TECHNICAL ADVISORY COMMITTEE MEETING #2

12424 42nd Ave South, Tukwila, WA 98168
February 19, 2015

TAC PARTICIPANTS

- Chris Andersen, City of Auburn
- Kevin Buckley, Seattle Public Utilities
- Becky Chu, USEPA CERCLA
- Marilyn Guthrie, Port of Seattle
- Kristen Kerns, USACE
- Ryan Larson, City of Tukwila
- Mike Mactutis, City of Kent
- Dale Norton, Ecology Environmental Assessment Program
- James Rasmussen, Duwamish River Cleanup Coalition
- Pete Rude, Seattle Public Utilities
- Jeff Stern, King County DNR/WTD
- Ron Straka, City of Renton
- Chris Townsend, King County DNR/WTD

ADDITIONAL MEETING PARTICIPANTS

- Mahbub Alam, Ecology Toxics Cleanup Program
- Chance Asher, Ecology Toxics Cleanup Program
- Sen Bai, Tetra Tech
- Jon Butcher, Tetra Tech (via phone)
- Bruce Cleland, Tetra Tech
- David Croxton, USEPA Region X (Steering Committee member)
- Kelly Foley, EnviroIssues
- Dave Garland, Ecology Water Quality Program
- Marty Jacobson, USEPA Office of Water
- Todd Kennedy, Tetra Tech (via phone)
- Bo Li, Ecology Water Quality Program
- Laurie Mann, USEPA Office of Water
- Rachel McCrea, Ecology Water Quality Program
- Roger McGinnis, Hart Crowser
- Allen Medine, Tetra Tech (via phone)
- Teresa Michelsen, Avocet Consulting
- Joan Nolan, Ecology Water Quality Program
- Rick Schaefer, Tetra Tech
- Angie Thomson, EnviroIssues

- Heather Trim, Futurewise
- Martha Turvey, USEPA Region X

WELCOME AND INTRODUCTIONS

Angie Thomson, facilitator, welcomed everyone and led the group in a round of introductions. She provided a brief overview of the agenda for the day, noting that the first half of the meeting would be used to better understand the role of the Technical Advisory Committee (TAC) in the Pollutant Loading Assessment (PLA) process.

Angie announced that TAC meeting three would be held in a different location and that a SharePoint site was operational and shared with the group for TAC member use. Angie asked the TAC members to try logging onto the SharePoint before the next meeting and alert the Project Team of any access issues.

REVIEW, REFINE, CONFIRM PLA OBJECTIVES

Rachel McCrea, Ecology Water Quality Program, provided an overview of the long-term objectives for the PLA, citing the Clean Water Act (CWA), Superfund and Model Toxics Control Act (MTCA) as regulatory drivers behind the PLA process. She emphasized that the PLA objectives are flexible, and welcomed feedback from TAC members about what other regulatory drivers could help to define PLA objectives. Regulatory drivers proposed by TAC members included:

- Endangered Species Act (ESA)
    - It was noted that heavy metals on CWA 303d listings could provide a connection between CWA and ESA salmonid concerns.
- Municipal stormwater permit compliance
- Shoreline Master Programs, other city wide programs
- Floodplain programs (local and national)

It was also noted that many of these regulatory drivers serve as opportunities to leverage funding.

- Participants asked about the relationship between the PLA and the concept of "regional background."
    - The recently revised Sediment Management Standards (SMS) rule introduced the concept of a "regional background" concentration that takes into account contribution from diffuse sources in a defined geographic area, such as atmospheric deposition and stormwater influenced by local human activities that are not related to specific sources. A "regional background" value would potentially influence the cleanup level endpoints of the Superfund sediment cleanup consistent with provisions in MTCA and SMS regulations.
    - In contrast, the CWA does not acknowledge or utilize the concept of "background" concentrations for manmade chemicals.
    - In response to the initial question, Ecology acknowledged that staff who work on establishing regional background were present at the meeting but that no decisions have been made regarding regional background for the LDW at this time.

Rachel then provided a list of questions that might be answered through the development of the PLA. TAC members had the following questions and comments about the Pollutant Loading Assessment project:

Long-term objectives

- Question: Are the long-term objectives the same goals driving Ecology and EPA's work in phase one of the PLA?
    - Yes, but Ecology and EPA are seeking feedback from TAC members to further refine the objectives of the PLA.
- Question: What is the goal of the PLA effort? Will it be used to create a Total Maximum Daily Load (TMDL) for pollutants in the watershed?
    - EPA and Ecology believe that some, but not all, of the water quality impairments may be resolved by the cleanup actions in the LDW. Therefore, additional action will likely be necessary to fully restore beneficial uses under the Clean Water Act. The PLA is not a TMDL and will not result in an assignment of load and wasteload allocations. However, the PLA may form the foundation of a TMDL in the future; it is a long term project.
- Question: At some point in the future, will the PLA be used as a tool to identify source loading from distinct dischargers in the watershed? Could the project result in a "4b" plan (similar to a TMDL)?
    - The PLA could be used for assigning wasteload and load allocations in the future, whether as a TMDL or a 4b plan. It was noted by the TAC that this objective should be explicit as the model is constructed so that the model provides a sound basis for developing waste load allocation in the future.

Model development

- Question: Are the models proposed by Ecology and EPA finalized?
    - No, TAC members can still provide feedback about whether or not these are the best models to reach PLA objectives.
- Comment: This large-scale modeling effort could provide answers with a large amount of error, maybe even orders of magnitude of error. The PLA may not be able to answer the questions proposed by Ecology/EPA, but rather provide relative comparisons between management changes and pollutant loading (e.g. the PLA might show that one management action would reduce fish tissue concentrations more than another action, but not provide an absolute reduction estimate with high degree of certainty).
    - Degree of error in modeling results may not be a reason to halt development of the PLA, but it is important to keep in mind as model development continues. It might also serve as an opportunity to identify complexities and the type and amount of data that are needed to reduce model uncertainty.
- Comment: It is important to consider the impact of spending time and money on data collection. Before funds are allocated for data collection, Ecology and EPA should consider whether or not it will significantly improve the modeling effort or if it will just be more data.

Laurie Mann, USEPA Office of Water, gave a summary of five similar projects across the United States, noting organizational and scientific highlights or interesting assumptions. The five project areas highlighted were

the San Francisco Estuary, Spokane River, Delaware River Estuary, Long Beach Harbor/Dominguez Channel, and Chesapeake Bay. It was noted that in San Francisco, the development of a TMDL took about eight years and this was one of the first projects to look at diffuse polychlorinated biphenyl (PCB) sources. It was also noted that the LA Harbor project is of potential interest due to parallels between WA and CA municipal stormwater permit requirements.

Angie led the TAC members in a discussion about what was missing from the PLA model expectations, objectives and priorities. TAC members posed the following questions about the TAC process:

- What is funded? Could additional funding change the scope of work?
    - The PLA is currently funded through phase 2 of model development (Preparing a modeling Quality Assurance Project Plan) and it is anticipated that future funding will be prioritized for work. Additional funding could change the scope of work, depending on the timing and ability to leverage current modeling efforts.
- Can additional parties be added to the TAC? Particular suggestion for WRIA 9 involvement in a technical capacity.
    - TAC membership can change and evolve over time, particularly if there are parties who are not currently represented who could provide additional expertise and technical guidance.
- Where is the business/industry presence?
    - Ecology and EPA wanted the TAC membership to include government and quasi-government groups who could provide technical guidance through their expertise. The business and industry feedback will be collected through the interested parties outreach.
- Will the PLA inform water quality permits?
    - It is possible that the PLA project would inform permit sampling requirements, such as parameters or frequency.

TAC members also made the following suggestions about the PLA development process:

- Develop an approach that documents the process and allows new TAC members to easily come up to speed on the process so that we are not relying on the institutional knowledge of individuals.
- Provide detailed notes in TAC meeting summaries on discussion and allow the TAC to make comments on the meeting summaries before they are finalized.
- Consider representation from the WRIA 9 Technical Team on the TAC.
- It is important for the public to have a trustworthy clearinghouse of information about the PLA development process. The Chesapeake Tracking and Accounting System may be a good example.

PLA WORK PLAN

Joan Nolan, Ecology Water Quality Program, provided an overview of the 2-3 year work plan for PLA development. She noted that phase one was complete and the goal of the phase two is to develop a Quality Assurance Project Plan (QAPP) with input and guidance from the TAC. She also highlighted that phase three model development would focus on hydrology and hydrodynamic modeling, while phase four would focus on three components: pollutant loading for the Loading Simulation Program in C++ (LSPC) and

Environmental Fluid Dynamics Code (EFDC) models, and the food web model. The goal of phase five is to run simple and complex scenarios based on changes in model inputs.

The TAC posed the following questions and comments about the 2-3 year work plan:

- Question: When would new data collection for the project occur?
    - It would not occur for a few years, but TAC efforts could help to inform current data collection efforts that are already underway or planned under a variety of programs and drivers.
- Comment: It would be helpful to know what type of TAC input is needed in advance so that organizations represented on the TAC can plan appropriately for staffing TAC meetings.
- Comment: It would be helpful as a next step to review what the available data is telling us, and then work within the model to evaluate its sensitivities and errors. It was suggested that a Gantt chart could be used to track this information.
- Comment: It would be useful to have an overview of current data collection efforts by various groups, including when data is collected, when it will be available, and the timing of relevant permit cycles

NEXT STEPS IN THE PLA WORK PLAN

Angie provided a brief overview of the 6-month technical scope of work/technical direction and the TAC meeting strategy for the remaining four meetings in phase two of PLA development. She noted the focus of the remaining meetings to review and propose changes to the data and model evaluation memo, identify parameters and data gaps using the data gaps memo, and provide feedback on the draft QAPP.

Angie then led the group in a discussion about the meeting plan, emphasizing that it is not final and can be adjusted if TAC members feel the time would be best spent on another effort. TAC members asked the following questions about the role of the TAC during phase two PLA development and the meeting plan:

Feedback on PLA documents

- What type of feedback is needed from the TAC on the data and model evaluation memo, data gaps memo, and QAPP?
    - Comment and feedback is welcome on all of these documents.
- What level of comments (grammar or big picture)?
    - Ecology and EPA welcome all types of comments. If every TAC member provides micro edits on the same paragraph, the Project Team will work to merge those edits. However, the TAC's focus should be specific comments or an alternative approach that can improve the PLA objectives.
- What are the expectations if TAC members have different opinions? How are opposing comments being taken into account such that everyone is heard?

- Ecology and EPA are not seeking for consensus from the TAC, but rather a breadth of comments. If there are opposing comments, the opposing ideas will be taken back to the PLA Agency Steering Committee to make the final decision. The intention is to make sure everyone is heard and that final decisions made are based on a well-developed rationale that considers the breadth of opinions.

Discussion sequence

- There was concern at the first meeting about how to efficiently share data because there is so much data available. How do we decide which data should be shared and when?
  - TAC members and the Project Team will discuss data sharing as a follow up to this meeting and then TAC members can bring data to the next meeting.
- Should the TAC discuss parameters or data gaps first?
  - This discussion will be iterative, but it was suggested that the TAC members should discuss what parameters should be chosen, and then Tetra Tech can weigh in on whether or not they have that sufficient data to proceed with model calibration and subsequently validation.
- When is the right time to discuss HRUs?
  - In general, HRUs are developed using land use and soil data, overlaid onto impervious cover (Digital Elevation Model, or DEM, was mentioned to conduct watershed delineation). It might be best to discuss HRUs at meeting four or meeting five to determine if other data should be used to develop HRUs.

DATA AND MODEL EVALUATION MEMO

Sen Bai, Tetra Tech, provided an overview of the data and model evaluation memo. His presentation highlighted parameter and boundary condition development in the model, data needs and preliminary data gaps in all three models, and the next steps for model development. He identified the following areas in which TAC member guidance would be beneficial:

- Development of a parameter priority list
- Identification of the most appropriate model domain, resolution and boundary conditions
- Additional pollutants that should be considered in the watershed model
- Input on data gaps and what data sets already exist

Angie led the group in a discussion about the data and model evaluation memo. The following feedback was provided by TAC members:

- Water temperature, hardness, and salinity data could be used for calibration and validation of the model.
- Hardness data should be included as a supporting parameter that is needed to calculate freshwater metals criteria, an important parameter for aquatic life.

- The data gaps and evaluation memo sets the downstream boundary condition in Elliott Bay. If the model takes into account recontamination of sediment after cleanup from upstream sources, it should also take into account recontamination from downstream sources, such as tidal influence from the bay.
- The King County WRIA 9/SUSTAIN project looked at modeling pollutants (Total Suspended Solids) using the Hydrological Simulation Program—Fortran (HSPF) with a hydrology focus. This information should be available in a form that could inform the PLA model.
- The questions that Ecology and EPA are trying to answer cannot necessarily be answered based on the data gaps and data needs outlined in the data and model evaluation memo. For example, understanding the geographic distribution of a dataset is just as important as the number of data points collected. It is important that we consider what data we have and what that data can do for us in terms of model outcomes. This would allow us to better determine what data is needed and what objectives are reasonable to expect out of this process.

Ecology and EPA posed some initial questions regarding the modeling framework and the content of the draft Data and Model Evaluation Memo:

1. Should we address conventional pollutants as well as toxics in the model?
2. What are the best geographic Model Domains for each component of the PLA Tool?
3. How should the variability of stormwater be represented?
4. How should the variability of air deposition be represented?
5. How should CSOs be represented?
6. What time frame should be modeled?
7. What is a reasonable amount of time for the model to run a simulation?

TAC members are encouraged to consider these questions as well as the content of the draft Data and Model Evaluation Memo in preparation for TAC meeting #3.

COMMENTS FROM AUDIENCE

- The PCB study for Lake Washington should be taken into consideration in PLA development.
    - It was noted that the methodology for this study is being considered, but the data itself cannot be included because it is outside of the watershed.
- The LSPC watershed-wide model does not include pipe sources as an input. Will point source data be considered when modeling loading from the upper watershed?
    - Under the currently proposed technical approach, the point source discharges in the Green River will be considered as part of the watershed model and/or build-up/wash-off assumptions based on HRUs because they are understood as stormwater-based point sources.

NEXT STEPS

The focus of the next meeting will be on revising the data and model evaluation memo and the questions that the PLA might be able to answer. In addition, TAC members will look at a list of primary parameters and

narrow down which parameters should be integrated into the PLA model based on data availability and long term objectives.

Angie Thomson thanked everyone for their time and adjourned the meeting.

Project Team actions

- Provide notice of the new location for meeting three.
- Email the PowerPoint presentation from the meeting to the TAC members.
- Add time to discuss what data exists on the next meeting agenda.
- Contact WRIA 9 to identify a possible representative for the TAC process without duplicating representation already on the TAC.
- Compile data collection efforts into a Gantt chart.
- Focus meeting notes on documentation of discussion during TAC meetings.
- Provide a focus of each proposed TAC meeting in future PLA phases such that TAC organizations can best staff the TAC meetings.
- Provide a clearer vision of how stakeholder engagement will occur through interested parties outreach.

TAC member homework:

- Try to login to the SharePoint before the next meeting and alert the Project Team of any access issues.
- Provide comments on the meeting one and meeting two summaries.
- Closely review the data evaluation memo and consider what is missing or what could be improved.
- Review the draft Data and Model Evaluation Memo, together with the associated modeling framework questions, and be prepared to discuss and provide input at TAC Meeting #3.