-00261-12 (EPA-R1-2013-000023); 01-FOI-00262-12 (EPA-R1-2013-000024); 01-FOI-00263-12 (EPA-R1-2013-000025); 01-FOI-00264-12 (EPA-R1-2013-000026); 01-FOI-00265-12 (EPA-R1-2013-000027); 01-FOI-00266-12 (EPA-R1-2013-000028); 01-FOI-00267-12 (EPA-R1-2013-000029); 01-FOI-00268-12 (EPA-R1-2013-000030); 01-FOI-00269-12 (EPA-R1-2013-000031).

Proposed TN reduction for Great Bay Estuary in Depositions of Mr. Philip Trowbridge and Dr. Fred Short”; statements attributed to Mr. Trowbridge and Mr. Short made in depositions in connection with *City of Dover, et al. v. New Hampshire Department of Environmental Services* (Docket No. 217-2012-CV-00212), a civil action pending in a New Hampshire Superior Court; and statements from EPA’s fact sheets for the draft permits.

After the Region notified you of its conclusion that these requests are improper and do not reasonably describe the records being sought as required by 40 C.F.R. § 2.102(c), you clarified the FOIA as to the requested “scope of the documents and search.” Specifically, you explained that you were in fact seeking documents that the Region may have “already gathered and sent to Headquarters” refuting your specific scientific allegations. On November 16, 2012, the Region notified you that your subsequent clarification was sufficient to allow the Region to proceed with its search for any documents that might be responsive to your request.

The Region has identified four documents falling within the scope of your request, three of which include some deliberative, pre-decisional materials. The Region has determined that certain portions of these three documents are exempt from mandatory disclosure pursuant to FOIA Exemption 5. *See* 5 U.S.C. § 552(b)(5); 40 C.F.R. § 2.105(a)(5). Exemption 5 exempts from mandatory disclosure under the FOIA “[i]nter-agency or intra-agency memoranda or letters which would not be available by law to a party other than an agency in litigation with the affected agency.” *Id.* Nevertheless, the Region has decided to make discretionary releases of portions of this deliberative content after a consideration of facts and circumstances relevant to the materials and a conclusion there would be no harm in this particular disclosure. These documents are enclosed without redaction. Regarding one of the documents, a draft letter prepared by Region 1 specifically at the request of EPA Headquarters containing proposed positions and recommended language for consideration by EPA management in responding to your allegations of scientific error, EPA has disclosed only factual portions or portions that appear with little substantive change in the EPA Headquarters’ September 27, 2012 letter addressing those allegations.

You may appeal this partial denial of your FOIA request by addressing your written appeal to the National Freedom of Information Officer U.S. EPA, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, N.W. (2822T), Washington, DC 20460 (U.S. Postal Service Only), FAX: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20001. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 calendar day limit. The appeal letter should include the RIN listed above. For quickest possible handling, the appeal letter and its envelope should be marked “Freedom of Information Act Appeal.”

Please contact Samir Bukhari at (617) 918-1095 if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read 'K. Perkins', with a long horizontal flourish extending to the right.

Stephen Perkins, Director
Office of Ecosystem Protection

cc:

Cristeen L. Schena, R1 FOIA Officer



June 19, 2012

Ms. Lisa Jackson
Administrator
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Mr. Arthur A. Elkins, Jr.
Inspector General
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

**Re: May 4, 2012 Correspondence from John Hall & Associates on behalf of the Great Bay
Municipal Coalition**

Dear Administrator Jackson and Inspector General Elkins:

On May 4, 2012, John Hall & Associates wrote to you on behalf of the so-called Great Bay Municipal Coalition consisting of five municipalities (Portsmouth, Dover, Exeter, Rochester and Newmarket, NH) that own and operate wastewater treatment facilities (WWTFs) that discharge into waters that are part of or directly affect the Great Bay estuary. As you know, none of these WWTFs currently have National Pollutant Discharge Elimination System (NPDES) permits limiting the discharge of total nitrogen. Mr. Hall's May 4 correspondence is the latest example of an unfortunate and misguided sustained attack by the Municipal Coalition against the Environmental Protection Agency (EPA) and N.H. Department of Environmental Services (NHDES) and their efforts to solve the problems facing the Great Bay estuary. The Municipal Coalition's highly unusual and baseless claims of science misconduct are deeply troubling and represent yet another tactic aimed at delaying actions needed to restore the health of the Great Bay estuary. I am writing to address particularly egregious aspects of the Municipal Coalition's letter.

- I. **The foundation of the Municipal Coalition's argument – that EPA and NHDES departed from and abandoned the "scientific consensus" of a Great Bay Technical Advisory Committee – is false and utterly lacking in factual basis**

As the very foundation of the arguments set forth in their letter, Mr. Hall and the Municipal Coalition assert that "an independent, federally funded Technical Advisory Committee (TAC) for the Great Bay Estuary" conducted "[d]etailed site-specific research . . . on the factors influencing the Estuary and in particular the effect of nutrient concentrations on both the tidal rivers and Great Bay." See John Hall & Associates letter to Administrator Jackson and Inspector General Elkins, May 4, 2010 (hereinafter "Hall correspondence") at 1-2. They proceed to describe the TAC as having reached "scientific consensus" on

six specific issues¹ and as having reached scientific “findings” and “technical conclusions.” *Id.* at 2-3. With this as their launching point, they then proceed to attack NHDES and EPA for engaging in the development of criteria that run counter to the “findings” and “technical conclusions” of the TAC. The Municipal Coalition’s charges are utterly baseless.

A. The Municipal Coalition has mischaracterized the nature and role of the TAC

Mr. Hall’s and the Municipal Coalition’s characterization of the TAC is grossly misleading. First, the TAC was not a specific “federally funded” body that itself engaged in site-specific research. Rather, it was a group of volunteers (including university researchers, individuals associated with the Municipal Coalition, CLF, and The Nature Conservancy) and agency staff who met on occasion to discuss the status of NHDES’s nutrients analysis, to learn of methods and approaches being taken elsewhere, to learn of the status and results of certain research, and to provide the N.H. Estuary Project (predecessor to the Piscataqua Region Estuaries Partnership) feedback and advice. Second, at no time did the TAC reach, or even to attempt to reach, “scientific consensus” on specific issues; nor did it render, as a body, any scientific “findings” or “technical conclusions.” Third, even if the TAC *had* reached “scientific consensus” on key issues as suggested by the Hall correspondence (which it did not), the TAC – consistent with its name – was *advisory* in nature (i.e., its advice was not binding on NHDES). Indeed, contrary to Mr. Hall’s and the Municipal Coalition’s misrepresentations, the minutes provided as Exhibit 1 of the Hall correspondence demonstrate the true advisory nature of the TAC and its role providing feedback, as well as the fact that no official consensus, conclusions or findings were rendered by this group. In sharp contrast to these facts, the Hall correspondence is replete with mischaracterizations of the TAC as having reached definitive scientific consensus, conclusions and findings relative to nitrogen issues and the development of criteria. See Hall correspondence at 2 (“scientific consensus”), 3 (“TAC findings”, “TAC technical conclusions”), 4 (“*the precise impact the TAC concluded did not exist*” (emphasis in original), “TAC findings”), 8 (“Region I has purposefully ignored the valid scientific findings of the TAC”). These characterizations have no basis in fact and are entirely inaccurate.

B. The Municipal Coalition has mischaracterized the NHDES 2009 nitrogen analysis as departing from or ignoring the purported “scientific consensus” and “findings” of the TAC

As the primary basis for leveling its charges of scientific misconduct – serious charges that one would expect to be based on accurate facts – Mr. Hall and the Municipal Coalition assert that “Region I has (1) purposefully ignored *the valid scientific findings of the TAC* that a ‘cause and effect’ relationship between eelgrass loss, transparency, and TN did not exist.” Hall correspondence at 9 (emphasis added).² Not stopping there, Mr. Hall and the Municipal Coalition further rely on their inaccurate

¹ The manner in which the Hall correspondence is formatted might lead one to believe that the six matters on which the TAC purportedly reached “scientific consensus” were excerpted directly from a TAC document. As a review of the TAC minutes reveal (Hall correspondence, Exhibit 1), this is not the case. Rather the language describing six areas of purported “consensus” is that of Mr. Hall. Moreover, as described below, the characterization of those six matters as matters on which the TAC reached “scientific consensus” is simply not accurate.

² Mr. Hall, testifying under oath on behalf of the Municipal Coalition at a June 4, 2012 Congressional field hearing conducted by Congressmen Issa and Guinta in Exeter, New Hampshire, made similar representations, stating: “The communities believe that the record is clear that the Region was determined to implement a pre-defined regulatory agenda of stringent nitrogen limits (1) even after a federally funded technical advisory committee for the Great Bay confirmed there was no cause and effect relationship between nitrogen, transparency, and eelgrass

characterization of the TAC in their incredible allegation that EPA, apparently as part of a larger conspiracy, engaged in “the manipulation of real data to produce a false conclusion,” claiming:

Neither Region I, Dr. Short, nor DES can claim ignorance of the lack of scientific justification for the proposed transparency-based TN restrictions, **as they were present at the TAC meetings wherein it was expressly concluded** that increased TN concentrations *had not caused increased algal growth causing significantly lower transparency levels*. In contradiction to their later research claims, the federal research reviewed by the TAC expressly determined that a significant relationship between TN and transparency did not exist. The TAC minutes confirmed that the changing physical factors unrelated to TN (color, dilution, salinity, and turbidity) actually controlled the transparency existing at those different sites.

Hall correspondence at 9 (bold emphasis added; italics in original). *See also id.* at 9 (“the conclusions of which were expressly agreed upon in formal State/Federal TAC meetings”), 14 (alleging that EPA engaged in misconduct by “[i]gnoring TAC conclusions based on federally-funded Great Bay research. . .”).

To reiterate, the Municipal Coalition’s characterizations of the TAC as a formal, federally funded body that reached scientific consensus and technical conclusions are simply false. Building on these inaccuracies, the Municipal Coalition attempts to characterize the development of numeric nutrient thresholds for the Great Bay estuary as a radical departure from, and as ignoring, the purported conclusions of the TAC. In doing so, the Municipal Coalition overlooks key facts, including the following:

- **The TAC reviewed and commented on a November 2008 draft numeric nutrient threshold analysis.** On November 12, 2008, NHDES published a document titled “Nutrient Criteria for New Hampshire’s Estuaries.” *See* Exhibit 1. The document, marked as “Draft for Review and Comment,” included a total nitrogen numeric threshold of 0.32 mg/L for aquatic life support to protect eelgrass. It based this numeric threshold on water transparency issues related to eelgrass and explicitly noted that certain additional research was needed relative to the threshold. Importantly, the draft analysis was made available to the TAC prior to the TAC’s meeting of November 17, 2008. Members of the TAC were provided the opportunity to comment on the draft analysis both during and after the November 17 meeting. Based on the Municipal Coalition’s characterization of the TAC as having reached scientific consensus that nitrogen-related transparency was not an issue for eelgrass in the estuary, one would expect the draft analysis to have generated a fire-storm of opposition by the TAC. It did not.
- **The public, including members of the Municipal Coalition and the TAC, had the opportunity to review and comment on a December 2008 draft numeric nutrient threshold analysis.** On December 30, 2008, having received input from the TAC, NHDES published a next iteration of its numeric nitrogen threshold analysis, this time entitled (as a result of TAC feedback) “Nutrient Criteria for the Great Bay Estuary.” *See* Exhibit 2. Like the prior version, the document was marked “Draft for Review and Comment.” The analysis again identified a total nitrogen numeric threshold of 0.32 mg/L for aquatic life support to protect eelgrass, this time providing greater specificity about the waters to which the numeric threshold would apply. On January 9, 2009, NHDES published the document to a large number of stakeholders, including

loss. . . .” *See* <http://oversight.house.gov/hearing/field-hearing-epa-overreach-and-the-impact-on-new-hampshire-communities/>

municipal officials, providing a 30-day time period (with a February 9, 2009 deadline) for public review and comment. See Exhibit 3. The draft document also was published to NHDES's Water Quality Standards Advisory Committee (WQSAC) with notice that the analysis would be presented at the WQSAC's January 22, 2009 meeting and that written comments could be submitted by February 9, 2009. See Exhibit 4. Importantly, at the WQSAC's meeting of January 22, 2009, Peter Rice, City of Portsmouth staff, stated that the City of Portsmouth had hired a consultant to conduct a "peer review" of the draft nutrient thresholds analysis and that they were requesting an extension of the February 9 comment period to mid-March. On January 30, 2009, NHDES notified interested parties that the February 9 deadline had been extended to March 20, 2009. See Exhibit 5. On that date, the City of Portsmouth and other members of the Municipal Coalition jointly submitted comments, including technical memoranda prepared by two consultants. See Exhibit 6. Other stakeholders submitted comments at that time as well. See *e.g.*, Exhibits 7 (comments of CLF), 8 (comments of The Nature Conservancy).

- **NHDES specifically responded to comments on the draft numeric threshold analysis.** As part of the final Numeric Nitrogen Criteria for the Great Bay Estuary (June 2009), NHDES responded to comments submitted on the prior draft document, including comments submitted by members of the Municipal Coalition.

The foregoing facts strongly contradict the Municipal Coalition's effort to characterize the TAC as having reached scientific consensus and as the development of numeric nitrogen thresholds, including the final 2009 thresholds, as some radical departure by NHDES and EPA from the TAC. The above facts also strongly contradict the Municipal Coalition's claims that they were not provided an adequate opportunity to provide input regarding development of the numeric nitrogen thresholds. The inaccurate characterizations at the core of the Municipal Coalition's arguments undermine the accuracy and credibility of their entire letter to you. Regrettably, the mischaracterization of facts and/or the selective use of facts outside their factual context appear to be part of a larger pattern of conduct by the Municipal Coalition.³

C. The Municipal Coalition's arguments are based on the flawed premise that scientific understanding and analysis must be fixed in time and cannot evolve

Even if the TAC *could* accurately be characterized as an independent federally funded body that reached a scientific consensus, the Municipal Coalition suggests, improperly, that scientific knowledge regarding nitrogen and its impacts on the estuary is somehow static and could not evolve beyond the purported "scientific consensus" of the TAC. NHDES has developed and continues to develop a greater understanding of the issues surrounding the Great Bay estuary, as documented in the analyses leading

³ See *e.g.* Exhibit 9 (Technical Memorandum to John Hall from HydroQual, Jan. 10, 2011) and Exhibit 10 (NHDES Comments on HydroQual's Technical Memorandum). See also Hall letter at 3 (characterizing CLF Oct. 6, 2008 correspondence to EPA); *id.* at 7 (stating without any support that in 2011 "DES agreed that there remained a significant degree of uncertainty with regard to the draft numeric [total nitrogen] standards"); *id.* at 7 (inaccurately suggesting that "open technical meetings" with University of New Hampshire researchers, NHDES and EPA resulted in a "consensus that the impairment mechanism attributed to the loss of eelgrass in the June 2009 Criteria – loss of light transparency due to increased phytoplankton growth – *did not occur and was not the cause of eelgrass changes in Great Bay.*") (emphasis in original).

up to and including the 2009 numeric nutrient criteria, and as set forth in more recent analyses. See Exhibit 11 (NHDES Response to Public Comment on the Draft 2012 Consolidated Assessment and Listing Methodology (CALM), Apr. 20, 2012 (excerpts)); Exhibit 12 (New Hampshire's 2012 Section 305(b)/303(d) List, Technical Support Document, Assessments of Aquatic Life Use Support in the Great Bay Estuary for Chlorophyll-a, Dissolved Oxygen, Water Clarity, Eelgrass Habitat, and Nitrogen, Apr. 20, 2012).

II. The NHDES 2009 analysis was, contrary to the Municipal Coalition's claims, subject to independent peer review.

The Municipal Coalition claims that the 2009 NHDES nutrients analysis was not subjected to independent peer review. Contrary to Mr. Hall's and the Municipal Coalition's claim, it was. The peer reviewers are highly regarded independent experts in the field of estuarine biogeochemistry and eutrophication⁴ and in no way beholden to EPA or any other regulatory body, or to any of the regulated entities in the Great Bay estuary watershed. The Municipal Coalition suggests that because they were not allowed to influence the substance of the questions, the peer review lacked independence. To the contrary, the independence of the peer review would come into question if the Municipal Coalition, as regulated entities, had been permitted to influence that review.

III. The Municipal Coalition appears more interested in delaying needed actions than in implementing needed pollution reduction measures

Through public statements, the Municipal Coalition has attempted to make clear that it cares about the health of the Great Bay estuary and taking steps to safeguard its future. Unfortunately, at least with respect to certain members of the Municipal Coalition, it appears that delay is the primary goal and motivating factor. For example, whereas the Municipal Coalition has expressed a willingness on the part of some of its members to "immediately" proceed with WWTF upgrades to achieve an effluent limit of 8 mg/L total nitrogen in combination with a so-called Adaptive Management Plan, the Municipal Coalition also has made clear that if EPA issues permits establishing a 3 mg/L limit, its members will appeal those permits and will take *no* action to upgrade WWTFs while appeals are pending, *even if EPA allows a compliance schedule enabling WWTFs to initially upgrade to 8 mg/L and obviating the need for further WWTF upgrades if – through a combination of WWTF improvements and other measures – water quality standards are met*. Thus, it appears the Municipal Coalition is content to hold the estuary hostage, holding out for a permit limit of 8 milligrams N/L even if EPA were to allow an incremental approach to implementation.

The objective of delaying needed action also is strongly evident in the actions (and in some cases inaction) of the City of Portsmouth, a prominent and leading member of the Municipal Coalition. In 1985, the City of Portsmouth was granted a waiver from the Clean Water Act's requirement that WWTFs achieve secondary treatment levels. As a result of that waiver, the City of Portsmouth's 4.5 million-gallon-per-day capacity Pierce Island WWTF is one of a handful of WWTFs across the nation operating with only primary treatment – even though, technically, its 1985 NPDES permit and accompanying Section 301(h) waiver expired in 1990. In June 2010, after EPA's April 2007 denial of the City's request for a renewal of its 1985 waiver and issuance of an NPDES permit requiring it to upgrade from enhanced primary treatment to secondary treatment, the City of Portsmouth presented EPA with a detailed study

⁴ See Correspondence from Drs. Ivan Valiela and Erin Kinney, appended as Exhibit 13, at 8-9 (discussing credentials of EPA's peer reviewers).

pursuant to which it proposed to a final date by which it would complete its upgrade to secondary treatment. Incredibly, the City of Portsmouth proposed 2028 as the year by which it would complete its upgrade and eliminate all primary-treated discharges. By letter dated September 20, 2010, the EPA appropriately rejected the City of Portsmouth's schedule as "unacceptably long, especially in comparison to what other municipalities with similar financial and technological issues have accomplished." See Exhibit 14. Nearly two years after proposing its unreasonably long schedule with a 2028 completion date, and approximately five years – a roughly a full permit cycle – since EPA's issuance of a permit requiring secondary treatment, the City of Portsmouth recently approved a new schedule, currently under review by EPA, proposing completion of secondary treatment in 2017. If that schedule is adopted, it will have taken the City ten years – two NPDES permit cycles – to upgrade just to secondary treatment. In light of the City of Portsmouth's foot-dragging – roughly a full five-year permit cycle – merely to commit to a schedule to upgrade from enhanced-primary treatment to secondary treatment, it is difficult to interpret the City of Portsmouth's actions with respect to nitrogen controls as anything other than efforts to delay needed WWTF upgrades.

Public comments by City of Portsmouth staff further reveal a concerted intent to delay needed solutions. Initially, officials from the City of Portsmouth and other members of the Municipal Coalition resisted the need to fully reduce nitrogen discharges from WWTFs on the ground that stormwater pollution and non-point sources represented the larger share of the estuary's nitrogen load. Thus, they contended, efforts to reduce nitrogen pollution should focus on those other sources. In October 2011, after it was reported that EPA was signaling a willingness to allow an incremental approach to WWTF upgrades on the condition that the regulated municipalities implement – and demonstrate real progress in – measures to reduce nitrogen pollution from stormwater,⁵ City of Portsmouth staff quickly changed their tune. Specifically, after commenting on various steps the City of Portsmouth had taken to better manage stormwater and promote low impact development, the City of Portsmouth's engineer reportedly commented to the Portsmouth Herald that "there is no real data yet on the effectiveness of some of these steps [to address the non-point pollution problem]." See Exhibit 15. It was further reported that: "The Great Bay Coalition communities have advocated for a phased and cautious approach to the nitrogen limits at the wastewater treatment plants *and are advocating for a similar approach to addressing the non-point sources.*" *Id.* (emphasis added). These statements evidence a concerted lack of urgency and a persistent willingness to delay needed action.

It also bears noting that the City of Portsmouth, despite continuously expressing concern about the cost of updating its WWTFs and addressing the problem of nitrogen pollution, apparently is far behind other communities in its willingness to generate wastewater funding from new development. According to a December 9, 2011 memorandum prepared by the Town of Durham's Department of Public Works (appended as Exhibit 16), some Seacoast communities generate funds through meaningful sewer connection fees. According to the above-referenced memorandum, for example, for a 100-bed mixed use (commercial/residential) development, the Town of Somersworth would charge a sewer connection fee of \$180,000. Exhibit 16, Table at page 4. The City of Dover would charge a lesser fee of \$53,000. *Id.* According to the attached memorandum, the City of Portsmouth, despite major new hotels and other development and re-development that could generate funds to support wastewater treatment, apparently would charge an equivalent development a sewer connection fee of a mere \$250. *Id.*

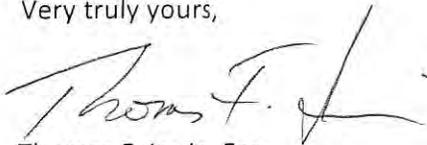
⁵ "EPA may ease nitrogen limit," Portsmouth Herald, Aug. 21, 2011, <http://www.seacoastonline.com/articles/20110821-NEWS-108210340?cid=sitesearch>.

IV. Fortunately, other Seacoast communities appear willing to take constructive action and to work toward meaningful solutions as opposed to delay tactics

Contrary to the Municipal Coalition's efforts to thwart – at every step of the way – meaningful action to reduce nitrogen pollution in the Great Bay estuary in compliance with the Clean Water Act, other communities have expressed a willingness to be part of the solution. For example, the Town of Newington, a New Hampshire Seacoast municipality with a WWTF, strongly supports the NPDES permits proposed by EPA and has stated on the record that it "currently has plans underway to upgrade our wastewater treatment plant to the proposed standard of 3 milligrams per liter." See Exhibit 17. The Town of Durham, once part of the Municipal Coalition, has consciously chosen to "take a pass" on the Municipal Coalition's tactics of its May 4 letter to you and the lawsuit filed against NHDES in N.H. Superior Court, opting instead to proactively work with EPA to address nitrogen pollution from both its WWTF and stormwater sources. See Exhibit 18. It is our hope that members of the Municipal Coalition soon will desist from their efforts to delay needed action and work toward real, meaningful solutions.

We regret that the Municipal Coalition has taken the recent actions that it has (i.e., its May 4, 2012 letter to you; its recent lawsuit against NHDES; its recent politicization of the EPA regulatory process in a recent Congressional field hearing) in an effort to de-rail needed action required under the Clean Water Act to restore the health of the Great Bay estuary. These actions represent a significant opportunity cost on the part of the regulatory agencies, diverting attention away from implementing solutions to the estuary's water pollution problems. We commend EPA for its work on this important issue and urge it to move forward promptly with Clean Water Act permitting consistent with the requirements of that law to solve the problem of nitrogen pollution in the Great Bay estuary.

Very truly yours,



Thomas F. Irwin, Esq.
Vice President & CLF-New Hampshire Director

Encls.

cc: Nancy K. Stoner, U.S. Environmental Protection Agency,
Office of Water

Issue

John Hall, on behalf of the Great Bay Municipal Coalition, sent a letter to the Administrator, dated May 4, 2012, accusing Region 1 of “serious regulatory violations, bias and scientific misconduct” and requesting: 1) a meeting with the Administrator’s office to discuss the matter and 2) further review of Great Bay Estuary matters be withdrawn from Region I and transferred to an independent panel of experts who can evaluate the scientific information this is the foundation of the Region’s position. Hall has indicated that he will request a referral of the matter to the IG if the matters are not withdrawn from Region 1.

Discussion

The Region believes Mr. Hall as seriously mischaracterized what has played out over the past 4-5 years in NH’s listing of the Great Bay waters as impaired, their development of draft numeric nutrient criterion and EPA’s subsequent development of draft NPDES permits for three municipalities. We are confident that the record does not support Hall’s assertions and we stand ready to assist OW’s review of the record and response to Hall’s letter.

Background

Great Bay, Little Bay, Upper and Lower Piscataqua, and all of the tidal rivers draining to Great Bay and Little Bay are impaired due to excessive nitrogen loadings. Eelgrass loss in all but one tidal river to Great Bay and Little Bay ranges from 97% - 100%. Eelgrass in Great Bay has declined by 37% and there are clear signs of deteriorating health. Little Bay has lost 97% of its eelgrass. Eelgrass loss in the Upper Piscataqua is 97% and in the Lower Piscataqua is 82%.

In 2009, NH DES developed numeric nutrient criteria to protect eelgrass habitat and prevent low dissolved oxygen in the estuary. These criteria are expected to be promulgated as new water quality standards during 2011. In 2009, most of the estuary was added to the (303 d) list of impaired waters due to excess nitrogen. Once on the impaired waters list NH DES must do (TMDL) studies to determine the maximum allowable loading of nitrogen necessary to meet water quality standards.

EPA is the NPDES permitting authority in New Hampshire. We have issued draft permits for Exeter (3/22/11), Newmarket (10/05/11) and Dover (01/06/12) and provided lengthy public comment periods. Each permit has a proposed TN limit of 3 ug/m³. Although the limits are the same, they were derived individually; each facility discharges to a different tributary river to the estuary system. The region has held discussions with Exeter and Newmarket about the general terms of a compliance order post permit issuance that would have the facility move as quickly as possible to a TN limit of 8, implement as much nonpoint source control as possible, monitor the receiving water and determining around year 10 whether they needed to build further control at the treatment plant. John Hall has not been a party to these discussions, although we believe the two communities have shared the gist of our conversations with their Coalition partners. We are about 75% done preparing the Response to Comments document for the Exeter permit and have signaled that we are likely to issue the final permit later this summer.

A coalition of five like-minded municipalities in the watershed have formed an alliance (the Great Bay Municipal Coalition) to challenge the science on which the need for stringent nitrogen limits is based, despite the overwhelming amount of scientific data compiled over decades that support these limits. They have argued for further study, less stringent limits and longer implementation schedules. The Coalition is likely to appeal any future permits proposed by EPA. The central concern of the regulated community is the expected high cost of treatment plant improvements needed to achieve protective limits for nitrogen, as well as, the possible

impacts from other regulatory actions including stormwater permitting and designation of additional sources subject to permitting.

Great Bay and Little Bay, which are fed by five tidal rivers, drain to Portsmouth Harbor via the Piscataqua River. The Great Bay watershed covers approximately 1,000 square miles (mostly in NH and partly in Maine) and is home to about 22% of NH's population. The estuary has been designated an "Estuary of National Significance" by EPA and is part of the NOAA National Estuarine Research Reserve Program. Estuary conditions are deteriorating, and according to the Piscataqua Region Estuaries Partnership's "State of the Estuaries Report" 11 of 12 environmental indicators show negative or cautionary trends. These are symptoms of population growth, increased nutrient loads, and non-point source pollution. Approximately 1,500 acres of impervious surfaces are added to the watershed each year.

Nitrogen is delivered to the Great Bay Estuary system via point sources and non-point sources (NPS) originating in both New Hampshire and Maine. While NPSs are the dominant load of Total Nitrogen (78% for Great Bay/Little Bay and 59% for the Upper Piscataqua), point source loadings are significant. There are 14 municipal wastewater discharges in New Hampshire (EPA issued permits) and 4 municipal wastewater discharges in Maine (delegated permits program) contributing approximately 19 MGD of wastewater to the Great Bay Estuary. The combined design flow of these facilities is 31 MGD.

June 5, 2012

The Administrator's Office has asked me to respond to your May 4, 2012 letter requesting that the Great Bay nutrient criteria and permit development be transferred to an independent panel of experts for review. Your letter also makes a number of very serious allegations against Region I, including that "regulatory violations, bias and scientific misconduct underlie the Region's actions." Because of the seriousness of these allegations, EPA's Office of Water has initiated a careful review of the issues raised in your letter.

[REDACTED]

[REDACTED]

[REDACTED]

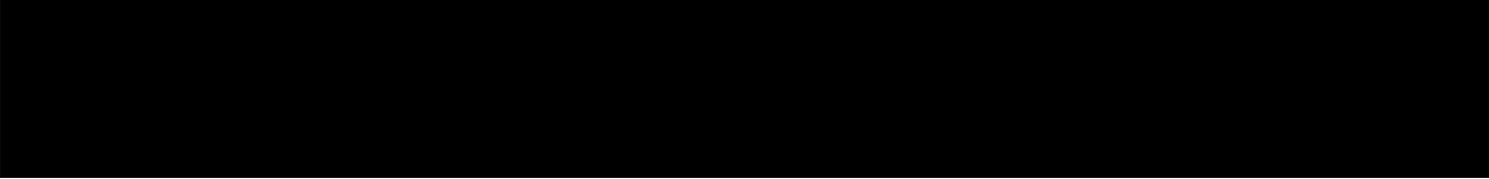
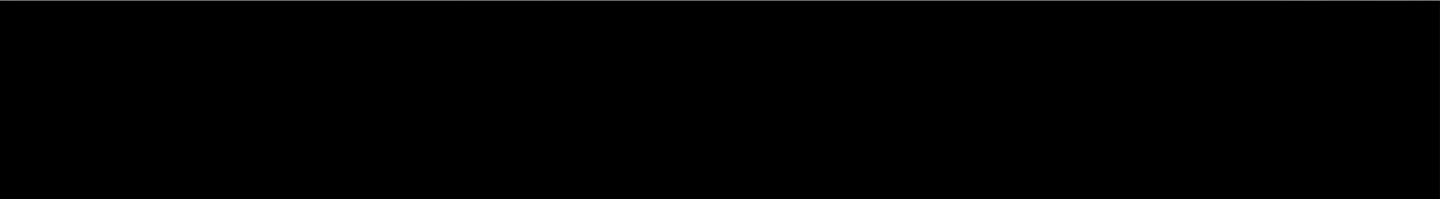
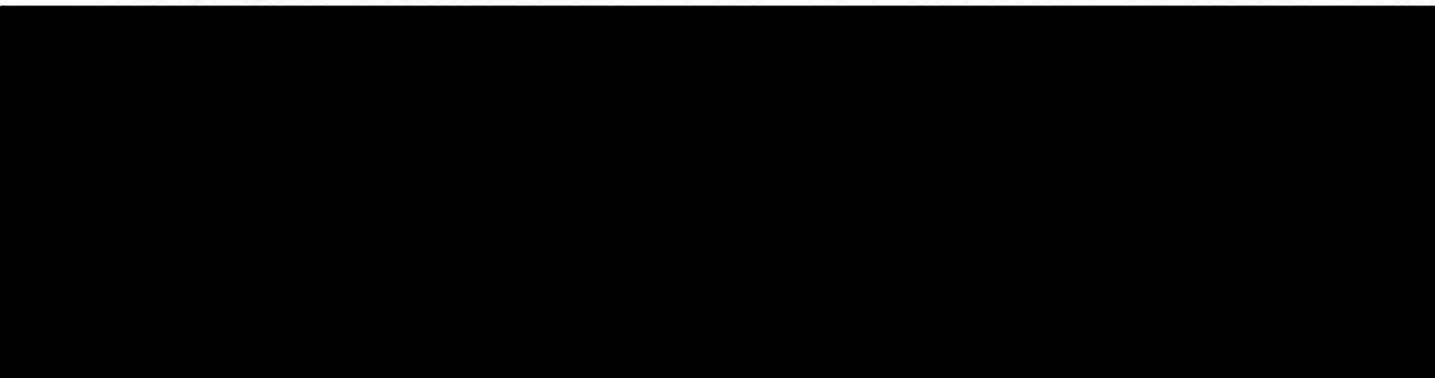
[REDACTED]



You further raise questions about peer review. In March 2010 the NH DES requested a peer review of the nutrient targets through EPA's Nutrient Scientific Technical Exchange Partnership and Support (N-STEPS) program. As you know, N-STEPS is administered through a contract funded by EPA. The reviewers selected by EPA's contractor were Dr. Robert Howarth from Cornell University and Dr. Walter Boynton from the University of Maryland. Both reviewers have national expertise in the field of marine eutrophication and had no involvement in the development of the NH DES criteria. Neither Region I nor the Office of Water had a role in selecting the reviewers. The reviewers had access to all comments provided to NH DES during the public comment period described above, including those of the affected municipalities.

OMB's "Final Information Quality Bulletin for Peer Review" (Dec 16, 2004) says,

Peer review involves the review of a draft product for quality by specialists in the field who were not involved in producing the draft. The peer reviewer's report is an evaluation or critique that is used by the authors of the draft to improve the product. Peer review typically evaluates the clarity of hypotheses, the validity of the research design, the quality of data collection procedures, the robustness of the methods employed, the appropriateness of the methods for the hypotheses being tested, the extent to which the conclusions follow from the analysis, and the strengths and limitations of the overall product.





Internal Pre-Decisional Deliberative Document

Introduction

In a May 4, 2010² letter to the EPA Administrator and the EPA Inspector General, John Hall of Hall and Associates, on behalf of a group of New Hampshire municipalities called the Great Bay Municipal Coalition (Coalition), requested that further review of Great Bay Estuary matters be withdrawn from EPA Region I, and that the Region's actions be reviewed by the Office of Inspector General. The request was made relative to alleged "regulatory violations, bias, and scientific misconduct."

The following is a short overview of the environmental/regulatory setting of Great Bay and the NPDES permitting process, followed by more specific responses to the allegations made by the Coalition.

Environmental/ Regulatory Setting

New Hampshire's Great Bay is widely recognized as an estuarine ecosystem of local, regional, and national significance. Great Bay is one of only 28 "estuaries of national significance" under the National Estuary Program (NEP), which was established in 1987 by amendments to the Clean Water Act to identify, restore and protect estuaries along the coasts of the United States. The centerpieces of the estuary are Great Bay and Little Bay. Great Bay proper is a tidally-dominated, complex embayment on the within New Hampshire whereas the Great Bay Estuary as a whole, which includes the tidal rivers and the upper and lower Piscataqua River divides New Hampshire and Maine. Great Bay has historically been a popular location for kayaking, bird watching, commercial lobstering, recreational oyster harvesting, and sport fishing for rainbow smelt, striped bass, and winter flounder. Great Bay and many of the rivers that feed it have reached their assimilative capacity for nitrogen and are suffering from the adverse water quality impacts of nutrient overenrichment, including cultural eutrophication. The impacts of excessive nutrients are evident throughout the Great Bay Estuary.

In the Piscataqua Region Estuaries Partnership 2009 State of the Estuary Reports, eleven of 12 environmental indicators show negative or cautionary trends – up from seven indicators classified this way in 2006. According to the 2009 report, total nitrogen is increasing and eelgrass is decreasing within the estuary. The total nitrogen load to the Great Bay Estuary has increased by 42% in the last five years. In Great Bay, the concentrations of dissolved inorganic nitrogen, a major component of total nitrogen, have increased by 44 percent in the past 28 years. Eelgrass cover in Great Bay has declined by 37% between 1990 and 2008 and has disappeared from the tidal rivers, Little Bay, and the Piscataqua River. While dissolved oxygen standards are rarely violated in the bays and harbors they are often violated in the tidal rivers. The negative effects of the increasing nutrient loads on the estuary system are evident in the decline of water clarity, eelgrass habitat loss, and failure to meet water quality standards for dissolved oxygen concentrations in tidal rivers.

New Hampshire has not been delegated authority to issue NPDES permits under the Clean Water Act. Permits in New Hampshire are issued by EPA Region 1. Under requirements of the Clean

Water Act, NPDES permits must include numeric limits for pollutants when the discharge of the pollutant has the reasonable potential to cause or contribute to an exceedance of water quality standards. Great Bay and adjoining estuarine waters, including Little Bay and the tidal portions of the Squamscott, Oyster, Lamprey, Cocheco, and Piscataqua Rivers have been identified as impaired due to nitrogen pollution. Impairment of these waters has been identified in the NH 303(d) list of impaired waters as well as by NOAA and the Piscataqua Region Estuaries Project. Great Bay and its adjoining estuaries (collectively called the Great Bay Estuary) receive the discharge from 18 publicly owned treatment plants 14 in NH and 4 Maine. Based on studies conducted by NHDES, these treatment plants represent approximately 25 percent of the total annual nitrogen load to the Great Bay Estuary and a much greater percentage of dissolved inorganic nitrogen, the most bioavailable form of nitrogen.

Draft water quality criteria prepared by NHDES for Great Bay include total nitrogen criteria of 0.3 mg/l for the protection of eelgrass and 0.45 mg/l to maintain dissolved oxygen standards. These criteria are similar to criteria for other nitrogen impaired estuarine waters developed by EPA and other states, including the Massachusetts Department of Environmental Protection, New Hampshire has not adopted these draft criteria into its water quality standards. The state water quality standards do, however, include nutrient narrative criteria regarding nutrient pollution, cultural eutrophication and biological integrity.

NHDES has completed a wasteload allocation model that shows that a high level of nitrogen control from POTW discharges as well as nonpoint sources is necessary to attain the proposed criteria. Based on this allocation, and using available information to interpret the state narrative criteria (including the proposed state water quality criteria), EPA has released three POTW draft permits for public comment that include total nitrogen limits of 3 mg/l. These three dischargers, Exeter, Newmarket, and Dover are three of the five largest dischargers of nitrogen to the estuary, and discharge to some of the most impaired waters. EPA believes that these limits, coupled with aggressive control of other point and non-point sources will attain water quality standards. No final permits have been issued.

Hall and Associates has been retained by a Coalition of communities consisting of the communities of Dover, Rochester, Portsmouth, Exeter, and Newmarket. On behalf of the Coalition, Hall and Associates have submitted 18 FOIA requests to Region 1, and have submitted extensive comments on each of the draft permits, both in writing and through lengthy presentations at public hearings. The Coalition has also filed suit against the state in state superior court challenging the proposed Great Bay nitrogen criteria. Hydroqual, working for the Coalition, has conducted limited sampling and data analysis that has been submitted to EPA and NHDES, which they claim shows fundamental flaws in the proposed NHDES nitrogen criteria, and thus the draft permits.

In his letter, Hall summarizes complaints regarding the scientific validity of the proposed state criteria, noting that they have not been formally adopted by NHDES, that costs to achieve the limits may exceed one billion dollars and the methodology followed by NHDES in developing the criteria include fundamental errors.

First, EPA has never claimed that the proposed nitrogen criteria were adopted, but rather has used them, along with other information, to interpret the state narrative criteria. In doing so, the Region followed federal requirements at 40 CFR 122. 44(d) requiring that available information including "...a proposed State criterion." be used to interpret narrative criteria.

Second, the costs provided by the Coalition are completely unsubstantiated. Actual costs based on NHDES estimates and Region 1 analyses indicate that resulting sewer use fees within these communities to achieve the proposed effluent limits will be well within affordability guidelines. In any event, in its public statements, in discussions with the affected municipalities, and in the fact sheets accompanying the draft permits, the Region has made it clear that it will consider affordability in developing permit compliance schedules and that it will consider phased, adaptive management schedules that would provide relief (through less stringent permit limits) if it was demonstrated that less stringent limits will attain water quality standards.

Finally, the methodology used by NHDES in developing its proposed criteria does not include the flaws noted by the SAB in its reviews of EPA's proposed guidance manual. The state's proposed criteria were developed with input from a technical advisory committee and have been peer reviewed through the EPA N-Steps program.

Response to Specific Allegations

1. Technical Advisory Committee (2005-2008) Concludes TN/Transparency is Not the Cause of Eelgrass Declines in the Great Bay Estuary

This section completely mischaracterizes the TAC meeting minutes as the "consensus of the TAC". The TAC in question was a subcommittee of the New Hampshire Water Quality Standards Advisory Committee, consisting of volunteers whose role was to provide technical input and guidance relative to the criteria development process. TAC meeting minute notes reflect a range of comments and ideas from individual members of the TAC. It is not accurate to portray these individual comments made during TAC meetings as representing a "consensus of the TAC". The TAC did not have a voting or polling system and did not produce any summary document by which consensus could be inferred.

NHDES did make changes to its proposed criteria based on the TAC discussions, and subsequent to the TAC discussions, released its proposed criteria for informal public comment. It then made further changes based on those comments, and produced new proposed criteria that included a response to comments. Analyses by Hydroqual, one the Coalition's consultants, were provided during the development of the NHDES proposed nitrogen criteria and addressed in the final version of the proposed criteria document. Additional analyses by Hydroqual were provided on January 10, 2011 and were addressed in detail by NHDES on March 10, 2011. Multiple deficiencies in the Hydroqual analyses, including the selective use of partial data sets, were identified in the NHDES review.

The responses to the specific "scientific consensus" items in the Coalition letter are included below:

(1) The classic model of eelgrass loss due to TN-induced transparency decrease is inapplicable to Great Bay because transparency reduction was not the cause of the eelgrass losses and there is minimal phytoplankton growth in the Bay and in the Piscataqua River due to physical characteristics of those waters.

Total nitrogen versus transparency was one of the many lines of evidence evaluated in the development of the proposed NHDES nitrogen criteria. The Region has been very clear that while chlorophyll driven light attenuation is a concern in Great Bay proper, it is not the only concern. Transparency issues in Great Bay proper are mitigated by the overall shallowness of the Bay, which allows eelgrass bed to be exposed or nearly exposed during low tides. Macroalgae proliferation, epiphyte growth, particulate organic matter, and the direct toxic effect of nitrogen on eelgrass are also concerns in Great Bay proper.

The primary controllable drivers of water column light attenuation are particulate organic matter (including chlorophyll) and inorganic particles. Increasing nitrogen concentrations cause algae blooms and elevated primary productivity in general. The resulting increase in organic matter in the water column reduces the amount of light reaching eelgrass plants so they do not get enough light to survive. NHDES has shown that light attenuation in the Great Bay Estuary is more strongly correlated with plant/organic matter in the water than any other factor (see NHDES Response to Public Comment on the Draft 2012 Consolidated Assessment and Listing Methodology, 4/20/2012). The plant/organic matter has a disproportionate effect on light attenuation because the same weight of organic matter scatters more light than inorganic particles due to the larger particle sizes

Additionally, excess nitrogen creates an environment in which epiphytes can grow on the leaves of eelgrass and macroalgae can out-compete and smother eelgrass. Field studies have demonstrated that macroalgae has increased significantly as nitrogen has increased in the estuary (Nettleton et al. (2011) and Pe'eri et al. (2008)). The well documented increases in macroalgae growth and the recently documented evidence of extensive epiphyte growth (EPA video of eelgrass beds in Great Bay and June 15, 2011 report entitled "Eelgrass Distribution in the Great Bay Estuary for 2010") further attenuate light that is critical for eelgrass survival.

There has been an increase in total suspended solids concentrations in Great Bay, but this increase accelerated after the documented eelgrass declines. The instability of sediments and associated increase in sediment resuspension that occurs as a result of eelgrass loss provides a negative feedback loop associated with nitrogen enrichment that further exacerbates the light attenuation concerns.

While the focus on chlorophyll in Great Bay proper is misplaced, it is a much greater concern in the tidal tributaries to Great Bay which are the direct recipients of the wastewater discharges. In the Squamscott River, chlorophyll levels in excess of 100 ug/l have been measured, and this river as well as other tributaries where eelgrass was historically present has experienced a total loss of eelgrass coverage.

(2) Increasing total inorganic nitrogen (TIN) levels since the 1980s did not significantly increase algal blooms.

The facts clearly do not support this claim. The 2009 Piscataqua Region Estuaries Partnership - Environmental Indicators Report documented nitrogen and chlorophyll increases in Great Bay and in tidal tributaries. Chlorophyll concentrations increased by 106% between 1988 and 2008 at Adams Point in Great Bay, and statistically significant trends were also evident at other long-term stations. Dissolved inorganic nitrogen concentrations in Great Bay have increased by 44% in the past 28 years. However, as indicated above, chlorophyll is not even the primary response variable in Great Bay proper. The proliferation of macroalgae and epiphytes, and the direct toxic effect of nitrogen on eelgrass are a greater concern.

In the tidal tributaries where chlorophyll is the primary response variable, the effect of nitrogen loadings on chlorophyll levels has been much more significant. The median total nitrogen concentration in the Squamscott River is 0.75 mg/l and chlorophyll values measured in the Squamscott River are among the highest seen in the Great Bay Estuary.

(3) The main factor controlling transparency in Great Bay [and tidal rivers] is color and turbidity from the tidal rivers (algal levels in the Bay are low and only account for 8% of the light extinction in Bay waters. Federally funded research completed by Dr. J. Ru Morrison (UNH Professor) had confirmed that transparency in Great Bay was negligibly impacted by algal growth and that color (originating naturally from the tidal rivers) controlled light penetration in those waters. [See Morrison, J. Ru, et al. Using Moored Arrays and Hyperspectral Aerial Imaging to Develop Nutrient Criteria for New Hampshire's Estuaries - A Final Report to The New Hampshire Estuaries Project (September 30, 2008).

While color is a significant factor in many tidal rivers and has a smaller impact in Great Bay proper, there is no evidence to suggest, or any reason to believe that color has increased since the time eelgrass was supported in these rivers. If anything, the natural color would be expected to be lower now than when eelgrass was present due to the loss of wetlands resulting from development in the watershed. What have clearly changed are nitrogen levels and algae growth in the tidal tributaries and nitrogen levels and macroalgae/epiphyte growth in Great Bay proper which exacerbates any naturally low transparency.

The Morrison study referenced was based on data collected at a single location in Great Bay. As discussed above, particulate organic matter and inorganic particles are the major controllable factors relative to water column light attenuation. The focus on water column algae levels in Great Bay proper is misplaced since it is not the major response to nitrogen enrichment and is a small percentage of the total organic matter in the water column.

There is no basis for the claim that that turbidity increases are primarily the result of tidal river loadings. The increase in suspended solids in Great Bay has primarily occurred after the loss of eelgrass.

(4) Using data from other estuaries (i.e., Chesapeake Bay) to set Great Bay standards is not appropriate due to significant physical differences (eelgrass in Great Bay apparently tolerate higher TN loadings than other estuaries due to short retention times).

We are not aware of any evidence that supports this claim. Gradients of nitrogen concentrations in the Great Bay Estuary indicate that nitrogen concentrations are the highest in the upper part of the estuary and the lowest in the lower part of the estuary. In the upper part of the estuary all of the eelgrass has been lost with the exception of Great Bay proper where it is in steep decline. Only in the lower part of the estuary where total nitrogen concentrations are less than 0.3 mg/l are there relatively healthy eelgrass beds. Nitrogen levels in the Great Bay Estuary are dynamic, and eelgrass does not respond instantaneously to increased nitrogen concentrations. To suggest that eelgrass in the Great Bay Estuary can tolerate higher levels of nitrogen than other estuaries, simply because we have not yet lost all of the eelgrass in Great Bay proper is without merit.

The response of eelgrass to nitrogen is determined by the plant's physiology and the system's exposure regime (water column concentrations and flushing). The physiology of the plants does not vary with geographic location. The exposure regime may vary some, but it is informative to review what other analyses conclude. NHDES did not automatically adopt the Chesapeake Bay or Massachusetts criteria. It did its own analysis to derive criteria and did a reality check by comparing its values to what others had done. All of these numbers independently fell within a very narrow range.

When establishing a water quality-based effluent limitation to interpret a narrative water quality standard, EPA follows the procedures outlined in 40 CFR 122.44(d)(vi), which includes the use of a proposed State criterion, or other explicit State policy or regulation interpreting its narrative water quality criterion, supplemented by other relevant information. In establishing the TN limits for the draft NPDES permits in Great Bay, the Region considered criteria used in other states, threshold values cited in scientific literature and the site specific analysis performed by NHDES for the Great Bay Estuary.

(5) It should not be presumed that TN is the cause of eelgrass losses; analyses that combine data from different areas of the Estuary to justify a TN/transparency connection do not prove causation and may be misleading.

All of the areas evaluated by NHDES have a similar biology and similar responses to increased nitrogen concentrations. The areas are primarily distinguished by differences in flushing which, in combination with nitrogen loadings, determines the resulting nitrogen concentrations. The measured nitrogen concentrations in the various parts of the estuary were evaluated relative to multiple response variables consistent with national guidance on the development of nutrient criteria. Total nitrogen versus transparency was only one of the many lines of evidence evaluated in the development of the proposed NHDES nitrogen criteria.

More recent analyses conducted by NHDES documented the relationship between light attenuation and increasing nitrogen concentrations in the Great Bay Estuary, even accounting for changes in salinity. The same relationship is evident between total nitrogen and algae growth. These analyses indicate that the relationships are not merely correlations due to salinity differences (see NHDES Response to Public Comment on the Draft 2012 Consolidated Assessment and Listing Methodology, 4/20/2012).

The loss of eelgrass in the system followed a pattern that reflects a decline in light availability. Meadows in the Piscataqua River had their deep edges retreat into shallower water (David Rivers, thesis). Meadows in Great Bay showed dramatic declines in biomass and shoot density. Meadows that are light limited will self regulate their shoot density in order to maintain the needed amount of light reaching individual shoots.

(6) DES should not claim eelgrass impairments exist in the tidal rivers (e.g., Squamscott River) if the area in question is no longer suitable for eelgrass growth [several tidal rivers exhibit naturally low transparency].

In addition to the dissolved oxygen impairments in the Squamscott River, NHDES has documented the historic existence of eelgrass in the lower section of the Squamscott River and has identified the Squamscott River as impaired for nitrogen due in part to the loss of 100% of the eelgrass in this system. As indicated previously, there is no reason to believe that color has increased since the time eelgrass was supported in the Squamscott River and the nitrogen levels and algae growth in the Squamscott River make the naturally low transparency worse.

2. Region 1 Initiative to Develop TN Criteria and Generate TN-induced Eelgrass Impairment Designations (October 2008-2010)

First, this section continues the fiction that the TAC had produced a consensus conclusion that the NHDES-proposed criteria were fundamentally wrong. Based on this fiction, and adding information he asserts shows that TN concentrations have no relationship to eelgrass populations, the Coalition then argues that subsequent actions taken by the Region and others to reconcile the 303(d) list of impaired waters to the proposed criteria were conducted in bad faith. The various exhibits he has attached do not support his claims.

Regarding his specific claim that "...there was no indication that TN or transparency levels were controlling eelgrass recovery anywhere in the Great Bay system.", the Region notes that Great Bay-proper has the highest eelgrass population compared to Little Bay and the Lower Piscataqua River, but it has experienced declines in coverage between 1996 and 2007 (see Nutrient Criteria for Great Bay Estuary, pg. 39) Additionally, eelgrass biomass in Great Bay has declined 64% since 1990 (see NHDES response to Hydroqual, March 10, 2011).

The causes of eelgrass decline in the Lower Piscataqua River were discussed in the NHDES Proposed Nitrogen Criteria document "... the results for the Lower Piscataqua River are confusing because very little eelgrass remains in this area despite the apparent good water

clarity (NHDES, 2008b; PREP, 2009). This discrepancy is most likely the result of incomplete data on water clarity from this area. Only a total of 13 K_d measurements have been made in the Lower Piscataqua River assessment zones (north and south). The measured median K_d in this area (0.50–0.59 m^{-1}) is lower than would be expected given the median values observed upstream (1.30 m^{-1}) and downstream (0.63 m^{-1}) and is probably not correct.”

Similarly, while the Lower Piscataqua River North indicates a mean total nitrogen level below the threshold (0.25 mg/l) for eelgrass protection, there were relatively few data points and given the upstream median total nitrogen level of 0.52 mg/l and the downstream total nitrogen level of 0.29 mg/l, there is little confidence that the water quality of the Lower Piscataqua River has been adequately characterized (see NHDES Proposed Nitrogen Criteria document, pg. 21). Both sections of the Lower Piscataqua River (North and South) are listed by NHDES as having insufficient information for determining nitrogen impacts.

Eelgrass meadows suffering from chronic light limitation exhibit a predictable response. Shoot density declines to reduce self-shading and increase light reaching the remaining shoots. As a result, biomass will also decline. Declines in areal extent of coverage is the final response with the deep edge of the meadow retreating into shallower water. Beem and Short (2008) showed that eelgrass decline has been most prevalent in the deeper portions of the Piscataqua River. Eelgrass at multiple locations along the river showed steep declines in biomass and percent cover from the early to mid 2000s until 2006 and 2007, when eelgrass completely disappeared. The data reflect a chronic multi-year decline that is consistent with an erosion of water quality.

The timeline of events surrounding the proposed nitrogen criteria and the 303(d) listing process is attached. As can be seen, NHDES proposed a 303(d) list in February 2008, in which the proposed criteria were not used to determine impairments in the Great Bay Estuary. However, by September of 2008, when the final 303(d) list was submitted to the Region for approval, the state had made significant progress on its proposed criteria (which were released for public notice in December of that year). With support from the Region and consistent with comments from others (including CLF) NHDES then proposed adding nitrogen-impaired Great Bay segments to the draft 2008 303(d) list in August 2009, based on the proposed criteria. These changes to the 2008 303(d) listing were a logical outgrowth of the efforts to understand the nutrient-related impacts in Great Bay. Specifically, NHDES updated the indicator for significant eelgrass loss using new data on eelgrass cover in the Great Bay Estuary from 2006, 2007, and 2008 and used the 2009 numeric nutrient criteria to make assessments for dissolved oxygen, chlorophyll-a, water clarity, and total nitrogen relative to the Aquatic Life designated use. The analyses determined that there has been significant eelgrass loss in most of the assessment zones of the Great Bay Estuary and due to the importance of eelgrass for the ecosystem of the estuary, the loss of this habitat constitutes a violation of the Biological Aquatic Community Integrity water quality criteria.

Regarding various actions taken by the Region to review and comment on the proposed criteria, the Coalition mischaracterizes EPA internal emails, taking selected phrases out of the emails and representing them as overall conclusions. The result is that the overall favorable opinions in the emails are represented as unfavorable. Particularly, the claim that

the Region "knew that no cause and effect relationship between TN and eelgrass loss existed" is clearly false. While the referenced email (Exhibit 5) recognizes that the data are correlative, it further explained that "...because of the strong relationships exhibited in the data, and because many components of the conceptual model seem to be corroborated, it is very likely that nitrogen strongly contributes to turbidity in the water column, resulting in impacts to eelgrass." Additionally the email included the following language relative to the weight of evidence approach:

I like the overall weight of evidence approach, and that they are applying a conceptual model that tests whether there is a dose response relationship in the data. And, most importantly, they find secondary, or independent, impacts from increasing concentrations of nutrients. These secondary impacts are independently related to use impairments. Thus, they are following a sound scientific approach to determine nutrient and chlorophyll thresholds above which impairments are likely to occur.

The Coalition also overestimates CLF's influence over the regulatory process. The fact that the Region's actions at times reflect CLF's comments do not mean that CLF is dictating the Region's actions. Similarly, considering CLF's response to a particular permitting strategy does not mean that is the Region's sole consideration. The Region considers science, regulatory requirements, and legal risk in all of its permitting decisions.

Finally, the Coalition mischaracterizes the applicability of the Science Advisory Board comments on EPA's guidance document for the development of numeric nutrient criteria. First this document specifically pertains to the development of water quality criteria, and not to the interpretation of narrative criteria for purposes of permit issuance. Furthermore, the final SAB review supported the use of empirical approaches with multiple lines of evidence for deriving numeric nutrient criteria. The SAB recommendations focused on strengthening the guidance document by modifying the document format, providing additional examples, expanding descriptions of data needs, methods and methodology limitations, and provide procedures to ensure that the approach is appropriately applied. The review panel found that the empirical approach, using stressor-stressor response relationships to derive criteria is a legitimate, scientifically based method for developing nutrient criteria. This is exactly the approach NHDES took in developing its proposed nitrogen criteria.

While there is no requirement for proposed state criteria to be peer reviewed, the NHDES proposed nitrogen criteria were peer reviewed by two independent reviewers (faculty members from Cornell University and University of Maryland) who are experts in the field of estuarine science. The peer review process was conducted by EPA and administered through the N-STEPS (Nutrient Scientific Technical Exchange Partnership Support) program which is a partnership between academic, state, and federal agencies to provide technical information to States and Tribes on developing nutrient criteria. The material provided to the peer reviewers included copies of the comments received on the draft criteria document.

The peer review conducted on the proposed nitrogen criteria was consistent with EPA Peer Review policy which was developed to be consistent with OMB Peer Review Bulletin. As

stated in the OMB Peer Review Bulletin, a peer review process should not be confused with a public review process. The peer review process should be transparent and available to the public but it is a review by independent technical experts and, consistent with the guidance, it should not allow parties supporting the proposed criteria or opposing the proposed criteria to influence the process.

The peer reviewers specifically cited to the comprehensiveness and clarity of the weight of evidence approach used to develop the proposed numeric nitrogen criteria as well as the vast quantity of site specific data available and utilized in the analyses. It is worth noting that these per reviews were completed in June 2009, after the SAB report on the EPA guidance manual, meaning that the concerns of the SAB were available to the reviewers.

3. Coalition Members Meet with DES to review Applicable Scientific Information and Develop a Memorandum of Agreement (2011)

NHDES signed a Memorandum of Agreement with Coalition members that included findings that a weight of evidence approach is appropriate as it relates to eelgrass loss, but that uncertainty remains in the line of evidence that for eutrophication as a causative factor, and that additional analyses are required for macroalgae proliferation and epiphyte growth as causative factors. The parties agreed to resolve these uncertainties by collaboratively developing a calibrated hydrodynamic and water quality model, starting with the Squamscott River. The Coalition agreed to construct, calibrate and validate the model, and to collect the data required for calibration and verification. NHDES agreed to review modeling and monitoring work scopes and QAAPs, and to publish site-specific nitrogen criteria as soon as practicable after results of a calibrated, verified hydrodynamic model are available for the assessment unit.

The Coalition agreed to produce the Squamscott River model by January 2012. While the data was collected for the calibration and verification of the model in 2011, the Coalition did not submit a model to NHDES. In the letter transmitting its data report, the Coalition indicated it would not be preparing the model because of its concern that the impact of nitrogen in the river is masked by the high algal levels that artificially occur due to the algae discharged from the Exeter wastewater treatment lagoons.

The data collected on the Squamscott was submitted to NHDES and generally shows dissolved oxygen violations and chlorophyll concentrations exceeding state listing criteria. These impacts were most significant downstream of the Exeter wastewater treatment plant. A mass balance analyses conducted by Hydroqual shows that on one of the two sampling dates, the measured chlorophyll in the river clearly exceeds the amount that would be expected based on the inputs from background and from the Exeter treatment plant, indicating significant algal growth not attributable to the Exeter discharge.

Regarding the "consensus" reached by the technical meetings held under the MOU, these meetings were comprised largely of Coalition members and Coalition consultants. Based on the Exhibits, there were only two meetings, and EPA only attended the first. No voting record or summary document was presented, so it is not possible to determine what the

Coalition means by "consensus" in this instance. The specific statement made by Doctor Short in the meeting notes, which the Coalition presents as a broad characterization that loss of transparency due to increased phytoplankton was not the cause of eelgrass loss in Great Bay, was clearly a much narrower observation that transparency was not an issue in shallower portions of the estuary, where eelgrass is exposed at low tide.

4. EPA Region 1 Ignores Terms of MOA and Drafts NPDES Permits with Stringent TN limits (2011)

The Region was not a party to the MOA and did not encourage NHDES to enter into it. The Coalition apparently expected EPA to delay public notice of any permits in Great Bay pursuant to their agreement with NHDES until the Coalition had completed its water quality models and NHDES had proposed site-specific criteria satisfactory to the Coalition. As discussed above, the Coalition has decided not to complete the model. It instead proposed a course of action that would have Exeter upgrade its treatment plant (to a technology that did not use aerated lagoons) and then complete the model to determine the appropriate nitrogen limit.

Regarding the information that the Coalition and its consultants have submitted to EPA and NHDES on the issue of transparency and its impact on eelgrass, these comments were submitted to Region 1 as comments on the draft permit and EPA will be responding in full in the final decision on those permits. As discussed previously in this memo, total nitrogen versus transparency was one of the many lines of evidence evaluated in the development of the proposed NHDES nitrogen criteria. We have been very clear that while chlorophyll driven light attenuation is a concern in Great Bay proper it is not the only concern. Macroalgae proliferation, epiphyte growth, and the direct toxic effect of nitrogen on eelgrass are also concerns in Great Bay proper.

5 Historical Summary

Based on his version of the facts, the Coalition concludes that the Region has no intention of altering its decision to impose stringent TN limits. As discussed previously, the Region has not yet issued any final permits for dischargers to Great Bay. The final limits will be based on a full consideration of the public record, including all comments and information submitted by the Coalition.

Basis for Requesting Inspector General Scientific Misconduct and/or Lack of Impartiality Investigation and transfer of Matter from EPA Region 1 Due to Documented Bias

This section cites elements from EPA's Scientific Integrity Policy and the Federal Policy on Research Misconduct and generally re-states the arguments made in earlier sections of the letter in an attempt to demonstrate that EPA violated these policies. However, several arguments in this section were either not raised earlier or are raised in greater detail in this section.

The Coalition makes more extensive arguments that seek to minimize the validity of the independent peer review conducted through EPA's N-Steps program, mainly by claiming that EPA withheld relevant scientific information and public input from the reviewers. It is true that EPA did not specifically charge the reviewers with addressing specific questions raised by the Coalition, but comments received by NHDES on the draft criteria document were provided to the peer reviewers. As a general matter, if there were severe problems with the proposed criteria it is reasonable to expect these experts would have identified them in their reviews without specific charge questions.

Also, as EPA stated in its June 29, 2010 letter, "The purpose of the peer review was to support the state by providing advice from national experts on how to improve the technical and scientific soundness of the document as a basis for future development of numeric nutrient water quality criteria. It was not intended to finally or comprehensively resolve the many complex issues concerning the development of nutrient criteria and the implementation of nutrient controls for Great Bay. There will be additional opportunities to submit scientific, technical, legal, and policy comment on all dimensions of the proposed nutrient criteria, and any future nutrient controls based on these criteria, in other regulatory forums (e.g., the State's criteria development/approval process)." As discussed previously, all Coalition comments will be addressed in final permit decision documents.