



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 1

5 Post Office Square, Suite 100

Boston, MA 02109-3912

February 23, 2016

Martin Suuberg, Commissioner
Massachusetts Department of Environmental Protection
1 Winter Street
Boston, MA 02108

Dear Commissioner Suuberg:

Thank you for your submittal of the 2014 Clean Water Act ("CWA") Section 303(d) list, *2014 State of Massachusetts Integrated List of Waters Final Listing of the Condition of Massachusetts' Waters Pursuant to Sections 305(b) and 303(d) of the Federal Clean Water Act*. In accordance with Section 303(d) of the CWA and 40 CFR §130.7, the U.S. Environmental Protection Agency, Region 1 (EPA) conducted a complete review of Massachusetts' 2014 Section 303(d) list and supporting documentation. Based on this review, EPA has determined that Massachusetts' list of water quality limited segments still requiring Total Maximum Daily Loads (TMDLs) meets the requirements of Section 303(d) of the CWA and EPA's implementing regulations. Therefore, by this letter, EPA hereby approves Massachusetts' 2014 Section 303(d) list.

The submittal includes a list of those waters for which technology based and other required controls for point and nonpoint sources are not stringent enough to attain or maintain compliance with the Commonwealth's Water Quality Standards. The submittal also presents Massachusetts' TMDL strategy which describes the priority setting approach and identifies those waters for which TMDLs will be completed and submitted during the next two years and beyond. The statutory and regulatory requirements, and EPA's review of Massachusetts' compliance with each requirement, are described in detail in the enclosed approval document.

The Massachusetts Department of Environmental Protection (MassDEP) has also successfully completed a public participation process during which the public was given the opportunity to review and comment on the 2014 Section 303(d) list. As a result of this effort, Massachusetts has considered public comments in the development of the final list. The public comments and MassDEP's responses to those comments were included in the State's final submittal.

We appreciate your staff's effort in preparing the 2014 Section 303(d) list and in providing EPA with supporting documentation and assistance to aid us in our review and approval. My staff and I look forward to continued cooperation with MassDEP in implementing the requirements under Section 303(d) of the CWA.

If you have any questions regarding this review and approval, please contact Ralph Abele at (617) 918-1629 or have your staff contact Andrea Traviglia of my staff at (617) 918-1993.

Sincerely,

/s/

Lynne A. Hamjian for
Kenneth Moraff, Director
Office of Ecosystem Protection

Enclosure

cc: Kimberly Groff, MassDEP
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EPA NEW ENGLAND'S REVIEW OF MASSACHUSETTS' 2014 CWA SECTION 303(d) LIST

I. INTRODUCTION

EPA has conducted a complete review of Massachusetts' (MA) 2014 Section 303(d) list and supporting documentation and information and, based on this review, EPA has determined that Massachusetts' 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. Therefore, by this order, EPA hereby approves Massachusetts' 2014 final Section 303(d) list, included as part of the *Massachusetts Year 2014 Integrated List of Waters, Final Listing of the Condition of Massachusetts' Waters Pursuant to Sections 305(b), 314 and 303(d) of the Federal Clean Water Act (IL)*, dated December 2015. The Final IL was submitted to and received by on EPA on December 11, 2015. The statutory and regulatory requirements, and EPA's review of Massachusetts' compliance with each requirement, are described in detail below.

II. STATUTORY AND REGULATORY BACKGROUND

Identification of WQLSs for Inclusion on 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 Section 130.7(b)(1).

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 nonattainment 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, referenced below, describes categories of water quality related data and information that may be existing and readily available. See EPA's September 3, 2013 memorandum on *Information Concerning 2014 Clean Water Act Sections 303(d), 305(b), and*

314 *Integrated Reporting and Listing Decisions* (available at <https://owpubauthor.epa.gov/lawsregs/lawsguidance/cwa/tmdl/2014-memo.cfm>) which recommends that the 2014 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 https://owpubauthor.epa.gov/lawsregs/lawsguidance/cwa/tmdl/2006IRG_index.cfm) as supplemented by an October 12, 2006 memo and attachments, the May 5, 2009 memo and attachments, the November 15, 2010 memo and attachments, and the March 21, 2011 memo and attachments. All guidance, memoranda and attachments may be found at: <https://owpubauthor.epa.gov/lawsregs/lawsguidance/cwa/tmdl/guidance.cfm#listing>. 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 the Region.

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 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, 2010, 2011 and 2013 memoranda and attachments.

III. REVIEW OF MASSACHUSETTS' SECTION 303(d) SUBMISSION

The Massachusetts Department of Environmental Protection (MassDEP) issued a draft 2014 Section 303(d) list of impaired waters for public review on June 25, 2014. MassDEP then revised the list based on comments received during the public comment period. On December 11, 2015, EPA received from MassDEP the Commonwealth's final 2014 Section 303(d) list, which is included in Massachusetts' 2014 IL. EPA also received all relevant appendices to the Commonwealth's 2014 Section 303(d) list, a copy of the public comments MassDEP received on its proposed list, and MassDEP's written responses to all public comments received. The integrated listing format (i.e., a combination of the State's Section 305(b) report and the State's Section 303(d) list) allows states to provide the water quality status of all assessed waters in a single multi-part list or document.

States may include each water body or segment thereof into one or more of the following five categories as part of its IL; however, only water bodies or segments placed in Category 5 (impaired by a pollutant and for which a TMDL is needed) constitute a state's Section 303(d) list:

- 1) All designated uses are supported, no use is threatened;
- 2) Available data and/or information indicate that some, but not all of the designated uses are supported;
- 3) There is insufficient available data and/or information to make a use support determination;
- 4) Available data and/or information indicate that at least one designated use is not being supported or is threatened, but a TMDL is not needed;
 - 4a) A state-developed TMDL has been approved by EPA or a TMDL has been established by EPA for any segment-pollutant combination;
 - 4b) Other required control measures are expected to result in the attainment of an applicable water quality standard in a reasonable period of time;
 - 4c) The non-attainment of any applicable water quality standard for the segment is the result of pollution and is not caused by a pollutant; and
- 5) Available data and/or information indicate that at least one designated use is not being supported or is threatened, and a TMDL is needed.

As noted above, Massachusetts generated the 2014 Section 303(d) list as a subset of its 2014 IL. The IL satisfies Massachusetts' obligation to report the water quality status of the Commonwealth's waters required by Section 305(b) of the Act. The Massachusetts 2014 IL is comprised of five categories of waters that are consistent with the suggested categories in EPA's *2006 Integrated Water Quality Monitoring and Assessment Report Guidance*. As noted above, Category 5 of the 2014 IL (see pages 125-198 of the IL) represents Massachusetts' 2014 Section 303(d) list and this is the category that EPA is approving in this memorandum.

Massachusetts has included all waters known not to be meeting water quality standards on its 2014 Section 303(d) list. Under its current listing approach, Massachusetts keeps a waterbody on its impaired waters list until a new assessment reveals that the waterbody is meeting all applicable water quality standards or is expected to meet those standards in a reasonable timeframe as the result of implementation of required pollution controls or when, upon re-examination, the original basis for listing is determined to be flawed. TMDLs for listed waters will be completed in accordance with the schedule, which reflect priority rankings and other relevant factors.

No Massachusetts waters are listed in Category 1 (all designated uses are supported, no use is threatened) because a statewide Massachusetts Department of Public Health advisory pertaining to the consumption of finfish precludes any waters from being in full support of the fish consumption use.

EPA Category 4 includes waters that are currently not meeting water quality standards but do not need a TMDL completed due to one of three reasons. Waters for which TMDLs have already been approved are listed in Category 4a. Category 4b includes waters for which a functionally equivalent control action has been developed, i.e., an impairment caused by a pollutant is being addressed through other pollution control requirements. Massachusetts is not including any waters in Category 4b during the 2014 listing cycle. Waters in Category 4c are not attaining water quality standards but impairment is not caused by or associated with a pollutant. EPA reviews the Category 4 list to insure that the waters are categorized appropriately and do not belong in Category 5 (the Section 303(d) list).

As noted above, EPA Category 5 contains waters where available data and/or other information indicate that at least one designated use is not being supported or is threatened, and a TMDL is needed. EPA's regulations at 40 CFR Section 130.7 require EPA to review and approve or disapprove a State's Category 5 list of impaired waters. MassDEP chooses to list each waterbody segment in only one IL category; consequently, waters that have an approved TMDL for some pollutants, but not others, remain in Category 5 until TMDLs are approved for all of the pollutants impairing uses in those waters. The EPA tracks a State's progress in completing TMDLs in EPA's Assessment and Total Maximum Daily Load (TMDL) Tracking and Implementation System (ATTAINS), which can be accessed at <http://www.epa.gov/waterdata/assessment-and-total-maximum-daily-load-tracking-and-implementation-system-attains>. This system assigns a unique identification number to each approved TMDL which is included for reference in categories 4a and 5 of the 2014 List.

Response to public comments

MassDEP published the *Proposed Massachusetts Year 2014 Integrated List of Waters* on June 25, 2014 and provided a copy on the MassDEP web site. Category 5 of the proposed IL was the proposed CWA Section 303(d) List of Impaired Waters. MassDEP placed the Notice of Availability of the proposed 2014 Section 303(d) list in the *Environmental Monitor*, and also sent it directly to over 100 organizations and "stakeholder" groups, as well as key contacts at other government agencies. Comments were accepted from the public until August 1, 2014. Seven parties submitted comments during the public comment period. The Commonwealth included a detailed written Response to Public Comments in Appendix 4 of the 2014 IL. MassDEP also provided EPA with a copy of each comment letter. In the response to public comments (Appendix 4 of the IL), MassDEP summarizes each comment and provides responses to each of the questions, concerns, and issues raised.

MassDEP received comments during the public comment period from the Back River Watershed Association, Neponset River Watershed Association, Jones River Watershed Association, Buzzards Bay Coalition, Charles River Watershed Association (CRWA), Center for Biological Diversity, and Region 1 US EPA. MassDEP agreed in certain cases to review information provided by the commenters and consider addition of certain waterbody segments to the Commonwealth's final 2014 Section 303(d) list (see page 6 below, "Waters Nominated by the Public"). Finally, Massachusetts provided answers to the questions, concerns, and issues raised by the public that EPA believes were appropriate, adequately responsive, and clarified why the Commonwealth made decisions regarding listing or electing not to list certain waterbody segment impairments.

In summary, EPA has reviewed Massachusetts' responses to the public comments received related to the Commonwealth's 2014 Section 303(d) list decisions, and concludes that Massachusetts has appropriately and adequately responded to the comments.

IV. IDENTIFICATION OF WATERS AND CONSIDERATION OF EXISTING AND READILY AVAILABLE WATER QUALITY-RELATED DATA AND INFORMATION

EPA has reviewed Massachusetts' submission, and has concluded that Massachusetts developed its 2014 Section 303(d) list in compliance with Section 303(d) of the Act and 40 CFR Section 130.7. EPA's review and analysis considers whether the Commonwealth reasonably considered existing and

readily available water quality related data and information and reasonably identified waters required to be listed.

Massachusetts developed its 2014 Section 303(d) list (Category 5) by updating its 2012 Section 303(d) list. Previously unlisted waterbodies that were determined to be impaired for one or more uses were added to the Commonwealth's 2014 Section 303(d) list unless data showed that the impairment was not caused by or associated with a pollutant. Determinations of impairments were based on valid monitoring data and/or evaluative information that were collected and determined to be sufficient to make Section 303(d) listing judgments. It is important to note that since the completion of the 2012 reporting cycle, MassDEP has not completed any additional watershed assessments. Instead, MassDEP has focused on improving the process by which watershed assessments are carried out and making significant revisions to its Consolidated Assessment and Listing Methodology (CALM) for the 2016 listing cycle and beyond.

In preparing its 2014 Section 303(d) list, Massachusetts used all existing and readily available water quality-related data and information including those sources identified in 40 CFR §130.7(b)(5): (i) most recent §305(b) report; (ii) dilution calculations and predictive models; (iii) water quality problems reported by local, state, or federal agencies; members of the public; or academic institutions; and (iv) §319 non-point source assessments. Massachusetts relied on these and additional sources of information (identified in the section of the IL entitled, "General Approach to Assessing Massachusetts' Waters", pages 16-18) to provide the basis for compiling the 2014 Section 303(d) list.

Massachusetts actively solicits external sources of information and water quality data to perform assessments. Sources of information used in developing the 2014 Section 303(d) list include federal agencies, state agencies, local governments, academic institutions, environmental groups, and watershed associations. Water quality information obtained from these and other agencies or groups was considered in development of the 2014 Section 303(d) list. Typically the sources of data used for assessments are cited in the individual watershed assessment reports. However, MassDEP also relied on water quality-related data and information that was submitted during the public comment period for the 2014 Section 303(d) list. In those cases where valid water quality-related data and/or other information was provided during the public comment period and used as the basis for listing a waterbody segment impairment on the final 2014 Section 303(d) list, the source of this data and/or other information is identified in Appendix 4 of the final 2014 IL, the Commonwealth's written Responses to Public Comments. A complete list of the MassDEP watershed assessment reports embodied in the 2014 categorization of waters can be found in the Bibliography (pages 32-42 of the IL).

EPA has reviewed Massachusetts' description of the data and/or other information it considered and its methodology for identifying waters. EPA concludes that the Commonwealth properly assembled and evaluated all existing and readily available water quality-related data and information, including data and information relating to the categories of waters specified in 40 CFR Section 130.7(b)(5).

New Impairments

Waterbody Segment Impairments not listed on Massachusetts' 2012 Section 303(d) list, but which are being newly listed on Massachusetts' 2014 Section 303(d) list

Appendix 2 of the 2014 IL identifies the segments and their specific impairments added to Category 5 (impaired and for which a TMDL must be established). The *additions* result in the following changes between the 2012 and 2014 Section 303(d) lists as follows (it is important to note that Massachusetts places each waterbody segment in only one IL category):

Segments newly identified as impaired in the IL and added to Category 5	1
Segments moved from Category 2 to Category 5	1
Segments moved from Category 3 to Category 5	1
Segments moved from Category 4a to Category 5	3
Segments already in Category 5 with new impairments added (and remaining in Category 5)	5

These additions to the 2014 Section 303(d) list, outlined in Appendix 2 of the IL, involve a total of 11 water body segments.

In July 2012, MassDEP published the *Massachusetts Consolidated Assessment and Listing Methodology (CALM) Guidance Manual* (available at <http://www.mass.gov/eea/docs/dep/water/resources/07v5/2012calm.pdf>). EPA notes that while it is not acting to approve or disapprove Massachusetts' listing methodology set forth in its CALM, EPA has reviewed all of the relevant material and concludes that the methodology MassDEP used to develop the impaired waters list is reasonable and consistent with Massachusetts' surface water quality standards, the Clean Water Act, and EPA Section 303(d) regulations and guidelines.

Waters Nominated by the Public

During the public review period, a number of waterbodies were nominated by the public for inclusion on the Commonwealth's 2014 Section 303(d) list. Massachusetts reviewed and considered all such comments, as well as all water quality related data and other information submitted by the public, including any new fish consumption health advisories. Appendix 4 of the 2014 IL, Responses to Public Comments, documents the public comments received as to these waterbodies and the Commonwealth's responses to the public's comments. All of these additions outlined below are included in Appendix 2 of the 2014 IL.

As a result of public comments, Massachusetts added two previously unlisted waterbody segments to its 2014 Section 303(d) list. At the request of the Buzzards Bay Coalition, one previously unlisted waterbody segment in the Buzzards Bay Watershed was added to the 2014 Section 303(d) list: Megansett Harbor (MA95-19) for "Estuarine Bioassessments" and "Nutrient/Eutrophication Biological Indicators". Also, at the request of Doug Heath from EPA Region 1, MassDEP created a new segment for "Unnamed Tributary to Dark Brook" (MA51-38) and added this segment to the 2014 Section 303(d) list as impaired for "chloride".

MassDEP also added one new impairment to three waterbody segments previously listed in Category 5 (for other impairments), two segments at the request of Buzzards Bay Coalition: Buttermilk Bay (MA95-01) and Little Buttermilk Bay (MA95-76) for "Nutrient/Eutrophication Biological

Indicators”, and one segment at the request of EPA Region 1: Dark Brook (MA51-16) for “Chloride”. MassDEP also added two new impairments to two waterbody segments previously listed in Category 4a (TMDL for fecal coliform) at the request of Buzzards Bay Coalition: Red Brook Harbor (MA95-18) and Mattapoissett Harbor (MA95-35) for “Estuarine Bioassessments” and “Nutrient/Eutrophication Biological Indicators”.

Massachusetts also decided not to list a number of waterbodies and impairments that were nominated for listing by members of the public. The MassDEP’s rationales for not listing specific waterbodies and impairments are provided in Appendix 4, Responses to Public Comments. EPA has reviewed MassDEP’s responses to all public comment received and has concluded that Massachusetts’ decision not to include on the Commonwealth’s 2014 Section 303(d) list certain proposed waterbody impairments identified by the public is reasonable for the reasons discussed below. Massachusetts’ primary reasons for not listing waters based on the information received are that (1) the segments and impairments in question were already listed in the 2012 IL cycle in Category 5 or 4a for impairments directly related to those being newly proposed by the public, (2) insufficient data and/or other information was provided by the public to confirm that an impairment exists and to support a Section 303(d) listing decision, and/or (3) MassDEP policy for assessing and listing impairments did not support adding the impairment.

During the public comment period on the Commonwealth’s proposed 2014 Section 303(d) list, the Neponset River Watershed Association requested the addition of two waterbody segment impairments to Massachusetts’ list of impaired waters: School Meadow Brook (MA73-06) for “Dissolved Oxygen” and Pequid Brook (MA73-22) for “Total Phosphorus”. MassDEP did not agree to list either segment. With respect to MA73-06, MassDEP reviewed the data and concluded there was too much uncertainty to list the segment at this time. MassDEP did not agree to list Pequid Brook (MA73-22) for two reasons: MassDEP evaluates nutrient impairments based on multiple supporting indicators rather than just phosphorus data, and the segment is already listed for a related nutrient impairment, “Dissolved Oxygen”.

Similarly, MassDEP did not agree to list thirteen segments in the Charles River Watershed for a number of impairments and alerts, as detailed in the table below.

<u>Segment ID</u>	<u>Requested Impairments</u>
MA72-01	Benthic Alert, Fish Passage Barrier, Low Flow
MA72-33	Benthic Alert, Fish Passage Barrier
MA72-03	Benthic Alert, Fish Passage Barrier
MA72-04	Total N, Fish Passage
MA72-05	Fish Passage
MA72-06	Fish Passage
MA72-10	Benthic Alert
MA72-18	Benthic Alert
MA72-23	Benthic Alert
MA72-24	Benthic Alert
MA72-28	Benthic Alert, Fish Passage Barrier, Low Flow
MA72-29	Benthic Alert, Sediment Alert, Low Flow

MA72-36	Sediment Alert
MA72-11	Included in Charles TMDL

MassDEP reviewed the data included for the requested “Benthic Alerts” and concluded that without a DEP approved QAPP and as the taxonomic resolution of the sampling conducted does not meet DEP’s minimum data requirements, DEP will not place these segments on “Alert” status but will take this data into consideration during the next assessment of the Charles River Watershed. With respect to the requests to add “Fish Passage Barrier” impairments to segments, MassDEP explained that this impairment cause code is only applied in situations where a fish passage structure is in place, but is functioning poorly or not at all rather than situations where a dam exists along a segment. MassDEP decision making process is explained further in their CALM document. CRWA requested the “Low Flow” impairments after observations of low or no flow in segments, however MassDEP declined to add these impairments to the 2014 Section 303(d) list, but will consider this data and observations in the next assessment of the Charles River Watershed. The rationale for MA DEP declining to add the “Total Nitrogen” impairment to segment MA72-04 is the same as for MA73-22 (explained above), i.e. MassDEP relies on multiple supporting indicators for nutrient impairments and this segment is listed under a related nutrient TMDL. While the Charles River Nutrient TMDL is focused on total phosphorus, measures to control phosphorus will also likely tend to reduce nitrogen loadings to this segment. MassDEP declined to add the requested “Sediment alert” for MA72-29 as this segment is already listed for related impairments (“other anthropogenic substrate alterations” and “alteration in stream-side or littoral vegetative covers”). With respect to MA72-36, MassDEP declined to add the “Sediment alert” due to uncertainty surrounding these observations but will consider this data and observations in the next assessment of the Charles River Watershed. Lastly, CRWA requested that the TMDL number for the Lower Charles River Phosphorus TMDL be added to MA72-11, however, MassDEP explained that the TMDL does not apply to segment MA72-11; only the reach of the main stem Charles River extending from the Watertown Dam to the New Charles River Dam in Boston is covered by this TMDL.

MassDEP received a comment from the Center for Biological Diversity (“CBD”) suggesting that all ocean assessment units within the waters of Massachusetts should be listed as impaired or threatened for pH due to increasing acidification of ocean waters resulting from increased uptake of atmospheric carbon dioxide. MassDEP did not list any additional waters to the 2014 Section 303(d) list based on this comment due to insufficient data and information to support designating ocean waters of the Commonwealth as currently threatened or not supporting their designated uses. Specifically, MassDEP stated in its response to CBD’s comments that there is an insufficient amount of data available from Massachusetts’ marine waters to assess potential effects of ocean acidification. MassDEP also responded that the data and other information provided by CBD was general in nature and not specific to near-shore Massachusetts waters, and that it would be presumptive and inappropriate to extrapolate from those research results to Massachusetts waters given the complexity and site-specificity of variables affecting the quality of coastal and marine waters. MassDEP has recently updated its 2009 baseline assessment of marine waters in the Massachusetts 2015 Ocean Management Plan. The effects of climate change in marine waters will be monitored and managed through implementation of that plan and the 2011 Massachusetts Climate Change Adaptation Report.

EPA shares the commenter’s concerns about the growing body of evidence supporting the relationship between increased levels of atmospheric carbon dioxide and ocean acidification. However, the studies the commenter provided to EPA and to MassDEP during the MassDEP’s public

comment period do not include data that demonstrate water quality impairment in Massachusetts' marine waters. In the absence of specific data showing either waters not attaining the EPA-approved marine pH criteria or the aquatic life designated use due to altered pH, EPA finds the Commonwealth's decision not to include marine segments as impaired on the Commonwealth's section 303(d) list absent data or information indicating impairment of Massachusetts' marine waters attributable to ocean acidification to be appropriate.

As discussed in EPA's 2012 Listing Guidance related to Ocean Acidification (at http://www.epa.gov/sites/production/files/2015-10/documents/final_2012_memo_document.pdf) EPA recommends that for future lists, States with marine waters (such as Massachusetts) include as part of their routine Integrated Report data request, a provision that solicits existing and readily available water quality-related data and information, including modeling and other non-site-specific data, for marine pH and natural background conditions. EPA encourages CBD to submit data and other information that is relevant to Massachusetts' marine waters during solicitations for future CWA Section 303(d) lists.

Delistings

Water Body Segment Impairments not listed on Massachusetts' 2012 Section 303(d) list, but which were listed on Massachusetts' 2010 Section 303(d) list.

EPA requested that Massachusetts provide a rationale for its decision not to include on its 2014 Section 303(d) list previously listed waters. As discussed below, Massachusetts has demonstrated to EPA's satisfaction good cause for not listing those waters, consistent with 40 C.F.R. Section 130.7(b)(6)(iv).

Massachusetts' Section 303(d) submittal describes the basis for removing waterbodies from the list. Massachusetts also provided an accounting and tracking of every waterbody and pollutant combination that was included on the Commonwealth's 2012 Section 303(d) list but is not included on the 2014 Section 303(d) list. EPA reviewed this list and the Commonwealth's rationale for the delistings. Waterbody segment impairments were removed from the list because TMDLs were completed and approved by EPA. Appendix 3 of the IL details the waterbody segment impairments removed between the final 2012 and final 2014 Section 303(d) lists.

EPA agrees that MassDEP has demonstrated that delisting is appropriate for these segments and their associated impairments for the reasons described below.

Approved TMDLs

Massachusetts has delisted 47 pollutant impairments in 47 different waterbody segments for which TMDLs have been established and approved by EPA. Thirty-one of these segments are identified in Category 4a because a TMDL has been completed for all the known pollutant impairments of those segments. The remaining sixteen segments are still impaired for pollutants other than for the ones for which the TMDLs in question were developed. These segments remain in Category 5 because Massachusetts does not place any one segment into more than one category.

Waterbody segment impairments newly covered under addenda to previously approved TMDLs

- Additionally, through its routine watershed assessments MassDEP identified 4 impairments in 4 waterbody segments that can in the future be brought into attainment with water quality standards through the application of an already approved TMDL. These impairments are identified in Appendix 3, page 283, of the IL (Boston Harbor: Neponset). MassDEP developed the TMDL addendum to the previously approved Neponset River Pathogen TMDL to cover these new impairments. The TMDL addendum was noticed separately for public review and comment and submitted to EPA for final approval. One of the waterbody segments will be placed directly into Category 4a because a TMDL has been completed for all the known pollutant impairments of that segment. The remaining three waterbody segments are still impaired for pollutants other than the ones for which the TMDL addendum was developed and therefore remain in Category 5 because Massachusetts does not place any one segment into more than one category.

In summary, EPA recognizes that Massachusetts' delisting in 2014 of the previously listed waterbody segment impairments described in this section, as well as the waterbody segment impairments directly placed into Category 4a described above has been done in accordance with 40 CFR Section 130.7(b) and EPA's Section 303(d) listing guidance. For each of the water body segment impairments delisted from Category 5 to Category 4a, EPA agrees that the State has reasonably concluded that the identified impairments no longer need to be on the Section 303(d) list because the impairment is now the subject of an EPA-approved TMDL.

Priority Ranking

EPA reviewed Massachusetts' priority ranking of listed waters for TMDL development, and concludes that the Commonwealth properly took into account the severity of pollution and the uses to be made of such waters, as well as other relevant factors such as the complexity of the impairment and availability of quality information on it, and the likelihood that a remedy might be implemented before a TMDL could be developed. In addition, EPA reviewed the Commonwealth's identification of WQLSs targeted for TMDL development in the next two years, and concludes that the targeted waters are appropriate for TMDL development in this time frame.

In order to set priorities for TMDL development MassDEP evaluated the causes and locations of impairments across the Commonwealth, using the most recent version of the Section 303(d) list. A review of recent Section 303(d) list submittals reveals that the major causes of surface water impairment in Massachusetts are pathogens and excess nutrients. Therefore, MassDEP continues to place a high priority on developing TMDLs for these pollutants, and this is implicit in the TMDL schedule (pages 26-28 of final IL). The TMDL schedule outlined on page 26 of the 2014 IL is focused on completing bacteria and nutrient TMDLs for watersheds in Eastern Massachusetts, bacteria TMDLs for watersheds in Western Massachusetts, and nutrient TMDLs for estuaries in Southeastern Massachusetts.

In addition to the pathogen and nutrient related TMDLs, the Commonwealth's 2012 Section 303(d) list submission identifies several targeted waterbodies where TMDL work is either ongoing or planned for the near future (page 29-31 of the IL). Waters targeted for TMDL development during the next 2 years reflect a variety of serious water quality problems affecting various designated uses.

For many of the targeted waters the public has expressed its interest for the Commonwealth to begin TMDL development.

In conclusion, EPA finds the TMDL prioritization and targeting approach used by Massachusetts to be reasonable considering all factors including the large number of waters on the list and the overall pace at which TMDLs will be developed. Massachusetts' watershed approach provides watershed-based priority rankings for Section 303(d) listed waters. In addition, it provides a framework in which meaningful priority rankings will be established for each of the listed waterbody segments. In targeting waterbodies for TMDL development, Massachusetts continues to take into account the severity of the pollution and the uses to be made of such waters. Consistent with EPA's regulation (40 CFR Section 130.7(b)(4)), Massachusetts did identify the segments targeted for TMDL development in the next two years.

Waterbodies on Tribal Lands

EPA's approval of Massachusetts' Section 303(d) list extends to all water bodies on the list with the exception of those waters, if any, that are within Indian Country, as defined in 18 U.S.C. Section 1151. EPA is taking no action at this time to approve or disapprove the Commonwealth's list with respect to waters within Indian Country. EPA, or any eligible Indian Tribe, as appropriate, will retain responsibilities under Section 303(d) for those waters.

Waters impaired by nonpoint sources of pollution

The Commonwealth 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 *Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Section 303(d), 305(b), and 314 of the Clean Water Act* – EPA Office of Water, July 29, 2005. Waters identified by the Commonwealth as impaired or threatened by nonpoint sources of pollution (NPS) were appropriately considered for inclusion on Massachusetts' 2014 Section 303(d) list. Massachusetts properly listed waters with nonpoint sources causing or expected to cause impairment, consistent with Section 303(d) regulations and EPA guidance.

EPA concludes that MassDEP properly considered waters identified by the Commonwealth as impaired or threatened in nonpoint assessments under Section 319 of the CWA in the development of the 2014 Section 303(d) list.