Appendix 5: Public Review Comments and Responses

Introduction

The Department received comments from eleven individuals or organizations on the NPS TMDL during the official public comment period from December 22, 2015 to January 29, 2016 and wishes to thank all persons who provided input. DEP received substantive comments from the parties listed below, and those comments are either quoted or paraphrased and presented in italic typeface. A DEP response follows each comment. The responses to comments do not include responses to editorial comments or errors, such as misidentified towns and watersheds listings; those issues were reviewed and corrected.

Almost all commenters requested more time to review the TMDL. DEP decided to not grant this request as the traditional 30-day review period had already been extended to 39 days. During that period stakeholders were able to make comments and had the opportunity to attend a public comment event. Many commenters were concerned about the implications for MS4-regulated communities that may result from the approval of the TMDL. DEP mapped the overlap between these NPS TMDL watersheds and regulated MS4 areas, as shown in Appendix 4. The DEP is continuing to assess how to account for the stormwater discharges from these regulated MS4s and has therefore removed those streams listed in Appendix 4 from this TMDL. The DEP does expect to include these in a future update to this TMDL. Any proposed revisions to the TMDL would only be made after providing opportunity for additional public comment.

Responses to Comments

Watershed Selection

Paraphrased comments from:

- Robyn Saunders, Cumberland County Soil and Water Conservation District (CCSWCD)
  Jami Fitch, CCSWCD – Interlocal Stormwater Working Group (ISWG) Facilitator
  Damon Yakovleff, CCSWCD Watershed Analyst
  These commenters will subsequently be referred to as 'CCSWCD/ISWG'
- Town of Falmouth
- Town of Windham
- Town of Gorham
- Albert Mosher, Gorham

What process was used to guide DEP's selection of the watersheds?

The process begins with a determination that a waterbody is impaired when monitoring results show that Maine's water quality standards (WQS) are not met. Waters that do not meet WQS are placed on the 303(d) list of impaired waters in Maine's biennial *Integrated Water Quality Monitoring and Assessment Report* (IR). The Clean Water Act (CWA) requires the development of TMDLs for impaired waters, and

USEPA requires states to set priorities and a timeline for TMDL development in the IR. Each stream-specific appendix in the NPS TMDL notes the data that was used to list the waterbody as impaired. In the 2008 IR, these streams were identified for TMDL development by 2009, but the process was delayed until 2015. The streams were included in the NPS TMDL because DEP's analysis indicated that the impairments were caused by nutrient enrichment and sedimentation issues.

Coordination of Watershed Sampling

Paraphrased comments from:

- CCSWCD/ISWG
- Town of Falmouth
- Town of Windham
- Town of Gray
- Town of Gorham
- Albert Mosher, Gorham
- Town of Raymond

What is DEP's protocol for coordinating and proactively communicating with municipalities and landowners on these TMDL efforts?

DEP relied on the public comment period to communicate with the public about the TMDL because the Department did not anticipate any regulatory effects. The information regarding impairment status of all Maine waters can be found in the IR, available on DEP's website. DEP also responds to specific requests for information from the public and proactively coordinates sampling efforts with stakeholders during the development of watershed management plans (WMPs).

Unintended Consequences

Paraphrased comments from:

- CCSWCD/ISWG
- Town of Falmouth
- Town of Windham
- Town of Gray
- Town of Gorham
- Albert Mosher, Gorham

Has DEP evaluated the possible unintended consequences of this TMDL and other regulatory requirements that could be contributing? Expectation that municipalities will become 'enforcers' of water quality standards. Impacts on family farming.

The current MS4 permit states that channelized stormwater runoff (a point source) from designated MS4 areas cannot cause or contribute to an impairment. The responsibility to address regulated stormwater runoff begins with the original 303(d) listing. The TMDL, which pertains to waters principally affected by

nonpoint sources (not regulated under the CWA), follows up on the impaired listing by identifying pollutant sources and estimating the pollutant reductions needed to meet water quality standards (WQS), as required by the CWA. The TMDL is a technical document that does recommend future actions to achieve healthy waters and this information is provided as guidance, not a regulatory prescription

The presence of a TMDL tends to increase community awareness of existing stream impairments and sometimes stimulates stakeholders to take action. There are no apparent unintended consequences on the streams covered by the Percent Impervious Cover (IC) TMDL, Statewide Bacteria TMDL (which included several streams also included in the NPS TMDL), Prestile Stream TMDL or the Dudley Brook TMDL. Progress is being made, with the assistance of 319 grants, to develop WMPs and implement BMPs on a subset of the streams covered by these TMDLs.

The NPS TMDL identifies pollutant sources and the reduction in pollutants needed to achieve WQS. Reductions will occur through the implementation of voluntary BMPs, not through enforcement of pollutant load limits. Responsibility for restoring impaired streams is not confined to a specific level of government and any successful restoration effort requires a partnership among stakeholders.

NPS TMDLs using this model have been approved in three other Maine agricultural watersheds and have existed for more than a decade, beginning with Fish Brook in Fairfield in 2005. These TMDLs rely on voluntary implementation of agricultural BMPs and do not deter farming activities. An approved TMDL generally increases eligibility for funding for farming practices through the Natural Resource Conservation Service (NRCS) and other agricultural funding agencies. If a municipality feels that these traditional sources of funding for agricultural BMPs may not be available to local farmers, it is a challenge that would be best explored during the development of a WMP.

With respect to regulatory impacts from regulated MS4 discharges, the DEP is continuing to assess how to account for those stormwater discharges and has therefore removed those streams listed in Appendix 4 from this TMDL.The DEP does expect to include these in a future update to this TMDL. Any proposed revisions to the TMDL would only be made after providing opportunity for additional public comment.

Communicating Financial Implications

Paraphrased comments from:

- CCSWCD/ISWG
- Town of Falmouth
- Town of Windham
- Town of Gray
- Town of Gorham
- Albert Mosher, Gorham
- Town of Raymond

How can lines of communication regarding natural resource priorities and financial implications be improved? Request that DEP conduct financial impact assessment for this TMDL, as would be done for

any other DEP rulemaking.

There is a cost associated with developing WMPs and there is a cost to having polluted waters flowing through our communities. There are financial challenges associated with cleaning up Maine's impaired waters and DEP has worked with municipalities to develop WMPs over the last decade to find reasonable solutions to meet these challenges, including providing funding. It is in the municipality's best interest to spearhead watershed planning because they have the local knowledge needed to integrate economic growth and community needs with water quality improvement projects. Through the WMP process the town has the ability to develop a reasonable timeline for implementation projects and seek grants that will in aid in accomplishing plan objectives,

Maine DEP has been developing TMDLs for at least two decades and they have never resulted in rulemaking for a variety of legal reasons and potential conflicts with the CWA. These TMDLs are not appropriate for Maine rulemaking because a rule (from the Secretary of State's website) 'is intended to have the same legal force as a statute, so that compliance could be compelled'. The NPS TMDL is not a document designed to measure compliance with the nutrient and sediment goals. DEP anticipates that compliance will be voluntary through the implementation of BMPs. Rulemaking would circumvent the flexibility in the stream restoration process, initiate a legal burden on implementation plans and alter the nature of WMPs.

Use of MapShed

Paraphrased comments from:

- CCSWCD/ISWG
- Town of Falmouth
- Garrison Beck, Midcoast Conservancy

Has DEP used this model before in ME? Request that DEP consider providing more information on limitations associated with the model and the data, especially with respect to buffers and landuse. How does DEP plan to share and distribute the watershed-specific information with each watershed and community? What does DEP see as their role in this data distribution effort?

In the event that other watersheds are added to the list of 30 streams included in this TMDL, how does DEP plan to make the public aware of the addition to the list of watersheds? What are the public notice requirements for adding watersheds to the list of 30 in the future?

DEP used MapShed for TMDLs on Prestile Stream and Dudley Brook, both of which have been approved by USEPA. The MapShed model was calibrated using data from Maine and the other New England states through a project sponsored by the New England Interstate Water Pollution Control Commission (NEIWPCC). As stated in the TMDL, the model does have assumptions, which is true of all models, and these assumptions have been documented in the MapShed literature (see TMDL Appendix 2). MapShed is a mid-range model that has been used for TMDLs in other states and the output is suitable for calculating

NPS load reductions that will result in the application of BMPs.

With respect to the use of stream buffers in the model, buffers on agricultural lands are treated as BMPs and used to adjust nutrient and sediment results from contributing landuses. Essentially, the model produces the nutrient and sediment values without riparian buffers, and then model runoff loads are adjusted based on the length and width of the riparian buffers. Riparian areas in agricultural lands that have no buffers do not contribute towards the load reductions. Additionally, buffer reductions do not apply on forested land. In the TMDLs, all appropriate reductions were made based on riparian condition, including buffers in excess of 75 feet.

As is customary with TMDLs, DEP will place all TMDL documents on the DEP website for use by the affected communities. If new waterbodies are proposed to be added to the NPS TMDL, the Department will notify stakeholders as appropriate. In addition, the standard public notice process for any draft TMDLs will be followed.

Selection of Attainment Streams

Paraphrased comments from:

- CCSWCD/ISWG
- Town of Falmouth
- Garrison Beck, Midcoast Conservancy

How did DEP choose the number and location of the five attainment sites? The list of five attainment streams is not representative of streams throughout the state, nor is it a large enough sample size.

DEP and the contract consultant, FB Environmental, reviewed DEP databases and GIS maps to find attainment streams whose watersheds had similar overall characteristics as the watersheds of the impaired streams. Attainment waters needed to have meaningful levels of agriculture and little urbanized area, and be known to attain WQS. It was challenging to find five attainment streams with agricultural development that could be used to set realistic water quality goals. The alternative would have been to use attainment streams with watersheds dominated by forested lands, which would have resulted in lower nutrient and sediment goals. Appendix 2 on the MapShed Model goes into depth on the characteristics of the attainment streams.

Water Quality Monitoring Stations

Paraphrased comments from:

- CCSWCD/ISWG
- Town of Falmouth
- Town of Cumberland
- Garrison Beck, Midcoast Conservancy

Where are the water quality (WQ) monitoring stations located within the watersheds? What was the

rationale for choosing the monitoring station locations?

Request that maps should be finished to professional standards and at higher resolution.

Monitoring and assessment stations for this TMDL were chosen based on access and representativeness. The same criteria are used for DEP WQ sampling in general.

Formatting watershed maps to fit on a single page does mean some details may be lost, but the maps provide reasonable depictions of the information in the TMDL report. Interested parties that are interested in more details may contact DEP for specifics.

WQ Monitoring Data

Paraphrased comments from:

- CCSWCD/ISWG
- Town of Falmouth
- Town of Cumberland
- Garrison Beck, Midcoast Conservancy

Data used in the TMDL are out of date and come from a limited number of monitoring stations. All data referenced in this draft TMDL report should be provided immediately for review.

The TMDL presents documentation of the impairment, and is a process that comes after an impairment determination has been made. The documentation for the impairment is done through the 303(d) listing process and the listing methodology is described in the IR. In essence, DEP adheres to quality-assured methods and employs a peer-reviewed approached consistent with current scientific standards. An impaired stream is placed on the 303(d) list (Category 5-A in the IR) and is moved off the list (to Category 4-A) once the TMDL is completed, regardless of recent WQ monitoring data. Ideally, DEP would collect current data on all TMDL streams, but resources are limited and it is technically not a requirement of a TMDL assessment. A TMDL's primary purpose is to assess pollutants and estimate the load reductions needed to achieve WQS. The Habitat Assessment described in each watershed-specific report was conducted to provide a broad indicator of stream condition that integrates a set of observations, beyond a simple data measurement. Some data can be found on DEP's website for the Biological Monitoring Program (aquatic life data) and the Volunteer River Monitoring Program. WQ data stored in DEP's Environmental and Geographic Analysis Database (EGAD) can also be requested through the Department's Sampling Data Google Earth project.

TMDL Calculations and Assumptions

Paraphrased comments from:

- CCSWCD/ISWG
- Town of Falmouth

Why are natural background sources omitted from DEP's TMDL calculation equation?

The explanation for the omission of natural background sources can be found on page 12 of the TMDL.

TMDL Implementation

Paraphrased comments from:

- CCSWCD/ISWG
- Town of Falmouth
- Town of Windham

Request that DEP provide information on how WQS are expected to be attained through the proposed implementation. What happens if a WMP is developed as proposed in this draft TMDL report, but WQS are not achieved?

DEP anticipates that over time WMPs for each watershed will be developed and define what is needed to achieve WQ goals. Stakeholders would then implement the plan over time. If a community has reasonably implemented a WMP and made all feasible efforts to restore a waterbody and attainment is still not possible, then a Use Attainability Analysis (UAA) would likely be the next step. Under the CWA, a UAA is the process that enables a community to end the pursuit of rigorous restoration activities.

Overlap Between NPS TMDL Watersheds and Regulated MS4 Areas

The following information is supplied in response to general concerns voiced by commenters regarding the overlap between the NPS TMDL watersheds and MS4 areas. The DEP is continuing to assess how to account for the stormwater discharges from these regulated MS4s and has therefore removed those streams listed in Appendix 4 from this TMDL. The DEP does expect to include these in a future update to this TMDL. Any proposed revisions to the TMDL would only be made after providing opportunity for additional public comment.

Please see Appendix 4 for further details. Commenters were:

- Town of Falmouth
- Town of Windham
- Town of Gray
- Town of Gorham
- Town of Raymond
- Town of Cumberland
- Kristie Rabasca, Integrated Environmental Engineering

There are no watersheds that overlap with the regulated MS4 areas in Falmouth. The runoff in the Hobbs Brook watershed is not covered by the MS4 program.

There are five watersheds that overlap with the regulated MS4 areas in Windham, and all overlap to varying degrees. Overlaps range from less than 1% (Inkhorn Brook) to 67% (Otter Brook).

There are no watersheds that overlap with the regulated MS4 areas in Gray. The runoff in the Pleasant River watershed and Thayer Brook watershed are not covered by the MS4 program.

The Mosher Brook watershed in Gorham is 100% within the regulated MS4 area.

There are no watersheds that overlap with a regulated MS4 areas in Raymond. This is expected because Raymond is not covered by the MS4 program.

There are no watersheds that overlap with the regulated MS4 areas in Cumberland. The runoff in the Hobbs Brook watershed is not covered by the MS4 program.

Phosphorus and Nitrogen Data

Paraphrased comment from:

- Town of Cumberland

Were phosphorus and nitrogen data collected on Hobbs Brook?

No, no such data is available.

Pollution Source Assessment

Paraphrased comment from:

- Town of Cumberland

Pollution source IDs 5, 7, 8 and 9 are omitted from Table 2 in the Hobbs Brook appendix. What were the results for these IDs, and were the observations from those locations used in the analysis?

The Pollution Source ID Assessment only contributes livestock numbers to the MapShed model. The assessment was conducted to provide a survey of potential pollutant sources that could aid in understanding watershed conditions and in the development of WMP. The nutrient and sediments values are derived solely from the MapShed model, which uses many factors including: landuse runoff coefficients, soils, groundwater inputs, rainfall, elevation, septics, livestock counts and riparian condition. The non-sequential Source ID numbers do not mean significant data is missing.

Habitat Assessment

Paraphrased comment from:

- Town of Cumberland

Please describe how the habitat assessment was used in developing pollution load reduction targets.

The Habitat Assessment was conducted to provide a broad indicator of stream condition that integrates a set of observations beyond a simple dissolved oxygen measurement. It does not contribute input data to the MapShed model so the choice of the site where the assessment was conducted does not affect TMDL

nutrient and sediment loading values.

Stream Buffers and the MapShed Model

Paraphrased comment from:

- Town of Cumberland

Please describe how the model accounted for stream segments that have neither more than, nor less than, 75 feet of vegetated buffer. Were accommodations made in the model to account for the stream areas with more than 75 feet of vegetated buffer?

As described in Appendix 2 on MapShed Methodology, buffers on agricultural lands are treated as BMPs and used to adjust nutrient and sediment results from contributing landuses. Essentially, the model produces the nutrient and sediment values without riparian buffers, then model runoff loads are adjusted based on the length and width of the riparian buffers. The riparian areas in agricultural lands that have no buffers do not contribute towards the load reductions. Additionally buffer reductions do not apply on forested land and all appropriate accommodations and reductions were made based on riparian condition.

Livestock Counts and Modeling Methodology

Paraphrased comment from:

- Town of Cumberland

Were nitrogen and phosphorus modeling based on the assumed livestock counts? Did the model account for reduced loads from segments with more than 75-foot buffers? Please describe hay/pasture nutrient inputs and address the potential for double-counting. We are concerned that the required nutrient reductions are mostly based on one livestock observation in the lower third of the watershed.

The 50 cows were not assumed to be present, but were actually observed in the watershed. All observed livestock was used in the model, so 50 cows and 27 horses were used as input parameters. It was noted that the cows were in close proximity to the brook, but all livestock documented in the watershed are included in the model. Yes, the model accounted for reduced loads from segments with more than 75-foot buffers.

Describing the hay/pasture inputs requires a basic understanding of how the MapShed model works, basic model assumptions and how nutrient runoff coefficients are derived. This information is described in depth in Appendix 2 and on the MapShed Model website. Animal unit inputs are independent of landuse runoff coefficients and are not double-counted.

The livestock numbers are estimated due to the degree of difficulty of getting accurate numbers in any given watershed. It was decided to survey the watershed and count the animals that could be observed and use those numbers in the modeling. However, this approach has limitations and likely underestimates the actual numbers of animals in the watershed, which may result in lower nutrient load calculations. The

survey was not limited to the lower portion of the watershed and the assessment ID #s represent the results of observations made.

Interpretation of the TMDL/Waste Load Allocation Equations

Paraphrased comments from:

- Town of Cumberland
- Kristie Rabasca, Integrated Environmental Engineering

Please correct the TMDL discussion of Load Allocations versus Wasteload Allocations in this NPS TMDL, which does not address point-source pollution.

This usage of Load Allocations versus Wasteload Allocations in a TMDL is one that is open to interpretation. DEP's interpretation of the TMDL equation has been vetted by USEPA through the approval of past NPS TMDLs. We acknowledge the comment and thoughtful interpretation, but see no technical advantage to making the changes requested.

Description of Measures that Need to be Taken

Paraphrased comments from:

- Town of Cumberland

Please describe the measures that need to be taken by MEPDES permittees and include them in each watershed-specific appendix.

The TMDL does not require measures by MEPDES permittees. The 'Recommendation' section in each watershed specific summary describes the next steps towards implementation of the TMDL. Definitive measures need to be determined through a stakeholder process rather than as a prescription arising from DEP assessment and modeling efforts.

Natural Impairment

Paraphrased comments from:

- City of Lewiston
- Garrison Beck, Midcoast Conservancy

The MapShed modelling results found that no TMDL reductions were needed for a number of waterbodies (including No Name Brook and some Sheepscot Rivers tributaries) and only minimal reductions for others (including Stetson Brook). Given these results, the necessity of the TMDL and potential regulations are unclear. DEP should comment on the potential for natural impairments of these waterbodies.

All streams documented as impaired on Maine's 303(d) list are required to undergo a TMDL assessment

or demonstrate that they attain WQS. Prior to conducting the TMDL study, DEP did not know that the MapShed model would find that some streams would not needed any, or only small, pollutant reductions. These modeling results are unusual and DEP is weighing the best course of action. For some time, DEP has been looking into whether low DO levels in some waters are the result of natural conditions, but proving this condition is challenging. Where evidence exists that low DO is natural, DEP would consider listing these waters as natural, subject to approval by USEPA. In February 2015, USEPA developed a framework for defining and documenting natural conditions. This framework requires the development of site-specific WQS. Alternatively, gathering information and preparing the TMDL for USEPA approval is part of a process that will lead to removing these waters from the 303(d) list.

NPS Priority Watershed

Paraphrased comments from:

- City of Lewiston

Why are No Name and Stetson Brooks, which require no or only small pollution reductions, on the NPS priority list? Notification for the review of the NPS TMDLs should have occurred prior to the request for the removal of waters from, or addition to, the NPS Priority Watershed list.

These brooks have been on the NPS Priority Watershed list based on the original impairment listings due to low DO, and MapShed modeling results were not known prior to the TMDL study. The NPS Priority Watershed list sets priorities for eligible waters to receive 319 grant funds, and there are no regulatory implications for a stream that is on the list. The NPS TMDL has implications for the way DEP will manage and approach these waters in the future. From DEP's perspective, the timing of the release of the NPS TMDLs versus the NPS Priority Watershed list should not have any significant effect.

Watershed Source Assessment

Paraphrased comments from:

- Garrison Beck, Midcoast Conservancy

Please develop more accurate estimates for livestock, fertilizer application variability and hay field information, and revise Total Phosphorus loads.

This project employed peer-reviewed, quality-assured methods to collect field data. The concern that the field assessments do not accurately represent the actual conditions in the watershed has merit since an increase in time and efforts results in better values. Most field assessments face time constraints along with the pressure to summarize results for subsequent analysis and reporting; this project is no different. The results generated by the MapShed model are meaningful when compared to other watersheds and they provide a reasonable way to estimate the relative values of nutrients and sediments. This means the

project needed a consistent approach for data collection to minimize bias in the subsequent comparisons. Collecting the data in the manner the commenter suggests would introduce bias, unless it was done in all 30 watersheds. There is no logistical opportunity to collect more data on all the streams and revise the model for the purpose of the TMDL.

While revising the TMDL is not feasible, developing a watershed management plan (WMP) provides an opportunity to collect more accurate data and take an in-depth look at landuse conditions in the watershed. The WMP also has the advantage of being done with input from local stakeholders who are vested in the long-term health of the streams. The MapShed model could be revised for the WMP and has an add-on model called PRedICT (see Appendix 2), which estimates nutrient and sediment reductions from the application of BMPs.

Focus on Agriculture

Paraphrased comments from:

- Garrison Beck, Midcoast Conservancy

We request that DEP provide further comment on how agriculture can be presumed to be a leading cause of NPS pollution.

The NPS TMDL does presume agriculture is the source of the observed impairments and this relationship is described on page 12 of the TMDL. The connection between nutrient and sediment-laden runoff and impairment is well-documented (see Introduction section in the TMDL) for truly impaired waters, but this connection does not exist in waters that are not truly impaired. These are waters that may have low DO as a result of natural conditions, as is the case in some Sheepscot Rivers tributaries. TMDL assessments are not designed to accurately describe natural waters and attributing impairments to pollutant loads coming from forested areas is a symptom of this problem.

Watershed Management Collaboration

Paraphrased comment from:

- Garrison Beck, Midcoast Conservancy

It appears that WQ data from local stakeholders were largely disregarded. Please provide guidance on the applicability (implementation), severity and enforceability of this TMDL.

Stakeholders were not disregarded, but WQ data collection is a minimal part of the TMDL, which is based on information contained in the 303(d) list of impaired waters in Maine's biennial IR. Some data cited in the TMDL were collected by stakeholders, for example data from Chamberlain Brook, Whitefield at station CHABK001-F.

Section 7, Implementation and Reasonable Assurance in the TMDL document goes into details on what a

WMP entails and how to get started. The best place to start is by communicating with DEP staff involved with the 319 grant program, and more information can be found at http://www.maine.gov/dep/water/grants/319.html. Regarding the enforceability of the TMDL, please see DEP's response to 'Unintended Consequences', above.

Nutrient Management Ordinance

Paraphrased comment from:

- Garrison Beck, Midcoast Conservancy

We request that DEP provide further information on nutrient management ordinances.

Resources to pursue this recommendation are available through the Nutrient Management Program at the Maine Department of Agriculture, Conservation and Forestry.