

# REGIONAL COOPERATION IN STORMWATER MANAGEMENT

FISCAL YEAR 2007-2008  
A STATUS REPORT



October 2008

PEP-08-06

# HAMPTON ROADS PLANNING DISTRICT COMMISSION

## CHESAPEAKE

AMAR DWARKANATH  
WILLIAM E. HARRELL  
CLIFTON E. HAYES, JR  
\* ALAN P. KRASNOFF  
ELLA P. WARD

## FRANKLIN

\* JUNE FLEMING  
ROSA M. LAWRENCE

## GLOUCESTER COUNTY

ROBERT A. CREWE  
\* BRENDA G. GARTON

## HAMPTON

\* RANDALL A. GILLILAND  
JESSE T. WALLACE, JR.  
MOLLY JOSEPH WARD

## ISLE OF WIGHT COUNTY

W. DOUGLAS CASKEY  
\* STAN D. CLARK

## JAMES CITY COUNTY

\* BRUCE C. GOODSON  
SANFORD B. WANNER

## NEWPORT NEWS

\* JOE S. FRANK  
RANDY W. HILDEBRANDT  
SHARON P. SCOTT

## NORFOLK

ANTHONY L. BURFOOT  
\* PAUL D. FRAIM  
DR. THERESA W. WHIBLEY  
REGINA V.K. WILLIAMS  
BARCLAY C. WINN

## POQUOSON

\* CHARLES W. BURGESS, JR.  
GORDON C. HELSEL, JR.

## PORTSMOUTH

KENNETH L. CHANDLER  
\* DOUGLAS L. SMITH

## SOUTHAMPTON COUNTY

ANITA T. FELTS  
\* MICHAEL W. JOHNSON

## SUFFOLK

\* SELENA CUFFEE-GLENN  
LINDA T. JOHNSON

## SURRY COUNTY

\* TYRONE W. FRANKLIN  
JOHN M. SEWARD

## VIRGINIA BEACH

HARRY E. DIEZEL  
ROBERT DYER  
BARBARA M. HENLEY  
\* LOUIS R. JONES  
MEYERA E. OBERNDORF  
JAMES K. SPORE  
JOHN E. UHRIN

## WILLIAMSBURG

\* JACKSON C. TUTTLE, II  
JEANNE ZEIDLER

## YORK COUNTY

\* JAMES O. McREYNOLDS  
THOMAS G. SHEPPERD, JR.

\*EXECUTIVE COMMITTEE MEMBER

## PROJECT STAFF

DWIGHT L. FARMER

EXECUTIVE DIRECTOR/SECRETARY

JOHN M. CARLOCK  
JULIA B. HILLEGASS  
CLAIRE JONES  
SARA J. KIDD  
JENNIFER L. TRIBO  
HOLLY B. MILLER

DEPUTY EXECUTIVE DIRECTOR  
SENIOR ENVIRONMENTAL PLANNER  
PHYSICAL AND ENVIRONMENTAL PLANNER  
ENVIRONMENTAL GIS PLANNER  
PHYSICAL AND ENVIRONMENTAL PLANNER  
ENVIRONMENTAL PLANNER

FRANCES D. HUGHEY

ADMINISTRATIVE ASSISTANT

ROBERT C. JACOBS  
MICHAEL R. LONG  
CHRISTOPHER W. VAIGNEUR

GENERAL SERVICES MANAGER  
ASSISTANT GENERAL SERVICES MANAGER  
REPROGRAPHIC COORDINATOR

**REGIONAL COOPERATION IN STORMWATER MANAGEMENT**

**FISCAL YEAR 2007 – 2008**

**A STATUS REPORT**

**This report was included in the HRPDC Work Program  
for FY 2008 – 2009, approved by the Commission at its  
Executive Committee Meeting of March 19, 2008.**

**Prepared by the staff of the  
Hampton Roads Planning District Commission  
in cooperation with the  
Regional Stormwater Management Committee**

**October 2008**

## REPORT DOCUMENTATION

**TITLE:**  
**Regional Cooperation in Stormwater  
Management Fiscal Year 2006-2007:  
A Status Report**

**REPORT DATE:**  
**October 2008**

**GRANT/SPONSORING AGENCY:**  
**LOCAL FUNDS**

**AUTHORS:**  
John M. Carlock, AICP  
Julia B. Hillegass  
Claire Jones, AICP  
Sara Kidd  
Holly Miller  
Jennifer L. Tribo

**ORGANIZATION NAME,  
ADDRESS AND TELEPHONE:**  
Hampton Roads Planning  
District Commission  
723 Woodlake Drive  
Chesapeake, Virginia 23320  
(757) 420-8300  
<http://www.hrpdcva.gov>

### ABSTRACT

This document describes cooperative activities related to stormwater management undertaken by Hampton Roads local governments during Fiscal Year 2007-2008. Activities described include the Regional Information Exchange Process, Public Information and Education, Legislative and Regulatory Issues, Cooperative Regional Studies and Related Programs and Projects in which the localities participate. One of a series of Annual Reports, this document is used by the region's twelve localities with stormwater permits to assist them in meeting their permit requirements.

### ACKNOWLEDGMENTS

The staff of the Hampton Roads Planning District Commission, in cooperation with the Regional Stormwater Management Committee, prepared this report.

Preparation of this report was included in the HRPDC Unified Planning Work Program for FY 2008-2009, approved by the Commission at its Executive Committee Meeting of March 19, 2008.

The sixteen member local governments through the HRPDC Regional Stormwater Management Program provided funding.

## TABLE OF CONTENTS

INTRODUCTION.....	1
FORMAL REGIONAL PROGRAM .....	3
REGIONAL STORMWATER MANAGEMENT PROGRAM GOALS .....	5
MEMORANDUM OF AGREEMENT .....	6
INFORMATION EXCHANGE PROCESS.....	7
STORMWATER MANAGEMENT EDUCATION .....	11
LEGISLATIVE AND REGULATORY ISSUES.....	16
REGIONAL STUDIES .....	19
SPECIAL STUDIES .....	21
PHASE II STORMWATER PERMIT PROGRAM.....	22
RELATED PROGRAMS AND PROJECTS .....	24
CONCLUSION .....	35

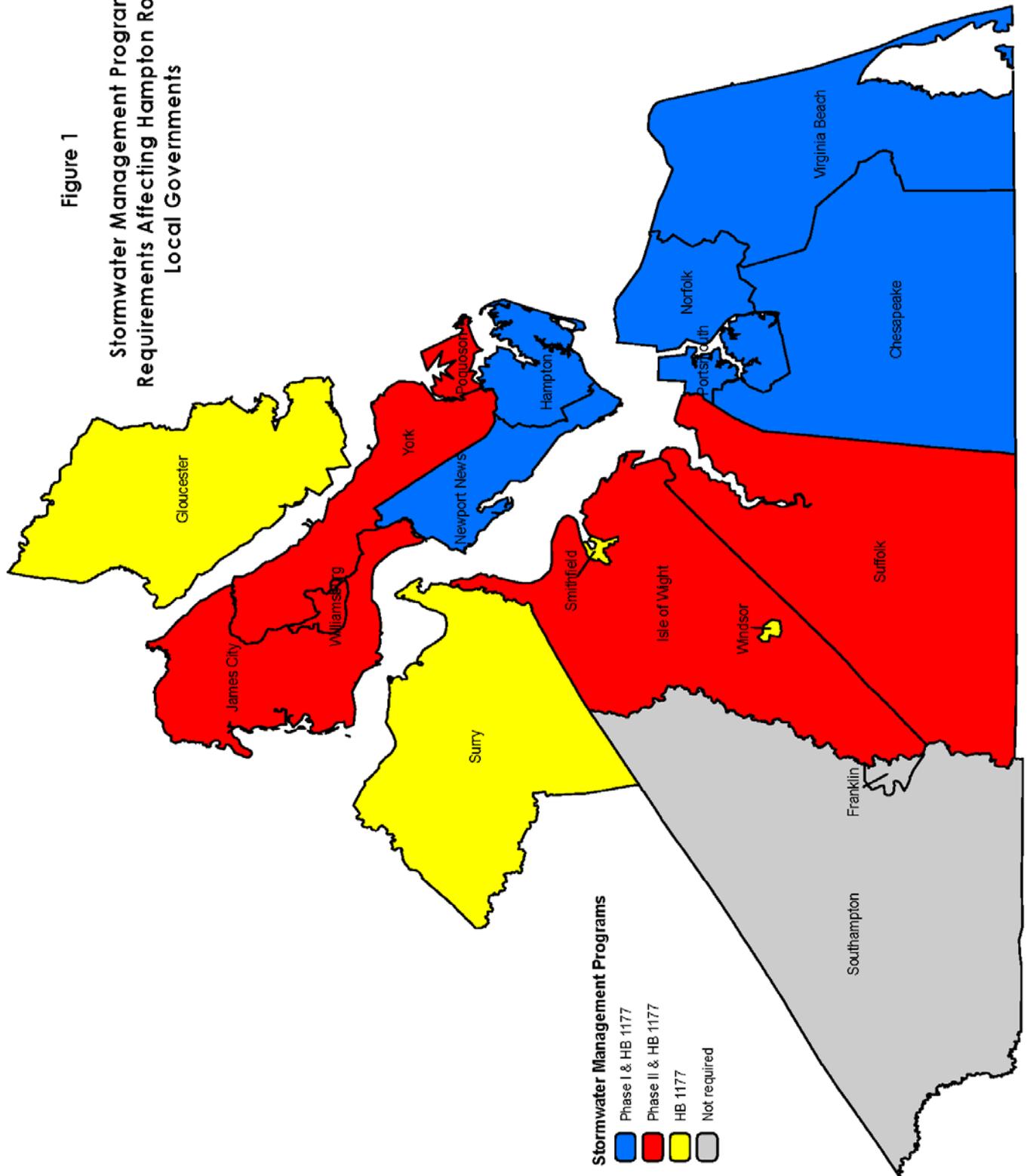
## INTRODUCTION

Working through the Hampton Roads Planning District Commission, the region's sixteen member cities and counties cooperated on a variety of stormwater management activities during Fiscal Year 2007-2008. This cooperative effort has been underway as a formal adjunct to the Virginia Pollutant Discharge Elimination System Permits (VPDES) for Municipal Separate Storm Sewer Systems (MS4) held by the Cities of Chesapeake, Hampton, Newport News, Norfolk, Portsmouth and Virginia Beach since Fiscal Year 1995-1996 and for the Phase II VPDES Permits held by the Cities of Poquoson, Suffolk and Williamsburg and the Counties of Isle of Wight, James City and York since Fiscal Year 2002-2003. (All twelve permits were converted to Virginia Stormwater Management Program Permits in 2005.) Activities undertaken in previous years are documented in a series of eleven annual Regional Cooperation in Stormwater Management status reports. Cooperative activities documented in this report represent a continuation of an ongoing effort, which has involved concerted activity since 1992.

The Cities of Chesapeake, Hampton, Newport News, Norfolk, Portsmouth and Virginia Beach were first issued MS4 Permits under the VPDES program in 1996. These permits were reissued in 2001 and have been administratively continued since 2006. The Cities of Poquoson, Suffolk and Williamsburg and the Counties of Isle of Wight, James City and York obtained Phase II Municipal Separate Storm Sewer System (MS4) Permits in March 2003 under the Virginia Pollutant Discharge Elimination System (VPDES) program. The Phase II Permits were reissued as Virginia Stormwater Management Permits (VSMP) in 2008. Although they are not presently covered by the VPDES Permit requirement, six other localities, including the City of Franklin, the Towns of Smithfield and Windsor and the Counties of Gloucester, Southampton and Surry also participate in the Regional Program. It should be noted that both Gloucester and Surry Counties and the Towns of Smithfield and Windsor are governed by the requirements of HB 1177, which was enacted by the Virginia General Assembly in 2004. During the Fiscal Year, the HRPDC staff assisted the Town of Smithfield in developing a stormwater management program, which mirrors the existing Phase II Permits. Efforts to develop a comparable program for the Town of Windsor were begun during the Fiscal Year. Figure 1 depicts the localities covered by this program.

This report summarizes the cooperative activities undertaken during Fiscal Year 2007-2008 to facilitate compliance with the VSMP Permit requirements and to assist those Hampton Roads localities that are not presently covered by the permit program to address stormwater management in a voluntary, proactive fashion. It should also be noted that all sixteen localities that are members of the HRPDC and the two towns participate in a number of other programs, which have at least a tangential relationship to the success of the stormwater management program.

**Figure 1**  
**Stormwater Management Program**  
**Requirements Affecting Hampton Roads**  
**Local Governments**



## FORMAL REGIONAL PROGRAM

The HRPDC Regional Stormwater Management Committee (RSMC) recommended during FY 1995-1996 that a formal regional program be established at the HRPDC, to be funded by the participating member localities. The program, established in July 1996, initially focused on activities that supported the permit compliance efforts of the six communities with Phase I VPDES Stormwater System Permits, technical assistance to the region's non-permitted communities and regional education and training to support all of the communities. Development and refinement of the regional program is a cooperative venture between the HRPDC staff and the Regional Stormwater Management Committee. The Regional Program is evaluated annually by the RSMC. Several aspects of the Regional Program are included in both the current permits and the applications submitted in 2005 for the third term of the Phase I MS4 Permits. They are also included in the Phase II Permits issued 2003 and reissued in 2008.

The components of the Regional Stormwater Management Program continue to be the following:

**Public Education and Training.** The Public Information/Education and Training components of the regional program constitute a major element of the Phase I program, based on the allocation of financial resources. After a period of relatively flat funding, the HR STORM program received a substantial increase in funding for FY 2005-2006. The HRPDC employs two professional staff persons to develop and conduct this element of the program as well as related educational initiatives. The Public Information and Education Subcommittee (HR STORM) was established during FY 1997-1998 and meets on a monthly basis. The HR STORM Program and its accomplishments for the year are summarized in a subsequent section of this report and in the companion HR STORM Program Report for Fiscal Year 2007-2008.

During FY 2007-2008, the HRPDC staff continued working with the six Phase II communities to develop and conduct training programs for local government staff. Those programs were designed to assist the localities in meeting the Good Housekeeping Management Measure through training in Illicit Discharge Detection and Elimination. The HRPDC staff coordinated the logistical and technical aspects of two regional training seminars

**Legislative/Regulatory Monitoring.** This element of the program involves monitoring of state and federal legislative and regulatory activities that may impact local stormwater management programs. Based on this monitoring activity, the HRPDC staff develops briefing materials for use by the localities, including consideration by the governing bodies. As appropriate, the HRPDC staff in cooperation with the Committee develops consensus positions for consideration by the Commission and local governments. The level of effort devoted to this element has increased significantly over the past several years. Issues addressed have included development of the Virginia Regulations for the Phase II Program, revisions to the General Permits for Industrial and Construction Activities, and legislative studies of the state's stormwater

management programs, including the state legislation that integrated the state's stormwater management programs in one agency. Development of the Virginia Stormwater Management Program regulations has been the focus of regional and local regulatory efforts since the passage of HB 1177 in 2004. Other issues addressed through the Regional Stormwater Management Program have included state funding for natural resource programs, restructuring the permit fee programs of the Department of Environmental Quality, state funding for water quality improvements, the Total Maximum Daily Load (TMDL) Program and several new state water quality regulations.

**Regional Studies.** Through this element, the HRPDC staff is charged with undertaking appropriate regional studies to support local stormwater management programs. This includes coordinating and managing consultant efforts. Over the last several years, a number of technical studies have been completed through the regional program. They include:

- Regional Stormwater Loading Study: Proposed Regional Monitoring Program and Program Effectiveness Indicators, September 1999.
- Stormwater Program Effectiveness Indicators: Indicator Tool, 2000.
- Review of Phase II MS4 Permit Regulations, 2000.
- Analysis of Water Quality Monitoring Data: MS4 Permits Years 1-5, 2001.
- Regional Indicators of Stormwater Management Program Effectiveness (7 reports, various dates).
- Indicators of Stormwater Management Program Effectiveness for the six individual Phase I localities, annually (2001-2008).
- Phase II Permit Annual Reports (6 reports), 2004, 2005 and 2007.
- Development of Reapplications for Phase I Permits, 2005.
- MS4 Program Plans for Phase I Localities, 2006.
- Estimates of pollutant loading and pollutant reduction for Phase I localities, 2006 and 2007.

These reports served as the basis for modifications to the Phase I Permits in 2001, establishment of the Phase II Program and initial permit applications in 2002, the 2005-2006 Phase I Permit reapplication process and the 2007 Phase II Permit reapplication process, and reflect overall enhancement of the region's ability to comply with the stormwater permits in a cost-effective manner.

The Effectiveness Indicators report, which is incorporated into the localities' Annual Reports, is described in more detail later in this report. On an annual basis, the HRPDC staff prepares the individual Effectiveness Indicators' reports for the six Phase I localities as well as a comprehensive regional summary of those reports. Integration of the six Phase II communities and the non-permitted localities into the regional reporting

system is being accomplished through development of the Permit Administration and Reporting System (PARS), described later in this report.

**Technical Assistance.** The HRPDC continues to serve as a clearinghouse for technical assistance to the localities, as well as a point of contact in arranging short-term assistance from one locality to another. The HRPDC staff has assisted the localities in the development and establishment of stormwater utilities, in evaluating public information and education options, with permit applications and program development and with technical support during stormwater management program audits by the U.S.EPA and DCR. During FY 2007-2008, the HRPDC staff assisted the Towns of Smithfield and Windsor in developing comprehensive stormwater management programs and Southampton County in developing a stormwater management ordinance.

The HRPDC Committee process also provides a forum, allowing state regulatory agency staff to meet with the region's localities to discuss evolving stormwater management and other environmental regulations. Comprehensive technical data and information is maintained in the HRPDC library for use by the participating localities as well as the public. In addition, the HRPDC staff provides technical information and advice to all of the participating localities on a wide variety of issues upon request. Finally, the HRPDC is frequently requested by localities from other parts of Virginia and adjacent states for assistance due to its experience with stormwater management programs in Hampton Roads.

## **REGIONAL STORMWATER MANAGEMENT PROGRAM GOALS**

The HRPDC and the Regional Stormwater Management Committee undertook a comprehensive effort in FY 1998-1999, called the Regional Loading Study. The project included development by the RSMC of a set of regional stormwater management goals to guide the regional program. The goals were presented to and adopted by the HRPDC at its Executive Committee Meeting in September 1999. They were reaffirmed in the January 2003 approval of the "Memorandum of Agreement Establishing the Hampton Roads Regional Stormwater Management Program," and the 2008 renewal of the MOA. The adopted Regional Stormwater Management Program Goals, which guide the regional program, are:

- Manage stormwater quantity and quality to the maximum extent practicable (MEP).
  - Implement BMPs and retrofit flood control projects to provide water quality benefits.
  - Support site planning and plan review activities.
  - Manage pesticide, herbicide and fertilizer applications.
- Implement public information activities to increase citizen awareness and support for the program.
- Meet the following needs of citizens:

- Address flooding and drainage problems.
  - Maintain the stormwater infrastructure.
  - Protect waterways.
  - Provide the appropriate funding for the program.
- Implement cost-effective and flexible program components.
  - Satisfy VPDES stormwater permit requirements.
    - Enhance erosion and sedimentation control.
    - Manage illicit discharges, spill response, and remediation.

### **MEMORANDUM OF AGREEMENT**

As indicated in the previous section, the Regional Stormwater Management Program was established in 1996 as a formal program of the Hampton Roads Planning District Commission with support and participation from the sixteen member local governments. During the past twelve (12) years, the localities have increasingly incorporated program elements, such as the regional education program and the indicators of stormwater program effectiveness, into their stormwater programs and MS4 Permits. Establishment of the Phase II Program made it apparent that a more formal agreement among the participants was necessary to support the regional program. Based on that, the HRPDC staff and RSMC developed a Memorandum of Agreement (MOA), formalizing the existing regional program, while providing a structure for future program evolution and regional cooperation.

The MOA outlines the basic regulatory and programmatic premises for the cooperative program, incorporating the Regional Program Goals, outlined in the preceding section. It establishes a division of program responsibilities among the HRPDC and the participating localities and establishes the role and responsibilities of the Regional Stormwater Management Committee. It formalizes the allocation of program costs, addresses questions of legal liability for program implementation and includes other general provisions.

In January 2003, the Hampton Roads Planning District Commission approved the Memorandum of Agreement Establishing the Hampton Roads Regional Stormwater Management Program. Fifteen cities and counties, including the twelve localities with MS4 Permits, executed the MOA. Copies of the Memorandum of Agreement were included in the FY 2002-2003 Regional Cooperation Summary report, which was provided to the Department of Environmental Quality, and in the FY 2004-2005 Regional Cooperation Summary report, which was provided to the Department of Conservation and Recreation.

The MOA was reevaluated during FY 2007-2008. Some minor modifications were made, based on that reevaluation. In March 2008, the revised MOA was executed by the sixteen HRPDC member localities, the Towns of Smithfield and Windsor and the HRPDC. It will remain in effect through March 2013.

## **INFORMATION EXCHANGE PROCESS**

### **Monthly Meetings**

The eighteen communities are represented on the HRPDC Regional Stormwater Management Committee, which meets monthly, or more often if warranted. These monthly meetings provide an opportunity to exchange information about successful stormwater management techniques, program activities, utility structures and policies, and a myriad of related environmental issues. The Hampton Roads Sanitation District, the regional wastewater treatment agency, has historically provided monitoring and laboratory analytical support for the permitted (Phase I MS4) communities' programs. It also provides regulatory technical assistance to the localities. HRSD and the Departments of Conservation and Recreation (DCR) and Environmental Quality (DEQ), the state regulatory agencies, are also members of the Committee. DCR was given responsibility for the MS4 Program and the Construction Permit Program in 2004. DEQ retains responsibility for the state's Industrial Stormwater Permit Program. It should be noted that DCR is also responsible for the state's voluntary nonpoint source programs, as well as the regulatory Erosion and Sediment Control Program. Both the United States Navy and the Virginia Department of Transportation, which are required to meet the Phase II VPDES Permit Regulations, began participating in Committee discussions during FY 2000-2001. They also participate on the Phase II Subcommittee. Finally, in 2004, the United States Geological Survey began participating in the Committee's discussions.

The monthly meetings provide a forum for exchange of information and coordination among the permitted communities, while providing educational background and preparation for staff from the non-permitted localities. Several related state programs, including those implementing the Virginia Stormwater Management Act, Erosion and Sediment Control Law, and Chesapeake Bay Preservation Act, the Chesapeake Bay Program, including Tributary Strategies, and state Tidal and Nontidal Wetlands Acts govern all of the localities. Increasingly, the region's localities are affected by and involved in the state's TMDL (Total Maximum Daily Load) Studies and Implementation Plan processes. Issues associated with these programs are also addressed during the monthly meetings. During the past two fiscal years, the Committee has also addressed issues associated with climate change and development of a regional green infrastructure system.

During FY 2007-2008, representatives of the Regional Stormwater Management Committee participated with representatives of the other HRPDC Environmental Committees (Directors of Utilities and Hampton Roads Chesapeake Bay) in assisting the HRPDC staff to design its comprehensive work program. The HRPDC work program continues to include a strategic planning initiative, identified previously as a high priority activity by this group. This initiative, which is designed to further improve the functioning and organization of the regional environmental committee structure, will continue in FY 2008-2009. Recommendations developed to date include continuation of the joint monthly meetings of the HRPDC environmental committees and further strengthening of the regional role in environmental policy development and regulatory

integration. This effort has been very successful during the past three years in increasing involvement of the region's elected leadership in addressing stormwater management and related issues.

### **State and Federal Agency Program Briefings**

Representatives of state and federal agencies frequently brief the Committee on developing issues, regulatory guidance and technical programs. During the year, the Committee was briefed regularly by representatives of the Virginia Department of Conservation and Recreation (DCR) on state initiatives related to the Virginia Stormwater Management Regulations, by representatives of the DCR Division of Chesapeake Bay Local Assistance on various aspects of the CBPA Regulations and associated guidance, by staff from DEQ and the Virginia Institute of Marine Science on changes to its state wetlands program technical assistance, by DEQ staff on the TMDL process, by staff from DCR and DEQ concerning the Chesapeake Bay Program Tributary Strategies' efforts and by staff from USGS on monitoring programs and techniques and on bacteria testing. Table 1 summarizes the myriad of agency briefings provided to the Joint Environmental Committee during the Fiscal Year. Although not all briefings were directly related to stormwater management, they provided a contextual basis for local management efforts and assisted in further integrating the local and regional approach to environmental management.

In addition to the briefings provided by state and federal agencies and private organizations, the Committee received regular briefings from HRPDC staff and other Committee members on a number of state legislative and regulatory issues and related local and regional programs that have potential implications for local stormwater management programs. These included the Virginia Stormwater Management Program Regulations (Parts I, II, III, and XIII), the Phase II General Permit Regulation, the Total Maximum Daily Load process and local Implementation Plan development, the VSMP Construction General Permit, CBPA issues, wastewater treatment and management issues, green infrastructure/conservation corridor planning Virginia's Environmental Excellence Program and related initiatives, climate change and energy issues and management of plastic bags. In many cases, the Committee member or HRPDC staff person providing the briefing served as the region's official representative on the Technical Advisory Committee, convened by the state agency to assist it in developing the regulations.

**TABLE I**  
**SUMMARY OF AGENCY BRIEFINGS**  
**JOINT ENVIRONMENTAL COMMITTEE**  
**July 2007 - June 2008**

<b>Date</b>	<b>Agency</b>	<b>Topic</b>
7/12/2007	Division of Chesapeake Bay Local Assistance	Chesapeake Bay Preservation Act programs
8/2/2007	Department of Environmental Quality	Total Maximum Daily Load workshops
9/6/2007	Department of Environmental Quality	Virginia Water Protection Permit Regulation Program
	Department of Environmental Quality	Virginia Biosolids Regulations
	Division of Chesapeake Bay Local Assistance	Chesapeake Bay Preservation Act programs
	City of Virginia Beach/URS	TMDL Methodology for Delineating MS4 Area of Responsibility
	VMI Conference Office	Environment Virginia 2008
10/4/2007	Wetlands Watch	Sea Level Rise
	US Navy	Bacterial Source Tracking Study
	URS	Floodplain Management Issues
	Division of Chesapeake Bay Local Assistance	Chesapeake Bay Preservation Act programs
11/1/2007	Division of Chesapeake Bay Local Assistance	Chesapeake Bay Preservation Act programs
12/13/2007	Division of Chesapeake Bay Local Assistance	Chesapeake Bay Preservation Act programs
2/7/2008	Division of Chesapeake Bay Local Assistance	Chesapeake Bay Preservation Act programs
3/6/2008	Department of Conservation and Recreation	Chesapeake Bay Preservation Act programs
4/3/2008	Department of Conservation and Recreation	Chesapeake Bay Preservation Act programs
	Department of Conservation and Recreation	Virginia Flood Plain Mapping Program
	HRSD	Fecal Bacteria Studies
5/1/2008	Department of Conservation and Recreation	Chesapeake Bay Preservation Act programs
	City of Chesapeake	Urban Forestry Program
	US Navy	State Water Quality Standards
6/5/2008	Kimley-Horn	Wetlands Training
	Department of Environmental Quality	Virginia Environmental Excellence Program
	Virginia Municipal League	Go Green Challenge

The ongoing activities of both the York River Watershed Council and the Hampton Roads Watershed Roundtable in support of the Tributary Strategies program and related water quality initiatives were discussed. The Watershed Roundtable approach is Virginia's preferred approach to nonpoint source pollution management. All members of the RSMC participate in the Roundtables, along with representatives from other local government departments, regional and state agencies, Soil and Water Conservation Districts and private organizations. The Roundtable process is being reenergized through the establishment of the Hampton Roads Watershed Roundtable, which is addressing a broader range of regional water quality and green development issues.

MS4 Permit issues, both Phase I and Phase II, were discussed with DCR staff, as well as representatives of other permittees, such as the U.S. Navy, the Virginia Department of Transportation, the Hampton Roads Sanitation District, and several other state agencies. They remain the highest priority for the Regional Stormwater Management Committee and consumed large portions of the Agenda for most RSMC meetings as well as a number of special meetings.

### **Stormwater Utility Issues**

The localities exchange information about their experiences with various aspects of their stormwater utilities (program financing mechanism). Participants are given advance notice of issues developing in adjacent communities on various aspects of the program – citizen and business concerns and legislative issues. On an annual basis, the HRPDC compiles a Stormwater Utility Matrix, which provides basic information about the structure and status of the local utilities. Allowing for easy reference and comparison, the matrix has been used in responding to requests for comparative information from local elected officials, citizens and the development community. As the Phase II localities have addressed funding for stormwater management facilities and programs, the experience of the six Phase I localities with establishment of stormwater utilities has been invaluable. One Phase II locality has established a stormwater utility. The refined Stormwater Utility Matrix has been provided to a number of localities from throughout Virginia to assist them in evaluating establishment of stormwater utilities.

### **Educational Materials**

Previous reports have described the exchange and sharing of educational materials through the Regional Stormwater Management Committee. Since the establishment of the Public Information and Education Subcommittee (HR STORM), this exchange now occurs through the Subcommittee. On a regular basis, the RSMC and HR STORM are briefed on the activities being undertaken by the two groups and decisions that they have reached, share meeting minutes, and on an as needed basis, meet together to discuss program issues.

## **STORMWATER MANAGEMENT EDUCATION**

The Regional Stormwater Education Program consists of three broad categories of activities – HR STORM, Phase II staff training, which is coordinated through the Phase II Subcommittee, and routine educational activities, which are conducted by the HRPDC staff. The formal stormwater education program, as mentioned above, is handled chiefly through HR STORM. These initiatives focus on building the capacities of local government programs, as well as implementing educational efforts that greatly benefit from joint creative and financial collaboration. Every effort is made to create programmatic enhancements to local government efforts, not duplications of those efforts.

### **HR STORM**

The Public Information and Education Subcommittee (HR STORM) was established during FY 1997-1998. This effort has long been considered a critical component of the regional program, based on the success of the Regional Stormwater Management Committee process, as well as prior successes in regional water conservation education efforts. It was evident that a regional approach to stormwater education, which takes advantage of the economies of scale and the various talents of the participating localities associated with a cooperative effort, would best achieve the goals of the Hampton Roads Regional Stormwater Management Committee (RSMC). Thus, HR STORM was devised as the public information and education component of the regional program. The following Mission Statement and Program Goals continue to guide the regional effort:

#### **Mission Statement**

***To cultivate a region-wide pollution prevention ethic that will protect and enhance area waterways through stormwater education.***

#### **Program Goals**

- ***Increase public understanding of stormwater issues.***
- ***Augment and enhance local stormwater education programs.***
- ***Increase participation by the general public in programs and activities to reduce stormwater pollution.***

#### **Accomplishments**

The focus of HR STORM is to develop and implement successful educational programs promoting stormwater management and pollution prevention throughout the Hampton Roads region. Some of the most recent educational efforts have been on proper disposal methods for lawn and auto maintenance products, household chemicals, proper pet waste management, nutrient management (lawn care) and maintenance of best management practices.

HR STORM concentrates much of its educational efforts on its media campaign. Radio, cable, and local television advertisements are the main media sources. Secondary sources are local publications such as the real estate magazines distributed by the local newspapers. Past focus group studies indicate that the media is the most effective method of reaching the Hampton Roads population, which is highly transient. Using a mix of targeted television, radio, and print advertising, as well as updated website materials, HR STORM continues to provide the region with stormwater quality information.

Past program accomplishments are described in detail in the companion report, HR STORM Annual Report: FY 2006-2008. Highlights of that report include:

- Media contracts with WVEC Channel-13, WGNT CW Channel-27, Metro Network, and Cox Media were secured for fiscal years 2006-07 and 2007-08. Contracts with **The Virginian-Pilot's "Home Search"** and the **Daily Press's "Home Pages"** for the BMP maintenance display ads were also renewed. Total reach for the media campaign exceeds 80% of the Hampton Roads population with a frequency of more than three.
- The Chesapeake Club campaign was continued after a successful launch in the spring of 2006. The materials and media were distributed to citizens and business owners throughout Hampton Roads. The Chesapeake Club Campaign was a partnership between the Department of Conservation and Recreation and HR STORM. The educational campaign uses humor to encourage fertilizing lawns in the fall, rather than in the spring when the fertilizer is more likely to wash off into area waterways. The ads are available for viewing at [www.hrstorm.org](http://www.hrstorm.org) and [www.youtube.com/HRGreenVA](http://www.youtube.com/HRGreenVA).
- Other efforts to educate the public about pollution prevention include an automated InfoLine (58-STORM), an informative website, and participation at area events. The website, [www.hrstorm.org](http://www.hrstorm.org), continues to be updated with information for both those inside the water quality industry and general users. Through various local events, HR STORM members were able to interact with the public and distribute educational materials on stormwater pollution prevention techniques.
- HR STORM continues to be a regional partner in joint environmental education programming with members of HR CLEAN and HR WET, also referred to as HR<sup>3</sup>. HR CLEAN is the regional committee dedicated to litter reduction and recycling. HR WET is the Hampton Roads Water Efficiency Team which promotes water conservation throughout Hampton Roads. In Fiscal Year 2007-2008, HR STORM also partnered with the newly formed HR FOG. FOG stands for fats, oils, and grease. The HR FOG regional committee works to prevent sanitary sewer overflows and backups caused by fats, oils, and grease improperly entering the sanitary sewer system through drains and grease traps.

- Based on the success of HR STORM's FY 2006-2007 Newspapers in Education (NIE) tabloid, *Hampton Roads Watersheds*, a joint tab was produced in FY 2007-2008, entitled *We All Live on the Water*. This newspaper, produced in cooperation by the four HRPDC education Committees, encompassed watershed education, including stormwater issues. Both issues were distributed by the local newspapers through the Hampton Roads school systems. While many pre-developed supplements are available to the schools, *Hampton Roads Watersheds* and *We All Live on the Water* enabled the committees to educate regional youth about local watershed information. This initiative included a Teacher's Guide which incorporates additional activities correlated to the Standards of Learning requirements developed by the Virginia Department of Education (VDOE).
- The one-page tip and information sheet developed by HR<sup>3</sup> was published in the WVEC Channel-13 2007 and 2008 Hurricane Guides. The guides were distributed to the public at local Dodge automobile dealerships and Dollar Tree stores, through representatives of HR<sup>3</sup>, and through the WVEC Channel-13 website.
- Education and raising awareness of pollution prevention and the importance of water quality among the youth of Hampton Roads remains a goal of HR STORM. Through participation in the HR<sup>3</sup> Mini-Grant Program, this goal continues to be met. During the past two fiscal years, \$6,714 was awarded to 29 different youth groups working on projects related to the missions and goals of HR CLEAN, HR STORM and HR WET. HR STORM alone was able to reach over 2,561 Hampton Roads students, providing hands-on water quality lessons for about \$1.09 per student.

## **Routine Educational Activities**

### Organization Briefings

Staff from the HRPDC, the Regional Stormwater Management Committee and HR STORM has discussed the program with various private organizations, business groups and civic organizations. They include the Chambers of Commerce, Builders and Realtors Associations, environmental organizations, civic leagues, professional organizations and academic groups. In a number of cases, these discussions may have been part of presentations on related topics.

During FY 2007-2008, the HRPDC staff represented the region in several major panels and presentations on stormwater management issues. They were:

- July 10, 2007: Region 2 Math & Science Coalition Professional Development Summit
- July 24, 2007: Northern Virginia Regional Commission, Regional Stormwater Program
- August 23, 2007: Hampton Roads Environmental Education Alliance (HRAEE)

- September 17, 2007: Water JAM Collection System Workshop, Panel discussion
- September 17, 2007: Water JAM Collection System Workshop, SSORS
- September 18, 2007: Water JAM, Water Use It Wisely
- September 20, 2007: Master Gardener Workshop (Richmond), Green Infrastructure
- September 21, 2007: Bike/Walk Virginia Conference, Green Infrastructure
- September 24, 2007: Virginia GIS Conference, Green Infrastructure
- October 20, 2007: LEAD Virginia, Environmental Regulations: Costs, Benefits, and Implications
- October 22, 2007: Regional Technical Standards Training (Chesapeake), HRPDC, water, and wastewater programs
- October 24, 2007: Regional Technical Standards Training (Newport News), HRPDC, water, and wastewater programs
- November 7, 2007: New River Valley Green Infrastructure Workshop, Green Infrastructure
- November 16, 2007: RC&D Workshop (Charlottesville), Green Infrastructure
- November 29, 2007: TMDL Workshop, TMDL 101
- November 30, 2007: TMDL Workshop, TMDL 101
- December 6, 2007: Coastal Partners Workshop, Green Infrastructure
- January 25, 2008: NOVA Urban Forestry Roundtable (Fairfax), Green Infrastructure
- March 27, 2008: VAPA Conference (Reston), Bay-wide TMDL
- April 2, 2008: Environment Virginia 2008, Water Supply Planning Panel
- April 29, 2008: APA National Conference (Las Vegas), Green Infrastructure
- May 12, 2008: Regional Technical Standards Training(Chesapeake), HRPDC, water, and wastewater programs
- May 13, 2008: Regional Technical Standards Training (James City County), HRPDC, water, and wastewater programs
- June 17, 2008: Governor's Commission on Climate Change (Blacksburg), Linkage of land use planning and climate change
- June 24, 2008: James City County Board of Supervisors, Stormwater Requirements/Water Supply Planning

A number of these presentations addressed multiple programs. Other programs and activities covered included the implications of the Chesapeake Bay Program for local governments, the HRPDC Environmental Strategic Planning Initiative, the overall HRPDC water resources programs, wetlands regulations, green infrastructure, climate change, pending legislative and regulatory issues, state funding, and the range of regional environmental education initiatives, including HR STORM, in addition to the regional stormwater management program.

### HRPDC Agenda Packets

Status reports on regional program activities and issues being addressed by the Committee are provided to the members of the Hampton Roads Planning District Commission, consisting of elected officials and the Chief Administrative Officers of the sixteen communities, on a monthly basis. In October 2007, the HRPDC Executive Committee received and approved the report, Regional Cooperation in Stormwater Management Fiscal Year 2006-2007: A Status Report. In December 2007, the HRPDC Executive Committee received and approved the report, Indicators of Stormwater Management Program Effectiveness: Fiscal Year 2006-2007. The HRPDC staff provided the HRPDC Executive Committee with several briefings on the regional stormwater management program, state regulations and the TMDL Implementation Plan process during the course of the past year. Issues related to stormwater management were included in HRPDC staff briefing materials and presentations to the Commission in reports concerning various aspects of the Chesapeake Bay Program, state legislation and regulations, and Coastal Zone Management.

### HRPDC Newsletter

Brief status reports on the program are also included in the HRPDC Quarterly Newsletter, Hampton Roads Review. The newsletter has a quarterly distribution to local government officials, citizen groups, including civic leagues, business groups, including the Chambers of Commerce, as well as state and federal legislators, in excess of 3,000. Plans are underway to prepare a special report on various aspects of the regional stormwater management program during FY 2007-2008.

### Displays and Exhibits

Based on experience with the Traveling Exhibit, developed initially in 1998, and extensive discussions among the members of HR STORM, the HRPDC developed modified versions of the Traveling Exhibit. Two, smaller, more portable displays, based primarily on the Traveling Exhibit have been developed and are now in use throughout the region. These exhibits offer substantially more flexibility of use and will be fairly easy to modify if appropriate.

A Poster Session on the regional stormwater education activities was presented at the National Nonpoint Source Conference in 2003. The committees and the HRPDC staff

reproduced that presentation as a poster for distribution. It remains available for use and distribution.

HR STORM members and HRPDC staff are frequently requested to provide educational displays at festivals, educational events and trade shows. To facilitate these efforts by enhancing the display, educational banners, focusing on HR STORM program themes, and tablecloths with the HR STORM name and logo were produced for use by all regional program participants.

## **LEGISLATIVE AND REGULATORY ISSUES**

### **Permit Discussions**

All six communities that required VPDES Permits during Phase I received their initial permits early in Calendar Year 1996. In 2001, these permits were reissued for an additional five-year term. The new permits, which remain in effect as VSMP Permits, include two new/modified program elements that had been developed in a cooperative fashion through work accomplished during the first permit term: HR STORM, the regional stormwater education program, and the use of Program Effectiveness Indicators instead of continuing chemical water quality monitoring... The permits also include a number of other regionally consistent requirements and provisions.

The six Phase I localities submitted applications for renewal of their VSMP Permits to the Department of Conservation and Recreation during the fall of 2005. Permit negotiations with DCR have continued throughout the past three fiscal years. In February 2005, DCR staff advised the Committee that detailed program plans, updating the localities' stormwater management plans originally prepared in the early 1990s, would be required to support the reapplications. Again, through a cooperative process, the Phase I localities developed MS4 Program Plans, which were submitted to DCR in May 2005. Several iterations of draft permits reviewed by the Committee with comments and recommended modifications provided to DCR following each review. In January 2007, DCR submitted the draft permits for the region's localities to the U.S. Environmental Protection Agency for its initial review. DCR submitted the permits to EPA again in July 2008 for review. EPA comments are expected to be received during the fall of 2008. Further discussion among the permittees and the regulatory agencies is expected prior to finalization of the Phase I permits.

The initial six Phase II permits for Hampton Roads localities expired in December 2007, along with the Phase II Permit Regulation. DCR began the process of developing new Phase II Regulations early in 2007. Anticipating the need to reapply for these permits, the Phase II Subcommittee began discussions of the permit reapplication process as well as the regulatory development process early in 2007. The Phase II localities worked cooperatively to address development of the new regulations and reapplication for the Permits. The Phase II Permit Regulation was revised and became effective in July 2008. The region's Phase II localities submitted the required application materials in December 2007 and the new permits became effective in July 2008.

## Regulatory Participation

The Regional Stormwater Management Committee continues its active participation in the state and federal regulatory process. Regulations developed by the U.S. Environmental Protection Agency and the Virginia Departments of Environmental Quality and Conservation and Recreation have been reviewed and consensus position statements developed. Regulations addressed during this Fiscal Year included the following:

- The 2004 Session of the Virginia General Assembly enacted HB 1177 to integrate all of the state's stormwater management programs and to consolidate them in the Department of Conservation and Recreation. This addresses, in part, a major recommendation of the HRPDC in 2001, as recommended by the HRPDC Joint Environmental Committees. Regulatory activity to accomplish the integration began in spring 2004 and concluded with EPA delegation of the permit program to DCR in January 2005. EPA has concluded that the state cannot fully delegate the construction general permit to local governments. The state has continued to evaluate alternative approaches to increasing the local government role in the construction general permit program. An approach involving administration of the construction general permit by localities with state approved stormwater management programs has been developed.
- During FY 2005-2006, DCR began the process of developing new stormwater regulations to implement the requirements of HB 1177. These regulations will address stormwater permitting for construction activities, local stormwater program requirements and permit fees. DCR established a Technical Advisory Committee (TAC) to assist in developing these regulations. Two members of the RSMC, as recommended by the Committee, were asked to serve on the TAC. In addition to the formal TAC representatives, other Committee members regularly participate in the deliberations of the TAC. The official TAC members and HRPDC staff regularly brief the RSMC on the regulatory development process, receive Committee input and use that input in making recommendations in the TAC process. The HRPDC staff has collected information from the region's localities to support this effort. This effort continued throughout FY 2007- 2008.
- In support of the effort to revise technical criteria in the new Stormwater Regulations, DCR convened a Work Group to address stormwater quantity issues. The RSMC was represented on the Work Group, which developed recommendations for inclusion in the overall Stormwater Management Regulations.
- In Spring 2007, DCR instituted the process of revising the Phase II Stormwater Regulation and General Permit. A Technical Advisory Committee (TAC) was established and includes two Hampton Roads representatives, as recommended by the RSMC Phase II Subcommittee. Draft regulations were completed for public review in the Fall of 2007. Final regulations were approved by the Board of Soil and Water Conservation in May 2008 and became effective in July 2008.

- One element of the regulatory activity addresses streamlining of reporting requirements for the MS4 Permits, Erosion and Sediment Control Law and Chesapeake Bay Preservation Act. Beginning in FY 2001-2002, the Regional Stormwater Management Committee has addressed this issue. Efforts focused on developing an integrated set of indicators and a single reporting format that could be recommended to the state for consideration. Recent permit discussions with DCR underscore a continuing need of the localities for a streamlined and coordinated reporting system, as well as the need for guidance on state expectations for the reporting and tracking system. In Spring 2007, the HRPDC, on behalf of the region's sixteen localities, contracted with a consultant to assist in developing a web-based reporting system to facilitate local government compliance with the reporting requirements of the stormwater permits, as well as of several other related state regulatory programs. Discussions continue with DCR to ensure that this system will satisfy state program requirements and the possible expansion of this system to meet statewide reporting requirements.
- DCR has undertaken two initiatives to assist localities and others in complying with the technical aspects of the Virginia Stormwater Management Program. DCR is updating and refining the Virginia Stormwater Management Handbook. In addition, DCR is working in cooperation with the Virginia Water Resources Research Center at Virginia Tech to develop a web-based BMP Clearinghouse. Representatives from Hampton Roads localities and members of the Regional Stormwater Management Committee are serving on the Technical Advisory Committees, established by DCR to assist in these efforts.
- The Department of Conservation and Recreation completed revisions to its Dam Safety Regulations. Representatives of the RSMC and the HRPDC Directors of Utilities Committee served on the TAC, convened by DCR to assist in this regulatory effort, which began during FY 2005-2006. The representatives regularly brief the Committees on the process and convey regional concerns back to the TAC. Proposed revisions to the regulations were adopted by the Board of Soil and Water Conservation during FY 2007-2008.
- In early Summer 2008, DCR convened a Technical Advisory Committee to assist in revising the Regulations governing the General Permit for Construction Activities. The HRPDC staff is representing the region on this TAC. The process of revising these regulations is expected to be concluded during FY 2008-2009 and is to be coordinated with DCR's revisions to the technical criteria in the Stormwater Management Regulations.
- Members of the RSMC and the HRPDC staff are actively involved in the efforts of the Virginia Municipal Stormwater Association. This Association provides a vehicle for statewide exchange of information and experience with stormwater programs and a cooperative statewide voice in the regulatory and legislative processes.

- State agencies have established several other Technical Advisory Committees or Stakeholder Groups to assist in development of new regulations, evaluation of technical aspects of existing programs and the evaluation of various policy and planning initiatives. Representatives of the HRPDC and the member localities are participating in several of these, including:
  - DEQ, Technical Advisory Committee on PCB Monitoring for TMDL Development
  - DCR, Technical Advisory Committee on Urban BMP Cost Share (Effort concluded during the fiscal year.)
  - DEQ, Stakeholder Group Evaluating Legislation to Consolidate the State Water Control, State Air Pollution Control and State Waste Management Boards. (Effort concluded during the fiscal year.)
  - DEQ, Stakeholder Group on Virginia Environmental Excellence Program

## **REGIONAL STUDIES**

### **Stormwater Program Effectiveness Indicator Tool**

The 1999 Regional Loading Study, which was one component of the region's response to the initial Phase I VPDES Permits, included preliminary set of indicators of stormwater program effectiveness. The Indicators were refined and a tool, in the form of a Microsoft Access database, for use in compiling and reporting the data, developed in 2000, was incorporated into the reissued VPDES Stormwater Permits in spring 2001 in lieu of chemical water quality monitoring. The Program Effectiveness Indicators are included as a required element of each Phase I locality's annual report. The Program Effectiveness Indicators were incorporated, in part, into the Year 4 Annual Reports for the Phase II localities, which were submitted in March 2007. The Program Effectiveness Indicators include pollutant loads, acreage of greenlands, erosion and sediment control activities, stormwater BMP implementation, flooding and drainage management, operations and maintenance activities, illicit discharge detection activities, and public education activities.

The HRPDC staff completed development of the seventh annual regional report, Indicators of Stormwater Management Program Effectiveness: Fiscal Year 2006-2007. This report was presented to and accepted by the HRPDC in December 2007. The eighth annual report, Indicators of Stormwater Management Program Effectiveness: Fiscal Year 2007-2008, is included separately in each locality's annual report. The regional report is being prepared and will be considered by the HRPDC later in Fall 2008. A modified approach to the Indicators is being incorporated into the evolving Permit Administration and Reporting System (PARS).

A formal reevaluation of the Indicators Program was included with the cooperative effort to develop permit renewal applications. This effort resulted in additional clarification of some of the indicators and development of guidance to facilitate regional consistency in reporting for the current fiscal year.

### **Regional Reporting Program**

For a number of years, the region's localities have been concerned about the problem of duplicative reporting to the various state agencies involved in stormwater management. Local reporting is required under the VPDES Stormwater Permits, Erosion and Sediment Control Program, and the Chesapeake Bay Preservation Act Program. Additional requirements for reporting associated with implementation of the Chesapeake Bay Agreement are evolving. Reporting is required on an annual basis and on a more frequent basis for some factors.

To address the reporting requirements, a Subcommittee of the RSMC was convened in 2002 to work with members of the HRPDC Hampton Roads Chesapeake Bay Committee to develop recommendations on an integrated reporting package that would meet the needs of the state agencies, while minimizing the burden on the localities. This project was placed on hold in early FY 2002-2003 pending state initiative to better integrate the state's stormwater management programs and related local reporting. With the passage of HB 1177 in 2004, which consolidates all state stormwater management programs in the DCR and the 2004 legislative consolidation of CBLAD into DCR, it was expected that the effort to better integrate local reporting to the state would receive renewed attention during FY 2004-2005. That state effort has been delayed.

In Spring 2007, the HRPDC, on behalf of the region's localities contracted with the consulting firm, URS, to assist in developing a regional web-based reporting system that would enable all of the localities to comply with the reporting requirements of the MS4 Permits (Phase I and Phase II), as well as related state reporting requirements. This ongoing regional effort will reflect the experience gained through the web-based Hampton Roads Sanitary Sewer Overflow Reporting System, developed in 2004 by the HRPDC staff in cooperation with the HRPDC Directors of Utilities Committee and the Department of Environmental Quality. It is expected that the PARS program will be rolled out in initial form during the Fall of 2008. As the VSMP Permits for the region's Phase I localities are finalized, continued refinement of this system can be expected.

### **Stormwater Monitoring Program**

Water quality monitoring is no longer a required activity under the permits for the Phase I localities. This program modification reflects the findings from the first permit term that stormwater quality in Hampton Roads is highly variable and that monitoring shows generally similar results to those of the Nationwide Urban Runoff Program (NURP). However, the regional capability that was developed and/or enhanced during the first permit term continues to be used in a number of special studies, including determination of pollutant reduction efficiencies of Best Management Practices and

sampling of bacteria levels in various water bodies throughout the region. The HRSD water quality monitoring and analytical capability also enhances the region's ability to evaluate the technical appropriateness of various water quality evaluations conducted by the state and others.

During the permit reapplication and negotiation process over the past three fiscal years, the RSMC has discussed monitoring at great length. Future monitoring programs remain tied to special studies until such time as the new MS4 Permits are issued.

### **Program Effectiveness Indicators**

As indicated previously, Indicators of Stormwater Program Effectiveness were developed and incorporated into the VPDES Stormwater Permits for the six Phase I localities, issued in 2001. The Program Effectiveness Indicators' Reports have been included as a separate section in each locality's Annual Report for each reporting year since 2001. In addition, the HRPDC staff prepares a regional summary of the reports, which is presented to the HRPDC for approval and distribution during the fall of each year.

During FY 2005-2006, the RSMC reviewed the Indicators Program to develop improved guidance for reporting. This was designed to address concerns raised by EPA and DCR during audits of the stormwater programs of several of the localities. This guidance was used by the localities in completing the reports for the past three years.

## **SPECIAL STUDIES**

From time to time, the HRPDC and its member localities undertake cooperative special studies of issues of mutual interest that fall outside the MS4 Permit Program. Ultimately, these efforts may relate to stormwater management and may impact directly impact on local government implementation of their MS4 Permit Programs. During the fiscal year, the region embarked on two such efforts.

### **Extreme BMP Makeover Project**

On behalf of the member localities, the HRPDC entered into a cooperative venture with the Center for Watershed Protection and the James River Association. Other participants include the Department of Conservation and Recreation and a number of localities within the James River Basin. The Extreme BMP Makeover Project is designed to foster improved nutrient removal from urban stormwater BMPs. While focusing on the James River Basin, the results of the project should be applicable throughout the Commonwealth. The project entails research on Chesapeake Bay stormwater management and nutrient removal, development of a stormwater nutrient design supplement and encouragement of localities to adopt the new design guidance.

The HRPDC is facilitating discussions between the region's localities and the Center for Watershed Protection as the lead entity on the project. This includes review of Center publications and research, assistance in field investigations and evaluation of BMP

performance, information exchange and ensuring that all localities in Hampton Roads are aware of project activities and results. During the year, the HRPDC efforts focused on the information exchange and field studies components of the project. Over the coming year, the HRPDC staff will work with the participating localities in conducting stormwater needs assessment, presentation of initial results the stormwater committee and development in cooperation with other project partners of training sessions and public outreach initiatives.

### **Bacteria Tracking Study**

During the past year, HRPDC localities have enlisted the assistance of researchers from Virginia Tech, University of South Florida, and the University of North Carolina Chapel Hill to explore the sources of bacteria pollution in the waterways of Hampton Roads. In April 2008, these researchers presented the current state of the science for rapid testing and source tracking techniques. Currently, a subcommittee composed of member localities, HRPDC staff, DEQ staff, and HRSD staff are working with these researchers to develop a study plan to test a subset of these techniques in the Hampton Roads Region.

## **PHASE II STORMWATER PERMIT PROGRAM**

In late 1999, the U.S. Environmental Protection Agency promulgated the final Phase II Stormwater Permit Regulations. The region's six Phase II localities have moved forward in a cooperative fashion to address the Phase II Permit requirements.

### **Permit Process**

The Phase II localities – Cities of Poquoson, Suffolk and Williamsburg and Counties of Isle of Wight, James City and York – began meeting in May 2000 as a Subcommittee of the Regional Stormwater Management Committee. Coordinated by the HRPDC, the Phase II Subcommittee continues to meet separately to frame cooperative approaches to satisfy the Phase II requirements, to share information on existing program issues and to develop and refine the individual local government programs. Funding to support this element of the program is provided separately by the six Phase II localities. The Phase II localities received their initial MS4 Permits from DEQ under the state's Phase II MS4 General Permit Regulation in March 2003. New VSMP Phase II permits were issued to the six localities and became effective in July 2008.

### **Measurable Goals Progress**

As noted in a previous section, the HRPDC and eighteen Hampton Roads local governments have executed the Memorandum of Agreement for the Regional Stormwater Management Program. The MOA identifies the HRPDC as being responsible for administering the Public Education and Outreach Minimum Management Measure required by the Phase II permits. The HRPDC satisfies this permit requirement through its successful regional stormwater education program, HR

STORM. Completion of the MOA enabled the Phase II localities to accomplish one of the Measurable Goals identified for the first year of the Phase II permits.

In March 2003, HRPDC staff developed a BMP tracking spreadsheet to assist the localities in tracking stormwater BMPs as required by the Post Construction Storm Water Management Minimum Management Measure. The six Phase II localities use this system in tracking BMPs, facilitating regional consistency in BMP tracking and reporting. Completion of the spreadsheet also represents an accomplishment of one of the Measurable Goals. The permit annual reports present this BMP information. The system is being replaced by the more comprehensive and effective PARS system.

Over the past five years, the HRPDC staff and Phase II localities have worked to develop programs to satisfy the Illicit Discharge Detection and Elimination Minimum Management Measure of the Regulations. A draft model illicit discharge ordinance to assist local governments in satisfying permit requirements was developed by the HRPDC staff. Ordinance adoption was deferred by most of the Phase II localities pending finalization of the new DCR Stormwater Management Regulations to allow them to adopt a single comprehensive stormwater management ordinance, which addresses all state requirements for local programs. Other Hampton Roads localities and the Hampton Roads Sanitation District have assisted the Phase II Subcommittee in this evaluation. The Subcommittee examined mapping and dry weather screening methods and discussed how to develop the most effective illicit discharge program in light of the unique challenges confronting the Phase II communities.

Nearly 100 local government stormwater staff, as well as other interested agency personnel, have been trained on stormwater basics through the Phase II initiatives. Trainings were held both on the Southside and Peninsula, to acquaint staff involved in all aspects of the stormwater program with the impacts of the regulations. These training programs included:

- Spring 2004 – Basic stormwater program training.
- Spring 2005 - Fleet maintenance.
- Spring 2006 - Landscaping and landscape maintenance.
- Spring 2007 – Illicit Discharge Detection and Elimination.
- Spring 2008 – Illicit Discharge Detection and Elimination

A number of staff from Phase I and non-permitted localities also participated in the several Phase II training programs. The half-day trainings provided a basic overview of the rationale behind the regulations and the minimum management measures to improve stormwater quality.

The Phase II localities also participated with other Hampton Roads localities in specialized workshops on compliance with state wetlands requirements,

implementation of wetlands requirements through the Chesapeake Bay Preservation Act, the TMDL process and application of the evolving state Stormwater Management Regulations technical criteria.

### **Annual Reporting**

In March 2004, the HRPDC staff in cooperation with the six Phase II localities completed the first annual reports of activities under their Permits. The annual reports documented progress in meeting the Measurable Goals in their permits. The Virginia Department of Environmental Quality (DEQ) accepted these reports as complying with the regulations, noting their thoroughness. In March 2005, the second annual reports were completed and submitted to DCR. Under the Phase II Permits, no annual report was required for 2006. The year 4 Phase II annual reports were submitted in March 2007.

### **FY 2007-2008 Program**

Efforts under the Phase II Program during FY 2007-2008 focused on exchange of information among the localities about program implementation issues, illicit discharge detection and elimination program development and implementation, training and educational issues, participation in the ongoing regional deliberations on regulatory issues, participation in the Phase II Regulation revision process and applications for reissuance of the Phase II VSMP Permits..

## **RELATED PROGRAMS AND PROJECTS**

In various combinations, the region's eighteen localities (MS4 and non-MS4) participate in a wide variety of related programs. These programs are noted here because of their relationship with stormwater management. The previous reports in the Regional Cooperation in Stormwater Management series have provided detailed information about these programs. This report focuses on activities undertaken during FY 2007-2008. Readers desiring further information about these programs and a historical perspective are referred to the previous eleven reports.

### **Chesapeake Bay Program**

Over the past several years, the Hampton Roads Region has devoted considerable attention to the ongoing Chesapeake Bay Program (CBP). During the fiscal year, the HRPDC staff has monitored the continuing development of various components of the Chesapeake Bay Program and brief the RSMC on those activities. These include the CBP Urban Stormwater Work Group, Nutrient and Water Quality Subcommittees and various state and federal work groups focusing on land development and watershed planning.

The HRPDC staff has maintained regular communication with the other members of the former Chesapeake Bay Metropolitan Areas Work Group to share information and

provide mutual support in efforts to ensure that metropolitan area local governments have a strong voice in the Program.

The CBP is continuing its efforts to refine the watershed model as the U.S. Environmental Protection Agency and the states prepare to develop the TMDL for the Chesapeake Bay. One component of that effort has been to refine local land use and BMP data that will be used in the modeling. The HRPDC staff coordinated an intensive local government review of existing land use information, population and employment growth and projections of future land use. That review was documented in a report to the CBP through the Virginia Department of Conservation and Recreation.

### **Hampton Roads Tributary Strategies Program**

Beginning in 1993, the region's local governments, through the HRPDC, participated actively in this program, which involves development of strategies for reducing nutrient (nitrogen and phosphorus) and sediment loading to the Chesapeake Bay and its tributaries. In previous years, the HRPDC staff developed a series of reports, documenting all local government programs, which may assist in nutrient reduction, and a comprehensive list of management options, which could be considered for implementation by the localities and others. The Strategies were completed in 2005.

A renewed effort to develop the Tributary Strategy Implementation Plan for the Lower James River and the Hampton Roads portion of the York River began during FY 2004-2005. The region's localities have reached general consensus that this Plan should be developed using the region's successful approach to the TMDL Implementation Planning process and should be based on the region's efforts to reach consensus on management options, noted above. Regional work on the Tributary Strategies was delayed by the priority placed on stormwater permits and sanitary sewer overflow regulatory issues by the region's localities. No further work on this initiative is presently anticipated until the EPA-state effort to develop the Chesapeake Bay TMDL begins to actively involve local governments. The HRPDC has recommended to the state that the regional Joint Environmental Committee and the HRPDC be used as the vehicle for local government involvement in this process.

### **Chesapeake Bay Preservation Act Program**

Fourteen of the sixteen member localities, including the six cities with Phase I MS4 Permits and the six localities with Phase II MS4 Permits, are implementing programs in response to the Virginia Chesapeake Bay Preservation Act. Stormwater management is one component of those programs. Additionally, two counties and two towns that are not covered by the MS4 Program are governed by the CBPA. Although the CBPA is not formally part of the multi-state Chesapeake Bay Program, described above, it serves as one element of local government implementation actions to comply with their MS4 Permits and to meet the goals of the Bay Program. Through the HRPDC Chesapeake Bay Committee, this also involves the region's non-permitted communities, staff members responsible for implementation of that program share information on successful program activities. These efforts are closely coordinated with

the Regional Stormwater Management Committee. Routinely, the two Committees, meet jointly to address technical and regulatory issues of common concern.

During FY 2007-2008, the HRPDC hosted a training program on the CBPA Guidance on Buffers and Nontidal Wetlands. Based on recommendations from the Hampton Roads Chesapeake Bay Committee, the HRPDC staff and Committee developed a compendium of local government ordinances and guidelines on CBPA implementation. At present, this information is available electronically through the HRPDC website for use by the region's localities. The HRPDC staff and Chesapeake Bay Committee members have devoted considerable attention to the state's development of the CBPA Phase III program, which addresses the consistency of local government programs to implement the CBPA and achieve water quality protection. This effort will continue during the next fiscal year.

### **Southern Watershed Special Area Management Program**

The Southern Watershed Special Area Management Program (SWAMP), which involves the Cities of Chesapeake and Virginia Beach, the Virginia Department of Environmental Quality (Virginia Coastal Program) and the HRPDC began in 1992. In 1995, the two cities formalized their relationship through a Memorandum of Agreement calling for continued cooperation in addressing the Southern Watersheds -- Back Bay and the North Landing and Northwest Rivers.

Of considerable long-term importance was the execution during FY 2000-2001 and 2001-2002 of two Memoranda of Agreement between the two cities, the HRPDC and a wide range of state and federal agencies and private interests. The Memoranda include:

- North Landing River Water Use Conflict Memorandum of Agreement
- Multiple Benefits Conservation Plan Memorandum of Agreement

The latter agreement commits the signatory agencies to participate in a process to improve the wetlands compensation process in the Southern Watersheds. A Technical Advisory Committee has been established to facilitate and guide this effort. A Conservation Corridor System is included in the Memorandum as a guide to the location of compensation sites, including stormwater management options. The Advisory Committee has developed a technical process for using the above-noted studies to support mitigation approaches that are consistent with the goals of the MOA.

The various SWAMP studies, as reflected in the Conservation Corridor System and Multiple Benefits Conservation Plan MOA are being extensively used by the two localities in the watershed. Sites were identified for use as mitigation for wetlands impacts associated with the proposed Southeastern Parkway and Greenbelt through the SWAMP process. Also, through the Joint Land Use Study, facilitated by the HRPDC and involving the Cities of Chesapeake, Norfolk and Virginia Beach and the U.S. Navy, sites identified in the SWAMP Conservation Corridor System are being

considered for acquisition to assist in protecting NAS Oceana from urban encroachment. Both the Navy and the Cities of Chesapeake and Virginia Beach e used this work to support proposals for Congressional funding through both the Departments of Defense and the federal Coastal and Estuarine Lands Conservation Program.

### **Regional Water Supply Watershed Management Program**

Through the HRPDC, the region's localities continue to pursue a comprehensive Regional Water Supply Watershed Management Program, focusing on protection of surface water components of municipal water supplies. Regional best management practices and other stormwater management practices have been identified as important tools for protecting the water supplies. Working with the HRPDC Directors of Utilities (Water Supply) Committee, in cooperation with the Directors of Planning for the member localities, several studies have been completed in recent years. They include:

- December 1997 – Principles to guide interjurisdictional management efforts for the watersheds of municipal water supply reservoirs.
- December 1997 – comprehensive resource document, Water Supply Watershed Management in Hampton Roads.
- December 1999 – Model Water Supply Watershed Management Ordinance.
- September 2002 – Hampton Roads Source Water Assessment Program.
- 2003 Public Information Brochure – Steps that individual citizen can take to protect their drinking water. These steps are equally valid for general stormwater management.

The Directors of Utilities Committee have recommended that, at present, ongoing efforts in protection of water supply watersheds be incorporated into the regional water supply planning process. Upon completion of that effort and companion efforts addressing water system security, the watershed management and protection programs will receive renewed discrete attention.

### **Water Supply Planning**

Beginning with the drought of 2002, the Department of Environmental Quality embarked on an intensive effort to develop regulations governing water supply planning and permitting. Much of this effort was directed by legislation enacted by the Virginia General Assembly in 2003. Through the HRPDC Directors of Utilities Committee, the HRPDC and sixteen localities were heavily involved in these efforts. Building on Position Statements adopted by the HRPDC in 2002 and 2003, two members of the Directors of Utilities Committee and the HRPDC staff served on the Technical Advisory Committees, established by DEQ to assist in the development of the necessary water supply planning regulations. The region was also heavily involved in the effort to develop modifications to the Virginia Water Protection Permit Regulations as they apply to water supply projects.

Beginning in late Fall 2005, the HRPDC Directors of Utilities Committee began discussions on possible approaches to meeting the planning requirements in a cooperative, regional fashion. With a small grant from DEQ, the HRPDC staff and Utilities Committee developed a framework for accomplishing development of a regional water supply and educational materials on the state planning requirements. Based on this work, the HRPDC, in cooperation with the Directors of Utilities Committee, has begun development of a regional water supply plan to meet the state planning requirements. This effort is being guided by a Memorandum of Agreement among the HRPDC and the region's twenty-four cities, counties and towns, which was executed in Spring 2007. Work on development of the regional water supply plan is continuing.

## **Watershed Restoration Studies**

The HRPDC staff continues to facilitate local efforts on two major watershed restoration studies involving the U.S. Army Corps of Engineers (COE), the state and the region's localities. These studies are the Elizabeth River Restoration Study and the Lynnhaven River Restoration Study. For both studies, the HRPDC chairs a Project Steering Committee, involving the COE, numerous state agencies, the affected locality or localities, academia, other federal agencies and watershed organizations.

### Elizabeth River Restoration Study

The Elizabeth River Restoration Study began in Spring 1997, when the Norfolk District of the Corps of Engineers (COE) received funding to undertake a comprehensive study of the Elizabeth River to determine the federal interest, if any, in undertaking restoration activities, focusing on sediment remediation and wetlands restoration. The Cities of Chesapeake, Norfolk, Portsmouth and Virginia Beach, the Commonwealth of Virginia and the HRPDC are participating in this project.

Based on Reconnaissance and Feasibility Studies completed by the COE, agreements were reached to move forward with one sediment remediation project and five wetlands restoration projects. Although design of these projects has been completed or is substantially complete, no implementation has occurred because of state and federal funding constraints. It is not known when funds will become available for these projects.

During the fiscal year, the Steering Committee devoted considerable attention to obtaining funding for these projects and to continue providing local input to the COE program. The Steering Committee was also heavily involved in efforts by the Elizabeth River Project to revise its Watershed Action Plan. This effort is discussed in more detail below. Based on preliminary work on the Action Plan, the Committee also determined that it was the appropriate mechanism for regional consideration of issues associated with integration of policies and regulations as they relate to this watershed. In February 2008, the HRPDC agreed that the Steering Committee should take on this expanded role, while beginning consideration of the TMDL study process for bacteria and PCB impairments in the Elizabeth River. To facilitate these efforts, the HRPDC is working with the affected localities, the state and the federal agencies to expand the membership of the Steering Committee. The Steering Committee is proceeding with development of a long-term funding strategy to ensure that all project sponsors are

aware of when and at what level funding will be required and to serve as the basis for ongoing project support.

### Lynnhaven River Restoration Study

The Corps of Engineers completed the Reconnaissance Phase of the comprehensive Lynnhaven River Restoration Study during FY 2002-2003. That effort involves a number of state and federal agencies, the City of Virginia Beach and the HRPDC. This project is now in its fourth year of a multi-year Feasibility Study. Stormwater has been implicated in the various environmental problems in the Watershed and solutions involving enhanced stormwater management are being considered during the Feasibility Study. The HRPDC staff is serving to facilitate the project Steering Committee.

### Other Restoration Studies

The Corps of Engineers is also conducting other watershed restoration studies that affect the Hampton Roads Region. A comprehensive restoration study, being conducted by the Wilmington District of the COE, is underway for the Currituck Sound in North Carolina. The watershed extends into Virginia, including all of the Southern Watersheds of Chesapeake and Virginia Beach. The HRPDC staff is representing the region on the Project Steering Committee and the study's water quality technical committee. Again, the project is being delayed by federal funding constraints. Other studies in the Chowan and James River Basins are being contemplated by the COE.

## **Non-Profit Environmental Organization Efforts**

### Elizabeth River Project

The Cities of Chesapeake, Norfolk, Portsmouth and Virginia Beach, the HRSD and the HRPDC are all active participants in the Elizabeth River Project (ERP). This is a non-profit organization, consisting of representatives of citizens, businesses, environmental organizations, academia and local governments, which is actively pursuing a variety of management restoration initiatives for the Elizabeth River.

During summer 2008, a revised Watershed Action Plan is expected to be completed by the Elizabeth River Project, which will water quality management a higher priority for the organization. To date, the major focus of the ERP's efforts has been cleanup of contaminated sediment in the River. Representatives of the four cities and the HRPDC participated in the development of the revised Watershed Action Plan.

### Lynnhaven River Now

A private, non-profit organization, Lynnhaven Now, focusing on the restoration of the Lynnhaven River, formed early in 2003. Educational efforts, addressing proper management of pet wastes, have been developed and coordinated among Lynnhaven River Now, HR STORM and the Virginia Beach SPCA. The City of Virginia Beach is heavily involved in a number of the organization's activities. Both the City and the

HRPDC staff continue to participate in the Lynnhaven River Now Board and committees.

### Back Bay Restoration Foundation

The Back Bay Restoration Foundation (BBRF) was formed in the late 1980s to focus attention on the Back Bay Watershed in Virginia Beach. The HRPDC staff and the City of Virginia Beach have worked closely with BBRF throughout its history on a number of educational and water quality management initiatives. This work is continuing. A current focus of BBRF efforts is the TMDL Implementation Plan for Nawney's Creek in southern Virginia Beach.

### Other Watershed Organizations

A number of watershed and other environmental organizations are evolving throughout the Hampton Roads region. The local governments generally work closely with these organizations in conducting various educational programs that support municipal stormwater management, the goals of the organization and general environmental management. The HRPDC staff participates with the various organizations whenever possible to support the regional stormwater and environmental management initiatives.

### **State Water Quality Management Planning**

Under the Clean Water Act, state legislation, water quality management planning regulations and a consent order involving the Commonwealth of Virginia and the federal government, the state is proceeding with development of a substantial number of TMDL (Total Maximum Daily Load) Studies and subsequent development of TMDL Implementation Plans. This work follows from the classification of the waters by the state as meeting or failing to meet water quality standards. Waterbodies that fail to meet water quality standards are classified as "impaired," triggering the requirement to prepare the TMDL study. Once a TMDL Study is completed, state law requires the development of an Implementation Plan, which will restore water quality in the waterbody to a level that meets water quality standards.

The HRPDC staff has coordinated regional involvement in the "impaired waters" listing process. This has entailed providing opportunities through the Joint Environmental Committee for education of local government staff on the TMDL process, development of technical comments on the "impaired waters" list and response to the development of TMDLs themselves.

The HRPDC staff is working with the region's other localities in participating in TMDL studies for approximately twenty watersheds. The most recent estimates are that nearly twenty studies and implementation plans must be completed in the Hampton Roads region before the state-federal consent order deadline of 2010. To assist the region's localities in addressing this requirement and ensuring that Implementation Plans are consistent with the ability of the localities to implement the recommendations, the HRPDC staff has worked with DEQ to devise a cooperative regional partnership to coordinate the TMDL study process with the localities and to develop the required

Implementation Plans. Based on this work, the Hampton Roads TMDL Partnership was established in Spring 2007. Through this effort, the HRPDC will coordinate the public outreach on all TMDL studies being conducted in the Hampton Roads Region. A multi-year schedule has been established to facilitate the development of the required Implementation Plans. This initiative became increasingly important during FY 2007-2008. It will assist the localities in meeting MS4 Permit requirements related to TMDLs and Impairment Control Strategies. Implementation Plans have been prepared through this program for the Lynnhaven River (shellfish – bacteria) and are underway for the Back and Poquoson Rivers in Hampton, Poquoson and York County (shellfish – bacteria), three streams in the Southern Watershed of Virginia Beach (recreation – bacteria), and Mill and Powhatan Creeks in James City County (shellfish – bacteria). Implementation Plans for other waterbodies will be developed in cooperation with the state and the affected localities. In addition, a comprehensive and long term effort to develop TMDL Studies and Implementation Plans for multiple impairments on the Elizabeth River will begin during FY 2008-2009.

### **Other Watershed Initiatives**

A number of efforts are underway to improve watershed planning as a means of addressing a variety of environmental issues. These include the establishment of watershed roundtables, development of protocols and guidance on performing watershed management planning and various educational initiatives. The HRPDC staff, members of the RSMC, and members of other regional environmental committees, are playing active roles in these efforts.

The Commonwealth of Virginia has indicated its desire to work with watershed roundtables or councils in the revision and implementation of Tributary Strategies and other watershed management plans. These groups are to include a broad range of stakeholders, representing local governments, agricultural and industrial interests and environmental organizations. The HRPDC staff facilitates the operation of the Hampton Roads Watershed Roundtable, which consists of the representatives of industrial and commercial activities, agricultural interests, and environmental organizations. Based on discussions with the HRPDC, the staff is attempting to use the Roundtable as a vehicle for broad-based citizen input to the region's environmental planning program. Initial meetings of the Roundtable were held during winter 2008. Based on Roundtable input, the group will focus its initial efforts on water quality management and green building.

The HRPDC staff and representatives of the localities in the York River Watershed, including Gloucester County, James City County, Poquoson, Williamsburg and York County, participate in the York Watershed Forum. This group, established originally under the auspices of the various Soil and Water Conservation Districts in the watershed, is managed by the state and serves to provide local input to and support a broad range of watershed issues.

The Department of Conservation and Recreation has recently initiated efforts to develop a Chowan River Watershed Roundtable. The HRPDC staff and representatives of the localities in the Chowan Watershed are actively involved in the Chowan

Roundtable effort. The involved localities include the Cities of Chesapeake, Franklin, Suffolk and Virginia Beach and the Counties of Isle of Wight, Southampton and Surry.

On behalf of the region's localities, the HRPDC staff participated actively in the effort to create the Virginia Watershed Alliance, which is a network of the Watershed Roundtables serving all of the watershed areas in the Commonwealth. Most of this work has been accomplished through teleconferences. Annual meetings have "piggybacked" on other statewide meetings.

As can be seen from the preceding discussion, a myriad of watershed planning initiatives are underway at the state level. They are being translated into a variety of local implementation programs. The Chesapeake Bay Program and the Clean Water Act planning and regulatory programs include other initiatives with a watershed-planning component. Because of the complexity and potential duplication inherent in these efforts, the HRPDC directed the staff to continue working with the localities during past fiscal years to develop a regionally consistent approach to coordinating watershed-planning programs. Local involvement is being accomplished through the HRPDC Ad Hoc Environmental Strategic Planning Subcommittee, which includes representatives of the RSMC. The regional TMDL initiative, noted above, is one aspect of the region's response to that direction.

### **Sanitary Sewer Overflows**

Based on the success of the Regional Stormwater Management Program efforts, the HRPDC Directors of Utilities Committee has established through the HRPDC a regional wastewater program to address the Sanitary Sewer Overflow (SSO) issue, as well as related activities. Initially, the regional wastewater program focused on review of evolving federal regulations to govern the management of wastewater systems to reduce sanitary sewer overflows. Those regulations were placed on hold by the Environmental Protection Agency in early 2001 to permit further internal review. It is not known when they will be released.

With the promulgation of the federal regulations on hold, the HRPDC staff and Directors of Utilities Committee turned their attention to development of standard regional procedures for identifying, responding to and reporting to DEQ on the occurrence of sanitary sewer overflows. A reporting protocol and field procedures were finalized in late 2002. In late 2004, the HRPDC staff began implementing an electronic reporting and record keeping system. With contractor assistance, a web-based reporting and data management system, modeled on the stormwater system, previously developed through the Stormwater Program Effectiveness Indicators Project and the companion reporting program developed by the City of Virginia Beach, was finalized and went "live" on October 12, 2004. This system is considered to be a model and HRPDC staff has provided informational briefings and presentations on this system to a variety of agencies across the state. During the fiscal year, the HRPDC staff and Directors of Utilities Committee continued efforts to refine and enhance the sanitary sewer overflow reporting system. The refined Version 2 went "live" in Spring 2008.

In 2005, EPA initiated discussions with DEQ and the region's wastewater treatment and collection systems under its National Wet Weather Strategy. The intent of these discussions is the establishment of a coordinated and enforceable mechanism to address potential operational issues with the region's wastewater system. Part of this strategy is to ensure that all large wastewater treatment systems (flows greater than 100 million gallons per day) and their satellite collection systems are operating under state or federal consent orders. The Hampton Roads region meets that criterion. Based on that, the DEQ, in conjunction with EPA, instituted discussions with the region's localities and HRSD through the HRPDC Directors of Utilities Committee in summer 2005 regarding development of a consent order.

The HRPDC staff is facilitating work by the localities and HRSD to develop and implement a coordinated regional response to this initiative. A single regional consent order addressing the SSO issue in those parts of the region covered by the HRSD wastewater system – HRSD, thirteen cities, counties and towns was approved by the State Water Control Board in September 2007... (Norfolk was excluded because it is already operating under a separate consent order with the state.) This order and accompanying Regional Technical Standards establish the framework for sewer system evaluation, flow monitoring, determination of allowable levels of infiltration/inflow, system modeling, and the appropriate balance between system and treatment capacity and collection systems. Associated regional design and operating guidelines have been developed as a consensus of the parties. The parties to the Consent Order and the HRPDC also reached agreement on a Memorandum of Agreement providing for cooperative implementation of the requirements of the Consent Order during the six-year life of the order and beyond.

Following stat approval of the Consent Order, the HRPDC has continued to coordinate and facilitate efforts by the localities and HRSD to comply with the Order's requirements. This has included ongoing refinement and implementation of the technical standards, development of consistent reporting formats, facilitation of discussion between the localities, the state (DEQ) and EPA, training programs, briefings to various groups – local elected officials, the development industry and consulting engineers doing work in Hampton Roads.

The Directors of Utilities Committee has identified the presence of fats, oils and grease in the sanitary sewer system as a major contributor to sewer system blockages and associated overflows. To address this issue, the Committee and HRPDC staff have developed a regional educational initiative, known as HR FOG During FY 2007-2008, major emphasis has been placed on development of Model FOG Ordinance, associated design guidance, a regional enforcement strategy, and a memorandum of agreement among the localities and HRSD on ordinance implementation and enforcement.

### **North Carolina Initiatives**

In October 2001, the Commonwealth of Virginia and the State of North Carolina executed a Memorandum of Agreement to cooperate on projects to improve

environmental conditions in the watershed of the Albemarle-Pamlico Sounds. This area includes the Southern Watersheds of Chesapeake and Virginia Beach and the Chowan River Watershed in the Cities of Franklin and Suffolk and the Counties of Isle of Wight, Southampton and Surry.

The State of North Carolina has recently restructured its Albemarle-Pamlico National Estuary Program. This restructuring provides for a significantly increased role for the Commonwealth of Virginia and Virginia localities in the management and operation of the program. The HRPDC staff is serving on the Program Policy Council, established by the State of North Carolina to provide primary program oversight.

### **New Regional Initiatives**

The HRPDC and the region's localities began discussions on several new initiatives during the fiscal year. These will become significant regional activities during the coming years. They reflect regional experience and success in addressing complex on a cooperative basis. Working with the City of Chesapeake and The Nature Conservancy, the HRPDC will be developing a comprehensive watershed management plan for the Northwest River in Chesapeake. This River serves as the primary drinking water supply for the City. Work on this plan will reflect prior success achieved by the three partners in addressing the Southern Watershed Special Area Management Program.

Based, in part, on the recommendations of the Virginia Energy Commission in the Virginia Energy Plan the Governor established a Commission on Climate Change in early 2008. The HRPDC staff has monitored the work of the Commission and participated in briefing the Commission on local land use planning and regulatory issues. The HRPDC staff was successful in obtaining state financial assistance to begin a regional examination of this issue, which is expected to lead to regional policy development and action on the climate change issue. Preliminary briefings have been provided to both the HRPDC and the Joint Environmental Committee on this topic in order to lay the groundwork for formal consideration and technical analysis during FY 2008-2009.

During the past two fiscal years, the HRPDC staff has completed technical studies, developed a preliminary conservation corridor system for the region, and facilitated educational workshops on implementation of conservation corridors and green infrastructure plan. Following discussions with the Commission and the environmental committees, the HRPDC staff will complete an effort to refine the existing conservation corridor system in order to better target future acquisition and regulatory efforts and to establish a set of criteria for prioritizing on a regional basis future acquisitions.

## CONCLUSION

Through the Hampton Roads Planning District Commission, the sixteen member cities and counties and two towns have established a comprehensive Regional Stormwater Management Program. This program provides technical assistance, coordination, comprehensive technical studies and policy analyses and stormwater education, supporting both permitted and non-permitted localities alike. The Regional Stormwater Management Program enables the region's localities to participate actively and effectively in state and federal regulatory matters. It has enhanced the ability of the twelve localities with VSMP Permits for their Municipal Separate Storm Sewer Systems to comply with permit requirements. Their long history of participating in the Regional Stormwater Management Program enhanced the efforts by the localities that obtained Phase II MS4 Permits in 2003 to move forward cooperatively with permit applications and program development and led to the establishment of the cooperative Phase II Permit component of the regional program.

Since the HRPDC staff also coordinates a number of other regional environmental initiatives, the program allows for effective coordination and regional balancing of the various activities. This characteristic of the regional programs facilitated efforts, which began during FY 2002-2003, by representatives of the RSMC, Directors of Utilities and Hampton Roads Chesapeake Bay Committees and the regional wastewater and solid waste management agencies to address a number of environmental funding and regulatory issues of common interest. On several occasions over the last several years, the HRPDC formally endorsed recommendations developed through this coordinated initiative on state water quality and technology standards, funding guidelines, implementation strategies, as well as on state legislation addressing funding needs for water quality improvement programs.

The value of the Regional Stormwater Management Program as a vehicle for addressing stormwater management regulatory issues is highlighted by the cooperative efforts of the six Phase I and six Phase II localities to develop and implement their permits in a cost-effective and timely fashion, while meeting state deadlines and requirements. In Spring 2007, the region's localities began cooperative development of a comprehensive regional reporting system, which will further enhance their ability to meet state stormwater requirements. The non-permitted localities, by participating in this program, are prepared to address new regulatory requirements as they begin to face them. The Hampton Roads localities are also able to ensure that stormwater management in Hampton Roads continues to be implemented in a regionally consistent manner to the economic benefit of the citizens and businesses of the region while ensuring a high level of environmental and water quality protection.

By recognizing the common market and media system available to the localities and the public, the HR STORM educational program provides a cost-effective means of providing comprehensive information to support and enhance the sixteen individual local programs. Additional joint efforts with HR WET and HR CLEAN, under the auspices of HR<sup>3</sup>, including an environmental tabloid inserted into the major daily newspapers in the region, a mini-grant program and the development of a family activity

booklet all take advantage of an even greater economy of scale. By pooling resources from the three major environmental education initiatives on appropriate collaborative efforts, a unified regional message is presented which can inform residents of the overlapping benefits of environmental stewardship.

The Regional Stormwater Management Program provides a mechanism through which the strengths of the eighteen local stormwater programs can be mutually supportive. It allows for cost-effective compliance with permit requirements, resolution of citizen concerns with stormwater drainage and water quality matters, and achievement of improved environmental quality throughout the Hampton Roads Region.