



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

July 3, 2013

Kenneth L. Kimmell, Commissioner
Department of Environmental Protection
1 Winter Street Boston, MA 02108

Re: Approval of the Pathogen TMDL Addendum for the Neponset River Basin

Dear Commissioner Kimmell:

Thank you for your Department's submittal of *Addendum: Final Total Maximum Daily Loads of Bacteria for Neponset River Basin* (Control Number 121.5) on June 7, 2013. This Addendum TMDL was developed with the intention of adding 4 water body segments to the previously approved Final TMDL of Bacteria for Neponset River Basin (CN 121.0).

The U.S. Environmental Protection Agency (EPA) hereby approves Massachusetts's Neponset River Pathogen Addendum TMDLs. EPA has determined that these TMDLs meet 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.

We are very pleased with the quality of your TMDL submittal from the Division of Watershed Management, and commend your efforts to address bacteria-related impacts to the Neponset River Basin. My staff and I look forward to continued cooperation with the Massachusetts DEP in exercising our shared responsibility of implementing the requirements under Section 303(d) of the CWA.

Sincerely,

/s/

Kenneth Moraff, Acting Director
Office of Ecosystem Protection

Enclosure

cc:
Rick Dunn, MassDEP
Kim Groff, MassDEP
Ellen Weitzler, EPA
Andrea Traviglia, EPA

EPA NEW ENGLAND'S TMDL REVIEW

DATE: July 1, 2013

TMDL: Addendum: Final TMDL of Bacteria for Neponset River Basin (CN 121.5)

STATUS: Final

IMPAIRMENT/POLLUTANT: Bacteria TMDL Addendum for 4 Water Body Segments

BACKGROUND:

The Massachusetts Department of Environmental Protection (MassDEP) submitted a draft Addendum TMDL to EPA Region 1 on June 6, 2012. A public comment period was held from June 20 to July 30, 2012. MassDEP submitted to EPA Region 1 the *Addendum: Final Total Maximum Daily Loads of Bacteria for Neponset River Basin* (Control Number: CN 121.5) with a transmittal letter dated December 7, 2012. In response to additional comments from EPA Region 1, MassDEP submitted a revised *Addendum: Final Total Maximum Daily Loads of Bacteria for Neponset River Basin* on June 7, 2013. In addition to the Addendum TMDL itself, the submittal included, either directly or in reference, the following documents:

- Final Total Maximum Daily Loads of Bacteria for Neponset River Basin (CN 121)
- Attachment 2: MassDEP Response to Neponset River Watershed comment letter
- Proposed Massachusetts Year 2012 Integrated List of Waters
- Approval of the Final TMDL of Bacteria for Neponset River Basin: Review Memo and Approval Letter (dated: June 21, 2002)

The following review explains how the TMDL submission meets the statutory and regulatory requirements of TMDLs in accordance with § 303(d) of the Clean Water Act and EPA's implementing regulations in 40 CFR Part 130.

REVIEWERS: Andrea Traviglia (617-918-1993) e-mail: traviglia.andrea@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.

Introduction

The *Final TMDL of Bacteria for Neponset River Basin* (CN: 121) was approved by EPA in 2002

(MassDEP 2002). The *Final Bacteria TMDL* (Final TMDL) was designed to support reduction of waterborne disease-causing organisms, known as pathogens, to decrease public health risk. Waterborne pathogens enter surface waters from a variety of sources including sewage, the feces of warmblooded wildlife such as barn-yard animals, pets, geese, and gulls, illicit discharges of boat wastes and agricultural applications of manure. These pathogens can pose a risk to human health due to gastrointestinal illness through exposure via ingestion and contact with recreational waters, ingestion of drinking water, and consumption of filter-feeding shellfish. In the interim since the Final TMDL was approved in 2002, as a result of monitoring and assessment activities, 4 impaired segments have been identified in the Neponset Watershed with the cause identified as bacteria (*Escherichia coli*) (see Attachment 1 below). This *Addendum: Final TMDL of Bacteria for Neponset River Basin* (CN: 121.5) was developed by MassDEP with the intention of adding these segments to the Final TMDL for Neponset River Basin, which was approved by EPA on June 21, 2002.

On March 12, 2012 these 4 segments were included in Category 5 of the Proposed Massachusetts Year 2012 Integrated List of Waters (Proposed 2012 Integrated List) pursuant to Sections 305(b), 314 and 303(d) of the Clean Water Act. As described in Section 11 below, MassDEP provided public notice for these Addendum TMDLs and received one written set of comments.

This *Addendum: Final TMDL of Bacteria for Neponset River Basin* (Addendum TMDL) therefore presents information related to the newly listed segments only; all other Sections of the Final TMDL that were approved in 2002 are incorporated by reference and remain applicable to this Addendum TMDL.

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 which 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.

A. Description of Waterbody, Priority Ranking, and Background Information

A full description of the Neponset River Basin is presented on pages 9-10 of the Final TMDL (CN 121). The Addendum TMDL describes the 4 impaired segments, identified after approval of the Final TMDL, as not attaining designated uses (primarily contact recreation and secondary contact recreation) due to exceeding Massachusetts' water quality standards (WQS) for pathogens. Section 5.0 of the Addendum TMDL document details each waterbody's assessment

unit identifier, segment name and location, segment size, and classification, which determines the applicable water quality criteria.

B. Pollutant of Concern

The Final TMDL used fecal coliform bacteria as the water quality criteria for Class B waters. In 2007, MassDEP revised the surface water quality standards to use E. coli rather than fecal coliform. Therefore, the Addendum TMDLs have been developed using E.coli as the water quality criteria (see Section 4 of the Addendum TMDL).

C. Pollutant Sources

Table 3 in Section 6 of the Addendum TMDL outlines suspected and known sources of pathogen contamination for these four impaired river segments. The Addendum TMDL document articulates both general categories and specific sources of pathogen contributions from the range of possible pathogen source categories. Specific sources identified include illicit sewer connections, storm water run-off, and failing septic systems.

Assessment:

EPA Region 1 concludes that the Addendum TMDL document, combined with sections from the Final TMDL document (as referenced in the Addendum TMDL), meet the requirements for describing the TMDL waterbody segments, pollutants of concern, and identifying and characterizing sources of impairment. Please see the Final TMDL and EPA's Final Bacteria TMDL Approval documents (dated: June 21, 2002) for additional details.

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 antidegradation policy. Such information is necessary for EPA's review of the load and wasteload allocations which 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.

MassDEP has revised the water quality standards that apply to these impairments since the Final TMDL was approved in 2002. In the Final TMDL, the water quality standards for Class B waters, such as the Neponset River and tributaries, require that fecal coliform bacteria shall not exceed a geometric mean of 200 organisms per 100 ml in any representative set of samples, nor shall more than 10 percent of the samples exceed 400 organisms per 100 ml (See page 16 in Final TMDL). In 2007, MassDEP revised the water quality standards related to bacteria to use E. coli rather than fecal coliform. The Addendum TMDL is therefore based on the E. coli standard, which for Class B Waters requires that E. coli shall not exceed a geometric mean value of 126 cfu/100 ml, with a single sample maximum value of 235 cfu/100 ml. The applicable Massachusetts WQS are presented in Section 4.0 of the Addendum TMDL as well as Table 2 Addendum.

Section 5 of the Addendum TMDL document describes each of the 4 newly listed impaired water segments of the Neponset Watershed -- including the water body's designated use, summary of data, sources of pathogens when available and other characteristics. This section also indicates the water quality classification (A, B, SA or SB) for each segment.

The EPA-approved numeric water quality criteria for each segment are the targets upon which both the daily concentration targets of the Addendum TMDL are based.

Assessment:

EPA concludes that MassDEP has properly described and interpreted the applicable water quality standards to set the TMDL targets as indicated in Section 4.0 of the Addendum TMDL document. Please see the Final TMDL and EPA's Final Pathogen TMDL Approval documents (dated: June 21, 2002) for additional details.

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 which 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 results in attaining and maintaining the water quality criterion and has 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.

For this Addendum TMDL, as was done in the Final TMDL, MassDEP set daily concentration TMDL (WLA/LA) targets for each one of the discharge sources by category (i.e., NPDES discharges, storm water, CSO, etc) equal to the applicable water quality criterion (Table 2 Addendum). MassDEP recommends that the concentration targets be used as the primary guide for implementation. However, in the Addendum TMDL, MassDEP also estimated the total maximum daily load for each river or stream segment as a function of the flow and the concentration of the applicable Massachusetts WQS for bacteria in the river. This approach sets a target for reducing the loads so that water quality criteria for indicator bacteria are met at all flows equal to or greater than 7Q10.

As discussed below, both formats (concentration and load) express targets designed to attain the designated use based on a straight forward derivation of TMDL targets from the water quality criteria adopted by the Commonwealth to assure designated use attainment. They are designed achieve water quality criteria for both dry and wet weather and for all storm events whenever they occur (i.e., on any given day), whenever the bacteria criteria are in effect. These approaches have been used by states for TMDL development and approved by EPA in the past.

- 1) MassDEP chose to express the loading capacities in terms of concentrations (Table 2 Addendum) set equal to or less than the WQS for several reasons. First, as stated in the TMDL, “MassDEP believes that expressing a loading capacity for bacteria in terms of concentrations set equal to the Commonwealth’s adopted criteria provides the clearest and most understandable expression of water quality goals to the public and to groups that conduct water quality monitoring.” In addition, specific water body segment data are provided that indicate estimates of reductions in ambient instream bacteria levels needed to attain water quality standards (Table 5 Addendum).
- 2) MassDEP also expressed the loading capacity in terms of total maximum daily loads based on flow duration curves – a series of calculations based on flow and the allowable water quality criteria concentration for E. coli in the water body (Figure 2 Addendum, Table 6 Addendum).

As stated above, MassDEP believes the concentration targets are most useful for evaluating whether a particular source is exceeding its allocation because it does not require complex simultaneous flow measurement. The mass loadings for each waterbody segment provide information on the degree of relative assimilative capacity available in each waterbody and identify the loads necessary to meet water quality standards.

Assessment:

There is nothing in EPA’s regulations that forbids expression of a TMDL in terms of multiple TMDL targets. TMDLs can be expressed in various ways, including in terms of toxicity, which is a characteristic of one of more pollutants, or by some “other appropriate measure.” 40 C.F.R. §130.2(i). The target loading capacities expressed in the TMDL document are set at levels which assure WQS will be met (criteria at point of discharge, and loading based on meeting ambient water quality criteria). The concentration loading capacity is based on the concentration criteria for each water body. If all sources of pathogens are at or below the water quality criteria, then it follows that the receiving water will meet the WQS for bacteria.

Both formats (concentration and load) express targets designed to attain the designated use of each waterbody segment based on a straightforward derivation of TMDL targets from the water quality criteria adopted by the Commonwealth. Both formats are designed to achieve water quality criteria for both dry and wet weather and for all storm events whenever they occur (i.e., on any given day), whenever the bacteria criteria are in effect. These approaches have been used by states for TMDL development and approved by EPA in the past.

In summary, the above loading capacity targets are directly linked to the Commonwealth’s WQS

pathogen criteria to achieve the designated use of the water bodies covered by this TMDL.

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.

There are no revisions in the determination of the LAs in this TMDL Addendum from the Final TMDL. The target load allocations for non-point sources are set in the same manner as in the Final TMDL (CN121); equal to either the applicable water quality standard of the receiving water or to zero if the origin of the source is prohibited (e.g., failing septic systems) (see Section 7.0 and Table 2 Addendum in the Addendum TMDL).

Additionally, in the Addendum TMDL, MassDEP developed total maximum daily loads for the segments as a function of stream flow (Figure 2 Addendum). For these segments, the TMDL is proportioned between the WLA and LA by multiplying the daily load by the percent impervious cover for the WLA, and by multiplying the daily load by the percent pervious cover for the contributing watershed for the LA. Table 6 Addendum summarizes the LA and WLA for the four segments in the Neponset River watershed, with e.coli as the indicator.

Assessment:

EPA Region 1 approved the target load allocations utilized in the Final TMDL (see Approval documents dated June 21, 2002) and MassDEP has not made revisions to the LA determinations except to update the LAs to the revised WQS using E. coli rather than fecal coliform and provide total maximum daily loads. The aggregate mass load allocation is derived from the applicable criteria, flow and land cover data. EPA concludes that load allocations are adequately specified in the Addendum TMDL at levels necessary to attain and maintain WQS.

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.

Similarly to the Final TMDL, the Addendum TMDL sets wasteload allocations for point sources (e.g. discharges from storm water drainage systems) equal to either the applicable e.coli criteria of the receiving water or to zero if the origin of the source is prohibited (e.g., sanitary sewer overflows) (see Section 7.0 and Table 2 Addendum in the Addendum TMDL). The WLAs for non-storm water sources (e.g., wastewater treatment plants) are established as a concentration equal to the water quality criteria for each source by discharge category.

Storm water discharges are less amenable to individual wasteload allocations. In recognition of this fact, EPA's November 22, 2002 guidance entitled "Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs," provides that it is reasonable to express allocations for NPDES-regulated storm water discharges from multiple point sources as a single categorical or aggregate wasteload allocation when data and information are insufficient to assign each source or outfall individual WLAs. In the case of this pathogen TMDL, MassDEP did establish concentration (colonies/100ml) TMDL targets on a discharge by discharge basis, but daily loads (colonies/day) were established on an aggregate basis by segment because of insufficient flow data on each storm water source outfall.

Therefore, a WLA set equal to the WQS will be assigned to the portion of the storm water that discharges to surface waters via storm drains. The fraction of run-off load allocated to regulated storm water sources (WLA) was computed by multiplying the total load by the fraction of the watershed that is impervious and therefore more likely to discharge to a MS4 regulated storm sewer system. MassDEP believes this approach is conservative because it assumes that all runoff from impervious areas actually makes it to the waterbody segment in question, which may or may not always be the case.

Assessment:

EPA Region 1 approved the approach utilized in the Final TMDL (see Approval documents dated June 21, 2002) and MassDEP has not made revisions to the WLA determinations except to update the WLAs to the revised WQS using E. coli rather than fecal coliform and add calculations for total maximum daily loads. EPA concludes that wasteload allocations are adequately specified in the Addendum TMDL at levels necessary to attain and maintain WQS.

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.

The TMDL provides for an implicit margin of safety through conservative assumptions incorporated into the TMDL determinations. The TMDL sets the target loading capacity, load allocations, and wasteload allocations equal to either the applicable water quality standard of the receiving water, or zero if the sources are prohibited. Therefore, there is a high level of confidence that the TMDL is established at levels that are consistent with the WQS. The TMDL assumes zero dilution is available and does not account for mixing in the receiving waters. In addition, in establishing the concentration WLAs and LAs, the approach used by MassDEP does not rely on in-stream processes such as bacteria die-off and settling which are known to reduce in-stream bacteria concentrations. Lastly, the TMDL assumes that all the runoff from impervious areas throughout the contributing watershed actually makes it to the impaired segment, which is generally not the case especially in large watersheds where impervious surfaces are not continually connected.

Assessment:

EPA concludes that the approach used in developing the TMDL provides for an adequate implicit MOS. There is not a lack of knowledge concerning the relationship between allocations and water quality in this case, where the TMDL applies the criteria as allocations for each source. Setting the concentration TMDL targets at the water quality criteria with no allowance for in-stream bacteria die-off, settling and dilution provides an implicit margin of safety. The daily load TMDL expressions are derived from the same water quality criteria and concentration TMDL targets multiplied by the appropriate flow factor to obtain a mass TMDL expression with the same implicit MOS. EPA concludes that the approach used in developing the TMDL provides for an adequate implicit MOS.

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)).

There are no revisions made in the TMDL Addendum with respect to seasonal variation from the Final TMDL (Page 37, Final TMDL report). The TMDL applies throughout the year when seasonal pathogen WQS apply. The WQS may be applied on a seasonal basis at the discretion of the MassDEP (see 314 CMR 4.05(3)(a)4 and 4.05(3)(b)4.).

Assessment:

EPA Region 1 approved the approach utilized in the Final TMDL (see Approval documents dated June 21, 2002) and MassDEP has not made revisions accounting for seasonal variability. EPA concludes that the TMDL documents have adequately addressed seasonal variability.

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.

There are no revisions made in the Addendum with respect to the monitoring plan in the Final Neponset Bacteria TMDL (Final Neponset Bacteria TMDL report Section TMDL Monitoring).

Assessment:

EPA Region 1 approved the Monitoring Plan utilized in the Final TMDL (see Approval documents dated June 21, 2002) and MassDEP has not made revisions to that section in the Addendum TMDL.

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.

In the Final TMDL, MassDEP outlined a plan for collecting additional information, implementing existing and future regulatory programs and identified tasks and responsible parties. In addition to these provisions outlined in the Final TMDL, MassDEP has strengthened the Implementation Plan in the Addendum TMDL by providing updated resources and regulatory details (Section 8, Addendum TMDL). Although not specific to the Neponset River Watershed, MassDEP references a document they developed: "Mitigation Measures to Address Pathogen Pollution in Surface Water: A TMDL Implementation Guidance Manual for Massachusetts" to support implementation of pathogen TMDLs and provide additional information for stakeholders. Moreover, MassDEP includes information for stakeholders related to the requirements of the forthcoming revised EPA stormwater permit.

Assessment:

In the Addendum TMDL, MassDEP builds upon the Implementation Plan from the Final TMDL by providing additional references and information for stakeholders, although not a required element of the 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 water 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.”

There are no revisions made in the Addendum with respect to the reasonable assurance section in the Final Neponset Bacteria TMDL (Final Neponset Bacteria TMDL report Section Reasonable Assurances).

Assessment:

EPA Region 1 approved the reasonable assurance approach utilized in the Final TMDL (see Approval documents dated June 21, 2002) and MassDEP has not made revisions to that section in the Addendum TMDL. Although not required because MassDEP did not increase WLAs based on expected LA reductions, MassDEP has provided reasonable assurance that WQS will be met.

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.

During the Final TMDL process, MassDEP held two public meetings to review the findings of the draft Final TMDL report and to solicit public comment on December 18, 2001 and February 12, 2002.

The public process for approval of the newly listed segments covered by this Addendum TMDL included publication of Notice of Availability in the Environmental Monitor on June 20, 2012 along with an email announcing the public comment period to a targeted list of organizations, stakeholders and key contacts. The public notice allowed for over 30 days for public comment and closed on July 30th 2012. MassDEP received one set of written comments on the TMDL from the Neponset River Watershed Association. These comments were addressed in preparation of the Addendum TMDL and are included in Attachment 2 to the Addendum TMDL.

Assessment:

EPA concludes that MassDEP has done a sufficient job of involving the public in the development of the Addendum TMDL, and has provided adequate opportunities for the public to comment. EPA has reviewed the written comments and concludes that MassDEP has adequately responded to the public comments.

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.

Assessment:

On June 7, 2013, MassDEP submitted via electronic mail the Addendum: Final Total Maximum Daily Loads of Bacteria for Neponset River Basin (Control Number: CN 121.5). The documents contained all of the elements necessary to approve the TMDL.

Attachment 1: Neponset Bacteria Impaired Segments

Segment ID	Segment Name	Surface Water Class	New Impairment Cause	Segment Description
MA73-01	Neponset River	B	Escherichia coli	Outlet of Neponset Reservoir, Foxborough to confluence with East Branch, Canton. (through former pond segments Crackrock Pond MA73010 and Bird Pond MA73002)
MA73-25	Pecunit Brook	B	Escherichia coli	Headwaters east of Carey Circle and west of Pecunit Street, Canton to the confluence with Neponset River, Canton.
MA73-32	Unnamed Tributary	B	Escherichia coli	From the outlet of Town Pond, Stoughton to the confluence with Steep Hill Brook, Stoughton.
MA73-33	Unnamed Tributary	B	Escherichia coli	Locally known as "Meadow Brook" - From where the underground/culverted stream emerges east of Pleasant Street, Norwood to confluence with Neponset River, Norwood.

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Data for entry in EPA's National TMDL Tracking System								
TMDL Name		Neponset River Basin						
Number of TMDLs*		4						
Type of TMDLs*		Bacteria^						
Number of listed causes (from 303(d) list)		4						
Lead State		Massachusetts (MA)						
Individual TMDLs listed below								
TMDL name	Segment	TMDL Segment ID #	TMDL Pollutant ID# & name	TMDL Impairment Cause(s)	Pollutant endpoint (Class: geometric mean; 10% or SSM [†])	Unlisted?	NPDES Point Source & ID#	Listed for anything else?
Neponset River		MA73-01	227 (E. Coli)	Pathogens (41)	B: 126 fc /100 ml; 235 fc /100 ml	No	Hollingsworth and Vose Company NPDES permit: MA0004570; Foxborough MS4 stormwater permit MAR041115; Walpole MS4 stormwater permit MAR041167; Canton MS4 stormwater permit MAR0410311	DDT; Excess algal growth; Other; Oxygen, Dissolved; PCB in fish tissue; Phosphorus (Total); Sedimentation/Siltation; Total Suspended Solids; Turbidity
Pecunit Brook		MA73-25	227 (E. Coli)	Pathogens (41)	B: 126 fc /100 ml; 235 fc /100 ml	No	Canton MS4 stormwater permit MAR0410311	No
Unnamed Tributary		MA73-32	227 (E. Coli)	Pathogens (41)	B: 126 fc /100 ml; 235 fc /100 ml	No	Stoughton MS4 stormwater permit MAR041063	Aquatic Macroinvertebrate Bioassessments; pH, Low; Phosphorus (Total)
Unnamed Tributary		MA73-33	227 (E. Coli)	Pathogens (41)	B: 126 fc /100 ml; 235 fc /100 ml	No	Norwood MS4 stormwater permit MAR041053AH	Color; Phosphorus (total); Taste and Odor
TMDL Type		Point & Nonpoint Sources						
Establishment Date (approval)*		Jul 3, 2013						
EPA Developed		No						
Towns affected*		Foxborough, Walpole, Norwood, Canton, Stoughton						

[†]Class = Water Body Classification: 10% = no more than 10% of the samples shall exceed statistic; SSM = Single Sample Maximum