

## **ME §303(d) Approval Documentation 2012 List Cycle**

### **I. INTRODUCTION**

EPA has conducted a complete review of Maine's 2012 Section §303(d) list and supporting documentation and information and, based on that review, EPA has determined that Maine's list of water quality limited segments (WQLSs) still requiring TMDLs meets the requirements of §303(d) of the Clean Water Act ("CWA" or "the Act") and EPA's implementing regulations. Therefore, by this order, EPA hereby approves Maine's 2012 §303(d) list, included as part of the State of Maine Department of Environmental Protection's *2012 Integrated Water Quality Monitoring and Assessment Report (IR)*, dated February 21, 2014. The statutory and regulatory requirements, and EPA's review of Maine's compliance with each requirement, are described in detail below.

### **II. STATUTORY AND REGULATORY BACKGROUND**

#### **Identification of WQLSs for Inclusion on §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 §301(b)(1)(A) and (B) of the Act 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 §303(d) listing requirement applies to waters impaired by point and/or nonpoint sources, pursuant to EPA's long-standing interpretation of §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).

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

In developing §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 §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 §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 21<sup>st</sup>, 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/](http://www.epa.gov/owow/tmdl/2006_IRG/)) as supplemented by an October 12, 2006 memo and attachments, a May 5, 2009 memo and attachments, and the March 21, 2011 memo and attachments. All guidance, memoranda and attachments may be found at: <http://www.epa.gov/owow/tmdl/guidance.html> . 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 §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 §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 §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), EPA's 2006 Integrated Report Guidance, and the 2006, 2009, and 2011 memoranda and attachments.

### **III. REVIEW OF MAINE'S §303(d) SUBMISSION**

The Maine Department of Environmental Protection (ME DEP) submitted a final §303(d) list to EPA, along with responses to comments, dated February 21, 2014. Waters listed by Maine in Category 5 of the State's 2012 Integrated Report (as defined below) represent the State's §303(d) list, which the State is required to submit to EPA for review and approval or disapproval. The water segments Maine placed into Categories 1 through 4 (as defined below) fulfill the requirements of §305(b) of the CWA and are not a part of Maine's §303(d) list. Such integrated listing format allows states to provide the status of all assessed waters in a single multi-part list. States may list each waterbody or segment thereof into one or more of the following five categories, as appropriate:

- 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 (with the presumption that all uses are attained);
- 3) There are 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 by a pollutant(s), and a TMDL is needed.

The relevant §303(d) water segments (Listing Category 5) are identified in Maine's 2012 IR and the following pages of the IR appendices:

- Appendix II Rivers and Streams (pages 78-97);
- Appendix III Lakes (page 109);
- Appendix IV Wetlands (pages 120-121);
- Appendix V Estuarine and Marine waters (pages 142-143).

For purposes of evaluating Maine's §303(d) list, EPA also reviewed the following portions of Maine's 2012 IR relating to data sources and acknowledgements; listing methodology, assessment criteria, and data interpretation; Maine's process for solicitation of public comments, and Maine's responses to those comments:

- Maine's *Data Sources and Acknowledgements* (pages 6-7, Chapter 1, IR);
- Maine's *Listing Methodology, Assessment Criteria, Data Interpretation* (pages 58-67), *Nutrients/Eutrophication Biological Indicators* (pages 97-98), and *Ocean Acidification* (pages 101-104) (Chapter 4, IR);
- Maine's *Public Review Process and Summary of Public Comments and Responses* (pages 12-39, Chapter 2, IR).

EPA reviewed and commented on Maine's public review draft 2012 §303(d) list, dated April 10, 2013. The Maine Department of Environmental Protection (ME DEP) then revised the list based on comments received during the public comment period. EPA also reviewed Maine's final 2012 §303(d) list, submitted February 21, 2014, which is included in Maine's final submittal of their 2012 *Integrated Water Quality Monitoring and Assessment Report*, or Integrated Report (IR) and its appendices.

## **Public Review**

ME DEP conducted a public participation process, providing the public with an opportunity to review and comment on Maine's draft 2012 §303(d) list. A public comment period was opened upon the release of Maine's draft list on April 10, 2013, and was closed on May 10, 2013. On April 10, 2013, ME DEP posted Maine's draft list on ME DEP's website. During the week of April 10, 2013, ME DEP prepared a legal notice that ran in four daily newspapers located around the State (Bangor Daily News (45,000), Kennebec Journal (11,000), Lewiston Sun Journal (29,000), and The Portland Press Herald (47,000). During the week of April 10, 2013, ME DEP e-mailed notice to 130 interested parties (e.g., towns, non-governmental organizations, Tribes). Notice was also sent directly to approximately 100 people and entities on the Agency Rulemaking Subscription Service List, including all other natural resource agencies within state government. EPA, as well as ME DEP, informed all five Indian Tribes in Maine of

the availability of the ME DEP's draft 2012 §303(d) list. A second comment period (January 30 - February 14, 2014) was opened by ME DEP to allow public review of a listing change made in response to a comment received during the initial public comment period. The second notice was announced via two e-mails, the first to the ME DEP's Rulemaking Subscription Service List, and a second to other interested parties (approximately 130 towns, non-governmental organizations, and Tribes). EPA concludes that Maine's public participation process was consistent with its Continuing Planning Process (CPP), and that Maine provided sufficient public notice and opportunities for public involvement and response. EPA reviewed the original comment letters ME DEP received and ME DEP's responses to those comments. EPA concludes that ME DEP responded to the comments adequately.

### Ocean Acidification

In advance of the first public comment period provided for the State's draft §303(d) list, Maine DEP received a letter, dated December 22, 2011, from the Center for Biological Diversity (CBD), during the State's data solicitation period (October 27 – December 30, 2011). CBD asserted that Maine should list coastal waters as threatened or impaired water bodies due to ocean acidification under §303(d) of the Clean Water Act. Maine's Final 2012 IR submittal to EPA included a detailed written response to CBD's comments, included within the State's explanation of surface water monitoring and assessments for estuaries/coastal waters (Chapter 4, pages 101-104 IR). Maine's response indicated that ME DEP reviewed the information submitted by CBD and determined that none of it demonstrated that Maine's marine waters are failing to attain, or will not be in attainment by the next listing cycle (i.e., are threatened) with, Maine's water quality standards, including those for protection of pH, marine life use, and antidegradation. Maine further responded that the studies referenced in CBD's letter did not relate directly to the condition of Maine's waters due to global location, spatial scale of comparison and/or the applicability of laboratory experimental results. Maine concluded that CBD's comments and information contained no documentation of impairments or threatened impairments to pH, marine life or habitat. ME DEP also noted that CBD's letter specifically identified Casco Bay as potentially being especially vulnerable to ocean acidification, but Maine concluded that the information submitted by CBD was not sufficient to make a listing determination for Casco Bay. Finally, ME DEP stated that CBD's comments regarding Maine's antidegradation policy weren't sufficiently specific but that, in any event, the water quality data in ME DEP's possession do not suggest that existing uses in Maine's marine waters are not being met due to ocean acidification. In the absence of specific data or other information demonstrating excursions of the State's pH criterion or any other water quality criteria due to ocean acidification, EPA finds that Maine's decision not to list the State's ocean waters as threatened or impaired due to ocean acidification is appropriate.

As discussed in EPA's November 15, 2010 guidance entitled "Integrated Reporting and Listing Decisions Related to Ocean Acidification" (at [http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/oa\\_memo\\_nov2010.cfm](http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/oa_memo_nov2010.cfm)), EPA recommends that for future lists, States (such as Maine) with marine waters include, as part of their routine IR data solicitation process, a request for existing and readily available water quality-related data and information, including modeling and other non-site-specific data, relevant to marine pH (including natural background conditions). As also stated in the guidance, EPA believes that not enough information is available currently to develop ocean acidification-related carbon dioxide TMDLs, and is deferring development of TMDL guidance related to ocean acidification listings until more information becomes available in the future. EPA encourages CBD to submit data and other information that is relevant to Maine's marine waters during ME DEP's data solicitations for future CWA §303(d) lists.

In its comment letter, CBD also asserted that Maine's pH criterion is inadequate to protect marine fauna and flora and the designated uses of water. Currently, Maine's pH criterion is approved by EPA. As indicated in EPA's November 15, 2010 guidance, EPA decided against revising the national marine pH criterion for aquatic life due to insufficient data, after EPA reviewed a wide range of information received in response to a Notice of Data Availability (NODA) on Ocean Acidification and Marine pH Water Quality Criteria. EPA also stated in that guidance that States will need to continue to use their current marine pH criteria as a basis for §303(d) listing until additional ocean acidification related criteria are adopted. Therefore, EPA also supports ME DEP's decision to use the state-adopted and EPA approved marine pH criterion for assessments and §303(d) list decisions in 2012. EPA also notes that the §303(d) listing process is not the appropriate context for submitting proposals to revise the States' water quality criteria, and suggests that such proposals be submitted during States' triennial reviews of their water quality standards.

### Portsmouth Harbor Segment

In response to a letter from CLF received during the initial public comment period (April 10 - May 10, 2013), ME DEP changed the listing category for one estuarine/marine assessment unit from Category 3 to 5-A. ME DEP explained that the listing change was the result of additional available data and observations that indicated impairment based on eelgrass decline from 1966 - 2010 (Chapter 2, pp. 17-18 IR). We agree with DEP's decision to add the Portsmouth Harbor segment (waterbody ID 812-3) to Maine's §303(d) list of impaired waters (Category 5 of the integrated list) for not attaining the marine life support use, based on eelgrass loss. The impairment determination is well founded, in light of the substantial documented loss of eelgrass in the Portsmouth Harbor segment. We have reviewed eelgrass distribution maps and other eelgrass information from the 1980s through 2013 and we have consulted with other experts in eelgrass ecology. The maps and other information show significant loss of eelgrass in Portsmouth Harbor on both the New Hampshire and Maine sides of the river, especially in the deeper sections of the eelgrass meadows.

It is important for Maine to determine the cause of impairment for this and for other segments for which no cause of impairment has been identified, so that Maine's list can provide as much information as possible to the public about the status of the waters on which they live, recreate, and depend, and so that TMDLs may be established consistent with Maine's priority ranking. Although Maine has not identified a cause for the impaired Portsmouth Harbor segment, we urge the State to obtain and evaluate information that could help it conclude what the cause is, including not only studies that examine the decline of eelgrasses, but also the listed causes of impairment of adjacent and nearby segments in both Maine and New Hampshire (e.g., upstream segment (812-2) of the Piscataqua River Estuary, New Hampshire's listing of Portsmouth Harbor, and all other portions of the Great Bay Estuary in New Hampshire's waters), particularly nitrogen.

Nitrogen can negatively affect eelgrass directly through toxicity or indirectly through diminution of light into the water column. Nitrogen stimulates phytoplankton growth in the water column. Higher concentrations of phytoplankton absorb light and reduce the amount of light reaching eelgrass. The deep edge of eelgrass meadows include plants that are just eking out survival on the amount of light available. Any reduction in ambient light is generally enough to tip the balance and cause the plants in the deep part of the meadow to perish.

It appears that nitrogen is a contributory factor to the loss of eelgrass on the Maine side of Portsmouth Harbor. EPA suggests that DEP consider the additional eelgrass distribution map from 2013 when available and avail itself of Dr. Fred Short's expertise at the University of New Hampshire. Dr. Short and his students have extensively sampled the eelgrass meadows in the Great Bay Estuary, including both the New Hampshire and Maine portions of Portsmouth Harbor, and have the best understanding of the health of those areas and contributing causes of the observed eelgrass declines.

We appreciate Maine's commitment to collect additional data to inform its determination of the cause of the impairment. According to an email from DEP to EPA dated January 22, 2014, we understand that DEP's plans for 2014 include data collection within the Portsmouth Harbor segment, and funding of a Piscataqua Region Estuaries Partnership-supported monitoring program of Great Bay, Piscataqua Estuary and Portsmouth Harbor. EPA is prepared to help DEP develop a more complete understanding of the Maine side of Portsmouth Harbor segment in order to confirm the pollutant(s) that contribute to eelgrass decline in this segment.

#### Summary of ME DEP's Public Review Process

Maine's final submittal took into account, and, where appropriate, incorporated suggested changes to Maine's draft 2012 §303(d) list in response to comments and suggestions by interested parties. ME DEP prepared a summary of public comments received, and provided the State's response. EPA has reviewed ME DEP's responses to public comments and all original public comments submitted, including those made by CBD and CLF, and concludes that Maine responded adequately to all of those comments.

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

EPA has reviewed Maine's submission, and has concluded that the State developed its §303(d) list in compliance with §303(d) of the Act and 40 CFR §130.7. 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.

Maine used the water quality assessment results stored in Maine's version of the EPA Assessment Database (ADB) to develop its 2012 §303(d) list. Assessment results for the IR are based on data stored in Maine's relational database (EGAD) up to January 2012 (see pages 217-218, Chapter 9, IR report). ME DEP has several departmental monitoring programs, and routinely works cooperatively with various professional and volunteer monitoring groups on projects yielding surface water quality data that are taken into consideration during the §303(d) list preparation. Sources of data include other state agencies and resources, federal and other government agencies, Tribes, volunteer watershed groups / conservation organizations that work with DEP staff and employ approved monitoring practices for a specific list of sources of assessment data for rivers and streams, lakes, wetlands, estuarine and marine resources (see *Data Sources and Acknowledgements*, pages 6-7, Chapter 1 of the IR).

ME DEP identified the pollutants (when known) causing or expected to cause violations of the applicable water quality standards, including those pollutants for which there were no corresponding numeric criteria in the State's standards (e.g., nutrients). In the cases where the identity of the pollutant was unknown, ME DEP identified the listing cause as the water quality standards impairment (e.g., dissolved oxygen, benthic macroinvertebrate assessment, habitat assessment).

Maine's 2012 §303(d) list is part of *Maine's 2012 Integrated Water Quality Monitoring and Assessment Report* which includes the most recent §305(b) report. As ME DEP explains in its 2012 IR listing methodology, three criteria for listing waters in Category 5 (impaired waters for which a TMDL must be established) are as follows (page 61, Chapter 4 of the IR):

- 1. Current data (collected within five years) for a standard either indicates impaired use, or a trend toward expected impairment within the listing period [threatened], and where quantitative or qualitative data/information from professional sources indicates that the cause of impaired use is from a pollutant(s),*
- 2. Water quality models predict impaired use under current loading for a standard, and where quantitative or qualitative data/information from professional sources indicates that the cause of impaired use is from a pollutant(s), or,*
- 3. Those waters have been previously listed on the State's 303(d) list of impaired waters, based on current or old data that indicated the involvement of a pollutant(s), and where there has been no change in management or conditions that would indicate attainment of use.*

ME DEP appropriately considered all existing and readily available information in the development of the 2012 §303(d) list, consistent with Maine's 2012 listing methodology. The IR explains (page 63) that *A determination of nonattainment is only made when there is documented, quality assured, evidence (e.g. monitoring data) indicating that one or more criteria are not attained. Such data are also weighed against evidence that there are plausible human-caused factors that may contribute to the violation of criteria (38 MRSA Section 464.4.C).* (Note that a special case with respect to documented evidence of impairment is made for wetland assessments, depending on the location of a wetland with respect to a related river/stream, or lake/pond (see page 63, Chapter 4, IR).

In their listing methodology, the State provided a rationale for not relying on particular and readily available water quality-related data and information as a basis for listing waters. Beginning with the 1998 list and continuing through the 2012 listing process, Maine chose not to list waters where the only information regarding water quality was unsubstantiated anecdotal information (e.g., citizen complaint). Maine analyzed relevant data and information for each water body in the State in deciding whether there was sufficient, reliable data to support listing. The State's use of this listing methodology is reasonable and consistent with EPA's regulations. The regulations require states to "assemble and evaluate" all relevant water quality related data and information, and Maine did so for each of its waterbodies. The regulations permit states to decide not to use any particular data and information as a basis for listing, provided they have a reasonable rationale in doing so. Maine's decision not to use unsubstantiated anecdotal information is reasonable in light of the uncertainty about the reliability of such information. Moreover, it is reasonable for Maine to decide to focus its listing and TMDL development resources on waters where water quality impairments are well-documented, rather than on waters with only unreliable water quality information. As additional waters are assessed, EPA expects Maine would add waters to its list where such assessments show water quality standards are not being met.

In accordance with its listing methodology, Maine may, in certain cases, include waters on the 2012 §303(d) list based solely on evaluative information, i.e., information the evaluation of which requires the use of judgment, in contrast to information consisting of straightforward numerical sampling results. Maine based a listing decision on evaluative information when the State had confidence that an

impairment existed. For example, Maine's use of evaluative information includes waters based on data older than 5 years of age (i.e., "evaluated" waters under EPA's §305(b) guidance) where such data showed exceedences of one or more criteria of Maine water quality standards. Although data older than 5 years is considered "evaluative" information under EPA's §305(b) guidance, Maine chose to use such data as a basis for listing. The State concluded that the use of such data is reasonable because, without specific information to the contrary, there is no reason to believe that data older than 5 years are no longer representative of the water quality of the waterbody in question. EPA believes this conclusion is reasonable, and it is consistent with EPA regulations for states to decide to list waters based on data older than 5 years. The regulations require states to consider all available data and to use it unless the state provides a reasonable rationale for not doing so.

In summary, ME DEP considered the most recent §305(b) assessments, as required by EPA's regulations, and used information obtained primarily through monitoring as the basis for adding water quality impairments to the 2012 §303(d) list. The State added a total of 36 new water impairments to the 2012 §303(d) list associated with 28 rivers & streams, 1 lake, 5 wetlands, and 2 estuarine/marine water (see summary in Chapter 8, pp. 124-134 IR). EPA notes that 7 additional new impairments were listed directly into Category 4A instead of Category 5 because the new impairments were addressed by existing TMDLs (see section below on *New Impairments for 4A Listings*). EPA concludes that the State properly assembled and evaluated all existing and readily available data and information, including data and information relating to the categories of waters specified in 40 CFR §130.7(b)(5).

### **Priority Ranking**

As described in its listing methodology, Maine established a priority ranking for listed waters by considering: 1) value of a particular water (a water's size, public use, proximity to population centers, level of public interest for water quality improvement), 2) the nature of the impairment and the source(s) of the problem, 3) available information to complete the TMDL, and 4) availability of staff and contractual resources to acquire information and complete the TMDL study (Chapter 4, page 61 of the IR). Additionally, Maine also considered the merits of addressing, on a regional or statewide basis, waters with similar problems (e.g., impaired waters related to bacteria alone, or to excessive stormwater). Category 5A and 5B waters are assigned a projected scheduled date and priority level of high, medium, or low for TMDL development; Category 5D waters (legacy pollutants) are assigned a low priority for TMDL development.

EPA finds that the waterbody prioritization and targeting method used by Maine is reasonable and sufficient for purposes of §303(d). Maine properly took into account the severity of pollution and the uses to be made of listed waters, as well as other relevant factors described above. EPA acknowledges that the schedule of TMDL completion establishes a meaningful priority ranking system.

### **Waterbody Segment Impairments Not Listed on Maine's 2012 §303(d) List, But Which Were Listed on Maine's 2010 §303(d) List**

Maine did not include on its 2012 §303(d) list 81 waterbody segment impairments included on the State's 2010 §303(d) list, including 74 rivers & streams, 2 lakes and 5 wetlands; and EPA asked the State to provide rationales for its decisions to "delist" these previously listed waters. The State has demonstrated, to EPA's satisfaction, good cause for not listing these waters on its 2012 §303(d) list, consistent with 40 CFR §130.7(b)(6)(iv).

### **Category 5 in 2010 to Category 2 in 2012:**

Of the 81 waterbody segment impairments delisted, the following 4 waterbody segment impairments (2 rivers, and 2 lakes) were removed because new monitoring data indicated applicable water quality standards are no longer exceeded. The specific bases for delisting these prior listed impairments are described below.

- *Sabattus River (between Sabattus P. and Androscoggin R.* ME0104000210\_418R01) was an 11.4-mile Class C segment listed as impaired for aquatic life use with causes including Nutrient/Eutrophication Biological Indicators, Dissolved Oxygen, and Benthic-Macrobenthic Bioassessments. A review of these listings and underlying data contained in Maine's 2012 IR indicated that the AU contained both Class B and Class C segments of the river, and that the benthic macroinvertebrates attained water quality standards in the Class C segment. In 2012 IR, DEP splits the historic AU into the following two new AUs, and delists the benthic-macroinvertebrate cause from the Class C segment only, due to attainment of Class C criteria:

- a) ME 0104000210\_418R01 (upstream): historic AU is renamed, "Sabattus River between Sabattus P and Androscoggin P", 9.1 miles, Class C, Category 5A for aquatic life use with causes including Nutrient/Eutrophication Biological Indicators, and Dissolved Oxygen. The Benthic-Macroinvertebrate Bioassessments cause is delisted because macroinvertebrate data attain Class C criteria.
- b) ME0104000210\_418R03 (downstream): new AU, created in 2012, is named "Sabattus River between Sabattus P and Androscoggin R", 2.3 miles, Class B, Category 5A for aquatic life use with causes Nutrient/Eutrophication Biological Indicators, Dissolved Oxygen, and Benthic-Macroinvertebrate Bioassessments. This segment remains on Maine's §303(d) list.

For the reasons indicated above, EPA approves the delisting of ME 0104000210\_418R01 (upstream), "Sabattus River between Sabattus P and Androscoggin P."

- *Sebasticook River (Main stem, from Burnham bridge to Kennebec R., excluding site of former Halifax Impoundment* ME0103000309\_332R; previously described as "main stem, below confluence of E and W Branches (excluding the Halifax Impd)") is a Class C water previously listed as impaired for aquatic life use based on Nutrient/Eutrophication Biological Indicators (narrative criteria), and Dissolved Oxygen data. Impairments were caused by eutrophic upstream conditions in Sebasticook Lake whose watershed was heavily farmed. Following decades of watershed restoration actions, and improvement in lake water quality, conditions in the downstream river have also improved. Based on new DEP monitoring data from 2007, 2009, and 2012 which indicate markedly reduced nutrient levels and no impairment of the algal community in the river, DEP delists only the Nutrient/Eutrophication Biological Indicators cause of the aquatic life use impairment from Category 5A to-Category 2 in the 2012 IR. The prior aquatic life use listing for Dissolved Oxygen (Category 5A) remains the same, as do the fish consumption listings for dioxin (Category 5A), PCBs (Category 5D), and primary/secondary contact recreation use for E. coli (Category 4A). For the reasons indicated above, EPA approves this delisting.

- *Hermon Pond (M-2286), located in Hermon, Penobscot County*, has a surface area of approximately 440 acres, a maximum depth of 17 feet and average depth 10 feet, water flushes through the pond at an very high rate of approximately 31 times per year.

- *Hammond Pond (M-2294)*, located in *Hampden, Penobscot County*, just downstream of Hermon Pond, has a smaller surface area of approximately 96 acres, a maximum depth of 15 feet and average depth 10 feet, and the water flushes through the pond at an extremely high rate of approximately 186 times per year.

Both ponds were listed for non-attainment of two designated uses, aquatic life support and primary contact, due to recurrent algal blooms. Both ponds are considered to be both eutrophic and dystrophic (color average 73 Platinum-Cobalt units). A significant portion of both ponds' direct watersheds is comprised of wetlands, and recent DEP data acquired from an adjacent wetland suggests that both ponds are in equilibrium with the wetlands. Results from a paleolimnological study of Hermon Pond indicate the existence of diatom indicator species representative of eutrophic trophic conditions prior to settlement that are very similar to conditions that currently exist. The unusually high flushing rates for both lakes indicate that water from upstream Hermon Pond dominates water quality conditions in Hammond Pond. Since both lakes remain stable eutrophic waters, and data indicate both are attaining their GPA water classification, ME DEP delists both ponds.

Region 1 concurs with Maine DEP's decision to delist Hermon and Hammond Ponds from Category 5 to Category 2, based upon the paleolimnological diatom analysis and also due to the fact that both ponds are interconnected with large adjoining wetland complexes which contribute source water and nutrients to the ponds. The results of the paleolimnological diatom analysis and high flushing rates (hydrologic connection) indicate that both ponds exhibit a stable trophic state based on total phosphorus concentrations, Secchi Disk transparency measurements, and the diatom community assemblage. Although there have been some diatom community structure changes over the years, the diatom data also show that the most prevalent species continue, over the centuries, to prefer mesotrophic/eutrophic conditions, a wide range of pH in the neutral-to-alkaline range, and chloride at very low levels; all of which illustrate and support the conclusion of Dixit's inference model analysis that Hermon Pond's sediment core diatom samples indicate stable lake productivity since 1690. In addition, there is no indication of culturally induced algal blooms that impair the ponds' use and enjoyment. These findings are consistent with Maine Water Quality Standards that state, "Class GPA waters must have a stable or decreasing trophic state, subject only to natural fluctuations and must be free of culturally induced algal blooms that impair their use and enjoyment."

Both water quality monitoring and watershed land use analyses provide corroborating evidence for these delistings. Water quality monitoring data for both lakes collected by Maine DEP for the past 30 years support the modeled water quality outputs for Secchi Disk transparency and total phosphorus concentrations generated by the paleolimnological analysis. Similarities in current water chemistry (color, Secchi Disk transparency, chlorophyll a, TP, and conductivity), system hydrology and unusually high flushing rates all support the conclusion reached by ME DEP that Hammond Pond's trophic state is dominated by the trophic state of upstream Hermon Pond. Hermon and Hammond Ponds are hydrologically connected to each other as well as to extensive wetlands that surround each pond. Souadabscook Stream, which is bordered by wetlands, is the main tributary to Hermon Pond which also receives inputs from Patten, Ben Annis and Tracy Ponds all of which are surrounded by wetlands. Hermon and Hammond Ponds are highly colored waterbodies which provides further evidence of the hydrological connection between these ponds and the surrounding wetlands. Both Hermon and Hammond Ponds have above average flushing rates that limit internal cycling of phosphorus from lake sediments. The current water chemistry (low conductivity readings) and land use analysis reflect mostly forested and wetland land covers; show that both ponds are buffered from shoreline development and roads by an extensive wetland complex in the area; reflect low levels of watershed development, with

percent impervious cover < 2% for both Hermon and Hammond subwatersheds. For the reasons indicated above, EPA approves these delistings.

**Category 5 in 2010 to Category 4A in 2012**

Of the remaining 77 waterbody segment impairment delistings , 67 waterbody segment impairments are no longer listed because TMDLs have been completed for them since the State’s final 2010 §303(d) list. The TMDLs, expressed in terms of percent impervious cover (% IC), were approved September 27, 2012, to address aquatic life use impairments associated with pollutants in stormwater sources. The impairments were based on one or more assessments (including those for benthic macroinvertebrates, habitat assessments, dissolved oxygen, and periphyton (Aufwuchs) indicator). Table 1 below identifies each TMDL, waterbody segment, and the various listing causes for 30 streams and 5 associated wetlands.

**Table 1.** Waters delisted to Category 4A in Maine's 2012 Integrated Report - IC TMDLs to address listed causes were approved by EPA September 27, 2012.

<i>TMDL ID #</i>	<i>Listed Water Name</i>	<i>Listed Water ID</i>	<i>Cause Name</i>
42453	ARCTIC BROOK (NEAR VALLEY AVE BANGOR)	ME0102000510_224R06	BENTHIC MACROINVERTEBRATES
42453	ARCTIC BROOK (NEAR VALLEY AVE BANGOR)	ME0102000510_224R06	HABITAT ASSESSMENT (STREAMS)
42454	CAPEHART (PUSHAW) BROOK (BANGOR)	ME0102000510_224R05	HABITAT ASSESSMENT (STREAMS)
42456	CAPISIC BROOK (PORTLAND)	ME0106000105_610R01	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42456	CAPISIC BROOK (PORTLAND)	ME0106000105_610R01	HABITAT ASSESSMENT (STREAMS)
42456	CAPISIC BROOK (PORTLAND)	ME0106000105_610R01	PERIPHYTON (AUFWUCHS) INDICATOR BIOASSESSMENTS
42456	CAPISIC POND WETLAND	ME0106000105_610R01_W023	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42457	CARD BROOK (ELLSWORTH)	ME0105000213_514R_01	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42457	CARD BROOK (ELLSWORTH)	ME0105000213_514R_01	DISSOLVED OXYGEN
42459	CONCORD GULLY (FREEPORT)	ME0106000106_602R03	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42459	CONCORD GULLY (FREEPORT)	ME0106000106_602R03	DISSOLVED OXYGEN

42459	CONCORD GULLY (FREEPORT)	ME0106000106_602R03	HABITAT ASSESSMENT (STREAMS)
42459	CONCORD GULLY (FREEPORT)	ME0106000106_602R03	PERIPHYTON (AUFWUCHS) INDICATOR BIOASSESSMENTS
42460	DOLE BROOK WETLAND	ME0106000105_609R01_W026	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42460	DOLE BROOK (FORMERLY KNOWN AS 'UNNAMED STREAM- PORTLAND 3')	ME0106000105_609R01	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42461	FROST GULLY BROOK (FREEPORT)	ME0106000106_602R01	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42461	FROST GULLY BROOK (FREEPORT)	ME0106000106_602R01	HABITAT ASSESSMENT (STREAMS)
42493	GOODALL BROOK (SANFORD)	ME0106000304_625R04	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42493	GOODALL BROOK (SANFORD)	ME0106000304_625R04	HABITAT ASSESSMENT (STREAMS)
42494	GOODALL BROOK (SANFORD)	ME0106000106_612R01_01	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42462	HART BROOK (LEWISTON) A.K.A DILL BROOK AND INCLUDING GOFF BK	ME0104000210_419R02	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42462	HART BROOK (LEWISTON) A.K.A DILL BROOK AND INCLUDING GOFF BK	ME0104000210_419R02	DISSOLVED OXYGEN
42462	HART BROOK (LEWISTON) A.K.A DILL BROOK AND INCLUDING GOFF BK	ME0104000210_419R02	HABITAT ASSESSMENT (STREAMS)
42462	HART BROOK (LEWISTON) A.K.A DILL BROOK AND INCLUDING GOFF BK	ME0104000210_419R02	PERIPHYTON (AUFWUCHS) INDICATOR BIOASSESSMENTS

42463	KENNEDY BROOK (AUGUSTA)	ME0103000312_333R03	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42463	KENNEDY BROOK (AUGUSTA)	ME0103000312_333R03	PERIPHYTON (AUFWUCHS) INDICATOR BIOASSESSMENTS
42464	KIMBALL BROOK (SOUTH PORTLAND)	ME0106000105_610R06	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42464	KIMBALL BROOK (SOUTH PORTLAND)	ME0106000105_610R06	HABITAT ASSESSMENT (STREAMS)
42465	LOGAN BROOK (AUBURN)	ME0104000208_413R04	DISSOLVED OXYGEN
42465	LOGAN BROOK (AUBURN)	ME0104000208_413R04	HABITAT ASSESSMENT (STREAMS)
42466	MARE BROOK (BRUNSWICK)	ME0106000106_602R02	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42466	MARE BROOK (BRUNSWICK)	ME0106000106_602R02	HABITAT ASSESSMENT (STREAMS)
42467	NASONS BROOK (PORTLAND) SOUTH OF RT 25, TRIB TO FORE RIVER	ME0106000105_607R11_01	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42467	NASONS BROOK (PORTLAND) SOUTH OF RT 25, TRIB TO FORE RIVER	ME0106000105_607R11_01	DISSOLVED OXYGEN
42467	NASONS BROOK (PORTLAND) SOUTH OF RT 25, TRIB TO FORE RIVER	ME0106000105_607R11_01	PERIPHYTON (AUFWUCHS) INDICATOR BIOASSESSMENTS
42467	NASONS BROOK (PORTLAND) WETLAND	ME0106000105_607R11_01_W127	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42495	NASONS BROOK (WESTBROOK)	ME0106000105_607R11_02	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42495	NASONS BROOK (WESTBROOK)	ME0106000105_607R11_02	DISSOLVED OXYGEN
42495	NASONS BROOK (WESTBROOK)	ME0106000105_607R11_02	PERIPHYTON (AUFWUCHS) INDICATOR BIOASSESSMENTS
42495	NASONS BROOK WETLAND (WESTBROOK)	ME0106000105_607R11_02_W172	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS

42472	PHILLIPS BROOK (SCARBOROUGH)	ME0106000104_611R02	DISSOLVED OXYGEN
42472	PHILLIPS BROOK (SCARBOROUGH)	ME0106000104_611R02	HABITAT ASSESSMENT (STREAMS)
42473	RED BROOK (SCARBOROUGH, S PORTLAND)	ME0106000105_610R07	HABITAT ASSESSMENT (STREAMS)
42475	SHAW BROOK (BANGOR, HAMPDEN)	ME0102000511_225R01_02	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42475	SHAW BROOK (BANGOR, HAMPDEN)	ME0102000511_225R01_02	HABITAT ASSESSMENT (STREAMS)
42475	SHAW BROOK (BANGOR, HAMPDEN)	ME0102000511_225R01_02	PERIPHYTON (AUFWUCHS) INDICATOR BIOASSESSMENTS
42477	SUCKER BROOK (HAMPDEN) (FORMERLY 'UNNAMED ST.- HAMPDEN')	ME0102000511_225R02	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42477	SUCKER BROOK (HAMPDEN) (FORMERLY 'UNNAMED ST.- HAMPDEN')	ME0102000511_225R02	DISSOLVED OXYGEN
42478	THACHER BK (BIDDEFORD)	ME0106000211_616R05	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42478	THACHER BROOK WETLAND	ME0106000211_616R05_W043	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42482	UNNAMED BROOK (BIOMON STA. 347- LISBON FALLS AT RT 196)	ME0104000210_419R01	HABITAT ASSESSMENT (STREAMS)
42484	UNNAMED TRIB (TOPSHAM 4) TO ANDROSCOGGIN AT FAIR MALL	ME0104000210_420R05	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42486	UNNAMED TRIBUTARY (BRUNSWICK) TO ANDROSCOGGIN R AT RIVER RD	ME0104000210_420R01	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS

42486	UNNAMED TRIBUTARY (BRUNSWICK) TO ANDROSCOGGIN R AT RIVER RD	ME0104000210_420R01	HABITAT ASSESSMENT (STREAMS)
42488	UNNAMED TRIBUTARY (BRUNSWICK 3) TO ANDROSCOGGIN R	ME0104000210_420R02	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42488	UNNAMED TRIBUTARY (BRUNSWICK 3) TO ANDROSCOGGIN R	ME0104000210_420R02	HABITAT ASSESSMENT (STREAMS)
42485	UNNAMED TRIBUTARY (BRUNSWICK 4) TO ANDROSCOGGIN R	ME0104000210_420R03	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42485	UNNAMED TRIBUTARY (BRUNSWICK 4) TO ANDROSCOGGIN R	ME0104000210_420R03	HABITAT ASSESSMENT (STREAMS)
42487	UNNAMED TRIBUTARY (TOPSHAM 2) TO ANDROSCOGGIN R	ME0104000210_420R04	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42487	UNNAMED TRIBUTARY (TOPSHAM 2) TO ANDROSCOGGIN R	ME0104000210_420R04	HABITAT ASSESSMENT (STREAMS)
42483	UNNAMED TRIBUTARY TO BOND BROOK (AUGUSTA)	ME0103000312_333R04	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42483	UNNAMED TRIBUTARY TO BOND BROOK (AUGUSTA)	ME0103000312_333R04	HABITAT ASSESSMENT (STREAMS)
	UNNAMED TRIBUTARY TO BOND BROOK (AUGUSTA)	ME0103000312_333R04	PERIPHYTON (AUFWUCHS) INDICATOR BIOASSESSMENTS
42489	WHITNEY BROOK (AUGUSTA)	ME0103000312_333R02	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS

42489	WHITNEY BROOK (AUGUSTA)	ME0103000312_333R02	PERIPHYTON (AUFWUCHS) INDICATOR BIOASSESSMENTS
42490	WHITTEN BROOK (SKOWHEGAN)	ME0103000306_320R03	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS
42490	WHITTEN BROOK (SKOWHEGAN)	ME0103000306_320R03	HABITAT ASSESSMENT (STREAMS)

**Category 5 in 2010 to Category 4B in 2012**

Of the 81 waterbody segment impairments delisted, the 10 remaining river and stream impairments are no longer listed because NPDES permits have been completed to address two water impairments (dissolved oxygen, and nutrient/eutrophication biological indicators) for each of the following 5 main stem segments of the Penobscot River (all Class B waters). MEPDES permits have been issued since the State's final 2010 §303(d) list:

**Table 2.** *Penobscot River*, main stem, from:

Assessment Unit ID	Segment Location
ME0102000502_230R	Mattawamkeag R to Combolasse Stream
ME0102000502_231R	Combolasse Stream to Piscataquis R
ME0102000506_232R	Piscataquis R to Orson Is
ME0102000509_233R_01	Orson Island to Veazie Dam
ME0102000513_234R_02	Veazie Dam to Reeds Brook

ME DEP has issued permits to the facilities that discharge to the above-referenced segments of the Penobscot River. The permits contain monitoring requirements and/or phosphorus limits at levels which ME DEP determined in a waste load allocation report would collectively result in attainment by 2016 of water quality standards in those water body segments. Monitoring data collected in 2011 show dissolved oxygen attainment in two critical reaches of the river, and a preliminary analysis of 2012 data covering the majority of the river also indicate attainment of dissolved oxygen criteria. Based on this information, EPA approves Maine's §303(d) list without these waterbody-pollutant combinations because the removal of these listings is consistent with EPA's regulations and EPA's *Guidance for Assessment, Listing and Reporting Requirements*. Additional monitoring should be scheduled for these waters to verify that the water quality standards are attained as expected within a reasonable period of time. Where water quality standards are not attained through the selected controls within a reasonable time, in accordance with 40 CFR §130.7(b)(1), it is appropriate for the waters to be placed back onto the §303(d) list to ensure that implementation of the required controls and progress towards compliance with applicable standards are tracked. If it is determined that the water is meeting applicable standards when the next § 303(d) list is developed, it would be appropriate for the State to remove the water from the list at that time.

## **New impairments for 4A Listings**

Maine did not include on the §303(d) list five new waterbody segment impairments for which TMDLs have already been approved by EPA (i.e., waterbody segment impairments listed in 4A instead of 5). EPA approves Maine's §303(d) list without these waterbody-pollutant combinations because the removal of these listings is consistent with EPA's regulations and EPA's *Guidance for Assessment, Listing and Reporting Requirements*.

- *Goodall Brook*, upstream of Daylight Ave., located in Sanford (ME0106000304\_625R04). In the 2012 listing cycle, DEP proposed listing this 1.5 mi. stream segment directly into 4A for two impairments based on benthic macroinvertebrate assessments and habitat assessment (streams). Goodall Brook was included in Maine's Impervious Cover TMDLs developed to address such impairments when associated with stormwater sources, and approved September 27, 2012, as mentioned above.

In the 2012 listing cycle DEP also listed an additional aquatic life use impairment cause based on periphyton indicator bioassessments for the following three waters. Since the stressors of the algal community (i.e., nutrients) are already addressed by existing TMDLs, it is anticipated that the same actions taken to address stressors in the watershed will address the more recently identified aquatic life use impairments to the algal community:

- *Dickey Brook*, West Fork, East Fork and mainstem below the confluence of the two, located in Fort Kent, Frenchville, St. Agatha and Cross Lake Township (ME0101000303\_124R01). A TMDL for total phosphorus was approved September 28, 2006 to address Class B aquatic life use based on nutrient/eutrophication biological indicators and dissolved oxygen data. The stressors are primarily attributable to runoff from agricultural fields. The stream has been listed in Category 4A since the 2006 reporting cycle.

- *Prestile Stream*, above the dam in Mars Hill (ME0101000501\_149R01). TMDLs for total phosphorus, total nitrogen, and sediment were approved May 10, 2010 to address Class A benthic macroinvertebrate bioassessments, nutrient/eutrophication biological indicators, and dissolved oxygen data. The stressors are primarily attributable to runoff from agricultural fields. The stream segment has been listed in Category 4A since the 2010 reporting cycle, and remains in Category 5D for legacy DDT sources.

- *Birch Stream* in Bangor (ME0102000510\_224R04). TMDLs for percent impervious cover, lead, and zinc associated with stormwater runoff were approved September 12, 2007 to address Class B aquatic life use based on benthic macroinvertebrate assessment. The primary stressors of the algal community in this case are excess nutrients, high specific conductivity, and altered hydrology, attributable to runoff from impervious surfaces. Stormwater discharges are being regulated by ME DEP with its MS4 general permit, and MSGPs for industries in conjunction with a watershed management plan. The stream segment has been listed in Category 4A since the 2008 reporting cycle.

## **Waters impaired by nonpoint sources of pollution**

The State properly listed waters with nonpoint sources causing or expected to cause impairment, consistent with §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 a nonpoint source. EPA's

long-standing interpretation is that §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 §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. Natri*, 291 F.3d 1123 (9th Cir. 2002). See also EPA’s *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.

## **V. TRIBAL WATERS**

In submitting the 2012 §303(d) list, ME DEP assumes that Maine’s water quality standards apply statewide. EPA’s approval of Maine’s §303(d) list extends to all waterbodies on the list with the exception of those waters, if any, that are within Indian territories and lands. EPA is taking no action to approve or disapprove the State’s list with respect to those waters at this time. EPA will retain responsibility under §303(c) and §303(d) of the Clean Water Act for those waters.