



State of Oregon Department of Environmental Quality  
**Willamette Mercury TMDL Webinar on  
March 7, 2019**

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## List of Submitted Questions

(note: times indicated are EST)

1. [12:19:56 PM] **Brad Barnhart - NCASI: Sharing controls are disabled "by policy". Could these slides be sent out to the group via email or via some other mechanism? Thanks.**

Presentation was emailed out to the participants.

2. [12:25:11 PM] **Mary Scurlock: What is the line between shrub and forest lands in this analysis?**

See recorded webinar for response.

3. [12:25:32 PM] **Mike Powers, Jo Morgan: Does shrub land include agriculture?**

See recorded webinar for response.

4. [12:27:34 PM] **Brad Barnhart - NCASI: Unfortunately, I do not have any of these options to download the presentation. It would be great if you could email it out. Thanks.**

Presentation was emailed out to the participants.

5. [12:28:26 PM] **Richard Wildman: On Slide 14, what is the pie slice for "DMAs"?**

See recorded webinar for response.

6. [12:42:53 PM] **Raj Kapur: Many things have changed since the 2006 TMDL that necessitate a new look at the assumptions used in the TMDL. This includes a new fish tissue criteria based on a fish consumption rate that is 10 times the previous rate (175 g/d vs. 17.5 g/d). We should not default to the NPM as it is not a target fish that is broadly consumed. We should be looking at a theoretical fish that represents the various type of fish being consumed.**

[12:47:02 PM] AH, PW: Raj- we appreciate your comment, however this question has been addressed several times in previous advisory committee meetings. This is a policy related issue and will be tracked with other policy related items.

7. [12:45:39 PM] **Richard Wildman: "Signeur et al. estimated that 1/3 of Hg deposition"... Deposition where?**

[12:53:18 PM] Schmidt, Michelle: Mercury deposition over the continental United States.

8. [12:54:52 PM] **Brad Barnhart - NCASI: Regarding Signeur's results: Hope and Louch (SETAC 2013, "Pre-anthropocene Mercury Residues in North American Freshwater Fish") may have conflicting conclusions. It might be worthwhile to review this paper and see how it relates/compares to the 2004 Signeur paper.**

Thank you for your comment.

9. [12:55:37 PM] **Brent Stevenson: how is the mitigating action of applying water for irrigation addressed in the load allocations. Because the atmospheric deposition is being treated as non controlable actions that offset or mitigate should be given a credit in load allocation levels or model?**

[1:10:44 PM] AH, PW: Brent- thank you for the question. We will track the credit or the credit reduction element of this question with other policy related items.

Note: DEQ does not have the data necessary to assess the hypothesis presented by Brent.

10. [12:59:14 PM] **Brad Barnhart - NCASI: Sorry, here's the citation: Hope, B.K. and Louch, J., 2014. Pre-anthropocene mercury residues in North American freshwater fish. Integrated environmental assessment and management, 10(2), pp.299-308.**

Thank you for the citation.

11. [1:08:33 PM] **Richard Wildman: Sorry, the question about LOADEST must not have been phrased clearly. To rephrase, what was the range of flows that were used as inputs to the LOADEST model, and do they match the distribution of observed flows in the river?**

[1:20:39 PM] **Butcher, Jon: We did misunderstand and will provide this information.**

This response was provided following the webinar:

During the March 7th, 2019 Willamette Basin Mercury TMDL Advisory Committee Meeting Question and Answer period it was pointed out that we had misunderstood the following question: "What is the hydrologic spacing of the total mercury observations in the river that were used in the LOADEST program?" The intent of the question was to examine whether the flows during which Total Hg was monitored were representative of the distribution of the gaged flows during the LOADEST analysis period (2002-2017). That question is answered below by comparing the distribution of flows associated with Total Hg monitoring to the 0-5, 5-25, 25-50, 50-75, and 75-95, and 95-100th percentiles of the gaged flow distribution. A perfectly representative match in the water quality sample would yield 5%, 20%, 25%, 25%, 20%, and 5%. Results for the five inline Willamette River and Coast Fork Willamette LOADEST analysis points are shown in the following table. In general, the flows associated with Total Hg observations provide a reasonable match to the full flow distribution. The extremes (lowest 5% and upper 5%) are missed at a few stations with small sample sizes (e.g., Newberg).

**Representativeness of flow sampling regime for LOADEST**

<b>Gage</b>		<b>Upper Bound (cfs)</b>	<b>% WQ obs flow in bin</b>
<b>14211720 (Portland)</b>	0-5%	8100	6.82%
	5-25%	11400	27.27%
	25-50%	22550	10.23%
	50-75%	42900	31.82%
	75-95%	98505	18.18%
	95-100%	196000	5.68%
<b>14197900 (Newberg)</b>	0-5%	6611.5	0.00%
	5-25%	9390	33.33%
	25-50%	17400	13.33%
	50-75%	32300	26.67%
	75-95%	77700	26.67%
	95-100%	164000	0.00%
<b>14191000 (Salem)</b>	0-5%	6460	0.00%
	5-25%	8895	41.46%
	25-50%	15700	29.27%
	50-75%	28100	12.20%
	75-95%	66605	17.07%
	95-100%	156000	0.00%
<b>14166000 (Harrisburg)</b>	0-5%	4130	0.00%
	5-25%	5300	7.81%
	25-50%	8000	68.75%
	50-75%	13000	7.81%
	75-95%	30405	14.06%
	95-100%	67300	1.56%
<b>14153500 (Cottage Grove)</b>	0-5%	49.9	9.89%
	5-25%	70.6	19.78%
	25-50%	115	34.07%
	50-75%	289	19.78%
	75-95%	875.05	12.09%
	95-100%	2990	4.40%

12. [1:23:42 PM] Schmidt, Michelle: Question from Dale Feik: [3/7/2019 12:37 PM] Dale Feik: How does raising and lowering of water in lakes, reservoirs affect the mercury levels, especially because of shortage of water during the summer when some reservoirs are extremely low during late summer

See recorded webinar for response.

13. [1:26:03 PM] **Richard Wildman:** Page 90 of the August draft report states, "It was necessary to reduce both the wet deposition concentration and the dry deposition accumulation rate of THg by 55 percent to obtain a match" to MS4 monitoring data. A few minutes ago, Jon, you said that only the dry deposition was reduced to match urban stormwater data. Do I misunderstand?

See recorded webinar for response.

14. [1:28:49 PM] **Jennifer Leech:** Overall, is the fish tissue standard of .04 milligrams/kilo unchanged in this draft?

Yes, the fish tissue standard of 0.040 mg/kg for the protection of human health remains unchanged.

15. [1:31:03 PM] **Brent Stevenson:** I continue to question why the effects of irrigation are not investigated or included as a component of modeling vrs a policy discussion, using water from the streams rivers could take more methyl mercury out of the system than the soil erosion inputs.

See recorded webinar for response.

16. [1:31:08 PM] **Richard Wildman:** Atm deposition estimated by Domagalski et al. is subject to uncertainty. The grid was somewhat coarse for the wet deposition data and very course for dry deposition. What analysis of uncertainty has been done for the atm deposition rates and concentrations received from Domgalski? Would EPA/DEQ/Tt consider bounding calculations using reasonable upper and lower bounds for atm deposition, since there is uncertainty in these estimates?

See recorded webinar for response.

17. [1:32:03 PM] **Richard Wildman:** Question for Sue: Does your updated schedule mean that the court ordered deadline for April no longer applies? Is there a new deadline?

Yes. The court approved an extension to November 29, 2019.

18. [1:35:59 PM] **Richard Wildman:** These are great points you're saying about atm deposition, Jon. Thank you for the reply and for your presentation. However, you're speaking in a relative sense. What about an absolute sense? Wouldn't atm uncertainty affect the load allocations?

See recorded webinar for response.

19. [1:36:49 PM] **Schmidt, Michelle:** Question from [3/7/2019 1:35 PM] Dale Feik: will your responses be transcribed? If so how do I get them? Dale Feik

[1:37:31 PM] Schmidt, Michelle: Dale - The webinar is being recorded and it will be sent out to the attendees.

20. [1:39:24 PM] **Richard Wildman:** Yes, Jon, that's a good point you just said regarding the load allocations. Thank you for the reply. What about the load reductions? If atm

**deposition was lower or higher, that would not change the allocation, which is based on the target concentration, but would it not change the load reductions that are required from different sources to meet the load allocations? Sorry if I'm misunderstanding here.**

See recorded webinar for response.

## **Alternative formats**

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