

Stakeholder Workshop #3

Stormwater Retrofit Planning

Project for WRIA 9

a project funded by an
USEPA Watershed Management
Assistance Grant

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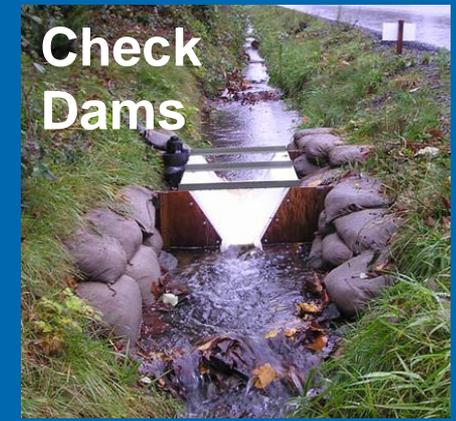
What Are Stormwater Retrofits

- Construction projects to control stormwater
- Locations that have previously been developed
- Sited where existing stormwater controls are inadequate or don't exist
- Not part of redevelopment

Stormwater Paradigm

Time Period	Paradigm	Description
Prior to 1992	Drainage Efficiency	Convey water downhill as efficiently as possible
1992 – Now	Minimize New Impacts	Minimize harm from new development with ponds and treatment
Future	Restore	Capture, detain, treat stormwater everywhere to protect and restore receiving waters

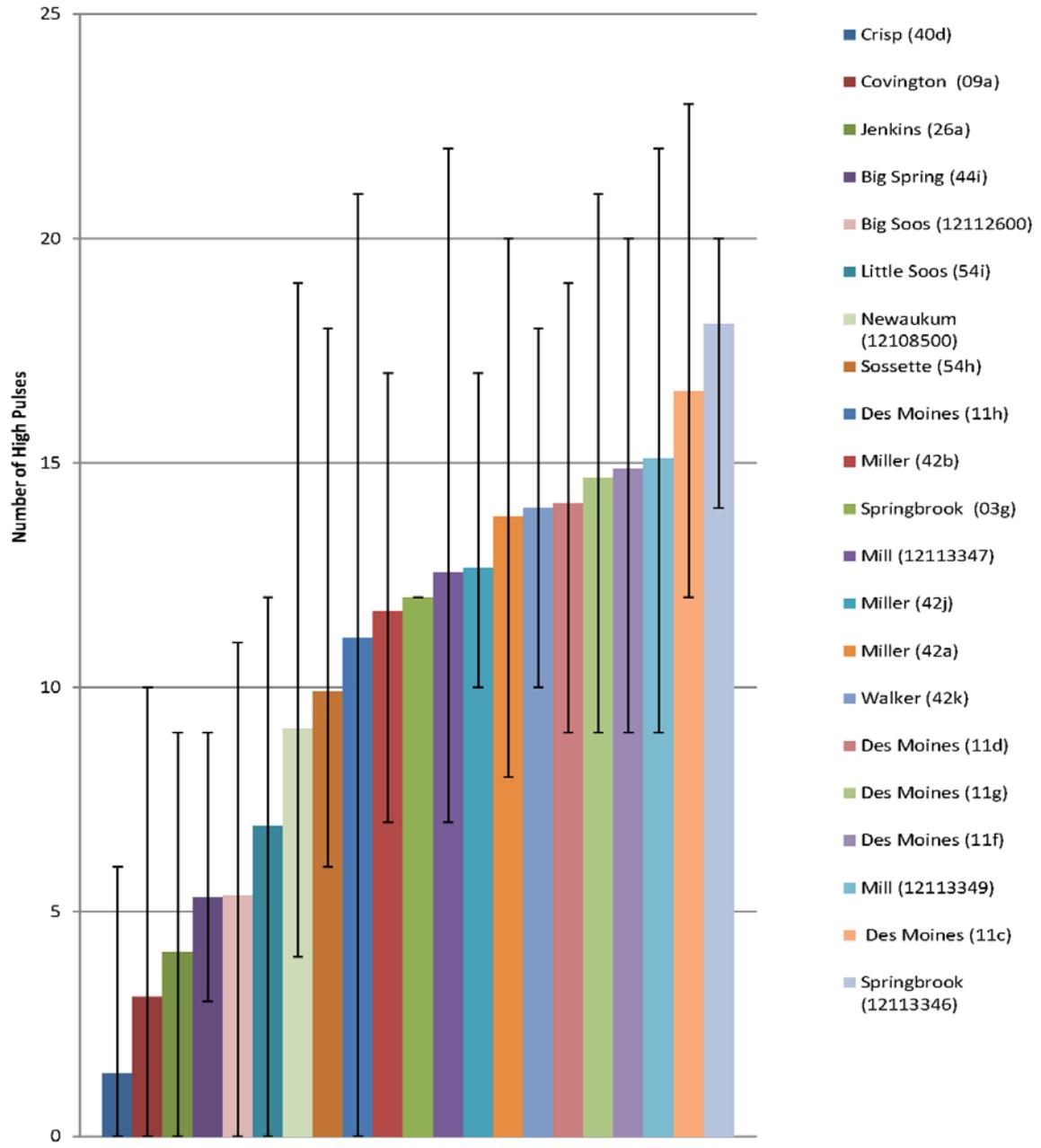
Stormwater Retrofit Examples



Estimated Stormwater Needs

- \$3B - \$15B for treatment in Puget Sound
 - Capital costs, no O&M, no land costs
- \$1.4B for Juanita Creek basin (7 sq miles)
 - Full lifecycle cost
- \$1.1B for 64 small basins in unincorporated King County
 - Full lifecycle costs

Mean Yearly High Pulse Count (Error Bars Display Min/Max)

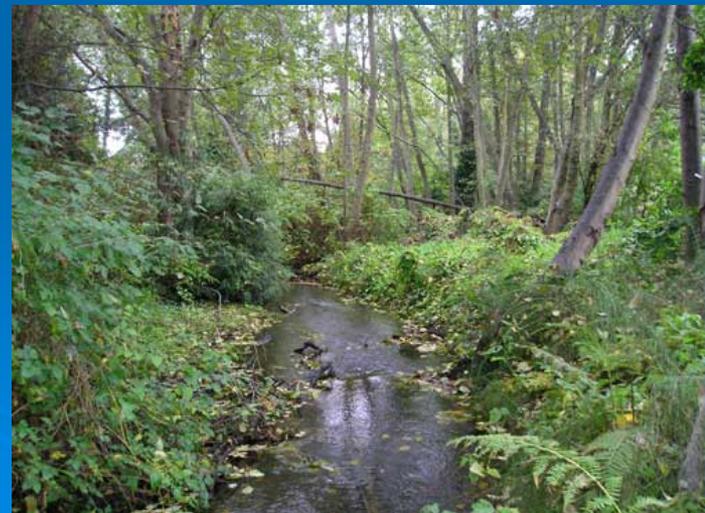


Stormwater Retrofit Planning for WRIA 9

- \$1M grant from EPA, \$335K match
- Model stormwater retrofit needs in WRIA 9
- Cost effectiveness
- Work with stakeholders
- Present retrofit options analysis to WRIA 9 Watershed Ecosystem Forum
- Extrapolate cost estimates to all Puget Sound

Project Area

- WRIA 9 except
 - Headwaters above Howard Hanson Dam (forested)
 - City of Seattle (combined system)
 - Vashon Island
- Focus on streams



Project Team and Funding

Organization	EPA Funding	Local Match
USEPA*		
King County	\$707k	\$300k
University of Washington	\$243k	\$20k
Department of Ecology**		
City of Auburn	0	\$5k
City of Covington	0	\$5k
City of SeaTac	0	\$5k
Kellogg Consulting	\$50k	0

* USEPA contributing \$1M in grant funding, and staff time to project management team

** Ecology contributing staff time to project management team and updating retrofit database

Project Benefits

- WRIA 9 and Puget Sound-wide planning-level estimate of facility and funding needs
- Cost vs stream improvement
- Demonstrate use of modeling tools
- Influence capital project planning
- Influence discussion on new funding
- Influence future NPDES permits

Project Schedule



Thank You for you Input!

➤ Workshop #1 April 2011

- Answered extensive questions about project scope, goals and limitations
- Received input on modeling scenarios and in-stream indicators

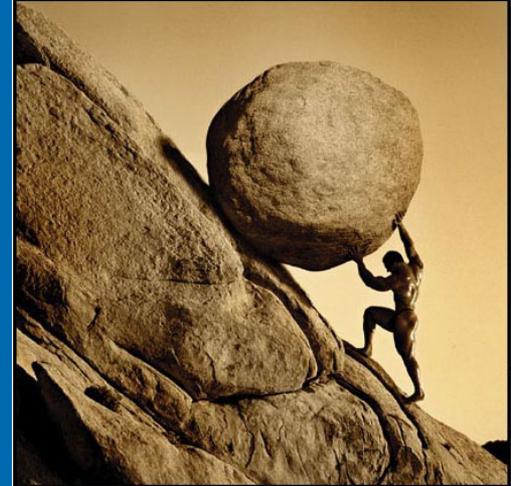
➤ Workshop #2 January 2012

- Received input on indicators and approaches for defining ranges of possible targets
- Received input on BMPs to assess

➤ Adjusted scope to address input

The Past 15 Months

- Watershed modeling
- Ranges of in-stream targets
- BMPs to include in model
- BMP design and cost assumptions
- SUSTAIN pilot study in a 270-acre catchment
- Independent analysis to corroborate SUSTAIN model



What Will You Do Today?

- Hear updates on in-stream target ranges
- Hear methods and results of a retrofit modeling pilot study and provide feedback
 - On BMP design and cost assumptions
 - On how to best report results
- Hear the approach for modeling all of WRIA 9 and provide input
- Hear updates on other assessments of stormwater retrofit needs

Review Draft Reports

- Indicators and range of targets report and SUSTAIN pilot study report
 - <http://www.kingcounty.gov/environment/watersheds/green-river/stormwater-retrofit-project.aspx>
 - Send comments by May 8 to Beth.leDoux@KingCounty.gov
- HSPF watershed modeling report
 - Will notify when posted

Sprint to the Finish

- Spring 2013: Finalize HSPF modeling report, in-stream goal and range of targets report, and SUSTAIN pilot study report
- Summer/fall 2013: Draft SUSTAIN modeling report and draft WRIA 9 retrofit options analysis
- Fall 2013: Workshop #4
- Late 2013: Finalize SUSTAIN modeling report, WRIA 9 retrofit options analysis, and Puget Sound cost estimate

Opportunities for Participation

- Review and comment on draft reports
- Stakeholder workshop # 4
- Review and comment on future reports
- WRIA 9 Watershed Ecosystem Forum
- One-on-one outreach
- Quarterly e-mail updates

More Info

- <http://www.kingcounty.gov/environment/watersheds/green-river/stormwater-retrofit-project.aspx>
- Jim.Simmonds@KingCounty.gov
- Beth.leDoux@KingCounty.gov