

# Stormwater Monitoring Expert Workshop

## A *Sprint* to Develop an Integrated Monitoring Strategy for Puget Sound

University of Washington, Tacoma, Dougan Building Room 201

Thursday June 11, 8:30 am - 4:30 pm

Tuesday June 16, 8:30 am - 4:30 pm

## Workshop Agenda

### Background

**Project Goal** “Draft an integrated monitoring strategy to evaluate the efficacy of stormwater management actions, assess the impact of stormwater on beneficial uses, and characterize the sources and influences of pollutants in stormwater.”

**Primary Objective** Create a monitoring strategy that can answer the Assessment Questions developed and vetted by stakeholders, local jurisdictions and citizens

**Secondary Objective** Document the process used to create the monitoring strategy

**Overview** Stormwater monitoring experts will work with members of the stormwater work group to design the scientific studies needed to answer the assessment questions. The end result of the scientific design workshop is a document that includes the prioritized assessment questions, study design and sampling, analysis and interpretation tools to answer the assessment questions. Some members of the group will be tasked to fill out the details, including cost estimates and proposed implementation plans, before the group is reconvened to finalize the draft document for review.

**Process** The idea of a *Sprint* derives from the practices of *Extreme Programming*. Within the context of software development, a sprint is a 2-5 day session, in which developers work in small groups to build a subset of code. The work is completed on-site by the participants.

**Deliverables** Draft Integrated Monitoring Strategy and documentation of the methodology used to develop it.

## Day 1 – Mapping Data Needs onto the Assessment Questions

Time	Activity	Format
8:30 am	<b>Introductions</b>	<i>All</i>
8:45 am	Overview of Integrated Monitoring for Stormwater <ul style="list-style-type: none"> <li>• Derivation of the assessment questions</li> <li>• Connection to Puget Sound Partnership’s Action Agenda</li> </ul>	<i>K. Dinicola</i>
9:00 am	Why a Sprint? <ul style="list-style-type: none"> <li>• Create a technical product that requires many experts</li> <li>• Start with use case scenarios – Who will use monitoring data?</li> <li>• Iterative process</li> </ul>	<i>L. Fore</i>
9:20 am	Match data needs to assessment questions (Part I) <ul style="list-style-type: none"> <li>• Assign groups to assessment questions</li> <li>• Develop hypotheses that connect questions to data</li> <li>• Identify types of data needed to answer questions</li> </ul>	<i>Small groups</i>
10:00 am	Small Groups report back <ul style="list-style-type: none"> <li>• Describe types of data needed</li> <li>• Identify gaps in our knowledge (becomes homework)</li> <li>• Tune the process</li> </ul>	<i>All; D. de Leon</i>
10:20 am	Match data needs to assessment questions (Part II) <ul style="list-style-type: none"> <li>• <i>Repeat for remaining assessment questions</i></li> </ul>	<i>Small groups</i>
11:30 am	Develop a list of attributes that we will need to characterize data types and that we will use to define data needs for an integrated monitoring strategy	<i>All; L. Fore</i>
12:00 pm	<b>Working Lunch</b> <ul style="list-style-type: none"> <li>• Identify next tier of participants – Who is not here?</li> <li>• Share experiences with integrated monitoring that worked</li> </ul>	<i>On-site</i>
1:00 pm	Characterize data with attributes for each assessment question (Part I) <ul style="list-style-type: none"> <li>• Rank data and indicators as lo/med/hi for each attribute</li> <li>• Identify information gaps</li> <li>• Upload information to spreadsheet</li> </ul>	<i>Small groups</i>
1:40 pm	Small groups report back <ul style="list-style-type: none"> <li>• Identify gaps in characterization of data and hypothesis tests</li> </ul>	<i>All; S. Redman</i>
2:00 pm	Characterize data with attributes for each assessment question (Part II) <ul style="list-style-type: none"> <li>• <i>Repeat process for remaining assessment questions</i></li> </ul>	<i>Small groups</i>
3:15 pm	Next steps <ul style="list-style-type: none"> <li>• Prioritize and rank data and indicators using the attributes we have identified</li> <li>• Tune hypotheses</li> <li>• Assign homework to fill in information gaps</li> <li>• Discuss aspects of a successful monitoring strategy for stormwater</li> </ul>	<i>J. Simmonds</i>
4:15 pm	Adjourn	

## Day 2 – Developing a strategy for monitoring and assessment

Time	Activity	Format
8:30 am	Welcome, Introductions, Updates & Overview	<i>K. Dinicola</i>
8:45 am	Features of a successful integrated monitoring program	<i>K. Paulsen</i>
9:00 am	Review of Day 1 <ul style="list-style-type: none"> <li>• Moving from the general (assessment question) to the specific (monitoring strategy)</li> <li>• Specificity, Transparency, and Prioritization</li> <li>• Data types selected</li> <li>• Types of questions</li> </ul>	<i>L. Fore</i>
9:15 am	Define format and content of workshop's final product (See template)	<i>L. Fore</i>
9:25 am	Worked example for an assessment question	<i>D. Booth</i>
10:00 am	Outline a strategy for each assessment question (Part I) <ul style="list-style-type: none"> <li>• Translate assessment questions into hypotheses</li> <li>• Sketch experimental design</li> <li>• Propose indicators</li> <li>• Document rationale</li> </ul>	<i>Small groups</i>
11:15 am	Small groups report back	<i>B. Wulkan</i>
12:00 pm	Working Lunch <ul style="list-style-type: none"> <li>• Share experiences of peer review strategies that have worked</li> </ul>	<i>On-site</i>
1:00 pm	Outline a strategy for each assessment question (Part II) <ul style="list-style-type: none"> <li>• <i>Repeat process for remaining assessment questions</i></li> </ul>	<i>Small groups</i>
2:15 pm	Small groups report back <ul style="list-style-type: none"> <li>• Identify gaps in schemes for ranking hypotheses and indicators</li> </ul>	<i>All</i>
2:30 pm	Gallery Walk <ul style="list-style-type: none"> <li>• Groups post hypotheses and designs</li> <li>• Participants review and comment</li> <li>• Assign homework to fill information gaps</li> <li>• Assign homework: writers and editors for final report</li> </ul>	<i>All</i>
3:00 pm	Leads make final edits; volunteer editors for final document	
3:30 pm	What are the next steps to design the monitoring and assessment strategy? <ul style="list-style-type: none"> <li>• What's missing from the product of the sprint?</li> <li>• How do we make a coordinated monitoring program happen?</li> <li>• How do you want to stay involved?</li> </ul>	<i>L. Fore &amp; J. Simmonds</i>
4:30 pm	Adjourn	<i>All</i>

## **Directions to the University of Washington Tacoma Campus:**

[http://www.tacoma.washington.edu/campus\\_map/](http://www.tacoma.washington.edu/campus_map/)

### ***Public transportation:***

Express buses from Seattle and Olympia stop right across the street from the Academic Building/GWP on Pacific Avenue (History Museum/Union Station).

From Seattle: <http://www.soundtransit.org/Riding-Sound-Transit/Schedules-and-Facilities/ST-Express-Bus/590-Weekday.xml>

From Olympia:

<http://www.intercitytransit.com/mapsandschedules/routemapsandschedules/Pages/default.aspx>

-OR-

From Seattle, the Sounder Train arrives and departs Tacoma Dome Station and there is a light rail link from the train that stops at the same place as the buses (History Museum/Union Station).

<http://www.soundtransit.org/x71.xml>

### ***Driving:***

To reach the University of Washington Tacoma campus from I-5:

Take the I-705/Tacoma City Center exit #133.

From I-705 take the South 21st Street exit.

Turn left at the traffic light onto South 21st Street.

Go through the light at South 21st Street and Pacific Avenue, up the hill (the campus will be on the right), and park in one of the pay parking lots on C Street or Jefferson Avenue.

The Dougan Building is on Jefferson Avenue at the north end of the campus (note that the map in the above link is oriented with north to the right side of the page).

Once on campus, follow signs to the “Stormwater Sprint Workshop”