



GREEN-DUWAMISH POLLUTANT LOADING ASSESSMENT TECHNICAL ADVISORY COMMITTEE

TECHNICAL ADVISORY COMMITTEE MEETING #4

12424 42nd Ave South, Tukwila, WA 98168

April 16, 2015

TAC PARTICIPANTS

- Chris Andersen, City of Auburn
- Kym Anderson, Port of Seattle
- Kevin Buckley, Seattle Public Utilities
- Shawn Gilbertson, City of Kent
- Marilyn Guthrie, Port of Seattle
- Ryan Larson, City of Tukwila
- Mike Mactutis, City of Kent
- Dale Norton, Ecology Environmental Assessment Program
- Nancy Rapin, Muckleshoot Tribe
- James Rasmussen, Duwamish River Cleanup Coalition
- Pete Rude, Seattle Public Utilities
- Jeff Stern, King County DNR/WTD
- Ron Straka, City of Renton
- Heather Trim, Duwamish River Cleanup Coalition

ADDITIONAL MEETING PARTICIPANTS

- Mahbub Alam, Ecology Toxics Cleanup Program
- Sen Bai, Tetra Tech (via phone)
- Jon Butcher, Tetra Tech (via phone)
- Bruce Cleland, Tetra Tech
- Jenée Colton, King County
- Ben Cope, EPA
- Kelly Foley, EnviroIssues
- Dave Garland, Ecology Water Quality Program
- Todd Kennedy, Tetra Tech (via phone)
- Bo Li, Ecology Water Quality Program
- Laurie Mann, USEPA Office of Water
- Dino Marshalonis, EPA
- Roger McGinnis, Hart Crowser
- Teresa Michelsen, Avocet Consulting
- Mike Milne, Brown and Caldwell
- Joan Nolan, Ecology Water Quality Program
- Rick Schaefer, Tetra Tech
- Angie Thomson, EnviroIssues
- Debra Williston, King County

WELCOME AND INTRODUCTIONS

Angie Thomson, facilitator, welcomed everyone and led the group in a round of introductions. Angie provided a brief overview of the meeting packet, highlighting the [Technical Advisory Committee \(TAC\) progress tracker](#) and [preliminary parameter pollutant matrix](#). She made note that during the previous meeting, TAC members heard a data presentation from USGS, provided recommendations for the data and model evaluation memo, and provided preliminary feedback on possible pollutants to be modelled in the Pollutant Loading Assessment (PLA).

Angie reviewed the [agenda](#), noting that the focus of the meeting was to refine preliminary parameters for the PLA, learn about existing King County datasets, and hear an introduction on the data gaps and pollutant groupings memo.

PRELIMINARY MODEL PARAMETERS

Dale Norton, Department of Ecology, gave a [presentation](#) that highlighted Ecology and EPA's proposed preliminary parameters. He went over the two tiers of criteria that were used to evaluate potential parameters. Dale noted that each parameter in the pollutant matrix was given a numerical score based on the criteria in the first tier. The parameters were ranked based on these scores and any applicable second tier criteria.

Dale posed three questions to the TAC to frame the discussion on preliminary parameters:

1. Are there other factors that should be considered in selecting parameters to be modeled?
2. Are there other parameters that should be evaluated in the matrix that are not on the list?
3. Are there any parameters on the prioritized list that should be removed/de-prioritized? If so, why.

TAC members asked clarifying questions and made comments about each question posed by Dale. A summary of this discussion is provided below:

1. Are there other factors that should be considered in selecting parameters to be modeled?
 - How do these parameters inform the PLA objectives?
 - The Lower Duwamish Waterway (LDW) cleanup is largely driven by regulatory requirements outlined in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The preliminary parameters proposed by Ecology and EPA were chosen to protect the investment that is being made in LDW cleanup efforts and also to meet additional regulatory requirements of the Clean Water Act (CWA) as many of these parameters are on the current CWA 303(d) list.
 - Are the parameters proposed here for the LDW or the Green-Duwamish watershed?
 - The parameters proposed here are for both the LDW and the greater watershed. For example, if it is known that there are pollutants in the LDW, Ecology and EPA would like to use the PLA to look at contribution from potential sources in the upper watershed.
 - It may be important to clarify the exact parameters that will be modeled under each category (e.g. PCBs, congeners or cPAHs).

- There will be more clarity surrounding the exact parameters when Tetra Tech moves forward in developing the QAPP.
 - Should the recent Ecology report outlining toxics detected in stormwater be considered in selecting these parameters, given considerations for fish mortality and freshwater quality standards?
 - The report is a summary of stormwater monitoring conducted under Phase I of municipal stormwater permits. While the report is a great resource for stormwater quality in a municipal setting, it did not specifically look at what was found in the Green-Duwamish River from stormwater outfalls.
 - Were unresolved sources from hazardous waste sites (e.g. Dieldrin) considered when developing the preliminary parameter list?
 - No, hazardous waste sites were not considered in determining the preliminary list. However, a recent scoping study conducted by Ecology summarized all known or suspected hazardous waste sites in the upper watershed from LDW. Ecology has a process for cleaning up these sites. In addition, these sites will be considered indirectly when we examine the water and sediment quality in the river through monitoring. In this case, if Dieldrin contamination is found, we will trace its source.
 - We may want to consider surrogate compounds for modelling some of these pollutants that are difficult to measure or model directly.
2. Are there other parameters that should be evaluated in the matrix that are not on the list?
- We should consider adding flame retardants to the list of parameters.
 - The preliminary parameters proposed here were largely driven by CERCLA and the 303(d) listings under CWA. Flame retardants are not on the 303(d) list because they do not have water quality criteria. However, they are on the Persistent, Bioaccumulative Toxics (PBTs) list that is managed by Ecology. The parameters included on this list are being evaluated primarily by tier one criteria, so flame retardants do not necessarily rank high on the pollutant matrix. However, they could be considered in future modeling efforts.
 - We should consider adding pesticide pollutants to the list of parameters.
 - Pesticides were considered in the preliminary list but they did not rank high based on the evaluation criteria.
3. Are there any parameters on the prioritized list that should be removed/de-prioritized? If so, why.
- Phthalates are a very widespread pollutant but we do not currently have the tools to control at such a wide scale. Should we pick parameters without considering how these parameters could inform management actions?
 - The purpose of the PLA is not necessarily to determine what management actions should be taken, but rather prioritize pollutant sources and run scenarios to prioritize areas of concern, then see how future management actions would impact pollutant loadings.

- The preliminary list should be narrowed down even further. Some of the parameters on the preliminary list only have scores of 2 or 3 from the pollutant matrix, which suggests that they are not significant.
 - There are parameters on the prioritized list with low scores, but it is important to understand that the scoring was performed only for tier one criteria. Pollutants like copper, mercury, and zinc were not necessarily high scoring, but had additional tier two considerations.
- Including too many parameters may slow the model runtime, so it is important to consider the logistics of modelling each parameter based on data availability. For example, arsenic would be difficult to model because it would not be compatible with the existing model framework. One way to reduce the number of parameters is to make the screening criteria more restrictive in the pollutant matrix. Another way to reduce the number of parameters is to consider how each parameter will reduce pollutant loading on a system wide basis (e.g. will this parameter fix the problem, or not?).
 - The purpose of the preliminary parameter list is to create a starting point for parameter selection. Considerations such as modelling logistics and data availability will be taken into account when we finalize the QAPP and make decisions on which parameters will be modeled.
 - The purpose of the PLA is not to fix the problem with all chemicals entirely, but to help us work towards a solution by prioritizing management actions.
- This is already a short list of parameters and there are many other chemicals of concern. If there are challenges in the modelling, they can be addressed and if we do not currently have the data we can collect it as part of this effort. Ecology and EPA should consider a broader list of parameters in order to build the best model possible.
- It is also important to consider the scope of the project. There is not unlimited funding, so we should be considering the highest priority pollutants.

Angie confirmed with the TAC that further discussion is needed to refine the preliminary parameter list. There will be time at the next meeting to finish the discussion about preliminary parameters.

KING COUNTY DATA PRESENTATION

Jeff Stern, King County Department of Natural Resources/Water Treatment Division, provided an overview of a large data collection effort by King County. He noted that the funding provided a great opportunity to collect data over a long period, which will help to inform future management actions and data collection efforts.

Debra Williston and Jenée Colton, King County Water and Land Resources Division, Department of Natural Resources, [presented](#) on four studies conducted under King County's Sediment Management Program to help inform future source control efforts and monitoring methods in the LDW. For each study, Debra and Jenée went over the study objectives, design, methods, results, and key conclusions. The four studies were as follows:

1. Atmospheric Deposition of Contaminants in the Green/Duwamish River Watershed
2. Green River Watershed Surface Water Study: Green River and its Major Tributaries
3. Contaminants in Green River Basin Sediments
4. Suspended Solids in the Green River Watershed

TAC members had the following questions for Debra and Jenée following their presentation:

- Why was Kent chosen as a suburban sampling location for the atmospheric deposition study?
 - Kent was chosen because it is in between two existing air quality monitoring stations and access to this sampling location was convenient.
- Is the atmospheric deposition measured as dry and wet deposition, or just dry?
 - The deposition is a mix of dry and wet deposition, but it is not gaseous. We did not have the proper equipment to capture the gaseous deposition.
- Do you have any information on how temperature contributes to PCBs based on the atmospheric deposition study?
 - No, while this is an enhanced data report, it does not have a robust literature review or full analysis.
- Did you detect any PCBs in the surface water study?
 - Yes, we detected PCBs with congeners in our study. Foster Links Golf Course had the greatest range in PCB concentrations.
- Is it possible to break out the data by land use?
 - There was no single land use contributing to any of the sampling locations. However, the report does show a breakdown of land use percentage upstream of each sampling location.
- Are you coordinating with the USGS and their most recent study for data overlaps?
 - Our data collection methods are slightly different, but we are in close coordination with each other and have met a few times to talk about data.
- Could the sampling location at the Black River impact the water quality or sediment results?
 - The water sampling at the Black River may have been impacted by ponding, but the sediment samples were taken from flowing water.

OVERVIEW OF DATA GAPS AND POLLUTANT GROUPINGS MEMO

Sen Bai, and Jon Butcher, Tetra Tech, [presented](#) on the data gaps and pollutant groupings memo. They noted that the upcoming memo will provide a foundation for the QAPP. Jon reviewed the drivers for the PLA, an overview of data gaps in the LDW, and current data collection efforts. Sen provided an overview of the modelling plan and data and knowledge gaps within each model. Jon concluded the presentation by reviewing the proposed preliminary parameters and went over key data gaps for organic pollutants and metals/metalloids.

TAC members asked about data availability for the receiving water model and the downstream boundary condition. Tetra Tech explained that they were not able to find toxics data for the water column in downstream Puget Sound, outside of, or near the downstream boundary (Elliott Bay). King County noted that

they may have some data to fill this gap and would follow-up after the meeting with Tetra Tech. Additional questions and comments about the data gaps and pollutant groupings memo were held until the next meeting.

COMMENTS FROM THE AUDIENCE

- No comments were provided by the audience.

NEXT STEPS

At the next TAC meeting, TAC members will continue their discussion about preliminary parameters and how to best refine this list within the context of overarching PLA objectives. The data gaps and pollutant groupings memo will be distributed prior to the meeting. TAC members will have the opportunity to review and refine the memo at the meeting.

Action items:

- Consider the best use of data presentations at TAC meetings.
- Provide a poster or handout of PLA objectives to help guide future TAC meetings.

TAC homework:

- Continue to think about how to best refine preliminary pollutant parameters.
- Review the data gaps and pollutant grouping memo.
- Review the meeting #4 summary and provide edits before June 18, 2015.