

# Memo

**To: MidCoast TMDLs local stakeholder advisory committee (LSAC)**

**From: DEQ Project Team**

**Date: February 17, 2017**

**Subject: MidCoast TMDLs – DEQ Status Report to LSAC**

DEQ is providing this update on the status of the MidCoast Total Maximum Daily Loads (TMDLs) development to the local stakeholder advisory committee (LSAC) and members of the Sediment, Dissolved Oxygen, Temperature and Bacteria Technical Working Group (TWGs). It is meant to report on progress and provide status information since the August 22, 2016 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.

**Freshwater Bacteria TMDLs:** Based on current status and amount of work to be completed, we estimate that development of the freshwater Bacteria TMDLs (load duration curves, LDCs) will proceed according to the following schedule:

### Estimated Schedule for LDC based freshwater TMDLs

Task	Target period for Completion
Review TWG comments on LDC and report back to TWG	Dec-2014
Load Reductions developed and load allocations identified	Sept 2016
ODEQ begins consultation with DMAs to develop implementation plans for load allocations	Fall 2016
DMA Implementation Plans submitted to ODEQ	Spring 2017 (begin)
Develop Adaptive Resource Management plans	Spring 2017
Draft TMDL and WQMP <sup>1</sup> completed	Spring-Summer 2017

**Big Elk Creek Bacteria TMDL:** Based on current status and amount of work to be completed, we estimate that development of the freshwater Bacteria TMDL for Big Elk Creek (using watershed model, WM) will proceed according to the following schedule:

### Estimated Schedule for WM based freshwater TMDL for Big Elk Creek

TMDL for Big Elk Creek Task	Target period for Completion
Third party (consultant) review of model (started Jun-2015)	Nov-2015
Model uncertainty analysis	Summer 2016
Distribute model uncertainty analysis results to TWG members for review	Summer 2016
Receive model uncertainty results reviews from TWG members	Fall 2016
Load Allocations developed	Winter 2016-2017
DMAs consult with ODEQ to develop implementation plans for load allocations	Spring 2017
DMA Implementation Plans submitted to ODEQ	Summer 2017
Develop Adaptive Resource Management plan	Summer 2017

<sup>1</sup> Water Quality Management Plan (see OAR 340-042-0030)



State of Oregon  
Department of  
Environmental  
Quality

#### Water Quality/ Watershed Management

700 NE Multnomah Street,  
Suite 600  
Portland, OR 97232  
Phone: (503) 229-5696  
(800) 452-4011  
Fax: (503) 229-6762  
Contact: David Waltz  
waltz.david@deq.state.or.us  
541-687-7345  
[www.oregon.gov/DEQ](http://www.oregon.gov/DEQ)

# Memo

TMDL for Big Elk Creek Task	Target period for Completion
Draft TMDL and WQMP completed	Fall 2017

**Beach bacteria TMDLs:** Similarly, we estimate that development of the Beach (recreational water contact) TMDLs will proceed according to the following schedule:

## Estimated Schedule for Beach (recreational water contact) TMDLs

Task	Target period for Completion
Complete form used to review beach information and input about sources	Jan-2015
Distribute form and related information to TWG for review	Feb-2015
Receive Beach reviews from TWG members	May-2015
Review TWG comments on Beaches and report back to TWG	Jul-2015
Load Allocations developed	Spring 2017
DMA's consult with ODEQ to develop implementation plans for load allocations	Spring-Summer 2017
DMA Implementation Plans submitted to ODEQ	Fall 2017
Develop Adaptive Resource Management plan	Fall 2017
Draft TMDL and WQMP completed	Winter 2017

The estuarine waters TMDLs (to address fecal coliform in shellfish growing waters) will be developed following the Freshwater LDCs because of the connection between land surface run-off bacteria loads and estuarine conditions.

## Sediment/Biocriteria/Turbidity TMDLs

Based on current status and amount of work to be completed, we estimate that development of the draft Sediment TMDLs will proceed according to the following schedule:

## Estimated Schedule for Sediment/Biocriteria/Turbidity TMDLs

Task	Target period for Completion
Third party (consultant) review of biocriteria model	Jul-2016
Source Assessment Complete	Dec-2016
Literature review distributed for TWG review	Spring 2017
TMDL Allocations developed and distributed for TWG review	Spring-Summer 2017
DMA's consult with ODEQ to develop implementation plans for allocations	Summer 2017
DMA Implementation Plans submitted to ODEQ	Fall 2017
Develop Adaptive Resource Management plan	Fall 2017
Draft TMDL and WQMP completed	Winter 2017

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

Litigation update: Oral arguments have been scheduled by the court on the TMDL litigation for August 11 and DEQ's role will be determined (see January 2014 LSAC [memo](#) for links and information). Briefings to the court were completed in October 2015 and discussions among parties are continuing.



State of Oregon  
Department of  
Environmental  
Quality

### Water Quality/ Watershed Management

700 NE Multnomah Street,  
Suite 600  
Portland, OR 97232  
Phone: (503) 229-5696  
(800) 452-4011  
Fax: (503) 229-6762  
Contact: David Waltz  
waltz.david@deq.state.or.us  
541-687-7345  
[www.oregon.gov/DEQ](http://www.oregon.gov/DEQ)

# Memo

CZARA/ Coastal Nonpoint Pollution Control Plan (CNPCP): There is a multi-party effort underway to better define and address the gaps identified by EPA/NOAA for additional management measures for forestry in Oregon's CNPCP. The Board of Forestry riparian rulemaking process may address some of the protection gaps identified for salmon, steelhead, and bull trout for small and medium streams. In addition, the gaps for the other additional management measures for forestry are being discussed by agencies.

## Temperature TMDLs technical work:

The Temperature TMDL litigation has not been resolved but DEQ has committed to completing the temperature technical work and related source assessment, cumulative effects analysis, and implementation planning. Based on the results of this work DEQ will issue TMDLs where we can demonstrate that after implementation of management strategies the stream temperature will be less than or equal to the biologically based numeric criterion. Where the results of the technical analysis concludes that a waterbody is naturally warmer than the biologically based numeric criteria, DEQ will complete the technical work but not issue TMDLs unless the legal situation allows (settlement, new state rules, etc). DEQ will start with the Yachats River watershed since, based on modeling, the biologically based numeric criterion will likely be achieved with implementation of realistic management strategies.

Current DEQ work includes completing the "current conditions" temperature and solar flux/effective shade models and preparing related documentation. The next temperature TWG meeting will include a presentation and discussion of these results. Over the next year, DEQ and the Temperature TWG will identify and discuss a range of management alternatives to minimize anthropogenic warming and achieve the applicable temperature standard(s).

**Biocriteria and Turbidity (drinking water protection) technical work:** The primary areas in which work is progressing include:

- **Biocriteria and Sediment Literature review:** The contractor has completed extractions of study results and DEQ is completing a draft of the Literature Review to distribute to the TWG for review and comment. The completed draft will be distributed in Spring 2017 and will be discussed at the next TWG meeting (to be held in Spring 2017). The completed 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 actions to be considered during implementation planning.
- **Biocriteria:** DEQ has updated the source assessment model in response to comments received from the consultant review and is working to finalize load allocations. We will present the revisions made to the model and proposed load allocations after the Sediment TWG meeting to discuss the literature review (Spring 2017). DEQ plans to develop separate TMDL plans for each watershed that has impairment. DEQ will coordinate with the TWG to develop a schedule for development of the TMDLs. Following the presentation of the load allocations and completion of the schedule, DEQ will hold follow-up meetings with DMAs to discuss with implementation planning.
- **Turbidity technical work:** The analysis to address the 303(d) listing for Siletz turbidity will begin following completion of the biocriteria/sediment modeling and subsequent distribution to the Sediment TWG.



State of Oregon  
Department of  
Environmental  
Quality

## **Water Quality/ Watershed Management**

700 NE Multnomah Street,  
Suite 600  
Portland, OR 97232  
Phone: (503) 229-5696  
(800) 452-4011  
Fax: (503) 229-6762  
Contact: David Waltz  
waltz.david@deq.state.or.us  
541-687-7345  
[www.oregon.gov/DEQ](http://www.oregon.gov/DEQ)

# Memo

- **Statewide Biomonitoring Program** (see July 9, 2015 LSAC update for background information)

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



State of Oregon  
Department of  
Environmental  
Quality

**Water Quality/  
Watershed  
Management**

700 NE Multnomah Street,  
Suite 600  
Portland, OR 97232  
Phone: (503) 229-5696  
(800) 452-4011  
Fax: (503) 229-6762  
Contact: David Waltz  
waltz.david@deq.state.or.us  
541-687-7345  
[www.oregon.gov/DEQ](http://www.oregon.gov/DEQ)

- **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 automated 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 automation 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. DEQ then 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 plans for each watershed that has impairment. DEQ developed a [schedule](#) for development of the TMDLs in coordination with the TWG. DEQ will start working with DMAs on implementations plans for the WQMP and will complete the first of these draft TMDLs in summer 2016. DEQ will continue working on TMDLs for the remaining watersheds and anticipates completion of those reports throughout fall 2016.
- **Development of methods for the LDCs for the estuaries:** DEQ will use methods from 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 is working with a consultant to review the Big Elk Creek watershed model. The consultant will verify the setup and execution of the model. This review will ensure that the model is performing as expected. Once the review is completed, DEQ will complete parameter estimation using model performance measures and then conduct model uncertainty analysis. DEQ is also working to extend the simulation time-period to include more recent bacteria sample data. DEQ worked with a consultant to extend the time-period covered in the meteorological data. Also, DEQ worked with a consultant to review the bacteria model. The review focused on coding.
- **Development of the Upper Yaquina River watershed model:** DEQ is working with a consultant to develop a watershed model for the Upper Yaquina watershed that is similar to the model developed for Big Elk Creek watershed. The model for the Upper Yaquina will be used to assist with implementation and adaptive management by comparing possible management scenarios. The water quality information from the model will then be used in economic analysis of management alternatives and for setting water quality milestones in the adaptive management cycle. The consultant started development of the model in fall 2015 with completion of the model anticipated in summer of 2016.

# Memo

- **Development of methods for interpretation of load reductions for beaches:** DEQ worked with the TWG to develop a method to review the bacteria data for the MidCoast beaches. This method is similar to the LDC results packet, except DEQ and the TWG decided to make the review method entirely electronic. The data is displayed via a Google Earth interface and review information is collected via electronic forms. DEQ set the review period from Feb to May 2015. TWG member and others reviewed the beach information and provided feedback. DEQ analyzed the information from these reviews to identify potential sources for load allocations. DEQ presented the results of the analysis to the TWG in July 2015. DEQ is working on the TMDL allocations and will present the allocations to the TWG for review and discussion in fall 2016.

## **Dissolved Oxygen (DO) technical work:**

DEQ initiated the process of developing TMDLs for the MidCoast freshwater rivers identified as Category 5 on Oregon's 303(d) list. DEQ convened a Dissolved Oxygen TWG and held four meetings since Nov 19, 2015. There is active interest in this effort by TWG and LSAC members. The overall technical approach will be to develop TMDLs on a watershed-by-watershed basis using continuous dissolved oxygen data as a basis for load and waste load allocations. Within each watershed, DEQ will:

- (1) Evaluate the amount and type(s) of dissolved oxygen data available for mechanistic modeling;
- (2) Populate, calibrate, and validate an appropriate version of the QUAL2Kw model (Pelitier et al. 2006), which will allow DEQ and the TWG to examine factors controlling dissolved oxygen dynamics in the river reach of interest; and
- (3) Develop a watershed model (HSPF) to link upland and riparian conditions, organic matter sources, and nutrient sources to the reach-scale QUAL2Kw.
- (4) DEQ will then work with the TWG and appropriate DMAs to develop alternative management scenarios and water quality monitoring plans aimed at assessing progress of TMDL implementation.

DEQ invites LSAC & TWG members to identify and submit continuous dissolved oxygen data (and supporting water quality data such as pH, temperature, and nutrient concentrations) that are available from recent monitoring activities in the MidCoast Basin that haven't already been submitted to DEQ, EPA or OWEB. DEQ will provide an electronic format to identify the data sources upon request. Contact Dan Sobota ([sobota.daniel@deq.state.or.us](mailto:sobota.daniel@deq.state.or.us); 503-229-5138).

DEQ sought input from TWG members on the sequencing of watersheds for dissolved oxygen TMDL development. We started our analysis with the Upper Yaquina River because data are readily available from DEQ's monitoring projects. We plan on developing and refining the TMDL approach in this subbasin so that we can apply it elsewhere adapting to local conditions. We also envision that this process will help inform the development of monitoring 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 dissolved oxygen data were not collected to the best of our knowledge (e.g., Siletz River, Big Elk Creek).

DEQ and local partners plan to conduct continuous DO monitoring of several of the 303d listed rivers in 2017 and are developing a monitoring plan for the next 3-5 years to aid in engaging partners and identifying resources. We solicited feedback for review at the June 29 and September 27 TWG meetings and devoted portions of the meetings to this topic. Based on that discussion, we learned that multiple parties are interested in participating in a collaborative monitoring effort and are preparing for those activities in 2017 and beyond.



State of Oregon  
Department of  
Environmental  
Quality

## **Water Quality/ Watershed Management**

700 NE Multnomah Street,  
Suite 600  
Portland, OR 97232  
Phone: (503) 229-5696  
(800) 452-4011  
Fax: (503) 229-6762  
Contact: David Waltz  
waltz.david@deq.state.or.us  
541-687-7345  
[www.oregon.gov/DEQ](http://www.oregon.gov/DEQ)

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

Task	Target Completion Date
Distribute document detailing technical approach for modeling DO in Mid Coast Rivers	February 2017
Provide preliminary results from QUAL2Kw model runs on the Upper Yaquina River based on data collected in 2008 and 2016	February 2017
Final QUAL2Kw reach model and HSPF models for load and waste load allocations selected and developed for Upper Yaquina watershed	May 2017
DO and supporting chemistry monitoring by DEQ and local partners on the Salmon and Siletz Rivers	Summer – Fall 2017



State of Oregon  
Department of  
Environmental  
Quality

### Water Quality/ Watershed Management

700 NE Multnomah Street,  
Suite 600  
Portland, OR 97232  
Phone: (503) 229-5696  
(800) 452-4011  
Fax: (503) 229-6762  
Contact: David Waltz  
waltz.david@deq.state.or.us  
541-687-7345  
[www.oregon.gov/DEQ](http://www.oregon.gov/DEQ)

### **319 Nonpoint Source Grants:**

In late February, DEQ plans to announce the availability of 319 Nonpoint Source Grants to support implementation and planning projects that address water quality problems in surface and groundwater resources resulting from NPS pollution. DEQ will accept proposals from eligible organizations for projects that will lead to the restoration of beneficial uses in impacted water bodies. The Request for Proposals (RFP) will be widely distributed and geographic priorities for the MidCoast Basin will be identified.

### **Project Information and Communication**

Thank you for your patience and continued 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.

*NOTE: DEQ is migrating its website to a standardized State of Oregon platform. In the process, many of the past MidCoast meeting information and materials have not been re-posted. We're working on making past meeting materials available. Here is the new Project website link:*  
<http://www.oregon.gov/deq/wq/tmdls/Pages/TMDLs-Basin-MidCoast-LSAC.aspx>