

Vision for Assessment, Restoration, and Protection of Maine's Water Resources

Under the Clean Water Act, Section 303(d) Program



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Vision Background

The Clean Water Act (CWA) Section 303(d) Program provides a mechanism to integrate and implement water quality efforts for the restoration and protection of the nation's aquatic resources. This program systematically assesses waters and prioritizes restoration objectives that reduce pollutants through Total Maximum Daily Loads assessments, prescriptive permits and implementing alternative approaches to achieve water quality goals. In 2013 the U.S. Environmental Protection Agency (USEPA) announced a new program framework to identify and prioritize water bodies for restoration and protection, entitled *A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program* (the Vision). The new Vision will be addressed in stages from 2016 to 2022 and includes the following elements: prioritization, assessment, protection, alternatives, engagement, and integration. The Vision recommends that each State identify priority waters for restoration and/or protection plans by 2016, with the goal of completing those plans by 2022. This document provides Maine DEP's approach to achieve the Vision's prioritization goal and identifies waters that are high priority for water quality planning efforts. This list may be periodically revised as plans progress and new information emerges.

Maine's Approach to TMDLs and Aquatic Restoration

Maine, like all states, is focused on finding the most effective tools to restore impaired waters and protect non-impaired waters from degradation. The pathway to accomplish this task is constantly evolving and Maine will continue to employ innovative methods that promise to result in water quality standards attainment by addressing pollutant sources. This path is challenging and Maine will choose adaptive approaches that include: TMDLs, Watershed Management Plans, Protection Plans, Alternative Plans, plus MEPDES Permits, and Source Elimination which both lead to direct Delisting of Impaired Waters. In the spirit of Maine, the Department of Environmental Protection (DEP) will do what works within the constraints of our resources to keep our waters safe.

Past Approaches to TMDLs

Nonpoint Source TMDLs & the Statewide Approach

Nonpoint Source (NPS) TMDLs provide a partial solution to attaining water quality standards within the continuum/cycle of aquatic restoration. The TMDL enables the transition from sitting on a list of impaired waters to the next stage of active watershed management planning where stakeholders can move on to the challenges of implementation.

NPS TMDL

Benefits	Limitations
<ul style="list-style-type: none"> • Points out a path to water quality standards attainment • Identifies the major sources of impairments • Educates stakeholders by providing an overview of impairments in the watershed • Provides increased sense of fairness since individual waters are not singled out 	<ul style="list-style-type: none"> • Does not include an Implementation Plan • Needs follow-up with comprehensive watershed planning to achieve water quality standards

Maine DEP has worked with the Environmental Protection Agency (USEPA) to develop statewide TMDL approaches for 303(d) listed waters that share the same impairments. These TMDLs cover multiple waters and can be expanded to include all the waters listed in the future for the same impairment, thus simplifying future TMDL submittals. The value of the statewide approach, versus individual waterbody TMDLs, is to rapidly shift the focus from TMDL development in a watershed to watershed planning that will enable greater emphasis on restoration in the future.

In 2009 USEPA approved Maine's Statewide Bacteria TMDL that covered 180 freshwater and marine listed segments, including both point and nonpoint sources. Besides setting TMDL water quality targets, the document is an overview of Maine's water quality standards and the various state programs designed to address different types of bacterial contamination. In 2012, Maine DEP successfully adapted the Impervious Cover (IC) TMDL methodology for the statewide approach to cover 30 urban stream segments (and five adjacent wetlands), mostly with aquatic life impairments. The IC TMDL incorporated a relatively simple GIS analysis that uses impervious cover as a surrogate for stormwater and included waters where urban stormwater was designated as the primary cause of observed impairments.

Point Sources & Maine's MEPDES Permits

Maine DEP issues point source discharge MEPDES permits on a rotating 5-year permit cycle. Through the licensing process, DEP staff models Waste Load Allocations using TMDL limits. Rather than produce a traditional TMDL assessment report, Maine relies on the permit to enforce the calculated waste load reductions and places the impaired segment in Category 4-B¹ of the biennial Integrated Water Quality Monitoring and Assessment Report (IR). This approach works well and Maine intends to continue this practice when addressing discharges in the future.

Status of Maine's List of Impaired Waters

Impaired waters, i.e. those on the Clean Water Act (CWA) 303(d) list, are identified in the IR in Category 5 (impaired; TMDL required). Maine places waters into three different types of Category 5: 5-A waters are impaired by pollutants not covered by the other two categories; 5-B waters are impaired for bacteria contamination only; and 5-D waters are impaired by legacy pollutants. Maine's 2012 IR Category 5 lists include-

- ~130 river and stream listings (92 in Category 5-A, 2 in 5-B, 37 in 5-D),
- Two lakes (5-A),
- Four wetlands (2 each in 5-A and 5-D) and
- Six marine/estuarine waters (5-A).

Maine has selected proposed waters in Table 1 to comply with USEPA's *A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program*.

¹ Impaired waters are listed in the IR in Category 4 when TMDLs have been approved (4-A), when other enforceable controls are in place (4-B), or the impairment is not caused by a pollutant (4-C).

Elements of CWA Vision Priorities

Prioritization Goal

Maine DEP reviewed Category 5 of Maine's 2012 IR to determine what action or next step is suitable for each of the waters listed. The review process incorporated a systematic approach following these steps:

1. Legacy pollutant impairments (Category 5-D) were deemed low priority for the foreseeable future.
2. Rivers and streams
 - a. Two streams with bacteria-only impairments (Category 5-B) have meanwhile been addressed by TMDLs and moved to Category 4-A.
 - b. 30 nutrient impairment waters (accounting for 32 impairment listings in Category 5-A) that were recently assessed in the field and modeled using MapShed, and which have an NPS TMDL assessment report, were deemed high priority for completion in 2016. These waters were formerly proposed to be covered under a draft NPS TMDL.
 - i. One, additional, nutrient impaired water (French Stream) that needs a major MapShed modelling revision before submittal as part of the NPS TMDL.
 - c. The 61 remaining rivers and stream impairment listings in Category 5-A were reviewed individually to determine if the water is suitable for-
 - i. A TMDL;
 - ii. Placement in a Category 4-B due to an enforceable control; or
 - iii. An Alternative Restoration Approach² (placement in a new Category 5-Alt) using watershed planning methods that will result in attainment of water quality standards.
 - d. Out of those 61, eight were deemed high priority in 2016 for development of either a TMDL, an Alternative Restoration Approach or a Waste Load Allocation model.
3. Lakes – Only 2 lakes are in Category 5 (5-A) and both were deemed high priority in 2016 for development of either a TMDL or an Alternative Restoration Approach.
4. Wetlands – The two impaired wetlands in Category 5-A were deemed low priority due to the particular nature of the impairments.
5. Marine/estuarine waters – Two Category 5-A waters with dissolved oxygen impairments were deemed high priority in 2016 for development of either a TMDL or an Alternative Restoration Approach.

The priority-setting process engaged multiple staff members with direct knowledge of the impaired segments. Staff reviewed existing data, landuse maps and applied best professional judgment to determine the most logical next step for the waterbody. The waters selected as high priorities have received substantial investments in sampling and planning efforts, which raised their priority profile. The results of this process are the waters submitted under the 303(d) Measures, WQ-27, in Table 1. These are DEP's priority waters under the 2016-2022 priorities planning horizon, but a subset of these waters will be used to set TMDL goals that are routinely negotiated under DEP's *Performance Partnership Agreement* with USEPA.

² In accordance with EPA's national guidance, *an alternative restoration approach is a plan and/or set of actions pursued in near term (other than a TMDL) that in their totality are designed to attain water quality standards.* EPA's proposed national program measure WQ-27 allows States to include alternative restoration approaches in reporting progress for their priority waters. (During the time an alternative is being developed, States have the opportunity to track progress using national program measure WQ-28.)

Assessment Goal

As part of its ongoing approach to monitoring the status of its surface waters, Maine will continue to assess waters in accordance with its up-to-date Consolidated Assessment and Listing Methodology (CALM), Comprehensive State Monitoring and Assessment Strategy, applicable criteria and water quality standards, with appropriate sampling, data analysis and assessment techniques for all water resource types, as required by the CWA and other federal and state statutes, to determine the extent of healthy and impaired waters in the priority watersheds.

The objective of monitoring is to 1) provide environmental data and other environmental information that is able to be used, at times in combination with program activity outcomes, to document conditions of designated waters, and 2) assist in identifying and discerning influences of potential stressors, key restoration factors, and informing protection approaches.

Protection Goal

Maine has engaged in protection activities through our 319 Watershed Planning Grant and intends to identify waters slated for protection in future updates to the CWA Vision Priorities, WQ-27. Maine is doing protection work, but it is difficult to predict these waters in advance. Protection plans are developed through the Request For Proposals process of Maine's NPS 319 program, which has a broad priorities list designed to encourage local watershed interests. Maine will continue to invest in protection, but the broad NPS priority approach means it is challenging to specify waters for future protection under the current WQ-27 commitment scenario.

Maine has a number of recent Protection Plans in lake or river/stream watersheds (see here: <http://www.maine.gov/dep/water/grants/319-documents/accepted-wbp-6-11-15.pdf>) to prevent degradation of water quality and has developed specific guidance for development of these plans (see here: http://www.maine.gov/dep/water/grants/319-documents/guidance_lake_watershed-based_protection%20_plans.pdf).

Alternatives Goal

Maine intends to explore alternative restoration approaches and has identified a few waters in Table 1 with the potential to use Watershed Based Plans to achieve water quality standards and be placed in Category 5-Alt (in accordance with EPA guidance). Additionally, Maine has consistently used Category 4-B as an alternative to a traditional TMDL for point source discharges requiring a permit. Maine DEP has developed waste load allocations for point source discharges and then used the enforceable mechanisms in the MEPDES permit to place the segment in 4-B. Table 1 has a few waters listed as eligible for this type of 4-B alternative.

Engagement Goal

Maine DEP will inform and solicit review and comment from the public and interested stakeholders about the proposed CWA Vision Priorities through several potential avenues:

1. DEP will develop a web page to publicize the results of the prioritization process.
2. DEP will send out e-mail notifications to stakeholders identified as interested in the Integrated Report, TMDLs and permits.
3. DEP will consider giving presentation at upcoming workshops and conferences that focus on water quality initiatives.

In Maine, effective stakeholder engagement requires a period longer than the typical 30 days' notice. DEP proposes to undertake an engagement effort over the next 10 months and feedback gleaned will be used in future revisions of the priority commitments.

Integration Goal

Maine DEP will continue to attempt to integrate and coordinate our aquatic restoration efforts with other Bureaus within DEP and outside agencies. DEP will pursue collaboration and outreach where there are clear benefits to our ultimate goal of watershed restoration. TMDL Assessment Reports and Watershed Based Plans will document the results and actions of those collaborative ventures.

Table 1. Maine Priority Waters from the 2012 303(d) List, Category 5-A

ADB ASSESSMENT UNIT ID	SEGMENT NAME	LOCATION	IMPAIRMENT CAUSE	SEGMENT CLASS	PLAN	STATUS	CATEGORY 5-A TO:
ME0106000304_625R01	Adams Brook	Berwick	Benthic-Macroinvertebrate Bioassessments	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0106000103_607R01	Black Brook	Windham	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0103000308_325R02	Brackett Brook	Palmyra	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0102000510_224R01	Burnham Brook	Garland	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0105000305_528R06	Carlton Brook	Whitefield	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0105000305_528R08_01	Chamberlain Brook	Whitefield	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0106000102_603R02	Chandler River	Pownal	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0105000305_528R07	Choate Brook	Windsor	Oxygen, Dissolved	A	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0106000103_607R03	Colley Wright Brook	Windham	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0101000413_146R02	Coloney Brook	Fort Fairfield	Benthic-Macroinvertebrate Bioassessments	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0101000413_146R02	Coloney Brook	Fort Fairfield	Periphyton (Aufwuchs) Indicator Bioassessments	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0102000510_224R07	Crooked Brook	Corinth	Periphyton (Aufwuchs) Indicator Bioassessments	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0105000305_528R03	Dyer River	Newcastle	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0101000412_143R01	Everett Brook	Fort Fairfield	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0106000103_607R06	Hobbs Brook	Cumberland	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0106000103_607R07	Inkhorn Brook	Westbrook	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0103000311_334R03	Jock Stream	Wales	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0103000311_334R03	Jock Stream	Wales	Nutrient/Eutrophication Biological Indicators	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A

ADB ASSESSMENT UNIT ID	SEGMENT NAME	LOCATION	IMPAIRMENT CAUSE	SEGMENT CLASS	PLAN	STATUS	CATEGORY 5-A TO:
ME0105000305_528R05	Meadow Brook	Whitefield	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0101000412_143R02	Merritt Brook	Presque Isle	Benthic-Macroinvertebrate Bioassessments	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0101000412_143R02	Merritt Brook	Presque Isle	Periphyton (Aufwuchs) Indicator Bioassessments	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0103000309_327R01	Mill Stream	Albion	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0106000103_607R08	Mosher Brook	Gorham	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0103000308_325R03	Mulligan Stream	St. Albans	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0104000210_418R02	No Name Brook	Lewiston	Oxygen, Dissolved	C	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0106000103_607R09	Otter Brook	Windham	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0104000210_413R02	Penley Brook	Auburn	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0106000103_607R12	Pleasant River	Windham	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0104000208_413R03	Stetson Brook	Lewiston	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0106000103_607R10	Thayer Brook	Gray	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0105000305_528R04	Trout Brook	Alna	Oxygen, Dissolved	A	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0105000218_521R01	Warren Brook	Belfast	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0106000304_625R03	West Brook	North Berwick	Oxygen, Dissolved	B	NPS TMDL using MapShed Model	TMDL in Public Review Phase	4-A
ME0102000510_224R03	French Stream	Exeter	Benthic-Macroinvertebrate Bioassessments	B	NPS TMDL using MapShed Model	Modelling & Report Revisions Phase	4-A
ME0102000510_224R03	French Stream	Exeter	Periphyton (Aufwuchs) Indicator Bioassessments	B	NPS TMDL using MapShed Model	Modelling & Report Revisions Phase	4-A
ME0106000106_602R03	Concord Gully Brook	Freeport	Escherichia coli	B	Add to Statewide Bacteria TMDL	Data Collected, Need to Create Addendum Report	4-A

ADB ASSESSMENT UNIT ID	SEGMENT NAME	LOCATION	IMPAIRMENT CAUSE	SEGMENT CLASS	PLAN	STATUS	CATEGORY 5-A TO:
ME0102000513_226R03	Penjawoc Stream/ Meadow Brook	Bangor	Benthic- Macroinvertebrate Bioassessments	B	Add to Statewide IC TMDL or Develop Alternative Restoration Approach	Create IC TMDL Addendum or use 2015 Watershed Plan for Alternative TMDL Report	4-A or 5-Alt ³
ME0102000513_226R03	Penjawoc Stream/ Meadow Brook	Bangor	Habitat Assessment	B	Add to Statewide IC TMDL or Develop Alternative Restoration Approach	Create IC TMDL Addendum or use 2015 Watershed Plan for Alternative TMDL Report	4-A or 5-Alt
ME0102000513_226R03	Penjawoc Stream/ Meadow Brook	Bangor	Oxygen, Dissolved	B	Add to Statewide IC TMDL or Develop Alternative Restoration Approach	Create IC TMDL Addendum or use 2015 Watershed Plan for Alternative TMDL Report	4-A or 5-Alt
ME0102000402_219R01	Piscataquis River	Dover Foxcroft	Oxygen, Dissolved	B	Model Waste Load Allocations	Collect Critical Flow Data, Run Model, Adjust MEPDES Permits	4-B
ME0103000305_319R_02	Sandy River	Farmington	Benthic- Macroinvertebrate Bioassessments	B	Model Waste Load Allocations	Collect Critical Flow Data, Run Model, Adjust MEPDES Permits	4-B
ME0103000305_319R_02	Sandy River	Farmington	Oxygen, Dissolved	B	Model Waste Load Allocations	Collect Critical Flow Data, Run Model, Adjust MEPDES Permits	4-B
ME0106000211_616R	Wales Pond Brook	Hollis	Benthic- Macroinvertebrate Bioassessments	B	Waste Load Allocations Completed	MEPDES issued, Create a Report to move to Category 4-B	4-B
ME0103000311_3814L	Cochnewagon Pond	Monmouth	Total Phosphorus	GPA	Develop TMDL or Alternative Restoration Approach	Data Collection Phase	4-A or 5-Alt
ME0103000311_3814L	Cochnewagon Pond	Monmouth	Secchi Disk Transparency	GPA	Develop TMDL or Alternative Restoration Approach	Data Collection Phase	4-A or 5-Alt
ME0103000310_5274L	Great Pond	Belgrade	Total Phosphorus	GPA	Develop TMDL or Alternative Restoration Approach	Data Collection Phase	4-A or 5-Alt
ME0103000310_5274L	Great Pond	Belgrade	Secchi Disk Transparency	GPA	Develop TMDL or Alternative Restoration Approach	Data Collection Phase	4-A or 5-Alt
811-9	Mousam River Estuary	Kennebunk	Oxygen, Dissolved	SB	Model Waste Load Allocations	Collect Critical Flow Data, Run Model, Adjust MEPDES Permits	4-B
802-25	Royal River Estuary	Yarmouth	Oxygen, Dissolved	SB	Model Waste Load Allocations	Collect Critical Flow Data, Run Model, Adjust MEPDES Permits	4-B

³ Waters will be placed in a new Category 5-Alt if an Alternative Restoration Approach has been developed.