

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION 2021 TRIENNIAL REVIEW OF WATER QUALITY STANDARDS

FINAL RECOMMENDATIONS December 16, 2021

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MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION 2021 TRIENNIAL REVIEW OF WATER QUALITY STANDARDS

Final Recommendations by the Board of Environmental Protection

Introduction

Maine's Water Quality Standards (WQS) are one of the principal foundations for the protection of water quality in Maine in accordance with federal and state clean water laws. Maine's Water Classification Program and the WQS contained therein are designed to restore and maintain the chemical, physical and biological integrity of the State's waters and to preserve certain pristine state waters. Maine's WQS describe what uses, such as fishing or recreation in and on the water, are appropriate for which waterbodies, and which criteria and antidegradation measures are in place to protect those uses. More information on Maine's standards can be accessed on DEP's [Water Quality Standards page](#), which provides links to existing Maine statutes and rules.

The federal Clean Water Act (Section 303(c)(1); [40 CFR Part 131.20](#)) requires that states periodically, but at least once every 3 years, hold public hearings for the purpose of reviewing WQS and, as appropriate, modifying and developing standards. Maine Statute contains similar language in [38 M.R.S. Section 464.3.B](#). This process, known as the Triennial Review, requires consultation with the public and interested state and federal agencies.

The Department is now in the process of conducting a [Triennial Review](#), which is expected to extend into 2022 for any required legislation. To start the process, on January 6, 2020 a request to submit proposals on changes to Maine's WQS was sent to recipients at non-governmental organizations (NGOs), municipalities, tribes, state and federal agencies, etc. [Submission guidelines](#) including a timetable were included in the mailings. Following internal review, the Department developed draft recommendations for changes to existing WQS, and invited public comment on those recommendations in the spring of 2021. The Department considered all comments received in developing the revised recommendations contained in this document. During the public comment period, the Department also invited the public to submit additional proposals for changes to Maine's WQS; none were received.

The Board of Environmental Protection (Board) is required to conduct hearing(s) to provide an opportunity to hear comments from the public on the recommendations made by the Department. To this end, on August 5, 2021, the Department requested that the Board schedule a public hearing and receive public comment before making recommendations on changes to existing WQS to the members of the second regular session of the 130th Maine Legislature for their consideration. The public hearing on the revised recommendations occurred on October 7, 2021 in Augusta and by remote means. The public comment period extended from August 18 through October 25, 2021. As part of the public comment period, the public was also invited to submit additional proposals for changes to Maine's WQS; one proposal was received. For more information please see '**Revised draft recommendations – August 2021**', page 8, below.

In response to public comments received, the Department developed revised draft recommendations, dated December 2, 2021. For more information, please see '**Revised draft recommendations – December 2, 2021**', page 8 below. The Board and Department staff held a deliberative session on December 2 on the revised draft recommendations in Augusta and by remote means. Based on the deliberative session, the final revised recommendations contained in this document were developed; for more information, please see '**Final Board Recommendations**', page 9 below. The Board will vote on these recommendations on December 16, 2021, during a regular Board meeting.

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If the Board recommends statutory changes and a bill is developed and accepted for consideration in the second session of the 130th Legislature, an additional public hearing would be conducted by the Legislature as the institution responsible for making statutory changes. Ultimately, the U.S. Environmental Protection Agency (EPA) must give final approval to any changes to WQS made by the State of Maine.

Purpose of Water Quality Classification

Maine's water classification system is used to direct the State in the management of its surface waters, protect the quality of those waters for the purposes intended by the Legislature, and where standards are not achieved, restore the quality to achieve those purposes. As required by the federal Clean Water Act, the classification standards establish designated uses, related characteristics of those uses, the criteria necessary to protect those uses, and an antidegradation policy.

While it is desirable for the actual quality of a water to achieve the standards in any proposal to upgrade a classification, upgrades may be proposed where there is a reasonable expectation for higher uses and quality to be attained. Upgrades to classification may be appropriate where it is socially or ecologically desirable to attain higher standards and where the technological and financial capacity exists to achieve those higher standards within a reasonable time. Once a classification assignment is made, and the uses and criteria are achieved, that goal is protected by the antidegradation provisions of the water quality statute, thus the law provides a mechanism for the State to continually move forward in the improvement and protection of water quality. Downgrades to classification have been infrequent and, as directed in State and federal law, are limited to situations where existing conditions do not afford the possibility to achieve the assigned class.

Water Quality Classes

The State has four classes for freshwater rivers and streams (AA, A, B and C), three classes for marine and estuarine waters (SA, SB and SC), and one class for lakes and ponds (GPA). A summary of the designated uses and criteria that apply to these classes is in [Appendix A](#).

The classification system is a goal-oriented one in which the Maine legislature has designated desired uses within water quality standards arrayed in a hierarchy of assigned classes. Considerations in assigning waterbodies to a class include existing water quality and technical capability, economic and social aspects. A further consideration is the risk of degradation of a waterbody due to natural or human-caused events. The highest classes, AA, SA and GPA, support the broadest range of uses, have the most restrictive limits on wastewater discharges and other human activities, and thus support the best water quality. Because of extensive restrictions on human activities, these waters experience a very small risk of degradation due to natural or human-caused events. Each successively lower class (Class B and SB, and C and SC) supports a narrower range of uses, has less restrictive limits on wastewater discharges and other human activities, and thus supports slightly lower water quality. The risk of degradation of a water body increases as limits on human activities decrease. The Department's mandate under Maine's Water Classification Program is to manage water quality to meet the classification standards through application of its rules and programs.

Department Proposals and Recommendations

Between January 6 and March 31, 2020, the Department actively sought input through surveys of staff at DEP and other natural resource agencies including the Maine Departments of Inland Fisheries and Wildlife, Marine Resources (DMR), and Agriculture, Conservation and Forestry. Many water quality interest groups were also directly contacted, including Native American tribes

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in Maine, numerous environmental and conservation groups (including Friends of Merrymeeting Bay, Friends of Casco Bay, the Natural Resources Council of Maine, The Nature Conservancy, Maine Rivers and its affiliates), watershed associations and municipalities (including all Maine cities and towns). In addition, the EPA also submitted requests for changes. The Department received 15 proposals for WQS changes and 20 proposals for water quality classification upgrades (Figure 1, below).

Proposals for updates to water quality standards (WQS). The EPA and three stakeholders submitted proposals, which are available on DEP's [Triennial Review web page](#):

- EPA
 - Update lower end of freshwater range for pH from 6.0 to 6.5.
 - Eliminate applicability of natural conditions clause to water quality criteria intended to protect human health (toxics, bacteria).
 - Update recreational water quality criteria for Classes B, C, SB and SC to be applicable year-round.
 - Add National Shellfish Sanitation Program shellfishing criteria to Class SA.
 - Clarify that statute on waiver or modification of protection and improvement laws does not apply to WQS.
 - Expand existing recreational WQS for Class GPA by including standards for cyanotoxins.
 - Update regulations for surface water quality criteria for toxic pollutants relating to the protection of aquatic life (aluminum, ammonia, copper and selenium, ambient water physical characteristics).
 - Expand regulations relating to water temperature in tidal waters.
 - Expand mixing zone policy.
- Citizen Proposal
 - Develop acid rain-based WQS.
- Friends of Graham Lake
 - Develop turbidity WQS.
- IDEXX
 - Expand bacteria reporting units in all classifications to include 'MPN'.

The Department developed 3 proposals:

- Update upper end of freshwater range for pH from 8.5 to 9.0.
- Expand definition of Outstanding National Resource Waters to include waters in national monuments.
- Clarify aquatic life standards for Class B, C, GPA, SB and SC waters.

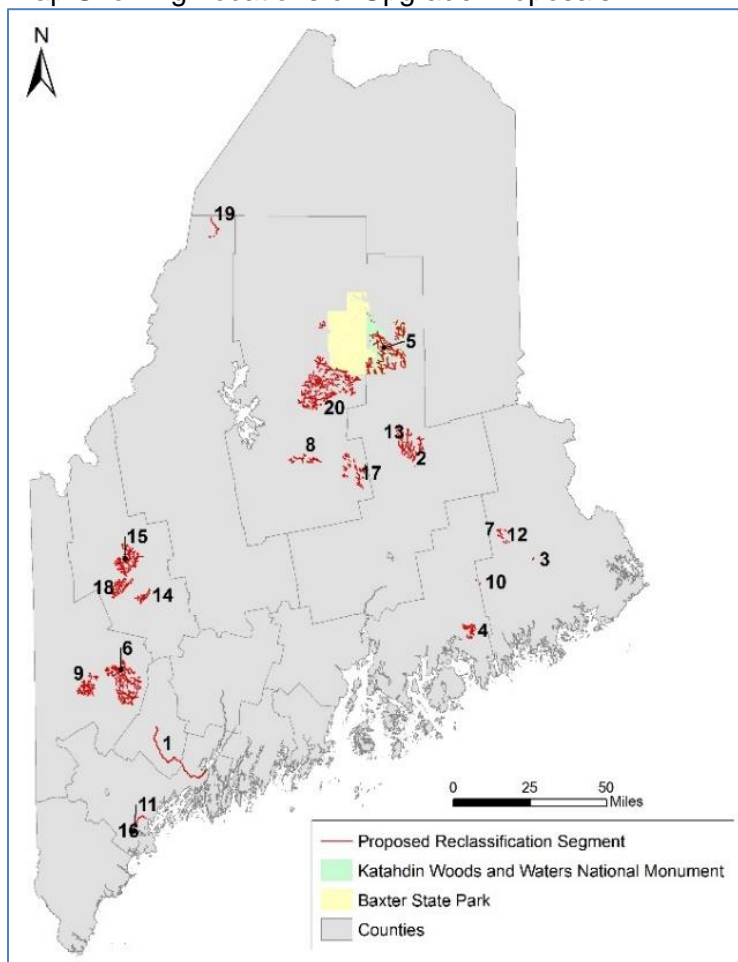
Proposals for upgrades of water quality classifications. The EPA, three stakeholders (Friends of Merrymeeting Bay, Grow L/A, FOMB/GLA; The Nature Conservancy, TNC; Friends of the Presumpscot River, FOPR) and the Department submitted proposals for a total of 20 classification upgrades, which are available on DEP's [Triennial Review web page](#). Numbers in the following table refer to items in Figure 1, below:

Key	Segment	Proposed by	Current Class	Proposed Class
1	Androscoggin River (below Gulf Island Pond)	FOMB/GLA	C	B
2	Cambolasse Stream (below Rt. 2)	DEP	C	B
3	Chain Lakes Stream	DEP	A	AA
4	Donnell Pond tributaries	TNC	B	A
5	East and West Branch Penobscot River tributaries in Katahdin Woods and Waters National Monument	TNC	A	AA

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Key	Segment	Proposed by	Current Class	Proposed Class
6	East and West Branches Nezinscot River tributaries	DEP	B	A
7	Fletcher Brook and tributaries	DEP	A	AA
8	Houston Brook and tributaries	DEP	A	AA
9	Little Androscoggin River (upper) tributaries	DEP	B	A
10	Little Narraguagus River	DEP	A	AA
11	Long Creek (Westbrook)	EPA	C	B
12	Magazine Brook	DEP	A	AA
13	Medunkeunk Stream tributaries	DEP	B	A
14	Mount Blue Stream and tributaries	DEP	B	A
15	Orbeton Stream above Toothaker Pond Rd and tributaries	DEP	A	AA
16	Presumpscot River (below Saccarappa Falls)	FOPR	C	B
17	Schoodic Stream and Scutaze Stream tributaries	DEP	B	A
18	South Branch Sandy River and Cottle Brook and tributaries	DEP	A	AA
19	Southwest Branch St. John River	TNC	A	AA
20	West Branch Penobscot River and tributaries	TNC	A	AA

Figure 1. Overview Map Showing Locations of Upgrade Proposals



All proposals were evaluated in detail, which included a review of the recommendations made by the entities submitting the initial proposals (as listed above), and information from water quality studies conducted in recent years [e.g. Biennial Integrated Water Quality Monitoring and

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Assessment Report required by Sections 305(b) and 303(d) of the Clean Water Act, wasteload studies, permitting activities, etc.], management activities such as the construction of wastewater treatment facilities, and the acquisition of lands for recreation and conservation purposes surrounding certain waters. The Department also consulted with DEP staff and external entities as necessary. Evaluations formed the basis for the draft recommendations for WQS changes that the Department put out for public comment in the spring of 2021. With its recommendations, the Department seeks to achieve all the purposes and objectives described in Maine's water classification program including "promoting general welfare; preventing disease; promoting health; providing habitat for fish, shellfish and wildlife; as a source of recreational opportunity; and as a resource for commerce and industry" by improving general water quality standards and upgrading water quality classifications.

Draft recommendations. Between April 26 and May 26, 2021, the Department invited the public to provide input on [draft recommendations](#) and to submit additional proposals for changes to Maine's WQS. Twenty-one written and three oral comments¹ were received and the Department considered them, and new information obtained, in developing the revised recommendations the Board invited public comment on. No additional proposals for changes to Maine's WQS were received.

Revised draft recommendations – August 2021. Between August 18 and October 25, 2021, the Board invited the public to provide input on the [revised recommendations](#) and to submit additional proposals for changes to Maine's WQS. A public hearing on the revised recommendations was held on October 7, 2021 in Augusta and by remote means. Twenty-three written and five oral comments² were received and the Department considered them in developing the revised recommendations to be presented to the Board at the November 18, 2021 deliberative session. During the public comment period, one additional proposal for changes to Maine's WQS was submitted and one amendment to an existing proposal. The new proposal and the amendment together with the Department's recommendations have been incorporated below in sections "PROPOSAL FOR FUTURE CONSIDERATION", 'Development of a New Water Quality Class', page 45, and 'UPGRADE PROPOSALS THAT ARE NOT BEING RECOMMENDED BY THE DEPARTMENT AT THIS TIME', 'Presumpscot River from Saccarappa Falls to Head of Tide at Presumpscot Falls, Westbrook, Portland and Falmouth', pages 77-78, respectively.

Revised draft recommendations – December 2, 2021. Based on public comments received, the Department amended the recommendation to the upgrade proposal to Class AA for Nahmakanta Stream and tributaries from 'not recommended' to 'recommended' (pages 63-64). The proposal for a new water quality class was incorporated into the list of proposals requiring further investigation, and the proposal for an upgrade amendment into the list of proposals not recommended by the Department. As of December 2, 2021, the Department recommended:

- 7 proposals for statutory changes;
- 2 proposals for changes to rules via deferred rulemaking;
- 1 proposal for development of a new rule;
- 4 proposals for further investigation; and
- 11 proposals for upgrade of water quality classification;

At the same time, the Department did not recommend:

- 2 proposals for statutory changes;

¹ Five out of eight oral comments were subsequently submitted in writing and are not included in this tally of 'oral' comments.

² Nine out of fourteen oral comments were subsequently submitted in writing and are not included in this tally of 'oral' comments.

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- 9 proposals for upgrade of water quality classification;

Final Board Recommendations

On December 2, the Board and Department held a deliberative session on the revised draft recommendations dated December 2, 2021. Deliberations occurred during a regular Board meeting that was held in Augusta and by remote means. Brief public comments were accepted at that time. As a result of the deliberations, the December 2, 2021 draft recommendations on 7 upgrade proposals to Class AA were amended from 'not recommended' to 'recommended' (pages 48-49, 51-60, 65-66). The Board also supported an additional minor amendment to statutory language, presented following the two bulleted lists below and on page 81. No other changes were made. As of December 16, 2021, the Board recommends:

- 7 proposals for statutory changes;
- 2 proposals for changes to rules via deferred rulemaking;
- 1 proposal for development of a new rule;
- 3 proposals for further investigation;
- 1 proposal for future consideration; and
- 18 proposals for upgrades of water quality classification;

At the same time, the Board does not recommend:

- 2 proposals for statutory changes;
- 2 proposals for upgrades of water quality classification;

In addition, the Board proposes to correct three statutory errors:

- Correct erroneous statutory section and clarify name:
 - 38 M.R.S. Sections 467.1.B.2.d and 467.1.B.2.e: Cushman Stream and Meadow Brook in Woodstock are incorrectly listed as tributaries to the Little Androscoggin River when they are in fact tributaries to the Androscoggin River; move to Sections 467.1.D.10 and 467.1.D.11.
 - 38 M.R.S. Section 467.1.D.10 (previously 38 M.R.S. Section 467.1.B.2.d): correct 'Cushman Stream' to 'Cushman Stream (unnamed tributary to Meadow Brook at Cushman Hill Road)'.
- 38 M.R.S. Sections 467.9.A.3. and 4: provide an alternative spelling for 'Sacarappa', i.e. 'Saccarappa'. (*new December 16, 2021*)
- Correct spelling mistake in waterbody name: 38 M.R.S. Section 468.1.C.2: correct 'Finnard Brook' to 'Finnerd Brook'.

Details on the individual proposals as well as the Board's recommendations are provided in the following table summarizing upgrade proposals and narrative for all proposals.

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**Maine Department of Environmental Protection
2021 Triennial Review of Water Quality Standards**

Table 1 List of Proposals for Upgrades of Water Quality Classifications

Proposals recommended for upgrade

December 16, 2021 note: for the upgrades to Class AA indicated in italics below (including Nahmakanta Stream and tributaries in the West Branch Penobscot River and Tributaries item), the following information is important: Except for certain cases as defined in Maine statutes, there may be no direct discharge of pollutants to Class AA waters. This statutory provision is under review with EPA and may be amended or eliminated at some point in the future, which could limit or prohibit certain types of stormwater discharges and associated development in Class AA watersheds. This situation creates regulatory uncertainty for future stormwater permitting actions. The Department and EPA have crafted proposed stormwater legislation to resolve this issue by narrowing the existing stormwater exemption, thereby eliminating any regulatory uncertainty. These upgrade proposals are being recommended to the legislature with the caveat that the Environment and Natural Resources (ENR) Committee hear and vote on the stormwater bill first, before hearing and voting on these upgrade proposals as part of the Triennial Review bill. That way, the Committee will have an understanding of how existing, and potentially future, stormwater discharges to Class AA waters will be regulated. Although the issue would not be fully resolved until the full legislature votes on the stormwater bill, and EPA ultimately approves this revised water quality standard, if the ENR committee votes 'ought to pass' on the stormwater bill that would be sufficient for these upgrades to go forward. Further details are included in each item in the body of this document.

Class Change	Waterbody	Town(s)	Proposed by	Basis for Proposal
Androscoggin River Basin				
B to A	Tributaries to Upper Little Androscoggin River	Greenwood, Woodstock, Albany TWP	Maine DEP	The upper Little Androscoggin River is Class A and waterbodies proposed for upgrade are Class B. The watershed is primarily forested with little agriculture and few residential areas. DEP biological monitoring samples indicate attainment of Class A aquatic life criteria. Upgrading the tributaries would maintain their quality and the quality of the Little Androscoggin River itself.
B to A	Tributaries to East and West Branches Nezinscot River	Buckfield, Hartford, Paris, Peru, Sumner, West Paris, and Woodstock	Maine DEP	The East and West Branches Nezinscot River are Class A and their tributaries are Class B. The watershed is primarily forested with little development. DEP biological monitoring samples indicate attainment of Class A aquatic life criteria in the East and West Branches Nezinscot River and Bunganock Stream.

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Class Change	Waterbody	Town(s)	Proposed by	Basis for Proposal
				Upgrading the tributaries would maintain their quality and the quality of the East and West Branches.
Kennebec River Basin				
A to AA	South Branch Sandy River and Cottle Brook and their Tributaries	TWP 6 North of Weld, Phillips	Maine DEP	<i>These streams are class A waters flowing into Class AA Sandy River. The watersheds contain high-quality, critical habitat for endangered Atlantic salmon, lending significant ecological importance to these waters. The South Branch Sandy River and Cottle Brook are high-priority waters for Maine DMR and have been stocked many times over the past 10 years. DEP data indicate very good water quality the South Branch Sandy River, and external data indicate the same for Cottle Brook. Both watersheds are primarily forested.</i>
B to A	Mount Blue Stream and Tributaries	Weld, Avon	Maine DEP	Mount Blue Stream and tributaries contain high quality habitat for endangered Atlantic salmon and have been designated critical habitat for this species by NOAA Fisheries and the US Fish and Wildlife Service under the federal Endangered Species Act. Mount Blue Pond supports brook trout and brown trout populations. The watershed is 90% forested. DEP data for Mt. Blue Stream indicate attainment of Class A aquatic life criteria and good water quality for salmonids. External data for Mt. Blue Stream showed similar results.
A to AA	Orbeton Stream and Tributaries	Mount Abram TWP, Redington TWP, Madrid TWP, Sandy River Plt, Phillips	Maine DEP	<i>These streams are class A waters flowing into Class AA Sandy Stream. The watershed contains high-quality, critical habitat for endangered Atlantic salmon, lending significant ecological importance to these waters. Orbeton and Perham Streams are high-priority waters for Maine DMR and have been stocked many times over the past 10 years and salmon redds³ are frequently found. DEP monitoring indicates excellent water quality in Orbeton Stream and one tributary, and attainment of Class A aquatic life criteria. The watershed is primarily forested and 32% is protected as conservation land, lending the waters scenic and recreational importance.</i>

³ Spawning nests made by a fish, especially a salmon or trout.

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Class Change	Waterbody	Town(s)	Proposed by	Basis for Proposal
Machias River Basin				
A to AA	Chain Lakes Stream	Wesley	Maine DEP	<i>Chain Lakes Stream in Day Block TWP was upgraded to Class AA in 2003 but the segment in Wesley was inadvertently omitted from the upgrade. The entire stream contains high-quality, critical habitat for endangered Atlantic salmon, lending significant ecological importance to these waters. Much of the immediate and upstream watershed is protected and 75% is forested.</i>
A to AA	Fletcher Brook and Tributaries	T37 MD BPP, T42 MD BP	Maine DEP	<i>One segment of Fletcher Brook is Class AA, two other segments are Class A with no significant changes in watershed characteristics or water quality between segments. The Brook and its tributaries contain high-quality, critical habitat for endangered Atlantic salmon, lending significant ecological importance to these waters. 80% of the watershed is forested.</i>
A to AA	Magazine Brook	T37 MD BPP, T42 MD BP	Maine DEP	<i>One segment of Magazine Brook was upgraded to Class AA in 2003 but two other segments were inadvertently omitted from the upgrade. The entire brook contains high-quality, critical habitat for endangered Atlantic salmon, lending significant ecological importance to this brook. Almost 70% of the watershed is forested.</i>
Narraguagus River Basin				
A to AA	Little Narraguagus River	T28 MD BPP	Maine DEP	<i>One segment of the Little Narraguagus River was upgraded to Class AA in 2003 but two other segments were inadvertently omitted from the upgrade. The entire river, and especially the upper section, contains high-quality, critical habitat for endangered Atlantic salmon, lending significant ecological importance to this river. More than 80% of the watershed is forested. Some resource extraction activities are taking place in Beddington and the River below Chalk Pond is thus excluded from this proposal.</i>
Penobscot River Basin				
A to AA	Tributaries to East and West Branches Penobscot River in Katahdin Woods	WELS: T5 R7, T5 R8, T4 R7, T4 R8, T3 R7, T3 R8, T2 R8; Soldiertown TWP/T2 R7 WELS	The Nature Conservancy	<i>Portions of the East Branch Penobscot River and many tributaries are Class AA due to their high value for endangered Atlantic salmon restoration, and scenic and recreation character. Many of these waters are in the new KWWNM but many smaller</i>

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Class Change	Waterbody	Town(s)	Proposed by	Basis for Proposal
	and Waters National Monument (KWWNM)			<p>tributaries, which serve as high-quality water sources to the River and important habitat for salmon, brook trout and other species, are Class A. Upgrading these waters to Class AA will protect their water quality and that of the River.</p> <p>Portions of some tributaries to the West Branch Penobscot River are located in KWWNM. These waters are also proposed for an upgrade from Class A to AA, which would make management of all waters within KWWNM consistent and recognize their high values.</p>
A to AA	West Branch Penobscot River and Tributaries, from 1,000 Feet Below Ripogenus Dam Powerhouse to Confluence with Ambajejus Lake, and <i>Nahmakanta Stream and Tributaries</i>	WELS: T5 R11, T4 R10, T4 R11, T3 R10, T3 R11, T2 R9, T2 R10, T2 R12, T1 R9, T1 R10, T1 R11, T1 R12, TA R11; Nesourdnahunk TWP, Mt. Katahdin TWP, Rainbow TWP, Shawtown TWP	The Nature Conservancy	<p>This segment of the West Branch Penobscot River is a world-class landlocked salmon fishery; hosts native brook trout and many other important species; and supports a vibrant recreation industry. Its forested shoreline and backdrop of Mount Katahdin make it arguably the most scenic waterway in the state. These and other reasons demonstrate the ecological, social, scenic and recreational importance of these waters.</p> <p>This segment has not previously been proposed for Class AA distinction because a large hydroelectric facility was proposed in the 1980s. Permit applications were denied, and the project was never revived. This proposal leaves a 1,000-foot segment downstream of the McKay powerhouse in its present Class A status, consistent with other Class AA waters located downstream of hydropower stations.</p> <p><i>This proposal also includes tributaries to the river segment in question and Nahmakanta Stream and its tributaries. These waters are largely located in conservation lands and are valued for their ecological, scenic, and recreational values. The Nahmakanta watershed is important to the local recreation economy, supporting commercial sporting camps and running alongside and intersecting the Appalachian Trail. Upgrading these tributaries would maintain their quality and ensure the continued quality and character of the West Branch.</i></p>
A to AA	<i>Houston Brook and Tributaries</i>	<i>Elliotsville TWP, T7 R9 NWP, Katahdin Iron Works TWP</i>	Maine DEP	<p><i>These streams are class A tributaries to Class AA West Branch Pleasant River. The streams contain high-quality, critical habitat for endangered Atlantic salmon with evidence of spawning documented in 2019, lending significant ecological importance to these waters. Big and Little Houston Ponds support brook trout populations. Almost 80% of the watershed is forested and 60%</i></p>

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Class Change	Waterbody	Town(s)	Proposed by	Basis for Proposal
				<i>is protected as conservation land, lending scenic and recreational importance to these waters.</i>
B to A	Tributaries of Schoodic Stream and Scutaze Stream	T4 R9 NWP, Ebeemee TWP, Lake View Plt, Brownville, Medford	Maine DEP	Schoodic and Scutaze Streams are Class A and their tributaries are Class B. The landscape is primarily forested with little development. Monitoring data indicate good water quality. Schoodic and Scutaze Streams are tributaries to the Piscataquis River and contain critical habitat for endangered Atlantic Salmon. The Piscataquis River itself is a priority watershed for salmon restoration in the Penobscot watershed, making its tributaries important for the protection of salmon. Upgrading the tributaries would maintain their quality and the quality of both mainstems and Schoodic Lake.
C to B	Cambolasse Stream	Lincoln	Maine DEP	A lumber yard and sawmill located just upstream of this segment of the stream used to affect water quality. The business closed many years ago and water quality meets Class B standards as indicated in long-term monitoring data collected by the Penobscot Nation.
B to A	Tributaries to Medunkeunk Stream	Medway, TA R7 WELS, Woodville, T2 R9 NWP, Chester, T2 R8 NWP	Maine DEP	Medunkeunk Stream is Class A and all tributaries are Class B. The watershed is primarily forested with some agriculture and few residential areas. The Maine Army National Guard (MEARNG) owns a significant amount of the Medunkeunk Stream watershed and has a Site Location of Development Law permit authorizing impervious/structural development near some streams proposed for upgrade. The permitted work is not expected to be affected by an upgrade because the MEARNG did not propose any discharge to any stream proposed for upgrade as part of the permitted development. Upgrading the tributaries would maintain their quality as well as the quality of Medunkeunk Stream.
St. John River Basin				
A to AA	Southwest Branch St. John River, Confluence with Baker Branch to Confluence with Northwest Branch	T9 R17 WELS, T10 R16 WELS, Big Ten TWP	The Nature Conservancy	The entire St. John River system from the Upper First St. John Pond to near the Allagash village area has always been intended as Class AA. The waters between Upper First St. John Pond and the Northwest Branch of the St. John River, where the St. John River mainstem begins, are called Baker Stream and Baker Branch of the St. John River and Southwest Branch St.

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Class Change	Waterbody	Town(s)	Proposed by	Basis for Proposal
				<p>John River. Due to historic uncertainties in labeling the segment of the Southwest Branch between its confluence with the Baker Branch and its confluence with the Northwest Branch, Maine statute inadvertently designated that segment as Class A. This segment falls 100% within TNC's ownership and conservation management along the St. John River and is thus fully protected. This proposal clarifies that the Southwest Branch is Class AA from a point located 5 miles downstream of the international boundary to its confluence with the Northwest Branch.</p>
Minor Drainages - Cumberland County				
C to B	Long Creek	Westbrook	U.S. Environmental Protection Agency	<p>In 2009, Maine changed the classification of the 0.3 mile segment of Long Creek in Westbrook from Class B to Class C, making it the same as the remainder of Long Creek in Portland and South Portland. The change was made to correct a legislative bill drafting error made in 1990. In 2015, EPA disapproved the 2009 reclassification because Maine had not performed a Use Attainability Analysis (UAA) as required under the Clean Water Act for classification downgrades. EPA recommended that Maine either revise the classification back to Class B or perform a UAA. DEP proposes to revise state regulations to clarify that Long Creek is Class B.</p>
Minor Drainages - Hancock County				
B to A	Tributaries to Donnell Pond	T9 SD BPP, T10 SD BPP, Franklin, Sullivan	The Nature Conservancy	<p>Donnell Pond is a water of high ecological and recreational value largely surrounded by the State's Donnell Pond Public Reserved Land, an important conservation area in eastern Maine. Tributary waters draining to Donnell Pond, the majority of which are within the public lands, were inadvertently left in Class B when waters in the eastern side of the Reserved Land draining to Tunk Lake and Tunk Stream were upgraded to Class A in 2019. We recommend that waters within the Reserved Land be consistently managed as Class A to protect their natural qualities and the quality of Donnell Pond. This proposal would make management of all waters within the Donnell Pond Public Reserved Land consistent and recognize their high values.</p>

Proposals not recommended for upgrade at this time

Class Change	Waterbody	Towns	Proposed by	Justification
Androscoggin River Basin				
C to B	Androscoggin River, Gulf Island Dam to Merrymeeting Bay (line between Pleasant Pt., Topsham and North Bath)	Lewiston, Auburn Lisbon, Durham, Topsham, Brunswick	Friends of Merrymeeting Bay, Grow L/A	<p>Department and external data document that Class B criteria for dissolved oxygen (DO) and bacteria are largely, but not always, attained in the segment in question. A number of sources of pollution and stressors exist both within and upstream of the segment: in the 100-mile, entirely Class C segment between the confluence with the Ellis River (in Rumford) and Merrymeeting Bay (Bath), there are 14 dams with impoundments, multiple discharges, urban centers and extensive agriculture.</p> <p>A 2011 report summarizing Department data showed that Class B criteria for DO and aquatic life were not always attained. Water quality models indicated that Class B DO criteria would not be attained in much of the segment in question during critical conditions⁴, which the Department considers when reissuing waste discharge licenses. Finally, the Gulf Island Pond (GIP) impoundment above the segment in question is only required to meet Class C DO criteria. Because flow from this impoundment accounts for 97% of the flow in the segment in question, continued Class C DO conditions of 5 ppm in GIP would prevent attainment of Class B DO conditions of 7 ppm downstream.</p> <p>For more detailed information on this proposal and the Department's recommendation please see pages 73-76, below. In light of the available information, the current upgrade proposal is not supported.</p> <p>Note: a legislative proposal (LD 676, An Act to Reclassify Part of the Androscoggin River to Class B) identical to this item was submitted to the 130th Maine Legislature. The Environment and Natural Resources Committee voted to carry this LD over to the next legislative session. The Department testified in opposition to the LD on 5/3/2021.</p>

⁴ Critical conditions consist of high water temperature, low flow, and maximum licensed discharge levels.

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Class Change	Waterbody	Towns	Proposed by	Justification
Presumpscot River Basin				
C to B	Presumpscot River Mainstem from Saccarappa Falls to Head of Tide at Presumpscot Falls	Westbrook, Portland, Falmouth	Friends of the Presumpscot River	Continuous dissolved oxygen (DO) data collected by Department staff in the summer of 2021 showed some non-attainment of Class B DO criteria. Data were collected under conditions that were much more favorable than the critical conditions ³ the Department must consider when reissuing waste discharge licenses. These DO excursions under non-critical conditions indicate that the lower Presumpscot River is currently not a good candidate for an upgrade. For more details on this proposal and the Department's recommendation please see pages 77-79, below.

BACKGROUND TO EPA-REQUESTED CHANGES

In 2015, the U.S. Environmental Protection Agency (EPA) issued three letters dated February 2, 2015, March 16, 2015, and June 5, 2015, which contained a number of approvals and disapprovals of State water quality standards (WQS) that the Department had previously submitted for review and approval as required under the federal Clean Water Act (CWA). If EPA disapproves a new or revised State WQS, and the State fails to timely adopt specified changes that meet CWA requirements, then EPA shall promptly propose and promulgate such a standard.

Because the Department did not take timely action on the WQS disapproved by EPA, EPA proposed and promulgated certain federal Maine WQS in [40 CFR Section 131.43](#), which became effective in January 2017. Since that time, the Department has revised certain Maine standards and rules to be consistent with the WQS promulgated by EPA for Maine, and they have been reviewed and approved by EPA. However, the Department has not yet revised all of the WQS that were disapproved by EPA in 2015. All items in this Triennial Review package that are identified as 'Change requested by: U.S. Environmental Protection Agency (EPA)' arose in response to either the 2015 disapprovals and the 2017 EPA federal WQS promulgation, or a [letter from EPA](#) that it submitted at the start of the Triennial Review process.

PROPOSALS TO UPDATE WATER QUALITY STANDARDS

38 M.R.S. SECTION 363-D

Waiver or Modification of Protection and Improvement Laws

Update Statute to Exclude Applicability to Water Quality Standards.

Change requested by: U.S. Environmental Protection Agency (EPA).

Basis for change: This statute allows the Department to waive any provisions of Chapter 3, Protection and Improvement of Waters, which includes water quality standards (WQS) to assist in oil spill response activities. By letter dated June 5, 2015, EPA disapproved this statute for waters throughout Maine because waivers or modifications of WQS require certain procedures under the Clean Water Act. Such procedures are not part of this statute, which is therefore not consistent with minimum federal requirements. In its water quality standards promulgation for Maine in December 2016, EPA promulgated a federal regulation to indicate that the provisions in Title 38 M.R.S. Section 363-D do not apply to state or federal water quality standards applicable to waters in Maine, including designated uses, criteria to protect existing and designated uses, and antidegradation policies.

Issues to be considered for this change: None.

Recommend revising Section 363-D as follows:

363-D. Waiver or modification of protection and improvement laws

The commissioner or the commissioner's designee may waive or modify any of the provisions of this chapter if that waiver or modification promotes or assists any oil spill response activity conducted in accordance with the national contingency plan, a federal contingency plan, the state marine oil spill contingency plan, or as otherwise directed by the federal on-scene coordinator, the commissioner or commissioner's designee. A waiver issued by the commissioner under this section must be in writing. This section does not apply to state or federal Water Quality Standards (WQS) applicable to waters in Maine, including designated uses, criteria to protect existing and designated uses, and antidegradation policies.

38 M.R.S. SECTION 464

Update the Criteria for pH of Freshwaters due to Discharge of Pollutants

Propose to Increase the Lower Limit of Freshwater pH from 6.0 to 6.5.

Change requested by: U.S. Environmental Protection Agency (EPA).

Basis for change: EPA recommends 6.5 as the lower end of the pH range that is protective of freshwater aquatic life. By letter dated June 5, 2015, EPA disapproved Maine's lower-end value of 6.0 for waters in Indian lands as not being adequately protective of sensitive aquatic life such as developing Atlantic salmon eggs. In 2016, EPA promulgated a federal regulation that includes a value of 6.5 for Maine waters in Indian lands.

Issues affected by this change: Increasing the pH criterion from 6.0 to 6.5 will prevent any permitted discharges from lowering the receiving waters below 6.5. Current licensed Maine wastewater discharge pH limits are 6.0 to 9.0. However, because discharged effluent is diluted upon mixing with the receiving water, the Department deems it unlikely that a discharge would reduce the pH in the receiving water below a value of 6.5, and thus no impacts on licensees are expected.

Recommend revising Section 464.4.A.5. as follows:

4. General provisions. The classification system for surface waters established by this article shall be subject to the following provisions.

A. Notwithstanding section 414-A, the department may not issue a water discharge license for any of the following discharges:

(5) Discharge of pollutants to any water of the State that violates sections 465, 465-A and 465-B, except as provided in section 451; causes the "pH" of fresh waters to fall outside of the ~~6.0~~ 6.5 to 8.5 range; or causes the "pH" of estuarine and marine waters to fall outside of the 7.0 to 8.5 range;

Note: Also see DEP's related proposal (next item) regarding increasing the upper limit of the existing freshwater pH criteria from 8.5 to 9.0.

Propose to Increase the Upper Limit of Freshwater pH from 8.5 to 9.0.

Proposal submitted by: Department of Environmental Protection.

Basis for proposal: EPA recommends an upper pH limit of 9.0 as protective of freshwater aquatic life. Several studies starting in 2016 and continuing through 2019 have characterized the natural geological influence on pH and determined that in certain areas in Maine, pH levels naturally rise above 8.5. Supporting the studies are results from continuous monitoring equipment that confirmed a higher pH in numerous water bodies throughout this geology. A significant body of literature supports 9.0 as protective of trout/salmonids.

Issues affected by the proposal as submitted: Increasing the pH criterion from 8.5 to 9.0 will prevent any permitted discharges from raising the receiving waters above pH 9.0. Many current Maine wastewater discharge licenses include an upper pH limit of 9.0, which is considered best practicable treatment, and thus no negative impacts on licensees are anticipated.

Recommend revising Section 464.4.A.5. as follows:

4. General provisions. The classification system for surface waters established by this article shall be subject to the following provisions.

A. Notwithstanding section 414-A, the department may not issue a water discharge license for any of the following discharges:

(5) Discharge of pollutants to any water of the State that violates sections 465, 465-A and 465-B, except as provided in section 451; causes the "pH" of fresh waters to fall outside of the 6.0 to ~~8.5~~ 9.0 range; or causes the "pH" of estuarine and marine waters to fall outside of the 7.0 to 8.5 range;

Note: Also see the related proposal (preceding item) regarding increasing the lower limit of the existing freshwater pH criteria from 6.0 to 6.5 as requested by the EPA.

Expand Definition of Outstanding National Resource Waters

Inclusion of National Monument in ONRW Definition.

Proposal submitted by: Maine Department of Environmental Protection.

Basis for proposal: The Clean Water Act incorporates the concept of Outstanding National Resource Waters (ONRWs), which are waters that have unique characteristics to be preserved, for example waters of exceptional recreational, environmental, or ecological significance. Maine statute contains provisions for ONRWs in 38 M.R.S. Section 464.4.F.2. and affords them special protections. Amongst the waters designated as ONRWs are those in national and state parks and other protected areas. Similar to those areas, national monuments are protected to ensure their natural, historical, cultural, or scientific values. With the creation of the Katahdin Woods and Waters National Monument (KWWNM) in 2016, it is desirable to extend ONRW status to that area.

Issues to be considered for this change: Except for certain cases as defined in Maine statutes, there may be no direct discharge of pollutants to ONRWs. *It is important to note that the current statutory allowance for stormwater discharges to ONRWs is under review with EPA (as a result of [EPA's 6/5/15 decision letter](#) to DEP Commissioner Patricia W. Aho, pp. 6 and 29) and may be amended or eliminated at some point in the future. Amendment or elimination of the current statutory allowance could limit or prohibit certain types of stormwater discharges and associated development in ONRW watersheds.* Hydroelectric power generation is not a designated use in these waters and inclusion of the KWWNM in Maine's definition of ONRWs will thus preclude future construction of water control structures in this area. There are no pollutant discharge licenses to the waters within the KWWNM, and the Department is not aware of any anticipated construction projects for water control structures.

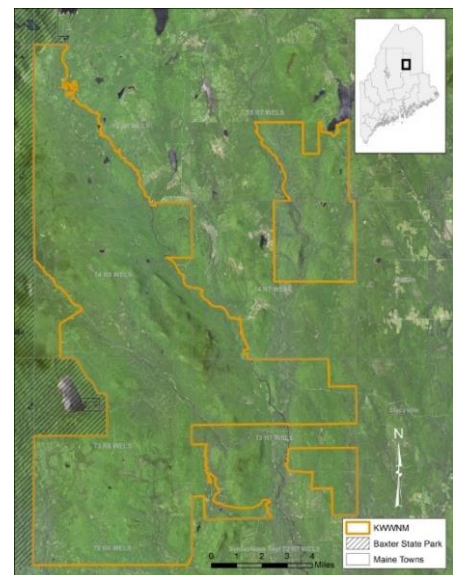
The East Branch Penobscot River within the KWWNM is currently Class AA and thus already qualifies as an ONRW; the same is true for certain tributaries. Other tributaries to the East or West Branches Penobscot River, or the Seboeis River, within the NM are currently Class A. All of these waters are proposed for an upgrade to Class AA during the triennial review, see pages 61-62 of this document.

Recommend revising Section 464.4.F.2 as follows:

4. General provisions. The classification system for surface waters established by this article shall be subject to the following provisions.

F. The antidegradation policy of the State is governed by the following provisions.

(2) Where high quality waters of the State constitute an outstanding national resource, that water quality must be maintained and protected. For purposes of this paragraph, the following waters are considered outstanding national resources: those water bodies in national and state parks and wildlife refuges, and in Katahdin Woods and Waters National Monument; public reserved lands; and those water bodies classified as Class AA and SA waters pursuant to section 465, subsection 1; section 465-B, subsection 1; and listed under sections 467, 468 and 469.



38 M.R.S. SECTIONS 420 and 464

Natural Conditions Provision for Certain Criteria

Amend Natural Conditions Provisions for Criteria Designated to Protect Human Health.

Change requested by: U.S. Environmental Protection Agency (EPA)

Basis for change: Maine statute ([38 M.R.S. Section 420.2.A](#)) includes a provision that excludes naturally occurring toxic substances from regulation. Under a complementary statute ([38 M.R.S. Section 464.4.C](#)), natural conditions may cause certain water quality criteria (for bacteria and some other factors) in a waterbody to fall below minimum standards without the waterbody being considered to be failing classification attainment. By letter dated June 5, 2015, EPA disapproved the natural conditions clause for toxic substances and bacteria for waters in Indian lands based on its position that high concentrations of these pollutants, even if they are natural in origin, may be harmful to humans. Therefore, in EPA's view, application of the natural conditions clauses fails to protect designated human health uses, including fish consumption and recreation in and on the water. While this disapproval was limited to waters in Indian lands, EPA recommended that Maine revise these statutes with applicability to waters throughout the State. In December 2016, EPA promulgated a federal regulation for Maine waters in Indian lands that clarifies that the state statutes in question do not apply to water quality criteria intended to protect human health.

Issues to be considered for this change: The issue to be considered for natural conditions is the impairment status of waters in the biennial Integrated Water Quality Monitoring and Assessment Report. If the natural conditions provisions, for example, for bacteria were eliminated, waterbodies where bacteria concentrations exceed applicable criteria due to wildlife impacts may have to be listed as impaired in the Integrated Report. Impairments are typically addressed by either writing a Total Maximum Daily Load (TMDL) report or limiting pollutant discharges via the permitting process. For natural sources, such as beavers, deer or waterfowl, neither of these approaches is appropriate. Alternatively, the Department could remove or modify the designated uses of recreation in and on the water on a case-by-case basis. Either of these approaches would be time-consuming, lead to little or no water quality improvement, and draw limited Department resources away from impaired waters where real improvements can be made.

DEP proposal: The natural conditions provisions in 38 M.R.S. Sections 420.2.A and 464.4.C were previously approved by EPA for all applicable waters without qualification, including in letters dated 7/16/1986 and 12/20/1990. The Department's position is that EPA's prior approvals, including these particular approvals, applied statewide to all waters throughout Maine. However, the Department acknowledges that in June 2015 EPA disapproved these provisions for waters in Indian lands where they would affect water quality criteria to protect human health. EPA promulgated clarifying language in 2016, as noted above. In light of this background, and in view of concerns over the practicality of implementing the statutes, if amended as requested, DEP proposes to retain the existing provisions in their current form for all Maine waters outside of Indian lands. For waters in Indian lands, federal standards (see below) will remain in effect.

Federal water quality standard for Maine per 40 CFR Section 131.43:

(e) Natural conditions provisions for waters in Indian lands. (1) The provision in Title 38 of Maine Revised Statutes 464(4.C) which reads: "Where natural conditions, including, but not limited to, marshes, bogs and abnormal concentrations of wildlife cause the dissolved oxygen or other water quality criteria to fall below the minimum standards specified in section 465, 465-A and 465-B,

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those waters shall not be considered to be failing to attain their classification because of those natural conditions,” does not apply to water quality criteria intended to protect human health.

(2) The provision in Title 38 of Maine Revised Statutes 420(2.A) which reads “Except as naturally occurs or as provided in paragraphs B and C, the board shall regulate toxic substances in the surface waters of the State at the levels set forth in federal water quality criteria as established by the U.S. Environmental Protection Agency pursuant to the Federal Water Pollution Control Act, Public Law 92-500, Section 304(a), as amended,” does not apply to water quality criteria intended to protect human health.

38 M.R.S. SECTIONS 465, 465-A AND 465-B

Clarification of Narrative Aquatic Life Criteria

Clarification of Narrative Aquatic Life Criteria for Water Quality Classes B, C, GPA, SB and SC.

Proposal submitted by: Maine Department of Environmental Protection.

Basis for proposal: For water quality Classes B, C, SB and SC, Maine statutes currently include language providing for the protection of aquatic life in relation to discharge provisions⁵. For Class GPA, Maine statute stipulates that these waters must provide natural habitat for aquatic life. Under its existing and longstanding interpretations and practice with respect to the existing language, the Department has treated the existing statutory provisions as containing enforceable narrative aquatic life criteria for all Classes, including Classes B, C, SB and SC. The addition of the proposed language to the criteria sections of these water quality classes would thus clarify and reaffirm the Department's current and longstanding interpretations and practice of using the existing language to provide for the support and protection of aquatic life.

Issues to be considered for this proposal: None are expected because the proposed statutory changes are a clarification only and reflect the Department's existing and longstanding interpretations and practice with respect to the existing statutory language.

Recommend revising Section 465 as follows:

465. Standards for classification of fresh surface waters.

3. Class B waters.

B. Class B waters must be of sufficient quality to support all aquatic species indigenous to those waters without detrimental changes in the resident biological community. The dissolved oxygen content of Class B waters may not be less than 7 parts per million or 75% of saturation, whichever is higher, except that for the period from October 1st to May 14th, in order to ensure spawning and egg incubation of indigenous fish species, the 7-day mean dissolved oxygen concentration may not be less than 9.5 parts per million and the one-day minimum dissolved oxygen concentration may not be less than 8.0 parts per million in identified fish spawning areas. Between April 15th and October 31st, the number of Escherichia coli bacteria in these waters may not exceed a geometric mean of 64 CFU per 100 milliliters over a 90-day interval or 236 CFU per 100 milliliters in more than 10% of the samples in any 90-day interval.

4. Class C waters.

B. Class C waters must be of sufficient quality to support all species of fish indigenous to those waters and to maintain the structure and function of the resident biological community. The dissolved oxygen content of Class C water may not be less than 5 parts per million or 60% of saturation, whichever is higher, except that in identified salmonid spawning areas where water quality is sufficient to ensure spawning, egg incubation and survival of early life stages, that water quality sufficient for these purposes must be maintained. *(No other changes to this section are proposed.)* In order to provide additional protection for the growth of indigenous fish, the following standards apply. (...)

⁵ In 38 M.R.S. Sections 465.3.C, 465.4.C, 465-B.2.C and 465-B.3.C. Definitions of terms used in these sections are provided in 38 M.R.S. Section 466, [Maine Rule Ch. 579](#) and [Technical Bulletin 208, Biological Water Quality Standards to Achieve Biological Condition Goals in Maine Rivers and Streams: Science and Policy.](#)

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Recommend revising Section 465-A as follows:

465-A. Standards for classification of lakes and ponds.

1. Class GPA waters.

B. Class GPA waters must be described by their trophic state based on measures of the chlorophyll "a" content, Secchi disk transparency, total phosphorus content and other appropriate criteria. 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. The number of Escherichia coli bacteria in these waters may not exceed a geometric mean of 29 CFU per 100 milliliters over a 90-day interval or 194 CFU per 100 milliliters in more than 10% of the samples in any 90-day interval. The aquatic life of Class GPA waters must be as naturally occurs.

Recommend revising Section 465-B as follows:

465-B. Standards for classification of estuarine and marine waters.

2. Class SB waters.

B. Class SB waters must be of sufficient quality to support all estuarine and marine species indigenous to those waters without detrimental changes in the resident biological community. The dissolved oxygen content of Class SB waters may not be less than 85% of saturation. Between April 15th and October 31st, the number of enterococcus bacteria in these waters may not exceed a geometric mean of 8 CFU per 100 milliliters in any 90-day interval or 54 CFU per 100 milliliters in more than 10% of the samples in any 90-day interval. The number of total coliform bacteria or other specified indicator organisms in samples representative of the waters in shellfish harvesting areas may not exceed the criteria recommended under the National Shellfish Sanitation Program, United States Food and Drug Administration.

3. Class SC waters.

B. Class SC waters must be of sufficient quality to support all species of fish indigenous to those waters and to maintain the structure and function of the resident biological community. The dissolved oxygen content of Class SC waters may not be less than 70% of saturation. Between April 15th and October 31st, the number of enterococcus bacteria in these waters may not exceed a geometric mean of 14 CFU per 100 milliliters in any 90-day interval or 94 CFU per 100 milliliters in more than 10% of the samples in any 90-day interval. The number of total coliform bacteria or other specified indicator organisms in samples representative of the waters in restricted shellfish harvesting areas may not exceed the criteria recommended under the National Shellfish Sanitation Program, United States Food and Drug Administration.

38 M.R.S. SECTIONS 361-A, 465, 465-A, 465-B

Expand Bacteria Units in Water Quality Standards

Add Reportable Bacteria Unit 'MPN'.

Proposal submitted by: IDEXX Laboratories, Inc., Westbrook, ME.

Basis for proposal: Depending on the approved test method a laboratory uses for bacterial detection, the test result would be assigned either as the Most Probable Number (MPN) per 100 mL or Colony Forming Units (CFU) per 100 mL. The EPA has approved both methods, and thus both units, for bacterial analysis. By including only CFU in Maine's WQS, a laboratory obtaining results in MPN would have to report data with an incorrect unit.

Issues to be considered for this change: None.

Recommend revising Section 361-A. as follows:

361-A. Definitions

1-M. MPN. "MPN" means most probable number.

Recommend revising Section 465 as follows:

465. Standards for classification of fresh surface waters

1. Class AA waters.

B. The aquatic life, dissolved oxygen and bacteria content of Class AA waters must be as naturally occurs, except that the number of Escherichia coli bacteria in these waters may not exceed a geometric mean of 64 CFU or MPN per 100 milliliters over a 90-day interval or 236 CFU or MPN per 100 milliliters in more than 10% of the samples in any 90-day interval.

2. Class A waters.

B. The dissolved oxygen content of Class A waters may not be less than 7 parts per million or 75% of saturation, whichever is higher, except that for the period from October 1st to May 14th, in order to ensure spawning and egg incubation of indigenous fish species, the 7-day mean dissolved oxygen concentration may not be less than 9.5 parts per million and the one-day minimum dissolved oxygen concentration may not be less than 8.0 parts per million in identified fish spawning areas. The aquatic life and bacteria content of Class A waters must be as naturally occurs, except that the numbers of Escherichia coli bacteria in these waters may not exceed a geometric mean of 64 CFU or MPN per 100 milliliters over a 90-day interval or 236 CFU or MPN per 100 milliliters in more than 10% of the samples in any 90-day interval.

3. Class B waters.

B. The dissolved oxygen content of Class B waters may not be less than 7 parts per million or 75% of saturation, whichever is higher, except that for the period from October 1st to May 14th, in order to ensure spawning and egg incubation of indigenous fish species, the 7-day mean dissolved oxygen concentration may not be less than 9.5 parts per million and the one-day minimum dissolved oxygen concentration may not be less than 8.0 parts per million in identified fish spawning areas. Between April 15th and October 31st, the number of Escherichia coli bacteria in these waters may not exceed a geometric mean of 64 CFU or MPN per 100 milliliters over a 90-day interval or 236 CFU or MPN per 100 milliliters in more than 10% of the samples in any 90-day interval.

4. Class C waters.

B. (...) Between April 15th and October 31st, the number of Escherichia coli bacteria in Class C waters may not exceed a geometric mean of 100 CFU or MPN per 100 milliliters over a 90-day interval or 236 CFU or MPN per 100 milliliters in more than 10% of the samples in any 90-day interval. The board shall adopt rules governing the procedure for designation of spawning areas. Those rules must include provision for periodic review of designated spawning areas and consultation with affected persons prior to designation of a stretch of water as a spawning area.

Recommend revising Section 465-A. as follows:

465-A. Standards for classification of lakes and ponds.

1. Class GPA waters.

B. Class GPA waters must be described by their trophic state based on measures of the chlorophyll "a" content, Secchi disk transparency, total phosphorus content and other appropriate criteria. 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. The number of Escherichia coli bacteria in these waters may not exceed a geometric mean of 29 CFU or MPN per 100 milliliters over a 90-day interval or 194 CFU or MPN per 100 milliliters in more than 10% of the samples in any 90-day interval.

Recommend revising Section 465-B. as follows:

465-B. Standards for classification of estuarine and marine waters.

1. Class SA waters⁶.

B. The estuarine and marine life, dissolved oxygen and bacteria content of Class SA waters must be as naturally occurs, except that the number of enterococcus bacteria in these waters may not exceed a geometric mean of 8 CFU or MPN per 100 milliliters in any 90-day interval or 54 CFU or MPN per 100 milliliters in more than 10% of the samples in any 90-day interval.

2. Class SB waters.

B. The dissolved oxygen content of Class SB waters may not be less than 85% of saturation. Between April 15th and October 31st, the number of enterococcus bacteria in these waters may not exceed a geometric mean of 8 CFU or MPN per 100 milliliters in any 90-day interval or 54 CFU or MPN per 100 milliliters in more than 10% of the samples in any 90-day interval. The number of total coliform bacteria or other specified indicator organisms in samples representative of the waters in shellfish harvesting areas may not exceed the criteria recommended under the National Shellfish Sanitation Program, United States Food and Drug Administration.

3. Class SC waters.

B. The dissolved oxygen content of Class SC waters may not be less than 70% of saturation. Between April 15th and October 31st, the number of enterococcus bacteria in these waters may not exceed a geometric mean of 14 CFU or MPN per 100 milliliters in any 90-day interval or 94 CFU or MPN per 100 milliliters in more than 10% of the samples in any 90-day interval. The number of total coliform bacteria or other specified indicator organisms in samples representative of the waters in restricted shellfish harvesting areas

⁶ See also the related proposal that expands Class SA criteria to include criteria recommended under the National Shellfish Sanitation Program on page 33, below.

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may not exceed the criteria recommended under the National Shellfish Sanitation Program, United States Food and Drug Administration.

38 M.R.S. SECTIONS 465 AND 465-B

Seasonal Applicability of Certain Bacteria Criteria

Review Seasonal Applicability of Recreational Bacteria Criteria in Water Quality Classes B, C, SB and SC.

Change requested by: U.S. Environmental Protection Agency (EPA) and Anonymous

Basis for change: By letter dated March 16, 2015, EPA disapproved Maine's recreational bacteria criteria for waters in Indian lands. In December 2016, EPA promulgated a federal regulation that includes recreational bacteria criteria for Maine waters in Indian lands that correspond to EPA's federal 2012 Recreational Water Quality Criteria (RWQC). These criteria apply on a year-round basis. According to EPA, this is because EPA had received comments from Maine tribes that they use waters in Indian lands year-round.

In 2018, Maine revised some of its recreational bacteria criteria for waters statewide to be largely consistent with EPA's federal 2012 RWQC. In water quality Classes AA, A, GPA and SA, Maine criteria apply year-round like EPA's December 2016 federally promulgated criteria. In Classes B, C, SB and SC, however, Maine retained the previously existing seasonal applicability of bacteria criteria but expanded the applicability period by 2 months. In August 2020, EPA approved Maine's revised bacteria criteria for each water quality class for waters outside of Indian lands, and for Classes AA, A, GPA and SA for all Maine waters, including those in Indian lands. EPA did not take action on Maine's revised bacteria criteria for Classes B, C, SB and SC for waters in Indian lands. As a consequence, EPA's 2016 criteria stay in effect for those waters.

One anonymous commenter expressed concerns about seasonal applicability of bacteria criteria when partially treated sewage discharges from treatment plants pose risks to people, wildlife and the environment. The commenter also noted increased year-round recreation in and on the water and people getting sick due to exposure to bacteria and viruses. The commenter expressed the hope that Maine's water quality criteria may aid in promoting infrastructure updates and ultimately protecting recreational uses year-round.

Issues to be considered for this change: An issue related to bacteria criteria that needs to be considered here is their effect on water discharge permits/licenses ('permits'). The Department issues permits with bacteria limits to facilities whose effluent contains bacteria to ensure that the effluent does not lower existing water quality in the receiving water. Maine law (38 M.R.S. Section 344.1-A) requires that permits must comply with State statutory or regulatory requirements that take effect prior to final issuance of that permit. Therefore, any EPA-approved changes in bacteria criteria must be incorporated into permits at the next regular renewal date, and into new permits. But where a more stringent water quality standard has been promulgated by EPA and is in effect, that standard is the applicable standard for Clean Water Act purposes until it is withdrawn by EPA.

Following EPA's recent approval of Maine's recreational bacteria criteria with seasonal applicability for Class B, C, SB and SC waters outside of Indian lands, and year-round applicability for Class AA, A, GPA and SA waters throughout the State, there are now two separate sets of recreational bacteria criteria in effect in the State of Maine depending on whether the applicable waters are in Indian lands or outside of those lands and depending on their classification. The Department can either retain these separate sets of recreational bacteria criteria based on the location and class of the applicable waters, or update Maine's existing criteria for Class B, C, SB and SC waters to have the same year-round applicability as the federal criteria on a statewide

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basis. If the Department chooses the former route, discharge permits will need to be written to account for the criteria applicable to the location of a discharger. If the Department chooses the latter route, a change to year-round applicability may require some facilities to undertake potentially costly upgrades, and incur additional expenses, to comply with chlorination and de-chlorination requirements. Upgrades may include new heated buildings or other structures to allow for chlorination and de-chlorination during colder months and expanded chlorine contact chambers to allow for required contact times during higher spring flows. Additional expenses may include increased chemical use. A related concern is that chlorine is a toxic chemical that poses potential health and safety risks for wastewater facility workers and can cause aquatic toxicity at certain levels. (However, it is noted that existing regulations and procedures generally minimize this risk.) Therefore, a statewide change to year-round applicability of bacteria criteria may potentially create additional expenses for some facilities and increase the risk associated with the use of toxic.

DEP proposal: After due consideration of all factors, the Department proposes to retain Maine's EPA-approved criteria with seasonal applicability for Class B, C, SB and SC waters outside of Indian lands. Under this proposal, two different sets of recreational bacteria criteria will be in effect in the State of Maine. In upcoming permitting actions for facilities that have bacteria limits in their permits, the Department will account for this situation as follows:

- 1) For Class AA, A, GPA and SA waters throughout the State, the Department will use Maine's EPA-approved criteria with year-round applicability when renewing current permits or issuing new permits for facilities that discharge to these waters. It is noted that there are very few licensed discharges to these waters.
- 2) For Class B, C, SB and SC waters outside of Indian lands, the Department will use the approved Maine criteria with seasonal applicability when renewing current permits or issuing new permits for facilities that discharge to these waters. It must be noted that Maine permits include standard language that allows the Department to require bacteria limits to be in effect year-round to protect the health, safety and welfare of the public. The Department has done this on a number of occasions and will continue to do so on a case-by-case basis in connection with individual permits. Such a permit modification can be made if comments received from stakeholders during the permitting process indicate that year-round water contact occurs in the area affected by the discharge. This provision allows the Department to address the concerns voiced by the anonymous commenter.
- 3) For Class B, C, SB and SC waters in Indian lands, the Department will use the federal criteria promulgated in December 2016 (see below) for permit renewals or new permits for facilities that discharge to these waters. If it is determined that a facility will need to modify its operations to meet new permit requirements, the Department will work with the facility to determine the best path, which may include developing a compliance schedule.

EPA has identified 14 POTWs that, according to EPA, discharge to or upstream of waters that are subject to the year-round bacteria criteria EPA promulgated via rulemaking effective 1/18/17. The list of these 14 POTWs, along with other point source dischargers to waters in Indian lands or their tributaries in Maine, can be found in Exhibit 4-1 of EPA's *Economic Analysis for Promulgation of Certain Federal Water Quality Standards Applicable to Maine* (August 26, 2016): This document may be found here: <https://www.regulations.gov/document?D=EPA-HQ-OW-2015-0804-0419>.

Federal water quality standard for Maine per 40 CFR Section 131.43:

(a) Bacteria criteria for waters in Indian lands. (1) The bacteria content of Class AA and Class A waters shall be as naturally occurs, and the minimum number of *Escherichia coli* bacteria shall not exceed a geometric mean of 100 colony-forming units per 100 milliliters (cfu/100 ml) in any

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30-day interval; nor shall 320 cfu/100 ml be exceeded more than 10% of the time in any 30-day interval.

(2) In Class B, Class C, and Class GPA waters, the number of *Escherichia coli* bacteria shall not exceed a geometric mean of 100 colony forming units per 100 milliliters (cfu/100 ml) in any 30-day interval; nor shall 320 cfu/100 ml be exceeded more than 10% of the time in any 30-day interval.

(3) The bacteria content of Class SA waters shall be as naturally occurs, and the number of *Enterococcus* spp. bacteria shall not exceed a geometric mean of 30 cfu/100 ml in any 30-day interval, nor shall 110 cfu/100 ml be exceeded more than 10% of the time in any 30-day interval.

(4) In Class SA shellfish harvesting areas, the numbers of total coliform bacteria or other specified indicator organisms in samples representative of the waters in shellfish harvesting areas may not exceed the criteria recommended under the National Shellfish Sanitation Program, United States Food and Drug Administration, as set forth in the Guide for the Control of Molluscan Shellfish, 2015 Revision. The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may obtain a copy from the U.S. Food and Drug Administration Center for Food Safety and Applied Nutrition, Shellfish and Aquaculture Policy Branch, 5100 Paint Branch Parkway (HFS-325), College Park, MD 20740 or <http://www.fda.gov/Food/GuidanceRegulation/FederalStateFoodPrograms/ucm2006754.htm>.

You may inspect a copy at the U.S. Environmental Protection Agency Docket Center Reading Room, William Jefferson Clinton West Building, Room 3334, 1301 Constitution Avenue NW., Washington, DC 20004, (202) 566-1744, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

(5) In Class SB and SC waters, the number of *Enterococcus* spp. bacteria shall not exceed a geometric mean of 30 cfu/100 ml in any 30-day interval, nor shall 110 cfu/100 ml be exceeded more than 10% of the time in any 30-day interval.

38 M.R.S. SECTION 465-B

Shellfish Criteria in Class SA

Add Numeric Criteria by Reference.

Change requested by: U.S. Environmental Protection Agency (EPA).

Basis for change: By letter dated June 5, 2015, EPA disapproved Maine's narrative criterion "as naturally occurs" for bacteria in Class SA waters in Indian Lands because it does not adequately protect propagation and harvesting of shellfish in Class SA waters. In December 2016, EPA promulgated a federal regulation for Maine waters in Indian lands that expands Maine's existing narrative criterion by adding a reference to numeric criteria from the National Shellfish Sanitation Program (NSSP); this reference was already included in Maine's criteria for Class SB and SC waters. EPA's regulation also includes the applicable version of the NSSP criteria because of legal constraints on incorporating recommendations using a general reference.

Issues to be considered for this change: No issues related to discharges. There are no direct discharges of effluent containing bacteria to Class SA waters. There are three active overboard discharges to such waters but they are exempt from discharge restrictions per 38 M.R.S. Section 465-B.1.C.3. Inclusion of the applicable version of the NSSP criteria in statute will require the Department to update the statute whenever a new version of the criteria is released. Historically that has occurred at 2-year intervals. The Department expects that such updates can be made via an omnibus bill whenever required. If a new version of the NSSP criteria is released during the Triennial Review process, the statutory language below will be updated accordingly.

Recommend revising Section 465-B as follows⁷:

465-B. Standards for classification of estuarine and marine waters.

1. Class SA waters.

B. The estuarine and marine life, dissolved oxygen and bacteria content of Class SA waters must be as naturally occurs, except that the number of enterococcus bacteria in these waters may not exceed a geometric mean of 8 CFU per 100 milliliters in any 90-day interval or 54 CFU per 100 milliliters in more than 10% of the samples in any 90-day interval. The number of total coliform bacteria or other specified indicator organisms in samples representative of the waters in shellfish harvesting areas may not exceed the criteria recommended under the National Shellfish Sanitation Program, United States Food and Drug Administration, as set forth in the Guide for the Control of Molluscan Shellfish, 2019 Revision.

Classes SB and SC already include a reference to numeric criteria from the NSSP but without a specific reference to the applicable NSSP version. To create consistency across all classes, DEP recommends adding the version to Classes SB and SC as follows:

2. Class SB waters.

B. The dissolved oxygen content of Class SB waters may not be less than 85% of saturation. Between April 15th and October 31st, the number of enterococcus bacteria in these waters may not exceed a geometric mean of 8 CFU per 100 milliliters in any 90-day interval or 54 CFU per 100 milliliters in more than 10% of the samples in any 90-day interval. The number of total coliform bacteria or other specified indicator organisms in

⁷ See also the related proposal that expands reportable bacteria units to include 'MPN' on pages 27-29, above.

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samples representative of the waters in shellfish harvesting areas may not exceed the criteria recommended under the National Shellfish Sanitation Program, United States Food and Drug Administration, as set forth in the Guide for the Control of Molluscan Shellfish, 2019 Revision.

3. Class SC waters.

B. The dissolved oxygen content of Class SC waters may not be less than 70% of saturation. Between April 15th and October 31st, the number of enterococcus bacteria in these waters may not exceed a geometric mean of 14 CFU per 100 milliliters in any 90-day interval or 94 CFU per 100 milliliters in more than 10% of the samples in any 90-day interval. The number of total coliform bacteria or other specified indicator organisms in samples representative of the waters in restricted shellfish harvesting areas may not exceed the criteria recommended under the National Shellfish Sanitation Program, United States Food and Drug Administration, as set forth in the Guide for the Control of Molluscan Shellfish, 2019 Revision.

PROPOSALS FOR DEFERRED RULEMAKING

Deferred Rulemaking Note 06-096 Code of Maine Rules

In its 2015 disapproval of certain Maine water quality standards (WQS) and December 2016 promulgation of WQS for Maine, and its 2020 Triennial Review letter, the U.S. Environmental Protection Agency (EPA) included two sets of provisions that are contained in Maine rules, not statutes. These provisions pertain to tidal water temperature criteria and toxics criteria; for more information see page 18, above. Rulemaking is a highly structured process that typically takes a significant amount of time. In the interest of not holding up the Triennial Review (TR) process with rulemaking efforts, the Department will not address the items in question as part of the TR. Instead, the Department explains below how the relevant rulemaking efforts will proceed at a later point in time. *Please note that the Department also proposes to address the EPA-requested update to Maine's mixing zone law in 38 M.R.S. Section 451 via deferred rulemaking for a new rule, see pages 39-40 of this document.*

06-096 Code of Maine Rules, Chapter 582

Regulations Relating to Temperature

Amend Regulations Relating to Tidal Temperature.

Change requested by: U.S. Environmental Protection Agency (EPA)

Basis for change: This rule provides safeguards for fresh and salt water fauna in lakes, rivers and tidal waterbodies of the State by establishing instream limits on temperature changes resulting from thermal discharges. By letter dated June 5, 2015, EPA disapproved section 5 of this rule (Tidal Water Thermal Discharges) for waters in Indian lands because the criteria were not protective of designated uses, in particular those involving indigenous species such as Atlantic salmon, blueback herring, alewife, and American shad. EPA recommended that Maine adopt new tidal waters temperature criteria statewide. In December 2016, EPA promulgated a federal regulation that includes temperature criteria for tidal Maine waters in Indian lands.

Issues to be considered for this change: The criteria promulgated by EPA differed from those in Ch. 582, section 5 in several respects, including the acceptable increase in year-round temperature due to artificial sources and the maximum summer temperature. They also included a new stipulation concerning natural temperature cycles. In order to determine how to update the rule appropriately for all tidal waters in Maine, the Department will need to commit considerable resources to, for example, investigating natural temperature cycles, the availability of suitable reference locations and their conditions, and which averaging periods should be used in calculating an allowable temperature increase. Any changes to the rule, either for waters in Indian lands only or statewide, will potentially impact discharge license holders whose effluent may alter the temperature of the receiving water.

DEP proposal: As part of the TR process, Department staff discussed the criteria as promulgated by EPA and how to best implement them either for waters in Indian lands or statewide. A number of questions and potential issues revolving around the topics listed in the preceding paragraph

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were identified, and the Department believes that further research and investigations are required. Because of these unresolved issues, the Department is currently unable to predict how the existing rule will be revised.

The Department commits to investigating how to reconcile Ch. 582, section 5 with EPA's promulgated criteria to inform rulemaking tentatively scheduled for 2023. This timeline will allow Department staff to conduct the necessary research indicated under 'Issues be considered for this change', above and others that may come to light during the investigation. Final details of the rule update will be determined during the actual rulemaking process in consultation with stakeholders, including EPA. EPA comments that, until the existing rule is revised, EPA's promulgated temperature criteria will remain in effect for tidal Maine waters in Indian lands.

December 2, 2021 update: This rulemaking is tentatively scheduled to begin in the fall of 2022.

06-096 Code of Maine Rules, Chapter 584
Regulations Relating to Toxic Pollutants

Amend Surface Water Quality Criteria for Toxic Pollutants Relating to the Protection of Aquatic Life.

Change requested by: U.S. Environmental Protection Agency (EPA)

Basis for change: Over the past several years, EPA has updated aquatic life criteria for the pollutants aluminum, ammonia, copper and selenium to reflect the latest science. In its water quality standards (WQS) promulgation for Maine in December 2016, EPA included ammonia criteria for fresh waters in Indian lands. In early 2020, Maine updated its ammonia criteria in Rule *Chapter 584, Surface Water Quality Criteria for Toxic Pollutants*, but as EPA notes, additional changes are needed. Maine has not yet updated Chapter 584 for aluminum, but made one initial change for selenium. EPA recommends that the Department update Chapter 584 to make additional changes for ammonia and selenium criteria and incorporate updated aluminum criteria.

EPA's methodology for criteria calculation for copper relies on the use of the biotic ligand model (BLM). Chapter 584 allows for the use of the BLM but does not prescribe it. EPA recommends that Maine consider adopting EPA's copper criteria and clarify in Chapter 584 that Water Effects Ratios (WERS) do not apply to BLM results.

Section 5.B. in Chapter 584 establishes default values for hardness, temperature, pH and salinity to be used in calculations of certain water quality criteria. EPA recommends that Maine delete the section and instead use actual ambient values for criteria calculations.

EPA also recommends the addition of footnote aME regarding the appropriate fish consumption rate to the two arsenic sustenance fishing criteria in Chapter 584.

Issues to be considered for this change: Toxics criteria in rule [Chapter 584](#) are used to set waste discharge permit limits. Therefore any changes to this rule will likely also involve evaluation of effects on future permits. Once the Department has a good understanding of how the criteria identified above may be changed, effects on permitting actions will likely be investigated. This effort may include an analysis of data in the Department's Toxscan database. Depending on the anticipated change and the number of affected facilities, the investigation may require significant time and staff resources. Until Chapter 584 has been updated, permits will continue to be written based on the criteria in effect at the time a permit is issued, using default values or ambient data if available.

In order to determine which changes should be made to Chapter 584, a variety of issues would likely need to be considered, depending on the item in question. For criteria updates for aluminum and ammonia, and the potential deletion of Section 5.B. in Chapter 584, the predominant issue is the need for ambient water quality data. EPA's 2018 aluminum criteria update introduced a new methodology of criteria calculation that uses pH, hardness and dissolved organic carbon as critical input parameters. The Department needs to collect ambient water quality data for these parameters to determine the appropriate ranges for Maine waters so adequately protective aluminum criteria can be developed. To allow further updates to ammonia criteria and make them adequately protective, ambient water quality data for pH, temperature and/or salinity must be obtained. These data collection efforts will inform consideration of the potential deletion of Section 5.B. in Chapter 584. Data collection activities are resource intensive and need to extend over a

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full year to capture the entire range of conditions. Collection of this data is underway and is expected to be completed by November 2021.

As part of the 2020 update of Chapter 584, Maine made one change to the selenium criteria (addition of a footnote) but a further update (to a criterion value) is necessary. The Department and EPA will need to engage in further discussions to determine the best way to update the criteria. Likewise, a decision regarding the statewide adoption in Chapter 584 of the copper BLM will require discussions within the Department and with EPA. At this point the range of issues to be considered for future permits for these items is unknown.

No issues are anticipated with respect to the addition of footnote aME to the two arsenic sustenance fishing criteria. The sustenance fishing criteria were newly added to Chapter 584 as part of the 2020 update, and the omission of the footnote at that time may have been an oversight.

DEP proposal: The Department commits to take the following steps. Once data collection activities for all required parameters, which began in October 2020 and are expected to continue through November 2021, are concluded and the data is available, Department staff will analyze it and determine how to best update Chapter 584 in accordance with EPA's new federal criteria for aluminum and ammonia, and those promulgated for Maine in December 2016 for ammonia. These actions will inform the rulemaking process, which is tentatively scheduled to begin in 2022. During that rulemaking process, the Department will also investigate and consider a further update to the selenium criteria based on the new federal criteria, adoption of the BLM, and the potential elimination of Section 5.B. in Chapter 584. The Department plans to recommend that the updated version of Chapter 584 considered in the future rulemaking include the additional footnote aME. Details of the rule update will be determined during the rulemaking process in consultation with stakeholders, including EPA.

December 16, 2021 update: Data collection activities concluded in November 2021 but laboratory results are outstanding. Rulemaking is tentatively scheduled to begin in the fall of 2022.

PROPOSAL FOR DEVELOPMENT OF A NEW RULE

Mixing Zones

Update Mixing Zone Law.

Change requested by: U.S. Environmental Protection Agency (EPA).

Basis for change: A mixing zone is a limited area or volume of water where initial dilution of a discharge takes place and where certain numeric criteria may be exceeded as long as designated uses are protected. EPA guidance on mixing zones includes specific recommendations that a mixing zone policy should include to ensure the protection of designated uses. By letter dated June 5, 2015, EPA observed that Maine's mixing zone law ([38 M.R.S. Section 451](#)) did not contain such safeguards, and EPA disapproved Maine's law for waters in Indian lands. EPA recommended that Maine revise its statute or promulgate a regulation which contains explicit conditions on the scope and extent of mixing zones adequate to protect designated uses. EPA also recommended that any revised or new provisions be adopted for use statewide. In December 2016, EPA promulgated a federal regulation that includes a mixing zone policy for Maine waters in Indian lands.

Issues to be considered for this change: The effect on stakeholders of a revised mixing zone policy, either in law or rule, that is adequate to protect designated uses depends in part on its applicability. If it is limited to waters in Indian lands, it would not affect MEPDES dischargers to such waters because of the existing EPA regulation, which the Department has to consider when renewing discharge permits. If it is applicable statewide, it is not expected to negatively impact most MEPDES dischargers as currently only four out of 458 dischargers rely on a permit-established mixing zone to meet water quality criteria. At least one of these discharges, a thermal discharge with a shore-hugging plume, would potentially be prohibited⁸ under the EPA-promulgated mixing zone policy. Such situations may require alternative approaches, such as the development of site-specific criteria. The full range of issues to be considered for this change can only be determined during the development of a revised policy, but overall the Department does not expect significant negative impacts.

DEP recommendation: As part of the TR process, Department staff discussed Maine's existing mixing zone law and the mixing zone rule promulgated by EPA for waters in Indian lands, and how to best reconcile the two requirements either for waters in Indian lands or statewide. After due consideration, the Department decided against revising Maine's existing mixing zone law consistent with the federal mixing zone rule promulgated by EPA for Maine waters in Indian lands. The primary reason for this decision is the length and detail of EPA's mixing zone rule. This level of regulatory detail is generally more appropriately the subject of Department rules, rather than statutes.

The Department commits to developing a new mixing zone rule that contains explicit conditions on the scope and extent of mixing zones adequate to protect designated uses. Rulemaking is tentatively scheduled for 2023. This timeline will allow Department staff to fully review EPA's rule and consider how to most appropriately implement it for Maine, either for waters in Indian lands or statewide. Details of the rule will be determined during the rulemaking process in consultation with stakeholders, including EPA. During this process, the Department will also consider which if any updates to 38 M.R.S. Section 451 may be necessary. EPA comments that, until the existing

⁸ Unless permitted via a grandfathering clause.

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law is revised or a new rule is adopted, EPA's promulgated mixing zone regulation will remain in effect for Maine waters in Indian lands.

December 2, 2021 update: this rulemaking is tentatively scheduled to begin in the fall of 2022.

PROPOSALS REQUIRING FURTHER INVESTIGATION

Development of New Water Quality Standards

Development or Adoption of Harmful Algal Bloom Criteria.

Proposal submitted by: U.S. Environmental Protection Agency (EPA).

Basis for proposal: In May of 2019, EPA released nationally recommended recreational criteria for the freshwater cyanotoxins microcystin and cylindrospermopsin to identify water quality impairments related to harmful algal blooms (HABs). HABs occur when toxic algae, such as cyanobacteria, occur in excessive concentrations that can have adverse impacts to human health. EPA's criteria were developed to protect the public from the risks associated with incidental ingestion of water containing these algae while recreating in freshwaters experiencing HABs. EPA recommends that states adopt these criteria for use as the basis for swimming advisories in recreational freshwaters.

Issues to be considered for this proposal: A significant issue the Department anticipates lies in the actual development of HAB criteria, including the amount of time the evaluation and subsequent adoption of the federal criteria (if deemed appropriate) or the development of alternative criteria (if deemed necessary) may require, and the current availability of Department and other agency resources to accomplish these tasks. Collaboration with the Maine Center for Disease Control and Prevention (MECDC) will be an integral part of criteria adoption. Currently MECDC is fully occupied by demands presented by the Covid-19 pandemic and it is difficult to predict that agency's availability to address this issue. The Covid-19 pandemic has also caused a reduction in available staff in the Department's Lake Assessment Section, which will lead this project on behalf of the Department but currently lacks the resources to undertake criteria development.

No other significant issues are anticipated in terms of Maine adopting the federal criteria. The classification standards for Maine lakes and ponds, Class GPA, already focus on trophic impairments that result in nuisance algal blooms. Microcystin data collected over the past 4 years suggest that even lakes that bloom on an annual basis and are already listed as impaired on Maine's 303(d) list, may not exceed the federal criterion in open water, although scums accumulating along the shoreline may exceed the criterion by several orders of magnitude. Pilot studies conducted 8-10 years ago did not indicate that cylindrospermopsin was produced in measurable concentrations in blooming Maine lakes.

DEP proposal: The Department commits to taking the following steps as resources become available: organize and analyze existing data to establish how much of an issue microcystin production is in Maine lakes; understand current worst-case scenario concentrations and how concentrations change over time; and, in collaboration with the MECDC, draft a proposal to adopt the EPA criteria or stricter criteria if deemed necessary. Consultation with EPA, other agencies and stakeholders will eventually occur as needed prior to criteria adoption, which will follow standard procedures.

Development of Acid Rain-Based Water Quality Standards and Listing of Impaired Waters.

Proposal submitted by: Mark Whiting

Basis for proposal: The proposal cites DEP's 2006 305(b) report, which notes that of the approximately 80% of lakes (by surface area) that have been assessed for acidity, approximately 1% of lakes and 0.08% of the lake surface area are acidic (ANC <0). The proposal also suggests that there is evidence of massive aquatic life and water quality impairment in Downeast Maine waters. However, due to a lack of acid rain assessment methods, the DEP has no way of assessing attainment of applicable water quality standards when the impairment is due to acid rain. The proposal suggests that a wadeable stream Index of Biotic Integrity (IBI) for fish communities and a macroinvertebrate assessment methodology sensitive to acidification variables are critically needed, as well as water quality standards (WQS) for pH⁹, calcium, alkalinity and aluminum. The proposal states that when waters are identified as being impacted by acid rain, they must be listed as impaired in DEP's biennial Integrated Water Quality Monitoring and Assessment Report (Integrated Report). The purpose of developing these WQS and then identifying impaired waters is to protect Maine endangered Atlantic salmon and aquatic communities in general, communicate the problem to State and federal agencies, and provide a legal basis for restoration projects.

Issues identified by DEP regarding the proposal as submitted: Developing new WQS for the identified parameters would likely require a significant, multi-year effort on the part of DEP to collect sufficient data and perform extensive analyses to determine the appropriate values for Maine. WQS have far-reaching implications on several issues (such as pollution prevention, permitting, enforcement, remediation) and must therefore be developed carefully. Acid rain is a complex topic and due consideration must be given to numerous factors to ensure that WQS are appropriate for preventing impacts on designated uses, such as aquatic life. Such factors include, for example, natural versus anthropogenically induced levels of acidity; interactions between a number of water quality parameters (including calcium, alkalinity, and aluminum, as well as temperature); magnitude, frequency and duration of change in these parameters; instantaneous versus average concentrations; flow conditions (i.e. baseflow versus stormflow); differences amongst watershed characteristics (i.e., riparian forest composition, bedrock geology); and implementation regulations. The development of numeric acid rain standards will thus require a significant effort that exceeds what could be done during this triennial review (TR) process.

The Department notes that listing of waterbodies may be appropriate with respect to aquatic life criteria based upon consideration of site-specific circumstances on a case-by-case basis. Listing of acid-rain impaired waters under such circumstances may require an update to the Consolidated Assessment and Listing Methodology (CALM) which describes how impairments are determined and subsequently listed in the Integrated Report. Any such updates would occur in conjunction with a regular Integrated Report cycle rather than the TR process.

DEP recommendation: Following discussion within the Department, with external researchers and with WQS staff from other New England states on their approaches to addressing acid rain concerns, a number of questions and potential issues were identified, including those discussed in the preceding section, and the Department believes that further research is required. The Department commits to study the overall issue and consider the topics identified above, and began this effort in the winter of 2020/2021. The Department expects that field sampling may

⁹ Water quality standards for pH changes due to wastewater discharges already exist in Maine statute in [38 M.R.S. Section 464.4.A.5](#).

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also be needed. Progress within the Department regarding advancement of this proposal will depend on the complexities identified and will proceed as limited staff and resources allow. Water quality standards for pH changes due to wastewater discharges already exist in Maine statute in 38 M.R.S. Section 464.4.A.5. EPA recommends a chronic criterion for alkalinity of 20 mg/L except where alkalinity is naturally lower (EPA 1986, 304(a)). DEP has not adopted that criterion.

In addition, DEP's biological monitoring program will continue to develop a bioassessment model for stream fish, an effort that began in 2016. When assessing attainment of narrative biocriteria by algal assemblages, the biomonitoring program currently uses four metrics based on diatom tolerance of pH. These metrics are not indicators for overall pollution and therefore are not included in the current algal bioassessment model¹⁰. Instead, they are only used as diagnostic metrics to help determine causes of impairment. DEP will consider creating metrics or indices based on species composition of macroinvertebrate assemblages as resources permit. It should be noted that diatoms are probably more sensitive to pH and thus a better indicator of acidity effects than macroinvertebrates, especially when macroinvertebrates are aggregated to the genus level as is done in the current biocriteria model. Finally, DEP is currently developing aluminum criteria for aquatic life using a multiple linear regression (MLR) based on pH, hardness, and dissolved organic carbon.

¹⁰ This model has not yet been incorporated into biocriteria in [Maine Rule Chapter 579](#). Currently, the model is used to inform expert judgment when assessing attainment of narrative aquatic life criteria.

Development of Water Quality Standards to Address Turbidity Problems.

Proposal submitted by: Friends of Graham Lake (FOGL)

Basis for proposal: Maine does not have numerical standards for turbidity and defaults to the narrative standards. According to FOGL, this has the effect of preventing turbidity enforcement and the clean-up of long-term problems, such as those caused by the hydropower operation on Graham Lake in Ellsworth. Maine's highest water quality classifications (Classes AA, A and GPA) should be clean and clear. Class B and C waters may have some seasonal turbidity, and estuaries and coastal waters can be naturally influenced by wave action on extensive mud flats. FOGL asserts that some action threshold is needed so that anthropogenic sedimentation can be controlled. FOGL requests that the Department develop numeric turbidity criteria for all water quality classes, either in statute or rule.

Issues to be considered for this proposal: Developing a new water quality standard (WQS) is typically a significant undertaking. WQS have far-reaching implications on several issues (such as pollution prevention, permitting, enforcement, remediation) and must therefore be developed carefully. Turbidity is a complex topic and due consideration must be given to numerous factors to ensure that WQS are appropriate for preventing impacts on designated uses, such as aquatic life or recreation. Such factors include, for example, natural versus anthropogenically induced levels; the effect of natural waterbody sediment types (e.g. sand versus silt); absolute versus relative turbidity concentrations; magnitude, frequency and duration of elevated turbidity levels; instantaneous versus average concentrations; flow conditions (i.e. baseflow versus stormflow); differences amongst waterbody types; and implementation regulations. The development of numeric turbidity standards will thus require a significant effort that exceeds what can be done during this triennial review (TR).

Department recommendation: As part of the TR process, Department staff discussed the proposal submitted by FOGL, consulted with WQS staff from other New England states on their approaches to addressing turbidity concerns, and considered ways to move forward. A number of questions and potential issues were identified, including those discussed in the preceding section, and the Department believes that further research is required. The Department commits to study the overall issue and consider the topics identified above. This effort began in the fall of 2020 and will continue as limited staff and resources allow. During the winter of 2020/2021, DEP conducted a literature search and collated nearly 100 articles that review and discuss the nuances of turbidity data collection and use in management and regulation. In addition, the Department has purchased two new Manta sondes with turbidity probes to conduct field sampling. Initial deployment of these sondes will likely be in agricultural stream watersheds. Staff members have contacted the University of Maine and EPA regarding the possibility of collaborating on an aesthetics/recreational use study. The Department will focus on rivers and streams, where some relevant information already exists. Progress within the Department regarding advancement of this proposal will depend on the complexities identified and will proceed as limited staff and resources allow.

PROPOSAL FOR FUTURE CONSIDERATION

Development of a New Water Quality Class.

Proposal submitted by: Fergus Lea, Androscoggin River Watershed Council

Basis for proposal: We would suggest that the entire Class C section of the Androscoggin River be considered for a new standard possibly designated as Bx. We suggest that a standard for dissolved oxygen of between 6.0 and 6.5 mg/L or 70% saturation, whichever is lower, for a monthly average be considered with instantaneous drops to 5.0 mg/L being permitted. This would account for periods of high temperatures, necessary as the climate warms and for any upsets in treatment plant processes which are only natural in biological treatment systems. A review of literature indicates that fish and aquatic life can do quite well above 6.0 mg/L and occasional drops to 5 mg/L do not adversely impact diversity, but, depending on their duration, may impact their thriving.

Issues to be considered for this proposal: Developing a new water quality standard (WQS) is typically a significant undertaking. Modifying existing standards can be easier but must still be done thoughtfully. WQS have far-reaching implications on several issues (such as pollution prevention, permitting, enforcement, remediation) and must therefore be developed carefully. At this time, the Department is evaluating several new or modified WQS that were proposed at the start of the Triennial Review process. These proposals create a challenging workload.

Department recommendation: Due to the circumstances explained in the preceding paragraph, any additional modifications to WQS would need to be proposed in a future Triennial Review process or via legislation.

UPGRADES OF CLASSIFICATION

38 M.R.S. SECTIONS 467 and 468

Androscoggin River Basin

Tributaries to the Upper Little Androscoggin River, Greenwood, Woodstock and Albany TWP.

Propose Class B to Class A (52 miles approx.).

Proposed by: Department of Environmental Protection.

Basis for proposal: The upper Little Androscoggin River is designated as Class A from the outlet of Bryant Pond to the railroad bridge in South Paris and waterbodies proposed for upgrade are all designated Class B. Black Brook in Woodstock is already Class A and this proposal would make the segment in Greenwood Class A as well. The watershed is primarily forested with little agriculture and few residential areas. DEP biological monitoring samples from Twitchell Brook and the Little Androscoggin River attained Class A aquatic life criteria for macroinvertebrates and algae. It is expected that other waters proposed for upgrade also attain Class A, and an upgrade would maintain their quality as well as the quality of the Little Androscoggin River. Adjacent river basins to the south, west, and north are designated as Class AA and A, so the proposed upgrade fits into the regional approach of managing water quality.

Issues to be considered for this reclassification: None. No discharges exist in the watershed but forestry activities occur. Such forestry activities are not expected to be affected because under Maine's Forest Practices Act, forestry activities are generally subject to the same regulatory requirements regardless of water classification.

Recommend revising Section 467.1.B. as follows:

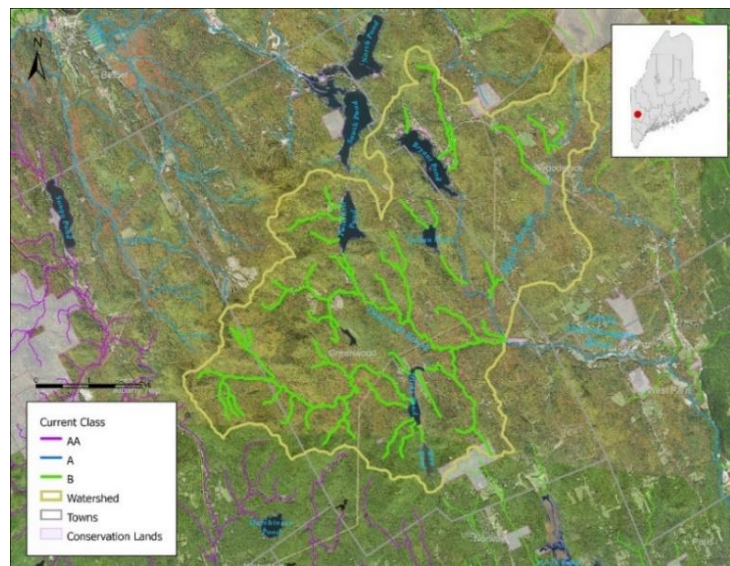
B. Little Androscoggin River Drainage.

(2) Little Androscoggin River, tributaries - Class B unless otherwise specified.

~~(c) Black Brook in Woodstock – Class A.~~

(g) Twitchell Brook and its tributaries in Greenwood and Albany TWP - Class A.

(h) Tributaries upstream of the confluence with Twitchell Brook in Greenwood – Class A.



Tributaries to East and West Branches Nezinscot River, Sumner and Other Towns. Propose Class B to Class A (135 miles approx.)

Proposed by: Department of Environmental Protection.

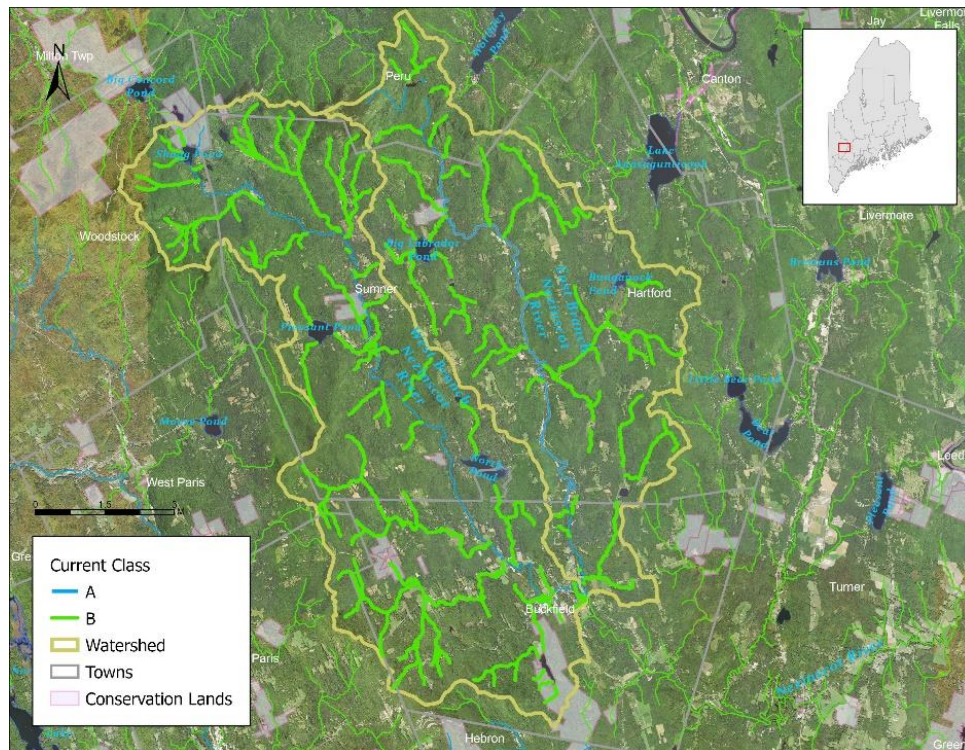
Basis for proposal: The East and West Branches Nezinscot River are designated as Class A and their tributaries are all designated Class B. The watershed is primarily forested with little development. DEP collected biological monitoring samples from the East and West Branches Nezinscot River and Bunganock Stream and all samples attained Class A aquatic life criteria. It is expected that other tributaries also attain Class A, and upgrading them would maintain their quality and the quality of the East and West Branches.

Issues to be considered for this reclassification: None. No discharges exist in the watersheds but forestry activities occur. Such forestry activities are not expected to be affected because under Maine's Forest Practices Act, forestry activities are generally subject to the same regulatory requirements regardless of water classification.

Recommend revising Section 467.1.D. as follows:

D. Androscoggin River, minor tributaries - Class B unless otherwise specified.

(6) Nezinscot River, east and west branches above their confluence in Buckfield, and their tributaries - Class A.



Kennebec River Basin

South Branch Sandy River and Tributaries, and Cottle Brook and Tributaries, Phillips and TWP 6 North of Weld.

Propose Class A to Class AA (47 miles approx.).

Proposal: Department of Environmental Protection.

Basis for proposal: The South Branch Sandy River, Cottle Brook and their tributaries are class A waters flowing into Class AA Sandy River. The watersheds contain high-quality habitat for endangered Atlantic salmon and have been designated critical habitat for this species by NOAA Fisheries and the US Fish and Wildlife Service under the federal Endangered Species Act, lending significant ecological importance to these waters. For the Maine DMR, the South Branch Sandy River is priority number 4 within the Merymeeting Bay Salmon Habitat Recovery Unit (SHRU) and Cottle Brook is priority number 5. Maine DMR has stocked the South Branch Sandy River for the past 10 years, and Cottle Brook 7 times since 2010. DEP data from one site on the South Branch Sandy River in 2002 and 2020 indicate very good water quality and algae and macroinvertebrates attained Class A aquatic life criteria in 2002 and 2020, respectively. Data from a 2012 undergraduate thesis and DMR data showed that Cottle Brook had good water quality and a macroinvertebrate community indicative of excellent water quality. Other streams proposed for upgrade are expected to attain Class AA standards. Both watersheds are primarily forested.

Issues to be considered for reclassification: Except for certain cases as defined in Maine statutes, there may be no direct discharge of pollutants to Class AA waters. The current statutory allowance for stormwater discharges to Class AA waters is under review with EPA (as a result of [EPA's 6/5/15 decision letter](#) to DEP Commissioner Patricia W. Aho, pp. 6 and 29) and may be amended or eliminated at some point in the future. Amendment or elimination of the current statutory allowance could limit or prohibit certain types of stormwater discharges and associated development in Class AA watersheds. This situation creates regulatory uncertainty for future stormwater permitting actions.

Over the past several months, the Department and EPA have crafted proposed stormwater legislation to resolve this issue. If approved, the legislation will narrow the existing stormwater exemption, and resolve any regulatory uncertainty. This upgrade proposal is being recommended to the legislature with the caveat that the Environment and Natural Resources (ENR) Committee hear and vote on the stormwater bill first, before hearing and voting on this upgrade proposal as part of the Triennial Review bill. If done in this order, the Committee will have an understanding of how existing, and potentially future, stormwater discharges to Class AA (and SA) waters will be regulated. Although the issue would not be fully resolved until the full legislature votes on the stormwater bill, and EPA ultimately makes a decision on this revised water quality standard, if the ENR committee votes 'ought to pass' on the stormwater bill that would be sufficient for this upgrade to go forward.

Hydroelectric power generation is not a designated use in Class AA and an upgrade will thus preclude future construction of water control structures. There are no pollutant discharge licenses to any waters proposed for upgrade and the Department is not aware of any anticipated construction projects for water control structures. More stringent limits may be placed on water withdrawal in these segments that may affect agriculture operations in the area; the Department is not aware of any existing water withdrawal activities or permits in these watersheds. Forestry activities are not expected to be affected because under Maine's Forest Practices Act, such activities are generally subject to the same regulatory requirements regardless of water classification.

FINAL

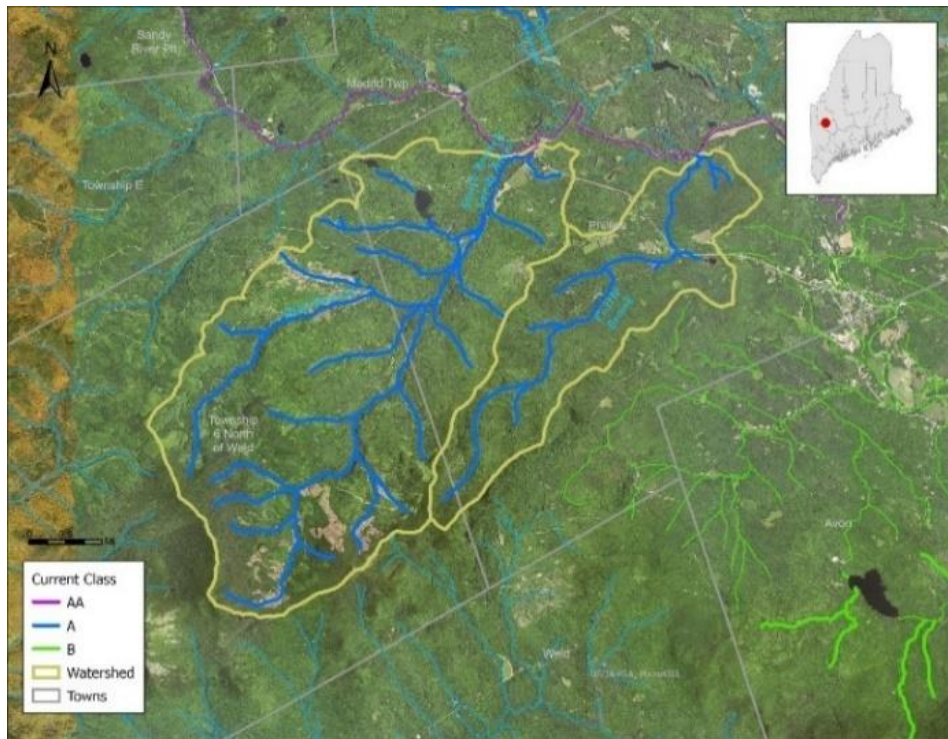
Recommend revising Section 467.4.G.2. as follows:

(2) Sandy River, tributaries - Class B unless otherwise specified.

(a) All tributaries entering above the Route 142 bridge in Phillips – Class A unless otherwise specified.

(a-1) South Branch Sandy River and its tributaries – Class AA.

(a-2) Cottle Brook and its tributaries – Class AA.



**Mount Blue Stream and Tributaries, Avon and Weld.
Propose Class B to Class A (19 miles approx.).**

Proposal: Department of Environmental Protection.

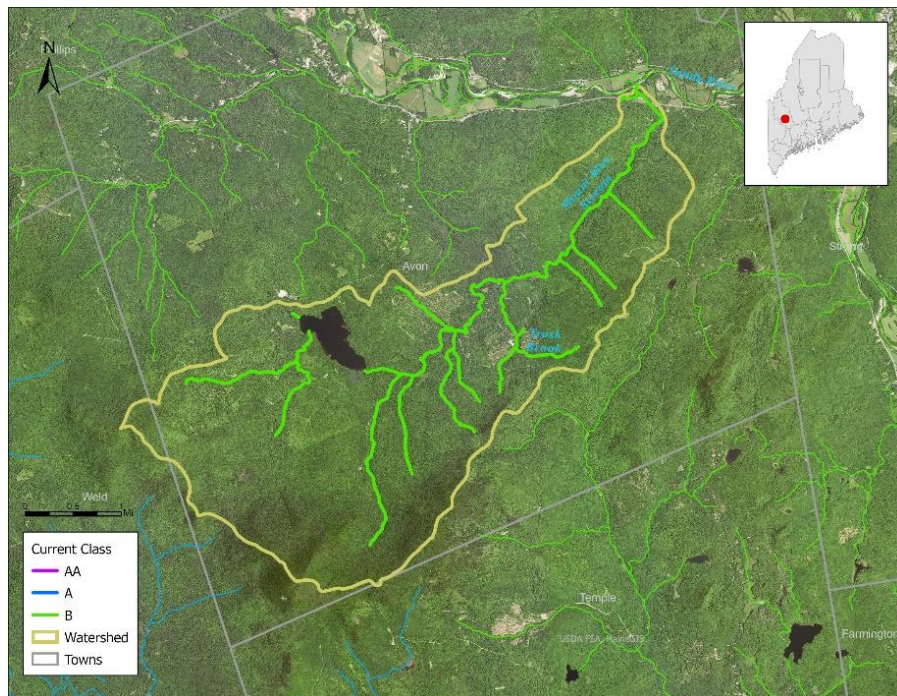
Basis for proposal: Mount Blue Stream and tributaries contain high quality habitat for endangered Atlantic salmon and have been designated critical habitat for this species by NOAA Fisheries and the US Fish and Wildlife Service under the federal Endangered Species Act. Mount Blue Pond supports brook trout and brown trout populations. The watershed is 90% forested. Data from a 2012 undergraduate thesis and DMR data showed that Mt. Blue Stream had good water quality and a macroinvertebrate community indicative of excellent water quality. DEP monitoring data for Mount Blue Stream indicate that Class A aquatic life criteria were attained in 2020, and that the water quality was good for salmonids. It is expected that the other streams proposed for upgrade also attain Class A.

Issues to be considered for reclassification: None. No discharges exist in the watersheds but some forestry activities may be occurring. Such forestry activities are not expected to be affected because under Maine’s Forest Practices Act, forestry activities are generally subject to the same regulatory requirements regardless of water classification.

Recommend revising Section 467.4.G.2. as follows:

(2) Sandy River, tributaries - Class B unless otherwise specified.

(c) Mount Blue Stream and its tributaries – Class A.



**Orbeton Stream above Toothaker Pond Rd and Tributaries, Phillips, Madrid TWP
Redington TWP and Mount Abram TWP.
Propose Class A to Class AA (146 miles approx.).**

Proposal: Department of Environmental Protection.

Basis for proposal: Orbeton Stream and its tributaries are class A waters flowing into Class AA Sandy River. The watershed contains high quality habitat for federally endangered Atlantic salmon, and NOAA Fisheries and the US Fish and Wildlife Service have designated the streams critical salmon habitat under the federal Endangered Species Act, lending significant ecological importance to these waters. For the Maine DMR, Orbeton and Perham Streams are priorities number 2 and 3, respectively, within the Merrymeeting Bay Salmon Habitat Recovery Unit (SHRU). Maine DMR has stocked Orbeton and Perham Streams for 9 years and salmon redds¹¹ are frequently found. DEP monitoring indicates excellent water quality in Orbeton Stream and one tributary, and attainment of Class A aquatic life criteria (which are evaluated jointly with Class AA criteria); all waterbodies are expected to attain Class AA standards. The watershed is primarily forested and 32% of it is protected as conservation land, some of which is held by the National Park Service, lending the waters scenic and recreational importance.

Issues to be considered for reclassification: Except for certain cases as defined in Maine statutes, there may be no direct discharge of pollutants to Class AA waters. The current statutory allowance for stormwater discharges to Class AA waters is under review with EPA (as a result of [EPA's 6/5/15 decision letter](#) to DEP Commissioner Patricia W. Aho, pp. 6 and 29) and may be amended or eliminated at some point in the future. Amendment or elimination of the current statutory allowance could limit or prohibit certain types of stormwater discharges and associated development in Class AA watersheds. This situation creates regulatory uncertainty for future stormwater permitting actions.

Over the past several months, the Department and EPA have crafted proposed stormwater legislation to resolve this issue. If approved, the legislation will narrow the existing stormwater exemption, and resolve any regulatory uncertainty. This upgrade proposal is being recommended to the legislature with the caveat that the Environment and Natural Resources (ENR) Committee hear and vote on the stormwater bill first, before hearing and voting on this upgrade proposal as part of the Triennial Review bill. If done in this order, the Committee will have an understanding of how existing, and potentially future, stormwater discharges to Class AA (and SA) waters will be regulated. Although the issue would not be fully resolved until the full legislature votes on the stormwater bill, and EPA ultimately makes a decision on this revised water quality standard, if the ENR committee votes 'ought to pass' on the stormwater bill that would be sufficient for this upgrade to go forward.

Hydroelectric power generation is not a designated use in Class AA and an upgrade will thus preclude future construction of water control structures. There are no pollutant discharge licenses to any waters proposed for upgrade and the Department is not aware of any anticipated construction projects for water control structures. More stringent limits may be placed on water withdrawal in these segments that may affect agriculture operations in the area; the Department is not aware of any existing water withdrawal activities or permits in this watershed. Forestry activities are not expected to be affected because under Maine's Forest Practices Act, such activities are generally subject to the same regulatory requirements regardless of water classification.

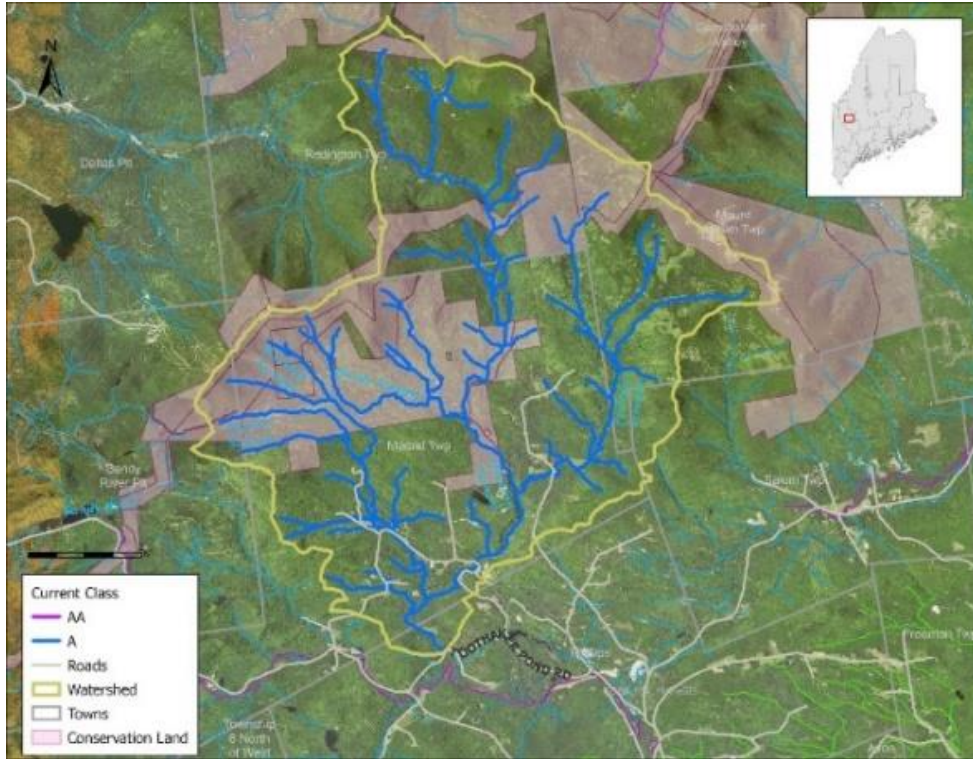
¹¹ Spawning nests made by a fish, especially a salmon or trout.

FINAL

Recommend revising Section 467.4.G.2. as follows:

(2) Sandy River, tributaries – Class B unless otherwise specified.

(d) Orbeton Stream above Toothaker Pond Road and its tributaries – Class AA.



Machias River Basin

Chain Lakes Stream, Wesley.

Propose Class A to Class AA (1 mile approx.).

Proposal submitted by: Department of Environmental Protection.

Basis for proposal: Chain Lakes Stream is a tributary to Class AA Old Stream. The lower portion in Day Block TWP (0.9 miles) was upgraded to Class AA in 2003 based on a proposal from the local watershed council, Downeast Salmon Federation and Project S.H.A.R.E; the segment in Wesley was inadvertently omitted from the upgrade. The entire stream contains high-quality habitat for endangered Atlantic salmon and has been designated critical habitat for this species by NOAA Fisheries and the US Fish and Wildlife Service under the federal Endangered Species Act, lending significant ecological importance to the stream. Much of the immediate and upstream watershed of the Stream is protected, adding scenic and recreational importance to this waterbody. 75% of the watershed is forested. The stream is expected to attain Class AA standards.

Issues to be considered for this reclassification: Except for certain cases as defined in Maine statutes, there may be no direct discharge of pollutants to Class AA waters. The current statutory allowance for stormwater discharges to Class AA waters is under review with EPA (as a result of [EPA's 6/5/15 decision letter](#) to DEP Commissioner Patricia W. Aho, pp. 6 and 29) and may be amended or eliminated at some point in the future. Amendment or elimination of the current statutory allowance could limit or prohibit certain types of stormwater discharges and associated development in Class AA watersheds. This situation creates regulatory uncertainty for future stormwater permitting actions.

Over the past several months, the Department and EPA have crafted proposed stormwater legislation to resolve this issue. If approved, the legislation will narrow the existing stormwater exemption, and resolve any regulatory uncertainty. This upgrade proposal is being recommended to the legislature with the caveat that the Environment and Natural Resources (ENR) Committee hear and vote on the stormwater bill first, before hearing and voting on this upgrade proposal as part of the Triennial Review bill. If done in this order, the Committee will have an understanding of how existing, and potentially future, stormwater discharges to Class AA (and SA) waters will be regulated. Although the issue would not be fully resolved until the full legislature votes on the stormwater bill, and EPA ultimately makes a decision on this revised water quality standard, if the ENR committee votes 'ought to pass' on the stormwater bill that would be sufficient for this upgrade to go forward.

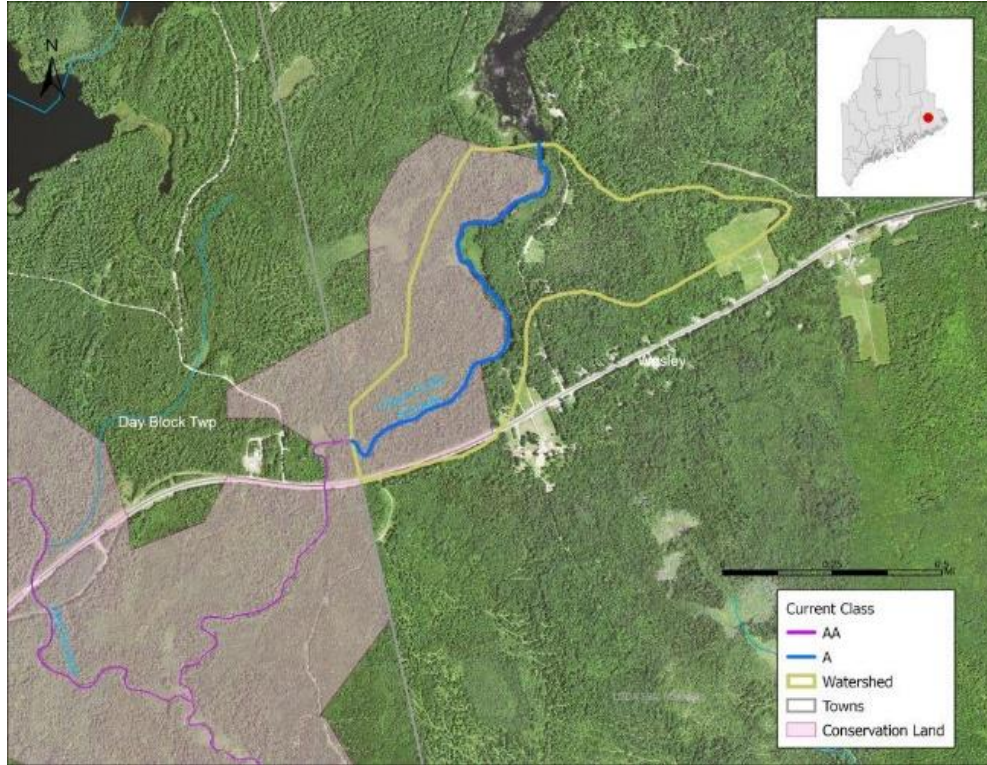
Hydroelectric power generation is not a designated use in Class AA and an upgrade will thus preclude future construction of water control structures. There are no pollutant discharge licenses to any waters proposed for upgrade and the Department is not aware of any anticipated construction projects for water control structures. More stringent limits may be placed on water withdrawal in these segments that may affect agriculture operations in the area; the Department is not aware of any existing water withdrawal activities or permits in this watershed. Forestry activities that may be occurring in the watershed are not expected to be affected because under Maine's Forest Practices Act, forestry activities are generally subject to the same regulatory requirements regardless of water classification.

FINAL

Recommend revising Section 467.5.B. as follows:

B . Machias River, tributaries - Class A unless otherwise specified.

(10) Chain Lakes Stream, also known as Chain Lake Stream in Day Block Township – Class AA.



**Fletcher Brook and Tributaries, T36 MD BPP, T37 MD BPP and T42 MD BPP.
Propose Class A to Class AA (10 miles approx.).**

Proposal submitted by: Department of Environmental Protection.

Basis for proposal: Fletcher Brook is a tributary to Class AA Machias River. The majority of the Brook (in T36 MD BPP) is Class AA, but the upper (T42 MD BPP; 3.1 linear mi.) and lower (T37 MD BPP; 0.3 linear mi.) portions are Class A, even though there are no significant changes in watershed characteristics or water quality between the towns. Both sections and their tributaries (especially Hadley Brook) contain high-quality habitat for endangered Atlantic salmon and have been designated critical habitat for this species by NOAA Fisheries and the US Fish and Wildlife Service under the federal Endangered Species Act, lending significant ecological importance to these waters. 80% of the watershed is forested. Available water quality data indicate good conditions.

Issues to be considered for this reclassification: Except for certain cases as defined in Maine statutes, there may be no direct discharge of pollutants to Class AA waters. The current statutory allowance for stormwater discharges to Class AA waters is under review with EPA (as a result of [EPA's 6/5/15 decision letter](#) to DEP Commissioner Patricia W. Aho, pp. 6 and 29) and may be amended or eliminated at some point in the future. Amendment or elimination of the current statutory allowance could limit or prohibit certain types of stormwater discharges and associated development in Class AA watersheds. This situation creates regulatory uncertainty for future stormwater permitting actions.

Over the past several months, the Department and EPA have crafted proposed stormwater legislation to resolve this issue. If approved, the legislation will narrow the existing stormwater exemption, and resolve any regulatory uncertainty. This upgrade proposal is being recommended to the legislature with the caveat that the Environment and Natural Resources (ENR) Committee hear and vote on the stormwater bill first, before hearing and voting on this upgrade proposal as part of the Triennial Review bill. If done in this order, the Committee will have an understanding of how existing, and potentially future, stormwater discharges to Class AA (and SA) waters will be regulated. Although the issue would not be fully resolved until the full legislature votes on the stormwater bill, and EPA ultimately makes a decision on this revised water quality standard, if the ENR committee votes 'ought to pass' on the stormwater bill that would be sufficient for this upgrade to go forward.

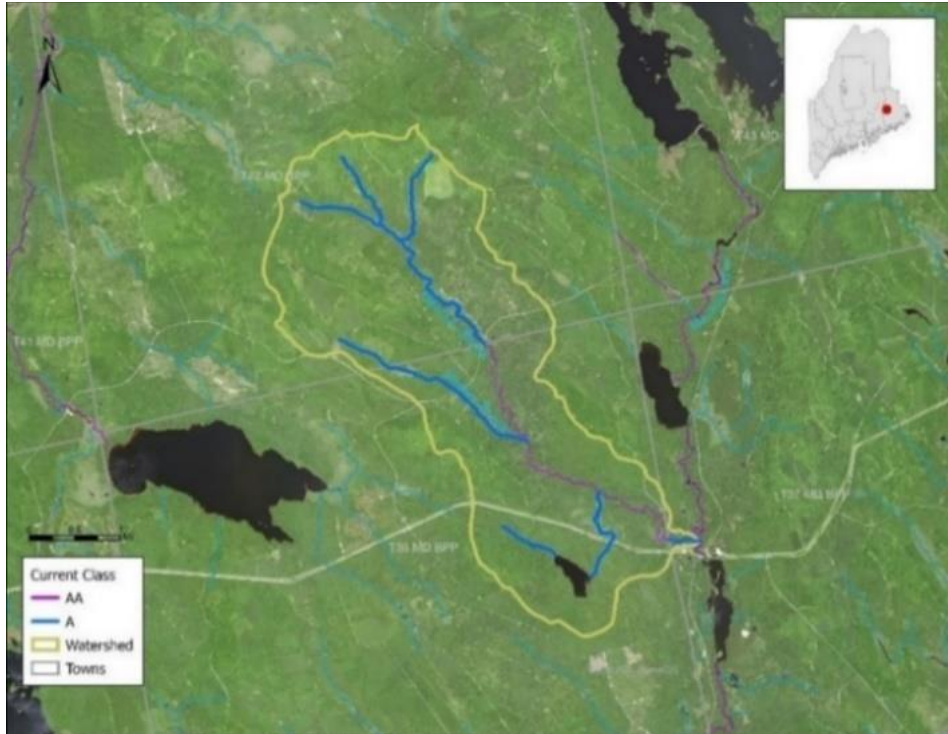
Hydroelectric power generation is not a designated use in Class AA and an upgrade will thus preclude future construction of water control structures. There are no pollutant discharge licenses to any waters proposed for upgrade and the Department is not aware of any anticipated construction projects for water control structures. More stringent limits may be placed on water withdrawal in these segments that may affect agriculture operations in the area; the Department is not aware of any existing water withdrawal activities or permits in this watershed. Forestry activities are not expected to be affected because under Maine's Forest Practices Act, forestry activities are generally subject to the same regulatory requirements regardless of water classification.

FINAL

Recommend revising Section 467.5.B. as follows:

B. Machias River, tributaries - Class A unless otherwise specified.

(7) Fletcher Brook and its tributaries in Township 36 Middle Division – Class AA.



**Magazine Brook, T37 MD BPP and T42 MD BPP.
Propose Class A to Class AA (1.5 miles approx.)**

Proposal submitted by: Department of Environmental Protection.

Basis for proposal: Magazine Brook is a tributary to Class AA Machias River. The middle section in T43 MD BPP (1.0 miles) was upgraded to Class AA in 2003 based on a proposal from the local watershed council, Downeast Salmon Federation and Project S.H.A.R.E; the upper (1.2 miles) and lower (0.3 miles) segments in T42 MD BPP and T37 MD BPP, respectively, were inadvertently omitted from the upgrade and remained Class A. The entire brook contains high-quality habitat for endangered Atlantic salmon and has been designated critical habitat for this species by NOAA Fisheries and the US Fish and Wildlife Service under the federal Endangered Species Act, lending significant ecological importance to this waterbody. The lower section of the brook is in conserved land and almost 70% of the watershed is forested. Magazine Brook is expected to attain Class AA standards.

Issues to be considered for this reclassification: Except for certain cases as defined in Maine statutes, there may be no direct discharge of pollutants to Class AA waters. The current statutory allowance for stormwater discharges to Class AA waters is under review with EPA (as a result of [EPA's 6/5/15 decision letter](#) to DEP Commissioner Patricia W. Aho, pp. 6 and 29) and may be amended or eliminated at some point in the future. Amendment or elimination of the current statutory allowance could limit or prohibit certain types of stormwater discharges and associated development in Class AA watersheds. This situation creates regulatory uncertainty for future stormwater permitting actions.

Over the past several months, the Department and EPA have crafted proposed stormwater legislation to resolve this issue. If approved, the legislation will narrow the existing stormwater exemption, and resolve any regulatory uncertainty. This upgrade proposal is being recommended to the legislature with the caveat that the Environment and Natural Resources (ENR) Committee hear and vote on the stormwater bill first, before hearing and voting on this upgrade proposal as part of the Triennial Review bill. If done in this order, the Committee will have an understanding of how existing, and potentially future, stormwater discharges to Class AA (and SA) waters will be regulated. Although the issue would not be fully resolved until the full legislature votes on the stormwater bill, and EPA ultimately makes a decision on this revised water quality standard, if the ENR committee votes 'ought to pass' on the stormwater bill that would be sufficient for this upgrade to go forward.

Hydroelectric power generation is not a designated use in Class AA and an upgrade will thus preclude future construction of water control structures. There are no pollutant discharge licenses to any waters proposed for upgrade and the Department is not aware of any anticipated construction projects for water control structures. More stringent limits may be placed on water withdrawal in these segments that may affect agriculture operations in the area; the Department is not aware of any existing water withdrawal activities or permits in this watershed. Forestry activities are not expected to be affected because under Maine's Forest Practices Act, forestry activities are generally subject to the same regulatory requirements regardless of water classification has no effect on forestry activities that may be occurring in the watershed.

FINAL

Recommend revising Section 467.5.B. as follows:

B. Machias River, tributaries - Class A unless otherwise specified.

(8) Magazine Brook in ~~Township 43 Middle Division~~ – Class AA.



Narraguagus River Basin

Little Narraguagus River, T28 MD BPP. Propose Class A to Class AA (0.4 mile approx.).

Proposal submitted by: Department of Environmental Protection.

Basis for proposal: The Little Narraguagus River is a tributary to Class AA Narraguagus River. The middle segment in T22 MD BPP (2.2 miles) was upgraded to Class AA in 2003 based on a proposal from the local watershed council, Downeast Salmon Federation and Project S.H.A.R.E; the upper and lower segments in T28 MD BPP and Beddington (0.4 and 0.6 miles, respectively) were inadvertently omitted from the upgrade and remained Class A. The entire river, and especially the upper section, contains high-quality habitat for endangered Atlantic salmon and has been designated critical habitat for this species by NOAA Fisheries and the US Fish and Wildlife Service under the federal Endangered Species Act, lending significant ecological importance to the river. More than 80% of the watershed is forested. The streams are expected to attain Class AA standards.

Issues to be considered for this reclassification: Except for certain cases as defined in Maine statutes, there may be no direct discharge of pollutants to Class AA waters. The current statutory allowance for stormwater discharges to Class AA waters is under review with EPA (as a result of [EPA's 6/5/15 decision letter](#) to DEP Commissioner Patricia W. Aho, pp. 6 and 29) and may be amended or eliminated at some point in the future. Amendment or elimination of the current statutory allowance could limit or prohibit certain types of stormwater discharges and associated development in Class AA watersheds. This situation creates regulatory uncertainty for future stormwater permitting actions.

Over the past several months, the Department and EPA have crafted proposed stormwater legislation to resolve this issue. If approved, the legislation will narrow the existing stormwater exemption, and resolve any regulatory uncertainty. This upgrade proposal is being recommended to the legislature with the caveat that the Environment and Natural Resources (ENR) Committee hear and vote on the stormwater bill first, before hearing and voting on this upgrade proposal as part of the Triennial Review bill. If done in this order, the Committee will have an understanding of how existing, and potentially future, stormwater discharges to Class AA (and SA) waters will be regulated. Although the issue would not be fully resolved until the full legislature votes on the stormwater bill, and EPA ultimately makes a decision on this revised water quality standard, if the ENR committee votes 'ought to pass' on the stormwater bill that would be sufficient for this upgrade to go forward.

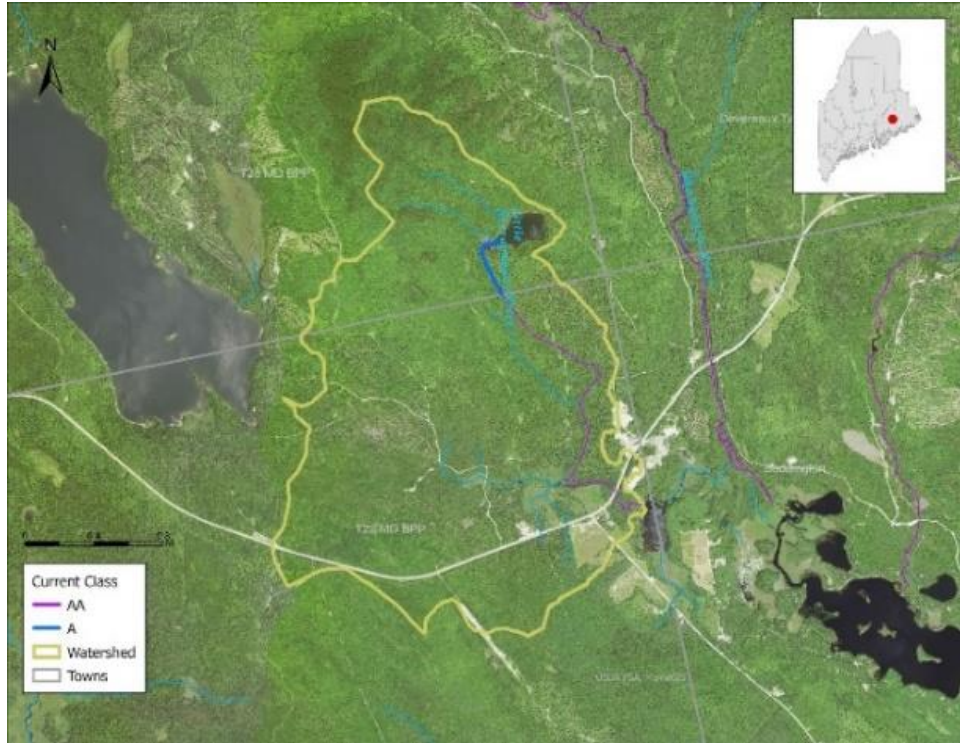
Hydroelectric power generation is not a designated use in Class AA and an upgrade will thus preclude future construction of water control structures. There are no pollutant discharge licenses or land-development permits affecting any waters proposed for upgrade and the Department is not aware of any anticipated construction projects for water control structures. More stringent limits may be placed on water withdrawal in these segments that may affect agriculture operations in the area; the Department is not aware of any existing water withdrawal activities or permits in this watershed. Forestry activities that may be occurring in the watershed are not expected to be affected because under Maine's Forest Practices Act, forestry activities are generally subject to the same regulatory requirements regardless of water classification. Some resource extraction activities are taking place in Beddington and the 0.6-mile segment of the River in that town (below Chalk Pond) is excluded from this proposal.

FINAL

Recommend revising Section 467.6-A.B. as follows:

B. Narraguagus River, tributaries - Class A unless otherwise specified.

(12) Little Narraguagus River in Township 22 Middle Division and Township 28 Middle Division
– Class AA



Penobscot River Basin

Tributaries to East and West Branches Penobscot River in Katahdin Woods and Waters National Monument, T4 R8 WELS and Other Townships.

Propose Class A to Class AA (142 miles approx.).

Proposed by: The Nature Conservancy (TNC), modified in consultation with the Department of Environmental Protection.

Basis for proposal: Portions of the East Branch Penobscot River and many of its tributaries have already been designated as Class AA due to their high value for endangered Atlantic salmon restoration as well as valued scenic and recreation character. The new Katahdin Woods and Waters National Monument (KWWNM) now encompasses many of these waters. However, many smaller tributaries, which serve as high-quality water sources to the river as well as important habitat for salmon, brook trout and other species, are still Class A. Upgrading these waters to Class AA will protect their water quality and that of the East Branch Penobscot River.

Portions of some tributaries to the West Branch Penobscot River are located in the National Monument. These waters are currently designated as Class A and are also proposed for an upgrade to Class AA. The proposed upgrades would make management of all waters within the National Monument consistent and recognize their high values.

Issues to be considered for this reclassification: The great majority of waters proposed for upgrade (93%) are within the National Monument. Most waters proposed for upgrade outside the Monument (in T3 R7 WELS and Soldiertown TWP T2 R7 WELS) cross through private forest land. Forestry activities that may be occurring in the watershed are not expected to be affected by an upgrade because under Maine's Forest Practices Act, forestry activities are generally subject to the same regulatory requirements regardless of water classification. Except for certain cases as defined in Maine statutes, there may be no direct discharge of pollutants to Class AA waters. The current statutory allowance for stormwater discharges to Class AA waters is under review with EPA (as a result of [EPA's 6/5/15 decision letter](#) to DEP Commissioner Patricia W. Aho, pp. 6 and 29) and may be amended or eliminated at some point in the future. Amendment or elimination of the current statutory allowance could limit or prohibit certain types of stormwater discharges and associated development in AA watersheds. Because the great majority of waters proposed for upgrade are within conservation land and the remainder is very unlikely to be considered for development, the stormwater discharge issue is not relevant.

Hydroelectric power generation is not a designated use in these waters and an upgrade will thus preclude future construction of water control structures. There are no pollutant discharge licenses to any waters proposed for upgrade and the Department is not aware of any anticipated construction projects for water control structures. More stringent limits may be placed on water withdrawal in these segments that may affect agriculture operations in the area; the Department is not aware of any existing water withdrawal activities or permits in this watershed.

Both the federal Clean Water Act and Maine statutes incorporate the concept of Outstanding National Resource Waters (ONRWs), which are waters that have unique characteristics to be preserved. As part of the Triennial Review the Department is proposing to expand the definition of ONRWs to include the KWWNM, see page 22, above.

Recommend revising Section 467.7.B and C as follows:

B. Penobscot River, East Branch Drainage.

(2) East Branch of the Penobscot River, tributaries - Class A unless otherwise specified.

(f) All tributaries entering the East Branch Penobscot River from the west, any portion of which is located within the boundaries of the Katahdin Woods and Waters National Monument - Class AA.

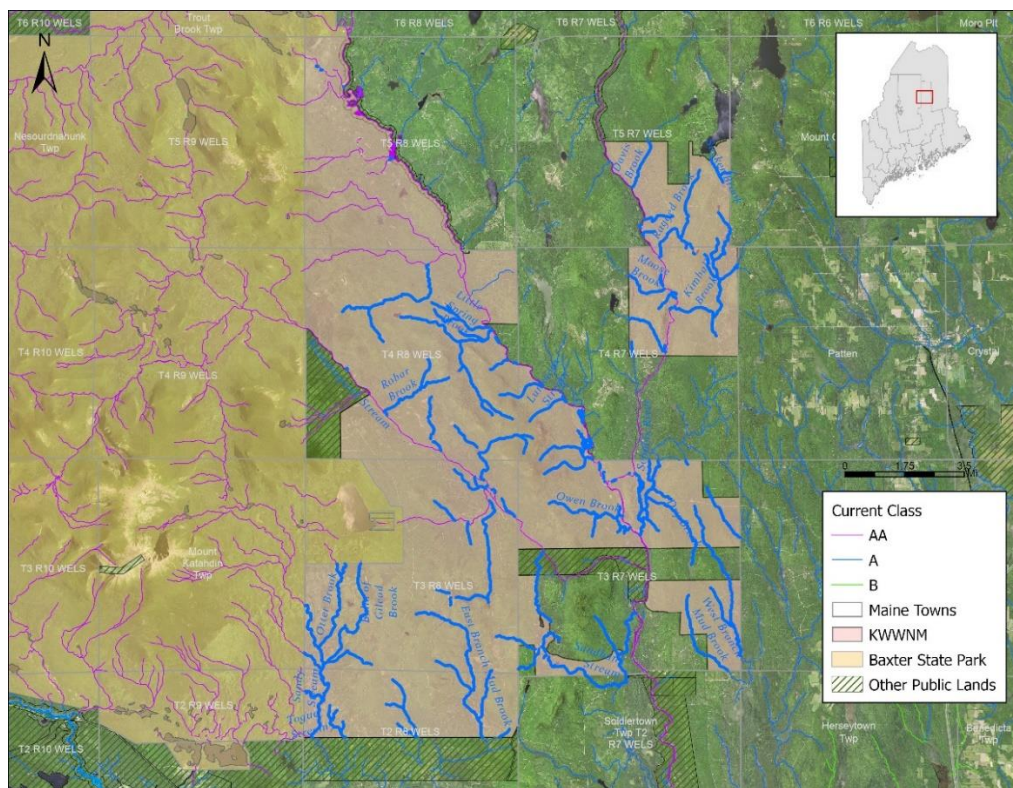
(g) Those segments of any tributary to the Sebobeis River that are within the boundaries of the Katahdin Woods and Waters National Monument - Class AA.

(h) Dry Brook, East Branch and West Branch Mud Brook and other tributaries located in T3 R7 WELS that enter the East Branch Penobscot River from the east, any portions of which are located within the boundaries of the Katahdin Woods and Waters National Monument - Class AA.

C. Penobscot River, West Branch Drainage¹².

(2) West Branch of the Penobscot River, tributaries - Class A unless otherwise specified.

(a) Those segments of any tributary that are within the boundaries of Baxter State Park or the Katahdin Woods and Waters National Monument - Class AA.



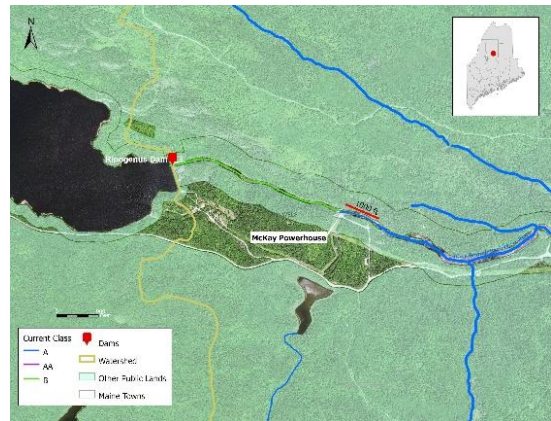
¹² Other waters within the West Branch drainage of the Penobscot River are also proposed for upgrade, see the next item in this document.

West Branch Penobscot River and Tributaries above Ambajejus Lake, and Nahmakanta Stream and Tributaries, T2 R10 WELS and Other Townships. Propose Class A to Class AA (98 miles approx.).

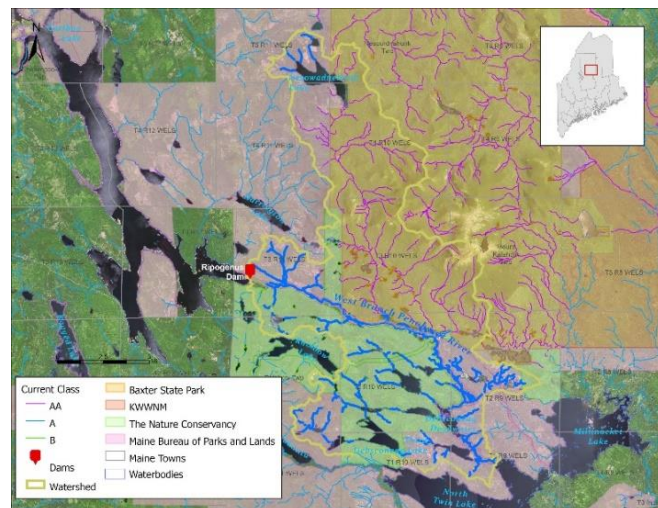
Proposed by: The Nature Conservancy (TNC).

Basis for proposal: The West Branch Penobscot River downstream of Chesuncook and Ripogenus Lakes to its confluence with Ambajejus Lake is one of Maine’s most iconic stretches of water. It is a world-class landlocked salmon fishery; hosts native brook trout and many other important species; and supports a vibrant recreation industry. Its forested shoreline and backdrop of Mount Katahdin make it arguably the most scenic waterway in the state. For these reasons and more, we believe it meets the threshold of “ecological, social, scenic or recreational importance” required of Class AA waters.

This segment has not previously received the Class AA distinction because it had been proposed as the site of a large hydroelectric facility, “Big A,” in the 1980s. However, permit applications for Big A were denied, and no attempts have been made to revive the proposal, leaving the river in its present exceptional and highly valued condition. This proposal leaves a 1,000-foot segment downstream of the McKay powerhouse (red line in map at right) in its present Class A status, consistent with other Class AA waters located downstream of hydropower stations that may cause localized effects due to flow manipulation (e.g. Kennebec, Rapid, Saco, East Branch Penobscot Rivers).



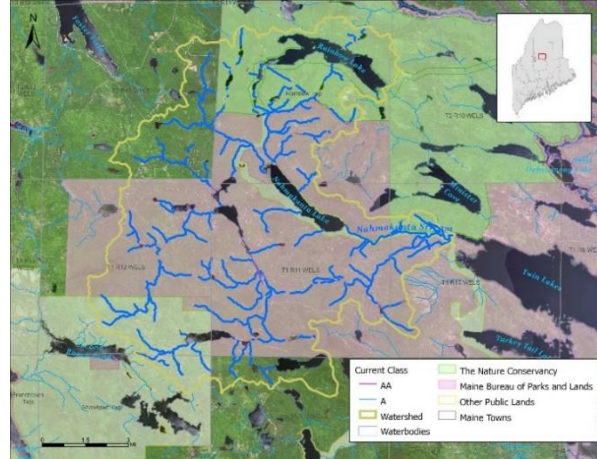
This proposal would also upgrade tributaries to this segment of the West Branch Penobscot River to Class AA. These tributaries are now largely protected within conservation ownership, and upgrading these waters will ensure the continued quality and character of the West Branch. TNC’s Debsconeag Lakes Wilderness Area and the State’s Nahmakanta Public Reserved Land comprise much of the watershed south of this segment of the West Branch, while Baxter State Park occupies much of the watershed to the north. Each of these lands are valued for their ecological, scenic, and recreational values.



Nahmakanta Stream and its tributaries (map below) are also included in this upgrade proposal since their watershed is also located primarily within the Debsconeag Lakes Wilderness Area and the Nahmakanta Reserve. This watershed is important to the local recreation economy, supporting commercial sporting camps and running alongside and intersecting the Appalachian Trail.

Issues to be considered for this reclassification:

99% of the West Branch Penobscot River watershed is in conservation land, and 87% of the Nahmakanta Stream watershed. Except for certain cases as defined in Maine statutes, there may be no direct discharge of pollutants to Class AA waters. The current statutory allowance for stormwater discharges to Class AA waters is under review with EPA (as a result of [EPA's 6/5/15 decision letter](#) to DEP Commissioner Patricia W. Aho, pp. 6 and 29) and may be amended or eliminated at some point in the future. Amendment or elimination of the current statutory allowance could limit or prohibit certain types of stormwater discharges and associated development in AA watersheds. Because 99% of the West Branch Penobscot River watershed is in conservation land and thus precluded from development, the stormwater discharge issue is not relevant. The Nahmakanta Stream watershed is 87% in conservation land and the remaining 13%, which contains small headwater streams, is highly unlikely to see development, or where development may not even be permitted. Thus, again, the stormwater discharge issue is not relevant.



Hydroelectric power generation is not a designated use in these waters and an upgrade will thus preclude future construction of water control structures. There are no pollutant discharge licenses to any waters proposed for upgrade and the Department is not aware of any anticipated construction projects for water control structures. More stringent limits may be placed on water withdrawal in these segments that may affect agriculture operations in the area; the Department is not aware of any existing water withdrawal activities or permits in this watershed. Forestry activities that may be occurring in the watershed are not expected to be affected because under Maine's Forest Practices Act, forestry activities are generally subject to the same regulatory requirements regardless of water classification.

Recommend revising Section 467.7.C as follows:

C. Penobscot River, West Branch Drainage¹³.

- (1) West Branch of the Penobscot River, main stem.
 - (d) From the McKay powerhouse to a point located 1,000 feet downstream its confluence with Ambajejus Lake - Class A.
 - (d-1) From a point located 1,000 feet downstream of the McKay powerhouse to its confluence with Ambajejus Lake – Class AA.
- (2) West Branch of the Penobscot River, tributaries - Class A unless otherwise specified.
 - (b) Those tributaries entering between Ripogenus Dam and above the confluence with Ambajejus Lake the Debsconeag Deadwater, any portion of which is located within the boundaries of Baxter State Park - Class AA.
 - (e) Nahmakanta Stream and its tributaries, including tributaries to Nahmakanta Lake and upstream lakes – Class AA.

¹³ Other waters within the West Branch drainage of the Penobscot River are also proposed for upgrade, see the preceding item in this document.

Houston Brook and Tributaries, Katahdin Iron Works TWP, T7 R9 NWP and Elliottsville TWP.

Propose Class A to Class AA (25 miles approx.).

Proposal submitted by: Department of Environmental Protection.

Basis for proposal: Houston Brook and its tributaries, including Indian Stream, are class A tributaries to Class AA West Branch Pleasant River. The streams contain high-quality habitat for endangered Atlantic salmon according to the Maine Department of Marine Resources, with evidence of spawning documented in 2019. The streams have been designated critical habitat for Atlantic salmon by NOAA Fisheries and the US Fish and Wildlife Service under the federal Endangered Species Act, and therefore have significant ecological importance. Big and Little Houston Ponds support brook trout populations. Almost 80% of the watershed is forested and 60% is protected as conservation land, lending scenic and recreational importance to these waters. The streams are expected to attain Class AA standards.

Issues to be considered for this reclassification: Except for certain cases as defined in Maine statutes, there may be no direct discharge of pollutants to Class AA waters. The current statutory allowance for stormwater discharges to Class AA waters is under review with EPA (as a result of [EPA's 6/5/15 decision letter](#) to DEP Commissioner Patricia W. Aho, pp. 6 and 29) and may be amended or eliminated at some point in the future. Amendment or elimination of the current statutory allowance could limit or prohibit certain types of stormwater discharges and associated development in Class AA watersheds. This situation creates regulatory uncertainty for future stormwater permitting actions.

Over the past several months, the Department and EPA have crafted proposed stormwater legislation to resolve this issue. If approved, the legislation will narrow the existing stormwater exemption, and resolve any regulatory uncertainty. This upgrade proposal is being recommended to the legislature with the caveat that the Environment and Natural Resources (ENR) Committee hear and vote on the stormwater bill first, before hearing and voting on this upgrade proposal as part of the Triennial Review bill. If done in this order, the Committee will have an understanding of how existing, and potentially future, stormwater discharges to Class AA (and SA) waters will be regulated. Although the issue would not be fully resolved until the full legislature votes on the stormwater bill, and EPA ultimately makes a decision on this revised water quality standard, if the ENR committee votes 'ought to pass' on the stormwater bill that would be sufficient for this upgrade to go forward.

Hydroelectric power generation is not a designated use in Class AA and an upgrade will thus preclude future construction of water control structures. There are no pollutant discharge licenses to any waters proposed for upgrade and the Department is not aware of any anticipated construction projects for water control structures. More stringent limits may be placed on water withdrawal in these segments that may affect agriculture operations in the area; the Department is not aware of any existing water withdrawal activities or permits in this watershed. Forestry activities that may be occurring in the watershed are not expected to be affected because under Maine's Forest Practices Act, such activities are generally subject to the same regulatory requirements regardless of water classification.

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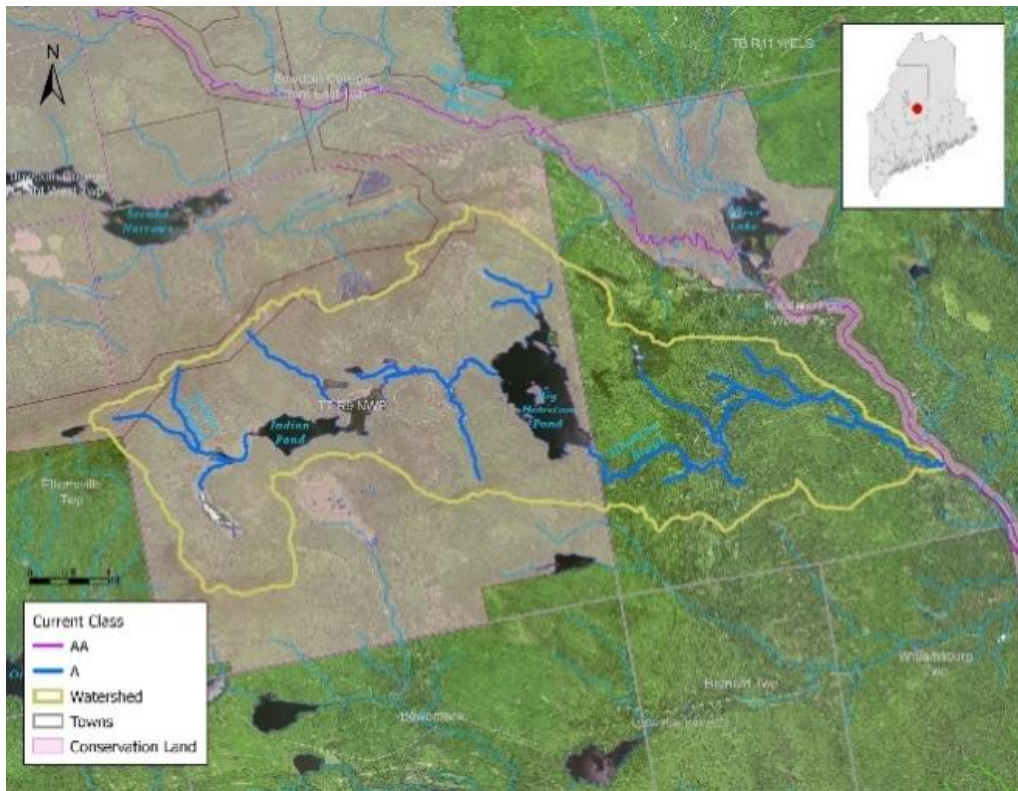
Recommend revising Section 467.7.E. as follows:

E. Piscataquis River Drainage.

(2) Piscataquis River, tributaries - Class B unless otherwise specified.

(e) Pleasant River, West Branch tributaries – Class A unless otherwise specified.

(e-1): Houston Brook and its tributaries – Class AA.



Tributaries to Schoodic Stream and Scutaze Stream, Lake View Plantation and Other Towns and Townships.

Propose Class B to Class A (37 miles approx.).

Proposed by: Department of Environmental Protection.

Basis for proposal: Schoodic Stream and Scutaze Stream are designated as Class A and their tributaries are all designated as Class B. The landscape is primarily forested with little development. Monitoring of some streams in the watersheds by DEP and Maine Department of Inland Fisheries and Wildlife staff indicates good water quality, and attainment of Class A standards in other waters can be expected. Schoodic and Scutaze Streams, which are tributaries to the Piscataquis River, contain critical habitat for endangered Atlantic Salmon. The Piscataquis River itself is one of the priority watersheds for salmon restoration in the Penobscot watershed, making its tributaries important for the protection of salmon. It is desirable to designate the tributaries to Schoodic and Scutaze Streams as Class A to maintain their quality as well as the quality of both mainstems and Schoodic Lake. Adjacent river basins to the north are designated as Class A, so the proposed upgrade fits into the regional approach of managing water quality.

Issues to be considered for this reclassification: None. No discharges exist in the watersheds but forestry activities occur. Such forestry activities are not expected to be affected because under Maine’s Forest Practices Act, forestry activities are generally subject to the same regulatory requirements regardless of water classification.

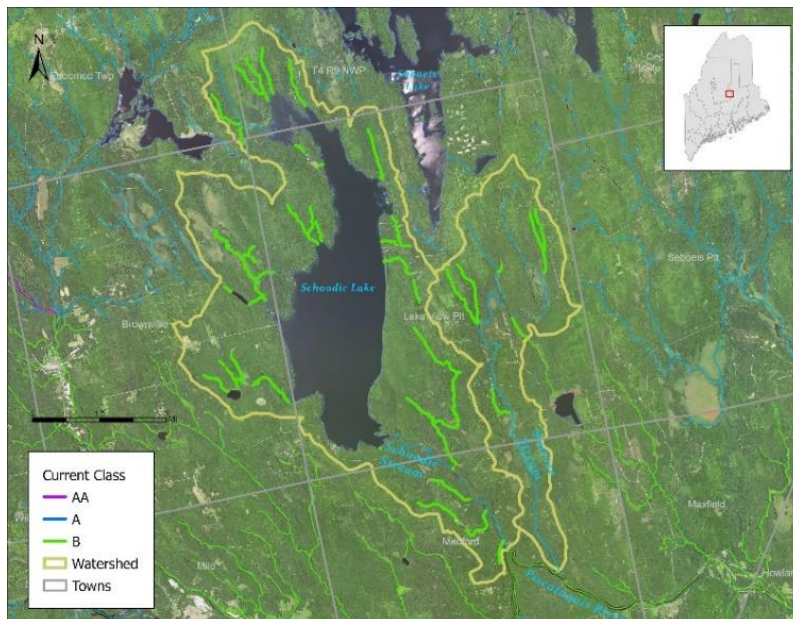
Recommend revising Section 467.7.E. as follows:

E. Piscataquis River Drainage.

(2) Piscataquis River, tributaries – Class B unless otherwise specified.

(k) Schoodic Stream and its tributaries - Class A.

(l) Scutaze Stream and its tributaries - Class A.



Cambolasse Stream, Lincoln
Propose Class C to Class B (0.2 miles approx.)

Proposal: Department of Environmental Protection.

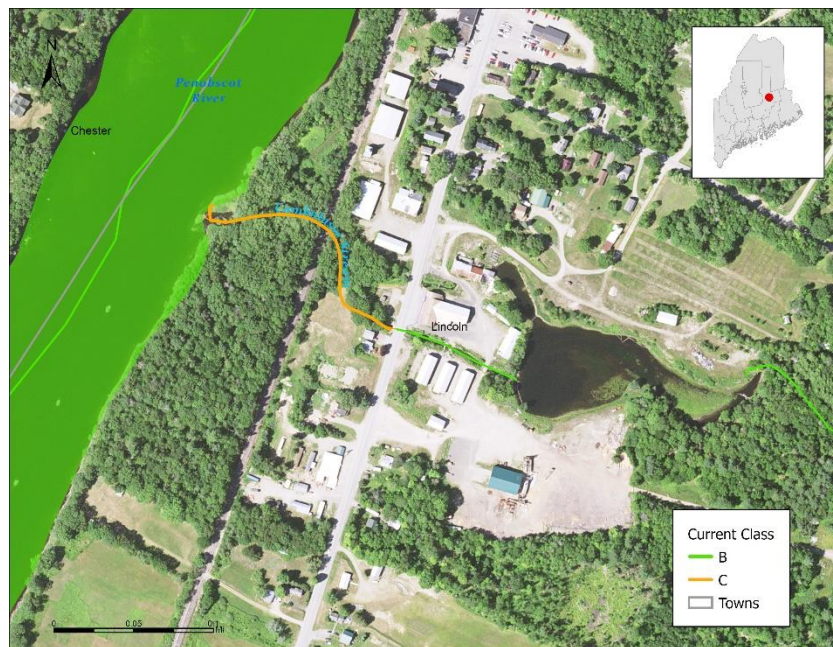
Basis: A lumber yard and sawmill located just upstream of the Class C segment of the stream used to affect water quality. The business closed many years ago and water quality meets Class B standards as indicated in long-term monitoring data collected by the Penobscot Nation.

Issues to be considered for this reclassification: None. There are no discharge permits in or above the segment in question.

Recommend revising Section 467.7.F. as follows:

F. Penobscot River, minor tributaries - Class B unless otherwise specified.

(1) ~~Cambolasse Stream (Lincoln) below the Route 2 bridge – Class C.~~



Tributaries to Medunkeunk Stream, Woodville, T2 R9 NWP, Chester and Other Towns and Townships.

Propose Class B to Class A (75 miles approx.).

Proposed by: Department of Environmental Protection.

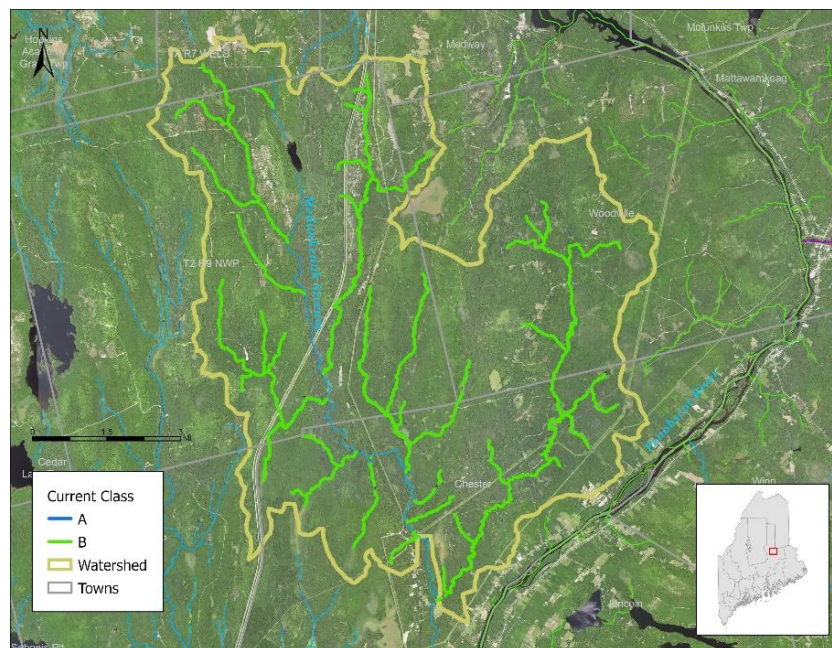
Basis for proposal: Medunkeunk Stream is designated as Class A and all tributaries are designated Class B. The watershed is primarily forested with some agriculture and few residential areas. Given the watershed characteristics, it is expected that the tributaries to Medunkeunk Stream attain Class A, and an upgrade would maintain their quality as well as the quality of Medunkeunk Stream. Adjacent river basins to the west and north are designated as Class A, so the proposed upgrade fits into the regional approach of managing water quality.

Issues to be considered for this reclassification: None. No discharges exist in the watershed but forestry activities occur. Such forestry activities are not expected to be affected because under Maine’s Forest Practices Act, forestry activities are generally subject to the same regulatory requirements regardless of water classification. Extensive wetlands in the watershed will likely cause low dissolved oxygen (DO) levels in some waterbodies, and limited data exist to confirm this situation in the Trout Brook sub-watershed. Under Maine statute (38 M.R.S. Section 464.4.C.), waters with naturally low DO levels due to wetlands are not considered to be failing to attain their classification because of those natural conditions. The Maine Army National Guard (MEARNG) owns a significant amount of the Medunkeunk Stream watershed and has a Site Location of Development Law permit authorizing impervious/structural development near some streams proposed for upgrade. The permitted work is not expected to be affected by an upgrade because the MEARNG did not propose any discharge to any stream proposed for upgrade as part of the permitted development.

Recommend revising Section 467.7.F. as follows:

F. Penobscot River, minor tributaries - Class B unless otherwise specified.

(12) Medunkeunk Stream and its tributaries - Class A.



St. John River Basin

Southwest Branch St. John River, T9 R17 WELS, T10 R16 WELS and Big Ten TWP. Propose Class A to Class AA (7 miles approx.).

Proposed by: The Nature Conservancy (TNC), modified in consultation with the Department of Environmental Protection.

Basis for proposal: The entire St. John River system from the Upper First St. John Pond in T4 R17 WELS to near the Allagash village area has always been intended as Class AA. The waters between Upper First St. John Pond and the Northwest Branch of the St. John River in Big Ten Township, where the St. John River mainstem begins, are called Baker Stream and Baker Branch of the St. John River and Southwest Branch St. John River. Due to historic uncertainties in labeling the segment of the Southwest Branch between its confluence with the Baker Branch in T9 R17 WELS and its confluence with the Northwest Branch in Big Ten Township, Maine statute (38 M.R.S. Section 467.15.F.6) inadvertently designated that segment as Class A. This segment falls 100% within TNC's ownership and conservation management along the St John River and is thus fully protected. This proposal clarifies that the Southwest Branch is classified as Class AA all the way from a point located 5 miles downstream of the international boundary to its confluence with the Northwest Branch in Big Ten Township.

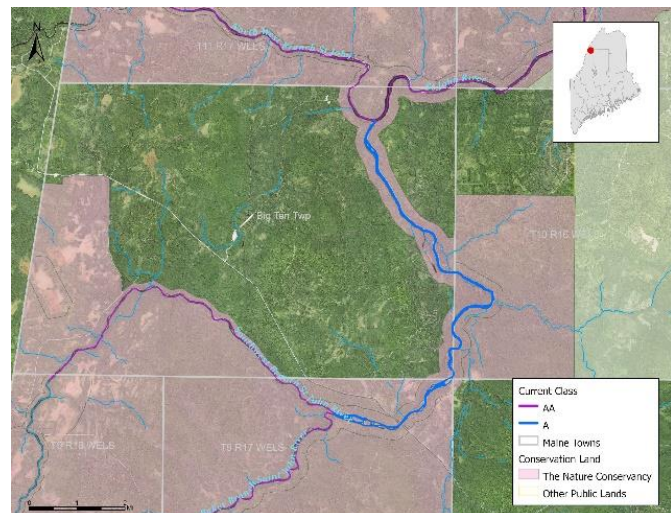
Issues to be considered for this reclassification: Except for certain cases as defined in Maine statutes, there may be no direct discharge of pollutants to Class AA waters. The current statutory allowance for stormwater discharges to Class AA waters is under review with EPA (as a result of [EPA's 6/5/15 decision letter](#) to DEP Commissioner Patricia W. Aho, pp. 6 and 29) and may be amended or eliminated at some point in the future. Amendment or elimination of the current statutory allowance could limit or prohibit certain types of stormwater discharges and associated development in AA watersheds. Because the entire length of the Southwest Branch St. John River segment proposed for upgrade is within conservation land and thus precluded from development, the stormwater discharge issue is not relevant.

Hydroelectric power generation is not a designated use in these waters and an upgrade will thus preclude future construction of water control structures. There are no pollutant discharge licenses to any waters proposed for upgrade and the Department is not aware of any anticipated construction projects for water control structures. More stringent limits may be placed on water withdrawal in these segments that may affect agriculture operations in the area; the Department is not aware of any existing water withdrawal activities or permits in this watershed.

Recommend revising Section 467.15.F as follows:

F. St. John River, minor tributaries, those waters lying within the State - Class A unless otherwise specified.

(6) Southwest Branch, from a point located 5 miles downstream of the international boundary to its confluence with the Baker Northwest Branch - Class AA.



Minor Drainages - Cumberland County

Long Creek, Westbrook.

Propose Class C to Class B (0.3 miles approx.).

Change requested by: U.S. Environmental Protection Agency (EPA).

Basis for change: As part of the 2009 reclassification initiative, Maine changed the classification of a 0.3 mile segment of Long Creek that flows through Westbrook from Class B to Class C, making it the same as the remainder of Long Creek in Portland and South Portland. The change was made to correct a legislative bill drafting error made in 1990. EPA did not take action on this classification change in its 2010 response to the suite of 2009 reclassifications. In March 2015, EPA disapproved the 2009 reclassification of Long Creek in Westbrook to Class C, taking the position that Maine had not performed a Use Attainability Analysis (UAA) pursuant to 40 CFR Part 131.10 demonstrating that Class B aquatic life uses were unattainable. Accordingly, based on the information presented, EPA did not agree with the Department's proposal to reclassify the segment. EPA recommended that Maine either revise the classification back to Class B or perform a UAA. Under the CWA and implementing regulations at 40 CFR Part 131.21, revisions to water quality standards adopted after May 30, 2000 do not become effective for CWA purposes until approved by EPA. Therefore, under EPA's position and for CWA purposes, this segment of Long Creek remains Class B. DEP proposes to revise state regulations to clarify that Long Creek is Class B.

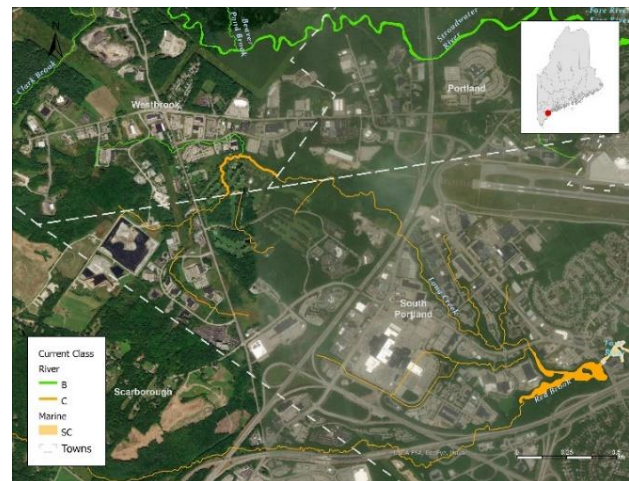
Issues to be considered for this reclassification: The segment of Long Creek in Westbrook has not been attaining Class C or Class B. DEP staff believe that restoration work could allow the segment to attain Class C in the future. By returning the segment to Class B, Department staff believe the probability is high that the segment will remain listed as impaired despite restoration efforts that have taken place as part of implementing the Long Creek Watershed Management Plan. Thus, returning the segment to Class B increases the likelihood that a Use Attainability Analysis will be needed in the future.

Recommend revising Section 468.1.J. as follows:

1. Cumberland County. Those waters draining directly or indirectly into tidal waters of Cumberland County, with the exception of the Androscoggin River Basin, the Presumpscot River Basin, the Royal River Basin and tributaries of the Androscoggin River Estuary and Merrymeeting Bay entering above the Chops (Woolwich and Bath, Sagadahoc County) - Class B unless otherwise specified.

J. Westbrook.

(1) Long Creek, main stem - Class C.



Minor Drainages - Hancock County

Tributaries to Donnell Pond, T9 SD BPP, T10 SD BPP, Franklin and Sullivan. Propose Class B to Class A (25 miles approx.).

Proposed by: The Nature Conservancy (TNC).

Basis for proposal: Donnell Pond is a water of high ecological and recreational value largely surrounded by the State's Donnell Pond Public Reserved Land, an important conservation area in eastern Maine. Tributary waters draining to Donnell Pond, the majority of which are within the public lands, were inadvertently left in Class B when waters in the eastern side of the Reserved Land draining to Tunk Lake and Tunk Stream were upgraded to Class A in 2019. We recommend that waters within the Reserved Land be consistently managed as Class A to protect their natural qualities and the quality of Donnell Pond. This proposal would make management of all waters within the Donnell Pond Public Reserved Land consistent and recognize their high values.

Issues to be considered for this reclassification: None. No discharges exist in the watershed but some forestry activities may be occurring. Such forestry activities are not expected to be affected because under Maine's Forest Practices Act, forestry activities are generally subject to the same regulatory requirements regardless of water classification. Tributaries are expected to attain Class A standards.

Recommend revising Section 468.2. as follows:

2. Hancock County. Those waters draining directly or indirectly into tidal waters of Hancock County, with the exception of the Union River Basin - Class B unless otherwise specified.

O. Sullivan.

(2) Tributaries to Donnell Pond - Class A.

P. Township 10 Southern Division.

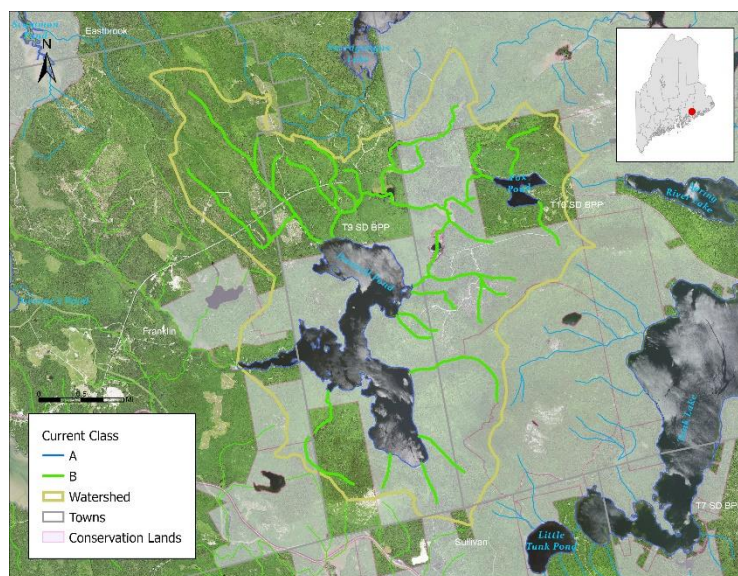
(2) Tributaries to Donnell Pond - Class A.

Q. Township 9 Southern Division.

(1) Tributaries to Donnell Pond - Class A.

R. Franklin.

(1) Tributaries to Donnell Pond - Class A.



UPGRADE PROPOSALS THAT ARE NOT BEING RECOMMENDED AT THIS TIME

Androscoggin River Basin

Androscoggin River from Gulf Island Pond Dam to the Mouth of the River in Merrymeeting Bay, Lewiston, Auburn, Lisbon, Durham, Topsham and Brunswick. Propose Class C to Class B (approx. 34 miles).

Proposal submitted by: Proposed by Friends of Merrymeeting Bay (FOMB) and Grow L/A (Lewiston/Auburn).

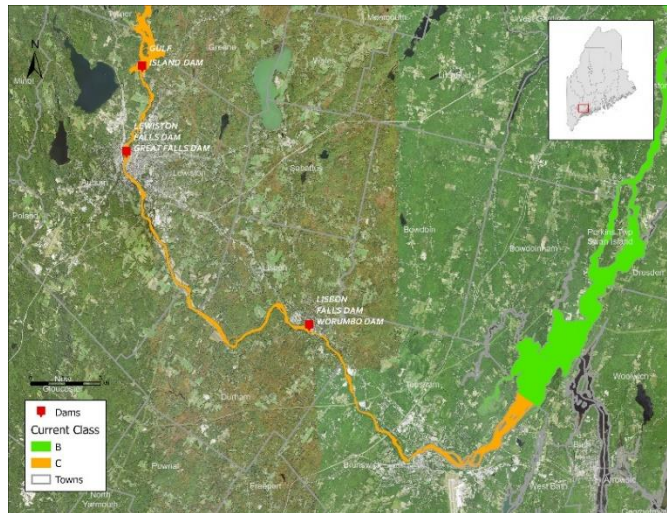
Basis for proposal: According to the data reports submitted with this proposal, water quality on this section of the Androscoggin River meets Class B standards and has largely done so since 2006. The submitters stress the benefits an upgrade would bring to both recreational users of the river and the local economy, as well as wildlife utilizing the river and downstream Merrymeeting Bay. They also note that an upgrade would lock in water quality improvements that have occurred over many years. They maintain that the river segment in question must be upgraded under the antidegradation provisions of Maine statute and the federal Clean Water Act because it attains Class B water quality standards. Multiple communities, organizations and legislators support the upgrade.

Note: a legislative proposal (LD 676, An Act to Reclassify Part of the Androscoggin River to Class B) identical to the proposal submitted for consideration under the TR was submitted to the 130th Maine Legislature. The Environment and Natural Resources Committee voted to carry this LD over to the next legislative session. Relevant materials, including the [Department's testimony](#)¹⁴ in opposition to the bill can be found here:

<http://legislature.maine.gov/LawMakerWeb/summary.asp?ID=280079141>.

Issues to be considered for reclassification:

The proposal was accompanied by Androscoggin River data reports for 2009-2018. These reports are based on FOMB data and were compiled by DEP's Volunteer River Monitoring Program (VRMP) for FOMB. They document that Class B criteria for dissolved oxygen (DO) and bacteria are usually, but not always, attained in the segment in question; this fact is acknowledged in the upgrade proposal¹⁵. Other data reports spanning additional years are not informative as data were pooled across sites, thus precluding analysis of water quality standards attainment at each monitoring location.



¹⁴ Also included as Appendix C in this document.

¹⁵ Item 5. states, "Many years of monitoring data for DO and E. coli show a steady overall compliance with Class B standards..."

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VRMP reports also document that a number of sources of pollution and stressors exist in the watershed, such as various point-source discharges, non-point source (NPS) pollution, impoundments, and natural wetlands. The watershed also contains densely populated areas. These stressors exist not only within the segment itself but also upstream of the segment. The upgrade proposal acknowledged all of these stressors, and more¹⁶. Looking at the River more comprehensively, it is entirely Class C from the confluence with the Ellis River (at Rumford Point) to Merrymeeting Bay (at Bath) (~100 miles), has a total of 14 dams, multiple discharges, urban centers (including Lewiston, Auburn, Brunswick and Topsham) and a significant amount of agriculture. The upper section also has an in-river oxygen injection system approximately 2.5 miles above Gulf Island Pond (GIP) dam. The oxygen injection is managed through the Gulf Island Pond Oxygenation Partnership (GIPOP) and is required to meet the Class C DO criterion of 5 ppm, as specified in the Gulf Island Dam water quality certification and the discharge licenses for the paper mills in Gorham, NH, Rumford and Jay. The necessity of oxygen injection to attain water quality standards is extremely rare and is only used in a few other locations nationally, which indicates the unique challenges of creating a boundary condition of 7 mg/L DO at the Gulf Island Dam for the lower section of the river that is proposed for upgrade.

In 2010, Department staff collected a range of data on the segment in question; results from both in-stream sampling and modeling efforts were summarized in the 2011 'Lower Androscoggin River Basin Water Quality Study Modeling Report'. In-stream data for DO showed that Class B criteria were not always attained, confirming findings from VRMP data. Aquatic life criteria were also not always attained. Water quality models indicated that Class B DO criteria would not be attained in much of the segment in question during critical water quality conditions, including low flow, high water temperature and licensed loading from point source discharges. Non-attainment of Class B DO criteria was even predicted at a DO condition as high as 7.69 mg/L at the upper boundary (i.e. below GIP Dam). In 2018 and 2019, Department staff collected additional data, which met or exceeded Class B criteria, but the 2019 DO data were not collected during critical conditions. While reports submitted by FOMB and FOMB data for the last five years (i.e. 2016-2020; morning samples taken every four weeks, or approximately 3.6% of the days during the sample period) show frequent attainment of Class B DO criteria, the data does not show Class B DO attainment during critical water quality conditions of critical low flows or critical high temperatures or currently licensed loads (with the exception of data for September and October 2020 when river flow dropped below critical flow, but temperature was 22°C, well below critical levels). In addition, included in the data set is data that show Class B non-attainment at water quality conditions that are not critical low flows or critical high temperatures and that are not at currently licensed loads. This data, in combination with prior Department modeling and the Department's understanding of the extremely limited assimilative capacity beyond 7.0 mg/L DO at critical temperature, indicates that this particular waterbody is not a good candidate for reclassification to Class B.

Maine's antidegradation policy (38 M.R.S. Section 464.4.F.4) provides, "When the actual quality of any classified water exceeds the minimum standards of the next highest classification, that higher water quality must be maintained and protected. The board shall recommend to the Legislature that that water be reclassified in the next higher classification." The Department's long-standing interpretation of this statute is that it must be read in the full context of water quality laws, including those pertaining to waste discharge licensing. Under this interpretation, which is reflected in DEP's Antidegradation Program Guidance ([Appendix B](#)), attainment or exceedance of a water quality criterion, such as for DO, must occur under critical water quality conditions to trigger the reclassification requirement pursuant to 38 M.R.S. Section 464.4.F.4. (And, as

¹⁶ In item 6.

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explained in the preceding paragraph, modeling indicates that Class B DO criteria would not be attained in much of the segment in question during critical water quality conditions; FOMB in-stream data confirm a certain degree of Class B non-attainment.) The Department's interpretation of the antidegradation policy does not consider a wastewater discharge to be an existing use, but it does recognize the legal conditions created when a waste discharge license is issued. Licenses are issued based, in part, on a determination by the Department that a discharge will not lower the water quality of the receiving water below its classification. That determination is in part based on another statutory provision (38 M.R.S. Section 464.4.D) that specifies critical flow conditions. Therefore, the Department's position is that monitoring data showing that Class B criteria are largely (but not always, see preceding paragraph) attained in the lower Androscoggin River during non-critical flow conditions does not trigger the requirements of 38 M.R.S. Section 464.4.F.4. The Department's position regarding the issuance of waste discharge licenses was confirmed in consultation with EPA in June 2021, where EPA stated that discharge licenses must be written to ensure that applicable water quality standards are attained 100% of the time during critical conditions.

In taking its position regarding this proposal, the Department also considered the feasibility of creating conditions under which Class B criteria could be attained by setting more stringent discharge limits in existing waste discharge licenses. Maine statute (38 M.R.S. Section 464.4.A.8) stipulates that a license may not be issued if compliance with applicable water quality requirements is not ensured. In addition, Maine statute (38 M.R.S. 464.4.F.3.) stipulates that a license for a discharge to a waterbody in which classification standards are not met may only be issued if the project does not cause or contribute to the failure of the waterbody to meet standards. As described above, standards are currently not met at all times and in all locations of this segment of the river. Because flow from the Gulf Island Pond (GIP) impoundment immediately upstream of the segment proposed for upgrade accounts for 97% of the flow in the segment proposed for upgrade, Class C DO conditions of 5 ppm in GIP would prevent attainment of Class B DO conditions of 7 ppm downstream. Studies conducted by the Department in 2005 and 2010 indicated that 13 miles of the Gulf Island Pond (GIP) impoundment immediately upstream of the segment proposed for upgrade would not meet Class B criteria during critical conditions even in the absence of any point sources and without the presence of an in river oxygenation system.

It has been the Department's longstanding position that upgrades to classification may be appropriate where it is socially or ecologically desirable to attain higher standards and where the technological and financial capacity exists to achieve those higher standards within a reasonable time. The Department has derived, via existing computer models, potential reductions in discharge limits for certain entities in the river above Gulf Island Pond and in the river in the segment proposed for upgrade that would be required in order to license these discharges to meet Class B criteria. However, these potential reductions are very significant and it is unclear that these limit reductions are technologically or financially feasible.

Given statutory requirements and the findings of existing Department studies and models, the Department does not foresee the ability to ensure attainment of Class B standards under critical conditions. The segment of river should therefore not be reclassified pursuant to 38 M.R.S. Section 464.4.F.4.

For more detailed information on the factors presented above, please see a [Department letter](#) dated October 25, 2019 to Senators Libby and Claxton as well as [Department testimony](#) submitted in opposition to [LD 676](#) on May 3, 2021 ([Appendix C](#)). In light of the information presented above, the Department does not support the current upgrade proposal.

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In 2021, DEP's biological monitoring program collected macroinvertebrate data at two locations in the segment proposed for upgrade. These data will complement data collected in 2018 at one other location within that segment.

December 16, 2021 updates: Results from the 2021 DEP macroinvertebrate sampling are not yet available.

Presumpscot River Basin

Presumpscot River from Saccarappa Falls to Head of Tide at Presumpscot Falls, Westbrook, Portland and Falmouth.

Propose Class C to Class B (approx. 8 miles).

Proposal submitted by: Friends of the Presumpscot River (FOPR).

November 2021 update: During the August 18 through October 25, 2021 public comment phase, FOPR proposed an amendment to the original proposal of an upgrade to Class B. The amendment consisted of adding a new sentence (underlined) to existing statutory language in 38 M.R.S. Section 9.A.4:

A. Presumpscot River, main stem

(4) From Sacarappa¹⁷ Falls to tidewater - Class C. Further, there may be no new direct discharges to this segment after January 1, 2023.

Basis for proposal: According to FOPR, water quality in this section of the Presumpscot River has improved greatly over time due to a reduction in discharges of pollutants to the river and the removal of the Smelt Hill Dam in 2002 and the Saccarappa Dam in 2019. Water quality data collected under DEP's Volunteer River Monitoring Program (VRMP) between 2009 and 2019 in the segment proposed for upgrade show that dissolved oxygen and bacteria levels meet Class B standards almost all the time. FOPR notes that it is critical to protect the current water quality through a classification upgrade. The habitat in this section of the river is very close to being natural again. All tributaries below Sebago Lake and the Presumpscot River mainstem above Saccarappa Falls are all Class B. An upgrade of the lower freshwater segment of the river would benefit the estuary, Casco Bay, and the Gulf of Maine. Two non-profit organizations submitted strong letters of support for this proposal, and two others encouraged the Department to work towards an upgrade.

Issues to be considered for this reclassification: The analysis of 2009-2019 VRMP water quality data submitted by FOPR show that on occasion early morning dissolved oxygen levels as well as mean and single-sample bacteria concentrations do not meet Class B criteria. Annual reports compiled by the VRMP also document that a number of sources of pollution and other stressors exist in the watershed that may have an impact on water quality, such as non-point source (NPS) pollution, dams and impoundments (mostly upstream of the segment proposed for upgrade), wetlands and some point-source discharges including Combined Sewer Overflows (CSOs). The watershed has densely populated areas, which are known to affect water quality.

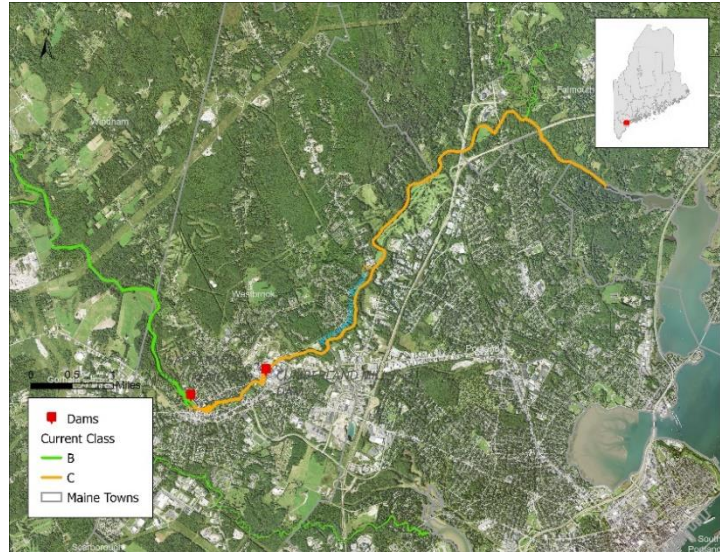
Two licensed facilities discharge effluent to the lower Presumpscot River. An upgrade to Class B may require these facilities to undertake operational modifications to meet stricter discharge limits associated with a higher water quality class.

In 1995, the Department developed a water quality model for the Presumpscot River, from Little Falls dam to the estuary at Martin Point Bridge. Instream monitoring data and the model output indicated that the lower reaches of the Presumpscot River from Cumberland Mills dam to the estuary were not in attainment of Class C water quality criteria. Due to a combination of factors, water quality improved significantly in the early 2000s, and in 2011 the Department recalibrated the existing model with new instream monitoring data collected in 2008 and 2010 and an adjusted

¹⁷ Unusual spelling of Saccarappa in statute. The alternative, and more common spelling, of 'Saccarappa' is proposed to be added to statute, see 'Provide Alternative Spelling in River Segment Location Description', page 81 below.

extent from Cumberland Mills dam to Presumpscot Falls. The model predicted that Class C dissolved oxygen criteria would be met in the lower river.

A 2006-2007 study by Chris Yoder, Midwest Research Institute, and a 2007-2009 study by DEP's Surface Water Ambient Toxic (SWAT) monitoring program of fish communities in the river below Cumberland Mills both noted lower habitat quality and reduced fish populations in the segment in question.



DEP recommendation: The Department does not have enough information at this point to fully evaluate whether the lower Presumpscot River could meet Class B criteria at all times during critical conditions of high water temperature, low flow, and maximum licensed discharge levels. These critical conditions are what the Department considers when reissuing waste discharge licenses. No current continuous dissolved oxygen data or in-stream nutrient data are available for low flow, high water temperature conditions. The department will need to collect and evaluate data taken during these conditions before making a determination on a classification upgrade. For this reason, the Department is unable to support the upgrade proposal at this time.

The Department commits to collecting new data as deemed necessary and as possible¹⁸, and began this effort in the summer of 2020 and will continue it in 2021. 2021 sampling includes the collection of biological monitoring data at two locations in the segment proposed for upgrade and at one reference site upstream, as well as the collection of continuous water quality data at one location in the lower river. Data from 2021 will allow an initial assessment of the effect of Sappi North America in Westbrook shutting down a paper machine, and thus reducing their discharge, by the end of 2020. The new data will be used to update the existing model. The new model output, which is expected to be available in 2021/2022, together with other relevant new data (for example from the VRMP) will allow the Department to evaluate the proposed upgrade to inform an upgrade decision to be made at the next opportunity for re-classification. This opportunity may arise during the next Triennial Review, during an independent Reclassification Initiative, or in response to a legislative proposal.

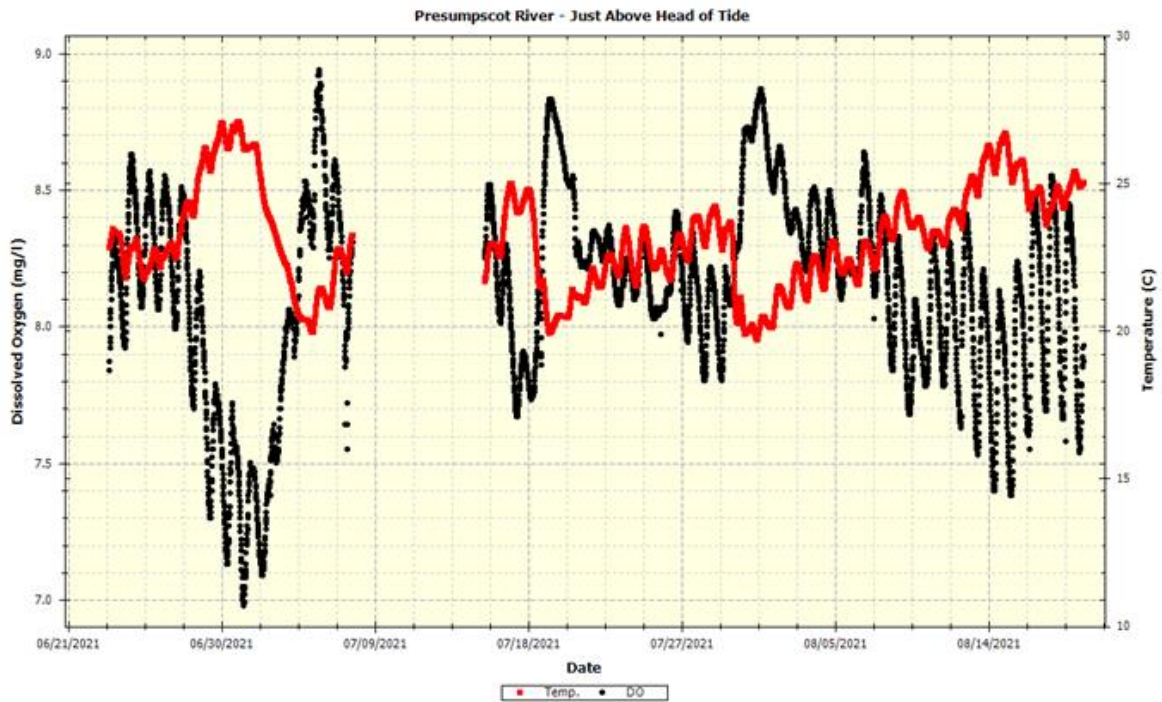
December 2, 2021 updates:

- 1) *Proposed amendment: New discharges (as well as increased discharges) to any waterbody are subject to antidegradation requirements in accordance with 38 M.R.S. Section 464.4.F.5. and the Department's interpretation of those requirements as outlined in the Department's Waste Discharge Program Guidance (see [Appendix B](#)). The explicit prohibition on any new discharges, above and beyond antidegradation requirements, would be an important and seldom-used policy decision of the Legislature and likely be of interest to the communities in this area of the river. The Department does not recommend this amendment at this time to allow for consideration of the implications of this change.*

¹⁸ Data collection must occur under low flow conditions, which are weather-dependent. Rainy conditions may impede DEP's ability to collect data and update the existing model within the timeline noted above.

- 2) *DEP data: Results from the 2021 biological monitoring events are not yet available. DEP staff deployed a continuous data collection instrument ('sonde') just above the falls/rapids very near head of tide where the most critical river conditions are expected to occur. The sonde was in place between 6/23/21 and 8/19/21 and thus captured summer 2021 conditions. As can be seen in the graph below¹⁹, the majority of data is above the 7.0 mg/L Class B Standard for dissolved oxygen (DO). The DO sag below 7.0 mg/L in early July is fairly typical of most years.*

The Department notes that point source loadings to the river were at historic lows during the summer of 2021 primarily due to limited operations at the Sappi North America mill. Thus point source loadings were not a significant driver of the ambient conditions represented in the graph. The Department also notes that river flows were higher than during critical conditions (based on personal observation during sonde deployment and retrieval) due to frequent rains, and water temperatures moderate as evidenced in the graph below. Therefore, the conditions under which these data were collected do not represent the critical conditions of high water temperature, low flow, and maximum licensed discharge levels the Department considers when reissuing waste discharge licenses. Most summers would be expected to have more extended and more pronounced warmer periods, which the Department expects would produce more DO excursions below 7.0 mg/L. Yet even during the summer of 2021, the data highlights the unavoidable summertime conditions which provide no assimilative capacity. No amount of point source controls can overcome this situation. Assimilative capacity is necessary to leverage potential modeling solutions. The dataset collected in the summer of 2021 thus suggests that the lower Presumpscot River is currently not a good candidate for an upgrade.



¹⁹ The gap in the data reflects a period where the sonde was not deployed due to concerns about potential flood flows.

STATUTORY ERROR CORRECTIONS

38 M.R.S. SECTION 467 and 468

Androscoggin River Basin

**Correct Erroneous Statutory Section and Clarify Waterbody Name.
Cushman Stream and Meadow Brook, Woodstock.**

Proposed by: Department of Environmental Protection.

Basis for proposal: Cushman Stream and Meadow Brook were both upgraded from Class B to Class A in 2003. At that time, both streams were incorrectly placed into the statutory section classifying tributaries to the Little Androscoggin River, 38 M.R.S. 467.1.B.2., subsections (d) and (e), respectively. Based on hydrologic information from the United States Geologic Survey (USGS), it has been determined that both waterbodies flow directly into the Androscoggin River, not the Little Androscoggin River (which itself flows into the Androscoggin River). The Department proposes to correct the erroneous statutory placement of both streams by transferring both items without changes to 38 M.R.S. Section 467.1.D., minor tributaries to the Androscoggin River.

In addition, it has been determined that Cushman Stream is a locally used name that is not recognized by the Geographic Names Information System (GNIS), which standardizes geographic names. Cushman Stream is an unnamed stream that flows along Cushman Hill Road. The Department proposes to add clarifying language to better identify the waterbody in question.

Issues to be considered for this reclassification: None. No change in classification is made, this is merely a correction of an erroneous statutory placement and clarification of a stream name.

Recommend revising Section 467.1.B.2 as follows:

B. Little Androscoggin River Drainage.

(2) Little Androscoggin River, tributaries - Class B unless otherwise specified.

(d) ~~Cushman Stream in Woodstock - Class A.~~

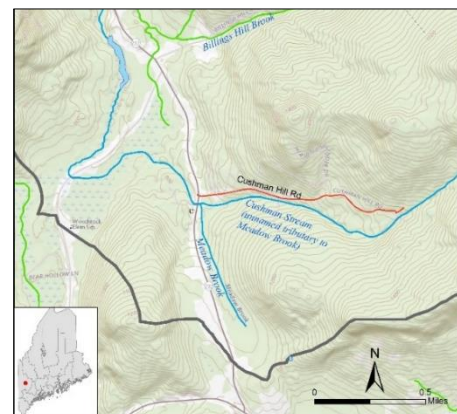
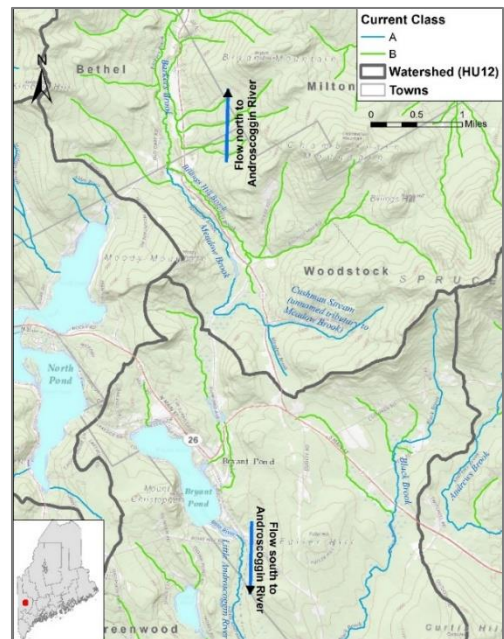
(e) ~~Meadow Brook in Woodstock - Class A.~~

Recommend revising Section 467.1.D. as follows:

D. Androscoggin River, minor tributaries - Class B unless otherwise specified.

(10) Cushman Stream (unnamed tributary to Meadow Brook at Cushman Hill Road) in Woodstock - Class A.

(11) Meadow Brook in Woodstock - Class A.



Presumpscot River Basin

Provide Alternative Spelling in River Segment Location Description.

Sacarappa Falls, Westbrook.

Proposed by: Department of Environmental Protection.

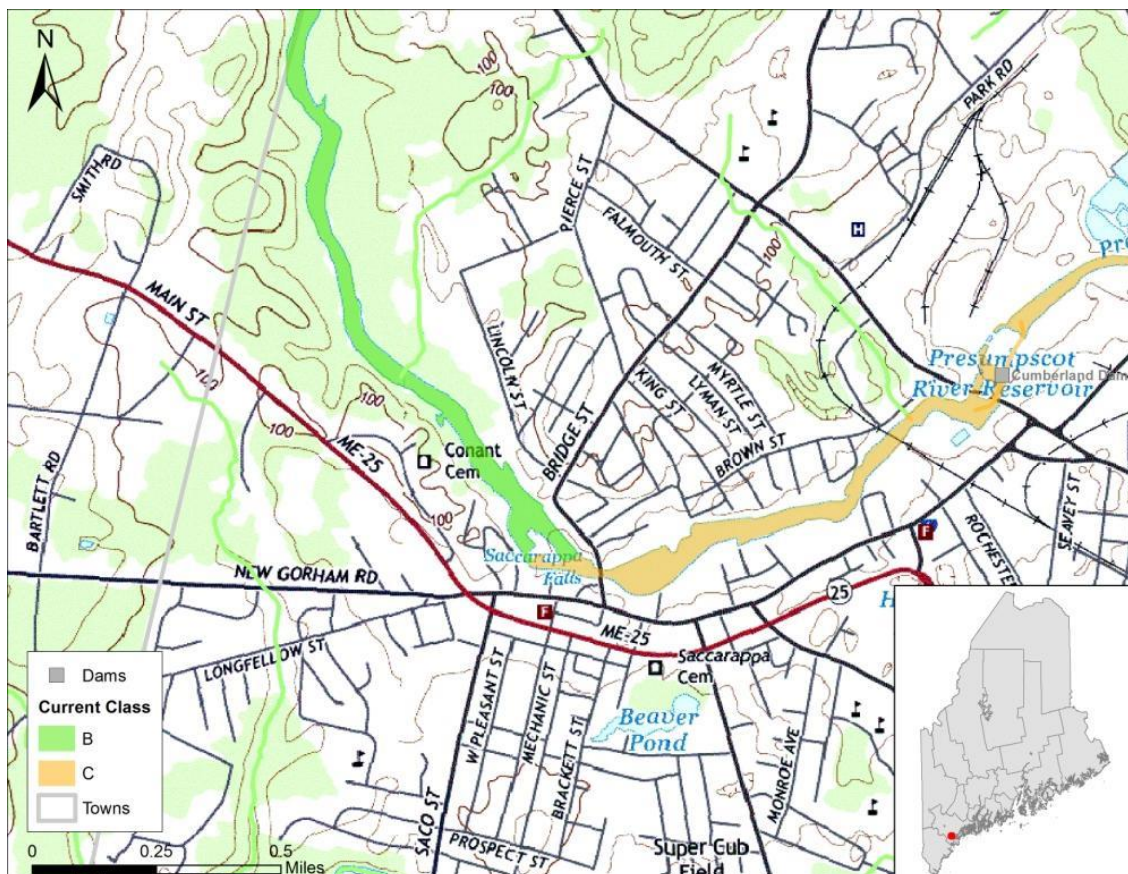
Basis for proposal: Maine's classification statute for major river drainages 38 M.R.S. Section 467 contains an unusual spelling in subsections 9.A.3. and 4. for Sacarappa Falls. More typically, the name is spelled with two 'c', i.e. 'Saccarappa'. The Department proposes to clarify the location by inserted an alternative spelling of the name.

Issues to be considered for this reclassification: None.

Recommend revising Sections 467.9.A.3. and 4. as follows:

A. Presumpscot River, main stem.

- (3) From U.S. Route 202 to Saccarappa (also known as Sacarappa) Falls - Class B.
- (4) From Saccarappa (also known as Sacarappa) Falls to tidewater - Class C.



Minor Drainages - Cumberland County

Correct Spelling Mistake in Waterbody Name.

Finnerd Brook, Scarborough.

Proposed by: Department of Environmental Protection.

Basis for proposal: Maine's classification statute for minor drainages 38 M.R.S. Section 468 contains a spelling mistake in subsection 1.C.2. for Finnerd Brook. It has been determined that the statutory spelling of Finnard Brook is in error and that the correct name as recognized by the Geographic Names Information System (GNIS), which standardizes geographic names, is Finnerd Brook.

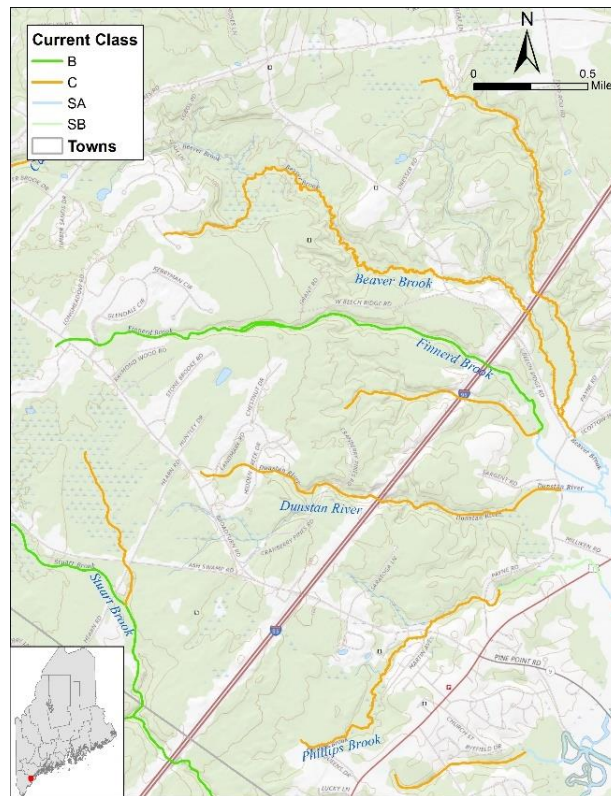
Issues to be considered for this reclassification: None, this is merely a correction of a spelling error.

Recommend revising Section 468.1.C as follows:

1. Cumberland County. Those waters draining directly or indirectly into tidal waters of Cumberland County, with the exception of the Androscoggin River Basin, the Presumpscot River Basin, the Royal River Basin and tributaries of the Androscoggin River Estuary and Merrymeeting Bay entering above the Chops (Woolwich and Bath, Sagadahoc County) - Class B unless otherwise specified.

C. Scarborough

(2) Finnerd~~Finnard~~ Brook - Class B.



APPENDIX A

Designated Uses and Criteria for Maine River and Stream Classifications

Note: See [38 M.R.S. Article 4-A Section 464](#) Classification of Maine waters and [38 M.R.S. Article 4-A Section 465](#) Standards for classification of fresh surface waters for complete text. Federal water quality standards for Maine can be found at [40 CFR Section 131.43](#).

Class	Designated Uses*	Dissolved Oxygen Numeric Criteria	Bacteria (<i>E. coli</i>) Numeric Criteria	Habitat Narrative Criteria	Aquatic Life (Biological) Narrative Criteria**
Class AA	Habitat for fish and other aquatic life Drinking water after disinfection Fishing* Agriculture Recreation in/on the water Navigation	As naturally occurs	As naturally occurs but may not exceed geometric mean of 64 CFU/100 ml over 90-day interval or 236 CFU/100 ml in more than 10% of samples in any 90-day interval	Free flowing and natural	No direct discharge of pollutants***; as naturally occurs**
Class A	Habitat for fish and other aquatic life Drinking water after disinfection Fishing* Agriculture Recreation in/on the water Navigation Hydropower unless prohibited by 12 M.R.S. Section 403 Industrial process/cooling water	7 ppm or 75% saturation From 10/1 to 5/14, 7-day mean concentration not less than 9.5 ppm and 1-day minimum concentration not less than 8.0 ppm in identified fish spawning areas	As naturally occurs but may not exceed geometric mean of 64 CFU/100 ml over 90-day interval or 236 CFU/100 ml in more than 10% of samples in any 90-day interval	Natural	As naturally occurs**
Class B	Habitat for fish and other aquatic life Drinking water after treatment Fishing* Agriculture Recreation in/on the water Navigation Hydropower unless prohibited by 12 M.R.S. Section 403 Industrial process/cooling water	7 ppm or 75% saturation From 10/1 to 5/14, 7-day mean concentration not less than 9.5 ppm and 1-day minimum concentration not less than 8.0 ppm in identified fish spawning areas	May not exceed geometric mean of 64 CFU/100 ml over 90-day interval or 236 CFU/100 ml in more than 10% of samples in any 90-day interval from 4/15 to 10/31	Unimpaired	Discharges may not cause adverse impact to aquatic life in that the receiving waters must be of sufficient quality to support all indigenous aquatic species without detrimental changes to the resident biological community.**
Class C	Habitat for fish and other aquatic Life Drinking water after treatment Fishing* Agriculture Recreation in/on the water Navigation Hydropower unless prohibited by 12 M.R.S. Section 403 Industrial process/cooling water	5 ppm or 60% saturation but must maintain WQ sufficient for spawning in identified fish spawning areas 6.5 ppm (monthly average) at 22° and 24°C	May not exceed geometric mean of 100 CFU/100 ml over 90-day interval or 236 CFU/100 ml in more than 10% of samples in any 90-day interval from 4/15 to 10/31	Habitat for fish and other aquatic life	Discharges may cause some changes to aquatic life, but the receiving waters must be of sufficient quality to support all species of indigenous fish and maintain the structure and function of the resident biological community.**

* [38 M.R.S. Article 4-A Sections 466.10-A](#) and [466-A](#) establish a sustenance fishing use as a subcategory of the applicable Fishing designated use. The sustenance fishing subcategory is applicable to certain waters as specified in [38 M.R.S. Article 4-A Sections 467](#) and [468](#).

** Numeric biocriteria in Maine rule [Chapter 579](#), Classification Attainment Evaluation Using Biological Criteria for Rivers and Streams.

*** Limited exceptions apply.

Designated Uses and Criteria for Maine Lake and Pond Classification

Note: See [38 M.R.S. Article 4-A Section 464](#) Classification of Maine waters and [38 M.R.S. Article 4-A Section 465-A](#) Standards for classification of lakes and ponds for complete text.

Class	Designated Uses*	Bacteria (<i>E. coli</i>) Numeric Criteria	Habitat Narrative Criteria	Aquatic Life (Biological) Narrative Criteria
Class GPA	Habitat for fish and other aquatic life Drinking water after disinfection Fishing* Agriculture Recreation in/on the water Navigation Hydropower Industrial process/cooling water	May not exceed geometric mean of 29 CFU/100 ml over 90-day interval or 194 CFU/100 ml in more than 10% of samples in any 90-day interval	Natural	No direct discharge of pollutants**; as naturally occurs Stable or improving trophic state Free from culturally induced algal blooms Shoreline and watershed activities must not cause trophic degradation

* [38 M.R.S. Article 4-A Sections 466.10-A](#) and [466-A](#) establish a sustenance fishing use as a subcategory of the applicable Fishing designated use. The sustenance fishing subcategory is applicable to certain waters as specified in [38 M.R.S. Article 4-A Sections 465-A](#) and [467](#).

** Limited exceptions apply.

Designated Uses and Criteria for Maine Estuarine and Marine Classifications

Note: See [38 MRS Article 4-A Section 465-B](#) Standards for classification of estuarine and marine waters for complete text. Federal water quality standards for Maine can be found at [40 CFR Section 131.43](#).

Class	Designated Uses*	Dissolved Oxygen Numeric Criteria	Bacteria Numeric Criteria	Habitat Narrative Criteria	Estuarine and Marine Life Narrative Criteria
Class SA	Habitat for fish and other estuarine and marine life Recreation in/on the water Fishing* Aquaculture Shellfish propagation and harvesting Navigation	As naturally occurs	As naturally occurs but <i>Enterococcus</i> may not exceed geometric mean of 8 CFU/100 ml in any 90-day interval or 54 CFU/100 ml in more than 10% of samples in any 90-day interval.	Free flowing and natural	As naturally occurs; no direct discharge of pollutants**
Class SB	Habitat for fish and other estuarine and marine life Recreation in/on the water Fishing* Aquaculture Shellfish propagation and harvesting Navigation Industrial process/cooling water Hydropower	Not less than 85% of saturation	<i>Enterococcus</i> may not exceed geometric mean of 8 CFU/100 ml in any 90-day interval or 54 CFU/100 ml in more than 10% of samples in any 90-day interval from 4/15 to 10/31. Not to exceed criteria of National Shellfish Sanitation Program for shellfish harvesting.	Unimpaired	Discharges may not cause adverse impact to estuarine and marine life in that the receiving waters must be of sufficient quality to support all indigenous estuarine and marine species without detrimental changes in the resident biological community. Discharge not to cause closure of shellfish areas.
Class SC	Habitat for fish and other estuarine and marine life Recreation in/on the water Fishing* Aquaculture Shellfish propagation and restricted harvesting Navigation Industrial process/cooling water Hydropower	Not less than 70% of saturation	<i>Enterococcus</i> may not exceed geometric mean of 14 CFU/100 ml in any 90-day interval or 94 CFU/100 ml in more than 10% of samples in any 90-day interval from 4/15 to 10/31. Not to exceed criteria of National Shellfish Sanitation Program for restricted shellfish harvesting.	Habitat for fish and other estuarine and marine life	Discharges may cause some changes to estuarine and marine life but the receiving waters must be of sufficient quality to support all species of indigenous fish and maintain the structure and function of the resident biological community.

* [38 M.R.S. Article 4-A Sections 466.10-A](#) and [466-A](#) establish a sustenance fishing use as a subcategory of the applicable Fishing designated use. The sustenance fishing subcategory is applicable to certain waters as specified in [38 M.R.S. Article 4-A Section 469](#).

** Limited exceptions apply.

FINAL

APPENDIX B

Waste Discharge Program Guidance

Waste Discharge Program Guidance

TO: Water Licensing & Compliance Staff

FR: Brian Kavanah, DWRR Director

DA: 06/13/2001 **FINAL**

RE: **Antidegradation**

The purpose of this memo is to provide guidance in implementing the provisions of the State's antidegradation policy with respect to the licensing of point source discharges of waste water (either an existing discharge or a new or expanded discharge). This memo has been prepared in consultation with EPA, the DEP Division of Environmental Assessment, and the Maine Attorney General's Office.

This program guidance supercedes all previous memos and draft rulemaking proposals dealing with this topic.

Meeting the requirements of antidegradation is usually easy, because most licensing actions involve receiving waters that meet their assigned classification standards and that do not meet any higher standards. It is only infrequently—where a new or expanded discharge will lower water quality or where a receiving water meets the standards of a higher classification—that determining compliance with antidegradation becomes more involved.

WATER CLASSIFICATION PROGRAM

The objectives of Maine's water classification program, of which the State's antidegradation policy is a part, are set forth in State law at 38 MRSA § 464(1) as follows:

The Legislature declares that it is the State's objective to restore and maintain the chemical, physical and biological integrity of the State's waters and to preserve certain pristine state waters. The Legislature further declares that in order to achieve this objective the State's goals are:

- A. That the discharge of pollutants into the waters of the State be eliminated where appropriate;
- B. That no pollutants be discharged into any waters of the State without first being given the degree of treatment necessary to allow those waters to attain their classification; and
- C. That water quality be sufficient to provide for the protection and propagation of fish, shellfish and wildlife and provide for recreation in and on the water.

ANTIDegradation Policy

The State's antidegradation policy is set forth in State law at 38 MRSA § 464(4)(F). In summary, the provisions of the antidegradation policy are as follows:

- (1) Existing in-stream uses and the level of water quality necessary to protect those existing uses must be maintained and protected. [NOTE: 38 MRSA § 464(4)(F)(1) provides that existing uses are those uses which have actually occurred in or on a water body on or after November 28, 1975, whether or not the uses are included in the standards of the assigned classification.]
- (2) The existing water quality of outstanding national resource waters must be maintained and protected. [NOTE: 38 MRSA § 464(4)(F)(2) designates the following as outstanding national resource waters in Maine: waters in national and state parks and wildlife refuges; waters in public reserved lands; and waters classified as Class AA or Class SA.]
- (3) The DEP may only issue a discharge license or approve water quality certification if the standards of classification of the water body and all provisions of the antidegradation policy are met. [NOTE: 38 MRSA § 464(4)(F)(3) provides that a license may be issued where the discharge does not cause or contribute to the failure of the water body to meet standards.]
- (4) When the actual quality of any classified water exceeds the minimum standards of the next highest classification, that higher water quality must be maintained and protected. [NOTE: 38 MRSA § 464(4)(F)(4) provides that, when this provision is met, the Board of Environmental Protection shall recommend to the Legislature that the water body be reclassified.]

- (5) The DEP may only issue a discharge license or approve water quality certification which would result in lowering the existing quality of any water body after making the finding, following opportunity for public participation, that the action is necessary to achieve important economic or social benefits to the State. [NOTE: 38 MRSA § 464(4)(F)(5) provides that, in approving any lowering of existing water quality, the DEP must still find that the standards of classification of the water body and all other provisions of the antidegradation policy are met.]

The State's antidegradation policy has been duly and fully approved by EPA (letters dated July 16, 1986; May 21, 1987; and December 20, 1990) as being in conformance with the requirements of the Clean Water Act and EPA's Water Quality Standards regulation (40 CFR Section 131.12).

ANTIDEGRADATION PROCEDURES AND CONSIDERATIONS

When issuing any discharge license, the DEP will include appropriate findings and conclusions regarding antidegradation. In cases involving a new or increased discharge, the DEP will include specific findings and determinations with respect to whether the discharge will result in a significant lowering of existing water quality and whether the lowering of water quality is necessary to achieve important economic or social benefits to the State.

EPA has provided guidance on the interpretation and implementation of state antidegradation policy. This guidance includes *Chapter 4 (Antidegradation) of EPA's Water Quality Standards Handbook (Second Edition, August 1994)*; "Questions and Answers on: Antidegradation" (August 1985), which has been published as Appendix G of EPA's Water Quality Standards Handbook; and "Region 1 Guidance for Antidegradation Policy Implementation for High Quality Waters" (March 10, 1987).

Drawing from the statutory language and EPA's guidance documents, the Department will base its implementation of the State's antidegradation policy in waste discharge licensing actions on the following considerations:

1. **DETERMINATION OF EXISTING USES.** In accordance with the provisions of 38 MRSA § 464(4)(F)(1), existing in-stream uses are those uses which have actually occurred on or after November 28, 1975, in or on a water body whether or not the uses are included in the standards of classification of the particular water body. The determination of what constitutes an existing in-stream water use on a particular water body will be made by the DEP on a case-by-case basis. In making its determination of uses to be protected and maintained, the DEP shall consider designated uses for the water body and the following:

- (a) Aquatic, estuarine and marine life present in the water body;
- (b) Wildlife that utilize the water body;
- (c) Habitat, including significant wetlands, within a water body supporting existing populations of wildlife or aquatic, estuarine or marine life, or plant life that is maintained by the water body;
- (d) The use of the water body for recreation in and on the water, fishing, water supply, or commercial activity that depends directly on the preservation of an existing level of water quality. Use of the water body to receive or transport waste water discharges is not considered an existing use for purposes of this antidegradation policy; and
- (e) Any other evidence that, for considerations (a), (b) and (c) above, demonstrates their ecological significance because of their role or importance in the functioning of the ecosystem or their rarity (for example, threatened or endangered species) and, for consideration (d) above, demonstrates its historical or social significance.

2. EXISTING USES MAINTAINED AND PROTECTED. The determination of whether existing in-stream water uses and the level of water quality necessary to protect those existing uses is maintained and protected will be made by the DEP on a case-by-case basis. In accordance with the provisions of 38 MRSA § 464(4)(F)(1-A), the DEP may only issue a waste discharge license or approve water quality certification when it finds that:

- (a) The existing in-stream use involves use of the water body by a population of plant life, wildlife, or aquatic, estuarine or marine life, or as aquatic, estuarine, marine, wildlife, or plant habitat, and the applicant has demonstrated that the proposed activity would not have a significant impact on the existing use. "Significant impact" here means impairing the viability of the existing population, including significant impairment to growth and reproduction or an alteration of the habitat which impairs viability of the existing population; or
- (b) The existing in-stream use involves use of the water body for recreation in and on the water, fishing, water supply or commercial enterprises that depend directly on the preservation of an existing level of water quality and the applicant has demonstrated that the proposed activity would not result in significant degradation of the existing use.

In accordance with the provisions of 38 MRSA § 464(4)(F)(1-A), the DEP shall determine what constitutes a population of a particular species based upon the degree of geographic and reproductive isolation from other individuals of the same species.

3. OUTSTANDING NATIONAL RESOURCE WATERS. No license will be issued or renewed for any new, increased or existing point source discharge to outstanding national resource waters, as designated under 38 MRSA § 464(4)(F)(2).
4. STANDARDS OF CLASSIFICATION MET. In order to issue a discharge license, the DEP must find that (a) the standards of the assigned classification of the receiving water are met, or (b) where the standards of the assigned classification are not met, that the discharge does not cause or contribute to the failure of the receiving water to meet standards. The receiving water includes all waters, however distant, for which an effect from a discharge can be measured or modeled.
5. WATER QUALITY EXCEEDS CLASSIFICATION. Where any criterion of water quality (for example, dissolved oxygen, or bacteria, or aquatic life) exceeds the minimum standards of the next highest classification under critical water quality conditions, then that higher water quality criterion must be maintained and protected.

Critical water quality conditions include, but are not limited to, conditions of low flow, high water temperature, maximum loading from point source and non-point source discharges, and conditions of acute and chronic effluent toxicity.

6. EXISTING DISCHARGE. Where a licensing action involves an existing discharge for which no increase is proposed, and where the DEP determines that (1) existing in-stream water uses will be maintained and protected, and (2) the discharge is not to an outstanding national resource water, and (3) the standards of the assigned classification will be met in all receiving waters affected by the discharge or that the discharge will not cause or contribute to the failure of the receiving waters to meet standards, and (4) actual water quality is maintained and protected where any criterion of water quality exceeds the minimum standards of the next highest classification, then the requirements of the State's antidegradation policy will be deemed to be met.

7. NEW OR INCREASED DISCHARGE. Water quality that exceeds the minimum applicable standards will be managed by the DEP for the environmental, economic and social benefit of the State. Where a new or increased discharge is proposed, the DEP will determine whether the discharge will result in a significant lowering of existing water quality. For purposes of antidegradation:

- "New discharge" means a discharge that does not now exist or that is not currently licensed.
- "Increased discharge" means a discharge that would add one or more new pollutants to an existing effluent, increase existing levels of pollutants in an effluent, or cause an effluent to exceed one or more of its current licensed discharge flow or effluent limits, after the application of applicable best practicable treatment technology, as defined at 38 MRSA § 414-A(1)(D), or new source performance standards to the discharge.
- "Existing water quality" means the water quality that would exist under critical water quality conditions. Critical water quality conditions include, but are not limited to, conditions of low flow, high water temperature, maximum loading from point source and non-point source discharges, and conditions of acute and chronic effluent toxicity.

8. DETERMINATION OF SIGNIFICANT LOWERING OF WATER QUALITY. In making a determination as to whether a new or increased discharge will result in a significant lowering of existing water quality, the DEP shall consider the following:

- A. The predicted change in ambient water quality, concentrations of chemical pollutants, or mass loading of pollutants under critical water quality conditions.
- B. The predicted consumption of the remaining assimilative capacity of the receiving water. The remaining assimilative capacity is the increment of existing water quality above the minimum standards of the assigned classification under critical water quality conditions.
- C. The predicted change in the ability of the receiving water to support aquatic life and to meet applicable aquatic life and habitat criteria.

- D. The possible additive or synergistic effects of the discharge in combination with other existing discharges.
- E. The cumulative lowering over time of water quality resulting from the proposed discharge in combination with previously approved discharges.

Based on the above considerations, the DEP will make a case-by-case determination as to whether a new or increased discharge will result in a significant lowering of existing water quality. However, in any case where the new or increased discharge will consume 20% or more of the remaining assimilative capacity for dissolved oxygen or other water quality parameter, the resulting lowering of water quality will be determined to be significant.

- 9. NO SIGNIFICANT LOWERING OF WATER QUALITY. Where the DEP determines that a new or increased discharge will not result in a significant lowering of existing water quality, and where the DEP further determines that (1) existing in-stream water uses will be maintained and protected, and (2) the discharge is not to an outstanding national resource water, and (3) the standards of the assigned classification will be met in all receiving waters affected by the discharge or that the discharge will not cause or contribute to the failure of the receiving waters to meet standards, and (4) actual water quality is maintained and protected where any criterion of water quality exceeds the minimum standards of the next highest classification, then the requirements of the State's antidegradation policy will be deemed to be met.

The posting of public notice, the opportunity to request a public hearing, and the opportunity for public comment on an application or draft license in which a determination is made that a new or increased discharge will not result in a significant lowering of water quality shall be provided in accordance with existing DEP rules (see Chapter 2 "Rules Concerning the Processing of Applications" and Chapter 522 "Application Processing Procedures for Waste Discharge Licenses").

- 10. DETERMINATION OF ECONOMIC OR SOCIAL NECESSITY. Where the DEP determines that a new or increased discharge will result in a significant lowering of existing water quality, the DEP will then determine whether the lowering of water quality is necessary to achieve important economic or social benefits to the State. In making this determination, the DEP shall consider the following:

- A. Whether the lowering of water quality is necessary to accommodate new or increased commercial activity or industrial production while providing that (1) the discharge consistently complies with applicable effluent limitations requiring application of best practicable treatment or new source performance standards and (2) any existing treatment facility is appropriate and is optimally maintained.

- B. Whether the lowering of water quality is necessary to accommodate operation of a new publicly owned treatment works or increased loading to an existing publicly owned treatment works while providing that the discharge consistently complies with applicable effluent limitations requiring application of best practicable treatment, as defined at 38 MRSA § 414-A(1)(D), and that any existing treatment facility is appropriate and is optimally maintained. Evidence that increased loading to a POTW is necessary may include, but is not limited to, population growth projections from a municipal comprehensive plan, additional waste water treatment requirements based on a combined sewer overflow (CSO) master plan, and the extension of public sewers to previously unsewered areas.

- C. The economic and social benefits that would result from the lowering of water quality. These benefits may include, but are not limited to, increases in employment, increases in local or regional income or purchasing power, increases in the community tax base, correction of an environmental or public health problem or nuisance situation (e.g., removal of overboard discharges or failing or substandard septic systems) and improved community stability. In the case of a lowering of water quality due to community growth, benefits may include an assessment of the economic and social consequences that would result if the new or increased discharge and the resulting lowering of water quality were not approved.

- D. The technical availability, economic feasibility, and environmental effectiveness of alternatives that could reduce or eliminate the lowering of water quality. Alternatives may include, but are not limited to, alternative discharge locations, non-discharging alternatives, alternative methods of production, improved process controls, waste water minimization technologies, improved waste water treatment facility operation and maintenance, alternative waste water treatment methodologies, and advanced treatment beyond applicable technology requirements.

- E. Public comments received in response to the public notice of an application for a waste discharge license, or as part of the official record of any public hearing held by the DEP on the application, or in response to any draft waste discharge license prepared by the DEP.

The posting of public notice, the opportunity to request a public hearing, and the opportunity for public comment on an application or draft license in which a determination is made as to whether a lowering of water quality resulting from a new or increased discharge is necessary to achieve important economic or social benefits to the State shall be provided in accordance with the DEP's existing rules (see Chapter 2 "Rules Concerning the Processing of Applications" and Chapter 522 "Application Processing Procedures for Waste Discharge Licenses").

Based on the above considerations, the DEP will make a case-by-case determination as to whether the lowering of existing water quality resulting from a new or increased discharge is necessary to achieve important economic or social benefits to the State.

- 11. LOWERING OF WATER QUALITY NOT APPROVED. Where the DEP determines that the lowering of water quality resulting from a new or increased discharge is not necessary to achieve important economic or social benefits to the State, then this lowering of water quality will not be approved, and the new or increased discharge will be denied or conditioned to prevent any lowering of water quality.

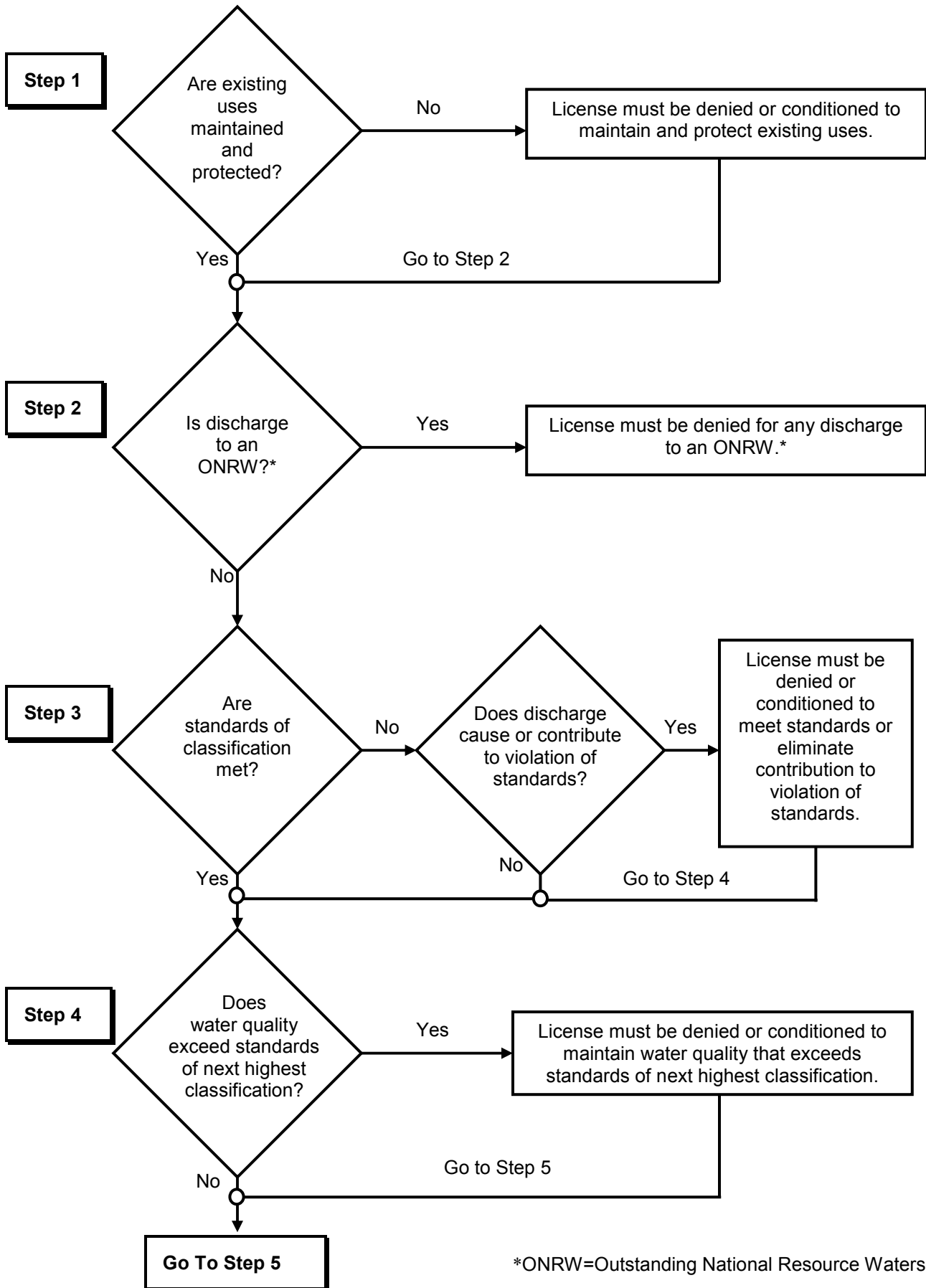
Where the DEP denies or conditions a new or increased discharge to prevent any lowering of water quality, and where the DEP determines that (1) existing in-stream water uses will be maintained and protected, and (2) the discharge is not to an outstanding national resource water, and (3) the standards of the assigned classification will be met in all receiving waters affected by the discharge or that the discharge will not cause or contribute to the failure of the receiving waters to meet standards, and (4) actual water quality is maintained and protected where any criterion of water quality exceeds the minimum standards of the next highest classification, then the requirements of the State's antidegradation policy will be deemed to be met.

12. LOWERING OF WATER QUALITY APPROVED. Where the DEP determines that that the lowering of water quality resulting from a new or increased discharge is necessary to achieve important economic or social benefits to the State, and where the DEP further determines that (1) existing in-stream water uses will be maintained and protected, and (2) the discharge is not to an outstanding national resource water, and (3) the standards of the assigned classification will be met in all receiving waters affected by the discharge or that the discharge will not cause or contribute to the failure of the receiving waters to meet standards, and (4) actual water quality is maintained and protected where any criterion of water quality exceeds the minimum standards of the next highest classification, then the requirements of the State's antidegradation policy will be deemed to be met, and the lowering of water quality will be approved. In approving the lowering of water quality, the DEP will assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for non-point source control, as stipulated in 40 CFR 131.12(a)(2).

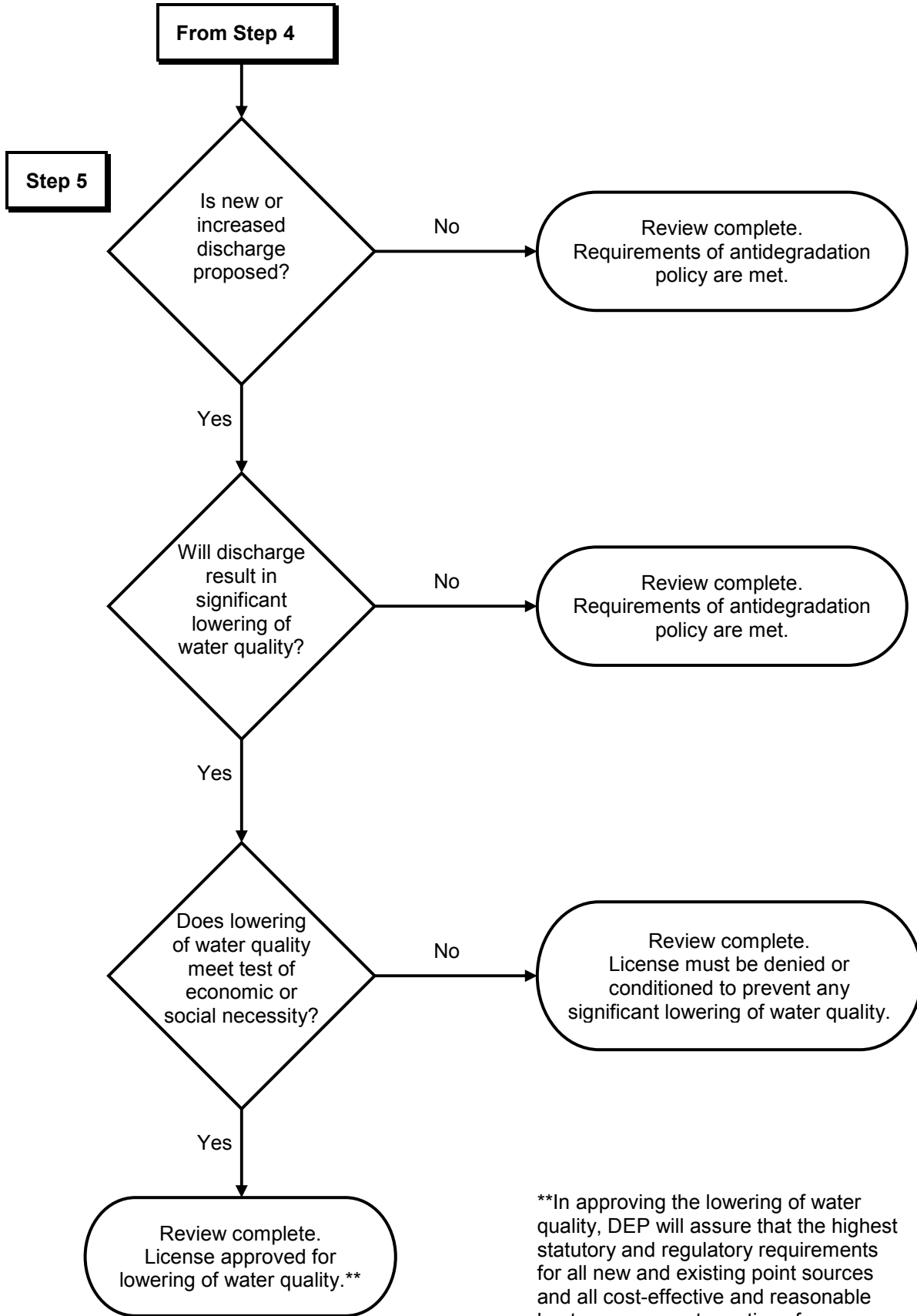
A flow chart for implementing antidegradation review in the waste discharge licensing process is attached to this guidance.

\antideg guidance

Antidegradation Review Flow Chart for Waste Discharge Licensing



Antidegradation Review Flow Chart for Waste Discharge Licensing



**In approving the lowering of water quality, DEP will assure that the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for non-point source control are achieved.

FINAL

APPENDIX C

Department Testimony on LD 676, Submitted May 3, 2021



JANET T. MILLS
GOVERNOR

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



MELANIE LOYZIM
COMMISSIONER

TESTIMONY OF
BRIAN KAVANAH, DIRECTOR
BUREAU OF WATER QUALITY
MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

SPEAKING IN OPPOSITION OF L.D. 676

AN ACT TO RECLASSIFY PART OF THE ANDROSCOGGIN RIVER TO CLASS B

SPONSORED BY SENATOR CLAXTON

BEFORE THE JOINT STANDING COMMITTEE
ON
ENVIRONMENT AND NATURAL RESOURCES

DATE OF HEARING:

May 3, 2021

Senator Brenner, Representative Tucker, and members of the Committee, I am Brian Kavanah, Director of the Bureau of Water Quality at the Department of Environmental Protection. I am speaking in opposition to L.D. 676. This is the same position the Department has taken on similar bills in 2011 and 2013. While I really wish I could be here speaking in support of the bill, after evaluating all the issues as outlined in my testimony, the Department did not believe that would be an appropriate position to take.

First, I want to commend the many individuals and organizations that are advocating for the Androscoggin River today. They have dedicated a tremendous amount of time and resources to

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AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826

BANGOR
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(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769
(207) 764-0477 FAX: (207) 760-3143

monitor the river, provide public educational events, and advocate for improvements in water quality. Their work is important, and the Department appreciates all their efforts.

Secondly, I want to recognize that the Department understands the important symbolism of the Androscoggin River and its place in the development of the Clean Water Act through Senator Edmund Muskie. The Androscoggin River is an incredible example of how badly we as a society can abuse our natural resources given that this was once one of the most highly polluted rivers in the country. But, it is also an incredible example of how good policy, proper regulation, and the work of many, can make tremendous improvements in water quality. The Androscoggin River now has very good water quality, vastly different from the bad old days of rafts of foam and fish kills, and we can all be proud of that.

I also want to note that my written testimony and supporting material is extensive at 16 pages. Obviously, I will not be reading all my testimony today, but I hope that you can read it to fully understand the issues I will summarize today, and to assist you with the discussions at the work session. It is extensive because the issue of reclassifying a river like the Androscoggin is a very important policy decision and it is a legally and technically complex issue. The role of the Department in this issue is to provide you with the most complete and accurate information that we can so that you can make a fully informed decision. My full written testimony includes background information on important issues related to L.D. 676 including water quality standards, the waste discharge permitting process, water quality modeling, and the legislative history of similar proposals to upgrade the lower Androscoggin.

In the interest of time I'll summarize the Department's position with the expectation of more detailed discussion at work session. Water classifications are essentially a directive to the Department on how to manage the water quality. The Department has historically supported upgrades where we see a path forward to ensure that the classification can be fully attained, with reasonable controls, under critical water quality conditions established in law. Based on our evaluation of all the information available to us we don't see a clear path forward to ensure that happens. What we do see is that a reclassification would likely create significant regulatory uncertainty.

I encourage you to carefully consider the additional details in the Department's full written testimony, as well as all the other testimony you will receive. I'm happy to answer any questions now or at the work session.

Thank you.

Additional Testimony on L.D. 676, An Act to Reclassify Part of the Androscoggin River to Class B

Some important issues to consider include:

1). This is not a new issue. This issue has been considered several times since at least 2009 by the Department, the Board of Environmental Protection, and the Legislature. The Department reluctantly opposed an upgrade in all of the previous proceedings for many of the same reasons summarized below. In addition, at the request of interested parties, the Department is currently evaluating the same proposal via the Triennial Review Process which is a public process, including a comment period and public hearing, whereby changes in water quality standards are evaluated by the Department and the Board of Environmental Protection (BEP). As a result of that process it is possible the BEP may, or may not, recommend to the Legislature in the second session a reclassification of the Lower Androscoggin.

2). Reclassification upgrades are likely permanent. It is relatively easy to upgrade a waterbody. The legislature can do that with a simple vote. However, the requirements of the Clean Water Act and state law make it extremely difficult to downgrade a waterbody's classification. Therefore, you should consider any decision to upgrade a waterbody as if it is permanent. To be clear, none of the potential issues raised in the Department's testimony prevent the legislature from upgrading the Lower Androscoggin. Neither, are you obligated by law to approve this upgrade. This is a policy decision and you can vote on whatever you believe to be the best policy for the state.

3). Each classification sets in motion specific legal requirements. You may hear the classification system described as a goal-based or aspirational system. That is true, but only in limited sense. It is a goal in that the legislature can upgrade a waterbody's classification even if it is not currently meeting all of the requirements for that higher classification. The Department believes it is more accurate to consider a waterbody's classification as a directive to the Department on how to manage that waterbody in relation to a variety of interconnected requirements of the Clean Water Act and state law. These interconnected requirements include: licensing of existing discharges such as

municipal wastewater treatment facilities and industries, licensing of any new or increased discharges, water quality certification and licensing of dams, and regulatory actions that must be taken if water quality standards are not met. The specifics of these regulatory requirements are established in federal and state laws and rules, are not discretionary, and are driven largely by the classification of a water body. To be clear, none of the potential implications to these, or other regulatory programs, prevent the legislature from upgrading the Lower Androscoggin. However, the Department recommends that you understand and consider the potential implications of these programs as part of a fully informed decision making process.

4). There are significant differences between the criteria for Class C and Class B waters. The most significant difference between these classifications is that Class C waters have a dissolved oxygen criterion of 5 parts per million (ppm). Class B has a higher dissolved oxygen criterion of 7 ppm. The Class B criterion is harder to attain. 5 ppm implies a reasonable amount of assimilative capacity, whereas 7 ppm implies very little assimilative capacity. A summary comparison of the two classes is shown below:

Comparison of Class B and Class C Water Quality Standards				
Class	Dissolved Oxygen	Bacteria (<i>E.coli</i>)	Habitat	Aquatic Life (Biological)
B	Not less than 7 ppm; or 75% of saturation.	May not exceed geometric mean of 64/100 ml over 90-day interval or 236/100 ml in more than 10% of samples in any 90-day interval from 4/15 to 10/31.	Habitat for fish and other aquatic life; unimpaired.	Support all aquatic species indigenous to the receiving water; no detrimental changes to the resident biological community.
C	Not less than 5 ppm; or 60% of saturation.; 30-day avg. 6.5 ppm.	May not exceed geometric mean of 100/100 ml over 90-day interval or 236/100 ml in more than 10% of samples in any 90-day interval from 4/15 to 10/31.	Habitat for fish and other aquatic life.	Support indigenous fish; maintain the structure and function of the resident biological community.

5). Water quality in the lower section of the Androscoggin River is significantly influenced by water quality in the upper section of the Androscoggin River. 97% of the water in the lower section of the river originates by flowing over or through the Gulf Island Dam at the upper boundary of the river section proposed for reclassification. The proposed upgrade of the lower section to Class B would require the lower section to have a dissolved oxygen level of 7 ppm. The upper section of the river is classified as C which requires a dissolved oxygen level of only 5 ppm. While the actual dissolved oxygen level of water flowing over or through the Gulf Island Dam is often higher than 5 ppm, there are currently no regulatory controls in place that require it to be higher than 5 ppm. If the lower Androscoggin is upgraded to Class B the Department will be required to establish regulatory controls in waste discharge licenses, and potentially future water quality certifications for the Gulf Island Dam, to ensure the water flowing over or through the dam meets the 7 ppm dissolved oxygen criterion.

6). The upper section of the Androscoggin is unique. Water quality in the upper Androscoggin above Gulf Island Dam is influenced by the discharges from 3 paper mills (Gorham, NH; Rumford; and Jay,) and the presence of the Gulf Island Dam which creates a large deep impoundment. Attainment of Class C standards is met through a combination of water quality-based discharge limits on the paper mills and the injection of oxygen into the river approximately 2.5 miles above the dam. The oxygen injection is managed through the Gulf Island Pond Oxygenation Partnership (GIPOP) as specified in the mill's discharge licenses and the Gulf Island Dam water quality certification. The necessity of oxygen injection to attain water quality standards is extremely rare and is only used in a few other locations nationally.

7). If the lower Androscoggin is upgraded to Class B the Department will be required to lower existing discharge limits on certain discharges above Gulf Island Dam. The Department can only issue a waste discharge license if a finding can be made that the discharge, either by itself or in combination with other discharges, will not lower the quality of the waterbody below its classification, during critical low flow river conditions as specified in law. We are aware that the mill discharges above Gulf Island Dam can influence dissolved oxygen levels all the way to Gulf Island Dam and potentially beyond. Through water quality modeling we have evaluated potential reductions to license limits and requirements for instream oxygen injection that would ensure water flowing over or through the dam

meets 7 ppm of dissolved oxygen. There are a variety of license limit allocation scenarios that are possible, and the final limits would be derived through a formal licensing process. An example allocation based on a 54% reduction in biochemical oxygen demand (BOD₅) limits for all three mills is summarized below.

Example reduction in BOD₅ limits that would be required to ensure water flowing over or through Gulf Island Dam contains 7 ppm of dissolved oxygen during critical low flow (7Q10) river flows. Reductions based on a 54% reduction for limits for all three mills.

Facility	Current Permit Limit lbs/day weekly avg. (June 1 - Sept. 30)	New Permit Limit lbs/day weekly avg. (June 1 - Sept. 30)	Actual discharge for last 3 years at 95th percentile
Pixelle (Jay)	6,400	2,944	1,700
Nine Dragons (Rumford)	12,500	5,750	7,800
White Mountain Paper Co. (Gorham, NH)	10,298	4,737	5,000

8). Water quality in the lower section of the Androscoggin is also influenced by activities and discharges in the watershed of the lower section. If the lower Androscoggin is upgraded to Class B the Department will be required to lower existing discharge limits on certain discharges. The Lewiston Auburn Water Pollution Control Authority (LAWPCA) is the wastewater treatment facility that serves Lewiston and Auburn. To address the predicted impacts of the LAWPCA discharge on dissolved oxygen levels, a BOD₅ limit reduction of 33% is expected to be required.

Facility	Current Permit Limit lbs/day weekly avg.	New Permit Limit lbs/day weekly avg. (June 1 - Sept. 30)	Actual discharge for last 3 years at 95th percentile (June 1 - Sept. 30)
LAWPCA	5,329	3,570	1,800
	Current Permit Limit lbs/day monthly avg.	New Permit Limit lbs/day monthly avg. (June 1 - Sept. 30)	Actual discharge for last 3 years at 95th percentile (June 1 - Sept. 30)
	3,553	2,380	1,000

It is noted that a potential regionalization project to eliminate the Sabattus wastewater treatment facility and send the wastewater from Sabattus to LAWPCA is in the preliminary discussion phase. If

completed this project would eliminate the Sabattus wastewater discharge to the Sabattus River. It is expected that the elimination of this discharge would improve water quality in a ten-mile segment of the Sabattus River from Sabattus to the Androscoggin River. It is possible the potential for this project to proceed would be diminished if the limits for LAWPCA are reduced by 33%.

In addition, at a dissolved oxygen criterion of 7 ppm under critical conditions there is essentially no assimilative capacity remaining in the river. This condition would likely prohibit any new or increased discharge that requires a waste discharge license.

9). Water quality in the lower section of the Androscoggin may also be influenced by dams in the lower section. The following dams exist in the section proposed for reclassification and are subject to relicensing requirements of the Federal Energy Regulatory Commission (FERC) and water quality certification requirements of the Department. Relicensing begins with a 3-to-5 year pre- application consultation process during which applicants, agencies and other interested parties identify environmental issues, address information needs, and explore mitigation options. Any necessary studies are then conducted, and a draft application is prepared for review and comment. At this point it is unclear if a reclassification would affect relicensing or water quality certifications for these dams.

Dam	Owner	License Expiration
Gulf Island Dam	Brookfield	2036
Deer Rips/Andro 3	Brookfield	2036 (with Gulf Island Dam)
Lewiston Falls Dam	Brookfield	2026
Worumbo Dam	Eagle Creek	2025
Pejepscot Dam	Brookfield	2022
Brunswick Dam	Brookfield	2029

10). In closing, from the Department's perspective, this is a complex issue. Some reclass proposals are relatively simple and straightforward. This one is not. Department staff have spent a significant amount of time analyzing and discussing the legal and technical issues in relation to this upgrade. Our intent is to provide you with the most complete and accurate information that we can so that you can make a fully informed decision. But some of the legal and technical issues related to the potential implications of this reclassification could be interpreted differently by the Department, the Environmental Protection Agency, interested parties in a waste discharge licensing proceeding, interested parties in a dam relicensing proceeding, and the Board of Environmental Protection and the courts if licensing decisions were challenged on appeal. The Department does not see a clear path forward to ensure Class B water quality standards would be attained under the conditions required by law. Therefore, an upgrade to Class B would likely cause significant regulatory uncertainty.

The table below summarizes the issues discussed above:

Comparison of Issues for Current Class C and Proposed Class B for Lower Androscoggin River		
Issue	Class C	Class B
Environmental benefit / changes in water quality. (See “Comparison of Class B and Class C Water Quality Standards” table above in #4 for full comparison of classes.)	Class C meets all requirements of CWA and state law. It allows lower dissolved oxygen levels, higher bacteria levels, and more impacts to habitat and aquatic life than Class B.	Class B meets all requirements of CWA and state law. Requires higher dissolved oxygen levels, lower bacteria levels, and less impacts to habitat and aquatic life than Class C.
Current attainment relative to Class.	Fully attains Class C by meeting or exceeding minimum requirements of all criteria.	Attains Class B most of the time. Projected to not meet Class B dissolved oxygen criteria during critical conditions of low flow and high temperature.
Remaining assimilative capacity for dissolved oxygen under critical conditions of low flow and high temperature.	Approximately 1.6 ppm.	Approximately 0 ppm.
Potential regulatory impacts to new or increased discharges that require a waste discharge license.	Due to remaining assimilative capacity, new or increased discharges could be allowed if antidegradation requirements are met by demonstrating important social or economic benefit.	The lack of remaining assimilative capacity would likely prevent any new or increased discharges.
Potential regulatory impacts to current licensed discharges in upper and lower river.	None. Current license limits ensure attainment of Class C standards and all discharges currently meet license limits.	Significant reduction of license limits for BOD ₅ would be needed for mills in Gorham, NH; Rumford; and Jay, and a 33% reduction for LAWPCA to ensure attainment of Class B dissolved oxygen criteria. Regulatory uncertainty for all dischargers is likely.
Potential regulatory impacts to dams.	None known.	Uncertain.

Additional background information related to L.D. 676, An Act to Reclassify Part of the Androscoggin River to Class B

Water Quality Standards:

State water quality standards (standards) are generally established pursuant to Maine law, including provisions in Maine's water classification program, 38 M.R.S. §§464-470. Standards are comprised of the following three components: designated uses, criteria, and an antidegradation policy. Standards may be established in law or rule and must be consistent with the Clean Water Act and approved by the Environmental Protection Agency.

Designated uses are the uses specified in law that water quality must support such as supporting aquatic life and human activities, such as swimming and fishing. They are used to determine water quality criteria, which must protect designated uses and serve as the basis for water quality-based discharge permit limits. The following are the designated uses specified at 38 M.R.S. §465 for Class B and C waters. Most uses are similar. Differences in uses are underlined.

- **Class B:** drinking water supply after treatment; fishing; agriculture; recreation in and on the water; industrial process and cooling water supply; hydroelectric power generation, except as prohibited under Title 12, section 403; navigation; and as habitat for fish and other aquatic life. The habitat must be characterized as unimpaired.
- **Class C:** drinking water supply after treatment; fishing; agriculture; recreation in and on the water; industrial process and cooling water supply; hydroelectric power generation, except as prohibited under Title 12, section 403; navigation; and as a habitat for fish and other aquatic life.

Water quality criteria are limits on conditions in a water body. Criteria protect particular designated uses, such as habitat for fish and other aquatic life, recreation, and drinking water supply. Criteria can be expressed as acceptable levels (constituent concentrations) or as narrative statements.¹

For context, as a percentage, Maine's rivers and streams are classified as follows:

Class	%
AA	6.3
A	47.2
B	45.4
C	1.1

¹ See 38 M.R.S. §§465.3 and 465.4 for a full description of the statutory criteria in those provisions applicable to Class B and C waters.

The Class C waters are generally located in areas with a relatively large population and/or industrial base relative to the size of the water body. All the rivers below the remaining six pulp and paper mills are classified as Class C for at least some portion of the river. These are the St. John, St. Croix, Androscoggin, Kennebec, and Presumpscot.

The state's Antidegradation Policy, 38 M.R.S. §464.4.F, addresses among other things protection of water quality for existing uses, protection of high-quality waters, and Outstanding National Resource Waters.

The following provision found at 38 M.R.S. §464.4.F.4. has been previously discussed in the context of a reclassification of the lower Androscoggin River.

“When the actual quality of any classified water exceeds the minimum standards of the next highest classification, that higher water quality must be maintained and protected. The board shall recommend to the Legislature that that water be reclassified in the next higher classification.”

The Department recognizes that under certain conditions, and in certain locations, the lower Androscoggin River meets the criteria for Class B waters. However, the Department's long-standing interpretation of 38 M.R.S. §464.4.F.4. is that it must generally be read in the full context of the water quality laws including the sections of law that establish the conditions under which a discharge may be licensed.² The Department's interpretation is where any criterion of water quality (for example, dissolved oxygen) exceeds the minimum standards of the next highest classification under critical water quality conditions, then that higher water quality criterion must be maintained and protected. Critical water quality conditions include, but are not limited to, conditions of low flow, high water temperature, and licensed loading from point source discharges.

This interpretation does not consider a wastewater discharge to be an existing use, but it does recognize the legal condition that exists when a waste discharge license is issued. In addition, it recognizes the findings that the Department had to make to issue any waste discharge license, in particular the finding that, “The discharge, either by itself or in combination with other discharges, will not lower the quality of any classified body of water below such classification.”³ This finding is based in part on the critical flow condition specified at 38 M.R.S. §464.4.D, “Except as otherwise provided in this paragraph, for the purpose of computing whether a discharge will violate the classification of any river or stream, the assimilative capacity of the river or stream must be computed using the minimum 7-day low flow that can be expected to occur with a frequency of once in 10 years.”

² See DEP Antidegradation Waste Discharge Program Guidance, June 13, 2001, prepared in consultation with EPA, the DEP Division of Environmental Assessment, and the Maine Attorney General's Office.

³ 38 M.R.S. §414-A.1.A.

Based on the above, the Department's position remains that 38 M.R.S. §464.4.F.4. does not require the Board of Environmental Protection (BEP) "recommend to the Legislature that that water be reclassified in the next higher classification" solely based on monitoring data that is not representative of critical conditions. However, the Legislature is not precluded from enacting a reclassification if it chooses to do so.

Permitting Process:

The Department is authorized by the Environmental Protection Agency (EPA) to implement the waste discharge licensing requirements of the Clean Water Act. The Department also implements the waste discharge licensing requirements established in Maine law at 38 M.R.S. §§411-424-B. and 38 M.R.S. §464.4., and various Department regulations.

As specified at 38 M.R.S. §464.4.A.8., the Department may not issue a waste discharge license for, "Discharges for which the imposition of conditions cannot ensure compliance with applicable water quality requirements of this State or another state". This is an important requirement when a reclassification is being evaluated. Licenses that contain discharge limits that currently ensure attainment of Class C criteria, may not be adequate to ensure Class B criteria are attained under the conditions required by law. If that is the case, the license limits would need to be made more stringent to ensure the new Class B criteria can be attained. In some cases, depending on the specific conditions of the water body, it may not be possible to create a licensed condition that ensures attainment of a higher classification. As explained below, this is the situation with the Androscoggin River.

The important summary of the above is that a reclassification to a higher class creates legally binding licensing requirements that must be met. These are not only goals, they also carry legal requirements. Also, in water bodies that are not attaining their classification, the licensing of any new or increased discharge would be prohibited if the discharge would contribute to the non-attainment. It is highly recommended that the Legislature fully understands any new licensing requirements that will be imposed on any discharge prior to a reclassification decision being made.

History of Lower Androscoggin Reclassification Requests:

- 2009 – During a water reclass review process the Department made recommendations to the BEP to not upgrade the Lower Androscoggin due to lack of data. The Lower Androscoggin was not included in the BEP upgrade recommendations to the Legislature. The Friends of Merrymeeting Bay testified in favor of the upgrade during a public hearing on the reclassification bill. The Legislature requested the Department conduct necessary studies "to determine if the section of the Androscoggin River from Worumbo Dam in Lisbon Falls to the line formed by the extension of the Bath-Brunswick boundary across Merrymeeting Bay in a northwesterly direction meets, or can reasonably be expected to meet, the criteria for reclassification from Class C to Class B."
- 2010 – The Department completed river sampling.

- 2011 – The Department completed *Lower Androscoggin River Basin Water Quality Study Modeling Report (March 2011)*. The Report findings did not support reclassification as there was not an identified way to ensure that the more stringent dissolved oxygen standard of 7 mg/L for Class B could be met even with the complete elimination of the wastewater discharges from the Lewiston Auburn Water Pollution Control Authority (LAWPCA) and the Town of Lisbon.⁴
- 2011 - L.D. 154, *An Act to Change the Classification of the Lower Androscoggin River*. The Department testified in opposition to this L.D. based on model results. The bill was placed in Legislative files (DEAD) pursuant to Joint Rule 310.3.
- 2013 - L.D. 845, *An Act to Change the Classification of the Lower Androscoggin River*. The Department testified in opposition to this L.D. based on model results. The ENRC voted ONTP 11-2 and ultimately the bill was not passed.
- 2018 – Statewide reclassification proceedings. The Department recommended to the BEP that the lower Androscoggin River not be included with upgrade reclassifications for ten other water bodies. (In addition to the lower Androscoggin, the Department also did not recommend two other water bodies for upgrade). The BEP agreed with this recommendation.

Department Water Quality Models for the Upper and Lower Androscoggin River:

Water quality models are computer models that use inputs of water quality monitoring data, discharge data, and various input parameters to simulate and predict water quality conditions under various scenarios. They are very useful to determine potential attainment status when considering a change in water classification. Models can be used to simulate attainment status of water quality criteria such as dissolved oxygen at critical conditions that are required as part of the waste discharge licensing process. The models used by the Department are developed and supported by EPA.

The Department has developed two water quality models for the Androscoggin River. The upper Androscoggin model was completed in 2005 and was used as the basis for the issuance of renewal waste discharge licenses for discharges in the upper Androscoggin from New Hampshire to Gulf Island Dam, and for the relicensing of the Gulf Island Dam in 2005.

The lower Androscoggin model was developed in 2011 as noted above.

⁴ See additional discussion of model findings below under the heading Department Water Quality Models for the Upper and Lower Androscoggin River.

Upper Androscoggin Model

The upper Androscoggin is Class C from the confluence with the Ellis River at Rumford Point to the Gulf Island Dam. One of the primary issues with the 2005 relicensing process was the non-attainment of the dissolved oxygen criterion in the lower portions of the impoundment (Gulf Island Pond) created by Gulf Island Dam and non-attainment with the designated use of “recreation in and on the water” due to periodic algal blooms within the pond. This licensing process was the most technical and legally complex waste discharge licensing process the Department has ever undertaken. In the end, renewal permits were issued to the pulp and paper mills in Jay and Rumford and the municipal wastewater facility in Livermore Falls, and a water quality certification was issued for Gulf Island Dam that included various water quality-based limits and operating conditions that would allow Class C criteria to be met.

An important aspect of this process was the finding that the Class C dissolved oxygen standard could not be attained without the use of an instream oxygenation system. This system is in the upper reaches of Gulf Island Pond (at upper and lower narrows) and injects oxygen into the water column from June 1 – September 30. This type of “in stream” treatment system is extremely rare. There are no other systems like it in Maine and very few others in the country. Under federal and state regulations, it can only be used to meet water quality based limits if, among other things, the technology-based treatment requirements are not sufficient to achieve the standards, and the alternative selected has been demonstrated to be a preferred environmental and economic alternative to achieve the standard after consideration of alternatives such as advanced treatment, recycle and reuse, land disposal, changes in operating modes and other available methods.

The findings of this model are explained in the Department reports: *Androscoggin River Total Maximum Daily Load – Final (May 2005)* and *Addendum to the Androscoggin River 2005 Total Maximum Daily Load (May 2010)*.

The findings of these documents are important to any discussion of upgrading the lower Androscoggin because the water that flows from Gulf Island Pond into the lower Androscoggin contributes 97% of the boundary condition flow for any modeling of the lower Androscoggin. It is important to note that as a Class C water the upper Androscoggin is only required to attain the criterion of 5 ppm for dissolved oxygen. There are currently no regulatory controls in place to ensure it attains higher than 5 ppm. In order to ensure a boundary condition of 7 ppm dissolved oxygen flowing over or through the dam signification reductions in license limits for the three mills would be required. An example of these reductions is summarized in the #7 of the Department’s testimony.

Lower Androscoggin Model

Important findings of the lower Androscoggin model that indicate there is no feasible approach to ensure attainment of proposed Class B dissolved oxygen criteria include:

Within the lower section of the river, during critical low flow conditions, 97% of the flow is from the main stem of the river (Class C), 2.5% is from the Little Androscoggin River (Class C), 0.4% is from the Sabattus River, and 0.1% is from the Little River.

The increased depth, volume, and decreased velocity in the impoundments diminish the reaeration rate and depress the overall dissolved oxygen concentration. These impoundments also create slow moving segments that accumulate organic sediment, which also decreases the dissolved oxygen concentration.

During critical water quality conditions of low river flow, high water temperature, and maximum licensed discharge from the Publicly Owned Treatment Works, the model predicts dissolved oxygen concentrations will be below the Class B criterion of 7.0 mg/L in eight of the twelve river segments from the confluence with the Little Androscoggin River in Auburn to the Brunswick-Topsham Dam. Predicted dissolved oxygen concentrations were below the Class B criterion of 7.0 mg/L for all segments from the Worumbo Dam to the Brunswick-Topsham Dam. This model run was based on the least conservative measured dissolved oxygen boundary condition of 7.69 mg/L. When using a modeled dissolved oxygen boundary condition of 7.0 mg/L all twelve segments indicate non-attainment. When using the most appropriate boundary condition of 5.0 mg/L that reflects the current Class C dissolved oxygen criteria of the upper Androscoggin and the Little Androscoggin River that comprise the boundary condition, all twelve segments indicate non-attainment, with five of the segments more than 0.5 mg/L below the Class B criteria. Non-attainment is primarily driven by periphyton respiration during non-daylight hours. (Periphyton are algae that grow attached to submerged objects such as logs, rocks, plants and debris.)

The river sampling showed a nutrient loading from sources upstream of the study area. A separate model run was performed to assess the effect of these upstream sources relative to the point source discharges within the study area. After completely removing the discharges from the Lewiston-Auburn Water Pollution Control Authority and the Lisbon Wastewater Treatment Facility, the water quality model predicted dissolved oxygen concentrations would still be below the Class B criterion of 7.0 mg/L in two of the twelve fresh water river segments based on the least conservative measured dissolved oxygen boundary condition of 7.69 mg/L.

While the sampling data showed nutrient loading from sources upstream of the study area, these loads are not considered excessive. 39 of the 42 phosphorus samples taken during the 2010 sampling period indicate phosphorus levels below the numeric ambient criteria for Class B waters the Department is considering for rulemaking. The diurnal swings in dissolved oxygen of approximately 1 mg/L driven by periphyton respiration during non- daylight hours are also not considered excessive.

Summary:

In summary, the existing models provide enough information to support the Department's previous assessment that there is no practical approach to ensure attainment of Class B dissolved oxygen criteria in the lower Androscoggin River under critical low flow conditions. Based on these studies, the Department does not recommend that the lower Androscoggin River be upgraded to Class B at this time.