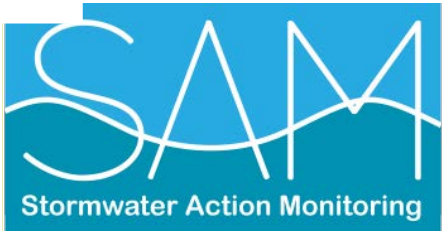
Welcome to the SAM Priorities Workshop

Dana de Leon, City of Tacoma
SWG Chair
February 27, 2019

ABOUT



Stormwater Action Monitoring (SAM) is

Collaborative

Regional

Funded by permittees in Western Washington: 91 cities, towns, counties; 2 ports; WSDOT

Funded in-kind by Ecology, WSDA, USGS, Redmond, Penn Cove Shellfish, Cedar Grove, hundreds of mussel monitoring volunteers

SAM's goals:

To improve stormwater management, reduce pollution, improve water quality, and reduce flooding by measuring stormwater impacts on the environment and evaluating the effectiveness of stormwater management actions

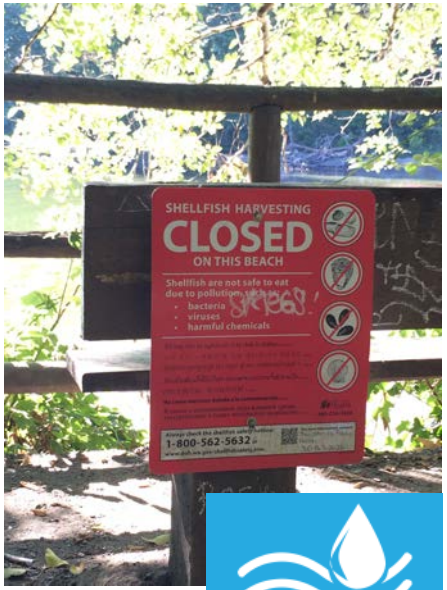
Regulatory Context for SAM and How SAM Works

Karen Dinicola, SWG Project Manager
Ecology's Policy and Technical Lead Stormwater Adaptive Management
February 27, 2019

SAM is a new approach

- Replaces monitoring by individual MS4 permittees that was
  - Compliance focused
  - Complicated and expensive
- Permittees requested a different approach
- PCHB agreed
- Huge effort to launch and maintain

Investigations to answer key questions



Receiving Waters

- Are we protecting receiving waters?
- Are conditions getting better or worse?

Effectiveness Study

Source Identification

- What works and under what conditions?
- How can we better address common problems?

So many things we might monitor…

Who gets to decide?

Everyone gets to weigh in

- Stormwater Work Group is SAM's Steering Committee
  - Sets priorities
    - Sends recommendations to Ecology
  - Selects and approves studies
  - Formal oversight process

Permittees choose to either:

- Pay into the cost-share fund for SAM, or
- Conduct individual monitoring

Decisions about SAM's priorities and study selection take place *outside* of the permit

Annual SAM payments completely fulfill permit monitoring requirements in S8

8

Freedom from the shackles!

- Diversity of topics
- Mix of short- and long-term projects
- No timeframes or ceilings
- Many studies are longer, larger than typical grant projects
- Multi-year studies can be done in phases
- Share interim findings

Context for Next Rounds of SAM Effectiveness and Source ID Studies

Brandi Lubliner, SAM Coordinator
February 27, 2019

Context begins with review

- There was a lot of process from 2008-2014
- 170 ideas reduced to 22 topics
- Literature review on the 22 topics
- SWG meetings, workshops like today's
- Synthesis papers on top 6 ES topics
- SAM (then RSMP) launched in the permit
- Solicited 2 rounds of study proposals
- SWG has approved 17 ES studies and 4 SI projects
- Completed studies and SAM Fact Sheets

2014 Source ID Topics → 3

- Analyze illicit discharge data
  - Use the data to set priorities for developing new approaches
- Source ID methods & priority
  - Build on Field Screening Manual
  - Create or update online library

- Analyze illicit discharge data
  - Phase I and II permittees' 2015 IDDE data analyzed
- Source ID methods & priority
  - Feasibility study for a regional spill hotline
  - Update and new field screening methods to the Illicit Control and Illicit Discharge manual
  - Risk based approach to business source control (needs a lead)

What has been learned?

- Illicit Discharge Detection and Elimination (IDDE)
  - In 2015 - Annual Report responses and Local Source Control data compiled
    - 2900 incidents from 78 western WA permittees
    - Most for vehicle spills and accidents
    - Response time fairly quick 1-3 days where reported
    - Recommendations to standardize reporting

Source ID methods & priority

- 2 Active Studies:
  - Feasibility of a regional spill hotline number
    - Survey going out soon
  - Updated IC/ID Manual
    - IC/ID = Illicit detection and illicit discharge
    - “how to” for field screening and new videos
    - Upcoming workshop to participate on March 4th
  - Risk based approach to business source control (not active, needs a lead)

2014 Effectiveness Topics → 6

- Source Control
  - Temporary erosion control
  - Businesses inspections
- O&M
  - Pollution Prevention
- BMP Retrofits

- Source Control
  - Small businesses inspection from permittee perspective
- O&M
  - Catch basin inspection & cleaning
- BMP Retrofits
  - Regional facility in Federal Way
  - Highway retrofit at Echo Lake
  - Multiple basins retrofit in Redmond
  - Oyster shell retrofit in catch basins

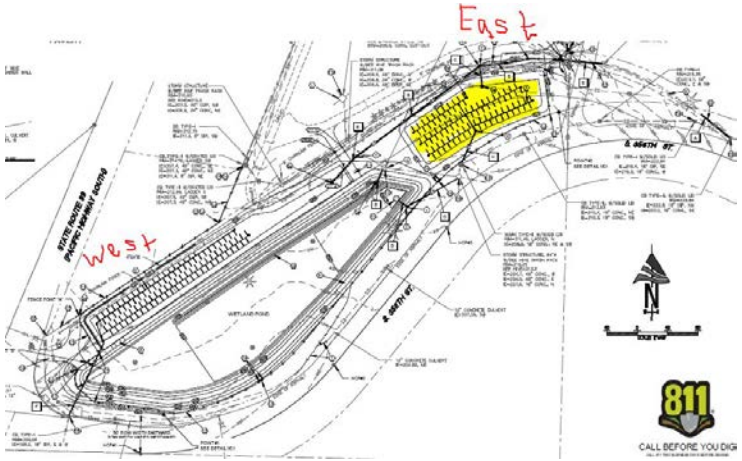
What are we learning about business inspection and catch basin cleaning effectiveness?

What was learned?

- Source control at businesses (47,000 inspection records categorized)
  - “Auto/boat” was most frequently inspected and most follow-up inspections
  - Recommendations for inspection prioritization and standardization of record keeping
- Catch basin cleaning & cost (8 of 28 jurisdictions data used)*report avail, SAM factsheet soon
  - A smaller and incomplete database was built due to a lack of participation and quality records.
  - Recommendations for permittees to re-evaluate the alternative schedule option, and to transition to digital data management for cost efficiency.

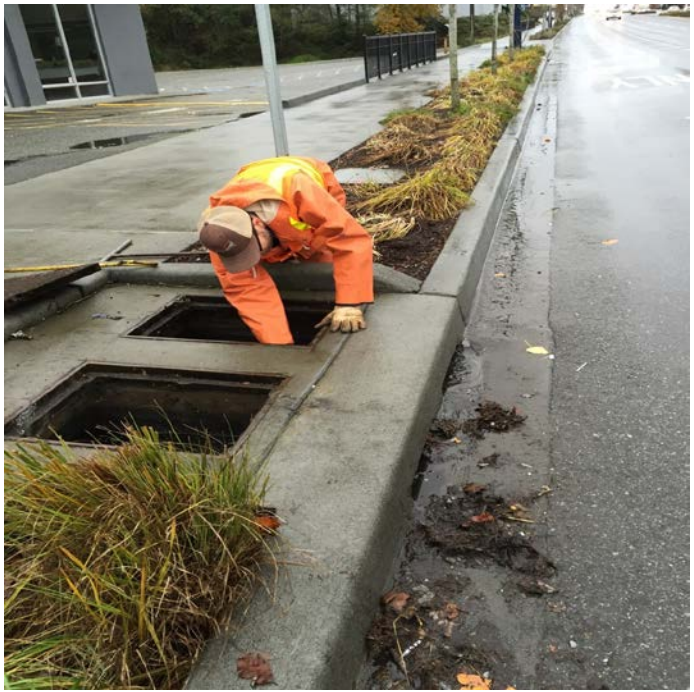
4 SAM studies on Retrofit Effectiveness

- 3 completed studies
  - Redmond Paired Watershed Study – Getting Started
  - Stormwater treatment and flow control added to Hwy 99 at Echo Lake in Shoreline, WA.
  - Regional facility expanded for treatment and flow control in the NF Hylebos Creek headwaters in Federal Way, WA *report avail, SAM factsheet soon
- Active study
  - Adding oyster shell bags into catch basins for additional water conditioning and treatment.



What was learned?

- Some retrofit study findings:
  - Bioretention scales well tiny to large
    - But; extra depth for bioretention soil mix is good for organics treatment but bad for nutrient export
  - Check your inlets - curb cuts might be undersized and flow is getting into retrofit
  - Filterra and bioretention treatment are not the same for dissolved metals and phosphorus
  - Treatment trains work, but order is important when trying to limit nutrient export from bioretention
  - A longer timeline is needed to quantify receiving water benefits from retrofits



2014 Effectiveness Topics → 11

- Low Impact Development
  - Benefits to receiving waters
  - Long term performance

- Low Impact Development
  - Individual tree hydrology (1)

- Bioretention
  - Hydrologic performance (2)
  - Toxicity reduction and longevity of protection (2)
  - Amendments (fungi, mulch) (2)
  - Alternative soil blends (1)
  - PCB sequestration (1)
  - Assessment protocol for bioretention & raingarden function (1)
  - Orifice control for treatment (1)

What are we learning about bioretention?

SAM Bioretention Video

How to recommend good study topics

Don McQuilliams, City of Bellevue
SWG Effectiveness Subgroup Chair

Melissa Ivancevich, City of Shoreline
SWG Source ID Subgroup Chair

February 27, 2019

What makes a good study or project?

- Answers a specific question
- Provides actionable information
  - For permittees to apply in their Stormwater Management Programs, and/or
  - For Ecology to apply in the stormwater manual or permits
- The necessary data are readily available or reasonable to collect
- Findings apply to region or other sites
- The timeframe is appropriate
- Can be a “white paper” or compilation/review of existing information

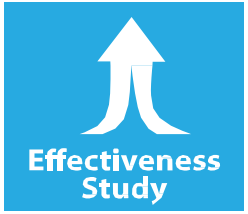


Table Discussion #1
Education and Outreach

20 minutes for this discussion

Effectiveness Study

Table Discussion #2
LID, Structural BMPs, Retrofits

20 minutes for this discussion

SAM
Stormwater Action Monitoring

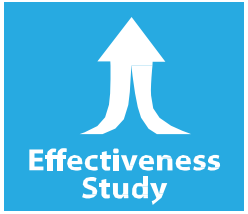


Table Discussion #3
Construction, O&M

20 minutes for this discussion

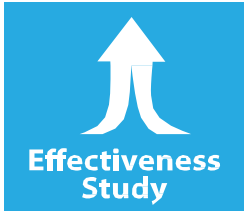


Table Discussion #4
Source Control, Source ID, IDDE

20 minutes for this discussion

SAM
Stormwater Action Monitoring


Effectiveness
Study


Source
Identification

Report out


SAM
Stormwater Action Monitoring

What's Next?

- SWG will use feedback from today to compile a set of draft recommendations
  - Draft package will be completed at March 20 meeting
  - SWG Caucuses will discuss
- Final decisions at June 5 SWG meeting
- RFP in winter 2019-2020
  - More workshops to review proposals

More information

SWG webpages sites.google.com/site/pugetsoundstormwaterworkgroup

- SWG meeting dates, agendas, and materials
- SWG and SAM listserv signup links

SAM webpages ecology.wa.gov/SAM

- Final project reports and Fact Sheets for each finished project
- SAM annual reports and quarterly budget reports

Lunch Break

We'll resume at 1:00