



King County

Protecting Our Waters

Doing our part on rainy days



Water Quality Assessment and Monitoring Study

Presented to the Regional Water
Quality Committee

June 4, 2014



Project Update

- Background
- Purpose
- Schedule
- Work to date
- Future work



Project Background

- **King County required to control Combined Sewer Overflows (CSOs) by 2030 under Federal Consent Decree**
- **September, 2012: Council approves amendment to King County CSO Control Plan**
 - Calls for a study to ensure CSO investments are well-planned and timed to optimize water quality benefits
- **September 2013 Council adopts scope for Water Quality Assessment and Monitoring Study**
 - Calls for annual briefings to Council



Project Purpose

- **Ensure investments in CSO control are well-planned and timed to optimize water quality**
 - Identify opportunities to lower cost of CSO control
 - Provide information on how CSO control can work with other water quality projects
 - Evaluate the effectiveness of emerging technologies
 - Establish baseline conditions for future monitoring
- **Next CSO control program review and plan update due to regulatory agencies in 2018**



King County Council's Study Questions

Impairments

1. What are the existing and projected water quality impairments in receiving waters (water bodies) where King County CSOs discharge?
2. How do County CSOs contribute to the identified impairments?
3. How do other sources contribute to the identified impairments?

Corrective Actions

4. What activities are planned through 2030 that could affect water quality in the receiving waters?
5. How can CSO control projects and other planned or potential corrective actions be most effective in addressing the impairments?

Effective CSO Project Sequences

6. How do various alternative sequences of CSO control projects integrated with other corrective actions compare in terms of cost, schedule, and effectiveness in addressing impairments?
7. What other possible ways, such as coordinating projects with the City of Seattle and altering the design of planned CSO control projects, could make CSO control projects more effective and/or help reduce the costs to WTD and the region of completing all CSO control projects by 2030?



Water Quality Assessment and Monitoring Study Schedule

2013	2014	2015	2016	2017-18
Involve interested parties and public				
Develop Study questions & Scope				
	Perform scientific analysis & produce synthesis report (literature search; fill data gaps; synthesis report)			
		Independent Science and Technical Team review of technical work		
			Use study results next CSO control program review and plan update due to regulators in 2018	



Project Milestones

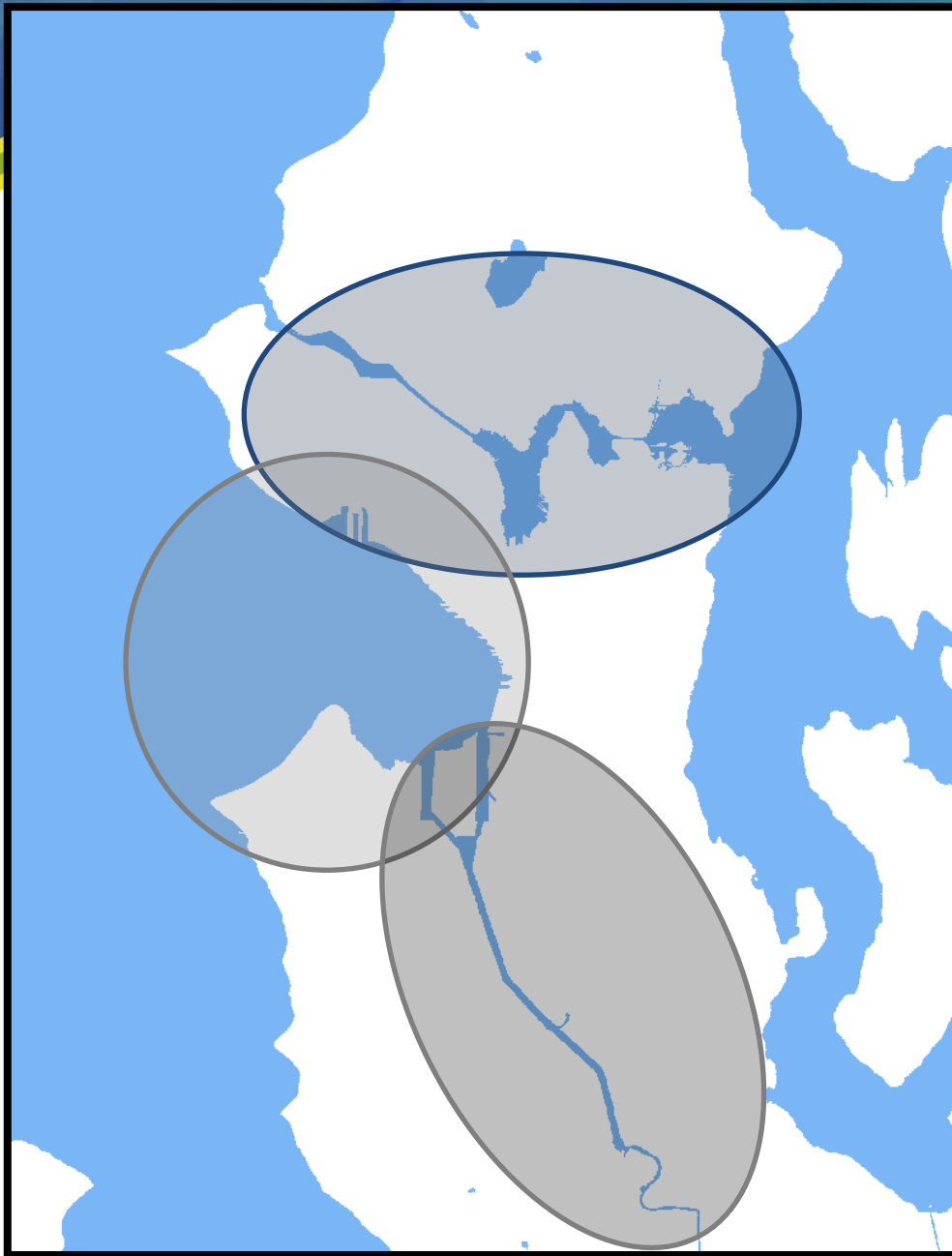
- Council approved Scope of Work, Sept 2013
- Began literature search, 2013
- Convened Science and Technical Review Team, January 2014
- Begin to draft synthesis report, 2014
- Discuss convening a potential Executive Advisory Panel, 2015



Science and Technical Review Team

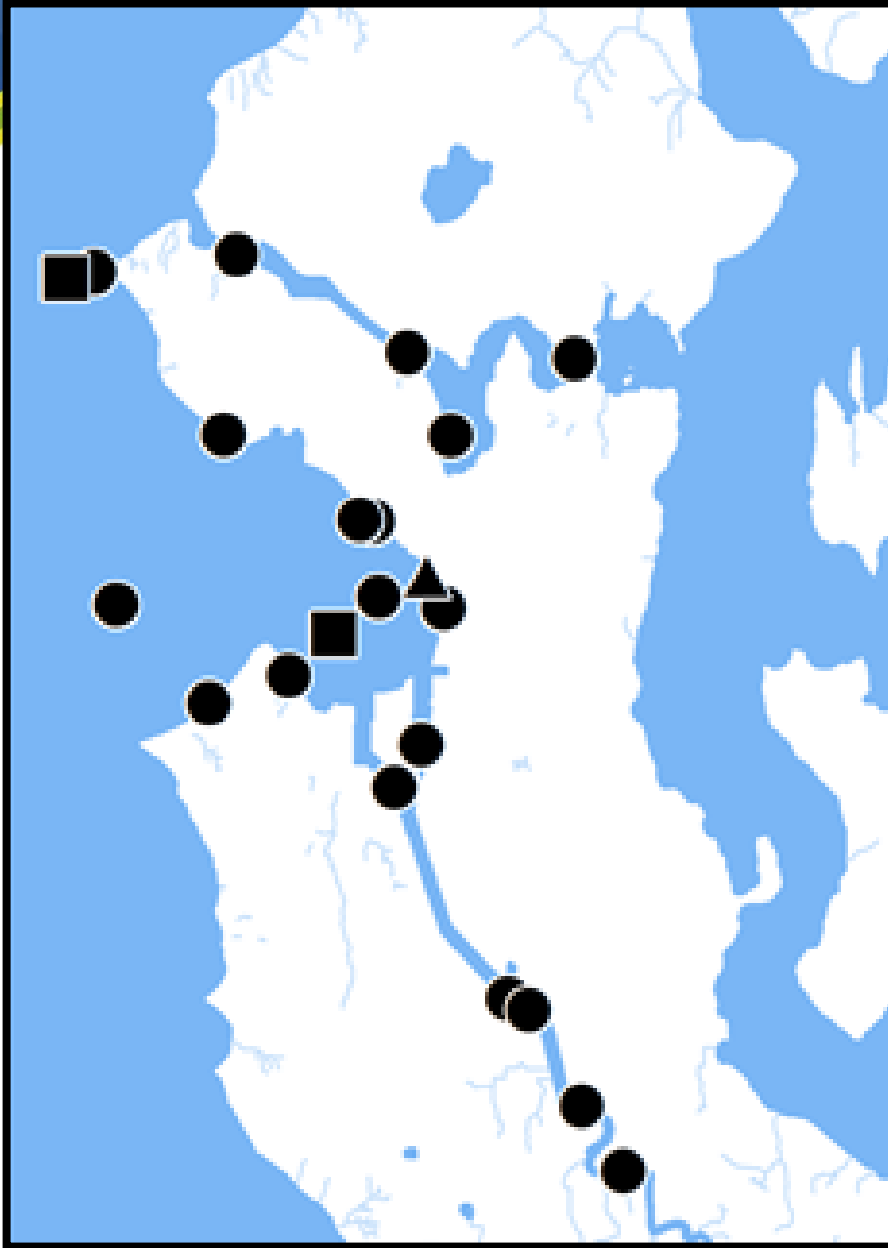
- **Virgil Adderley, Principal Engineer, Portland Bureau of Environmental Services**
- **Mike Brett, University of Washington, Professor, Environmental Engineering**
- **Jay Davis, Resource Contaminants Specialist, U.S. Fish and Wildlife Service**
- **Ken Schiff, Deputy Director, Southern California Coastal Water Research Project**
- **John Stark, Washington State University, Professor, Ecotoxicology Program, Director, WSU Puyallup Research & Extension Center**

Met three times: January, March, April 2014



Assessment focused where King County CSOs discharge

- Lake Union / Ship Canal / Montlake Cut
- Elliott Bay
- Duwamish River



Literature search and analysis of existing data for many water quality concerns

- King County Long Term Sites
- Ecology Sites
- ▲ Mooring (continuous data)



Priority data gap: Bacteria

- **Bacteria is a water quality concern in all three water bodies**
- **Important human health risk**
- **Study now underway to investigate bacteria sources**
- **Science and Technical Review Team agrees bacteria is a priority**



Public Process

- Interviews with interested parties shaped Science and Technical Review Team
- On-going outreach:
 - Engaging with MWPAAC
 - Coordinating with City of Seattle
 - Briefings
 - Email updates
 - Project web page
<http://www.kingcounty.gov/environment/wastewater/CISO/WQstudy.aspx>



2014 Next Steps

Summer:

- Continue literature search
- Conduct bacteria study

Fall:

- Reconvene Science and Technical Review Team to review initial findings



Questions?

For more information, please contact:

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