



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**Region 1**

**5 Post Office Square, Suite 100**

**Boston, MA 02109-3912**

September 25, 2014

Mr. Ted Diers, Administrator  
Watershed Management Bureau  
New Hampshire Department of Environmental Services  
29 Hazen Drive  
P.O. Box 95  
Concord, NH 03302-0095

**Re: Approval of Pearly Lake TMDL**

Dear Mr. Diers:

Thank you for your submission of New Hampshire's Total Maximum Daily Load (TMDL) for Pearly Lake. The lake was included on the State's 2012 303(d) list and was prioritized for TMDL development. The purpose of this TMDL is to address the phosphorus-related impairments of hepatotoxic cyanobacteria, chlorophyll a, dissolved oxygen and total phosphorus.

The U.S. Environmental Protection Agency (EPA) hereby approves New Hampshire's phosphorus TMDL for Pearly Lake, received by EPA on August 27, 2014. EPA has determined that the TMDL meets the requirements of §303(d) of the Clean Water Act (CWA), and of EPA's implementing regulations (40 CFR Part 130). Attached is a copy of our approval documentation.

My staff and I look forward to continued cooperation with the NHDES in exercising our shared responsibility of implementing the requirements under Section 303(d) of the CWA.

If you have any questions, please contact Ralph Abele (617-918-1629) or Toby Stover (617-918-1604) of my staff.

Sincerely,

/s/

Ken Moraff, Director  
Office of Ecosystem Protection

Cc: Gregg Comstock (NHDES)  
Peg Foss (NHDES)  
Ralph Abele (EPA)  
Steven Winnett (EPA)

## EPA NEW ENGLAND'S TMDL REVIEW

**TMDL:** Total Maximum Daily Load for Pearly Lake, Rindge, NH

**STATUS:** Final

**IMPAIRMENT/POLLUTANT:** Pearly Lake is not meeting criteria for chlorophyll a (chl a) and cyanobacteria hepatotoxic microcystins (cyanobacteria) which is causing impairment of the Primary Contact Recreation designated use. Pearly Lake is also not meeting criteria for dissolved oxygen (DO), chl a and total phosphorus (TP) which are causing impairment of the Aquatic Life designated use. The lake impairments are attributed to excess phosphorus.

Pearly Lake has two segments on the State of New Hampshire's 2012 List of New Hampshire Water Bodies Not Meeting Water Quality Standards (Section 303(d) of the Federal Clean Water Act):

### **Waterbody Name and Waterbody Segment ID number**

|   |   |
|---|---|
| Pearly Lake (also known as Pearly Pond) | NHLAK802020103-08 (main body of the lake) |
| Pearly Lake (also known as Pearly Pond) | NHLAK802020103-08-02 (beach segment)      |

### **BACKGROUND:**

On May 12, 2011 EPA approved 24 TMDLs for New Hampshire lakes that were impaired due to excess phosphorus. The following year three more TMDLs for phosphorus impaired lakes in NH were approved by EPA which followed the same framework and used the same model to estimate phosphorus loadings and reductions needed as the original 24 TMDLs. On August 26, 2014 the New Hampshire Department of Environmental Services (NHDES) submitted to EPA New England a document titled "Total Maximum Daily Load for Pearly Lake, Rindge, NH" for two segments that are listed on the 2012 303(d) list. This most recent submission for Pearly Lake also follows the same framework and model as the previously approved TMDLs. This document provides TMDL implementation information to stakeholders as well as the framework for future TMDLs. In accordance with EPA regulations [40 CFR 130.7 (c) (ii)], NHDES conducted a public comment period from July 11, 2014 to August 22, 2014 and notified interested parties and stakeholders. Along with the main TMDL document the submission consisted of the following documents submitted electronically:

- Letter of Transmission
- TMDL Report Appendix A: Methodology for Determining Target Criteria
- TMDL Report Appendix B: ENSR-LRM Methodology Documentation
- TMDL Report Appendix C: Land Use Categories, Export Coefficients and Additional Calculations

The following review explains how the TMDL submission meets the statutory and regulatory requirements of TMDLs in accordance with Section 303(d) of the Clean Water Act, and [40 CFR Part 130].

**Reviewer:** Toby Stover (617-918-1604) stover.toby@epa.gov

## **REVIEW ELEMENTS OF TMDLs**

*Section 303(d) of the Clean Water Act (CWA) and EPA's implementing regulations at 40 C.F.R. § 130 describe the statutory and regulatory requirements for approvable TMDLs. The following information is generally necessary for EPA to determine if a submitted TMDL fulfills the legal requirements for approval under Section 303(d) and EPA regulations, and should be included in the submittal package. Use of the verb "must" below denotes information that is required to be submitted because it relates to elements of the TMDL required by the CWA and by regulation.*

### **1. Description of Waterbody, Pollutant of Concern, Pollutant Sources and Priority Ranking**

*The TMDL analytical document must identify the waterbody as it appears on the State/Tribe's 303(d) list, the pollutant of concern and the priority ranking of the waterbody. The TMDL submittal must include a description of the point and nonpoint sources of the pollutant of concern, including the magnitude and location of the sources. Where it is possible to separate natural background from nonpoint sources, a description of the natural background must be provided, including the magnitude and location of the source(s). Such information is necessary for EPA's review of the load and wasteload allocations that are required by regulation. The TMDL submittal should also contain a description of any important assumptions made in developing the TMDL, such as: (1) the assumed distribution of land use in the watershed; (2) population characteristics, wildlife resources, and other relevant information affecting the characterization of the pollutant of concern and its allocation to sources; (3) present and future growth trends, if taken into consideration in preparing the TMDL; and, (4) explanation and analytical basis for expressing the TMDL through surrogate measures, if applicable. Surrogate measures are parameters such as percent fines and turbidity for sediment impairments, or chlorophyll a and phosphorus loadings for excess algae.*

This TMDL is for two segments (main lake and beach) in Pearly Lake (also known as Pearly Pond) in Rindge, NH. The main characteristics for Pearly Lake are described (TMDL Document Table 2-1) and the watershed delineations, bathymetry and land use categories are visually depicted in Figure 2-1 and Figure 3-1 of the TMDL document. These two New Hampshire waterbody segments are listed on the 2012 List of New Hampshire Waterbodies Not Meeting Water Quality Standards as impaired for Recreational Uses due to exceedances of the state water quality standards for chlorophyll a and cyanobacteria (TMDL Document Section 2.5). The impaired recreational uses include swimming, wading, boating, fishing, water skiing, aesthetic enjoyment and others (TMDL Document Table 2-3). These two segments are also impaired for Aquatic Life Use due to low dissolved oxygen, high chlorophyll a and high total phosphorus (TMDL Document Section 2.5). These conditions can cause dissolved oxygen to reach levels that are harmful to fish, invertebrates and shellfish. Under Section 303(d) of the Clean Water Act, states are required to compile a list of impaired waterbodies in their biennial water quality report to Congress and to develop TMDLs for these waters so that they will achieve water quality standards.

Potential sources of phosphorus that are causing exceedances of the criteria are from several different nonpoint sources. These sources include: atmospheric deposition, surface water base flow, stormwater not regulated by the NPDES program, internal recycling, direct groundwater seepage (including septic systems), waterfowl and the residual effects from a wastewater treatment plant that formerly discharged to the lake (TMDL Document Section 3.0).

The Priority Ranking for the two impaired segments has been labeled “high” by NHDES (TMDL Document Section 2.5). Priority ranking is based on when the segment was listed as impaired and the resources available on an annual basis (See NHDES’ Consolidated Assessment and Listing Methodology (CALM) document) to develop TMDLs for impaired waterbodies.

***Assessment:***

EPA New England concludes that the TMDL document meets the requirements for describing waterbody segments, pollutants of concern, identifying and characterizing sources of impairment and priority rankings. These TMDLs are supported by previously approved lake phosphorus TMDLs which were approved in 2011 and 2012. The site specific information provided in this submission, in conjunction with the documentation on the ENSR-LRM model (TMDL Document Section 3.0 and Appendix B) used to set the phosphorus target, satisfy the requirements for TMDL submission.

**2. Description of the Applicable Water Quality Standards and Numeric Water Quality Target**

*The TMDL submittal must include a description of the applicable State/Tribe water quality standard, including the designated use(s) of the waterbody, the applicable numeric or narrative water quality criterion, and the anti-degradation policy. Such information is necessary for EPA’s review of the load and wasteload allocations that are required by regulation. A numeric water quality target for the TMDL (a quantitative value used to measure whether or not the applicable water quality standard is attained) must be identified. If the TMDL is based on a target other than a numeric water quality criterion, then a numeric expression, usually site specific, must be developed from a narrative criterion and a description of the process used to derive the target must be included in the submittal.*

Water quality standards and classification for all surface waters have been established by the New Hampshire Legislature at RSA 485-A:8, I, II and V and in the New Hampshire surface water regulations (ENV-Wq1700). NH water quality standards for nutrients in Class B waters (Env-Wq 1703.14) state:

- Class B Waters shall contain no phosphorus in concentrations that would impair any existing or designated uses, unless naturally occurring.
- Existing discharges containing either phosphorus or nitrogen that encourage cultural eutrophication shall be treated to remove phosphorus or nitrogen to ensure attainment and maintenance of water quality standards.

- There shall be no new or increased discharges of phosphorus into lakes or ponds.
- There shall be no new or increased discharge(s) containing phosphorus or nitrogen to tributaries of lakes or ponds that would contribute to cultural eutrophication or weeds or algae in such lakes or ponds.

NH water quality standards for dissolved oxygen (Env-Wq 1703.07) state the following:

- Except as naturally occurs, or in waters identified in RSA 485-A:8, III, or subject to (c) below, Class B waters shall have a DO content of at least 75% of saturation, based on a daily mean, and an instantaneous minimum DO concentration of at least 5 mg/L.
- Unless naturally occurring or subject to (a) above, surface waters within the top 25 percent of depth of thermally unstratified lakes, ponds, impoundments and reservoirs or within the epilimnion shall contain a DO content of at least 75 percent saturation, based on a daily mean and an instantaneous minimum DO content of at least 5 mg/L. Unless naturally occurring, the DO content below those depths shall be consistent with that necessary to maintain and protect existing and designated uses.
- The DES policy for interim nutrient threshold for primary contact recreation (i.e. swimming) in NH lakes is 15 µg/L chlorophyll a (DES 2008a). Lakes were also listed even if scums were present only along a downwind shore.

Currently, NH does not have numeric phosphorus criteria adopted into water quality standards which means that numeric target(s) must be set for TMDLs and assessment purposes. A statewide target of 12 µg/L TP was developed for NH lakes in previously approved TMDLs based on: 1. An examination of the distribution of TP concentrations in impaired and unimpaired NH lakes 2. The use of nutrient levels for commonly accepted trophic levels 3. The use of probabilistic equations to establish targets to reduce the risk of adverse conditions (Appendix A Section 1.4). All three of these methods reached the same conclusion that 12 µg/L TP was a reasonable target for NH lakes. In cases where the modeled natural conditions exceed the 12 µg/L TP target, the higher modeled target value will be used. The phosphorus target selected for this TMDL was determined using the ENSR-LRM model which determined that the appropriate phosphorus target for Pearly Lake is 14 µg/L TP which is the predicted in-lake concentration under natural conditions (TMDL Document Section 2.6 and Appendix A Section 1.3.1).

***Assessment:***

EPA concludes that NHDES has properly presented and interpreted its narrative WQS for phosphorus to set the appropriate load reduction targets. NHDES is directly applying the numeric target from the ENSR-LRM model to derive the TMDL target with the goal of reducing the phosphorus concentration to reflect natural conditions. This is a reasonable approach and is in line with NH water quality standards.

### 3. Loading Capacity - Linking Water Quality and Pollutant Sources

*As described in EPA guidance, a TMDL identifies the loading capacity of a waterbody for a particular pollutant. EPA regulations define loading capacity as the greatest amount of loading that a water can receive without violating water quality standards (40 C.F.R. § 130.2(f)). The loadings are required to be expressed as either mass-per-time, toxicity or other appropriate measure (40 C.F.R. § 130.2(i)). The TMDL submittal must identify the waterbody's loading capacity for the applicable pollutant and describe the rationale for the method used to establish the cause-and-effect relationship between the numeric target and the identified pollutant sources. In most instances, this method will be a water quality model. Supporting documentation for the TMDL analysis must also be contained in the submittal, including the basis for assumptions, strengths and weaknesses in the analytical process, results from water quality modeling, etc. Such information is necessary for EPA's review of the load and wasteload allocations that are required by regulation.*

*In many circumstances, a critical condition must be described and related to physical conditions in the waterbody as part of the analysis of loading capacity (40 C.F.R. § 130.7(c)(1)). The critical condition can be thought of as the "worst case" scenario of environmental conditions in the waterbody in which the loading expressed in the TMDL for the pollutant of concern will continue to meet water quality standards. Critical conditions are the combination of environmental factors (e.g., flow, temperature, etc) that result in attaining and maintaining the water quality criterion and have an acceptably low frequency of occurrence. Critical conditions are important because they describe the factors that combine to cause a violation of water quality standards and will help in identifying the actions that may have to be undertaken to meet water quality standards.*

This TMDL quantifies the loads that each source is contributing to Pearly Lake and assigns load reductions in order to achieve the target concentration which will result in Pearly Lake attaining water quality standards. The Pearly Lake watershed was divided into sub-watersheds and loads were assigned to each sub-watershed based on land-use type, input source and hydrology (TMDL Document Section 3.0 and Figure 3-3). The ENSR-LRM model was used to determine the annual loading rates of phosphorus into the lake. Lake response to the loading (the resulting phosphorus concentration) was calculated using the average of five models, including Kirchner-Dillon (1975), Vollenweider (1975), Reckhow (1977), Larsen-Mercier (1976) and Jones-Bachman (1976) (TMDL Document Section 3.5). The lake response results were then used as inputs into a new set of models: Carlson (1977), Dillon and Rigler (1974), Jones and Bachman (1976) Oglesby and Schaffner (1978), Vollenweider (1982) and Jones, Rast and Lee (1979) to predict mean annual chl a and secchi disk transparency (TMDL document Table 3-5). Algal bloom frequency (TMDL document Table 3-5) was also predicted using equations from Walker (1984, 2000). The limitations associated with the loading estimates are explained in Section 3.4 of the TMDL document and are attributable to variations in weather, data and the assumptions that had to be made about loadings from the former wastewater treatment plant, septic systems and waterfowl.

**Assessment:** EPA New England concludes that the loading capacity which was calculated using a set of recognized water quality models using observed phosphorus concentration data from impaired and unimpaired NH water bodies, has been appropriately set at a level necessary to attain and maintain applicable water quality standards. This approach is consistent with narrative

water quality criteria and observed conditions. The resulting TMDL is based on a reasonable approach for establishing the relationship between pollutant loading and water quality.

#### **4. Load Allocations (LAs)**

*EPA regulations require that a TMDL include LAs, which identify the portion of the loading capacity allocated to existing and future nonpoint sources and to natural background (40 C.F.R. § 130.2(g)). Load allocations may range from reasonably accurate estimates to gross allotments (40 C.F.R. § 130.2(g)). Where it is possible to separate natural background from nonpoint sources, load allocations should be described separately for background and for nonpoint sources.*

*If the TMDL concludes that there are no nonpoint sources and/or natural background, or the TMDL recommends a zero load allocation, the LA must be expressed as zero. If the TMDL recommends a zero LA after considering all pollutant sources, there must be a discussion of the reasoning behind this decision, since a zero LA implies an allocation only to point sources will result in attainment of the applicable water quality standard, and all nonpoint and background sources will be removed.*

The Load Allocation (LA) relates to existing and future nonpoint sources, natural background, and stormwater runoff not subject to NPDES permitting. The nonpoint sources of phosphorus discharging to Pearly Lake include diffuse stormwater, surface water base flow (including groundwater in seepage), septic systems, internal recycling, waterfowl and atmospheric deposition (TMDL document, section 5.1). Due to the complexities associated with separating point and nonpoint stormwater sources and a lack of highly detailed parcel data, this TMDL has combined the Load Allocation and the Wasteload Allocation (WLA) into a single Wasteload Allocation (TMDL Document Table 6-1).

#### ***Assessment:***

In the absence of sufficient data to separate the two, EPA New England concludes that it is acceptable for DES to include that portion of the loading capacity that would normally be attributable to the Load Allocation (LA) into the Waste Load allocation (WLA).

#### **5. Wasteload Allocations (WLAs)**

*EPA regulations require that a TMDL include WLAs, which identify the portion of the loading capacity allocated to existing and future point sources (40 C.F.R. § 130.2(h)). If no point sources are present or if the TMDL recommends a zero WLA for point sources, the WLA must be expressed as zero. If the TMDL recommends a zero WLA after considering all pollutant sources, there must be a discussion of the reasoning behind this decision, since a zero WLA implies an allocation only to nonpoint sources and background will result in attainment of the applicable water quality standard, and all point sources will be removed.*

*In preparing the wasteload allocations, it is not necessary that each individual point source be assigned a portion of the allocation of pollutant loading capacity. When the source is a minor discharger of the pollutant of concern or if the source is contained within an aggregated general permit, an aggregated WLA can be assigned to the group of*



facilities. But it is necessary to allocate the loading capacity among individual point sources as necessary to meet the water quality standard.

*The TMDL submittal should also discuss whether a point source is given a less stringent wasteload allocation based on an assumption that nonpoint source load reductions will occur. In such cases, the State/Tribe will need to demonstrate reasonable assurance that the nonpoint source reductions will occur within a reasonable time.*

Waste Load Allocations (WLAs) for each category of phosphorus input source are summarized in Table 4-1 of the TMDL document along with the percent reductions needed in order for Pearly Lake to attain water quality standards. For this particular TMDL, the WLA also includes all sources that would typically be part of the LA due to the complexities associated with separating stormwater into point and nonpoint categories and also due to a lack of loading data at the parcel level. This approach is acceptable to EPA in cases when sufficient data is not available to allocate sources to their respective categories. To achieve the target concentration of 14 µg/l, DES uses the loading models to iteratively reduce the loads from the major sources until the target load is reached. Those major sources are direct drainage and the contributions from the tributary watersheds. Atmospheric deposition is an additional source of nutrients but DES has not allocated any of the load reductions to it.

**Assessment:** EPA concludes that the WLA has been reasonably set with analyses that quantify the reductions needed for the various major sources of nutrients that can be potentially reduced to achieve the allowable load in the lake. In the absence of specific information to determine the relative contributions of regulated and unregulated sources of stormwater runoff to the lake, EPA New England concludes that it is acceptable and reasonable for all sources of nutrients to be included in the WLA.

## **6. Margin of Safety (MOS)**

*The statute and regulations require that a TMDL include a margin of safety to account for any lack of knowledge concerning the relationship between load and wasteload allocations and water quality (CWA § 303(d)(1)(C), 40 C.F.R. § 130.7(c)(1)). EPA guidance explains that the MOS may be implicit, i.e., incorporated into the TMDL through conservative assumptions in the analysis, or explicit, i.e., expressed in the TMDL as loadings set aside for the MOS. If the MOS is implicit, the conservative assumptions in the analysis that account for the MOS must be described. If the MOS is explicit, the loading set aside for the MOS must be identified.*

### **Assessment:**

The water quality target for this TMDL was developed using three methods in conjunction with each other: 1. Statistical analysis of NH impaired and unimpaired lakes 2. Nutrient concentrations for commonly accepted trophic levels 3. Probabilistic equations to reduce the risk of adverse lake conditions. Phosphorus concentration and response variable data from NH lakes that was used in these various analyses was collected from the epilimnion layer of the lakes during the summer sampling period. Analysis of this data produced a phosphorus target that is 20% lower than the targets produced by the other analytical methods which is attributable to the summer time period and spatial sampling location within the lake. Studies on other lakes have

shown that the mean annual phosphorus concentrations under well mixed conditions can be 14-40% higher than summer epilimnetic concentrations (Appendix A Section 1.3.1). This produces a 20% implicit margin of safety in all the subsequent analyses because the other methods assume well mixed, mean annual conditions in the lake. Additionally, the empirical model used to set the phosphorus target is also based on mean annual lake concentrations and fully mixed conditions which also provides the same 20% implicit margin of safety.

***Assessment:***

EPA New England concurs that an adequate margin of safety is provided by the implicit MOS of 20% attributable to the conservative assumptions and data used in the phosphorus target setting procedures.

## **7. Seasonal Variation**

*The statute and regulations require that a TMDL be established with consideration of seasonal variations. The method chosen for including seasonal variations in the TMDL must be described (CWA § 303(d)(1)(C), 40 C.F.R. § 130.7(c)(1)).*

The TMDL addresses seasonal variation because the required reduction in phosphorus was calculated for the conditions during the critical, summer season, when occurrence of nuisance algal blooms, low dissolved oxygen and high chlorophyll a concentrations are most likely to occur. The conservative assumptions that were made regarding summer epilimnetic data and applying it on an mean annual basis in setting the TMDL phosphorus target provides assurance that water quality standards will be met during the summer critical period. Therefore, the TMDL allocation protects designated uses during the entire year (TMDL Section 4.4 and 4.5).

***Assessment:***

EPA concludes that the TMDL is protective of water quality under all conditions during all seasons throughout the year.

## **8. Monitoring Plan**

*EPA's 1991 document, Guidance for Water Quality-Based Decisions: The TMDL Process (EPA 440/4-91-001), and EPA's 2006 guidance, Clarification Regarding "Phased" Total Maximum Daily Loads, recommend a monitoring plan when a TMDL is developed using the phased approach. The guidance indicates that a State may use the phased approach for situations where TMDLs need to be developed despite significant data uncertainty and where the State expects that the loading capacity and allocation scheme will be revised in the near future. EPA's guidance provides that a TMDL developed under the phased approach should include, in addition to the other TMDL elements, a monitoring plan that describes the additional data to be collected and a scheduled timeframe for revision of the TMDL.*

NHDES proposes to continue to monitor Pearly Lake and suggests that local stakeholders become active in the Volunteer Lake Assessment Program (VLAP) or with the Lakes Lay Monitoring Program (LLMP) at the University of New Hampshire to ensure that water quality improvement activities are adjusted as monitoring indicates changes in the water quality of the lake. The State discusses their monitoring recommendations and plans in the TMDL report (TMDL Document Section 8.0).

***Assessment:***

EPA concludes that the continued monitoring by NHDES and volunteers is sufficient to evaluate the adequacy of the TMDLs and attainment of Water Quality Standards, although not a required element for TMDL approval. EPA is taking no action on the monitoring plan.

## **9. Implementation Plans**

*On August 8, 1997, Bob Perciasepe (EPA Assistant Administrator for the Office of Water) issued a memorandum, "New Policies for Establishing and Implementing Total Maximum Daily Loads (TMDLs)," that directs Regions to work in partnership with States/Tribes to achieve nonpoint source load allocations established for 303(d)-listed waters impaired solely or primarily by nonpoint sources. To this end, the memorandum asks that Regions assist States/Tribes in developing implementation plans that include reasonable assurances that the nonpoint source load allocations established in TMDLs for waters impaired solely or primarily by nonpoint sources will in fact be achieved. The memorandum also includes a discussion of renewed focus on the public participation process and recognition of other relevant watershed management processes used in the TMDL process. Although implementation plans are not approved by EPA, they help establish the basis for EPA's approval of TMDLs.*

An implementation plan is provided in the submission (TMDL Section 7.0) which summarizes the major identified sources of pollution, identifies the necessary reductions from each, and gives general and specific recommendations for abating them. The plan discusses several types of best management practices and low impact development (LID) techniques to reduce runoff from stormwater, residential areas, and lawns (TMDL Section 7.0 and Table 7.1). It also discusses the opportunities that may be provided by the Clean Water Act Section 319 program for nonpoint source pollution abatement.

***Assessment:***

NHDES has addressed the implementation plan, although it is not required for TMDL approval. EPA is taking no action on the implementation plan.

## 10. Reasonable Assurances

*EPA guidance calls for reasonable assurances when TMDLs are developed for waters impaired by both point and nonpoint sources. In a water impaired by both point and nonpoint sources, where a point source is given a less stringent wasteload allocation based on an assumption that nonpoint source load reductions will occur, reasonable assurance that the nonpoint source reductions will happen must be explained in order for the TMDL to be approvable. This information is necessary for EPA to determine that the load and wasteload allocations will achieve water quality standards.*

*In a waterbody impaired solely by nonpoint sources, reasonable assurances that load reductions will be achieved are not required in order for a TMDL to be approvable. However, for such nonpoint source-only waters, States/Tribes are strongly encouraged to provide reasonable assurances regarding achievement of load allocations in the implementation plans described in section 9, above. As described in the August 8, 1997 Perciasepe memorandum, such reasonable assurances should be included in State/Tribe implementation plans and “may be non-regulatory, regulatory, or incentive-based, consistent with applicable laws and programs.”*

Reasonable assurance is not required for this TMDL because point sources are not given a less stringent wasteload allocation based on the assumption of future nonpoint source load reductions. Although not required, the TMDL cites several additional elements of reasonable assurance:

- The enforcement of RSA 485-A:12, which requires those responsible for sources of pollution that lower water quality below the minimum requirements of the classification to abate such pollution
- DES will work with watershed stakeholders to identify specific phosphorus sources within the watershed
- Requests for Clean Water Act Section 319 funds (nonpoint source pollution program) to implement specific best management practices (BMPs) will receive high priority
- Support for Lakes Management and Protection Plans through RSA 483-A:7
- For lakes included in the NHDES Volunteer Lake Assessment Program, support from DES staff on phosphorus reduction opportunities and help securing CWA Section 319 (nonpoint source) program grants where eligible

### ***Assessment:***

NHDES has addressed reasonable assurance, although it is not required for TMDL approval. EPA is taking no action on reasonable assurance.

## 11. Public Participation

*EPA policy is that there must be full and meaningful public participation in the TMDL development process. Each State/Tribe must, therefore, provide for public participation consistent with its own continuing planning process and public participation requirements (40 C.F.R. § 130.7(c)(1)(ii)). In guidance, EPA has explained that final TMDLs submitted to EPA for review and approval must describe the State/Tribe’s public participation process, including a*

*summary of significant comments and the State/Tribe's responses to those comments. When EPA establishes a TMDL, EPA regulations require EPA to publish a notice seeking public comment (40 C.F.R. § 130.7(d)(2) ).*

*Inadequate public participation could be a basis for disapproving a TMDL; however, where EPA determines that a State/Tribe has not provided adequate public participation, EPA may defer its approval action until adequate public participation has been provided for either by the State/Tribe or by EPA.*

The draft TMDL report was released for public comment on July 11, 2014 and written comments were accepted until August 22, 2014. The draft report was posted to NHDES' website and printed copies were provided to the Town of Rindge Board of Selectmen. Additionally, the draft report was provided to Franklin Pierce University, Comprehensive Environmental Inc. and the Pearly Lake volunteer monitoring group. NHDES did not receive any comments on the draft report and therefore, did not make any substantive changes to the draft report before submitting it as the final report.

***Assessment:***

EPA concludes that NHDES has appropriately involved the public during the development of the TMDL and has provided adequate opportunities for the public to comment on the TMDL.

**12. Submittal Letter**

*A submittal letter should be included with the TMDL analytical document, and should specify whether the TMDL is being submitted for a technical review or is a final submittal. Each final TMDL submitted to EPA must be accompanied by a submittal letter that explicitly states that the submittal is a final TMDL submitted under Section 303(d) of the Clean Water Act for EPA review and approval. This clearly establishes the State/Tribe's intent to submit, and EPA's duty to review, the TMDL under the statute. The submittal letter, whether for technical review or final submittal, should contain such information as the name and location of the waterbody, the pollutant(s) of concern, and the priority ranking of the waterbody.*

The letter of submission accompanying the *Total Maximum Daily Load for Pearly Lake, Rindge, NH* is dated August 26, 2014. NHDES clearly states that the Final TMDL document has been submitted to EPA for approval in accordance with Section 303(d) of the Clean Water Act. The submittal letter along with the appendices and public notice provide all of the required documentation necessary for approval of the Pearly Lake TMDL.

***Assessment:***

NHDES's letter of August 26, 2014 states that the TMDL is being formally submitted for EPA review and approval.

| <b>Data for entry in EPA's National TMDL Tracking System</b> |                      |                           |  |                    |           |                          |                               |
|--|----------------------|---------------------------|--|--------------------|-----------|--------------------------|-------------------------------|
| TMDL Name  |                      | <b>Pearly Lake</b>        |  |                    |           |                          |                               |
| Number of TMDLs*   |                      | 2                         |  |                    |           |                          |                               |
| Type of TMDLs*   |                      | Nutrients                 |  |                    |           |                          |                               |
| Number of listed causes (from 303(d) list)                   |                      | 8                         |  |                    |           |                          |                               |
| Lead State   |                      | New Hampshire (NH)        |  |                    |           |                          |                               |
| TMDL Status  |                      | Final                     |  |                    |           |                          |                               |
| <b>Individual TMDLs listed below</b>                         |                      |                           |  |                    |           |                          |                               |
| TMDL Segment name  | TMDL Segment ID #    | TMDL Pollutant ID# & name | TMDL Impairment Cause(s) <sup>+</sup>  | Pollutant endpoint | Unlisted? | NHDES Point Source & ID# | Listed for anything else?     |
| Pearly Lake  | NHLAK802020103-08    | 903 (Total Phosphorus)    | 357 (Cyanobacteria)<br>291 (Chlorophyll a)<br>449 (Dissolved Oxygen)<br>903(Total Phosphorus)  | 14 ug/l phosphorus | N         |                          | pH, Non-Native Aquatic Plants |
| Pearly Lake  | NHLAK802020103-08-02 | 903 (Total Phosphorus)    | 357 (Cyanobacteria)<br>291 (Chlorophyll a)<br>449 (Dissolved Oxygen)<br>903 (Total Phosphorus) | 14 ug/l phosphorus | N         |                          | pH, Non-Native Aquatic Plants |
| TMDL Type  |                      | Nonpoint Sources          |  |                    |           |                          |                               |
| Establishment Date (approval)*                               |                      | Sep 25, 2014              |  |                    |           |                          |                               |
| EPA Developed  |                      | No                        |  |                    |           |                          |                               |
| Towns affected*  |                      | Rindge, NH                |  |                    |           |                          |                               |