



# Kitsap County Surface and Stormwater Management Program 2009 Annual Report



The Kitsap County Surface and Stormwater Management Program (SSWM) protects people, property and natural resources by addressing water quality and quantity. Four agencies carry out SSWM program activities: Kitsap County Department of Public Works, Kitsap County Department of Community Development, Kitsap County Health District, and Kitsap Conservation District.

Some essential SSWM funded services include:

- Storm system improvements and maintenance -- Continuous improvements to the County's stormwater facilities reduce the frequency and severity of flooding, improve water quality, increase fish passage, and provide habitat. Regular inspection and maintenance prevents trapped pollutants and debris from entering our waterways.
- Water quality protection -- Water samples collected throughout the County help identify polluted areas and track water quality trends. Health officials post warning signs and conduct investigations when pollution is found in our creeks, lakes, and shorelines.
- Public education and involvement -- Presentations in our schools and communities raise awareness about how to reduce water quality impacts from our everyday activities. Technical assistance helps owners of businesses, small farms, and private property improve their practices. Stream Team volunteers help with stream monitoring and restoration.

*Kitsap County adopted the "Water as a Resource Policy" in 2009. Because most pollution enters Puget Sound from surface water runoff, SSWM will strive to reduce stormwater runoff volumes and ensure that the remaining runoff is clean.*





## Storm System Improvements

The storm system consists of infrastructure to move, store and sometimes clean water that runs over surfaces and ultimately flows into Puget Sound. This storm system network includes ditches and pipes, catch basins, ponds, vaults, underground tanks, swales, constructed wetlands, sand filters, oil/water separators, and others.

### Capital Improvement Program

This program evaluates where future drainage improvements are needed, builds new storm system projects, and retrofits existing portions of the County stormwater system.

#### Project highlights in 2009 include:

- Suquamish – Regional Stormwater Capital Improvement Plan: Coordinated with the Roads Division to design and install approximately 1500 feet of new pipe along Center Street and Division Avenue.
- Ridgetop Regional Stormwater Retrofit and Low Impact Trail: To protect Clear Creek and Dyes Inlet from sediment and pollutants, this Department of Ecology-funded project proposes to build an expanded sediment pond and wetland in the Ridgetop neighborhood of Silverdale. A pervious pavement trail with educational signage also will be installed. In 2009, SSWM worked with the Clear Creek Task Force, Kitsap County Facilities, Parks and Recreation and other interested parties to develop a long-term plan.
- Driftwood Key Drainage Study: Finalized in July 2009, this study identifies problem areas within Driftwood Key and recommends specific capital improvement projects to reduce localized flooding and improve water quality, such as installing a bioretention facility and a constructed wetlands.

#### Retrofit Program:

SSWM staff design and construct most retrofit projects, which cost less than \$50,000 each and have a construction period of less than three weeks. These small drainage system upgrades help reduce flooding, improve water quality, or enhance fish passage. In 2009, crews completed 22 system retrofits countywide.

### Retrofit Project: Rocky Point -- Hope Street and Mathews Drive

A stormwater pipe system was relocated from a private property onto the right-of-way, increased the capacity of the pipes, and used low impact development techniques to filter stormwater. Consequently, the stormwater no longer drains onto the beach but flows into a 100-foot constructed bio-filtration swale where plants filter pollutants, encourage infiltration, and improve water quality.



### Scott Murphy

Scott is the County design engineer for the stormwater retrofit program. Scott has 21 years experience at Kitsap County Department of Public Works. His expertise is roadway, traffic, and stormwater engineering. Away from the drafting table, Scott enjoys spending time with his family and serving as the Order of the Arrow Chapter Adviser for the Boy Scouts of America in northern Kitsap County.



## Storm System Inspection and Maintenance

### Inspection

SSWM staff annually inspects stormwater facilities and offer maintenance recommendations as needed. Routine removal and proper disposal of accumulated sediment prevents flooding and pollution in our streams, lakes, and shorelines. In 2009 over 2,000 public and private facilities were inspected. In addition, 97% of private commercial properties complied with established maintenance standards. These maintenance actions resulted in cleaner runoff and documented water quality improvements in Clear Creek and Northern Dyes Inlet.

### Maintenance

Kitsap County maintains a variety of public stormwater facilities. In 2009, SSWM crews performed maintenance on 608 storm water ponds, 10,545 catch basins, 133 swales, 254 oil/water separators, and 306 manhole control structures.

County maintenance personnel and private contractors can properly dispose of stormwater waste at the Kitsap County Maintenance Waste Processing Facility. In 2009, SSWM delivered 417,050 gallons of liquid waste and 447 yards of solid waste to the facility, and private contractors delivered 66,500 gallons of liquid and 112 yards of solids.



# Water Quality Improvements

## Kitsap County Health District

The Health District's Pollution Identification and Correction Program (PIC) is responsible for cleaning up Kitsap County surface waters impacted by fecal coliform bacteria. Staff work with property owners to correct identified pollution sources such as failing on-site sewage systems and animal waste. In 2009, staff performed 1,058 property surveys and identified 108 failing septic systems. Of those failing systems, 66% were corrected, and the remaining are in the correction process.

Based on water quality sampling data, staff updates stream public health advisories every year. In 2009, advisories were lifted on 4 streams: Daniels, Enetai, Sacco and Steele Creeks. Ongoing advisories are still in place for 3 streams; Lofall, Ostrich Bay and Phinney Creeks.

The Recreational Shellfish Program provides information about where to safely harvest shellfish that are free from contamination. Staff evaluates water quality for bacteria and monitors beaches for biotoxins, temporarily closing beaches when biotoxin levels threaten human health. In 2009, shellfish samples were collected from a total of 14 sites around Kitsap County for Paralytic Shellfish Poison (PSP) analysis and Domoic Acid (ASP) analysis. For biotoxin closure information, call the 24-hour hotline at 1-800-562-5632.

The Wellhead Protection Program conducts surveys which stress the importance of maintaining an adequate protective wellhead area that is free of garden and animal wastes, chemical fertilizers and pesticides. In 2009, staff conducted wellhead surveys and provided related education and outreach to 23 Group B water systems. As a direct result, 15 of these systems have since met compliance requirements.

## Public Works

The Stormwater Impact Monitoring Program conducts water sampling to detect and eliminate non-stormwater polluting discharges into or from the County stormwater system. In 2009, crews screened 254 stormwater outfalls and investigated 33 citizens' water quality concerns. These investigations identified and removed 17 pollution sources.

## Kitsap Conservation District

The Kitsap Conservation District provides a voluntary program of technical assistance and cost-share incentives to help farmers manage their land and animals to prevent pollution. KCD helps landowners upgrade farm management practices as well as provide economic benefit.

Conservation plans address landowner management goals and water quality issues, and they serve as a basis for best management practice (BMP) recommendations. In 2009, KCD completed 28 conservation plans, received 641 service requests, conducted 193 site visits, and completed eight watershed inventories. In 2009, KCD completed 30 BMP designs and coordinated 121 BMP installations.

KCD provides landowners with free technical assistance on how to improve their runoff quality and reduce flooding using Low Impact Development (LID) techniques. In 2009, KCD completed four LID designs, featuring a demonstration of a green roof, permeable pavements, a paddock for livestock, and a rain garden. In 2010, KCD will implement the residential rain garden program, providing technical assistance and cost-share for landowners to install rain gardens.



*KCHD conducts water sampling*

## What is a rain garden?

A rain garden is a planted depression that acts like a native forest by collecting, absorbing, and filtering stormwater runoff from rooftops, driveways, patios, and other areas that don't allow water to soak in.

Rain gardens:

- can be shaped and sized to fit your yard
- are constructed with soil mixes that allow water to soak in rapidly and support healthy plant growth
- can be landscaped with a variety of plants to fit the surroundings.





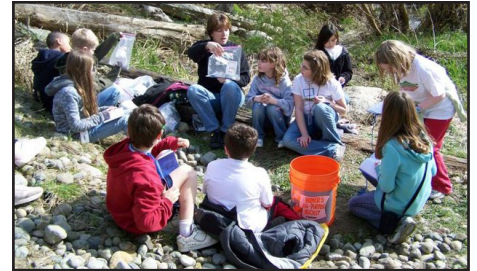
# Engaging Kitsap Citizens

The public education and outreach program targets key audiences and encourages them to make small changes in their everyday activities to improve the overall health of Puget Sound. Ongoing public involvement opportunities are available in a variety of stewardship programs. In 2009 Public Works Outreach and Education staff participated in or initiated 125 different activities reaching 6,573 citizens throughout Kitsap County.

**Clean Runoff:** The public outreach and education program strives to inform Kitsap citizens that stormwater receives little or no treatment before it flows into our bays, streams and lakes. Public Works collaborated with regional partners for a variety of community activities: rain garden workshops, pet waste management, water pollution hotline, and classroom presentations and student field trips. A drain marker program was established to spread the "clean runoff" message to Kitsap neighborhoods. Over 600 drains were labeled in 2009, and the goal is to add 600 more each year. Public Works continues to be active in the Puget Sound Partnership and the "Puget Sound Starts Here" campaign.

**Stream Team:** Kitsap County Department of Community Development coordinates volunteer stewardship projects. In 2009, hundreds of volunteers donated over 500 hours to enhance riparian areas in Chico Creek. In addition, six individual planting projects were implemented to enhance the stream near the Kitsap Golf and Country Club.

**Planning for Kitsap's Future:** Kitsap County Department of Community Development uses a public planning process to integrate watershed analysis with land use planning. DCD coordinates water resource management planning for the Water Resource Inventory Area (WRIA) 15, and leads salmon habitat restoration planning on the West Sound Watersheds Council.



*Learning about water quality "hands-on"*

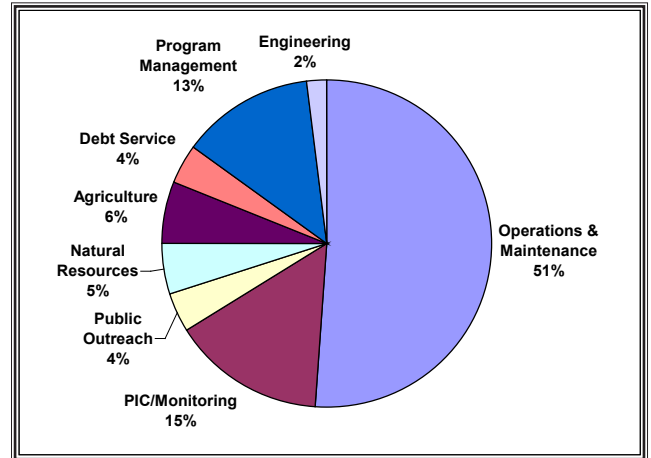


# Program Management

SSWM program elements include comprehensive watershed planning, public education and citizen outreach programs, capital improvement project program, operations and maintenance program, monitoring program, source control program, shellfish protection, and program performance measures.

The Washington State Department of Ecology reissued the Western Washington National Pollutant Discharge Elimination Program Stormwater (NPDES) Phase II permit on June 17, 2009. The revised permit implements the findings of the Pollution Control Hearings Board permit appeal decisions made in 2008 and early 2009.

The SSWM program is funded through a fee assessed to each developed property and road located within unincorporated Kitsap County. In 2009, the stormwater fee was \$67.30 per year for a single-family residence.



SSWM fund program allocations

**The mission of the SSWM Program is to promote and protect public health, safety and welfare by establishing a comprehensive, sustainable approach to surface and stormwater management.**



For more detailed information about Surface and Stormwater Programs:

**Surface and Stormwater Management:**  
[www.kitsapgov.com/sswm](http://www.kitsapgov.com/sswm) and 360-337-5777

**Department of Community Development:**  
[www.kitsapgov.com/dcd](http://www.kitsapgov.com/dcd) and 360-337-5777

**Kitsap County Health District:**  
[www.kitsapcountyhealth.com](http://www.kitsapcountyhealth.com) and 360-337-5235

**Kitsap Conservation District:**  
[www.kitsapcd.org](http://www.kitsapcd.org) and 360-337-7172

