

## Deschutes River, Capitol Lake, and Budd Inlet TMDL Advisory Group Meeting

Thursday, November 21, 2013

9:15 a.m. to 11:55 a.m.

### Attendees

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#### Citizens

- John DeMeyer
- David Milne

#### Deschutes Estuary Restoration Team (DERT)

- Dave Peeler

#### Ecology, WA State Dept. of

- Dustin Bilhimer
- Lisa Cox
- Betsy Dickes
- Andrew Kolosseus
- Lydia Wagner

#### Enterprise Services (DES), WA Dept. of

- Carrie Martin

#### LOTT Clean Water Alliance

- Laurie Pierce

#### Olympia, City of

- Laura Keehan

#### Olympia Yacht Club

- Jim Lengenfelder

#### Squaxin Island Tribe (SIT)

- Erica Marbet
- Scott Steltzner

#### Thurston County

- Sue Davis
- Lawrence Sullivan

#### Thurston Public Utility District

- Chris Stearns

#### Transportation (WSDOT), WA State Dept. of

- Emily Miller

#### Tumwater, City of

- Dan Smith

### General Updates

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- The draft **2014 Meeting Dates** are scheduled and available online at <http://www.ecy.wa.gov/programs/wq/tmdl/deschutes/advgrp.html>. With one exception, all meetings are back at the Tumwater Fire Department. In March we are scheduled to meet at the LOTT Clean Water Alliance facility.
- The Swinomish Tribe and Puget Soundkeeper Alliance have launched a new website called “**What’s Upstream**”. Their goal is to inform the public about leading causes of water pollution and how that pollution affects salmon in Washington. More information is available at [www.whatsupstream.com](http://www.whatsupstream.com).
- The Deschutes Estuary Restoration Team (DERT) has premiered a newsletter called “**Imagine the Estuary: Where the River Meets the Sea**”. The first edition is available online at [http://www.deschutesestuary.org/wp-content/uploads/2013/11/Newsletter\\_Fall13\\_web.pdf](http://www.deschutesestuary.org/wp-content/uploads/2013/11/Newsletter_Fall13_web.pdf).

### TMDL Timeline and Process Update

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Andrew Kolosseus and Lydia Wagner, WQ/SWRO

Ecology is reconsidering the option of splitting this TMDL project into two submittals – freshwater and marine water. If this happens, we can move forward with the freshwater portion, including addressing local non point sources draining into Capitol Lake. Ecology staff is optimistic they can complete and submit this portion to the EPA by June 2014 or earlier. There is still more work needed to determine how external sources from the northern project area in Budd Inlet are impacting the dissolved oxygen levels. Splitting the TMDL would allow Ecology more time to conduct additional marine water modeling. We can still begin or continue discussions on impacts to the marine waters before the marine TMDL is completed. Identifying potential load impacts

that are coming in from outside of Budd Inlet will take longer since more information is needed. While one phase of the South Puget Sound Dissolved Oxygen (SPSDO) study is done, the sediment work could turn into a two year study. The Water Quality Program will ask the Environmental Assessment Program to run additional models runs to help determine the effects of the external sources. We do not know how much longer this work will take. Ecology staff is not confident they have enough specifics to use in determining the appropriate load and wasteload allocations for the marine waters. If external impacts are indeed a consideration, discussions with others beyond this advisory group need to occur.

**Q:** *What does Ecology mean when they say the freshwater piece is almost done?* **A:** Staff is working on the draft implementation actions, and wasteload/load allocations, with the information already discussed with the advisory group and through internal discussions.

**Q:** *How will Ecology address nutrients in the watershed?* **A:** We can't fully determine the nitrogen loading for the Deschutes River at this time. We would leave phosphorous out of the freshwater TMDL and address it in the marine water TMDL. The scenario runs for dissolved oxygen in Budd Inlet were evaluating influences other than nonpoint sources. We can look at the tributaries coming into the Deschutes River. The ones indicating the best condition scenarios will help us establish the load and wasteload allocations. At this time we cannot determine the necessary nitrogen reduction for the Deschutes River or Budd Inlet. However, we can still identify implementation actions which will result in improvements to both waterbodies.

**Comment:** Ecology needs to consider the public reaction to this process and to any changes in the timeline. Ecology needs to justify any changes and ensure nitrogen sources will get addressed in the process. **Ecology Response:** We cannot finalize a nitrogen target until we have more information, partly because it is a key factor in the phosphorus contribution. We will provide load allocations for the freshwater TMDL portions by addressing nutrient issues through stormwater permits. We are having ongoing discussions with the various permit managers to identify problem areas and concerns and considering options to address these in both the TMDL and in future versions of the permits. Any identified actions will get incorporated into the Implementation Plan section of the TMDL submittal to the EPA.

**Q:** If you separate the freshwater portion you can get this part completed? **A:** Yes.

**Q:** Does the Budd Inlet/marine water information results from the model runs impact the Deschutes River watershed? **A:** Yes, but the additional information regarding nitrogen is minimal. We will address nitrogen in the Deschutes River part of the freshwater sections of the TMDL.

**Comment:** Concerned that in the lower reach one of the major sources of nitrogen is septic systems and how this relates to WWTP facilities and mitigation. LOTT is working on reclaimed water and satellite plants in the Deschutes watershed and these could impact some of the solutions for septic systems. **Response:** We can make the connections to the relationships between the two but not provide specific reduction loads at this time.

**Comment:** *What is Ecology basing the nutrient reductions on? Is it existing model information or new information?* **Response:** The Budd Inlet modeling already completed addressed specific issues to Budd Inlet. The SPSSDO Study is looking broader into the whole Puget Sound area.

**Comment:** This process is frustrating. *When is enough information enough?* While it is always good to have more information, Ecology is currently making decisions based on data that is 10+ years old. Ecology should consider nutrient reduction across the board for everyone. **Response:** Addressing nutrients is an expensive process for all affected WWTPs. The Clean Water Act (CWA) has two ways to address the process of getting to clean water: water quality based limits and technology. All WWTPs currently are required to have secondary treatment. For these reasons, Ecology chooses to use the water quality based approach which does take longer to complete. **Comment:** The longer you wait the more expensive it gets for WWTPs. They are enterprise funded and can share the cost with the customers.

**Comment:** Emily, WSDOT, stated their permit is up for reissuance next year. If the Deschutes TMDL is not EPA approved yet, it will not get folded into the permit until the next revision cycle in 18 months. This affects their ability to prioritize implementation actions related to this TMDL at the present time.

**Q:** *How long does it take for EPA to approve a TMDL?* **A:** Generally 60 days. It could take more or less time depending on the issues. If we complete the freshwater portion and submit it to EPA by June 2014, it is feasible EPA could approve it by August 2014.

**Comment:** We understand the Salish Sea model still has a way to go. Our main concerns are what to do with Capitol Lake and the dam. Ecology should know which POTWs are discharging into marine waters. Point sources such as LOTT and other WWTPs need some certainty about their discharge points and wasteload allocations. If Ecology does not establish these now, these facilities are more likely to wait on making changes until the TMDL is completed. They could also make changes that may not adequately address the problems for Budd Inlet. **Response:** While we are aware of the POTWs discharging, we are not ready yet to calculate wasteload allocations (WLAs) for the marine portions until the SPSDO Study and additional model runs are completed.

Ecology is seeking input from the advisory group. *Do you think splitting up the TMDL into a freshwater portion and marine water portion is a good idea? What are the pros and cons?* **Note:** If you have comments, questions, or suggestions on this issue, send them to Lydia Wagner at [Lydia.Wagner@ecy.wa.gov](mailto:Lydia.Wagner@ecy.wa.gov) by close of business on December 10, 2014.

The following are comments received during this meeting.

- Ecology should move forward and finish the freshwater portion.
- If Ecology delays this process further it could impact the message to local government managers and it could change the reduction targets and implementation actions needed. He supports the expedited approach so Ecology can move forward. He sees addressing the marine portions later as adaptive management.
- Recommends Ecology speeds up the process and keep the fresh and marine waters together. Ecology can address any necessary changes through the adaptive management process. **Response:** We have precedent for establishing targets in a TMDL and later further refining those targets based on new or updated information.
- *Will there be consensus from the Advisory Group on whether to split the TMDL?* **Response:** No, this is not a consensus-driven decision. Ecology will review and consider all comments provided by this group, in addition to the ongoing internal discussions.

## South Puget Sound Dissolved Oxygen (SPSDO) Study Update

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Andrew Kolosseus, WQ/SWRO

*The following are key points, comments, or questions made during this presentation.*

The slides addressed the Dissolved Oxygen Modeling Results for South Puget Sound and the Salish Sea. Two reports came out of this study (available on Ecology's website with links provided in these notes) and specifically target:

1. South and Central Puget Sound
2. Salish Sea including Puget Sound

**Slide 2:** *What are the nitrogen sources?* Watershed inflows, exchange of marine water, marine point sources, sediment flux, atmospheric deposition.

**Slide 3:** The dots represent rivers, WWTPs, Victoria, Canada, and anthropogenic sources.

**Slide 4:** Ecology's water quality standards (WQS) have two parts. The first part is numeric standards. The model showed under natural conditions we are violating WQS almost everywhere naturally. Ecology is most concerned about the second part of the WQS. Comment: It is surprising to see such a widespread amount of violations. Response: This is due in part to low marine water flowing into this section.

**Slide 5:** The second part of the WQS states that human caused activities cannot lower dissolved oxygen levels by more than 0.2 mg/L. The model results show violations in East Passage, Case Inlet, Carr Inlet, and some in Totten, Eld, and Budd Inlets. Remember the resulting number in this model for Budd Inlet is **not** the same as the results from the Budd Inlet TMDL model. The SPSSDO model is calibrated for the Puget Sound and not for Budd Inlet. For the Puget Sound model, the data available in 2007 was used to predict results in two scenarios. The first run was with no human sources and the second run with human sources. The results shown on this slide came from subtracting one from the other.

- **Comment:** This is one of the unexplained things showing problems in Budd Inlet. Mindy Roberts is already on record saying the 0.2 mg/l is meaningless. **Response:** The 0.2 mg/L is very important to our work. Remember the Capitol Lake dam is **not** included in the SPS model. The Budd Inlet model has much finer resolution so you're averaging more information over more grid cells. The SPS model has only a few grid cells with higher resolution in Budd Inlet.
- **Comment:** The grid size cells should be consistent in the different models. **Response:** These studies did not happen simultaneously. We did not know when the Deschutes/Budd Inlet model runs began that there would eventually be a correlation between them and the SPS model.

**Slide 6:** In this scenario the rivers were set to natural conditions and most of the violations go away. The WWTPs are bigger piece of the puzzle than the rivers.

**Slide 7:** South Puget Sound has the same problems we see in Budd Inlet. *What about sources north of the model boundary?* By themselves didn't cause violations but they do lower the DO levels. While never more than 0.2 mg/L, it is almost to 0.2 mg/L so we can't overlook the effects from rivers.

- **Comment:** It appears that the farther away you get from the sources the more impact you have. **Response:** This is due to the circulation patterns.

- **Q:** *Did you make an effort to distinguish how much river loading was from upstream WWTP?* **A:** We teased out the anthropogenic sources. For example, five miles upstream there is no easy way to calculate the loading.

**Slide 8:** We looked at future conditions and possible impacts to oxygen depletion. We took entire sections (grid cells) and averaged all the water throughout September and October. We found the southern and central Puget Sound was impacted.

**Slide 9:** We considered future growth and added, for example, population, climate, and river flow predictions.

- **Q:** *Did you use current treatment levels?* **A:** Yes. We could accommodate growth by incorporating additional treatment.
- **Q:** *Do you think we'll be encouraging this additional treatment by all WWTPs?* If so, we should start these conversations now. **A:** Unknown at this time.
- **Comment:** This is a coarse model and the SPS model shows there is impact. We'll need to see nutrient removal before 2040. This area seems to be causing problems further down into the Budd Inlet area. Ecology needs to consider looking at anthropogenic loading and climate change for future growth.

**Slide 10:** We looked at future ocean situation and circulation and extrapolated out 50 years. We don't know how much is human caused and how much is cyclic. Future loads may/may not be caused by humans. For example, if there is less snow packs in the winter this will impact freshwater in spring and summer.

It is possible the final report will get published in January 2014.

Please remember the SPSDO study has a broader focus than just the Deschutes River watershed. More information about this and related studies is available online.

- **South Puget Sound Dissolved Oxygen Study, Water Quality Model Calibration and Scenarios** (External Review Draft, October 2013): [http://www.ecy.wa.gov/puget\\_sound/dissolved\\_oxygen\\_study.html](http://www.ecy.wa.gov/puget_sound/dissolved_oxygen_study.html)
- **Dissolved Oxygen Assessment for Puget Sound and the Straits Impacts of Current and Future Human Nitrogen Sources and Climate Change through 2070** (External Review Draft, October 2013): <http://www.ecy.wa.gov/programs/wq/PugetSound/SalishSeaScenarioRptextrevdraft101113.pdf>
- **Dissolved Oxygen Modeling Results for South Puget Sound and the Salish Sea (Puget Sound, Strait of Juan de Fuca, Strait of Georgia of US and Canada) – Briefing for Advisory Committees**, October 15, 2013, presentation slides: [http://www.ecy.wa.gov/puget\\_sound/docs/20131015\\_SPS\\_DO\\_presentation.pdf](http://www.ecy.wa.gov/puget_sound/docs/20131015_SPS_DO_presentation.pdf).
- **Puget Sound/Salish Sea Model website:** <http://www.ecy.wa.gov/programs/wq/PugetSound/DOModel.html>
- **Nitrogen in the Puget Sound Ecosystem website:** <http://www.ecy.wa.gov/programs/eap/Nitrogen/>
- **Saving Puget Sound publications website:** <http://www.ecy.wa.gov/programs/wq/PugetSound/DOModelpubs.html>

The presentation slides are available online at

<http://www.ecy.wa.gov/programs/wq/tmdl/deschutes/advgrp.html>, along with the November 21, 2013 meeting notes and agenda. The document name is *112113DeschutesAdvMtgSPS-Salish-AKolosseus.pdf*.

## Proposed GIS Nutrient and On-site Septic Systems Analysis

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Dustin Bilhimer, Ecology, WQ/HQ

Ecology staff met with Thurston County staff to discuss nutrient loading from groundwater sources and possible loading from on-site septic systems (OSS). One concern is that Ecology should consider groundwater connections to the Deschutes River. Another is to consider the density of the OSS to waterbodies with highly permeable soils. An OSS does not remove nitrogen. Areas with less permeable soils are at higher risk. Dustin is working on upgrading some maps to target parcels marked residential or agricultural. He is looking at the Thurston County UGA and assuming residential partials outside the UGA are likely on an OSS. We'll look at each stream reach and the density of the OSS within 500 feet of the rivers. Where are the areas of high density and where are the highly permeable soils.

**Q:** *Can Dustin add a layer identifying the municipal stormwater permit coverage area?* Another suggestion was to identify infrastructures such as ditches near properties to indicate flow direction. **A:** We can focus on the parcels where the house is next to a stream and there's a septic system and groundwater flowing into the waterbody. **Comment:** Some systems don't operate properly and overflow could go into the conveyance which impacts the water quality further downstream.

**Comment:** Ecology is conducting or considering two analyses. One is close proximity to permeable soils and the other is the concentration of OSS.

**Comment:** In this basin there are a lot of septic systems that fail for groundwater standards because it infiltrates. Septic systems on permeable soil could contribute nitrogen to the ground but not bacteria. Highly permeable soils in the upstream are not a bacteria problem. Thurston County staff does not want to look at all the conveyance systems when only a small percentage is a true nutrient problem area.

**Q:** *What is the loading standard?* **A:** We look at the dissolved oxygen standard and consider the beneficial use for fish. We won't look at potential loading for OSS because we don't have the data. We want to focus on most potential problem areas. We want entities to be able to focus their efforts where it will achieve the most benefit.

**Comment:** Nutrient concentrations have a direct effect on the DO problems in the marine waters. **Response:** Ecology will set targets all along the Deschutes River. At the mouth the target is what could get ratcheted down as the result of the South Puget Sound additional model results. Ecology is more concerned about nutrient loading into Budd Inlet and will address those sources in the freshwater part of the TMDL.

**Q:** *Why pick 500 ft to look at OSS? Why not different distances to surface waters?* **A:** This was just a number chosen as a starting point. Some parcels extend out farther than 500 ft. **Q:** *Are you going to map a 500 ft buffer?* **A:** We can clip those buffer areas and summarize them with OSS within that buffer area.

**Q:** The risk is most likely greater the closer the system is to a waterbody. *Can Ecology or Thurston County help to identify the highest risk potential and how many more locations are we going to pick up?* **Response:** Thurston County staff wants to separate the bacteria issue from the nitrogen loading issue. If the OSS is failing to the surface, it is a failure. Outside the UGA there isn't a good solution to the problem. In the Marine Recovery Area they use a 250 ft. buffer because this was a good area where they could dye test in the conveyance area. They are trying to address surface runoff because if the soils are highly permeable this increases the potential of the OSS to fail, resulting in more runoff problems.

### **Stormwater Permits/TMDL Crossover/Wasteload Allocations**

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Dustin Bilhimer, Ecology, WQ/HQ

The wasteload allocations (WLAs) for municipal stormwater are going to be part of the freshwater TMDL. Ecology staff met with some of the permit managers to identify areas of concern. For example, there are a couple permitted Sand and Gravel facilities that have turbidity issues in this watershed. If these sites go inactive, an implementation action could be to have a site reclamation plan which would incorporate wasteload allocations. Another example is a facility with settling ponds which have the potential for avulsions that we would like to see mitigated before this occurs.

Further discussion is still needed with Dustin, Lydia, and Lisa and individual Municipal Stormwater Phase 2 permittees. **Comment:** Remember the WSDOT has their own NPDES Municipal Stormwater Permit and need to be included in these discussions.

Dustin and Lydia met with permit managers to discuss potential problem areas which could impact this TMDL. Specifically they met with Paul Stasch, Industrial Stormwater General Permit Manager, Chris Johnson, Sand and Gravel General Permit Manager, and Lisa Cox, Phase II Municipal Stormwater Permit Manager. They will continue having discussions with them about potential implementation actions to incorporate into the TMDL. It is possible these actions could get incorporated into the next version of the permit.

**Q:** *Will the industrial stormwater permit problem areas get discussed at an advisory group meeting?* **A:** Yes. Staff is updating the draft implementation actions tables which are an agenda item for the December 19 meeting.

**Comment:** There are concerns about potential discrepancies of different regulations/requirements between the permit authority and TMDL implementation actions. **Response:** The permit outlines the legal authority as the boundary conditions of the permittee for their MS4 conveyance systems. If groundwater gets to the conveyance of the permittee, then it is their responsibility to appropriately manage it.

**Comment:** Ecology should consider talking to Kitsap County because there were different authority levels in their area and Ecology could find out how those situations were resolved. Perhaps there is something there that could prove useful for this TMDL.

## Open Comments

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**Jim Lengenfelder:** Considering the timing of this TMDL and the information presented today on the South Puget Sound Dissolved Oxygen Study and its development, it only makes sense that we make a decision to finish the freshwater part of the TMDL and move on. It is clear there is going to be more work needed for the marine water part of this effort.

**Lisa Cox:** She noted that at the September meeting there was a question about the jurisdictional boundary for the Stage II Municipal Stormwater General Permit and when it will be updated. She stated the maps are close to being completed and hopes they are finished by the end of 2013. New areas were defined through the census or other ways. As a follow up, Dustin Bilhimer stated there are some issues with data we received from the Washington State Office of Financial Management (OFM). Ecology wants to make sure we have the most current information available. He further stated the maps he is working on will show the details of the jurisdictional lines but not of the collection systems.

**David Milne:** Are there any paper copies available of the draft South Puget Sound Dissolved Oxygen Study?

**Response:** *Not at this time. The draft report is available online at [http://www.ecy.wa.gov/puget\\_sound/docs/SPSWQrpt\\_externalreview\\_draft\\_20131011.pdf](http://www.ecy.wa.gov/puget_sound/docs/SPSWQrpt_externalreview_draft_20131011.pdf). After this report is in final form, Ecology will provide some hard copies for distribution a future Deschutes TMDL Advisory Group meeting.*

**Scott Steltzner:** *Is there a deadline for when Ecology will accept comments and feedback on the option of splitting out the TMDL?* **Response:** Please submit comments to Lydia Wagner at [Lydia.Wagner@ecy.wa.gov](mailto:Lydia.Wagner@ecy.wa.gov) by December 10.

## Next meeting

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Date: Thursday, December 19, 2013  
Time: 9:00 a.m. – 12:00 noon  
Place: Dept. of Natural Resources and Correctional Industries building  
801 88<sup>th</sup> Ave. SE, Tumwater, WA