

Stormwater Monitoring for the Next Decade

Developing a Regional Strategy
for Puget Sound

May 19, 2009

Overview

- What is the Stormwater Work Group?
- Our schedule and process
- The current situation
- How to achieve a truly regional approach

Stormwater Work Group: Background

A New Approach is Needed

- The current, collective approach to monitoring and assessment:
 - is not efficient
 - is not cost-effective
 - does not meet the needs

Directive from the '07 Legislature

- Facilitate the development of an ongoing monitoring consortium in Puget Sound, similar to Chesapeake Bay or San Francisco Bay

Puget Sound Monitoring Consortium

- Recommends a governance structure for a coordinated ecosystem monitoring program
 - Partnership to decide, lead transition
- Sponsoring pilot projects
- Established the Stormwater Work Group

Benefits of the New Program

- Stakeholders are engaged, on board
- Analyzed information is credible
- Consistent protocols and data management make data more useful
- Leverages capacity and uses limited resources more wisely
- Supports science-policy discussions

Stormwater Work Group

- One of 3-5 initial topical work groups likely to be included in the new Sound-wide monitoring program
 - Test-driving a decision-making process
- By Summer 2010:
 - Develop a regional coordinated stormwater monitoring and assessment strategy
 - Propose an implementation plan

Work Group Members

- Local governments
- Private businesses
- Environmental groups
- State agencies
- Federal agencies
- Tribal, agriculture, and port representatives

Stormwater Work Group: Purpose, Schedule, and Process

Work Group Objectives

- Holistic regional monitoring and assessment strategy
- Focused on priority issues
- Transparent and open governance
- Coordinated among all entities
- Integrated with other efforts

Who Needs the Strategy?

- Ecology, for future Clean Water Act NPDES stormwater permits
- Puget Sound Partnership, for ecosystem recovery monitoring
- State and federal agencies
- Local governments
- Private business
- Citizens

Overarching Questions

- Given limited resources, what works best?
 - How effective are the Clean Water Act NPDES permit-mandated stormwater management programs?

Stormwater Work Group Schedule

2008 - 2010 Work Plan

October - April

May

June - October

November

June 2010

Convene the Work Group

- Adopt the work plan
- Brainstorm assessment questions
- Narrow down the list

First regional workshop to get early feedback

Task groups at work

- * Efficacy of management actions
 - * Impacts to beneficial uses and characterization
1. Review questions and develop hypotheses
 2. Develop a peer review strategy
 3. Write a draft "Stormwater Impacts and Characterization Monitoring and Assessment Strategy Plan" for the region as a whole

Second regional workshop to get feedback on the draft strategy plan

Strategy and implementation plans completed



We are here

Stormwater Monitoring: The Current Situation

The Current Situation

- Disparate stormwater and other related monitoring programs
- Poor coordination
- Not extensible to locations without monitoring
- Very expensive
- Monitoring decisions made in a closed process

Stormwater Permits

- Large municipal jurisdictions now have monitoring requirements
 - Phase I NPDES permit covers:
 - Seattle, Tacoma, King County, Snohomish County, Pierce County, Clark County
 - Ports of Seattle and Tacoma
 - Three categories of monitoring:
 - Stormwater characterization by land use
 - Best management practice effectiveness
 - Programmatic effectiveness

Stormwater Permits

- Smaller (Phase II) jurisdictions will have monitoring requirements starting in 2012
 - Details to be determined
- Ongoing monitoring of:
 - Construction sites
 - Industrial runoff
 - Livestock nutrient management
 - And more...

New Opportunity

- Broad agreement on need for coordination
 - More cost-effective
 - Better information
 - All interested stakeholders
- Political consensus to save Puget Sound
- Monitoring requirements in near future
NPDES permits will likely represent a new investment in monitoring

Stormwater Monitoring: How to Achieve a Truly Regional Program

Keys to Success

- Ongoing input from all stakeholders
- Make sure we focus on the most important questions
- Scientific validity of approach
- Clear roles and responsibilities
- Adequate funding and commitment to implement

Priority Assessment Questions

- What are the key questions that monitoring needs to answer?
 - Two broad categories:
 - Status and trends of stormwater quality, loadings, and impacts on beneficial uses
 - Efficacy of management actions at reducing stormwater impacts

Focus on Big Questions

- Efficacy of Management Actions:
 - What are we doing now that is the most effective?
 - How do we know when we are being effective?
 - How can we be most effective, in the future, for the region as a whole?

Issues We're Wrestling With

- Which specific retrofits work best in which situations and how much improvement can we expect?
- How much do our efforts prevent/reduce impacts from new development?
- How well does source control work?
- How can we use/transfer knowledge between basins to develop a regional approach?

Focus on Big Questions

- Impacts, Characterization & Loadings
 - Where is stormwater doing the most damage?
 - What is the best way to characterize stormwater on a regional basis?
 - How should a regional monitoring strategy address local to watershed scales of interest?
 - Where should we prioritize and target our regional protection efforts in the future?

Issues We're Wrestling With

- What is the current status of receiving waters and beneficial uses?
- Are beneficial uses improving over time in response to our efforts?
- How does land use influence stormwater?
- What variables influence the seasonal distribution and trends of pollutant loads?
- How can we use/transfer knowledge between basins to develop a regional approach?

Developing the Strategy

- Work to begin this summer
- Possible considerations
 - Efforts we can build on or connect to
 - Different impacts in different locations
 - Flow vs. chemistry vs. bacteria vs. biota
 - Indicators
 - Questions that can be answered jointly
 - Spatial and temporal scales
 - Stratified random design approaches
 - Basin characterization approaches

Big Questions for Today

- Are we wrestling with the most important questions/issues?
 - If not, what are we missing?
- What ideas should we explore as we create a regional strategy for:
 - Evaluating the effectiveness of stormwater management actions?
 - Characterizing stormwater and assessing impacts to beneficial uses?

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