

Memo

To: MidCoast TMDLs local stakeholder advisory committee (LSAC)

From: DEQ Project Team

Date: Jan. 8, 2018

Subject: MidCoast TMDLs – DEQ Status Report to LSAC

DEQ is providing this update on the status of the MidCoast Basin Total Maximum Daily Loads (TMDLs) development activities to the local stakeholder advisory committee (LSAC) and members of the Sediment, Dissolved Oxygen, Temperature and Bacteria Technical Working Group (TWGs). This update reports on progress and provides status information since the Feb. 17, 2017 LSAC update.

TMDLs development Schedule/Workplan: DEQ is periodically evaluating its TMDLs development Workplan and schedule, based on a combination of factors, including: the status of technical tasks, available resources, regulatory, legal and policy considerations, and the stakeholder involvement process. Our estimated schedules are shown below, followed by discussion of the current status for specific areas.

Freshwater Bacteria TMDLs: DEQ's efforts on the freshwater Bacteria TMDLs (load duration curves, LDCs) are currently focused on the completion of TMDLs documentation for LSAC review for specific watersheds according to the following schedule:

Estimated Schedule for LDC based freshwater TMDLs

Task	Target period for Completion
Upper Yaquina River Bacteria TMDL draft report	Spring-Summer 2018
Load Reductions developed	
Load allocations identified	
Load allocations provided to DMAs for development of implementation plans	
Watershed #2: Bacteria TMDL draft report	Dependent on completion of previous watershed

Big Elk Creek Bacteria TMDL: DEQ's efforts on Big Elk Creek watershed modeling will continue after completion of Upper Yaquina River Bacteria TMDL report.

Beach bacteria TMDLs: DEQ's efforts on the beach Bacteria TMDLs (recreational water contact) are currently focused on the completion of TMDLs documentation for LSAC review for specific beaches according to the following schedule:

Estimated Schedule for Beach (recreational water contact) TMDLs

Task	Target period for Completion
Nye, Agate, and Yaquina Bay State Park Beaches Bacteria TMDL draft report	Fall-Winter 2018/19
Load Reductions developed	
Load allocations identified	
Load allocations provided to DMAs for development of implementation plans	



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Seal Rock State Park Beach Bacteria TMDL draft report	Dependent on completion of previous Beach Report
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The estuarine waters TMDLs (to address fecal coliform in shellfish growing waters) will be developed following completion of the final Freshwater LDCs Reports because of the connection between land surface run-off bacteria loads and estuarine conditions.

Sediment/Biocriteria/Turbidity TMDLs

DEQ’s efforts on the Sediment/Biocriteria TMDLs will focus on the completion of TMDLs documentation for LSAC review for each watershed with 303d listed impairments according to the following overall approach:

Estimated Schedule for Sediment/Biocriteria/Turbidity TMDLs

Task	Target period for Completion
Watershed #1: Sediment/Biocriteria TMDL draft report	Dependent on staffing levels ¹
Load Reductions developed	
Load allocations identified	
Load allocations provided to DMAs for development of implementation plans	
Watershed #2: Sediment/Biocriteria TMDL draft report	Dependent on completion of previous watershed
Literature review distributed for TWG review	Dependent on staffing levels ¹

¹ Staffing levels are being adjusted since DEQ’s former analyst accepted a position elsewhere.

Adaptive Resource Management: There are no updates since the July 9, 2015 LSAC Update memo. DEQ will continue to develop an ARM framework for implementation of the MidCoast TMDLs in coordination with the LSAC and TWGs.

CZARA/ Coastal Nonpoint Pollution Control Plan (CNPCP): Oregon’s efforts to resolve outstanding CZARA/CNPCP issues are currently being reviewed by DEQ senior managers and there are no specific outcomes to report at this time.

Temperature TMDLs technical work:

In April 2017, the U.S. District Court for Oregon issued an Order in Case 3:12-cv-01751-AC (NWEA v. EPA), generally referred to as the Temperature TMDLs litigation. This litigation affected Oregon temperature TMDLs approved by the EPA between 2004 and 2010 along with several other issues. Certain steps in DEQ’s approach to addressing temperature impairments following the Court’s decision still need to be finalized. However, DEQ has committed to completing the temperature technical tasks and related source assessment, cumulative effects analysis, and implementation planning for temperature-impaired waterbodies in the Mid-Coast Basin. Based on these results, DEQ will prepare draft TMDLs for public review where the technical analysis shows that the stream temperature will be less than or equal to Oregon’s biologically based numeric criterion (BBNC) following full implementation of specific management strategies. If DEQ concludes that that a waterbody is naturally warmer than the BBNC based on the results of the technical analysis, DEQ will complete the technical documentation but will not issue draft TMDLs unless the legal situation allows (settlement, new state rules). DEQ is focused on completing the temperature technical analysis for the Yachats River watershed since, based on physical modeling, the BBNC can likely be achieved following implementation of realistic management strategies.

Current DEQ tasks include revising the Yachats temperature model and associated technical documents based on feedback from the Temperature TWG. Over the next six months, DEQ will engage with the Temperature TWG, LSAC and Designated Management Agencies to discuss TMDL allocations and a range of management strategies and alternatives to minimize anthropogenic warming in order to achieve the applicable temperature standard(s). DEQ will subsequently prepare a draft TMDL technical document for Temperature TWG and LSAC review.

Biocriteria and Turbidity (drinking water protection) technical work: The primary areas of activity on these topics include:

- **Biocriteria and Sediment Literature review:** DEQ is finalizing the literature review discussed with the TWG and developed with their input and help of an EPA consultant. Staffing levels will determine when the next Sediment TWG will be held to discuss the completed literature review since Peter Bryant, the former Biocriteria TMDLs analyst, left DEQ in mid-2017. The literature review will be used to support the source analysis model and to assist in evaluating connections between components of the model and potential management strategies and specific actions to be considered during implementation planning.
- **Biocriteria source assessment:** DEQ updated the source assessment model in response to comments received from an external consultant's review and TWG comments, and will use the model to finalize load allocations. We will present the revisions made to the model and preliminary load allocations to the TWG following release of the literature review and the next Sediment TWG meeting.
- **TMDL technical reports:** DEQ plans to develop separate TMDL technical reports for each watershed that has an identified biocriteria or sediment impairment. DEQ will coordinate with the TWG to develop a schedule for development of the TMDLs reports. Following the presentation of the load allocations and completion of the schedule, DEQ will schedule follow-up meetings with DMAs to discuss implementation planning.
- **Turbidity technical work:** The technical analysis for the turbidity impairment and 303d listing for the Siletz River drinking water protection will begin following completion of the biocriteria/sediment activities and subsequent distribution of technical documentation to the Sediment TWG for review and comment.

Bacteria TMDLs technical work: The bacteria TMDLs technical activities are focused on the following topical areas:

- **Calculations of Load Duration Curves (LDCs) for freshwater streams:** DEQ received feedback from Bacteria TWG members and others outside of the TWG on the LDC results. DEQ and the TWG developed repeatable methods to calculate the LDCs for more than 100 stations in the Mid-Coast basin and then report the results in standardized packets for 18 watersheds. This approach helps to ensure reproducibility and transparency in the TMDL development. DEQ reviewed and summarized the feedback about the LDC results for each of the 18 watersheds and presented the results to the TWG. DEQ and the TWG identified potential load allocations for sources in the watersheds using the results packets. DEQ plans to develop separate TMDL documentation and plans for each

waterbody/watershed that has an impairment. DEQ developed a sequencing approach for the development of the TMDLs in coordination with the TWG based on a combination of factors, including: status on 2010 (303d list) of impaired waters, on-site systems a potential source, shellfish growing impacted, TWG feedback, current restoration work, available resources, and stakeholder support. DEQ is currently developing the TMDL documentation for the Upper Yaquina River watershed. We plan to have a draft report completed in Spring-Summer 2018 that will be distributed for TWG and LSAC review and discussion with potential DMAs.

- **Development of LDC documents for the estuaries:** DEQ will use methods from the LDC calculation for freshwater streams and rivers; an approach for development of the LDCs for the estuaries that accounts for the fluxes of fresh and saline water has been selected and major components of this approach will use the same methods from the LDC calculations for the freshwater streams and rivers. Once the LDCs are completed for the freshwater streams and rivers, DEQ staff will begin the tasks for calculating the LDCs for the estuaries and a projected schedule will be distributed.
- **Development of the Big Elk Creek watershed model:** DEQ completed model uncertainty analysis and presented the results to the TWG in 2016. The next steps involve developing load reductions, source allocation scenarios and associated documentation. The Big Elk Creek watershed modeling is on hold and will continue when the Upper Yaquina River Bacteria TMDL report is completed.

Dissolved Oxygen (DO) technical work:

DEQ initiated the process of developing Dissolved Oxygen TMDLs for the freshwater rivers identified as Category 5 on Oregon's 303(d) list. DEQ convened a DO TWG and has held five meetings since Nov 19, 2015. There is active interest in this effort by TWG and LSAC members. The overall technical approach is to develop TMDLs on a watershed-by-watershed basis using continuous DO data collected during periods when data show DO standards are not consistently met as a basis for developing nonpoint source load and point source waste load allocations. Within each watershed, DEQ is:

- (1) Evaluating the amount and type(s) of data available for mechanistic modeling;
- (2) Where needed, conducting additional water monitoring needed to support development of mechanistic models;
- (3) Populating, calibrating and validating a process-based model, QUAL2Kw¹ (Pelitier et al. 2006), which will allow DEQ and the TWG to examine factors controlling dissolved oxygen dynamics in the river reach of interest;
- (4) Developing watershed models (using HSPF²) to link upland and riparian conditions, organic matter sources and nutrient sources to reach-scale QUAL2Kw models, and
- (5) DEQ will coordinate with the TWG and appropriate DMAs to develop a range of management strategies and scenarios and water quality monitoring plans aimed at assessing progress of TMDL implementation.

¹ <https://ecology.wa.gov/Research-Data/Data-resources/Models-spreadsheets/Modeling-the-environment/Models-tools-for-TMDLs>

² Hydrological Simulation Program—Fortran: <https://www.epa.gov/exposure-assessment-models/hspf>

DEQ invited LSAC & TWG members to identify and submit continuous DO data and supporting data (e.g., pH, temperature and nutrient concentrations), identify significant projects affecting riparian conditions (e.g., changes in land use activities or BMPs, vegetation establishment) as well as large wood placement and other instream restoration from recent monitoring activities in the MidCoast Basin that are not available via OWEB's OWRI database. DEQ will provide an electronic format to identify the data sources upon request. Contact Dan Sobota (sobota.daniel@deq.state.or.us; 503-229-5138).

DEQ sought input from TWG members on the sequencing of watersheds for dissolved oxygen TMDLs development and determined a sequence that attempts to balance regional monitoring priorities, data availability and stakeholder participation. DEQ began analyses with the Upper Yaquina River because data are readily available from DEQ's monitoring projects in 2008 and 2016. DEQ will refine the TMDLs approach in this watershed so that we can adapt and apply it elsewhere to local conditions. DEQ recently developed a coupled watershed-river model for the Upper Yaquina River that is a tool for use in identifying source locations and focusing management actions to meet DO standards. This process will also inform the development of monitoring and modeling in other MidCoast rivers that were placed on the 303(d) list by U.S. EPA in the 2010 and 2012 Assessment and Integrated Report cycles, where continuous DO data were not collected to the best of our knowledge (e.g., Siletz River, Big Elk Creek).

DEQ and local partners conducted continuous DO monitoring on the Salmon, Siletz, and Siuslaw Rivers in summer and fall 2017. DEQ plans to assess Beaver Creek and the Alsea River in 2018, and other rivers on the 303d list in 2019 and 2020. All of these monitoring projects will be designed to engage partners and identify opportunities to leverage limited resources. This approach resulted from discussions at the DO TWG meetings in September 2016 and February 2017. DEQ and partners are developing and implementing a collaborative monitoring and modeling effort for 2017 and beyond.

Estimated near-term schedule for development of dissolved oxygen TMDLs:

Task	Target Completion Date
QUAL2Kw reach model and HSPF models developed for current conditions and critical conditions for the Upper Yaquina watershed. Load and wasteload allocation scenarios presented to TWG and DMAs	Winter 2017/18
DO and supporting chemistry monitoring by DEQ and local partners on the Salmon, Siletz, and Siuslaw Rivers	Summer – Fall 2017 (complete)
DO TWG Meetings to discuss preliminary models for the Salmon, Siletz, and Siuslaw Rivers and 2018 monitoring schedule	Winter/Spring 2017/18
TMDL documentation and coordination with DMAs about management options in the Upper Yaquina Watershed	Winter/Spring 2017/18

Section 319 Nonpoint Source Grants

In December 2017, DEQ announced the availability of 2018 cycle Section 319 Nonpoint Source Grants to support implementation and planning projects. The RFP closes on January 8, 2018. DEQ solicited proposals from eligible organizations for projects in the MidCoast Basin addressing monitoring, assessment and best management practices implementation to promote the restoration of beneficial uses in impaired water bodies.

Oregon's project list will be sent to EPA for review and final determination of funding levels and successful projects later in the spring.

Project Information and Communication

Thank you for your continued interest and involvement in this TMDLs process. Please contact us if you have questions or comments. Updates and outputs will be posted at the MidCoast TMDLs project website <http://www.oregon.gov/deq/wq/tmdls/Pages/TMDLs-Basin-MidCoast-LSAC.aspx>

NOTE: DEQ migrated its website to a standardized State of Oregon platform in 2017. The majority of past MidCoast meeting information and materials have now been re-posted. For any materials not available on the website, we will make those available upon request.