



6.0 MANAGEMENT PROGRAMS

This chapter provides an overview of the current status and recent innovations of Frederick County's various management programs. Frederick County continually evaluates its stormwater management programs in an effort to identify and bring about needed improvements as required under its NPDES permit. Now that a number of programs have been in operation for several years, it is appropriate to evaluate their progress and effectiveness. Current program components, improvements made during the past year, and plans for future activities, particularly as the County continues to implement management programs under its current permit, are discussed below.

6.1 STORMWATER MANAGEMENT PROGRAM

Frederick County maintains its current Stormwater Management Program in compliance with Environmental Article, Title 4, Subtitle 2, Annotated Code of Maryland. The County will continue to do so through plan review and inspection of all developer projects and through implementation of the *2000 Maryland Stormwater Design Manual*.

6.1.1 Maintenance Inspections of Stormwater Management Facilities

The Environmental Compliance Section (ECS) of the Frederick County Division of Permitting and Development Review continues to conduct a regular program of preventative maintenance inspections of all stormwater management facilities built, approved, and operating within the County. Required triennial inspections of all facilities Countywide are completed on a rotating basis. For sites found unacceptable, responsible parties are notified and the site is re-inspected in a follow-up visit to confirm that appropriate actions have been taken to bring the site into compliance. A complete Access database containing data for the inspection program, including enforcement actions, is included on the accompanying CD. Examples of inspection forms and database reporting formats are presented in Appendix C.

During the time period of January 1, 2007 to December 31, 2007, the following inspections were completed:

- Total number of SWM Maintenance facilities inspected: 360
- Total number of facilities finding initial conditions acceptable: 282
- Total number of facilities finding initial conditions unacceptable: 78
- Total number of re-inspected facilities finding site conditions corrected: 21
- Total number of re-inspected facilities finding site conditions not corrected: 57
- Ongoing enforcement actions pending at end of 2007: 57 (all require re-inspection)
- Total number of inspections performed during 2007: 413

Those facilities where site conditions were not corrected were re-notified and given 30 days to comply. The follow-up will be included in the 2008 database.

The process for follow-up on those facilities deemed “Unacceptable” is as follows:

- If the facility has a “Critical Failure”, it is immediately referred to the ECS full-time staff for follow-up and enforcement
- If the facility has a “Non-Critical” issue, a follow-up re-inspection will be made within 30-45 days. If compliance has not occurred, the issue will be forwarded to ECS full-time staff for enforcement

Evaluation: The County continues to maintain an acceptable stormwater management program in accordance with State stormwater management laws. This includes implementation of appropriate County ordinances. The County remains committed to implementing the latest stormwater management technologies while addressing the concerns of the development community.

6.1.2 Implementation of 2000 Maryland Stormwater Design Manual

Frederick County implemented the stormwater management design policies, principles, methods, and practices of the *2000 Maryland Stormwater Design Manual* and subsequent changes to the Code of Maryland Regulations through the County's Stormwater Management Ordinance and its Design Manual, on June 5, 2001. It became effective July 1, 2001. The Ordinance amended the stormwater management regulations to adopt the *2000 Maryland Stormwater Design Manual* Volumes I and II. The Board of County Commissioners adopted the County's Storm Drainage and Stormwater Management Design Manual effective January 2, 2003. This document helps address safe conveyance of runoff in channels, pipes, swales, culverts, etc. to stormwater management facilities and/or receiving channels.

The County's Development Review staff continues to make progress with the interpretation of the stormwater management designs outlined in the Manual. Although the Development Review staff continues to encounter problems with the use of a few of the facility designs outlined in the *2000 Maryland Stormwater Design Manual*, several activities have occurred which will make implementation even more effective. Most of these changes relate to the use of non-structural practices as outlined in Chapter 5 of the MD2000 design guidelines. The most significant improvements continue to be related to smaller developments, common driveway construction and minor additions to existing developments. Development Review has established some guidelines for the development community to use when designing common driveways, especially on steep slopes, to minimize the impacts to the existing drainage patterns and to create non-structural stormwater management solutions. Staff has refined the criteria used for determining the levels of management required for sites that are providing additions on uses built prior to 2001. These uses did not fit neatly into the redevelopment conditions, nor could the County require 100% management of all existing impervious areas.

The most significant improvements to the County's implementation of the MD2000 design guidelines relates to the participation with MDE in establishing the necessary changes in law and design guidelines to meet the Stormwater Act of 2007. Frederick County is committed to continuing that effort with the state to not only improve the implementation of the existing regulations, but also to achieve the best product for moving forward with the environmental site design implementation in a quick and easy manner once adopted.

Evaluation: The County continues to work with the development community to better understand the goals of the *2000 Maryland Stormwater Design Manual*. Enhancements will continue to be made as the manual is changed to comply with the Stormwater Management Act of 2007. The County will also continue to educate both the development community and the general public in ways to determine the proper type of design for site-specific areas, as well as in facility installation timetables and maintenance issues. Staff will continue to work to address SWM earlier in the process to achieve the best product at the end of the process.

6.2 ILLICIT CONNECTION DETECTION AND ENFORCEMENT PROGRAM

6.2.1 Illicit Connection Program

Frederick County continues to improve its Illicit Connection Detection and Enforcement Program.

ECS field inspectors note evidence of dry weather flows, if present, at all Stormwater Management Structure "As-Built" inspections and at every triennial maintenance inspection. If water is present, inspectors gather chemical information. If water quality test results or inspections indicate potential illicit connections, pollutant sources are identified and appropriate measures are taken to abate violations. These illicit connection screening data are reported on the CD accompanying this report and in examples provided in Appendix C. Additionally, ECS Inspectors investigate complaints alleging violations. Follow-up actions to resolve all suspected water quality problems are documented in the County's field inspection databases.

Over the past three years, all SWM structures were inspected for illicit connections or discharges through the County's ongoing maintenance inspection program. During the period from January 1, 2007 to December 31, 2007, the County conducted inspections at 335 sites. Field screening results are recorded in the County's facilities database to ensure proper tracking and to follow up when potential problems are detected. Chemical results from wet/dry screenings did not indicate any illicit discharges.

An additional element to the illicit connection program is the establishment of standard procedures for internal and external reporting, to be prepared by the County's NPDES consultant, Versar, through a task order awarded at the end of 2007 (Appendix N).

In an effort to meet their NPDES Phase I permit requirements, the Maryland State Highway Administration (MD SHA) contracted with a consultant to perform Illicit Discharge Detection and Elimination field reconnaissance in Frederick County. Field reconnaissance began in March 2005 and ran through June 2005. Frederick County received the final report in 2007. Using the

protocol established under its recently awarded task order to Versar, WMS will respond to any illicit discharges deemed necessary for further investigation by MD SHA that are not related to SHA activities, report these discharges to MDE, and report on its progress in the next annual report.

Work under the task order for Versar mentioned above includes development of a new SOP for responding to illicit discharge complaints. WMS responded to one environmental release in 2007 as noted in Section 6.3.

Evaluation: Frederick County continues to meet permit requirements for addressing and correcting illicit discharges and connections.

6.2.2 NPDES Permit Evaluation Process for County-Owned Properties

As stipulated in items 2a and 2b of Section E, Management Programs, of the County's NPDES MS4 Permit, the County is required to ensure that all non-stormwater discharges to the municipal storm sewer system are permitted or eliminated. All County-owned properties requiring an NPDES industrial discharge permit must be identified and the County must submit documentation that a permit has been applied for or obtained. Consultation by County staff with various County agencies and MDE in 2004 identified fifteen County-owned properties that were required to apply for some type of permit. Eight properties were required to apply for an Industrial Stormwater permit and seven properties were required to apply for a No Exposure Certification for Exclusion. Upon MDE review, seven properties were issued Industrial Stormwater permits and one property was issued a No Exposure Certification for Exclusion. No other permits were needed.

All permit applications have been submitted and are on record with MDE (Table 6-1).

Evaluation: All required permits and No Exposure Certifications have been issued. All permitted County facilities have completed a SWPPP. The County has met all requirements for permitting at County facilities and will continue to review permit needs. As shown in the table below, the permits for a number of facilities were up for renewal in November 2007.

County staff contacted Mr. Ed Gertler with MDE about the renewal process. The new permit is anticipated to be available in May, 2008. At that time, MDE will send out a copy of the new Notice of Intent (NOI) for each facility to complete and sign. Until that time, the facilities are covered under the existing permit. County staff is prepared to assist the facilities with completing the new NOIs, if necessary.

6.3 SPILL RESPONSE

In 2007, Frederick County continued to implement a successful program to respond to illegal dumping and spills. This program included procedures, which are publicized on the County's web site, for public reporting and citizen complaints. Hazardous spill response calls are forwarded to 911; first responders are trained to respond to hazardous spills. Non-hazardous spill responses, including environmental releases, are forwarded to the Watershed Management

Table 6-1. Current status of discharge permits for County-owned properties, originally issued in 2004-2005										
Facility Name	Address	City	Zip Code	Contact	Contact Number	Type of Permit Issued	Permit Number	Permit Issue Date	Permit Renewal Date	Notes
Frederick County Transit	1040 Rocky Springs Rd	Frederick	21702	Sherry Burford	301.600.2065	SW Industrial Discharge	02SW1888	1/20/2005	11/30/2007	
Frederick County Law Enforcement Complex	110 Airport Drive East	Frederick	21705	Valiree Stine	301.600.1572	SW Industrial Discharge	02SW1942	12/7/2005	11/30/2007	
Green Valley Fire-Rescue Station	3939 Green Valley Rd	Monrovia	21770	Douglas Brown	301.600.4634	No Exposure Certification	02SW1898	3/7/2005	3/7/2010	
Frederick County Public Schools - Hayward Road Bus Lot	7446 Hayward Rd	Frederick	21702	Laura Olsen	301.644.5150	SW Industrial Discharge	02SW1887	1/22/2005	11/30/2007	
Frederick Facility	331 Montevue Lane	Frederick	21702	Bill Routzahn	301.600.1564	SW Industrial Discharge	02SW1890	3/8/2005	11/30/2007	
Johnsville Satellite Facility	13216 Coppermine Rd	Union Bridge	21791	Bill Routzahn	301.600.1564	SW Industrial Discharge	02SW1891	12/29/2004	11/30/2007	
Thurmont Satellite Facility	7407 Blue Mountain Rd	Thurmont	21788	Bill Routzahn	301.600.1564	SW Industrial Discharge	02SW1892	12/29/2004	11/30/2007	
Urbana Satellite Facility	3471-A Campus Drive	Ijamsville	21754	Bill Routzahn	301.600.1564	SW Industrial Discharge	02SW1893	12/26/2004	11/30/2007	

Section (WMS). WMS forwards this information to the Maryland Department of the Environment for investigation. WMS is working with its NPDES consultant Versar to develop a standard set of procedures for responding to all citizen complaints of spills and illicit discharges. These procedures would be used for internal reporting and for citizens. The task to develop these written procedures was awarded in 2007 and is presented in Appendix N. The procedures will help citizens report spills to the correct agencies with a minimum of internal transfers.

For hazardous spills requiring evacuation, the Department of Emergency Preparedness is rewriting its Emergency Operation Plan, which will include provisions for an emergency evacuation annex, triggers, escalations and evacuation plans. The County also has a reverse 911 system to perform targeted calling based on georeferenced locations for localized problems like hazardous spills.

The Fire Department coordinates the Local Emergency Planning Committee, required under SARA Title III, and has conducted trial emergency responses in cooperation with British Petroleum for hazardous spills.

There was one environmental release in 2007 that required County action, described in more detail in Table 6-2. ECS staff took a report on December 4, 2007 from a citizen on Motters Station Road who was concerned that the neighbor's drainage pipes were discharging from two separate buildings into their driveway swale. There were liquid discharges even during dry weather conditions. This report was sent to WMS on December 10, 2007 and was immediately forwarded to MDE for investigation. MDE inspected this complaint and reported to WMS on January 2, 2008 that they found clean sump discharges and no illicit discharge.

Evaluation: Frederick County has maintained an active program to respond to spills, including expanding its procedures for public reporting and responding to citizen complaints. The County will continue to add resources for the public to report spills to the correct agencies with a minimum of transfers. The County continues to develop procedures for public and environmental health and safety.

6.4 EROSION AND SEDIMENT CONTROL PROGRAM

Frederick County works to maintain an acceptable Erosion and Sediment Control Program in accordance with Environment Article, Title 4, Subtitle 1, Annotated Code of Maryland. The County's program is currently under active review by MDE with more visits anticipated through the end of January 2008. Site compliance and minimum inspection guidelines were identified by MDE as needing improvement. Frederick County welcomes the constructive input from the delegation of authority review and will take steps to improve site compliance and minimum inspection guidelines as necessary. Frederick County anticipates a successful review of its program and subsequent renewal of its delegation of authority for the inspection and enforcement of sediment control. The term of said delegation is, as yet, unknown. County Inspectors work closely and cooperatively with the Soil Conservation Districts (SCD) and the NRCS.

Table 6-2. Environmental Release response activities in Frederick County

Location of Spill or Release	Name of Facility (If applicable)	Date of Spill	Time of Spill	Duration of Spill or Release	Type of Incident	Estimated Quantity Released	Physical State of Release	Material Released	Factors Contributing to Spill or Release	Type of Material Released	Immediate Actions Taken	Release Reached	Method of Recovery	Cleanup or Correction Completion Date
15525 MOTTERS STATION RD ROCKY RIDGE MD 21778	ORNDORFF RESIDENCE	12/04/2007	11:04 AM	INTERMITTENT	CITIZEN COMPLAINT OF POTENTIAL ILLICIT CONNECTION	20 GAL	Liquid	CLEAN SUMP DISCHARGE	INTENTIONAL	WATER	REFERRAL TO MDE, INVESTIGATION BY MDE, NOT ILLICIT	NA	NA	NA

Program attributes include:

1. Regular meetings with SCD to discuss issues such as:
 - Allowable field modifications
 - Defining Agricultural Exemption
 - Plan review improvements
2. Regular contact with Frederick County's building community to discuss:
 - Standard Plan Agreements
 - Contiguous lot construction
 - Disturbed area phasing
 - Plan and implementation deficiencies
3. Quality Assurance / Quality Control (QA/QC) Program:
 - The current QA/QC program continues to be a valuable field inspection tool when used during sediment and erosion control and SWM facility construction evaluations. QA/QC Inspections are conducted on sites as randomly selected by the Field Supervisor. The evaluations are then reviewed and the sites visited by either the Field Supervisor and/or the ECS Manager. The data are carefully evaluated to determine areas requiring improvements and/or adjustments and then discussed with staff to facilitate effective plans of action. As improvements to the inspection process continues within Frederick County, the QA/QC program will provide valuable enhancement.

The Hansen Permitting System has improved the program by providing a means of reporting and tracking inspection activities on all permitted sites requiring sediment and erosion controls and stormwater management. All field reports are now recorded within the pertinent grading permit (A/P#) file, making it a "one stop" source for all information relevant to a specific project. The introduction of "Air Cards" now allows mobile, real-time access to the Hansen and E-Mail systems.

6.4.1 Responsible Personnel Certification Classes

Due to staffing issues, there were no certification classes held in 2007. ECS hopes to conduct four classes in 2008 to make up for the two missed in 2007.

Frederick County recognizes the importance of conducting responsible personnel certification classes ("Green Card" classes) to educate construction site operators about erosion and sediment control requirements. It is Frederick County's goal to conduct regular classes to certify responsible personnel as part of its delegation responsibilities. All classes are advertised on County Cable TV, area radio stations, and in local newspapers. Instructional highlights include a PowerPoint slide presentation and a candid question and answer session. Attendees receive their graded test results with the incorrect answers shown and the correct answer circled. ECS staff has discussed with our information technology staff the feasibility of creating an interactive, on-line version of the "Green Card" class. The preliminary response is promising.

6.4.2 Construction Site Data

The Environmental Compliance Section provides quarterly reports of all grading activities disturbing more than one acre to MDE to cross reference against their NOI records. The data submitted includes site name, site owner and address, the amount of disturbed area, the local grading permit number, site location, and the type of development (*e.g.*, residential, commercial, etc).

Evaluation: Frederick County's Erosion and Sediment Control program is well established and is under active delegation review. The County's goal is to not only maintain an acceptable program, but also to excel at site compliance and minimum inspection guidelines. County agents work closely and cooperatively with the SCD and the NRCS, including attending regular meetings. Program staff has regular contact with the building community. The County's QA/QC site evaluations are a strong component of the program, as are improved record-keeping and mobile access to project files.

Through its quarterly reports, the County has met requirements for the electronic reporting of earth disturbances in 2007.

6.5 PUBLIC OUTREACH AND EDUCATION PROGRAM

In 2007, WMS staff continued to make impacts through the County's public outreach and education program. Frederick County addressed permit-suggested outreach topics and met its own goals and objectives from *The Strategic Plan to Improve Water Quality Through Public Outreach in Frederick County, Maryland*, published in November 2003. County staff continued to support the Monocacy & Catoctin Watershed Alliance (known as MCWA or the Alliance), a group born of the two Watershed Restoration Action Strategy (WRAS) Steering Committees. The bimonthly meeting schedule enables attendees to discuss educational outreach opportunities as well as to develop restoration and protection projects to support water quality and habitat initiatives. WMS staff coordinated with various County divisions and outside agencies to enhance and track their outreach efforts. Outreach activities were used to educate citizens, to direct the course of watershed plans, and to identify landowners for potential restoration activities.

The results of a year of hard work can be seen in the following sections and in the summary of public outreach and education activities in Table 6-3.

6.5.1 Public Outreach Related to Monocacy & Catoctin Watershed Alliance (MCWA)

As described in previous Annual Reports, the Upper and Lower Monocacy Watershed Restoration Action Strategy (WRAS) Steering Committees developed the Monocacy & Catoctin Watershed Alliance (known as MCWA or the Alliance) in order to continue outreach begun during the Upper and Lower Monocacy WRAS efforts and to begin implementation of the Upper and Lower Monocacy WRAS plans.

Table 6-3. Summary of public outreach and education activities		
Type	Date(s)	Description
Water Conservation		
Great Frederick Fair	9/15-22/07	WMS program staff assisted the Monocacy & Catoctin Watershed Alliance by coordinating its volunteers to staff a booth for the full eight days of the Frederick County Fair, providing information on harvesting rain water, using native plants, low impact development techniques such as porous pavers, and making natural household cleaners. Many partners assisted during the Fair, covering a total of more than 60 volunteer shifts with more than 53 volunteers, each of whom received an Alliance T-shirt for the occasion. An estimated 49,000 citizens visited the display.
Alliance Web Page	Ongoing	The Alliance web pages feature information for citizens on water conservation at home, at school, and on the farm.
Rain barrel sale	3/1/07, ongoing	ICPRB, an Alliance partner, offered rain barrels to Frederick County citizens at a discounted price. In order to receive a rain barrel, citizens were required to participate in a workshop that highlighted information on how to install and maintain the rain barrel as well as information on other landscaping techniques that can be used in connection with the rain barrel to conserve water and minimize stormwater impacts on nearby streams. This program will continue in 2008.
Green Living Forum	9/26/07 & 10/24/07	The Emmitsburg Business & Professional Association, Inc., an Alliance partner, sponsored the Green Living Forums. Topics included water quality and conservation, waste management and recycling, environmental issues, and more.
Stormwater Management Facility Maintenance		
Woody Vegetation Control Methods Handout	Ongoing	County SWM inspection staff routinely hand out a one-page fact sheet on "Woody Vegetation Control Methods: Guidelines for Stormwater Facilities" to homeowner associations, property management groups, developers, and others responsible for maintaining stormwater management facilities.
Inspection Program	Ongoing	Stormwater Management Facility inspections are conducted triennially with explicit direction for maintenance/correction when problems are discovered.
Erosion and Sediment Control		
Backyard Buffers Program	4/07	The Western Maryland Resource Conservation and Development Council (RC&D), an Alliance partner, worked with the County to publish brochures and conduct outreach that provides free trees to homeowners with frontage on unbuffered streams. The County assisted in identifying streamside landowners from its landowner database for direct mail. The program distributed 70 bags to 67 households adjacent to streams each with bundles of 25 free trees in 2007.
Reforestation, Riparian Forest Buffers and Their Influence on the Health of our Waterways and the Chesapeake Bay	4/21/07	This workshop was part of the Forestry 101 Lecture Series sponsored by the Maryland Forest Service, an Alliance partner. This workshop focused on teaching area citizens how to develop a planting plan, determine which trees and shrubs to plant, and how to plant and maintain them.
Conservation Tour	8/15/07	Conservation tour sponsored by the Catoctin Soil Conservation District to illustrate best management practices that have been used to control erosion and stormwater runoff from both agricultural and urban sites.
Lawn Care and Landscape Management		
The Great Frederick Fair	9/15-22/07	The County assisted Alliance members in presenting information to the public on several Greener Lifestyle topics during the Frederick County Fair, including landscaping with native plants and the use of rain barrels and rain gardens.
9 th Annual Native Plant Sale	4/28/07	The 9 th Annual Native Plant Sale was held at the Audrey Carroll Audubon Sanctuary with a large selection of native plants as well as information on how to plant and care for them and the benefits of using native plants. The Audubon Society of Central Maryland, an Alliance partner, sponsors the plant sale.

Table 6-3. (Continued)		
Type	Date(s)	Description
Invasive Weed Species Control Workshop	5/5/07	The Invasive Weed Species Control Workshop is part of the Forestry 101 Lecture Series sponsored by the Maryland Forest Service, an Alliance partner. The workshop taught area citizens how to identify and control invasive weed species.
Frederick County Landowner Workshop	6/30/07	The Potomac Conservancy partnered with the County and several other Alliance partners to host a Frederick County Landowner workshop to provide information to area citizens about native plants and landscaping, small lot farming, wetland opportunities, natural household cleaners, and septic system upgrade opportunities, among other topics.
Alliance Web Page	Ongoing	The Alliance website contains information relating to lawn care and landscape management.
Public Planting Event at Utica Park	4/21/07, 4/26/07	The Utica Park planting day was held on April 21, 2007. A park opening and County Commissioner press event was held on April 26, 2007. The event focused on importance of trees and riparian reforestation.
Wetland Celebration at Urbana Elementary School	5/4/07	Staff attended the Urbana Elementary School Wetland Celebration and received recognition for support of a wetland project. Monocacy and Catocin Watershed Alliance awarded school a "Watershed Steward" sign for land management practices.
Household Hazardous Waste		
County Web Page	Ongoing	The Department of Solid Waste Management has information available on a website (http://www.co.frederick.md.us/index.asp?nid=1764) for County residents on various Landfill Programs, such as disposal of household hazardous wastes, recycling, source reduction, and backyard composting.
Used Motor Oil and Antifreeze Dropoff Sites	Ongoing	The county maintains a list of used motor oil recycling drop-off locations on its website.
Household Hazardous Waste Day	2x/year 5/12/07 10/7/07	The County sponsors two household hazardous waste days each year and promotes them widely in the media. Pharmaceuticals are now acceptable items for drop-off at HHW events.
Frederick County Landowner Workshop	6/30/07	The Potomac Conservancy partnered with the County and several other Alliance partners to host a Frederick County Landowner workshop that would provide information to area citizens about native plants and landscaping, small lot farming, wetland opportunities, natural household cleaners, etc. Participants were able to make natural household cleaners to take home at the end of the workshop.
Great Frederick Fair	9/15-22/07	The WMS staff and Alliance partners staffed a booth for the full week of the Frederick County Fair, which featured information on natural household cleaners from the County's Greener Lifestyle Series.
Green Living Forum	9/26/07 & 10/24/07	The Emmitsburg Business & Professional Association, Inc., an Alliance partner, sponsored the Green Living Forums. Topics included water quality and conservation, waste management and recycling, environmental issues, and more.
Endocrine Disruption in Fish	2/8/07, 2/11/07, 3/13/07	Male bass and other fish in the Potomac and Monocacy have been producing eggs due to endocrine-disrupting chemicals in the environment. A meeting was held February 8th at 4PM at Hood College to discuss these findings with a scientist from U.S. Geological Survey (USGS). The Division Director from DUSWM was also at the meeting. A public seminar was held at 7PM sponsored by Hood. The News-Post published a front-page article on this issue on February 11. "ABCs of EDCs" daylong seminar was held at Hood College on March 13 to review endocrine disruptor research. An article was written for the DPW Newsletter.
Litter Control, Recycling, and Composting		
6 th Annual Big Sweep	4/17/07	Frederick County co-sponsored this annual cleanup organized by Volunteer Frederick, involving approximately 1,100 volunteers on 93 teams from 69 different community organizations. The County provided trash pickup and waived tipping fees at the landfill. A total of 22.5 tons of trash were collected, including 2.16 tons of recyclables and 296 tires.

Table 6-3. (Continued)		
Type	Date(s)	Description
Potomac River Watershed Cleanup	4/2/07	The event was a watershed-wide effort to clean up trash along the Potomac River. Partners included the Alice Ferguson Foundation, Frederick County Government, and the Potomac Conservancy. Participated in the Alice Ferguson Foundation's Trash Free Potomac Initiative. Department Head for Solid Waste Management participated in 2007 conference.
Frederick County "Adopt-a-Road" Program	Ongoing	The Office of Highway Operations runs an "Adopt-a-Road" Program to help control litter along County roads.
America Recycles Day	11/15/07	The Frederick County Recycling Office invited county residents to celebrate America Recycles Day. As part of the effort, the Recycling Office staged a "Recycle Right Contest" to encourage area citizens to correctly recycle their household materials.
County Web Page	Ongoing	The Department of Solid Waste Management has information available on a website (http://www.co.frederick.md.us/index.asp?nid=1764) for County residents on various Landfill Programs, such as disposal of household hazardous wastes, recycling, source reduction, and backyard composting.
Car Care, Mass Transit, and Alternative Transportation		
Step It Up! Frederick 2007	4/14/07	Frederick County joined other communities nationwide to urge Congress to take action to reduce carbon emissions by 80% by the year 2050 and signed the Mayor's Climate Protection Agreement.
Bike to Work Day	5/18/07	Frederick County TransIT invited area citizens to participate in this annual event to promote biking to work as a healthy alternative to a drive-alone commute, lessening traffic congestion and improving air quality.
County Web Page	Ongoing	The Transit Services of Frederick County web page (http://www.co.frederick.md.us/index.asp?nid=105) contains information on public transit routes, schedules, commuter assistance, rider bulletins, a ride-share matching service, and other information to facilitate the use of mass transit service such as: <ul style="list-style-type: none"> • Addition of schedules for TransIT and other regional transportation options • Addition of travel training videos
TransIT Improvements	2007	<ul style="list-style-type: none"> • TransIT provided nearly 710,000 passenger trips in FY 2007. This is an increase of 9%, three times the national average. • TransIT adjusted their Meet-the-MARC shuttle to accommodate changes in the MARC schedule to provide better service for commuters. • TransIT adjusted other route schedules to better time transfers made by commuters between routes. • Dispatch hours were extended to cover evenings, Saturdays, and holidays. • TransIT offered free rides on Code Red air quality days to help reduce emissions from vehicles.
The Transportation Services Advisory Council (TSAC)	Ongoing	TSAC is appointed by the Board of County Commissioners to provide guidance and support to TransIT and transportation-related decision-making within the County. Members include consumer, business, human service, regional, and at-large representatives. The mission of the TSAC is to identify transportation trends and issues, to increase public awareness of transportation alternatives, and to influence public policy by advising Frederick County elected officials and decision-makers on the development of a comprehensive and coordinated regional transportation network. Additionally the TSAC: <ul style="list-style-type: none"> • Co-sponsored a Transportation Conference to promote a balanced transportation network in Frederick County. • Supported development of transit-friendly design guidelines to integrate transportation and land use planning. • Supported redesign of the proposed downtown MARC train station. The MARC station design was changed to provide an off-street passenger transfer point for the local bus system.

Table 6-3. (Continued)		
Type	Date(s)	Description
Public Education and Media Outreach	Ongoing	<ul style="list-style-type: none"> • The County has brochure stands in conspicuous places (<i>e.g.</i>, lobby of Winchester Hall) that include all of the public transit routes, schedules, and alternative transportation programs. • Increased visibility of TransIT in the community was achieved through marketing and outreach efforts. The County participated in community events that included the Business and Employment Center Job Fair, Transitioning Fair at Frederick Community College, Communities in Motion Day, NIH Transportation Fair, Fun After 50 Fallfest, Elder Expo, the Great Frederick Fair, the Chamber of Commerce Business Expo, Business Appreciation Week, In the Streets Festival, Bike To Work Day, and the 5th Annual Stuff-A-Bus. TransIT staff participated in partnership efforts with local and regional groups and organizations, including the Frederick Area Committee for Transportation, the Frederick County Chamber of Commerce, the Downtown Frederick Partnership, the Maryland Transit Administration, and the Washington Metropolitan Area Transit Authority. In addition, staff met with human service providers and job training counselors to discuss local transportation needs and ways to improve transportation services. • TransIT advertising appeared on local radio, television, print, on-line media, and on-screen cinema advertising. News stories featured the County's Summer Pass Program for teens, annual ridership increase, Air Quality Action Days, Bike to Work Day, Communities in Motion Day, new service proposals, and TransIT Drivers of the Year. • Three new regional rideshare commercials promoted car and vanpool options. • TransIT Lines, a newsletter for community service professionals and their clients; and F.A.S.T. Notes, a newsletter on transportation options, were distributed quarterly.
Private Well and Septic System Management		
Bay Restoration Fund "Flush Tax" Program	Ongoing	The Frederick County Health Department, in partnership with the Canaan Valley Institute, applied for funding from the Bay Restoration Fund Program to finance the installation of approximately 65 new septic systems. Currently, thirteen applications have been submitted to the Health Department and are in various stages of review. Four new nitrogen-reducing systems have been installed and four have received approval to install.
Booklet	Ongoing	During field inspections, the Frederick County Health Department provides booklets on septic maintenance to applicants requesting permits for accessory buildings.
Presentations	Periodic	Health Department personnel presented information on proper well and septic system inspection and maintenance at realtor meetings.
Procedures for Public Identification and Reporting of Illicit Discharges		
Program Web Site	Ongoing	The County's citizen request tracker online and MCWA web site contain information describing illicit discharges, present examples, and provide contact information.
Providing Information to Regulated Community		
NPDES Phase II assistance to Municipalities	Ongoing	WMS staff continues to meet with municipalities, by request, in support of their NPDES Phase II permits. The County has provided sample handouts, activities, and other information to assist with implementing recommendations made by MDE upon review of the first annual reports submitted by the municipalities. Staff has also involved municipalities within Frederick County, as well as in Washington and Carroll Counties, in the training by the Center for Watershed Protection on illicit discharge detection and elimination.

Table 6-3. (Continued)		
Type	Date(s)	Description
Source Water Protection Plan for Lake Linganore	Adopted March 2007	The County's Planning, Public Works, Utilities and Solid Waste, and GIS Program staff completed a Source Water Protection Plan for Lake Linganore and its associated drinking water intakes. WMS staff assisted with developing maps and a table of recommendations for policy makers' use. The Board of County Commissioners approved the Linganore Action Plan in March 2007 to implement portions of the Linganore Source Water Protection Plan. Since that time, Planning staff have installed four Linganore Watershed signs, met with Highway Operations and DPW staff to discuss the use of spanning bridges or bottomless culverts, performed farm inspections with NRCS for properties enrolled in the various agricultural preservation programs in the County, and developed a variable width stream buffer ordinance that has been adopted by the County Commissioners in July 2007.
Alliance Web Site	Ongoing	The Alliance web site contains background information on stormwater, the County's NPDES Permit, and other stormwater-related information. The web site also contains information on sediment and erosion control permits, Forest Resource Ordinance Permits, and inspections for sediment control and SWM facilities.
NPDES Industrial Stormwater Permit Evaluation and Stormwater Pollution Prevention Plans	Ongoing	County properties were evaluated for the need for industrial stormwater discharge NPDES permits. WMS Staff assisted County offices with applications. WMS staff developed a Stormwater Pollution Prevention Plan (SWPPP) template with instructions and provided assistance to County offices to complete the document.
Maryland Water Monitoring Council Annual Conference	12/6/07	WMS staff attended the MWMC annual conference, which included the topics Closing the Gap and connecting Maryland streams to the Chesapeake Bay.
Chesapeake Bay Foundation Building Tour	4/30/07	Division Directors, Department Heads, and other Managers in Frederick County visited the CBF building to learn more about LEED certification, stormwater management infiltration practices, and other relevant topics that affect the County as a regulated community.
HB1141 Implementation Assistance	Ongoing	WMS staff continues to work with Planning staff to help with HB1141 implementation related to NPDES permit requirements, including pollutant loading estimates and impervious area estimates. A municipal and county planners meeting was held September 7, 2007 to review HB1141 requirements with municipalities.
Other Outreach and Education Initiatives		
Catoctin, Antietam, and Monocacy Brookie Initiative (CAMBI) meeting	Ongoing	Staff is facilitating the activities of CAMBI. Meetings were held on May 31 and August 8, 2007 to discuss restoration, protection, and education opportunities to protect the brook trout population.
Wonders of Wetlands! (WOW!) workshop	12/13/07	The Wonders of Wetlands! (WOW!) workshop, presented by Environmental Concern, was hosted by WMS staff. The workshop was held for Frederick County Public School teachers and presented wetland curriculum information to be used in the classroom to educate students on the function and importance of wetlands. The workshop was funded through a grant received from MDE through the EPA 319(h) Program.
Monocacy & Catoctin Watershed Alliance	1/11/07 3/15/07 5/16/07 7/19/07 10/18/07	Staff met with interested partners from the Monocacy & Catoctin Watershed Alliance to discuss and develop restoration and protection projects as well as outreach and education materials. The Alliance maintains a website at www.watershed-alliance.com .
Alliance Web Site	Ongoing	The Alliance web site contains background information on stormwater problems, the County's efforts to manage nonpoint source (NPS) pollution, assess watersheds, and conduct water quality and stream monitoring.

Table 6-3. (Continued)		
Type	Date(s)	Description
Local Watershed Forum	3/23/07	This two-hour gathering at the Common Market served as an opportunity to meet with people working on local sustainability issues and discover ways that we might work together.
“Did You Know” presentation	4/21/07	Staff led environmental education program at the Emmitsburg Branch Library on Earth Day as part of a monthly program called “Did You Know?” for kids ages 6-12.
Invasive Species	9/27/07, 10/17/07	Staff participated in a Rusty Crayfish workshop at Hood College to spread awareness about this invasive species on September 27, 2007 and coordinated media coverage for DNR press conference on October 17, 2007.
Special Programmatic Conditions		
Upper Potomac Tributary Team	Ongoing	County representatives attended tributary team meetings and participated in activities related to the team, including the preparation of nutrient strategies for the basin.
TMDL Implementation	Ongoing	Staff has participated in a committee with MDE’s Technical and Regulatory Services Administration (TARSA) group to provide guidance to local governments on TMDL implementation. Staff continued to meet with Jim George of TARSA to discuss Linganore TMDL implementation and is working with him to create a database tool to track pollution reductions based on BMP implementation. Staff will ultimately use the tool to create baseline and cap management strategies. Staff attended meeting with MDE on July 26, 2007 to review the draft sediment TMDL in Catoctin Creek Watershed.
Chesapeake Bay 2000: Green Infrastructure	1/9/07, 10/16/07	Staff from WMS and Comprehensive Planning gave a presentation to a class on Green Infrastructure at the National Conservation Training Center with FWS and land conservation organizations, focusing on green infrastructure and Bay Program requirements in Frederick County, MD.
Mount St. Mary’s Science Lecture	4/18/07	Staff from WMS presented on work efforts and products to students and faculty at the university. Among topics presented were TMDLs and the importance of protecting tributaries to the Chesapeake Bay.
Presentation to Seneca Valley Trout Unlimited	4/25/07	Staff from WMS gave a presentation to Seneca Valley Trout Unlimited members about the importance of protecting watersheds and about the links to native brook trout survival.
EPA 319 conference in Ocean City	5/24/07	Spoke at EPA regional meeting for the 319 program about how Frederick County is using 319 funds to address TMDLs and the requirements of the Chesapeake Bay Program.
Potomac Watershed Partnership	6/20/07, 12/12/07	WMS met with Potomac Watershed Partnership to review problems and solutions relating to Potomac Watershed and Bay Program goals.

The efforts of the Alliance continued to expand during 2007. Members gathered for five bimonthly meetings held throughout the County and hosted by various partners. These partners include but are not limited to:

- **Local Organizations**

- New Forest Society
- Audubon Society of Central Maryland
- Catoctin and Frederick Soil Conservation Districts
- Community Commons
- Friends of Waterford Park
- Strawberry Hill Nature Center
- Frederick County Forest Conservancy District Board
- Catoctin Land Trust
- ThorpeWood
- Frederick County Conservation Club
- Frederick County Master Gardeners
- Friends of Rural Roads of Frederick County
- Maryland Chapter of the American Chestnut Foundation
- Lake Linganore Conservation Society
- Friends of the Lake
- Lake Linganore Association
- Carrollton Manor Land Trust
- Cloverhill Homeowners Association
- Liberty Village Cohousing Community
- St. Peter the Apostle Roman Catholic Church
- Local Developers, Contractors and Engineering Firms
- Local Farmers
- Local Citizens

- **Regional Organizations**

- Canaan Valley Institute
- Potomac Conservancy
- Chesapeake Wildlife Heritage, Inc.
- Chesapeake Bay Foundation
- Upper Potomac Tributary Team
- Potomac Watershed Partnership
- Western Maryland RC&D
- Interstate Commission on the Potomac River Basin (ICPRB)
- The Center for Watershed Protection
- Seneca Valley Trout Unlimited
- Potomac Valley Federation of Fly Fishers

- **Funding Agencies**

- National Fish and Wildlife Foundation
- Chesapeake Bay Trust
- Alice Ferguson Foundation
- Maryland Department of the Environment/ Section 319 (h) program – U.S. EPA Clean Water Act
- Maryland Urban & Community Forestry Committee (MUCFC)

- **Educational Institutions**
 - Hood College
 - Mount Saint Mary’s College
 - University of Maryland Environmental Finance Center
 - Frederick County Public Schools

- **Government Organizations**
 - Frederick County Board of County Commissioners
 - Division of Public Works, Watershed Management Section
 - Division of Planning
 - Division of Solid Waste and Utilities
 - Health Department, Environmental Health Section
 - U.S. National Park Service
 - Catoctin Mountain Park
 - Monocacy National Battlefield Park
 - Rivers, Trails and Conservation Assistance
 - U.S. Environmental Protection Agency
 - Chesapeake Bay Program
 - Maryland Department of Natural Resources
 - Forest Service
 - Fisheries
 - Watersheds Program
 - Maryland Department of the Environment
 - Fort Detrick
 - U.S. Fish and Wildlife Service
 - Maryland State Highway Administration
 - Municipalities in Frederick County

Public outreach efforts implemented by the Alliance during 2007 included the Watershed Steward Program, quarterly E-newsletters, participation in the 2007 Frederick County Fair, the continued expansion of the Alliance website, and the launching of the Toms Creek Watershed Stewardship Outreach Initiative in fall 2007.

The Alliance website (www.watershed-alliance.com) features articles covering six general topic areas: Protect, Restore, Enjoy, Connect, Educate, and Study. New articles in each section are posted quarterly. The website also features other pages that provide answers to frequently asked questions, a calendar of events, links to various websites, information on how to report a problem, information on the watersheds of Frederick County, and publications.

Using funds from a National Fish and Wildlife Foundation (NFWF) grant, WMS implemented the electronic mailing of quarterly E-newsletters. The quarterly E-newsletters highlight newly added articles that provide tips to citizens or information on recent restoration and outreach efforts as well as upcoming volunteer opportunities posted on the Alliance website. It is currently sent to more than 830 households.

The MCWA Watershed Steward Program was developed to recognize the efforts of community members to protect and restore the natural resources of the Monocacy & Catoctin watersheds in

Frederick County by implementing conservation and best management practices on their property. Watershed Steward signs are available to community members who meet the criteria for one of eight different categories:

- 1) Improving Watershed Health Through Community Partnerships
- 2) Rain Garden
- 3) Forest Conservation Practice
- 4) Agricultural Conservation Practice
- 5) Forest Land Protection
- 6) Farm Land Protection
- 7) Tree Planting
- 8) Wildlife Habitat Improvement

Alliance members developed a set of criteria and a nomination form to be completed by the sponsor. The original printing of the signs was funded through a grant from the Chesapeake Bay Trust with a match provided by the Frederick County Watershed Management Section. So far, a total of 109 signs have been distributed and installed around the County.

Other outreach efforts of the Alliance included participating in the Frederick County Fair (Great Frederick Fair) in September 2007. Ten Alliance partners sponsored whole or half-days during the eight-day fair. The booth included a rain barrel, rain garden, native trees and shrubs, and pervious pavement displays. Giveaways with the Alliance logo and website address included rain gauges, sponges, and magnets. An estimated 49,000 citizens visited the City Streets, Country Roads exhibit where the Alliance booth was located.

6.5.2 Other NPDES Outreach Initiatives

The County continued to enhance its Landowner Tracking Database that was developed to track landowner permission responses for Stream Corridor Assessments (SCA). Staff used mailing lists to contact landowners who requested specific property information (*i.e.*, want results of the SCA on their property) or expressed a specific restoration and outreach program interest (*e.g.*, want to install cattle fencing). Staff also tracked responses to County-sponsored initiatives like the Backyard Buffers program, which distributed free trees to landowners with stream frontage. Future projects may include targeted outreach to properties with well and septic systems and invitations to Homeowner Associations to consider co-sponsoring Greener Lifestyle workshops. Owner outreach will be enhanced by the County's parcel mapping project, which will enable greater flexibility in the production of mailing lists for projects and will automate landowner notification and permission for future SCAs.

Through a grant obtained from the National Fish and Wildlife Foundation, the WMS Community Restoration Coordinator met with a variety of agricultural and urban property owners using the "House Calls" GIS tool, which shows stream conditions and restoration opportunities. The Coordinator met with the Town of Mt. Airy, the Holly Hills Homeowners Association, the Friends of the Lake, the Lake Linganore Conservation Society, and the Meadows Homeowners Association. Presentations also included sharing 32 priority agricultural sites on 35 farms with

four staff of the Soil Conservation District to enable them to target selected properties for further outreach. Twelve farms were selected for further outreach, comprising more than 1200 acres with more than 6 miles of stream corridor. Of those farms identified, farm calls were made to landowners of a total of 730 acres. Eight urban sites were visited including one county park, one Mt. Airy municipal property and adjoining HOA property, four schools, and two homeowner associations properties that collectively comprise 196 acres.

Along with the Division of Public Works, other Divisions in Frederick County government are reaching out to the public in a variety of ways. Some of these initiatives are discussed in detail below while others are summarized in Table 6-3.

6.5.2.1 Frederick County Recycling Program

The Frederick County Recycling Program was able to divert a growing proportion of solid waste from the landfill by promoting recycling among county residents. In fiscal year 2007, 32,887 tons of waste were collected and recycled from the County's residential curbside and satellite drop off programs (Table 6-4). In 2007, Frederick County reported a recycling rate of 36.02% and a source reduction credit rate of 3% for a combined waste reduction rate of 39.02%.

Table 6-4. Quantity of recycled material by type				
Frederick County Tons Recycled				
	FY04	FY05	FY06	FY07
Recycling Collected on Curbside	8,646.37	8,618.82	9,079.20	9,802.16
Recycling Collected at Drop-off Centers	4,986.03	6,504.14	4,491.45	4,635.22
Used Motor Oil	339.50	340.00 estimate	330.01	323.25
Antifreeze	12.71	13.00 estimate	17.30	12.44
White Goods/Scrap Metal	1,706.10	1,835.05	1,767.21	1,491.04
Tires	339.02	243.43	174.15	135.25
Car Batteries	62.19	71.45	61.19	52.08
Flexible Foam	5.74	2.35	3.54	3.61
Pallets	180.83	281.21	218.05	383.17
Yard Trimmings	21,018.72	22,071.74	21,440.07	20,903.07
Electronics			36.86	166.18
Textiles*				1.91
TOTAL	37,297.21	39,981.19	37,619.03	37,909.38
* new program started May 2007				

Household Hazardous Waste Days are held twice annually: once in the spring and once in the fall (Table 6-5). They are held at the Public Safety Training Facility.

6.5.2.2 Alternative Transportation

The Transportation Association of Maryland (TAM), a statewide association of over 40 rural and urban transportation providers, named TransIT fixed- route driver Caroline Dorsey and para-transit driver John Thomas "Drivers of the Year." **TransIT increased its total system ridership by more than 9%, three times the national average. The total system ridership was roughly 710,000.** As a result, TransIT was awarded the 2007 Annual Award for Success in Enhancing

Ridership by the Federal Transit Administration (FTA). TransIT was one of a dozen public transportation providers recognized by the nation's top federal transit official for having added at least five percent more passengers per year over a two-year period. TransIT's ongoing service improvements have resulted in an average ridership increase of 20% each year for four consecutive years and ridership has doubled over the past five years.

	May 2005	October 2005	May 2006	October 2006	May 2007	*Est. October 2007
Collection Cost	\$11,520.13	\$9,592.94	\$11,432.04	\$6,824.15	\$11,491.05	*\$11,000.00
Advertising	\$3,751.44	\$2,814.98	\$1,826.68	\$2,092.80	\$2,107.32	\$2,388.56
Total Cost	\$15,271.57	\$12,407.92	\$13,258.72	\$8,916.95	\$13,598.37	\$13,388.56
Vehicles Attended	249	207	267	214	282	271
Cost Per Resident	\$61.33	\$59.94	\$49.66	\$41.67	\$48.22	
Pounds Collected	10,240	7,980	10,440	8,720	9,420	9,220

Transit Services of Frederick County increased its ridership by 46 percent from November 2003 to November 2005, as a result of service expansions and improvements. This included introduction of peak-hour service on several connector bus routes to reduce headways from 60 minutes to 30 minutes during morning and evening rush hours.

TransIT's website (<http://www.co.frederick.md.us/index.asp?nid=105>) contains a wealth of information on TransIT services as well as regional transportation alternatives. Links are provided to schedules and maps for TransIT, MARC train, MTA Commuter Bus to Shady Grove Metro, Montgomery County Ride-On and Metro. There is a Travel Training video that can be viewed from the site. Rider bulletins, press releases, annual reports, and newsletters are also available. There are links to information for seniors and persons with disabilities, commuters, vanpoolers, and those interested in Telework.

TransIT promotes alternatives to driving as well as providing assistance with:

- Commuter trip planning via phone or email (301.600.2065 or transit@fredco-md.net).
- Formation of vanpools - TransIT provides free on-line ride-matching and provides a financial incentive for first year vanpools with open seats. TransIT assists existing and new vanpools in finding riders.
- Employer Services - TransIT can provide local employers with assistance in setting up telework programs, assessing parking management, employee commute surveys, providing commute tax benefits, and more.
- Air Quality Action Days (AQAD) - TransIT e-mails over 2000 County employees and over 700 City employees on Code Red days to advise how they can help improve Air Quality. TransIT recruits employers for the AQAD program. As participants in the program, employers notify employees of ways they can improve Air Quality and provide information on transportation alternatives.

- Bike to Work Day - TransIT sponsors a "pit stop" at the downtown Transit Center to promote biking as a driving alternative. Recent events have had more than 40 local participants (6,200 in the metro area).

6.5.2.3 Private Well and Septic System Management

The Frederick County Health Department provides citizen education and outreach materials on proper septic system maintenance and well testing and protection. During site visits to evaluate accessory building permit applications, Health Department staff distributes copies of a handbook on septic system maintenance. By Frederick County Ordinance, a well providing a sufficient yield must be drilled on a building lot prior to issuance of a building permit to the property owners. Once the house has been built, the Health Department directs the homeowners to have the water tested to secure a Certificate of Potability, indicating the quality of the water supply. In addition, Health Department staff present information at meetings of boards of realtors at least twice annually to acquaint new real estate professionals with requirements for proper management, inspection, and maintenance of wells and septic systems.

The Frederick County Health Department, in partnership with Canaan Valley Institute (CVI, a Monocacy & Catoctin Watershed Alliance partner), has been awarded over \$700,000 through the Maryland Bay Restoration Fund (BRF) in order to address nutrient impacts by failing and under-performing On-site Disposal Systems (OSDS) in the Monocacy Watershed and in Frederick County's proposed source water protection areas.

Throughout Frederick County, an estimated 65 OSDS will be upgraded over a two-year period. These upgrades will reduce the concentration of nitrogen in the OSDS effluent by 50% or more. CVI will work with the Health Department to identify and prioritize potential sites, coordinate with homeowners, select appropriate technologies, oversee installation, and establish a management framework.

Currently, thirteen applications have been submitted to the Health Department and are in various stages of review. Four new nitrogen-reducing systems have been installed and four have received approval to install with physical installation pending. Several local septic system installers are involved and signed up for certification to install the systems. Other local installers can also participate in the work. All of the manufacturers of the new systems will provide on-site training to local installers who do not require certification prior to submitting a bid for installation.

Homeowner education activities will be directed toward the WRAS-identified communities and to residents living within proposed source water protection areas, in order to generate applications from these priority locations. This process includes mailings, meetings with community leaders, community forums, and homeowner visits, as appropriate and necessary. While these site identification activities are primarily directed toward these targeted communities, applications will be accepted for any site within the boundaries of Frederick County.

Evaluation: Frederick County continues to excel in public outreach. Not only has Frederick County addressed all of the suggested topics for outreach in the NPDES permit, it has also extended its public outreach strategy to meet restoration goals. Frederick County has greatly

expanded its network through partnerships with local and regional organizations, particularly through the Monocacy & Catoclin Watershed Alliance, which builds upon the WRAS process. Agencies within Frederick County continue to educate the public about water quality through diverse programs.

6.6 ROAD MAINTENANCE ACTIVITIES

During 2007, Frederick County continued to implement recommendations from its 2002 assessment of road maintenance practices (Versar 2002). The objective of this study was to assess the effects of road maintenance activities on stormwater runoff and resulting impacts on surface water quality. The assessment evaluated current practices, analyzed alternative practices, and presented a plan to incorporate alternative practices into the County's road maintenance programs. Members of the County's Department of Highways and Transportation provided data and information on current practices and plans of the Department.

Activities included in the evaluation included:

- chemical usage in snow and ice removal,
- herbicide spraying for vegetation control,
- street sweeping,
- litter control,
- road surface maintenance, and
- maintenance of unpaved surfaces.

The assessment report was submitted to MDE on June 11, 2002 and was found to meet NPDES permit requirements for developing a plan to reduce pollutants associated with road maintenance activities.

The County continues to move ahead with several of the recommendations developed in the June 2002 evaluation report. An example of quarterly reports for January to December 2007, prepared by the Office of Highway Operations for a variety of subject areas, is provided in Appendix I. Some of the activities that the County Office of Highway Operations undertook in 2007 to reduce runoff pollution were:

1. **Street Sweeping:** Street sweeping was conducted in all but the first quarter of 2007. A total of 936.89 acres (802.72 miles) of road and bridges were swept, with special attention paid to bridges. The County tends to apply more deicer to bridges and currently removes these materials after storm events in response to citizen requests. A total of 158.49 acres of bridges were swept in 2007.
2. **Litter Control:** The Office of Highways and Transportation was a main sponsor of the Big Sweep Cleanup in 2007, which removed 22.5 tons of trash including 2.16 tons of recyclables and 269 tires from county roads and illegal dumpsites. A total of 867 tires and 48.94 tons of trash were removed in 2007. Additionally, the Department continued its Adopt-A-Road program in 2007.

3. Deicing: Caliber M1000, which is a 30% Magnesium Chloride solution with an agricultural by-product, is used in 41 of the County's trucks when the temperature is $\leq 20^{\circ}\text{F}$. The trucks are equipped with 90-gallon tanks that apply the solution onto the salt/cinder mixture as it is spread onto the road. Overall, the County has 51 full-sized ten-ton dump trucks and nine smaller one-ton dump trucks for deicing. The additive makes the salt/cinder mix more effective and prevents corrosion. The County has not yet determined if the additive is cost-effective at temperatures above 20°F . The State uses 100% Magnesium Chloride at all temperatures; however, it is very corrosive. According to product literature for Caliber M1000 (http://www.anti-icers.com/caliber_m1000.htm):

"As a pre-wetting agent for salt and sand, Caliber M1000 reduces bounce and scatter, increases the speed at which the salt begins working, increases the melting capacity of the salt, and permits the use of salt at lower temperatures. Additionally, Caliber M1000 also reduces corrosion, inhibits crystal formation and product fallout at lower temperatures, and improves roadway traction when compared to other liquid products."

Additional information on Caliber M1000 is also available at http://www.es-pa.com/caliberm1.htm#ENVIRONMENTAL_PROPERTIES

The use of deicers in 2007, by DNR watershed, is presented in Table 6-6. A total of 3,825 gallons of liquid deicer (Caliber M1000), 6,482.37 tons salt, and 1,865.92 tons cinders were used in 2007 for all watersheds.

4. Inlet Cleaning: All Highway Operations foremen began reporting inlet-cleaning statistics in 2004. A total of 822 inlets were cleaned in 2007. Inlet-cleaning statistics are reported in the quarterly reports under Drainage (Appendix I).
5. Data Collection: Reports were collected quarterly from district foremen and submitted to the department head. In 2007, data collection improvements were made by each district, especially in the areas of street sweeping, trash collection, herbicide use, and inlet cleaning.
6. Reducing the Use of Pesticides, Herbicides, Fertilizers and Other Pollutants: The 2002 road maintenance assessment report presented data on two herbicides, Razor and Pendulum, which were used by the County's Office of Highway Operations in 2001. Pendulum, with 37.4% pendamethalin as the active ingredient, was noted to be an environmentally unfriendly chemical with potential impacts to aquatic life. The report recommended that the County review its use and consider alternative treatments. As reported in the 2003 Pesticide/Herbicide report (Versar 2003) and subsequent NPDES Annual Reports (see Section 6.7), Pendulum has not been used during the years 2002-2007. In addition, Gly Star Pro (an herbicide containing glyphosate)

Table 6-6. The use of deicers in 2007, by DNR watershed																		
Date	Catoctin Creek			Double Pipe Creek			Lower Monocacy			Potomac			Upper Monocacy			Totals		
	Gallons	Tons		Gallons	Tons		Gallons	Tons		Gallons	Tons		Gallons	Tons		Gallons	Tons	
	Liquid	Salt	Cinders	Liquid	Salt	Cinders	Liquid	Salt	Cinders	Liquid	Salt	Cinders	Liquid	Salt	Cinders	Liquid	Salt	Cinders
12/2/2007														6.00	2.00	0.00	6.00	2.00
12/5 & 6/2007	520.00	937.00	277.00	0.00	274.00	94.50	1530.00	1922.50	418.00	360.00	163.00	31.00	1060.00	1184.00	359.50	3470.00	4480.50	1180.00
12/7/2007	0.00	5.50	2.00	0.00	5.50	2.00	0.00	38.00	12.75	0.00	0.00	0.00	0.00	5.60	0.60	0.00	54.60	17.35
12/8/2007	0.00	183.00	77.50	0.00	26.00	9.75	0.00	199.60	46.35	0.00	0.00	0.00	0.00	118.75	48.50	0.00	527.35	182.10
12/15 & 16/2007	115.00	298.00	99.00	0.00	46.00	17.25	0.00	277.14	83.24	0.00	8.00	3.00	240.00	225.78	83.73	355.00	854.92	286.22
12/31/2007	0.00	153.50	57.50	0.00	42.75	15.00	0.00	184.50	59.75	0.00	31.00	7.00	0.00	153.25	61.00	0.00	565.00	200.25
Totals	635	1,577	513	0	394	139	1,530	2,622	620	360	202	41	1,300	1,687	553	3,825	6,482	1,866

is now used instead of Razor by the Office of Highway Operations. In 2007, 7,675 gallons of diluted Gly Star Pro/2,4-D Amine 4 were used to control weeds along guardrails, with a total of 558,243 linear feet (approx 105.7 mi) sprayed. Herbicide use is reported in the quarterly reports under Guardrails (Appendix I).

Evaluation: The County's Office of Highways and Transportation continues to implement the recommendations of the Road Maintenance Report and to experiment with new technology to reduce its activities' impacts on water quality. Significant improvements were made in reporting practices in 2007

6.7 HERBICIDE, PESTICIDE, AND FERTILIZER USE

Because of concern for environmental health, MDE, through the requirements of NPDES MS4 Permits, requires local jurisdictions to evaluate their current uses of pesticides, herbicides, and fertilizers and to seek opportunities to reduce use of these materials. To address this requirement, during 2002-2003 Frederick County sponsored a study to characterize uses of pesticides, herbicides, and fertilizers by County agencies and to identify potential reduction strategies. The following is a summary of practices since the completion of that study, *Recommendations for Alternatives to Pesticide/Herbicide/Fertilizer Use for Frederick County*, December 17, 2003 (Versar 2003).

6.7.1 Introduction

Frederick County DPW initiated this study in fall 2002 by surveying County staff about pesticide, herbicide, and fertilizer use at all County-owned facilities and by all Frederick County Government agencies or departments. Five County departments were found to apply at least one of these types of chemicals: (1) the Maryland Department of Agriculture's (MDA) Vector Control Program, which works in conjunction with the Frederick County Mosquito Control Program, (2) the Division of Parks and Recreation, (3) Frederick County's Office of Highway Operations, (4) the Frederick County Weed Control Program, and (5) Frederick County Public Schools.

Study results indicated that pesticide/herbicide/fertilizer use by Frederick County did not require any drastic reduction in application practices because County agencies had, in general, already minimized use of these chemicals, or were already using more environmentally acceptable substitutes. In most cases, the overall recommendation was to continue current chemical control practices, while considering possible biological and mechanical controls that could be used in place of, or in combination with, current practices.

A number of practices are already employed by County personnel to control the application of chemicals and, where possible, to use minimal amounts. In general, most Frederick County departments reported applying pesticides on an "as needed" basis, while fertilizer is applied 1-3 times per year at specific locations. Most of the departments surveyed indicated specifically that application rates were based on label instructions and were made at the lowest rate required for effectiveness. This section provides an update to the amounts and uses presented in the 2003 study report and subsequent NPDES Annual Reports.

6.7.2 Herbicide Use

Frederick County's Division of Parks and Recreation and the Frederick County Weed Control Program continue to monitor weather conditions around the time of application; applications are not performed if heavy rain is expected within 2 hours of application. The Weed Control Program continues to verify that application personnel are registered with the MDA Pesticide Regulation Section and are either licensed applicators or work directly under the supervision of one.

As noted in the Road Maintenance Activities section (Section 6.6), Frederick County Highway Operations has discontinued the use of the herbicide Pendulum, which is toxic to aquatic life, and has replaced its use of Razor with Gly Star Pro, another glyphosate herbicide.

Herbicide use by County departments from 2003 through 2007 is presented in Table 6-7.

6.7.3 Pesticide Use

The majority of pesticides currently used in Frederick County continue to be for the control of mosquitoes by MDA's Vector Control Program and for the control of pest insects by Frederick County Public Schools. Both programs continue to use Integrated Pest Management (IPM) programs. IPM programs identify and control pest problems through staff training, inspection, and sanitation practices that minimize and/or eliminate the need for pesticide use. Under IPM, improvements in cleaning, sanitation, occupant education, or other non-chemical methods are required before pesticide use can be authorized.

The pesticides used in 2007 by the Vector Control Program for mosquito control include a larvicide, Vectolex, which contains naturally occurring bacteria commonly found in soils in the United States. This pesticide has not been shown to cause any serious health effects in humans. Also used this year to control mosquitoes was Altosid. It contains a chemical insect growth regulator. This pesticide has not been shown to be harmful to humans. Some formulas used have a residence time and can remain active for 30-150 days. In 2007, the Vector Control Program used Altosid in four different forms: Altosid pellets, Altosid briquets, Altosid XR briquets, and Altosid XR-G.

Survey responses indicate that the public schools do not use excessive quantities of pesticides and that these are applied only on an as-needed basis. In addition, one of the pesticides, Merit, is known for its low percentage of active ingredients compared with other pesticides. Use of one pesticide previously used by the school system, Statesman Insect Control with diazinon, was affected by EPA's plans to phase out diazinon for all lawn, garden, and turf use by December 2003. Diazinon is an organophosphate which can affect the nervous system and cause nausea, headaches, vomiting, etc. In addition, diazinon's use on turf poses a risk to birds, and is one of the most commonly found pesticides in air, rain, and drinking and surface water. Therefore, the report recommended that the public schools discontinue use of Statesman Insect Control with

Table 6-7. Pesticide, herbicide, and fertilizer use by Frederick County agencies, 2003-2007

Department	Chemical Name	Average Amount Used					Comments	
		2003	2004	2005	2006	2007		
Frederick County Division of Parks and Recreation	Pesticide	Malthion	n/a	2.5 gal	n/a	n/a	n/a	1) Pesticides/herbicides applied as needed, fertilizers applied annually; 2) All amounts are undiluted unless otherwise indicated; 3) In 2003, a granular form of Cutrine was used - the amount shown is undiluted; 4) Cutrine Plus: For 2005 the liquid amount reflects dilution and the granular amount reflect no dilution. For 2007 there was no dilution; 5)The 2007 values reflect the total undiluted amounts applied. Values reported in parentheses, if applicable, reflect the diluted amounts used. *Glyphosate **2 packets used @ 1 ounce each
		Sevin Liquid	n/a	n/a	n/a	18 oz	1.5 oz (10.5 gal)	
	Herbicide	Aquashade	14 gal	11 gal	8 gal	9 gal	3 gallons	
		Corner Stone*	n/a	n/a	n/a	6 gal	12.95 gal (662 gal)	
		Cutrine	43 lbs	13 gal	n/a	7 gal	n/a	
		Cutrine Plus	n/a	n/a	10 lbs (granular)/310 gal (liquid)	n/a	3 gal	
		Horticulture Oil	n/a	n/a	n/a	24 oz	n/a	
		Malthion	n/a	2.5 gal	n/a	n/a	n/a	
		Merit Granular	n/a	n/a	n/a	8 lb	n/a	
		Pramitol 25E	6.5 gal	n/a	n/a	n/a	n/a	
		Pronto	n/a	n/a	n/a	3 gal	0.53 gal (34 gal)	
		Prosecutor Pro	n/a	8 gal	17 gal	15 gal	6.99 gal (335 gal)	
		Ronstar	n/a	n/a	n/a	2 oz**	n/a	
		Roundup Pro*	11 gal	4.5 gal	n/a	0.25 gal	64.63 gal (142.5 gal)	
		Sahara	9 lbs	n/a	n/a	n/a	n/a	
		Surflan	2.8 gal	n/a	n/a	0.375 gal	n/a	
		Fertilizer	Root Turf Food	6350 lbs	n/a	n/a	n/a	
	42-0-0		n/a	450 lbs	n/a	n/a	n/a	
	18-5-9		n/a	7600 lbs	n/a	n/a	n/a	
	14-3-5		n/a	1300 lbs	n/a	n/a	n/a	
	20-27-5		n/a	60 lbs	n/a	n/a	n/a	
	18-0-18		n/a	n/a	9635 lbs	n/a	1400 lbs	
	18-24-10		n/a	n/a	18 lbs	n/a	n/a	
	18-24-12		n/a	n/a	2400 lbs	n/a	n/a	
	46-0-0		n/a	n/a	n/a	n/a	n/a	
	39-0-0		n/a	n/a	n/a	1400 lbs	6850 lbs	
	21-3-21		n/a	n/a	n/a	4350 lbs	n/a	
	29-2-5		n/a	n/a	n/a	270 lbs	n/a	
	34-0-0		n/a	n/a	n/a	40 lbs	n/a	
	30-3-4	n/a	n/a	n/a	80 lbs	n/a		
10-10-10	n/a	n/a	2400 lbs	33 lbs	n/a			

Department	Chemical Name		Average Amount Used					Comments
			2003	2004	2005	2006	2007	
Frederick County Public Schools	Pesticide	Acephate	n/a	n/a	n/a	100 gal	n/a	(1) Amounts provided for pesticides would be maximum amount. Applied on a very limited, case by case basis. (2) Lime used once a year on competition fields and stadium fields. (3) Milorganite and fertilizers are used three times a year (early winter, spring, and summer) on competition and stadium fields (4) Round-up used "primarily" in the summer months when students not present, typically used on fenced areas where poison ivy has become problem (5) LESCO brand 3 way selective herbicide used, as needed, on competition fields (6) Quantity of Round up reported is DILUTED, applied quantity. Note: 2004 and 2005 quantities were reported as total CONCENTRATE - the total diluted applied would have been less than 2000 gallons, as noted in year 2006 (7) Acephate product used sporadically for severe bag worm infestations.
		Dylox	1000 lbs	4000 lbs	4000 lbs	4000 lbs	4100 lbs	
		Merit	1000 lbs	60 lbs	60 lbs	60 lbs	2000 lbs	
		Statesman Insect control w/Diazinon	200 lbs	n/a	n/a	n/a	n/a	
	Herbicide	3 way selective	n/a	n/a	n/a	720 gal	1000 gal	
		Roundup	1000 gal	40 gal	40 gal	2000 gal	4000 gal	
	Fertilizer	18-24-12	4000 lbs	4000 lbs	4000 lbs	4000 lbs	10,000 lbs	
		39-0-0	2000 lbs	2000 lbs	2000 lbs	6000 lbs	23,300 lbs	
		15-3-7	4000 lbs	4000 lbs	4000 lbs	2000 lbs	n/a	
		26-4-18	4000 lbs	4000 lbs	4000 lbs	6000 lbs	n/a	
		10-10-10	200 lbs	200 lbs	200 lbs	n/a	n/a	
		Milorganite 6-2-0	4000 lbs	n/a	n/a	n/a	n/a	
		Milorganite 14-1-11	4000 lbs	n/a	n/a	n/a	n/a	
		Sustane 5-2-4 weed/feed	n/a	n/a	n/a	500 gal	n/a	
	Pelletized Lime	4000 lbs	4000 lbs	4000 lbs	6000 lbs	6000 lbs		
Chelated iron	n/a	n/a	n/a	n/a	550gal			
Maryland Department of Agriculture and Frederick County, Weed Control Program	Pesticide	n/a	n/a	n/a	n/a	n/a		
	Herbicide	Transline	10.5 gal	11 gal	12 gal	12 gal	10 gal	
		Glystar Pro	12 gal	12 gal	12 gal	15 gal	12 gal	
		Velpar L	0.66 gal	0.50 gal	0.50 gal	0.50 gal	0.50 gal	
Fertilizer	n/a	n/a	n/a	n/a	n/a			

Table 6-7. (Continued)								
Department	Chemical Name		Average Amount Used					Comments
			2003	2004	2005	2006	2007	
Frederick County Office of Highway Operations	Pesticide	n/a	n/a	n/a	n/a	n/a	n/a	1) Average Amount Used for 2003-2006 reflects pure Glystar Pro which is mixed at 1.25% to dilute; 2) Average Amount Used for 2007 reflects the undiluted amount applied [A total of 7,675 diluted gallons were applied - for every 100 gallons mixed, equals 1.5 gallons of Glystar Pro and 1 quart of 2,4-D Amine 4]; 3) In 2006, 2,4-D Amine 4 was added to the Glystar Pro to combat broadleaf weeds. The Glystar Pro is only effective against grasses. 4) The overall increase in the amount of Glystar Pro used by Highway Operations is due to the fact that 2005 was the first year they were able to cover everything as planned twice. In previous years, the Highway Operations ran out of money for the product or time to complete the spraying of all of the guardrails. 5) Add'l information on 2,4-D Amine 4 can be found at http://www.tcweed.org/pdfs/24amine4label.pdf
	Herbicide	Glystar Pro	88.5 gal	91 gal	147.75 gal	135 gal	78.25 gal	
		2,4-D Amine 4	n/a	n/a	n/a	27 gal	19.19 gal	
	Fertilizer	n/a	n/a	n/a	n/a	n/a	n/a	
Maryland Department of Agriculture, Vector Control Program	Pesticide	Altosid	69 lbs	51 lbs	65 lbs	98 lbs	5.6 lbs	(1) averages are based on ranges provided; (2) amount depends on precipitation and amount of standing water; (3) Altosid purchased as plaster of paris pellets (units) which weigh approx. 1 ounce--can treat 100 square feet of surface for 30 days; (4) season approx 6 months; (5) Altosid briquets were used in addition to the pellets in 2007 and are tracked by the number of briquets used rather than the weight of Altosid used.
		Vectobac G	110 lbs	34 lbs	28 lbs	57 lbs	n/a	
		Vectolax CG	110 lbs	105 lbs	27 lbs	57 lbs	1.125 lbs	
		Altosid briquets	n/a	n/a	n/a	n/a	221	
		Altosid XR briquets	n/a	n/a	n/a	n/a	144	
	Herbicide	n/a	n/a	n/a	n/a	n/a	n/a	
	Fertilizer	n/a	n/a	n/a	n/a	n/a	n/a	

diazinon and select a safer, more appropriate product to be used in its place. The Public Schools discontinued the chemical once its (small) inventory was consumed.

Pesticide use by County departments from 2003 through 2007 is presented in Table 6-7.

6.7.4 Fertilizer Use

Fertilizer use by Frederick County agencies is mainly attributed to the Public Schools for maintenance and upkeep of school athletic fields. In addition, the Division of Parks and Recreation uses fertilizers at its facilities. Frederick County Public Schools and the Division of Parks and Recreation regularly test the soil to determine if and how much fertilizer needs to be applied. The Division of Parks and Recreation conducts soil tests every three years and applies fertilizer according to soil test results. The Superintendent is a certified Nutrient Applicator under the State Nutrient Management Program.

The Public Schools used to use one type of organic fertilizer, Milorganite, which is composed of composted sewage sludge, but have since phased out its use.

Fertilizer use by County departments from 2003 through 2007 is presented in Table 6-7.

Evaluation: Frederick County continues to implement responsible use of herbicides, pesticides, and fertilizers. Agencies strive to minimize use of these materials to the lowest rate required for effectiveness. Applicators have proper certification. Integrated Pest Management programs are in place. Earlier evaluations of herbicide use along roadsides led to a shift away from one potentially harmful herbicide to a more environmentally friendly alternative.

6.8 OVERALL PROGRAM EVALUATION

Frederick County continues to significantly build upon and strengthen the various components of its NPDES stormwater management programs. As detailed throughout this report, the past year brought progress in many areas. This evaluation is based on program improvements noted over the past year. In addition, the current status of management programs was viewed in relation to the County's program objectives, goals, and NPDES permit requirements.

Frederick County operates an effective stormwater management program, including inspections, enforcement, and implementation of the *2000 Maryland Stormwater Design Manual*. Enhancements will continue to be made as MDE's manual is updated to comply with the Stormwater Management Act of 2007.

Frederick County continues to enhance its illicit discharge detection and elimination (IDDE) program. In addition to basic monitoring conducted during stormwater facility inspections, the County is undertaking a project to update its protocols and to formalize its procedures for reporting and responding to spills and illicit discharges.

Frederick County has completed a thorough review of County-owned properties and, through coordination with MDE and among County agencies, has obtained all needed NPDES permits. Stormwater Pollution Prevention Plans are in place for all of the permitted facilities.

Frederick County ECS staff continues to strengthen erosion and sediment control measures. County Inspectors work cooperatively with SCD and the NRCS and maintain regular contact with the regulated community.

Frederick County government has been particularly effective in leading well-coordinated efforts involving multiple agencies and organizations working toward common goals for water quality improvements and better management of the County's watersheds. The County has continued to capitalize on opportunities to leverage substantial funding for outreach and restoration. This has allowed the County to accomplish program goals most cost-effectively, despite having a small in-house staff. Continuing county support of the Monocacy & Catoctin Watershed Alliance has provided substantial benefits in public outreach and watershed restoration. A broad array of public outreach events and ongoing activities are now well-established in the County, with a strong base of support from Alliance partner organizations.

County staff has actively sought opportunities for numerous restoration projects, successfully attracting outside funding and establishing key partnerships with other organizations. As detailed in Section 7.6, numerous restoration projects were completed or were in progress throughout the County during 2007, providing considerable, quantifiable benefits in terms of projected reductions in nutrient and sediment loading. The total area treated (approximately 1300 acres) exceeds the County's permit goal. Ongoing implementation of Lower and Upper Monocacy WRAS recommendations, along with projects proposed through the County's restoration and retrofit evaluations, have furthered the County's progress in watershed restoration and will continue to include substantial public involvement. Frederick County has now completed its initial restoration projects through its CIP program as well as supporting and promoting a number of highly effective community restoration projects.

The Frederick County Health Department is leading an effort (with Maryland Bay Restoration Funds) to address nutrient impacts of failing and underperforming On-site Disposal Systems. Throughout Frederick County, an estimated 65 OSDS will be upgraded over a two-year period.

Watershed restoration is a key focus of current programs. In 2007, a stressor analysis and assessment of stormwater retrofit and stream restoration opportunities were in progress for Bennett Creek watershed.

The County continues to implement long-term monitoring to meet NPDES requirements, including the evaluation of the effectiveness of the *2000 Maryland Stormwater Design Manual*. That study has now compiled five years of data at a tributary to Peter Pan Run to evaluate Manual effectiveness. Long-term chemical, physical, and biological monitoring at Peter Pan Run has provided a continuous record since 1999.

During 2007, Frederick County focused its stream monitoring efforts to provide information to assess potential restoration sites and ultimately to evaluate restoration success. Biological and

physical monitoring was targeted to locations of planned restoration projects to provide a baseline of pre-construction monitoring data. Future monitoring will continue to track conditions at these and new locations, as additional project sites are recommended, and as the County develops new monitoring methods targeted to evaluate success in meeting specific restoration goals for a site.

The County is also expanding its stream monitoring to assess watersheds throughout the County on a rotating basis, implementing a new, probability-based sampling design. In 2007, a pilot study was conducted in two high priority watersheds, providing assessment data to aid in restoration planning.

The County continues to implement the recommendations of its Road Maintenance Activities and Pesticide/Herbicide/Fertilizer reports. Improved reporting now allows a clearer picture of trends in pesticide, herbicide, and fertilizer use. Chemical applications that had been suggested for phase-out have been replaced by more environmentally friendly materials by the Frederick County Public Schools and by Highway Operations.

To build communication with MDE and other County programs, many at a similar stage of program development, Frederick County has been an active participant in the state's stormwater workgroup. Lessons learned from other municipal programs in Maryland continue to help to guide the County's future management efforts.

Frederick County has continued to expand and enhance its GIS resources. For example, storm drainage network data have proven highly valuable in identifying retrofit and restoration opportunities. Aerial photography flown in 2005 is now available and provides enhanced topography and updated images for future work.

In general, Frederick County has increased its commitment of staff time and resources to NPDES program activities over the permit term. In 2007, along with a full-time NPDES program manager, the program was supported by two other staff in its Watershed Management Section. The Community Restoration Coordinator (formerly the WRAS Program Coordinator, a position created in May 2003), has proved highly effective in the County's partnership restoration efforts. This position is funded jointly by DPW and grant funds. The County has secured grant funds to extend the support for this position through 2009. A full time Project Manager II staff person provides key support in wetland restoration, grant applications, GIS, Annual Report preparation, and other projects.

During 2007, two CIP-funded consultant projects were constructed. One project was stream restoration in Ballenger Creek watershed and the other was Low-Impact Development enhancements to stormwater management at Urbana High School in Bush Creek. In addition, design of a CIP stream restoration project in Linganore watershed was underway.

As detailed in Section 8, the County has maintained steady funding of NPDES programs through its operating budget. The NPDES program is operating well at its current funding level. In addition, substantial CIP funds have been committed to current stormwater retrofit and stream restoration projects. Future CIP funding is earmarked for identifying and implementing watershed

restoration and stormwater retrofit projects. The program continues to seek and utilize outside grant funds, including grant funds from the National Fish and Wildlife Foundation, Chesapeake Bay Trust, and EPA's 319(h) program to support implementation of watershed restoration measures. The County continually seeks ways to leverage its resources with grants, cost shares, and other reciprocal programs.

