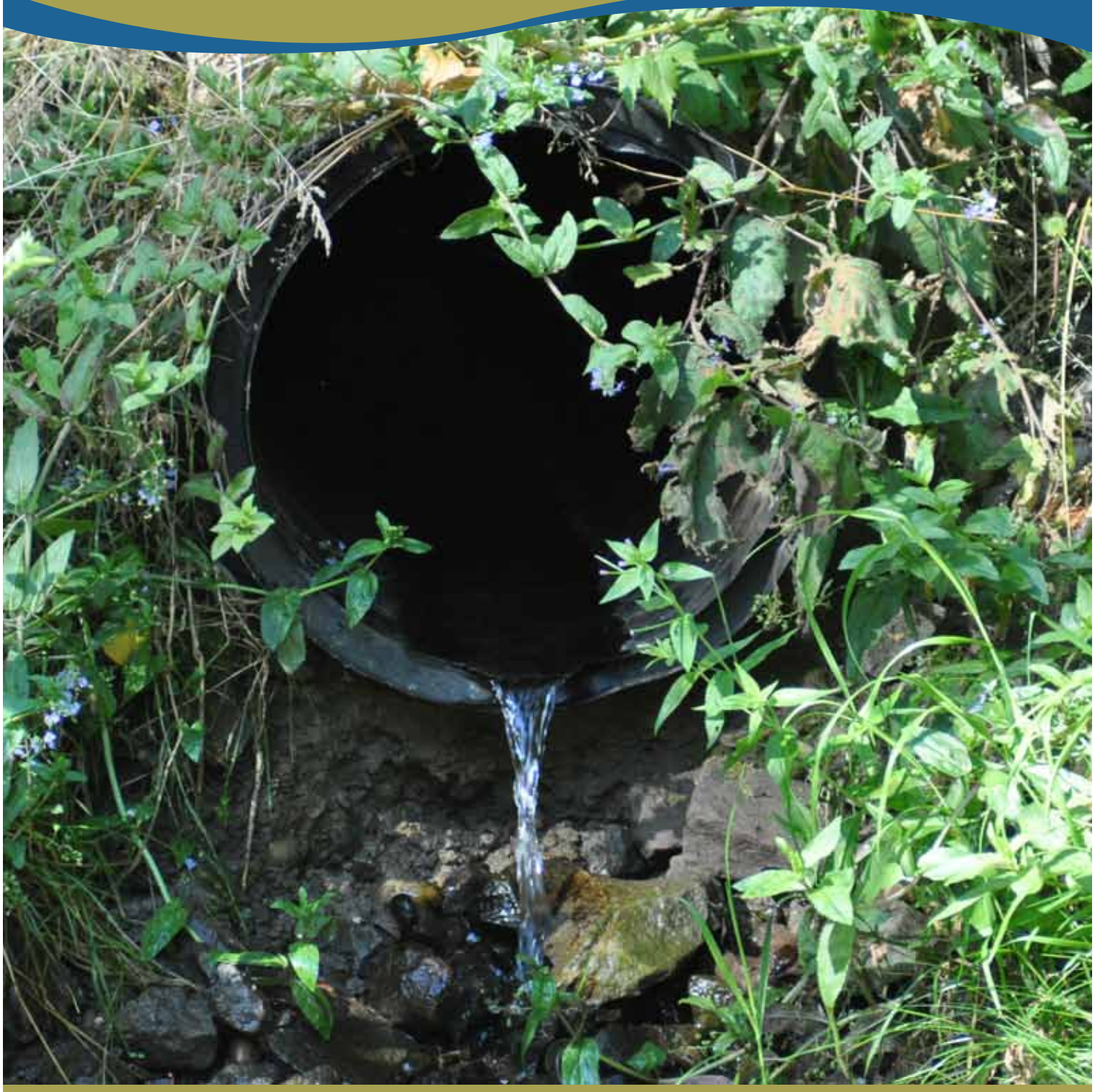
CLARK COUNTY ENVIRONMENTAL SERVICES

Clean Water Program

2010 Summary



Protecting water through stormwater management

2010 Clean Water Program

Water pollution comes from many different sources created by everyone even as we go about our daily activities. This pollution travels through our storm sewer system to our streams, lakes, and other water bodies.

The Clark County Clean Water Program protects our local waters from polluted stormwater by:

- **Building and retrofitting stormwater facilities that treat and control polluted runoff.**
- **Maintaining the existing stormwater system to protect property and the environment.**
- **Monitoring surface water quality to find and remove pollution sources and track stream health.**
- **Providing outreach and information to citizens of all ages to promote clean water stewardship and discourage behavior that pollutes runoff.**
- **Ensuring community compliance with water quality laws and regulations.**

The county is issued a National Pollutant Discharge Elimination (NPDES) municipal stormwater permit by the Washington Department of Ecology (Ecology) to discharge stormwater runoff to local waterways.

In January 2010, the Clean Water Program was incorporated into the county's newly established Department of Environmental Services. The Clean Water Program is managed by the department's Resource Policy and Planning Division with the mission of protecting our surface and groundwater from polluted stormwater runoff.

2011 Clean Water Program Goals

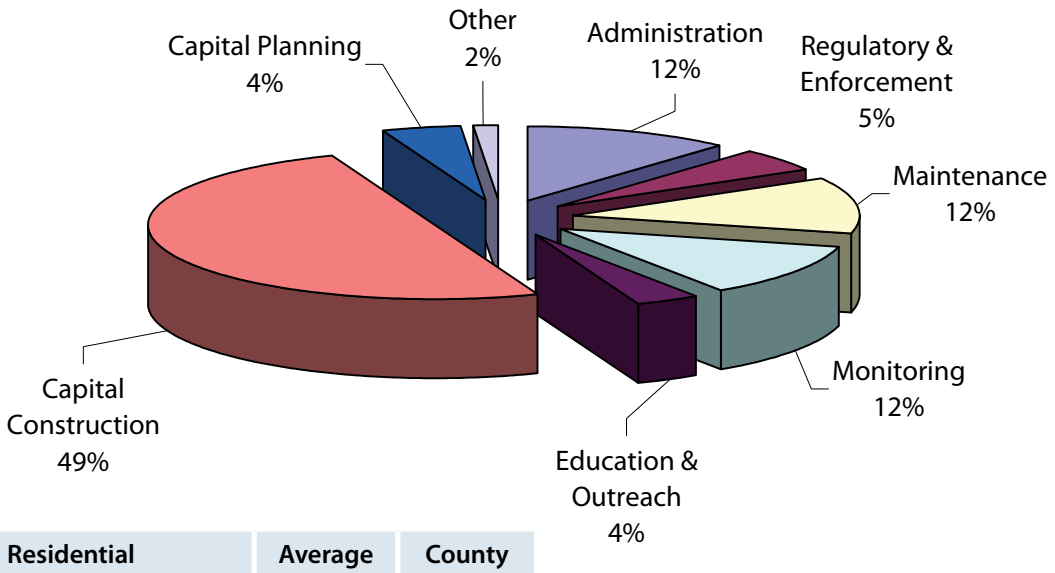
- **Prepare a cost of service analysis for stormwater management.**
- **Promote Low Impact Development (LID) and green building practices for both public and private development projects.**
- **Complete 5 stormwater capital improvement projects.**
- **Raise awareness and understanding of stormwater issues so the public can help protect water quality.**
- **Complete 5 habitat projects that restore wetlands and reforest over 50 acres of land.**
- **Update the county's Stormwater Management Plan.**
- **Conduct maintenance workshops for homeowners and businesses.**
- **Bring 10 HOA-owned stormwater facilities into compliance.**
- **Complete water quality monitoring projects at the stormwater sites.**
- **Inspect all public stormwater facilities to ensure proper maintenance.**

Funding & Budget

Funding for the program comes from the Clean Water fee paid by property owners in unincorporated Clark County. Revenues are typically about $4.9 million annually from approximately 65,000 rate payers in unincorporated Clark County. Expenses for 2010 were about $9.2 million.

A significant amount of the Clean Water fund reserves were used to supplement annual fee revenue in order to construct capital stormwater projects in 2010. The graph below indicates the distribution of funds to support the stormwater management services the county provides.

Clean Water Program expenditure distribution by program area



Annual Residential Stormwater Fee For:	Average Fee	County Fee
Washington Phase 1 permit jurisdictions - King, Pierce, Snohomish counties, Seattle, and Tacoma	$144	$33
Southwest Washington Phase 2 permit cities - Battle Ground, Camas, Washougal, and Vancouver	$80	$33

How We Compare

The Clean Water Program is funded through a fee based on a property's square feet of impervious surface. The fee for most urban residential lots is $33 per year. The table at left compares the county's Clean Water fee with other western Washington jurisdictions with stormwater permits issued by Ecology (Clark County is a Phase I permit jurisdiction, based on population).

Clean Water Commission

The Clean Water Commission is a nine-member advisory group to the Board of County Commissioners that provides oversight for the Clean Water Program. In 2010, the Clean Water Commission held monthly public meetings to discuss program activities. The commission worked with staff on public education, promoted the concept of low impact development and its potential to improve water quality in Clark County, and made recommendations to the Board of County Commissioners.

Monitoring & Assessment

Salmon Creek Success Story

During the past fifteen years, many agencies have partnered to improve bacteria levels and muddy conditions in Salmon Creek.

The good news is that over time, significant improvements have been made in water quality in the creek. All long-term monitoring locations along the creek now meet water quality standards for turbidity. Fecal coliform bacteria have decreased up to 98%. Nutrient levels (phosphorus and nitrogen) have decreased.

These improvements are the results of stormwater management, streamside tree plantings, habitat restoration, public education, water monitoring and improved septic system maintenance. It can be done!

Environmental Services staff check a station monitoring runoff from a commercial area.

Monitoring and assessment activites are important to determine the quality of our waterways and the extent of polluted runoff. The program utilizes a variety of sampling methods, from sophisticated automatic sampling equipment to hand-collection of samples at targeted locations. By tracking this data, the health of our streams, rivers, and lakes can be assessed and trends identified over time. Equally important as tracking water quality, regular monitoring helps find and fix problems.

Stream Health Report

The Stream Health Report, originally published in 2005, was substantially updated in 2010. The report characterizes the overall health of the county's waterways. The majority of our watersheds are rated in fair condition with a few ranked from poor to good.

Indicators evaluated:

- *Water quality* - chemical and physical condition of the water.
- *Biological health* - how well the creatures living in the water are doing.
- *Stream flow* - whether our streams are getting the right amount of water to sustain healthy conditions.

Stream Health Report online:
www.clark.wa.gov/water-resources/stream.html

2010 Construction Projects

Mount Vista Stormwater Facility Landslide Repair

The Mount Vista stormwater facility was damaged and failed to function after a torrential rain and major landslide in January 2009. The repair involved substantial grading, excavation and tree removal at the facility. In addition, landslide damage was repaired along a tributary of Mill Creek.

This stormwater facility serves a large catchment area of approximately 50 acres. This area is fully developed with single family homes. The stormwater facility and landslide repair was completed in summer of 2010.

Upper Whipple Creek Habitat Protection & Runoff Control Project

This project, completed in 2010, enhanced and protected 40 acres of critical habitat and wetland in Clark County from anticipated development upstream.

The project stopped further degradation of the Whipple Creek channel in a valuable natural area, protecting both wetland and floodplain function in managing storm flows.

Improvements included stabilizing the stream bed with rocks and large wood to stop erosion from threatening wetland areas; installing valley-spanning log jams to slow the storm flows and swamp the wetland and floodplain habitat; and restoring native vegetation in the adjacent riparian areas.

Stormwater facilities are critical in keeping polluted stormwater out of our waterways. The Clean Water Program plans for stormwater capital projects that focus on improving stream and storm drainage conditions. Stormwater capital projects are identified, evaluated and prioritized for implementation.

The Clean Water Program engineering team is responsible for the technical aspects of managing the county's stormwater facilities to improve water quality, including designing and constructing new facilities and updating and retrofitting existing facilities.

Mount Vista stormwater facility repair.

2010 stormwater construction projects

The completion of these projects provided additional treatment for controlling polluted stormwater flow from about 25 acres of impervious surface:

- NE 152nd Street /NE 20th Avenue Stormwater Facility
- Whipple Creek Channel Restoration
- Teal Pointe/Miller Estates Stormwater Facility Retrofit
- Mount Vista Stormwater Facility Retrofit/Landslide Repair
- Regency Park Subdivision Stormwater Outfall Repair
- NE Hazel Dell & 115th Cir Stormwater Facility
- Hawks Point Stormwater Facility Retrofit
- New Valley Stormwater Facility Retrofit
- Lakeshore/ NW 99th Street Rain Garden
- NW 4th Avenue/NW 90th Street Stormwater Facility
- Buena Vista Stormwater Facility Retrofit
- Maplegate Stormwater Facility
- Growing Green Project - revegetation with 35,000 plants

Stormwater Inventory

Stormwater detention pond

The key to successfully managing the county's stormwater system is a detailed and accurate inventory. Nearly a decade ago the Clean Water Program initiated a program to inventory and map all of the features that make up the stormwater system, from street and parking lot grates to pipes, and from ponds to outlets. Program staff are continually researching, locating and entering data into the system.

In 2009, the program completed a large project to update the inventory, filling significant data gaps from historic developments in the unincorporated area. In 2010, program staff continued updating this GIS inventory utilizing advanced technology that provides a critical management tool for the program.

Facilities are continuously added to the inventory as they are built or change from private to public. During the year, 51 new private facilities and 26 public facilities were added to the inventory.

Technical Assistance & Enforcement

Success Story

In summer 2010, a routine source control inspection at the operations center of Waste Connections, Inc., the county's residential waste hauler, discovered soapy, greasy water from washing dumpsters and garbage trucks draining to a bioswale.

Hundreds of gallons of this water were being discharged to the bioswale daily, which is intended solely for removing pollutants from stormwater runoff. In addition, the wash water had filled the parking lot's oil/water separator with grit, causing damage to the connected swale.

Staff from the Clean Water Program and the Clark Regional Waste Water District worked with Waste Connections to make site improvements that protect water, such as covering the wash pad, re-seeding the bioswale, and cleaning the oil/water separator. All of the work was completed by January 2011.

There are over 900 privately owned and operated stormwater facilities in unincorporated Clark County, all working to control and clean stormwater runoff. Annual inspections of privately-owned stormwater facilities ensure compliance with the county's maintenance standards. In addition, technical assistance to businesses ensures their use of best management practices, such as pollution prevention and spill containment, for stormwater management. This includes inspecting stormwater facilities located at the business and reviewing their operating procedures.

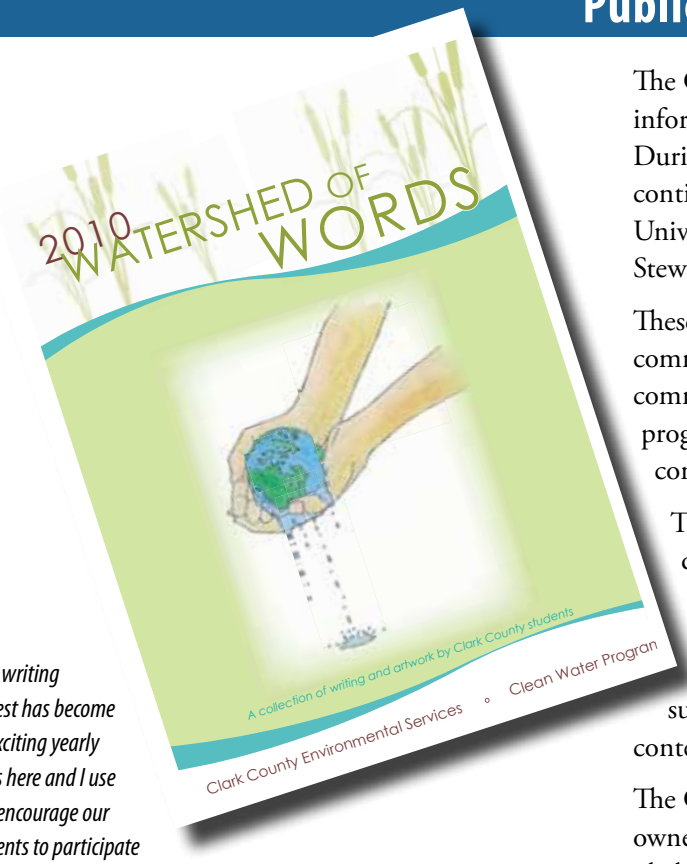
Staff provide information and assistance to these owners of facilities not in compliance. If the owners remain unresponsive, a code enforcement case is created. Code Enforcement staff continue to work with the property owner, but in severe noncompliance cases if this process is unsuccessful, it may result in the issuance of fines and property liens.

During this past year, 670 private stormwater facilities were inspected for maintenance compliance and 924 businesses were provided pollution source control assistance.

Primarily based on complaints, about 550 code enforcement cases were initiated for issues such as grading without a permit, inadequate erosion, and sediment control measures.

For more information about private stormwater facility maintenance, call the Clean Water Program at (360) 397-2121 and press "1" or email cleanwater@clark.wa.gov

Public Information & Outreach



"The writing contest has become an exciting yearly focus here and I use it to encourage our students to participate and think about the important issues, and how we can make our own actions count, every day."

Ms. Mos, teacher
Marion Elementary School

The Clean Water Program continues to have a very robust information and outreach component. During the past year, the program continued to partner with Washington State University Extension for the Watershed Stewards and Small Acreage programs.

These programs provided information to the community through 17 workshops with 747 community members participating. Also, these programs returned 2,331 volunteer hours to the community.

The Clean Water Program works with the schools and school districts in providing environmental education. More than 3,153 students participated in Clean Water Program sponsored activities in 2010. Twenty schools participated in the Student Monitoring program with another 20 schools submitting entries to the Watershed of Words, a creative writing contest for students in grades K-12.

The Canines for Clean Water program provides information to dog owners about pet waste and its impact on water quality. Participants pledge to properly manage and dispose of their pet's waste. During the year, 568 pet owners received information at community events.

Stormwater Partners of SW Washington

In 2009, Clark County formed a partnership with its cities (Battle Ground, Camas, La Center, Ridgefield, Vancouver and Washougal) funded by a grant from the Washington Department of Ecology. The partnership provides technical information and guidance to neighborhoods and businesses on maintaining private stormwater facilities.

During 2010, the partners began work on a web site, a user-friendly maintenance guidebook for homeowners, and other materials. Plans for 2011 include a series of workshops and informational sessions.

Stormwater Facility Maintenance

Stormwater facility maintenance.

Clark County owns and operates more than 850 stormwater facilities that manage runoff from streets and adjacent properties. These facilities must be maintained to control stormwater runoff and remove pollutants.

Typical maintenance work includes:

- Inspection of stormwater facilities and infrastructure
- Keeping storm drains, pipes and ditches clear so water can flow.
- Keeping detention ponds, infiltration pipes, bioswales and other facilities clean so they can control and clean stormwater runoff.
- Keeping streets swept to pick up contaminants and debris so these do not end up in our system or local waters.

In 2010, maintenance crews provided routine maintenance to nearly all publicly owned stormwater facilities. This includes mowing vegetation and removing significant accumulation of sediment in detention ponds and bioswales.

Crews replaced more than 450 filter cartridges in underground systems that treat runoff, and removed more than 700 cubic yards of sediment from street and curb inlets. Crews also swept over 6,000 miles of roads and streets, removing another 3,125 cubic yards of debris.

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