2010 VPDES Permit Annual Report

Fairfax County, Virginia

VPDES Permit No. 0088587

March 8, 2011

The following annual report is submitted to the Virginia Department of Conservation and Recreation (DCR) in compliance with Fairfax County's Virginia Pollutant Discharge Elimination System (VPDES) permit. The permit was issued January 24, 2002 and expired January 24, 2007. The county is currently operating under an administrative continuance of the existing permit in anticipation of permit renewal. This report covers the previous calendar year from January 1, 2010 to December 31, 2010 and describes all of the activities performed to satisfy the county's permit requirements.

Annual Report requirements as specified in Part I.C.4 of the permit are bold and underlined below and *the stormwater program requirements as specified in the permit, Part I sections B.1, C.1, C.2 and C.3 of the permit are in italics* under the applicable annual report section.

NOTE: Fairfax County's response to the annual report and permit requirements are indented.

a) Watershed Management Program Implementation

The Municipal Separate Storm Sewer System and any stormwater structural controls shall be operated in a manner that reduces the discharge of pollutants to the maximum extent practicable (B.1).

Starting with the Little Hunting Creek Watershed Management Plan in 2003, the county embarked on a watershed planning initiative that assessed the needs and resulted in proposed improvements for the county's 30 watersheds over the next 25 years. The watershed management planning process is one component of the county's MS4 Program and is part of the Fairfax County Board of Supervisors' Environmental Agenda. The overarching goals for the watershed plans are:

1. Improve and maintain watershed functions in Fairfax County, including water quality, habitat and hydrology.
2. Protect human health, safety and property by reducing stormwater impacts.
3. Involve stakeholders in the protection, maintenance and restoration of County watersheds.

A total of 13 plans, which cover all 30 watersheds, were developed during this watershed planning initiative. The plans were developed with the assistance of the community through public meetings and individual plan stakeholder groups. This public involvement process helped to ensure that the plans meet the needs in the watershed, and have the support, of county residents. The county completed and adopted six watershed plans between 2005 and 2008 as part of the first round of planning. By early February 2011, the seven remaining watershed management plans were completed and adopted by the Fairfax County Board of Supervisors. Attachment 1 lists the status of each of the 13 county watershed management plans.

It is anticipated that structural projects proposed in the plans will be primarily funded from the Stormwater Services fund and from the Pro Rata Share Drainage Construction fund.

a.1) Structural and Source Controls

The Municipal Separate Storm Sewer System and any storm water structural controls shall be operated in a manner that reduces the discharge of pollutants to the maximum extent practicable (B.1.a).

a.1 (a) Report all inspections performed on SWM facilities and BMP Ponds.

In 2010, the county inspected 173 of the 1,338 county-maintained stormwater management (SWM) and best management practice (BMP) facilities at least once. Given that 926 county-maintained facilities (72 percent) were inspected in 2009, this level of performance complies with the permit requirement to inspect all county-maintained facilities once during the term of the permit. In anticipation of a new annual reporting schedule with a renewed MS4 permit, these inspections are being tracked on a fiscal year basis, resulting in approximately 650 inspections per fiscal year. The county inspected 411 (or 12 percent) of the 3,348 privately-maintained facilities in 2010 with the goal of inspecting all privately-maintained facilities at least once during the permit cycle as required by the permit.

a.1 (b) Report all maintenance performed on SWM facilities and BMP Ponds.

In 2010, the county cleaned and/or mowed 1,136 dam embankments, including 40 regional ponds which were maintained four times each over the calendar year. Cleaning involves removing trash, sediment, and debris from the trash rack, control structure, and all inflow channels leading to the control structure. At each stormwater management facility, deposited sediment is removed from the trickle ditch upstream from the control structure and disposed of offsite. The cleaning helps keep the facility functioning properly by conveying water and performing the BMP function as it was designed. The county completed 131 maintenance work orders to correct deficiencies in publicly maintained SWM/BMP facilities. In 2010, more of these work orders focused on major maintenance problems, which resulted in a lower number of total work orders compared to recent years.

a.2) Areas of New Development and Significant Redevelopment

The permittee shall comply with and enforce all components of the County's Comprehensive Land Use Plan that are relevant to storm water discharges. The goals of such controls shall be to limit increases in the discharge of pollutants from storm water as a result of development and significant re-development (B.1.b).

The Comprehensive Plan, as amended in 2007, provides explicit support for better site design and low impact development (LID) measures, and opportunities to implement such measures are explored during the zoning process. This support helps staff to negotiate for measures such as reductions in proposed impervious cover and the provision of biofiltration facilities (rain gardens) to provide water quality control through infiltration.

The Department of Planning and Zoning (DPZ) provides a full range of environmental review, but does not track stormwater efforts independently from other environmental efforts. In coordination with other DPZ staff and staff from other county agencies, DPZ reviewed 49 rezonings and related applications (e.g., amendments), 49 special exceptions and amendments, and 119 special permits and amendments in fiscal year 2010 for environmental considerations.

a.3) Roadways

Public streets, roads, and highways maintained by the permittee shall be operated and maintained in a manner to minimize discharge of pollutants, including those pollutants related to deicing or sanding activities (B.1.c).

The Virginia Department of Transportation (VDOT), which is covered by a separate Phase II MS4 permit, is responsible for maintenance and operation of public roads (interstate, primary, secondary, residential) in Fairfax County. The county is only responsible for maintaining several miles of discontinuous road segments, many of which are unpaved. A significant component of Fairfax County's roadways program is sweeping parking lots associated with county facilities such as government centers, libraries, public schools, fire stations, police stations, health centers, bus transit facilities, park and ride lots, commuter rail stations, public housing facilities and staffed park locations.

In an effort to limit the discharge of pollutants from parking lots into the county's streams, the county provides sand and chemical treatment only when dictated by safety. The county sweeps material from each treated parking area once annually during the spring.

The county's parking lot sweeping program is currently carried out by three organizations: Department of Public Works and Environmental Services (DPWES), Department of Housing and Community Development (DHCD), and Fairfax County Park Authority (FCPA, or Park Authority). DPWES sweeps parking lots at county government and public schools sites as well as paved county road segments, where feasible. DHCD sweeps parking lots on residential developments such as apartment complexes, townhouse developments, group homes and senior facilities that are owned and operated by DHCD. FCPA maintains essential use parking areas at staffed park locations and commuter parking lots. In 2010, more than 1,570 cubic yards of material was removed from 317 county government and public schools sites, 41 residential sites, essential use areas at parks and county-maintained road segments through sweeper trucks and hand sweeping.

a.4) Retrofit

Receiving water quality impacts shall be assessed for all storm water management facilities. When the permittee determines water quality impact, they shall continue to evaluate and implement retrofitting existing storm water management facilities and areas without stormwater controls (B.1.d).

In 2010, the county maintained compliance with retrofit requirements by completing projects to enhance stormwater management functionality. The projects included BMP/low impact development (LID) retrofits for water quality, detention pond retrofits, and dam improvements as summarized below:

- seven BMP/LID water quality retrofits treating an estimated 13.4 acres
- eight stormwater detention pond retrofits treating an estimated 255 acres, including a major renovation and spillway repair at Lake Accotink dam
- five dam rehabilitation projects draining 20,491 acres, which also included a project to repair and strengthen the Lake Accotink dam
- eight major maintenance projects to enhance stormwater management functionality
- two renovations of existing adult-sized natural turf soccer fields into synthetic turf fields which provide storage capacity, reduce peak flows during large storm events and have a conservative 15 percent phosphorous removal efficiency rate. The new synthetic turf fields also eliminate the need for fertilizer and pesticide application. The two projects provide treatment for over eight acres combined.

- two major park renovations incorporated rain gardens, underground stormwater storage facilities, porous pavers and a new synthetic turf field as well as renovation of an existing stormwater management pond. The renovations treat approximately 18 acres combined.
- large underground stormwater management facilities are being installed at another park to provide on-site detention for a family recreation area where construction began in June 2010
- modification of 120 linear feet of swale at a golf course to provide rain water harvesting, improve infiltration, address an existing drainage problem, and improve both site infrastructure and aesthetics. The improvement addresses about one acre of drainage area. The project also incorporated two rain barrels with drip lines and a deep artificial river-rock channel to provide stormwater storage and decrease standing water and run-off.

Eleven of these retrofits were projects recommended in county watershed management plans.

Combined, the 15 stormwater detention pond and BMP/LID retrofit projects are estimated to remove approximately 580 pounds/year nitrogen, 99 pounds/year phosphorus (in addition to removals anticipated as a result of conversion from turf to synthetic fields), and 28 tons/year sediment. Sediment and nutrient removal estimates are not available for maintenance projects.

As part of park planning, development, and renovation processes, the Park Authority evaluates opportunities to incorporate LID stormwater management techniques. Park Authority staff members maintain over twenty rain gardens and numerous other LID features.

Retrofit documentation is maintained by the Maintenance and Stormwater Management Division and the Watershed Projects Implementation Branch of DPWES and the Park Authority.

a.5) Pesticides, Herbicide, and Fertilizer Application

The permittee will implement controls to reduce the discharge of pollutants related to the storage and application of pesticides, herbicides, and fertilizers applied to public right of ways, parks, and other municipal property. The permittee shall develop and implement a program within one year of the effective date of the permit to achieve the above goal (B.1.e).

County agencies involved in the administration of public rights-of-way, parks and other municipal properties currently have some form of nutrient and pest management plans and either implement the plans themselves or have contractors implement them. County personnel and private contractors follow the Virginia Department of Conservation and Recreation's nutrient management guidelines, the Virginia Department of Agriculture's guidelines, and the Virginia Pesticide Control Act, 2006. In addition, many agencies are also collecting information on the application rates and total annual usage of pesticides, herbicides and fertilizers (PHF).

In 2010, Park Authority staff worked to reduce the amount of mowed turf areas at several park sites around the county to promote water and air quality and provide additional wildlife habitat. Mowing was discontinued on 15 acres in the Vienna and McLean areas of the county.

The Park Authority currently has approximately 515 acres under nutrient management plans. These areas are on golf courses. The vast majority of the remaining mowed turf areas do not receive any regular treatments of either fertilizers or pesticides.

In 2010, a Virginia state-certified nutrient management planner in the Northern Virginia Soil and Water Conservation District (NVSWCD) prepared nutrient management plans covering 66.6

acres in the county. These included 31.1 "new acres" which were not previously part of any current or expired plan and 35.5 "revised acres" which were already under plans that had been recently rewritten because the previous ones had expired or were about to expire. The plans accounted for 37.1 acres of horse operations, 8.5 acres in hay production and 21.0 acres of George Washington's historic farming operation at the Mount Vernon Estates and Gardens.

In 2010, county agencies that have property ownership and maintenance responsibilities met to discuss the PHF program. Attendees reviewed the record keeping sections of the draft Nutrient Management Plan (dated October 15, 2007) and the Site Specific Nutrient Management Plan Content document (dated October 17, 2007). It was decided that the Site Specific Nutrient Management Plan Content sheet should be updated and could be adapted to develop a template for certified nutrient management plans. Attendees also reviewed the draft Integrated Pest Management Plan and discussed how the Park Authority's Early Detection – Rapid Response invasive plant program, the gypsy moth spraying program and other types of pest management involving the use of chemicals around county buildings (such as termite and mosquito control) would be covered by the site specific plans. Plan updates are scheduled to begin in 2011 with the participation of DHDC, DPWES, Fairfax County Public Schools, the Health Department, NVSWCD, and the Park Authority.

a.6) Illicit Discharges and Improper Disposal

a.6 (a) Report all identified illicit dischargers. This shall include site inspections and a description of any follow-up activities associated with illicit dischargers (see No. 12 below for dry weather screening);

Non-storm water discharges to the Municipal Separate Storm Sewer System will be effectively prohibited (B.1.f).

The Fire and Rescue Department's (FRD) Fire and Hazardous Materials Investigative Services section aggressively enforces County Code Chapters 62, 105 and 106 in conjunction with the Department of Public Works and Environmental Services and the Department of Planning and Zoning, and issues criminal citations during investigations of hazardous materials incidents. Chapter 62 establishes that the Fire Marshall and all permitted members of the Fire Marshall's staff have police powers to investigate and prosecute certain offenses including offenses related to storage, use, and transportation of hazardous materials and hazardous waste, and environmental crimes. Chapters 105 and 106 contain provisions that address illicit discharges to state waters and the county's storm drainage system. Procedural Memorandum No. 71-01, Illegal Dump Site Investigation, Response, and Cleanup, outlines the process of follow-up action for non-emergency incidents of illegal dumping; establishes action under County Code Chapter 46, Health or Safety Menaces; and provides referrals for action on complaints that are neither public health hazards nor regulated.

Programs that can help to prevent, detect and eliminate illicit discharge of sanitary wastes into the MS4 are implemented and documented in the Wastewater Management business area of DPWES. The Sanitary Sewer Infiltration Abatement Program conducts wastewater flow measurements and analysis to identify areas of the wastewater collection system with excessive inflow/infiltration problems, and uses closed circuit television (CCTV) to inspect trunk sewer mains in an effort to specifically identify defective sewer lines for repair and rehabilitation. In 2010, 213 miles of old sewer lines and 7 miles of new sewer lines were inspected, resulting in the identification of sanitary sewer lines and manholes needing repair and rehabilitation. In 2010, 21.8 miles of sanitary sewer lines were rehabilitated, bringing the total length of sewer lines repaired over the past ten years to 208.64 miles (1,101,599 feet).

The Sanitary Sewer Extension and Improvement Program addresses pollution abatement and public health considerations by providing sanitary sewer service to areas identified by the Department of Health as having non-repairable, malfunctioning septic systems. In 2010, one Extension and Improvement project was completed consisting of 912 linear feet of eight-inch sanitary sewer and sanitary sewer connections to five existing homes.

a.7) Spill Prevention and Response

A program to prevent, contain, and respond to spills that may discharge into the Municipal Separate Storm Sewer System shall be implemented. The spill response program may include a combination of spill response actions by the permittee (and/or another public or private entity), and legal requirements for private entities within the permittees' jurisdiction (B.1.g).

The Fire and Rescue Department responds to all reported incidents of hazardous material releases, spills and discharges in the county (regardless of whether the material has potential to enter the county-operated MS4 or another system, such as VDOT's). The department maintains and tracks firefighter training/certification under OSHA 29 CFR 1910.120 (q) and NFPA 472. The department's Fire and Hazardous Materials Investigative Services (FHIS) personnel receive regular training in pollution prevention and are equipped to initiate spill control measures to reduce the possibility of hazardous materials reaching the MS4. Resources available to personnel include personal protective equipment, technical tools and equipment for spill control, and absorbent products such as pads and booms for spill containment. The section also maintains a contract with a major commercial hazardous materials response company to provide additional containment and clean-up support for large-scale incidents.

In 2010, FHIS received 390 complaints. Approximately 315 of the complaints involved the actual release of various petroleum or chemical substances. Of the 315 releases, 221 involved the release of either diesel fuel (23), home heating fuel oil (53), gasoline (42), motor oil (31), or hydraulic oil (72). Other releases investigated involved antifreeze, paint, sewage, waste water discharges, water treatment chemicals and mercury. Storm drains were involved in 45 of the releases.

In both emergency and non-emergency spills that reach the MS4, FHIS enforces appropriate codes and ordinances to ensure that responsible parties take appropriate spill control and cleanup actions to protect and restore the environment.

FHIS monitors, on a long-term basis, contaminated sites that have a potential for the contaminant coming in contact with surface waters or stormwater management facilities. As a part of the Oversight Program, FHIS, as an agent of the Director of DPWES, accepts, reviews and processes requests to discharge treated groundwater from remedial activities at contaminated sites into county storm sewers. FHIS then monitors the discharge for the duration of the agreement. In 2010, the Hazardous Materials Technical Support Branch of FHIS started the year with 52 oversight files. During the year, 75 new oversight files were opened, and 55 were closed. Most of these oversight files involve contaminated underground storage tank sites. Fifty-six oversight files will be carried into 2011.

Fire and Rescue continued to maintain membership in the Fairfax Joint Local Emergency Planning Committee (FJLEPC), which includes representatives of Fairfax County, the City of Fairfax, and the towns of Vienna and Herndon. Fire and Rescue periodically updates its Hazardous Material Emergency Response Plan.

a.8) Industrial & High Risk Runoff

a.8 (a) Report on all inspections of any new or previously unidentified facilities.

a.8 (b) Report an updated list of all industrial storm water sources and VPDES permitted facilities that discharge into the MS4.

A program to identify and control pollutants in storm water discharges to the Municipal Separate Storm Sewer System (municipal landfills; other treatment, storage, or disposal facilities for municipal waste; hazardous waste treatment, storage, disposal and recovery facilities; facilities that are subject to EPCRA Title III, Section 313) and any other industrial or commercial discharge the permittee determine are contributing a substantial pollutant loading to the Municipal Separate Storm Sewer System shall be implemented under this program (B.1.h).

Fairfax County's efforts regarding the permit requirements related to Industrial and High Risk Runoff are also presented in sections a.12.b and -c of this report, which contain a discussion of the county's Wet Weather and Industrial and High Risk Runoff Monitoring Program.

Fairfax County's Division of Solid Waste Disposal and Resource Recovery (DSWDRR) manages two landfills on county property that are covered under a VPDES General Permit: the I-95 Landfill located at 9850 Furnace Road in Lorton (registration number VAR051076) and the I-66 Transfer Station/Closed Landfill located at 4618 West Ox Road in Fairfax (registration number VAR051074). Each permit was reissued in 2009 with a new expiration date of June 30, 2014.

The 250-acre municipal solid waste (MSW) portion of the I-95 Landfill is now fully closed in accordance with Virginia Solid Waste Management Regulations for cover systems and covered by an engineered cap. Stormwater is managed more efficiently and infiltration is reduced significantly, in turn providing for less generation of leachate. The final cover system also minimizes the need for post-closure maintenance. Storm water is collected and retained in ten sediment basins prior to discharge into local waterways.

Phase IIIA of the I-95 Area Three Lined Landfill (ATLL) Project continues to accept ash from the Noman Cole Pollution Control Plant, the Energy from Waste (EFW) Facility located at the I-95 Complex and a similar energy-from-waste facility located in Alexandria. Phase IIIA consists of a 7-acre cell underlain with three different composite liner systems and a composite drainage network to transport leachate. It is covered with a rain cap laid over a protective soil layer (protecting the liner system). Approximately three acres of rain cap have been removed to allow for placement of ash on a full time basis. Leachate from the new ash filling area is collected by drainage standpipes that tie directly into the leachate collection trench. Stormwater is separated from leachate by soil cover, soil berms and rain cap. Approximately two acres are provided with intermediate cover, which is a temporary cover generally consisting of stabilized soil.

Phases I and II of the ATLL are not currently accepting ash. Surfaces of these areas are either formally closed with engineered cover to regulatory specifications, contain intermediate cover material which can be removed for future use, or are covered with asphalt or milled asphalt. Storm water is managed through a network of berms, ditches, gabion down chutes and sediment basins.

Storm water associated with the I-66 transfer station, closed Recycling and Disposal Center (RDC) landfill, and truck parking area are completely collected and retained in three sediment basins prior to discharge into local waterways.

Training in pollution prevention is provided once per year for facility staff. Pollution Prevention Plans are maintained at each facility and are updated when conditions change. Additionally, spill kits are readily available at each location.

Staff performs quarterly visual inspections of the stormwater outfalls located at the I-95 Landfill and the I-66 Transfer Station/Closed Landfill. Annual effluent limit and benchmark sampling is performed at each site during the monitoring year. Semi-annual TMDL sampling is performed at I-66 during the monitoring year.

Four Fairfax County Department of Vehicle Services (DVS) bus garages (Alban, Jermantown, Newington and West Ox maintenance facilities) are covered by the VPDES general industrial stormwater permit. As required by the general permit, each facility has developed and is implementing a stormwater water pollution prevention plan (SWPPP), which includes spill prevention and response procedures.

a.9) Construction Site Runoff

a.9 (a) Report all Erosion and Sediment Control Plans the permittee has approved for sites disturbing greater than 1 acre of land for that year.

A program to reduce the discharge of pollutants from construction sites (land disturbing activities equal to or greater than one acre) shall be implemented under this program (B.1.i).

In 2010, a total of 655 Erosion and Sediment Control (E&S) plans for projects that would disturb a land area of 2,500 square feet or more were submitted and approved. Written reports listing these individual sites were provided on a monthly basis to the Virginia Department of Conservation and Recreation (DCR).

Fairfax County's Alternative Inspection Program, established in cooperation with the DCR, resulted in 27,579 E&S inspections in 2010 on all sites under construction. This number represents 59 percent of the 46,912 total site inspections that were performed by Environmental and Facilities Inspections Division (EFID) personnel. The county's E&S program is fully approved by DCR.

The county sponsors an annual Land Conservation Awards program to recognize the developers, contractors, site superintendents, and site inspectors who demonstrated an exemplary effort in controlling erosion and sediment on construction projects during the past year. Awards are given in six categories, one award per each category: Large Commercial, Small Commercial, Large Single Family Residential, Large Single Family residential, Linear Project and Infill Lot. In 2010, 13 sites were nominated for awards. Among the recipients, one was also recognized for having the "Best Protected Environmentally Sensitive Site." These awards are valued by recipients in the construction industry and provide incentives to do excellent work. The 2010 Land Conservation Awards program was held on January 21, 2011.

Residents may report complaints about erosion and sedimentation to the county by phone or through email. Residents can visit the following web page to find contacts for specific land development issues:

http://www.fairfaxcounty.gov/dpwes/publications/urbanfor.htm

a.10) Storm Sewer Infrastructure Management

A program to maintain and update the accuracy and inventory of the storm sewer system shall be implemented. The permittee shall submit to the Department of Environmental Quality, Northern Virginia Office a plan and schedule by which the entire storm sewer Infrastructure will be mapped. The plans and schedule shall be submitted within 180 days of the effective date of this permit (B.1.j).

A Storm Sewer Infrastructure Management Plan and Schedule was submitted to the Virginia Department of Environmental Quality (DEQ) on July 24, 2002, in accordance with the permit, and has been updated with each annual report (Attachment 2). The requirements in the plan have been fulfilled and the infrastructure inventory will continue to be updated in accordance with the permit.

Fairfax County contains 399 square miles of land and water as identified on 436 tax map grids. From 2002 to 2005, Fairfax County staff field verified the location of the storm drainage conveyance system on each tax map grid, identified storm sewer pipes, outfalls and associated appurtenant structures, and created a GIS-based data layer. During 2010, the GIS inventory continued to be updated with new as-built plans and field verification of system location and components within identified easements. More than 200 as-built construction plans were digitized and 287 tax map grids have been reviewed for completeness, maintenance responsibility and spatial accuracy. Routine maintenance began during the Spring of 2010 on the GIS-based stormwater easement database.

During 2010, the county continued implementation of its infrastructure inspection and rehabilitation program, inspecting 1,100 pipe segments and 9,500 storm structures using video and photo documentation. Under the rehabilitation program, video was taken of over 66 miles of pipe and almost 70,000 photos were taken to document the existing structural and service conditions of the interior of the storm system. These efforts resulted in 98 miles, or 6.5 percent, of the storm drainage network being photographed or screened for obvious deficiencies. The inventory continues to be assessed for ongoing repair of identified deficiencies. In addition, more than 2,300 feet of the over 1,500 miles of storm pipe in the county's inventory were rehabilitated or repaired through replacement or by using cured-in place pipe lining methods.

a.11) Public Education

A public education program shall be implemented (B.1.k).

Fairfax County's public education program is an essential component of stormwater management. The program raises awareness about stormwater issues facing the county, educates residents about watersheds and stormwater management, and offers opportunities for residents to become involved in efforts to restore and protect Fairfax County's local waterways, the Occoquan Reservoir, the Potomac River and the Chesapeake Bay. County employees give presentations to various groups including homeowners' associations, civic associations, students and the business community. A summary of the education activities conducted in 2010 follows.

- The county sponsored Fall for Fairfax, an annual event with exhibits to raise awareness about environmental issues and encourage watershed-friendly behaviors.
- Pod cast messages on stormwater-related topics were aired through the county's website for a weekly audience of about 350 listeners.
- The county created educational public service announcements on responsible pet waste management, litter and plastic bags. These programs air on channel 16 and are posted to YouTube.

- Educational fact sheets were created on such topics as watersheds, volunteer opportunities, stream health actions steps, picking up pet waste, humane removal of geese, the stormwater drainage system and clean streams.
- A new web page and brochure were created to educate residents about proper discharge of swimming pool water.
- The county created an activity book, "Stormy the Raindrop's Watershed Journey" depicting Stormy's travels from Fairfax County to the Chesapeake Bay. The activity book was created with the help of the Fairfax County Public School system to ensure that it met the Standards of Learning at a 4th grade level. More than 1,800 copies of and earlier publication, "Adventures of Stormy the Raindrop," and approximately 1,500 copies of "Stormy the Raindrop's Watershed Journey" were distributed at various libraries, district offices and events. Both activity books are available on the county website.
- The county provided 1,500 reusable bags with the Stormy the Raindrop image and an anti-litter message to attendees of Fall for Fairfax.
- Almost 200 dog waste bag dispensers carrying the Stormy image and an educational message were provided to the Fairfax County Animal Shelter for residents who adopted a dog from their facility.
- Seven news releases about the watershed management plans were sent to the media.
- Stormwater management staff provided 19 media interviews for print, television and radio news and feature stories on topics related to stormwater management.

In 2010, Fairfax County continued to provide opportunities for public school students to learn about watersheds. For example, 13 Sewer Science program presentations were made to more than 320 students in six high schools, with audiences ranging from freshmen through seniors. County staff spoke also at various events such as Science Honor Society meetings and high school Science Fairs.

The Fairfax County Solid Waste Management Program (SWMP) plays an important role in protecting surface water resources through its outreach efforts to promote responsible waste management practices. The SWMP provides education to residents and businesses about how they can reduce the volume of waste generated, recycle more, and dispose of wastes properly.

- The SWMP is responsible for the county's Household Hazardous Waste (HHW) Management Program which provides residents the opportunity to properly dispose of household hazardous waste (such as used motor oil, antifreeze and other automotive fluids) at no charge, instead of pouring it down a storm drain or placing it in the trash. The SWMP has two permanent HHW collection facilities that are open four days per week.
- The SWMP periodically amends its practices to accommodate new types of wastes such as compact fluorescent lamps (CFLs) and other fluorescent lamps, which can be taken to the county's HHW facilities at no charge to county residents. An educational brochure prepared by the SWMP about the lamps is the most viewed document on the SWMP's portion of the county website.
- The SWMP continued its monthly electronics recycling program for county residents known as Electric Sunday where one Sunday per month residents can drop off used computers and televisions for recycling. Over 2,000,000 pounds of electronic waste, equating to about 50 tons of lead, were prevented from being introduced into the Fairfax County environment.
- The SWMP continues to work closely with the Northern Virginia Regional Commission on a regional public information program entitled KnowToxics, which educates business

owners about their responsibility to comply with federal and state regulations that require proper disposal or recycling of spent fluorescent lamps, rechargeable batteries, computers, and related electronics.

- The SWMP continued to collaborate with the industry-funded Rechargeable Battery Recycling Corporation Program to make collection boxes available at offices of all members of the Fairfax County Board of Supervisors and at major county buildings. Rechargeable batteries are also accepted at the county's HHW facilities.
- The SWMP made 22 presentations to students in the Fairfax County Public Schools regarding solid waste and recycling practices.
- The SWMP annually creates and electronically distributes the SCRAPBook, (Schools/County Recycling Action Partnership) which is a compendium of resources dedicated to conducting environmental education in the schools from the Department of Public Works and Environmental Services.
- The SWMP created SCRAPmail, an electronic resource for teachers. This e-mail subscription allows interested teachers, students and school administrators to receive periodic news items, event announcements, and updates and reviews on environmental education resources available to county schools.
- The SWMP dedicates a portion of its website specifically for student education on recycling.
- The SWMP made a total of 72 presentations about solid waste and recycling practices to students, community groups and business leaders in 2010.
- The SWMP collaborated with the non-profit Alice Ferguson Foundation on the Trash-Free Potomac River Watershed Initiative with the goal of preventing trash and litter from entering the Potomac River. The SWMP provided financial and in-kind support of the initiative which will culminate in an area-wide litter prevention outreach and education campaign.
- The SWMP works with the Metropolitan Washington Council of Governments (MWCOG) on its annual Go Recycle radio campaign. This campaign provides two weeks of intensive announcements on five major Washington DC radio stations to address recycling issues. Fairfax County is a major financial sponsor.
- The SWMP supports Clean Fairfax Councils' annual grant program to support environmental projects in the Fairfax County Public Schools. The grant program, entitled the Johnie Forte Environmental Grant Program, offers grants in the amount of $500 to support environmental projects in the Fairfax County Public Schools. This program has been in existence for over 20 years and to date, the agency has donated over $60,000 to these projects in the schools.

In addition to Fall for Fairfax, Solid Waste Management provided financial and operational support for annual events where outreach and education regarding proper waste management and recycling practices are the primary goals, including Earth Day/Arbor Day at Northern Virginia Community College and the 4-H Fair held at Frying Pan Park.

As a member of the Northern Virginia Clean Water Partners (Partners), Fairfax County continued to support the regional stormwater education campaign in 2010. By pooling outreach funds with other jurisdictions to reach a wider audience, the campaign used radio and internet advertising to reduce pollution-causing behaviors among Northern Virginia residents. Surveys during prior years of the campaign have demonstrated that of residents that heard the radio ad, an average of 15 percent said they were more careful with fertilizer, 12 percent said they no longer dump used motor oil or they recycle it, and 11 percent said they picked up after their pet more frequently as a result of the advertisement's messages. Eighty-one percent of people hearing the ad said they thought it would be effective in changing behavior.

For the 2010 campaign, the Partners focused on the issue of pet waste. In 2010, the Partners also selected a new radio public service advertisement "*Dog Beep*", which aired in October, 2010. The City of Los Angeles' Department of Public Works produced "*Dog Beep*" and provided permission for the Partners to feature it in the DC area. The ad featured an action-oriented tagline to remind residents that storm drains flow to local streams, and included the web site address for more information.

The Partners created the Dog Blog which features interesting articles about dogs and weaves in a message about picking up pet waste into the articles. Through August 2010, the Dog Blog had 3,693 views, and 328 people completed the trivia quiz featured on the blog. The trivia quiz included a question about what dog owners should do with their pet waste, which 87 percent of participants answered correctly. As of September 2010, 87 percent of the over 120 visitors who answered a separate poll question stated they always pick up after their dog. In September and October 2010, the Partners featured several contests on the blog to encourage viral marketing of the blog amongst residents of Northern Virginia.

The Only Rain web site (www.onlyrain.org) that was created in 2009 was enhanced with new information and links to the dog blog. Throughout fiscal year 2010, the Only Rain web site had 5,708 unique visitors and over 6,300 total visits. Since 2009, the campaign partners have used online advertising through search engines and social networking sites in addition to traditional radio advertising.

The total cost for the 2010 campaign was $104,125. The effort is funded by 14 local governments and three independent sanitary and drinking water authorities. Fairfax County's contribution was $50,000.

In 2010, the Northern Virginia Soil and Water Conservation District continued its popular public education programs, including the Storm Drain Marking Program and the Rain Barrel Program:

- Fiscal year 2010 marked the fifth year of the county-wide storm drain marking initiative that is staffed by NVSWCD and funded by Fairfax County at approximately $12,000/year for plastic markers and glue. The objective of the initiative is to facilitate environmental stewardship among Fairfax County residents and educate the public about non-point source pollution prevention. During each storm drain marking project, volunteers engage in outreach among their peers such as distributing educational fliers door-to-door, then place the pre-printed labels with a "no dumping" message on their neighborhood storm drains. In calendar year 2010, the Storm Drain Marking Program coordinated 44 projects that placed markers on 4,605 storm drains and educated 19,717 households on ways they could take action to protect water quality. Each household received a flyer about the causes and prevention of nonpoint source pollution, and how to properly dispose of used motor oil, pet waste, paint, fertilizer, yard debris, and other pollutants. In 2010, 636 volunteers contributed 1,927 hours to the program. Since the program began, 2,376 volunteers have helped to complete 131 projects which resulted in outreach to 281,702 households and labeling of 18,092 storm drains.
- In 2010, NVSWCD coordinated a regional rain barrel initiative for Northern Virginia with neighboring jurisdictions. Eight "build-your-own" rain barrel workshops and two pre-made rain barrel sales were held in Northern Virginia. In 2010, the program held one free rain barrel workshop for teachers and one "train the trainer" event. Nine of the 12 events were held within Fairfax County. Four hundred fifty-one people participated in these programs. A total of 588 rain barrels were distributed, including 35 free barrels at

training events, 273 barrels made at "build-your-own" workshops, and 280 barrels sold at other distribution events.

- NVSWCD sponsors a volunteer stream monitoring program, which complements the county's stream bioassessment program. Trained volunteers assess the ecological health of streams by using an enhanced biological monitoring protocol and habitat assessment. Approximately 65 volunteers collect data at 33 sites four times a year. In addition, 36 public stream monitoring workshops and field trips were held throughout the county, and 250 county residents attended. The program builds awareness of watershed issues among the participants. A monthly *Watershed Calendar*, listing training and other events of interest, is emailed to 805 recipients.
- NVSWCD presented the Enviroscape® watershed model 6 times to 260 students in schools and scout programs.
- Education was presented directly to homeowners and homeowner associations by NVSWCD staff during 110 site visits to advise on solving drainage and erosion problems.
- The NVSWCD website is a source of information for residents to help them manage their land and protect water quality by controlling stormwater, preventing erosion and encouraging native vegetation. One of the resources, *You and Your Land – a Homeowner's Guide for the Potomac Watershed*, provides comprehensive information.
- NVSWCD sponsors a program to provide information and assistance with planning and implementation to those who manage horse-keeping operations. In 2010, managers of 489 acres received information about nutrient management for their pastures and composting horse waste, as well as instructions for 5,000 linear feet of new vegetated buffer for waterways and 24,654 linear feet of replanted buffers. In the fall, 40 people attended an educational event sponsored by NVSWCD and a local horse-owners organization in the Occoquan Watershed. In 2010, NVSWCD created and published *Earth Friendly Suburban Horse Farming*. It contains detailed information about site planning, pasture management, non-vegetated heavy use areas, and animal waste management. This guide is distributed to the horse-keeping community directly, at events and on-line.

In 2010, NVSWCD provided training and education focusing on rain gardens and other low impact development practices:

- Four rain garden workshops included presentations on rain garden function, design, location, costs, construction, maintenance, planting, and materials. The workshops were attended by 122 county residents. Two presentations about rain gardens were made to 89 industry professionals.
- The fall issue of NVSWCD's newsletter, *Conservation Currents*, featured a rain garden built by a county resident.
- NVSWCD and the Park Authority continue to distribute the manual they published last year -- *Rain Garden Design and Construction: A Northern Virginia Homeowner's Guide*. It has all the instructions and calculations needed for a homeowner to build a rain garden on his or her property. The manual is available in hard copy and electronic formats.
- NVSWCD published a *Residential LID Landscaping Guide* for homeowners, which provides design and installation information for several low impact development practices appropriate for solving common drainage problems. It includes sources of supplies and plant materials. It is available in hard copy and electronic formats.

As in past years, Fairfax County Park Authority hosted and organized lake and stream valley clean up days in many of our stream valley parks and two of our lake front parks. These events provided an excellent learning opportunity for volunteers.

Several Resource Management sites are included in the county stream quality monitoring program and staff train and sponsor citizen volunteer monitors. Staff at five nature centers and an imbedded naturalist at Cub Run RECenter provide water quality and environmental education to hundreds of thousands of park visitors each year. For example, Huntley Meadows Park staff held the annual Wetlands Awareness Day on May 2, 2010 to educate citizens on the importance of maintaining healthy wetlands.

a.12) Monitoring Programs

a.12 (a) Report on the Dry Weather Screening Program; (1) Number of outfalls inspected and test results; (2) Follow-up activities to investigate problematic areas and illicit dischargers.

The permittee shall continue ongoing efforts to detect the presence of illicit connections and improper discharges to the Municipal Separate Storm Sewer System. Representative outfalls of the entire Municipal Separate Storm Sewer System must be screened at least once during the permit term. Screening methodology may be modified based on experience gained during actual field screening activities and need not conform to the protocol at 40 CFR 122.26(d)(1)(iv)(D). Sample collection and analysis need not conform to the requirements of 40 CFR Part 136 (B.1.l.1).

In 2010, the county selected 117 MS4 outfalls for dry weather screening in accordance with the general protocol outlined in the Fairfax County Dry Weather Screening Program: Site Selection and Screening Plan (July 2007). Physical parameters were recorded at each outfall. Water was found to be flowing at 31 of the outfalls, and was tested for a range of pollutants (ammonia, conductivity, surfactants, fluoride, pH, potassium, phenol, copper, and chlorine) using field test kits. Of the outfalls tested, 12 required follow-up investigations because they exceeded the allowable limit for at least one pollutant. Upon retesting these sites, nine continued to exceed the screening criteria, and further testing was conducted in an attempt to track down the source. This track down procedure consisted of using a map of the county's storm drainage system to track the storm network upstream of each site, recording observations of flowing water and land use, and testing the water where flow was found. This procedure was followed all the way up the network of storm sewer pipes until the source was found or there was no flowing water.

The source of the flow for one of the nine trackdowns could not be found. Six of the trackdowns were solely for high fluoride levels, while two of the remaining trackdowns were high for fluoride as well as other analytes. The county purchased a new fluoride testing device this year which was able to detect fluoride at a wider range than the photometer used in 2009. The fluoride limit was set at 0.2 mg/l this year, instead of the 0.6mg/l used in 2009. This may partially explain the increase in fluoride trackdowns in 2010 as compared to 2009. It was suspected that five of the fluoride trackdowns were water line leaks; therefore SWPD staff members are coordinating with Fairfax Water to determine the source of the leaks and resolve these issues.

SWPD staff also worked closely with DEQ in 2010 to resolve one illicit connection from a dry cleaning operation, one contaminated discharge resulting from a carwashing operation at an auto body shop and one illicit connection from an office building in Springfield.

During dry weather screening, staff noticed some businesses in the county that appeared to be washing cars and draining the dirty water directly to the storm drain system. SWPD is developing

outreach materials that target businesses that wash cars on how to properly discharge dirty wash water.

a.12 (b) Report on the Wet Weather Screening Program; (1) Number of outfalls inspected and test results; (2) Follow-up activities to investigate problematic areas and illicit dischargers.

The permittee shall investigate, and address known areas within their jurisdiction that are contributing excessive levels of pollutants to the Municipal Separate Storm Sewer System. The Permittee shall specify the sampling and nonsampling techniques to be used for initial screening and follow-up purposes. Sample collection and analysis need not conform to the requirements of 40 CFR Part 136 (B.1.l.2).

The final report on wet weather screening and industrial high risk monitoring conducted from 2006 through 2008 was written in 2009. In 2010, the county solicited a proposal to review and update its Wet Weather Screening and Industrial High Risk Monitoring program. The updated plan will identify wet weather monitoring locations by ranking sites according to a land use code, other factors and the potential to contribute pollutants to the MS4. The selected sites will be monitored in 2011 for pollutants in accordance with the criteria established in the permit and the updated plan.

a.12 (c) Report on the Industrial and High Risk Runoff Monitoring Program

The permittee may include monitoring for pollutants in storm water discharges to the Municipal Separate Storm Sewer System which include: municipal landfills; other treatment, storage, or disposal facilities for municipal waste; hazardous waste treatment, storage, disposal and recovery facilities; facilities that are subject to EPCRA Title III, Section 313. Monitoring may also be required on other industrial or commercial discharges the permittee determines are contributing a substantial pollutant loading to the Municipal Separate Storm Sewer System. Permittee may require the industrial facility to conduct self-monitoring to satisfy this requirement (B.1.l.3).

This part of the permit is satisfied through the Wet Weather Screening Program described in the preceding section, a.12 (b).

a.12 (d) Report on the Watershed Monitoring Program; (1) Monitoring plan; (2) Summarize the implementation including, Storm Event Data, Station test results, Seasonal Loadings and Yearly Loadings.

The permittee shall develop a long-term monitoring plan and trend analysis to verify the effectiveness and adequacy of control measures in the County's Storm Water Management Plan and to identify water quality improvement or degradation. The permittee shall submit an approvable monitoring program to the Department of Environmental Quality no later than one year from the effective date of this permit. The program shall be implemented within two years of the effective date of the permit. Monitoring shall be conducted on representative stations to characterize the quality of storm water in at least two watersheds during the term of this permit (C.1).

In 2010, four rainfall events were monitored at each of the two water quality monitoring sites, Henderson Road in Occoquan (OQN) and Kingsley Avenue in Vienna (VNA) in accordance with Fairfax County's Watershed Water Quality Monitoring Program submitted on January 24, 2003. The June 10, 2010 storm at VNA was unsuccessful as the pickup hose was damaged during the storm. Rainfall, flow and water quality data were collected during each of the rainfall events. Samples were tested for concentrations of nine constituents of concern. Table 2, below, contains

the median, high and low concentration of each of the nine constituents over the six years from 2005 to 2010.

In addition, statistical analyses using the Mann-Whitney 2-sample test, was performed to determine if there were significant differences between constituent concentrations at the two stations. This year, for the first time, the analysis found significant statistical differences for concentrations of all of the nine constituents measured at the two sites. In addition, seasonal and annual unit-area constituent loadings for 2010 were calculated and are presented in Table 3.

Table 2 - Results of statistical analysis to determine if there is a significant difference between observed constituent concentrations at Stations VNA and OQN for 2005 to 2010

	Station VNA			**Station OQN**			**Differences Statistically Significant?****
Constituent*	**Median**	**High**	**Low**	**Median**	**High**	**Low**	
NH_3-N	0.18	0.73	0.00	0.01	0.27	0.00	YES
COD	64	292	22	27	122	0	YES
E. Coli	874	200000	0	631	38000	27	YES
Fecal Strep	5350	129000	100	1089	51000	18	YES
NO_3+NO_2-N	0.78	1.64	0.16	0.44	0.73	0.10	YES
TDS	137	836	51	98	160	71	YES
TKN	1.77	11.30	0.48	0.57	2.41	0.00	YES
TP	0.33	1.61	0.06	0.06	0.80	0.00	YES
TSS	52.75	1207.00	4.90	17.00	485.00	1.40	YES

*All constituent units are mg/l, other than *E. coli* and Fecal Strep which are in colonies/100 ml.
* *Based on a Mann-Whitney 2-sample test at a 0.1 significance level.

Table 3 - Computed seasonal and annual unit-area constituent loadings at monitored locations for 2010

	Unit-area loading *									
	Winter		**Spring**		**Summer**		**Fall**		**Annual**	
Constituent	**VNA**	**OQN**	**VNA**	**OQN**	**VNA**	**OQN**	**VNA**	**OQN**	**VNA**	**OQN**
NH_3-N	0.211	0.003	0.084	0.021	0.189	0.020	0.052	0.005	0.536	0.050
COD	56.138	6.168	29.039	12.288	50.583	8.528	53.393	7.153	198.2	34.1
E. Coli	0.564	0.427	6.143	22.507	118.99	14.932	18.763	11.054	144.46	48.921
Fecal Strep	0.914	1.888	21.526	19.480	89.390	43.699	58.062	10.761	169.891	75.828
NO_3+NO_2-N	0.577	0.120	0.331	0.094	0.707	0.180	0.250	0.070	1.865	0.464
TDS	148.17	31.754	60.546	20.866	79.926	45.777	56.923	19.199	345.6	117.6
TKN	1.314	0.116	1.435	0.285	1.583	0.333	0.553	0.109	4.885	0.843
TP	0.197	0.009	0.101	0.076	0.313	0.040	0.255	0.032	0.867	0.157
TSS	81.435	2.832	37.882	46.272	95.604	23.463	80.690	16.687	295.6	89.3

*All units are lb/ac, except for *E. coli* and Fecal Strep which are in billion colonies/ac. To compute total loads in lbs or billion colonies, multiply unit-area loading by drainage area of monitoring station in acres.

a.12 (e) Report on the Bioassessment Monitoring Program; (1) Monitoring plan; (2) Summarize test results.

The permitee can use and is encouraged to use a rapid bioassessment monitoring program to demonstrate the effectiveness of the stormwater management plan. The program will be implemented within one year of the effective date of the permit and an approvable program must be submitted within six months of the effective date of the permit (C.2).

A probability-based site selection sampling methodology was used to identify randomly-selected stream bioassessment locations throughout Fairfax County. These sites were stratified and proportionally distributed throughout the county based on Strahler stream order applied to all perennially flowing streams in Fairfax County. This methodology eliminates any site selection bias and is commonly used as a cost-effective way of obtaining a statistically defensible determination of stream conditions at a countywide scale. A total of 53 sites were sampled in 2010: 40 sites randomly selected within Fairfax County as part of the annual probabilistic monitoring program; 11 Piedmont reference locations in Prince William National Forest Park; and two Coastal Plain reference sites in the Kane Creek watershed of Fairfax County. Results from the 40 randomly selected sites suggest that approximately 78 percent of the county's waterways are in "Fair" to "Very Poor" condition based on a decrease in biological integrity of streams. The monitoring program is part of the framework to evaluate future changes and trends in watershed conditions.

a.12. (f) Report on the Floatables Monitoring Program

The permittee shall conduct surveys of floatables. The intent of the survey is to document the effectiveness of the litter control programs for the Municipal Separate Storm Sewer System. Surveys shall be done in accordance with the following procedures: c) The above may be accomplished through the "Adopt a Stream" program referenced in Part I.B.1.k.2 (C.3.c).

In 2010, Fairfax County fulfilled the floatables monitoring requirements of the VPDES permit by actively participating in a regional data-sharing partnership with numerous other local agencies. Efforts were made to align the various data collecting and recording strategies used by participating entities so that differences in stream cleanup data sets could be reconciled, and the data integrated to yield a more comprehensive picture of the impacts of floatable trash and debris and the effectiveness of litter control programs in the region.

The county continued to work with and support the following organizations that coordinate large and small-scale volunteer cleanups:

- The Alice Ferguson Foundation (Potomac River Watershed Cleanup)
- The Virginia Department of Conservation and Recreation
- International Coastal Cleanup /Clean Virginia Waterways
- Clean Fairfax Council
- The Friends of the Occoquan

The county continued to provide support and staff for various stream and river cleanup events. In the spring of 2010, 89 sites were established throughout the county for the Alice Ferguson Foundation's annual Potomac River Watershed Cleanup. Sixty of those stream clean ups were conducted on county parkland. Cleanups were also conducted at other state and local parks, schools, the county wastewater treatment plant and other locations. These cleanups were advertised in publications such as Solid Waste Management's ScrapBook and the Fairfax County Park Authority's Parktakes Magazine, as well as on the internet. Staff from the Stormwater

Planning Division, Division of Solid Waste, Wastewater Management Division, and the Northern Virginia Soil and Water Conservation District participated in these cleanups. More than 2,115 volunteers removed approximately 1,673 bags of trash and litter, 340 tires, 2,239 cigarette butts, and over 6,000 plastic shopping bags from Fairfax County streams.

In addition, the Park Authority organized separate clean up events in the spring and fall. The Lake Accotink Park annual Spring Watershed Clean-up Day attracted more than 250 volunteers, who collected 150 trash bags which filled two dumpsters. A separate fall clean up event at Lake Accotink included 150 volunteers who contributed a total of 450 volunteer hours and collected about 700 pounds of trash from the lake shore, trails and roadways surrounding the park. Hidden Pond Nature Center hosted two clean-ups in the Pohick Stream Valley which collected approximately 18 cubic yards of trash.

Fairfax Trails and Streams volunteers cleaned Pimmit Run Stream Valley Park on a bi-monthly basis, removing an estimated 200 bags of trash in 2010. Baha'is of McLean conducts monthly stream clean-ups to a tributary of Pimmit Run in Olney Park, removing an estimated 40 bags of trash in 2010. Volunteers conducted two stream clean ups at John Mastenbrook/Greenway Downs Park removing about 20 bags of debris.

According to Clean Virginia Waterways, nine stream and shoreline cleanups were held in the county during September and October 2010 as part of the International Coastal Cleanup.

The county continued to promote the "Adopt a Stream" program. The Stormwater Planning Division distributed copies of its Floatables Monitoring Program Brochure to various public offices and during educational activities and outreach events throughout the county. The brochure was also made available on the Floatables web page on the county web site. Stream cleanup event organizers were encouraged to record their cleanup information on the Floatables Data Reporting Form (available in the brochure or on the web) and return the completed form to the county. Cleanup data submitted to the county were entered in the Floatables database.

b) Proposed Changes to the Stormwater Management Program

Storm Water Management Program Review and Update (B.4).

In 2009, Fairfax County and Fairfax County Public Schools proposed to the Department of Conservation and Recreation that the two jurisdictions be covered by the county's Phase I MS4 permit. The arrangement would be contingent upon the two jurisdictions submitting formal documentation to DCR outlining the commitments of each jurisdiction and upon DCR issuing a new permit. In 2009, the county and Public Schools drafted a memorandum of understanding outlining the roles and responsibilities of each jurisdiction that pertain to specific requirements of the MS4 permit. In 2010, both parties continued to monitor changes in the county's draft permit requirements which may impact specific terms of the MOU.

In 2010, the county continued to implement the existing MS4 program per its current Phase I permit. Likewise, Fairfax County Public Schools continued to implement its existing Phase II permit (VAR040104). Public Schools completed and submitted its Annual Report to DCR in August 2010.

c) Assessments of controls and the fiscal analysis of the effectiveness of new controls established by the Stormwater Management Program

As the county approaches build-out conditions, it has become increasingly challenging to mitigate the impacts of impervious area and nonpoint source pollution on streams. Several efforts through the existing stormwater management program are helping to reduce or minimize water quality impacts. They include: the mandate of controls (BMPs) by the Chesapeake Bay Preservation Ordinance; development and implementation of Comprehensive Watershed Management Plans; development of a retrofitting program for existing developed areas; and ongoing changes to stormwater management codes, policies, ordinance, and guidelines.

d) Annual Expenditures for the Storm Water Management Program and Budget

Department of Public Works and Environmental Services
The county has not tracked expenditures to meet permit requirements separate from its overall stormwater program, nor has it separately tracked the resources other agencies expend on programs that contribute towards meeting MS4 permit conditions. The total expenditures in the Stormwater Management business unit for calendar year 2010 were $26,036,496.

Since FY 2006, the Board of Supervisors had dedicated the value of one penny of the real estate tax, or approximately $20 million annually to stormwater capital projects. In FY 2009, due to budget constraints, staff and operating costs were charged to the stormwater penny fund, resulting in reduced funding for capital project and maintenance support. As part of the FY 2010 Adopted Budget Plan, a new service district was created to support the stormwater management program, as authorized by Virginia Code Ann. Sections 15.2-2400. The service district levy of $0.010 (one cent) per $100 of assessed real estate value supports both staff operating requirements and stormwater capital projects. The Board of Supervisors approved an increase of the service district levy to $0.015 as part of the FY 2011 budget, which began on July 1, 2010. The proposed district will generate approximately $28 million in FY 2011 and be dedicated to funding the entire stormwater management program.

e) Identification of water quality improvements or degradation.

As the county approaches build-out, the county will continue to implement best management practices to control stormwater pollutants, meet regulatory requirements, and achieve holistic watershed restoration and preservation. Efforts include enhanced infrastructure maintenance and inspections, development and implementation of watershed management plans, an improved construction inspection program, and ongoing outreach efforts to increase public awareness. It is anticipated that these efforts will have a positive long-range impact on the future health of county watersheds, will help to satisfy stream water quality standards and support the goals of restoring the Chesapeake Bay.

Attachment 1

Status of Fairfax County watershed planning process				
Watershed Planning Group*	***Watershed Name***	***Total Area (sq. mi.)***	***Fairfax Co. Area (sq. mi.)***	***Plan Status***
Little Hunting Creek	Little Hunting Creek	11.0	11.2	Adopted 02/2005
Popes Head Creek	Popes Head Creek	18.9	18.2	Adopted 01/2006
Cub Run and Bull Run	Bull Run	9.7	8.4	Adopted 02/2007
	Cub Run	55.3	39.1	
Difficult Run	Difficult Run	57.7	55.3	Adopted 02/2007
Cameron Run	Cameron Run	42.0	32.6	Adopted 08/2007
Middle Potomac Watersheds	Bull Neck Run	2.3	2.3	Adopted 05/2008
	Dead Run	3.1	3.1	
	Pimmit Run	12.6	10.3	
	Scotts Run	6.0	6.0	
	Turkey Run	2.0	2.0	
Pohick Creek	Pohick Creek	36.5	34.3	Adopted 12/2010
Sugarland Run and Horsepen Creek	Horsepen Creek	23.5	8.8	Adopted 12/2010
	Sugarland Run	22.5	10.5	
Belle Haven, Dogue Creek and Four Mile Run	Belle Haven	2.8	2.8	Adopted 1/2011
	Dogue Creek	19.4	13.3	
	Four Mile Run	30.1	2.0	
Lower Occoquan Watersheds	High Point	6.3	6.3	Adopted 1/2011
	Kane Creek	4.8	4.8	
	Mill Branch	8.8	8.8	
	Occoquan	3.4	3.4	
	Old Mill Branch	4.4	4.4	
	Ryans Dam	3.6	3.6	
	Sandy Run	8.2	8.2	
	Wolf Run	5.9	5.9	
Nichol Run and Pond Branch	Nichol Run	7.7	7.7	Adopted 1/2011
	Pond Branch	8.4	8.4	
Accotink Creek	Accotink Creek	51.1	37.8	Adopted 2/2011
Little Rocky Run and Johnny Moore Creek	Johnny Moore Creek	5.3	5.3	Adopted 2/2011
	Little Rocky Run	7.4	7.4	
* Copies of final approved plans may be found on the specific watershed website at www.fairfaxcounty.gov/dpwes/watersheds				

Attachment 2

Infrastructure Management Plan and Schedule