EPA REVIEW OF NEW HAMPSHIRE'S 2016 SECTION 303(d) LIST

INTRODUCTION

EPA has conducted a review of most of New Hampshire's 2016 section 303(d) list, supporting documentation and other information, with only a few waters remaining to be analyzed. Based on this review, EPA has determined that the majority of New Hampshire's list of water quality limited segments (WQLSs) still requiring total maximum daily loads (TMDLs) meets the requirements of section 303(d) of the Clean Water Act ("CWA" or "the Act") and EPA implementing regulations; however, as noted immediately below, EPA is not taking action at this time to approve or to disapprove the State's decisions relating to certain assessment zones in the Great Bay Estuary. Therefore, by this action, EPA hereby approves New Hampshire's 2016 final section 303(d) list with the exception of the following: Little Bay, Bellamy River, Upper Piscataqua River, Portsmouth Harbor, Little Harbor/Back Channel and Great Bay assessment zones; and the Upper Portsmouth Harbor, Great Bay Prohib SZ2 and Great Bay-Cond Appr assessment units. EPA is deferring action on the State's list with respect to this group of assessment zones and units until a later date when EPA's review is completed. EPA needs more time to complete its review of these assessment zones and units because of the complexity of the assessment issues involved. The statutory and regulatory requirements for New Hampshire's 2016 section 303(d) list, and EPA's review of New Hampshire's compliance with each requirement, are described in detail below.

II. STATUTORY AND REGULATORY BACKGROUND

Identification of Water Quality Limited Segments for Inclusion on the Section 303(d) List

Section 303(d)(1) of the Act directs States to identify those waters within its jurisdiction for which effluent limitations required by section 301(b)(1)(A) and (B) are not stringent enough to implement any applicable water quality standard, and to establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters. The section 303(d) listing requirement applies to waters impaired by point and/or nonpoint sources, pursuant to EPA's long-standing interpretation of section 303(d).

EPA regulations provide that States do not need to list waters where the following controls are adequate to implement applicable standards: (1) technology-based effluent limitations required by the Act, (2) more stringent effluent limitations required by State or local authority, and (3) other pollution control requirements required by State, local, or federal authority. See 40 CFR §130.7 (b) (1).

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Consideration of Existing and Readily Available Water Quality-Related Data And Information

In developing section 303(d) lists, States are required to assemble and evaluate all existing and readily available water quality-related data and information, including, at a minimum, consideration of existing and readily available data and information about the following categories of waters: (1) waters identified as partially meeting or not meeting designated uses, or as threatened, in the State's most recent section 305(b) report; (2) waters for which dilution calculations or predictive modeling indicate non-attainment of applicable standards; (3) waters for which water quality problems have been reported by governmental agencies, members of the public, or academic institutions; and (4) waters identified as impaired or threatened in any section 319 nonpoint assessment submitted to EPA. See 40 CFR §130.7(b) (5). In addition to these minimum categories, States are required to consider any other data and information that is existing and readily available. EPA's 2006 Integrated Report Guidance describes categories of water quality-related data and information that may be existing and readily available. See EPA's March 21st, 2011 memorandum on *Information Concerning 2012 Clean Water Act Sections 303(d), 305 (b), and 314 Integrated Reporting and Listing Decisions* which recommended that the 2012 integrated water quality reports follow the *Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305 (b) and 314 of the Clean Water Act* (2006 Integrated Report Guidance (IRG)) issued July 29, 2005 (available at http://www.epa.gov/owow/tmdl/2006 IRG/) as supplemented by the October 12, 2006 memo and attachments, the May 5, 2009 memo and attachments, the November 15, 2010 memo and attachments, the March 21, 2011 memo and attachments, the September 3, 2013 memo and attachments and the August 13, 2015 memo and attachments. All guidance, memoranda and attachments may be found at: http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/guidance.cfm.

While States are required to evaluate all existing and readily available water quality-related data and information, States may decide to rely or not rely on particular data or information in determining whether to list particular waters. In addition to requiring States to assemble and evaluate all existing and readily available water quality-related data and information, EPA regulations at 40 CFR §130.7(b)(6) require States to include as part of their submissions to EPA, documentation to support decisions to rely or not rely on particular data and information and decisions to list or not list waters. Such documentation needs to include, at a minimum, the following information: (1) a description of the methodology used to develop the list; (2) a description of the data and information used to identify waters; and (3) any other reasonable information requested by EPA.

Priority Ranking

EPA regulations also codify and interpret the requirement in section 303(d)(1)(A) of the Act that States establish a priority ranking for listed waters. The regulations at 40 CFR § 130.7(b)(4) require States to prioritize waters on their section 303(d) lists for

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TMDL development, and also to identify those WQLSs targeted for TMDL development in the next two years. In prioritizing and targeting waters, States must, at a minimum, take into account the severity of the pollution and the uses to be made of such waters. See section 303(d)(1)(A). As long as these factors are taken into account, the Act provides that States establish priorities. States may consider other factors relevant to prioritizing waters for TMDL development, including immediate programmatic needs, vulnerability of particular waters as aquatic habitats, recreational, economic, and aesthetic importance of particular waters, degree of public interest and support, and State or national policies and priorities. See 57 FR 33040, 33045 (July 24, 1992), and EPA's 2006 Integrated Report Guidance and the 2006, 2009, 2011, 2013 and 2015 memoranda and attachments.

III. ANALYSIS OF NEW HAMPSHIRE'S SUBMISSION

On May 8, 2017 the New Hampshire Department of Environmental Services (NHDES) released for public comment and review a draft version of its 2016 section 303(d) list and a draft version of its 2016 Consolidated Assessment and Listing Methodology (CALM) document as part of the State's 2016 Integrated Report (IR). Public comments on the draft version of the 2016 303(d) list and 2016 CALM document were accepted until June 23, 2017. The final versions of the 2016 303(d) list and 2016 CALM document were issued on November 30, 2017. The State's November 30, 2017 section 303(d) list submittal to EPA included the following specific components:

1. The State of New Hampshire's 2016 section 303(d) list content introduction;

2. The State of New Hampshire's 2016 section 303(d) list;

3. A list of waters / impairments being removed or delisted from New Hampshire's section 303(d) list;

4. New Hampshire's Response to Public Comments on the May 8, 2017 draft 303(d) list; and New Hampshire's 2016 sections 305(b) and 303(d) CALM and NH DES's Response to Public Comments on the Draft 303(d) list and 2016 CALM document;

5. Technical Support Document for the Great Bay Estuary Aquatic Life Use Support Assessments 2016 305(b) Report/303(d) List.

New Hampshire's section 303(d) list contains water segments for which available data and/or other information indicates that a water segment is not meeting water quality standards because it is impaired or threatened by one or more pollutants for one or more designated uses, and for which a Total Maximum Daily Load (TMDL) is therefore required to be established. EPA's regulations at 40 CFR §130.7 require EPA to review and approve, or disapprove, a state's section 303(d) list.

New Hampshire's CALM document describes the assessment, sampling and data methodologies that NHDES uses to evaluate monitoring data and make attainment or

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impairment designations for waterbodies in the State of New Hampshire. EPA reviews the CALM document, but does not approve or disapprove the document or the methodologies contained in the document.

Pursuant to EPA's Integrated Report Guidance related to assessment and listing of waters pursuant to sections 305(b) and 303(d) of the CWA, states list their waters in one or more of five categories, depending on the status of each water body's attainment of water quality standards. Category 5 corresponds to the section 303(d) list. Category 4 is comprised of waters that are not meeting water quality standards, but for which a TMDL need not be established due to one of three reasons. Category 4A contains waters for which a TMDL has already been established and approved by EPA. Category 4B includes waters, for which a "functionally equivalent" control action has been developed and is being implemented, i.e., an impairment caused by a pollutant is being addressed through other pollution control requirements. Category 4C contains waters that are not attaining water quality standards due to pollution that is not associated with a pollutant. Although waters in Category 4 are not on the section 303(d) list, EPA reviews a state's Category 4 list to ensure that the waters are categorized appropriately and do not, in fact, belong on the section 303(d) list. NH DES included waters in Category 4 with its 2016 submission to EPA.

Public Participation

New Hampshire conducted a public participation process, in which it provided the public an opportunity to review and comment on the State's draft 2016 section 303(d) list and 2016 CALM document. A public comment period opened on May 8, 2017 and closed on June 23, 2017. NHDES posted its draft list and CALM on the Department's website in multiple locations and notified nearly 1,500 stakeholders by direct email notification. NHDES received a total of 8 comment submissions on the May 8, 2017 version of the draft. NHDES assigned a reference or section number to individual comments to aid in identifying instances when a NHDES response applied to multiple individual comments and to ensure that all comments had been appropriately addressed. On November 30, 2017 NHDES released the final version of the 2016 303(d) list which included the responses to all comments received on the draft 303(d) list.

As noted earlier, EPA is not taking action at this time on certain assessment zones and assessment units in the Great Bay Estuary. The vast majority of the comments received during the comment period on the 2016 303(d) list pertain to the Great Bay Estuary. The evaluation of the State's responses to comments in this document will only relate to those comments and responses that do not pertain to the Great Bay Estuary. EPA will evaluate the State's responses to Great Bay Estuary-related comments at a later date. The State's numbering of its responses to comments will be retained in order to reduce potential confusion.

Summary of Comments Received on the May 8, 2017 draft 303(d) list:

1. Ricardo Cantu, OspreyOwl Environmental, LLC

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Summary of Comment: The commenter is concerned with the sampling procedures, laboratory procedures and QA/QC procedures that are used in the assessment and listing of waters in New Hampshire for a variety of parameters such as pH, metals, dissolved oxygen and nutrients. The commenter is also concerned with how water quality data is applied to water quality standards decisions. Additionally, various rivers in New Hampshire were noted as likely affected by these procedures. Several recommendations and changes to the State's CALM document were suggested to improve the quality of data used in assessment and listing.

Summary of Response: NHDES explained how the State conducts lab and field sampling procedures to reduce the concerns that the commenter had regarding sampling and laboratory analyses. NHDES also explained how data are used in making impairment and listing decisions.

EPA concludes that NH DES adequately responded to the comments.

2. Dean Peschel, Great Bay Municipal Coalition
EPA is evaluating portions of this comment that do not pertain to the listing of assessment zones or assessment units in the Great Bay Estuary. EPA will address those comments at a later date.

Summary of Comment: The commenter is concerned with how natural conditions are assessed with regard to impairment and listing purposes. The commenter is also concerned about the applicability of the dissolved oxygen standards in New Hampshire and why these standards have not been updated recently. The commenter also references state legislation (that was pending at the time of the comment) on dissolved oxygen.

Summary of Response: NHDES responded by citing to EPA guidance regarding impairments due to natural conditions as well as conditions that are a combination of natural and anthropogenic influenced conditions. NHDES also acknowledged the recent legislation for dissolved oxygen and the directive for NHDES to look into revising the State water quality standards. NHDES also explained, that in order for the new standards to take effect for Clean Water Act purposes, they must be submitted and approved by EPA.

EPA concludes that NH DES adequately responded to the comments.

3. Dawn Tuomala, Town of Merrimack
Summary of Comment: The commenter has concerns about the age of data that is used to make assessment decisions on waterbodies within the Town of Merrimack. The Town has numerous catch basins to manage stormwater and is concerned about the sampling effort that will be required to monitor stormwater discharges to impaired waterbodies as a result of the MS4 permit requirements. The Town would also like the improvements that have been made in recent years to be captured in the assessment and listing process. The commenter included examples of watershed report cards and sections of the 303(d) list to

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illustrate the Town's concerns for affected waterbodies such as the Souhegan River and Baboosic Brook.

Summary of Response: NHDES explained how data is used in the assessment and listing process and how recent data is used to make decisions. NHDES also explained how the data is compared to historical data to provide context and to look at trends in the data. NHDES also provided some guidance for the Town on how best to evaluate the 303(d) list, how best to assess the listings, and how to interpret the categories that accompany the listings.

EPA concludes that NH DES adequately responded to the comments.

5. Michael Bezanson, City of Rochester
EPA is evaluating portions of this comment that do not pertain to the listing of assessment zones or assessment units in the Great Bay Estuary. EPA will address those comments at a later date.

Summary of Comment: The commenter believes that NHDES has not incorporated changes to the CALM document subsequent to the recommendations of the 2014 peer review of the nitrogen criteria for the Great Bay Estuary. The commenter is also concerned that NHDES has not followed the proper procedures as required by state law in issuing and utilizing the CALM document. The Town believes that NHDES does not have the authority to make impairment decisions based on the procedures contained in the CALM document. Additionally, the commenter contends that NHDES also lacks the authority to use chlorophyll-a thresholds in making assessment and impairment decisions. The commenter is also concerned with the application of the 10% rule which states that at least 10% of samples must exceed standards in order for a waterbody to be listed as impaired. The Town also requests that NHDES no longer use dissolved oxygen percent saturation in evaluating waterbodies due to the passage of legislation in New Hampshire removing percent saturation from the water quality standards. The Town submitted a report that was prepared by Brown and Caldwell detailing specific technical changes that should be made to the CALM document with regard to chlorophyll-a, dissolved oxygen and the use of a weight-of-the-evidence approach in making listing decisions.

Summary of Response: NHDES explained that changes were incorporated into the CALM document as a result of the 2014 peer review and that those changes have carried over to the 2016 version of the CALM document. NHDES explained how the CALM document does not constitute a rule as the Town has asserted. The CALM is used to make regulatory decisions and fulfill obligations under the Clean Water Act and is done so with public input and opportunities for appeal. For the comments on dissolved oxygen, NHDES referred back to the response for Comment 2 that revisions to the standards are in process and that changes to the water quality standards need to be reviewed and approved by EPA. NHDES also explained the reasoning behind the use of the 10% rule and how it is applied to analyze data and make decisions on impairments and listings. NHDES addressed the comments on the use of a chlorophyll-a threshold in the CALM document by explaining that the 20 µg/L threshold represents an infrequently

exceeded target based on the data from New Hampshire waters. This target is supported in the literature and from other state assessment programs and NHDES has concluded that it is an appropriate target.

EPA concludes that NH DES adequately responded to the comments.

7. John Hall, Great Bay Municipal Coalition
EPA is evaluating portions of this comment that do not pertain to the listing of assessment zones or assessment units in the Great Bay Estuary. EPA will address those comments at a later date.

Summary of Comment: The commenter is concerned with several aspects of how the CALM document is used in making impairment decisions. Specifically, the commenter believes that the parameters of chlorophyll-a, dissolved oxygen and water transparency thresholds are not supported by adequate data in the CALM document and that these thresholds also need to undergo the rulemaking process in the State of New Hampshire. The commenter further explains that the dissolved oxygen standards are outdated and that the eelgrass historic coverage threshold is based on data that are not publicly available. Lastly, the commenter is concerned how these various eutrophication thresholds have been applied with regard to nutrient impairment listings.

Summary of Response: NHDES responded by stating that all available information is used when making assessment and impairment decisions. These comments mirror comments made by other individuals or groups with regard to the use of the CALM, updating of water quality standards and the rulemaking process in New Hampshire. NHDES referenced the responses that have been already been made in response to previous comments from other parties.

EPA concludes that NH DES adequately responded to the comments.

8. John Storer, City of Rochester
EPA is evaluating portions of this comment that do not pertain to the listing of assessment zones or assessment units in the Great Bay Estuary. EPA will address those comments at a later date.

Summary of Comment: The commenter is updating comments that were submitted previously regarding changes that the New Hampshire Legislature made to New Hampshire water quality standards for dissolved oxygen percent saturation. The governor signed the bill subsequent to the submission of the previous comments. Rochester is requesting that NHDES revise the CALM document to reflect the changes that have been made to state law.

Summary of Response: NHDES referred to the response that addressed the previous comments from the City of Rochester. That response stated that changes to water quality standards need to be reviewed and approved by EPA before they can be promulgated into state standards.

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EPA concludes that NH DES adequately responded to the comments.

Identification of Waters and Consideration of Existing and Readily Available Water Quality Related Data and Information

EPA has reviewed the State's submission, and has concluded that the State developed the majority of its section 303(d) list in compliance with section 303(d) of the Act and 40 CFR § 130.7, although as noted earlier, EPA is not taking action to approve or to disapprove the State's decisions relating to certain assessment zones in the Great Bay Estuary and three other assessment units within the Great Bay Estuary. EPA's review is based on its analysis of whether the State reasonably considered existing and readily available water quality-related data and information and reasonably identified waters required to be listed.

New Hampshire used the NHDES assessment database to develop its 2016 section 303(d) list. The same database was used to assist in the preparation of the biennial section 305(b) report. NHDES provides ongoing notice on its website to request data from outside sources. Information received from outside sources was assessed in accordance with the State's assessment methodology. In the development of the 2016 section 303(d) list, New Hampshire began with its existing 2014 section 303(d) list (not approved at the time of submission) and relied on new water quality assessments to update the list accordingly. New Hampshire believes that information pertaining to impairment status must be well substantiated, preferably with actual monitoring data, for it to be used in section 303(d) listing.

Priority Ranking

As described in its methodology, New Hampshire established a priority ranking for listed waters by considering: 1) the presence of public health issues, 2) natural/outstanding resource waters, 3) threat to federally threatened or endangered species, 4) public interest, 5) available resources, 6) administrative or legal factors (i.e., NPDES program support or court order), and 7) the likelihood of implementation after the TMDL has been completed.

Individual priority rankings for listed waters are presented as the date shown on the section 303(d) list which indicates when the TMDL is expected to be completed. EPA finds that the water body prioritization and targeting method used by New Hampshire is reasonable and sufficient for purposes of section 303(d). The State properly took into account the severity of pollution and the uses to be made of listed waters, as well as relevant factors described above.

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Waters which are not listed on New Hampshire's 2014 section 303(d) List

The following section provides a summary of NHDES' rationale supporting decisions not to include certain newly identified waters and certain previously listed waters on the State's 2016 303(d) list. As discussed below, the State has demonstrated, to EPA's satisfaction, good cause for not listing the following waters, as provided in 40 CFR §130.7(b)(6)(iv). Note that the section below does not include the following waters, described earlier, for which EPA is deferring action: Little Bay, Bellamy River, Upper Piscataqua River, Portsmouth Harbor, Little Harbor/Back Channel and Great Bay assessment zones; and the Upper Portsmouth Harbor, Great Bay Prohib SZ2, and Great Bay-Cond Appr assessment units.

EPA approves the State's section 303(d) list without the following water body-pollutant combinations because the removal of these listings is consistent with EPA's regulations and EPA's Guidance for Assessment, Listing and Reporting Requirements.

1. **Dissolved Oxygen (Aquatic Life Use Support)**

Eighteen Assessment Units have been delisted from the section 303(d) list for impairment of the Aquatic Life Designated Use due to low dissolved oxygen saturation and low dissolved oxygen concentration.

Assessment Unit Name	Assessment Unit ID	2014	2016
Isinglass River – Dissolved Oxygen % Saturation	NHRIV600030605-10	5-M[1]	2-G[3]
Pemigewasset River-Ayers Island Dam Pond – Dissolved Oxygen % Saturation	NHIMP700010801-08	5-P[1]	2-G[3]
Sucker Brook-Sucker Brook Dam – Dissolved Oxygen % Saturation	NHIMP700010804-03	5-M[1]	2-M[4]
Wicwas Lake – Dissolved Oxygen Concentration	NHLAK700020201-04	5-M[1]	2-G[3]
Lyle Reed Brook – Dissolved Oxygen Concentration	NHRIV700040402-04	5-P[2]	2-G[3]
Lower Suncook Pond - Dissolved Oxygen % Saturation	NHLAK700060402-10-01	5-M[1]	2-M[4]
Merrimack River - Dissolved Oxygen % Saturation	NHRIV700060302-24	5-P[2]	2-G[3]
Merrimack River – Dissolved Oxygen Concentration	NHRIV700060302-24	5-P[2]	2-G[3]
Crystal Lake – Dissolved Oxygen Concentration	NHLAK700060703-02-01	5-M[1]	2-G[3]
Merrimack River - Dissolved Oxygen % Saturation	NHRIV700060803-14-02	5-P[2]	2-G[3]
Cobbetts Pond - Dissolved Oxygen % Saturation	NHLAK700061204-01-01	5-M[1]	2-M[4]
Beaver Lake - Dissolved Oxygen % Saturation	NHLAK700061203-02-01	5-M[1]	2-M[4]

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Rock Pond - Dissolved Oxygen % Saturation	NHLAK700061204-03	5-M[1]	2-M[4]
Partridge Lake - Dissolved Oxygen % Saturation	NHLAK801030502-03	5-M[1]	2-M[4]
Upper Mountain Lake - Dissolved Oxygen % Saturation	NHLAK801030505-04	5-M[1]	2-M[4]
Dutchman Pond - Dissolved Oxygen % Saturation	NHLAK801060402-06	5-M[1]	2-M[4]
Ashuelot Pond - Dissolved Oxygen % Saturation	NHLAK802010101-01	5-M[1]	2-M[4]
Ashuelot River - Dissolved Oxygen % Saturation	NHRIV802010401-16	5-M[1]	2-G[3]

[1]Not Supporting (Marginal)
[2]Not Supporting (Severe)
[3]Meets Standards (Full Support, Good)
[4]Meets Standards (Full Support, Marginal)

Isinglass River (Assessment Unit NHRIV600030605-10) was originally listed as impaired for dissolved oxygen saturation based on a datalogger dataset from 2007 which indicated non-support. Datalogger datasets from 2009 and 2016 indicate full support as well as grab samples taken in 2011 when sampled under similar flow and temperature conditions. This assessment unit has been delisted from 5-M to 2-G for the 2016 assessment cycle.

Pemigewassett River – Ayers Island Dam Pond (Assessment Unit NHIMP70001080-08) is a 500-acre impoundment which had been previously listed in category 5-M. A total of 144 samples collected in assessments from 2006-2016 met NHDES's criteria for determining use support except for a single sample in 2009. There have been no exceedances during the current assessment period of 2011-2016. Therefore, this assessment unit has been delisted to category 2-G for the 2016 assessment cycle.

Sucker Brook-Sucker Brook Dam (Assessment Unit NHIMP700010804-03) has been delisted from category 5-M to 2-M for dissolved oxygen saturation for the 2016 assessment cycle as a result of samples collected from 2011-2016 that meet NHDES's criteria for determining use support. The samples collected during the current assessment period were taken under similar flow and weather conditions as those samples collected in 2010 when the violations occurred.

Wicwas Lake (Assessment Unit NHLAK700020201-04) was previously listed in category 5-M for dissolved oxygen concentration due to violations that occurred in the 1990's and early 2000's, with the last violation measured in 2004. All data collected from 2006-2016 indicate full support of water quality standards and there has been no repeating pattern of low dissolved oxygen concentrations. Sampling during the current assessment cycle was conducted under similar weather and precipitation conditions as when the violations occurred. Therefore, this assessment unit has been delisted to category 2-G for the 2016 assessment cycle.

Lyle Reed Brook (Assessment Unit NHRIV700040402-04) had been listed in category 5-P due to the results of grab samples collected in 2003 which indicated non-support of water quality standards. Data collected in 2016 from a datalogger which was deployed at station 01-LRB (03M-G04), which was one of the stations with the lowest dissolved

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oxygen concentration measurements in 2003, indicate full support of water quality standards. Sampling in 2016 was conducted under low flow and similar weather conditions as when the violations occurred. Therefore, this assessment unit has been delisted to category 2-G for the 2016 assessment cycle.

Lower Suncook Pond (NHLAK700060402-10-01) was originally listed as impaired for dissolved oxygen saturation in 2010. This impairment determination was based on samples which had been collected outside of the critical period and critical time for dissolved oxygen saturation. Eleven samples were collected from 2011-2016. Five of these samples were collected outside of the critical time, and one was collected outside of the critical period for dissolved oxygen saturation. The data do not indicate a pronounced diel dissolved oxygen swing, and all sample results met NHDES's criteria for determining use support. This assessment unit has been delisted from category 5-M to 2-M for the 2016 assessment cycle.

Merrimack River (Assessment Unit NHRIV700060302-24) was originally listed as impaired for dissolved oxygen saturation and concentration in 2002 based on data collected at station P1893-01. A datalogger was deployed at station P1893-01 in August 2015. All of the dissolved oxygen saturation and dissolved oxygen concentration data collected throughout the deployment were above the applicable dissolved oxygen minimum saturation and concentration criteria. Grab samples taken during the current assessment period also show attainment of standards. Water temperatures were above 25° C during sampling and flows were slightly higher than the conditions under which violations occurred. This assessment unit has been delisted from category 5-P to 2-G for both dissolved oxygen saturation and concentration for the 2016 assessment cycle.

Crystal Lake (Assessment Unit NHLAK700060703-02-01) was originally listed as impaired for dissolved oxygen concentration in 1994 (magnitude of exceedance) as well as for violations in the early 2000's. Data collected within the critical period and critical time for dissolved oxygen concentration over the past ten years indicate full support of water quality standards. Sampling for the current assessment period was conducted under similar weather conditions as when the violations occurred. As such, this assessment unit has been delisted from category 5-M to 2-G for the 2016 assessment cycle.

Merrimack River (Assessment Unit NHRIV700060803-14-02) was originally documented as impaired for dissolved oxygen saturation as part of FERC#1893-Final Report, PSNH WQ (December 2003). Datalogger data collected in 2009 and 2015 indicate full support, as do grab sample results from 2011-2016. Weather and flow conditions for the current assessment period were similar to those from the early 2000's. This assessment unit has been delisted from 5-P to 2-G for the 2016 assessment cycle.

Cobbetts Pond (Assessment Unit NHLAK700061204-01-01) is monitored through the Volunteer Lake Assessment Program. Prior to 2006, there were two exceedances of the dissolved oxygen saturation minimum criterion in 2002. Data collected from 2006-2016 indicate favorable dissolved oxygen saturation values and met NHDES's criteria for

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determining use support with one exception of a magnitude of exceedance violation in 2009. This one exceedance does not violate the 10% rule which is described on pages 24-26 of NHDES' Consolidated Assessment and Listing Methodology document. The document states, "In general, the 10% rule simply means that at least 10% of the samples must violate water quality criterion before a waterbody will be listed as impaired." Since 2009, all samples have met the minimum dissolved oxygen % saturation standard. This assessment unit has been delisted from 5-M to 2-M for the 2016 assessment cycle.

Beaver Lake (Assessment Unit NHLAK700061203-02-01) was listed as impaired for dissolved oxygen saturation based on samples from the late 1990's and early 2000's. There was also a violation detected in 2016, however, that data point was found to be an anomaly or data entry error as the dissolved oxygen concentration (8.3 mg/L) at the same depth (3m) was within the normal range. Samples bracketing the 3-meter depth sample in question were all normal as conditions at 2 meters were 8.2 mg/L and 101% saturation; and samples taken at 4 meters were 8.6 mg/L and 101%. The erroneous data point was omitted from the assessment database and substituted with data collected at 2 meters in depth. This waterbody was subject to a Diagnostic Feasibility Study and Implementation Project to improve watershed land uses, historic loadings and water quality with respect to dissolved oxygen saturation and is now currently attaining standards. All samples collected from 2006-2016 were above the minimum dissolved oxygen saturation criterion, indicating support of dissolved oxygen saturation water quality standards. This assessment unit has been delisted from category 5-M to category 2-M for the 2016 assessment cycle.

Rock Pond (Assessment Unit NHLAK700061204-03) was sampled on ten occasions from 2006-2016 for dissolved oxygen saturation. All samples met NHDES's criteria for determinations regarding support of water quality standards except for one sample taken in 2007 (74% saturation) which did not meet the minimum standard of 75% for dissolved oxygen saturation. This one exceedance does not violate the 10% rule which is described on pages 24-26 of NHDES' Consolidated Assessment and Listing Methodology document. The document states, "In general, the 10% rule simply means that at least 10% of the samples must violate water quality criterion before a waterbody will be listed as impaired." Since 2007, all samples have met the minimum dissolved oxygen saturation standard. This assessment unit has been delisted from category 5-M to category 2-M for the 2016 assessment cycle.

Partridge Lake (Assessment Unit NHLAK801030502-03) exceeded dissolved oxygen saturation criteria in 1998, 2000 and 2001. This waterbody was part of a Diagnostic Feasibility Study which identified watershed areas for restoration/improvement. The subsequent implementation of best management practices has likely resulted in improvements in water quality. Data collected from 2006-2016 were above the dissolved oxygen saturation criteria and met NHDES's criteria for making use support determinations. Therefore, this assessment unit has been delisted from category 5-M to 2-M for the 2016 assessment cycle.

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Upper Mountain Lake (Assessment Unit NHLAK801030505-04) was sampled for dissolved oxygen saturation on 11 occasions from 2006-2016. There was one magnitude of exceedance violation which occurred in 2007. This one exceedance does not violate the 10% rule which is described on pages 24-26 of NHDES' Consolidated Assessment and Listing Methodology document. The document states, "In general, the 10% rule simply means that at least 10% of the samples must violate water quality criterion before a waterbody will be listed as impaired." The results met NHDES's criteria for making use support determinations, and this assessment unit has been delisted from category 5-M to 2-M for the 2016 assessment cycle.

Dutchman Pond (Assessment Unit NHLAK801060402-06) was sampled for dissolved oxygen saturation on ten occasions from 2006-2016. The data indicate a single exceedance in 2008, however, the total dataset met NHDES's criteria for making use support determinations. One exceedance does not violate the 10% rule for listing purposes which is described on pages 24-26 of NHDES' Consolidated Assessment and Listing Methodology document. The document states, "In general, the 10% rule simply means that at least 10% of the samples must violate water quality criterion before a waterbody will be listed as impaired." Historical exceedances of dissolved oxygen saturation criteria are more than 10 years old and are not considered to be suitable data for making assessment decisions at this point due to the age of the data. Based on recent data, which indicate attainment of dissolved oxygen saturation criteria, this assessment unit has been delisted from category 5-M to 2-M for the 2016 assessment cycle.

Ashuelot Pond (Assessment Unit NHLAK802010101-01) is monitored by the Volunteer Lake Assessment Program. The most recent exceedance of dissolved oxygen saturation criteria (2005) is older than 10 years old and is not considered to be suitable data for making assessment decisions at this point due to the age of the data. Data collected from 2006-2016 indicate attainment of dissolved oxygen saturation criteria for the past ten years. This assessment unit has been delisted from category 5-M to 2-M for the 2016 assessment cycle.

Ashuelot River (Assessment Unit NHRIV802010401-16) was previously impounded by the Homestead Woolen Mill Dam. Following the removal of the dam in 2010, the waterbody type was changed from an impoundment (previous Assessment Unit NHIMP802010401-01) to a river (current assessment unit NHRIV802010401-16). Consequently, all samples associated with the impounded condition are not appropriate for assessing the condition of a free-flowing river. Data collected post dam removal (2011-2016) indicate that water quality standards are being met. This assessment unit has been delisted from category 5-M to 2-G for dissolved oxygen saturation for the 2016 assessment cycle.

2. Estuarine-Chlorophyll-a (Aquatic Life Use Support)

Two Assessment Units have been delisted from the section 303(d) list for impairment of the Aquatic Life Designated Use due to excess chlorophyll-a in estuarine waters.

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Assessment Unit Name	Assessment Unit ID	2014	2016
Oyster River	NHEST600030902-01-03	5-M	2-M
Oyster River Mouth	NHEST600030904-06-17	5-M	2-M

Oyster River (NHEST600030902-01-03) and Oyster River Mouth (NHEST600030904-06-17) were listed for large chlorophyll-a blooms which occurred in the early 2000's. Since that time, chlorophyll-a levels have been declining to the point where these two assessment units are now meeting the 90th percentile chlorophyll-a threshold of 10 µg/L with a calculated value of 8.5 µg/L. These two assessment units have been delisted from category 5-M to 2-M for chlorophyll-a for the 2016 assessment cycle.

3. Lake-Chlorophyll-a/Total Phosphorus (Aquatic Life Use Support)

Six assessment units have been delisted from the 303(d) list for impairment of the Aquatic Life Designated Use due to chlorophyll-a and total phosphorus.

Assessment Unit Name	Assessment Unit ID	2014	2016
Hills Pond	NHLAK700060401-04	5-M	2-M
Sunset Lake	NHLAK700060401-12	5-M	2-M
Crystal Lake	NHLAK700060401-02-01	5-M	2-M
Onway Lake	NHLAK600030703-03-01	5-M	2-M
Willand Pond	NHLAK600030405-03	5-M	2-M
Wash Pond (Sunset Lake)	NHLAK700061101-03-01	5-M	2-M/2-PNS

Hills Pond (Assessment Unit NHLAK700060401-04) was identified as not supporting the aquatic life designated use for chlorophyll-a/total phosphorus due to exceedances of the chlorophyll-a threshold for mesotrophic lakes of 5µg/L in 2010 and 2012. The median chlorophyll-a concentration indicates a slight decline from the 2014 assessment cycle, and has remained below the median threshold value for determining impairments for two consecutive assessment cycles. Hills Pond had been listed as impaired for total phosphorus due to the stressor/response matrix which triggered the phosphorus listing due to the chlorophyll-a exceedances. The median total phosphorus concentration has remained below the threshold value for making impairment determinations for the past two cycles. A beaver management program has been implemented to allow for adequate flushing of the pond. Additionally, two regulatory actions which went into effect in January 2009 (RSA 485-A-39 – limiting the phosphorus contents of fertilizers and the application of fertilizers containing phosphorus) and January 2014 (RSA 431 – requiring the inspection of septic systems for any waterfront property for sale prior to the sale of the property), as well as increased education and outreach activities aimed at stormwater

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management for homeowners have likely contributed to an overall decrease in phosphorus loadings (as well as a concurrent decrease in algal growth) to Hills Pond. This assessment unit has been delisted from category 5-M to 2-M for both chlorophyll-a and total phosphorus for the 2016 assessment cycle.

Sunset Lake (Assessment Unit NHLAK700060401-12) was listed as impaired for chlorophyll-a and total phosphorus in the 2014 assessment cycle. Two elevated chlorophyll-a measurements that were observed in 2013 and 2014 are attributed to above average monthly rainfall which resulted in high water levels prior to sampling. This condition was exacerbated by the presence of beaver dams which impeded the flushing rate. Chlorophyll-a values have remained below the median threshold value for determining impairments for two consecutive assessment cycles. Total phosphorus values remain below the median threshold values and have remained stable since the 2010 assessment cycle. Hills Pond flows into Sunset Lake. The following activities which have been implemented in Hills Pond have likely contributed to an overall decrease in phosphorus loadings (as well as a concurrent decrease in algal growth) in Sunset Lake: (1) The implementation of a beaver management program; (2) education and outreach activities aimed at stormwater management for homeowners; and (3) regulatory actions aimed at reducing the availability and application of phosphorus-containing fertilizers (RSA 485-A-39, effective January 2009) and requiring inspections of septic systems of any waterfront property prior to a sale (RSA 431, effective January 2014). This assessment unit has been delisted from category 5-M to 2-M for both chlorophyll-a and total phosphorus for the 2016 assessment cycle.

Crystal Lake (Assessment Unit NHLAK700060401-02-01) has experienced a decrease in median chlorophyll-a values, particularly since 2006, indicating improved conditions. Following an increasing trend from 2000-2006, total phosphorus values have stabilized at a low level. The lake is monitored by an active Volunteer Lake Assessment Program. The following activities have likely contributed to improvements in water quality: (1) ongoing education and outreach efforts; (2) the widespread availability and use of phosphate-free fertilizers (RSA 485-A-39, effective January 2009); (3) increased identification and replacement of poorly functioning septic systems at any waterfront property prior to a sale (RSA 431, effective January 2014); and (4) the removal of sand/salt applied during the winter months from the edge of the lake. This assessment unit has been delisted from category 5-M to category 2-M for the 2016 assessment cycle.

Onway Lake (Assessment Unit NHLAK600030703-03-01) was listed as impaired for chlorophyll-a and total phosphorus due to exceedances of both the chlorophyll-a threshold of 5 µg/L and the total phosphorus threshold of 12 µg/L for mesotrophic lakes. The results of annual monitoring indicate that the median chlorophyll-a concentrations have been below the threshold value for determining water quality impairments in the last three assessment cycles (2012, 2014 and 2016), and that the majority of chlorophyll-a data collected over the past ten years has been below the threshold. The median total phosphorus value has remained below the threshold for making impairment determinations for the 2010, 2014 and 2016 assessment cycles, with the majority of the data consistently being below the threshold. The following activities have likely

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contributed to improvements in water quality: (1) ongoing education and outreach efforts aimed at stormwater management for the homeowner and the availability of NHDES's "NH homeowner's Guide to Stormwater Management"; (2) the widespread availability and use of phosphate-free fertilizers (RSA 485-A-39, effective January 2009); (3) increased identification and replacement of poorly functioning septic systems at any waterfront property prior to a sale (RSA 431, effective January 2014); (4) the removal of sand/salt applied during the winter months from the edge of the lake. This assessment unit has been delisted from category 5-M to category 2-M for the 2016 assessment cycle.

Willand Pond (Assessment Unit NHLAK600030703-03-01) is monitored by the Volunteer Lake Assessment Program. Data collected from 2014 and 2016 indicate that median chlorophyll-a and total phosphorus values have remained below threshold values for mesotrophic lakes and also indicate decreases in both epilimnetic and metalimnetic phosphorus concentrations to levels below threshold values for supporting lower levels of algal growth. Decreases in nutrient loading and algal growth are attributed in part to the implementation of management actions and restoration activities (watershed planning, stormwater management, water level management and community outreach). This assessment unit has been delisted from category 5-M to 2-M for both chlorophyll-a and total phosphorus.

Wash Pond (Sunset Lake) (Assessment Unit NHLAK600030405-03) was originally listed as impaired for chlorophyll-a and total phosphorus. Since the 2014 assessment cycle, 28 chlorophyll-a data points and 6 total phosphorus data points from the University of New Hampshire were uploaded for use in the 2016 assessment cycle. The chlorophyll-a data indicates full support for both the 2014 and 2016 assessment cycles, however, the total phosphorus median value exceeds the threshold for mesotrophic lakes by 1 µg/l and the pond is identified as potentially not supporting designated uses. Phosphorus samples will continue to be collected annually in July. This assessment unit has been delisted from category 5-M to 2-M for chlorophyll-a, and from category 5-M to 3-PNS for total phosphorus.

4. Cyanobacteria (Primary Contact Recreations (i.e. swimming)

Five Assessment Units have been delisted from the 303(d) list for impairment of the Primary Contact Recreation Designated Use due to cyanobacteria hepatotoxic microcystins.

Assessment Unit Name	Assessment Unit ID	2014	2016
Willand Pond	NHLAK600030405-03	5-M	2-M
Hermit Lake	NHLAK700010802-03-01	5-M	2-M
Hermit Lake-Town Beach	NHLAK700010802-03-02	5-M	2-M
Rock Pond	NHLAK700061204-03	5-M	2-M

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Stocker Pond	NHLAK801060401-02	5-M	2-M

Willand Pond (Assessment Unit NHLAK600030405-03) was originally listed as impaired due to cyanobacteria hepatotoxic microcystins in 2008 based on cyanobacteria blooms, with the most recent event occurring in 2011 (a sample collected on 9/14/2011 contained 50,538 cells/mL (88% Spirulina, 6% Anabaena, 6% other detritus, dinoflagellates). Willand Pond's Volunteer Lake Assessment Program, which monitors conditions within the pond, has not detected a cyanobacteria bloom since 2011. Both total phosphorus (stressor variable) and chlorophyll-a (response variable) 10-year median values (8.75 ug/l and 4 ug/l, respectively) indicate a low likelihood of a cyanobacteria bloom occurring. The chlorophyll-a threshold for primary contact recreation is less than 15 µg/L in freshwaters. Further, both median total phosphorus and chlorophyll-a values have improved since the implementation of management actions and restoration activities (watershed planning, stormwater management, water level management and community outreach) which have resulted in a decrease in nutrient loads and algal growth in the pond. Due to the time since the last occurrence of a cyanobacteria bloom, stressor and response variable data being below water quality criteria exceedance thresholds, as well as the implementation of management and restoration activities aimed at reducing nutrient inputs to the pond, this assessment unit has been delisted from category 5-M to 2-M for the 2016 assessment cycle.

Hermit Lake and Hermit Lake-Town Beach (NHLAK700010802-03-01 and NHLAK700010802-03-02) were listed for impairment of the primary contact recreation designated use due to cyanobacteria hepatotoxic microcystins in 2010 based on a cyanobacteria bloom in 2009. Hermit Lake is monitored by the Volunteer Lake Assessment Program. Additionally, NHDES samples the Town Beach several times per year by staff trained in the detection of cyanobacteria blooms. There have not been any cyanobacteria blooms detected since 2009. The ten-year summer median total phosphorus (stressor parameter) value of 6.8 µg/l, and the median chlorophyll-a (response parameter) value of 5.8 µg/l indicate a low likelihood of a cyanobacteria bloom occurring in the future. The chlorophyll-a threshold for primary contact recreation is less than 15 µg/L in freshwaters. Due to the time since the last occurrence of a cyanobacteria bloom as well as stressor and response variable data being below water quality criteria exceedance thresholds, this assessment unit has been delisted from category 5-M to 2-M for the 2016 assessment cycle.

Rock Pond (Assessment Unit NHLAK700061204-03) was listed as impaired for primary contact recreation due to cyanobacteria hepatotoxic microcystins in 2012 as a result of a cyanobacteria bloom which occurred in 2010. Rock Pond is monitored by the Volunteer Lake Assessment Program, and there have not been any observed cyanobacteria blooms since 2010. The ten-year summer median total phosphorus (stressor variable) and chlorophyll a (response variable) values of 9.1 µg/l and 3.1 µg/l, respectively indicate a low likelihood of a cyanobacteria bloom occurring in the future. The chlorophyll-a threshold for primary contact recreation is less than 15 µg/L in freshwaters. Due to the time since the last occurrence of a cyanobacteria bloom as well as stressor and response variable data being below water quality criteria exceedance thresholds, this

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assessment unit has been delisted from category 5-M to 2-M for the 2016 assessment cycle.

Stocker Pond (Assessment Unit NHLAK801060401-02) experienced a cyanobacteria bloom in 2006 and was subsequently listed as not supporting the primary contact designated use for hepatotoxic microcystins for the 2008 assessment cycle. Stocker Pond is monitored by the Volunteer Lake Assessment Program, and there have not been any observed cyanobacteria blooms since 2009. The ten-year summer median total phosphorus (stressor variable) and chlorophyll-a (response variable) values of 9.5 µg/l and 4.4 µg/l, respectively indicate a low likelihood of a cyanobacteria bloom occurring in the future. The chlorophyll-a threshold for primary contact recreation is less than 15 µg/L in freshwaters. While cyanobacteria are present in the phytoplankton community, conditions in the pond typically promote the growth of dinoflagellates (i.e., tea colored water and high conductivity). The 2006 bloom appears to have been a random event. Recent beaver management activities have been implemented to improve flow through the pond which should improve nutrient flushing. Due to the time that has passed since the last occurrence of a cyanobacteria bloom, stressor and response variable data being below water quality criteria exceedance thresholds; conditions within the pond which favor the growth of dinoflagellates as well as the implementation of beaver management activities to improve flushing, this assessment unit has been delisted from category 5-M to 2-M for the 2016 assessment cycle.

5. pH (Aquatic Life Use Support)

Ten assessment units have been delisted from the 303(d) list for impairment of the Aquatic Life Designated Use due to pH.

Assessment Unit Name	Assessment Unit ID	2014	2016
Winnicut River-Barton Brook-Marsh Brook-Thompson Brook	NHRIV600030901-02	5-M	2-M
Academy Brook-Loon Pond Brook	NHRIV700060201-04	5-M	2-M
Perry Brook	NHRIV802010302-04	5-M	2-G
Lyle Reed Brook	NHRIV700040402-04	5-M	2-G
Contoocook River-Town Farm BK to Noone Mill Dam-Incl Gridley R	NHRIV700030104-03	5-P	2-G
Little Bear Brook	NHRIV700060502-09	5-M	2-M
Sebbins Brook-Pointer Club Brook	NHRIV700060804-01	5-M	2-M
Partridge Brook-Unnamed Brook	NHRIV801070503-02	5-M	2-M
Beards Creek	NHIMP600030902-06	5-P	2-G
Showell Pond Outlet Brook-to Philips Pond	NHRIV600030802-02	5-M	2-M

Winnicut River-Barton Brook-Marsh Brook-Thompson Brook (Assessment Unit NHRIV600030901-02) was listed as impaired for pH based on data collected in 2001 and 2004. Grab samples and continuous data (pH minimum and maximum values) collected

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from 2011-2016 met NHDES's criteria for making use support determinations and indicate full support of the aquatic life designated use. The recent data which indicates full support was collected under similar conditions (and in greater numbers) as the historic data from 2001 and 2004 which indicated non-support. This assessment unit has been delisted from category 5-M to 2-M for the 2016 assessment cycle.

Academy Brook-London Pond Brook (Assessment Unit NHRIV700060201-04) was originally listed as impaired for pH based on data collected in 1999. Grab samples and continuous data (pH minimum and maximum values) collected from 2011-2016 met NHDES's criteria for making use support determinations and indicate full support of the aquatic life designated use. Further, the recent data which indicates full support was collected under similar conditions (and in greater numbers) as the historic data from 1999 which indicated non-support. This assessment unit has been delisted from category 5-M to 2-M for the 2016 assessment cycle.

Perry Brook (Assessment Unit NHRIV802010302-04) was originally listed as impaired for pH due to data collected in 2007 and 2008. Fifteen grab samples were collected between 2011 and 2016 at the same station where the data that was used as the basis for the original impairment listing was collected. The 2011-2016 data indicate full support of the aquatic life designated use and were collected at the same station and under similar conditions (as well as in greater numbers) as the historic data from 2007 and 2008. This assessment unit has been delisted from category 5-M to 2-G for the 2016 assessment cycle.

Lyle Reed Brook (Assessment Unit NHRIV700040402-04) was listed as impaired for pH in 2004 based on data collected in 2003 which were below the minimum pH criterion. Three out of five (60%) of the 2003 sample results should not have been considered as exceeding criteria because they were close to the pH minimum threshold of 6.5 SU (the sample results were 6.46 SU, 6.40 SU and 6.39 SU), and this assessment unit should have been categorized as 3-PNS (potential non-support) for the 2004 assessment.
Grab sample data collected in 2016 indicate full support of the aquatic life designated use for pH and met NHDES's criteria for making use support determinations and indicate full support of the aquatic life designated use. The recent data which indicates full support was collected under similar conditions (and in greater numbers) as the historic data from 2003 which indicated non-support. This assessment unit has been delisted from category 5-M to 2-G for the 2016 assessment cycle.

Contoocook River-Town Farm Brook to Noon Mill Dam – Including Gridley River (Assessment Unit NHRIV700030104-03) was listed as impaired for pH for the 2004 assessment cycle. In the 2010 assessment cycle, assessment unit NHRIV700030104-03 was split from 8.4 mile units to 2.1 mile units, with the larger segment becoming assessment unit NHRIV700030104-29. Sampling stations 01A-GRD, 02-GRD, and 03-GRD, which have indicated non-support of the aquatic life designated use since 2002, are now associated with assessment unit NHRIV700030104-29. Samples collected in 2015 and 2016 at a station which represents current conditions in assessment unit NHRIV700030104-03 met the applicable pH criteria, as well as NHDES's criteria for

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making use support determinations. This assessment unit has been delisted from category 5-P to 2-G for assessment cycle 2016.

Little Bear Brook (Assessment Unit NHRIV700060502-09) was sampled thirteen times from 2011-2016. All of the results indicate full support of the aquatic life designated use for pH. Little Bear Brook has been delisted from category 5-M to category 2-M for the 2016 cycle.

Sebbins Brook-Pointer Club Brook (Assessment Unit NHRIV700060804-01) was sampled seventeen times between 2011 and 2016 under similar conditions (an in greater numbers) as the historic data which served as the basis of the original impairment listing. The recent data all indicate full support and meet NHDES's criteria for making use support determinations. This assessment unit has been delisted from category 5-M to 2-M for the 2016 assessment cycle.

Partridge Brook-Unnamed Brook (Assessment Unit NHRIV801070503-02) was listed as impaired for pH based on data from 2003 which did not meet the applicable criteria. This assessment unit was sampled eighteen times from 2011-2016. All but one result was within the applicable pH criteria range, which is below the 10% exceedance threshold which would trigger assessing a waterbody as impaired as established in the State's Consolidated Assessment and Listing Methodology document. One exceedance does not violate the 10% rule for listing purposes which is described on pages 24-26 of NHDES' Consolidated Assessment and Listing Methodology document. The document states, "In general, the 10% rule simply means that at least 10% of the samples must violate water quality criterion before a waterbody will be listed as impaired." The recent data which indicates full support was collected at the same station under similar conditions (and in greater numbers) as the historic data from 2003 which indicated non-support. This assessment unit has been delisted from category 5-M to 2-M for the 2016 assessment cycle.

Beards Creek (Assessment Unit NHIMP600030902-06) was listed due to exceedances of the pH standard between 2001 and 2006. Since 2006 there have not been any exceedances of the pH standard. Beards Creek was sampled in a variety of weather conditions and in all months except for January and February in 2016. All of the data met the applicable pH criteria as well as NHDES's criteria for making use support determinations. This assessment unit has been delisted from category 5-P to 2-G for the 2016 assessment cycle.

Showell Pond Outlet Brook-to Phillips Pond (Assessment Unit NHRIV600030802-02) was originally listed as impaired for pH samples collected in 2008 and 2010.
Grab sample data collected in 2011 through 2016 at stations PHISDNI and SHOSDNO show all samples are within the applicable pH criteria range except for one sample (6.41), which is below the 10% exceedance threshold which would trigger assessing a waterbody as impaired as established in the State's CALM document. One exceedance does not violate the 10% rule for listing purposes which is described on pages 24-26 of NHDES' Consolidated Assessment and Listing Methodology document. The

document states, "In general, the 10% rule simply means that at least 10% of the samples must violate water quality criterion before a waterbody will be listed as impaired." This assessment unit has been delisted from category 5-M to 2-M for the 2016 assessment cycle.

6. Total Phosphorus (Aquatic Life Use Support)

One assessment unit has been delisted from the 303(d) list for impairment of the Aquatic Life Designated Use due to excess total phosphorus.

Assessment Unit Name	Assessment Unit ID	2014	2016
Captain Pond	NHLAK700061102-03-01	5-M	4A-M

Captain Pond (Assessment Unit NHLAK700061102-03-01) was listed as impaired for Aquatic Life Use due to exceedances of dissolved oxygen water quality standard and exceedances of the total phosphorus and chlorophyll-a thresholds for mesotrophic lakes. On September 28, 2017 EPA approved a TMDL for Captain Pond which addressed the various sources of phosphorus such as atmospheric deposition, watershed loading, internal loading, septic systems (within 125 feet of the lake) and waterfowl contributions that are causing impairment of the aquatic life designated use. The TMDL will result in attainment of the total phosphorus, chlorophyll-a and dissolved oxygen thresholds and will also be effective in reducing harmful algal blooms and cyanobacteria blooms. This assessment unit has been delisted from category 5-M to category 4A-M for the aquatic life designated use for the 2016 assessment cycle.

7. "Taste and Odor" & Foam/Flocs/Scum/Oil Slicks (Primary and Secondary Contact Recreation Use Support)

One assessment unit has been delisted from the 303(d) list for impairment of the Primary and Secondary Contact Recreation Designated Uses due to Taste and Odor and Foam/Flocs/Scum/Oil Slicks.

Assessment Unit Name	Assessment Unit ID	2014	2016
Little Cohas Brook	NHRIV700060804-05	5-P	2-M

Little Cohas Brook (Assessment Unit NHRIV700060804-05) was originally listed as not meeting either the primary or secondary contact designated uses due to taste and odor and foam/flocs/scum/oil slicks. The source of results on which the original impairment determination was based on was an outfall draining deicing runoff from the Manchester-Boston Regional Airport (outfall 012). As of 2010, deicer runoff is no longer discharged through outfall 012. The discharge has been re-routed to outfall 019, which discharges to the Merrimack River. Recent sampling in February of 2015 at outfall 012 for foam, odor and color did not result in any detectable foam; although there was a faint odor of glycol in the air, glycol was not detected at the pipe discharge area. This assessment unit has been delisted from category 5-P to 2-M for the primary and secondary contact designated uses for the 2016 assessment cycle.

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8. Macroinvertebrates (Aquatic Life Use Support)

Two Assessment Units (AUs) have been delisted from the 303(d) list for impairment of the Aquatic Life Designated Use due to degraded Benthic-Macroinvertebrate Bioassessments.

Assessment Unit Name	Assessment Unit ID	2014	2016
Cold River-Warren Brook-Unnamed Brook	NHRIV801070203-04	5-P	2-M
Tully Brook-Unnamed Brooks	NHRIV802020203-05	5-P	2-M

Cold River-Warren Brook-Unnamed Brook (Assessment Unit NHRIV801070203-04) scored below the B-IBI threshold which indicates healthy aquatic life, in 2006. Modification along more than 1000 feet of Warren Brook with bank stabilization, reestablished floodplains, and channel modifications has occurred since 2006. Sampling conducted in 2014 using the same methodology and under similar conditions as during the 2006 sampling events shows that this assessment unit currently meets the macroinvertebrate indicator score for aquatic life use support. This assessment unit has been delisted from 5-P to 2-M for the 2016 assessment cycle.

Tully Brook-Unnamed Brooks (Assessment Unit NHRIV802020203-05) was listed as impaired due to degraded benthic-macroinvertebrate bioassessments based on low B-IBI scores from 2004. Annual sampling from 2013-2015 were all above the B-IBI threshold value for making impairment determinations, indicating that water quality conditions have improved since 2004. This assessment unit has been delisted from category 5-P to 2-M for the 2016 assessment cycle.

9. Mercury (Fish Consumption Use Support)

Eleven new assessment units have been included in Category 4A (TMDL complete) due to the fact that all freshwater assessment units in New Hampshire are covered by the 2007 Northeast Regional Mercury TMDL. All freshwater assessment units in New Hampshire are considered impaired for fish consumption due to atmospheric deposition of mercury.

Assessment Unit Name	Assessment Unit ID	2014	2016
Jericho Mountain State Park Beach	NHLAK400010606-01-02	n.a.	4A-M
Michawanic Pond	NHLAK600020703-06	n.a.	4A-M
Squam Lake-Wister Point West Beach	NHLAK700010501-04-06	n.a.	4A-M
Squam Lake-Moon Island South Beach	NHLAK700010501-04-07	n.a.	4A-M
Squam Lake-Wister Point East Beach	NHLAK700010501-04-08	n.a.	4A-M
Dalton Drive Beach	NHLAK700060402-03-03	n.a.	4A-M
Saint Anlslems Swimming Pond	NHLAK700060607-06	n.a.	4A-M
Mascoma Lake-Lakeview Condominium Association Beach	NHLAK801060105-04-05	n.a.	4A-M

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Quimby Brook	NHRIV600020703-17	n.a.	4A-M
Wilder Brook	NHRIV700030104-31	n.a.	4A-M
Northwood Lake	NHRIV700060502-50	n.a.	4A-M

Section 5.1 of the Northeast Regional Mercury TMDL[1] contains a provision to add impaired waters to subsequent 303(d) lists for waters that are impaired due to atmospheric deposition and do not have any other sources of mercury impairment. These waterbodies have been placed into Category 4A-M for the 2016 cycle.

Waters impaired by nonpoint sources of pollution

The State properly listed waters with nonpoint sources causing or expected to cause impairment, consistent with section 303(d) and EPA guidance. Section 303(d) lists are to include all WQLSs still needing TMDLs, regardless of whether the source of the impairment is a point and/or nonpoint source. EPA's long-standing interpretation is that section 303(d) applies to waters impacted by point and/or nonpoint sources. In 'Pronsolino v. Marcus,' the District Court for Northern District of California held that section 303(d) of the Clean Water Act authorizes EPA to identify and establish total maximum daily loads for waters impaired by nonpoint sources. Pronsolino v. Marcus, 91 F. Supp. 2d 1337, 1347 (N.D.Ca. 2000). This decision was affirmed by the 9th Circuit court of appeals in Pronsolino v. Nastri, 291 F.3d 1123 (9th Cir. 2002). See also *EPA's Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act*, EPA Office of Water, July 29, 2005.

[1] Connecticut DEP, Maine DEP, Massachusetts DEP, New Hampshire DES, New York DEC, Rhode Island DEM, Vermont DEC, New England Interstate Water Pollution Control Commission. 2007. Northeast Regional Mercury Total Maximum Daily Load. Pages 11-12.

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