

**REGIONAL COOPERATION IN STORMWATER MANAGEMENT**

**FISCAL YEAR 2025**

**A STATUS REPORT**

**This report was included in the HRPDC Work Program for FY 2025, approved by the  
Commission at its Executive Committee Meeting on May 16, 2024**

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

**September 2025**

## **1.0 REPORT DOCUMENTATION**

### **TITLE**

Regional Cooperation in Stormwater Management Fiscal Year 2025: A Status Report

### **REPORT DATE**

September 2025

### **GRANT/SUPPORTING AGENCY**

Local Funds

### **ORGANIZATION**

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## **2.0 ABSTRACT**

This document describes cooperative activities related to stormwater management undertaken by Hampton Roads local governments during Fiscal Year 2025. The activities described include the regional information exchange process, public information and education, legislative and regulatory issues, cooperative regional studies and related programs. This document is used by the region's eleven localities with municipal stormwater permits to assist them in meeting their permit requirements.

## **3.0 ACKNOWLEDGMENTS**

The Hampton Roads Planning District Commission, in cooperation with the Regional Stormwater Workgroup, prepared this report.

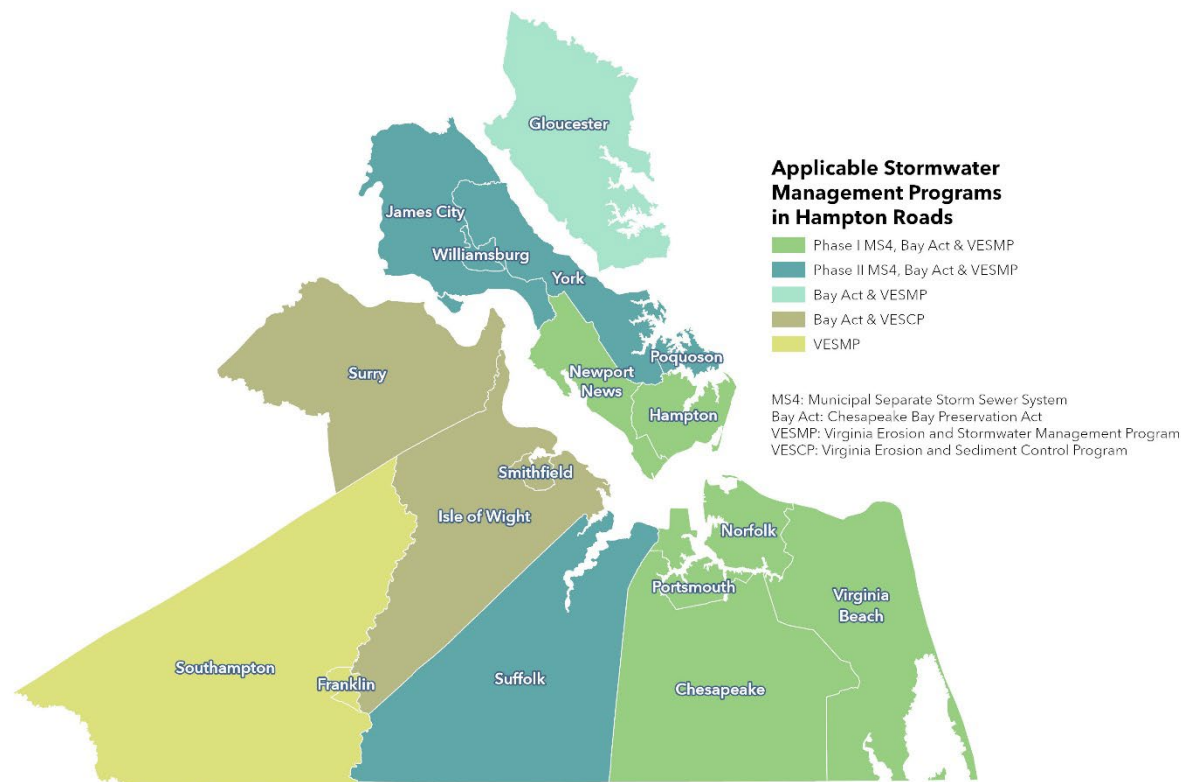
Preparation of this report was included in the HRPDC Unified Planning Work Program for FY 2025, approved by the Commission at its Executive Committee Meeting of May 16, 2024.

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

## 4.0 INTRODUCTION

Working through the Hampton Roads Planning District Commission (HRPDC), the region's seventeen-member cities, counties, and town (Figure 1) cooperated on a variety of stormwater management activities during Fiscal Year (FY) 2025. The activities documented in this report represent a continuation of ongoing efforts since 1992. This cooperation 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 FY 1996. The Cities of Suffolk, Poquoson, Williamsburg, and the Counties of James City County, Isle of Wight, and York joined in 2002 to coordinate Phase II MS4 permit applications.

As of April 19, 2016, the Phase II MS4 permit for Isle of Wight County was terminated by the Department of Environmental Quality (DEQ). It was determined that the County does not own or operate a MS4 within the Census Urbanized Area.



**Figure 1**

## **5.0 REGIONAL STORMWATER MANAGEMENT PROGRAM GOALS**

The HRPDC and local stormwater staffs undertook a comprehensive effort in FY 1999, called the Regional Loading Study. The project included developing 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 (MOA) Establishing the Hampton Roads Regional Stormwater Management Program” and the renewal of the MOA in 2008, 2013, 2018, and 2023. 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 best management practices (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.

## **6.0 THE REGIONAL PROGRAM**

The Regional Stormwater Management Program initially focused on activities that supported the permit compliance efforts of the six communities with Phase I VPDES MS4 Permits, technical assistance to the region’s non-permitted communities and regional education and training to support all the communities. The program expanded to include the needs of the five communities with Phase II VPDES MS4 permits and the locally administered Stormwater Programs, which were required starting July 1, 2014.

### 6.1 Phase I MS4 Permittees

After seven years under the 2016 Phase I MS4 permits, new permits were issued in FY 2024. The permit effective dates for the Hampton Roads Phase I permits range from January 22 to February 1, 2024. FY 2025 represents the second year of the five-year permit cycle. The annual regional coordination meeting with the Virginia Department of Transportation (VDOT) was held on June 5, 2025 at the Regional Building.

### 6.2 Phase II MS4 Permittees

The Phase II General Permit was reissued on November 1, 2023. FY 2025 represents the second year of the five-year permit cycle.

Both the Phase I and Phase II MS4 permittees continue to implement their local Stormwater Programs, train staff on stormwater issues, and meet education and outreach requirements. HRPDC staff provided technical assistance and coordinated training to assist with these efforts.

## 7.0 INFORMATION EXCHANGE

The cornerstone of the Regional Stormwater Management Program continues to be the exchange of information. This is accomplished through regular monthly meetings to address topics of regional importance, as well as crosscutting issues that affect local stormwater, planning, public works, and public utilities staff. In addition, various agencies and organizations utilize this regional forum to engage and inform local governments, as well as to gather feedback.

### 7.1 Regional Environmental Committee (REC)

The HRPDC Regional Environmental Committee meets monthly and includes local stormwater and planning staff plus cooperating agencies such as the DEQ, the Virginia Department of Forestry (VDOF), VDOT, the Hampton Roads Sanitation District (HRSB), the Port of Virginia, local nonprofit organizations, and local consultants. The meetings cover a variety of planning, environmental, and water quality topics of interest. Representatives of state and federal agencies frequently brief the Committee on developing issues, regulatory guidance, and technical programs. Table 1 is a list of presentations shared during FY 2025.

REC Meeting	Agency	Topic
Sept. 5, 2024	US Army Corps of Engineers (and City of Virginia Beach)	Lynnhaven River Basin Ecosystem Restoration Project
Oct. 3, 2024	VDOF	Sentinel Landscapes
Nov. 7, 2024	VA Coastal Zone Management	Section 309 Needs Assessment
Nov. 7, 2024	VA Institute of Marine Science	MapMyShore App
Dec. 5, 2024	DEQ	Tidewater Regional Office Update
Mar. 6, 2025	VA Institute of Marine Science	Microplastics
May 1, 2025	VA Department of Conservation and Restoration	Flood Resilience Planning

*Table 1. Federal and State Agency Presentations to the Regional Environmental Committee*

## ***7.2 Regional Stormwater Workgroup***

The Regional Stormwater Workgroup typically meets monthly, and the meetings provide an opportunity for local stormwater managers to exchange information about successful program activities, utility structures and policies, and technical challenges. HRPDC staff present updates on the Chesapeake Bay TMDL, regulatory actions, BMP Warehouse reporting, the regional resilient design standards, stormwater conferences, training, etc. Ten meetings were held in FY 2025.

The Workgroup discussions were focused on DEQ's stormwater initiatives including revisions to the Virginia Erosion and Stormwater Management (VESM) regulation, the Stormwater Handbook, the Virginia Runoff Reduction Method (VRRM), the Stormwater Local Assistance Fund, permit fee increases, etc. More information on these initiatives is included in the Policy Monitoring and Regional Studies sections of the report.

## ***7.3 Regional Chesapeake Bay Preservation Area Workgroup***

Fifteen of the seventeen HRPDC member localities implement Chesapeake Bay Preservation Area (CBPA) programs, many of them since 1990. HRPDC staff facilitate the Regional CBPA Workgroup, which met four times during FY 2025, in July 2024, October 2024, January 2025, and April 2025. The Workgroup conversations were focused on adopting updated local ordinances to include the coastal resilience and mature tree provisions, DEQ compliance reviews, and local Bay Act program implementation.

Representatives from DEQ's Office of Watersheds and Local Government Assistance delivered two presentations to the Workgroup this year. In July 2024, they conducted a workshop on expectations for the new Resilience Assessment requirement, and in October 2024, they presented an overview of what localities could expect during the Round 3 compliance reviews.

## ***7.4 Development and Stormwater Subcommittee***

As the effective date of the consolidated VESM regulation approached, HRPDC staff were asked to facilitate a regional discussion on how localities administer stormwater requirements on private construction projects. After the first meeting in May 2024, the group agreed to meet approximately quarterly to provide a forum for local plan reviewers to compare notes and discuss projects.

The Development and Stormwater Subcommittee met five times during FY2025. The topics of discussion include the following: 1) master plan developments with regional BMPs designed to outdated specifications, 2) single family development with agreements-in-lieu of plans, 3) the transition to the new Stormwater Handbook and updated VRRM, 4) House Bill 2660, which compresses plan review timelines, etc.

## **8.0 PUBLIC EDUCATION**

### ***8.1 askHRgreen.org***

The HR STORM committee, consisting of local stormwater education/public information staff, was established in 1997 to support development and operation of the stormwater education program. The HRPDC environmental education programs were combined into a single public awareness program and central resource known as askHRgreen.org in FY 2011.

The stormwater education subcommittee of askHRgreen.org continues to meet monthly to develop strategies to fulfill the outreach requirements of the Phase II MS4 General Permit and many of the outreach objectives of the individual Phase I MS4 permits. During FY 2025, the committee celebrated Stormwater Awareness Week, developed short videos showing illicit discharges, and promoted responsible management of fall leaves and pet waste. More information is provided in the askHRgreen.org Annual Report.

## **9.0 TRAINING**

Since 2004, HRPDC staff has coordinated with the localities to develop and facilitate stormwater and resiliency training opportunities for local government staff.

### ***9.1 Training Resources***

Since FY 2021, HRPDC staff maintains a list of training opportunities and conferences related to stormwater management, resiliency, urban forestry, wetlands, etc. to help Regional Stormwater Workgroup members stay informed and take advantage of the offerings. Each week throughout FY 2025, HRPDC staff distributed an updated list of online and in-person training events that includes the provider, the schedule, the cost, and the registration links.

### ***9.2 Workshops***

HRPDC staff facilitated several workshops for local stormwater staff in FY 2025. Staff developed and presented two sessions of the Chesapeake Bay TMDL 101 workshop, one in the City of Chesapeake and one in James City County. The agenda included: 1) an overview of the history of the Bay TMDL in VA, 2) a review of the source sector load contributions, 3) how the TMDL is enforced through the MS4 permits, and 4) tracking pollution reduction progress. Just over 50 staff from ten different localities participated in the workshops.

Staff have also coordinated with DEQ to present workshops in Hampton Roads. In July 2024, representatives from DEQ's Office of Watersheds and Local Government Assistance reviewed example Resilience Assessments for Bay Act applications. Approximately a dozen local planners attended. In August 2024, staff partnered with DEQ's Brownfields Coordinator and representatives from Stromberg, Garrigan, and Associates, Inc. to deliver brownfields workshops on the peninsula and the southside, which were attended by more than 20 local staff. In October 2024, representatives from DEQ's Tidewater Regional Office presented a regional workshop on

the changes in the 2024 Construction General Permit, specifically addressing the concerns around turbidity benchmark monitoring. Nearly 60 staff from twelve localities attended.

### ***9.3 Center for Watershed Protection Group Membership***

The Stormwater Managers have found the annual Center for Watershed Protection (CWP) webcast series to be useful and informative. The Regional Stormwater Workgroup purchased a group membership in January 2025 that made 75 local government staff across the region members of CWP. Benefits of membership include access to the webcast series, access to lunch-and-learn presentations, and conference registration discounts. HRPDC staff manages the coalition membership.

The CWP offered the following webcasts during FY 2025: 1) MS4 Permit Basics, 2) Behavior Change, 3) Agriculture and Watershed Management, 4) Green Infrastructure, 5) New Tools for Watershed Management, 6) Stormwater Technology Innovations, 7) Behavior Change at the Local Level, 8) Stormwater Funding, and 9) Stream Restoration.

## **10.0 POLICY MONITORING**

This element of the program involves monitoring state and federal legislative and regulatory activities that could impact local stormwater management programs. The level of effort devoted to this element has increased significantly over the years. During FY 2025, HRPDC staff has tracked the following state regulatory actions and guidance development: 1) updates to the VA Erosion and Stormwater Management Program (VESMP) regulations, 2) the Stormwater Handbook, 3) Virginia Runoff Reduction Method and the target phosphorus load, 4) the fee schedule for the MS4 and Construction General Permits, and 5) Chesapeake Bay Preservation Act guidance.

HRPDC staff provided various updates to the Regional Stormwater Workgroup, the Regional Environmental Committee, and the CBPA Workgroup, collected input from local practitioners, and when appropriate, submitted comments on behalf of the region.

### ***10.1 Virginia Erosion and Stormwater Management Program Regulation***

The DEQ convened a Regulatory Advisory Panel (RAP) to develop regulations in response to the 2016 consolidated law, the Virginia Erosion and Stormwater Management Act (VESMA). The charge was to develop a combined regulation that would be easier to follow without altering the technical requirements of the existing Erosion and Sediment Control (ESC) and Stormwater Management (VSMP) regulations. HRPDC staff and representatives from the Cities of Chesapeake and Suffolk served on the RAP, which met five times between June and December in 2019. Due to staffing challenges and delays due to COVID-19, there was a lapse in meetings activity for two-and-a-half years. Then in late FY 2022, for the first time in the process, the DEQ provided a comprehensive draft of the consolidated regulation for RAP members to review. Two meetings were held in FY 2023, on July 15 and September 13.



While the consolidated regulations did not contain changes to the technical requirements, localities were still required to update their stormwater management ordinances and other documents. Localities who were Virginia Stormwater Management Program (VSMP) Authorities transitioned to Virginia Erosion and Stormwater Management Program (VESMP) Authorities. Some localities manage their own stormwater programs but have DEQ staff complete plan reviews, and those localities had to update their ordinances as well. And finally, localities who opted out of managing a local stormwater program also needed an updated ordinance for their Virginia Erosion and Sediment Control Program.

The HRPDC submitted regional comments on the consolidated regulation on April 10, 2023. The primary concern was to ask the DEQ to commit to a timeline for providing the model ordinances, recognizing that it often requires 12 or more months to get ordinance updates adopted.

The DEQ provided the model ordinances for each program type on December 27, 2023, giving localities six months for adoption. Though some localities across the Commonwealth adopted updated their ordinances by July 1, 2024, many others took a few months longer.

The approved consolidated VESM regulations and the corresponding model ordinances still referred to the 0.41 pounds of total phosphorous per year per acre water quality standard, version 3.0 of the Virginia Runoff Reduction Method (VRRM), and the BMP Clearinghouse for BMP design specifications. During their June 25, 2024 meeting, the SWCB approved the DEQ's request to fast-track a regulatory action to replace these requirements with the 0.26 pounds of total phosphorous per year per acre standard, version 4.1 of the VRRM, and the Stormwater Handbook, respectively. These changes were published in the Virginia Register on October 7, 2024 and subsequently withdrawn on November 18, 2024 due to an issue with the grandfathering language. The updated changes were published in the Virginia Register on December 30, 2024 and became effective on July 1, 2025.

During their March 27, 2025 meeting, the SWCB approved the DEQ's request to move forward with a fast-track regulatory process to make additional technical corrections to the VESMP regulation. These edits included correcting cross-references to other regulations, moving sections into more appropriate parts of the regulation, and most significantly, a clarification that the Authority may allow plans submitted and deemed complete by July 1, 2025 to move forward under the previous standards. The changes were published in the June 30, 2025 Virginia Register and were effective on August 14, 2025.

## ***10.2 Virginia Stormwater Handbook***

The DEQ updated the stormwater and erosion and sediment control manuals, both of which were finalized in the 1990s. They convened a Stakeholder Advisory Group (SAG) in June 2022 and hired a consultant, Arcadis, to aid in the development of the new manual, the Virginia Stormwater Handbook. The SAG met approximately monthly in FY 2023 and included representatives from the Cities of Chesapeake, Hampton, and Virginia Beach and HRPDC. The focus was updating the design specifications for the construction and post-construction stormwater management practices and developing design specifications for new practices. The new construction practices

include compost filter socks, straw wattles, and storm drain inlet protection, and the new post-construction stormwater BMPs are regenerative stormwater conveyance and trees as BMPs.

The DEQ released the draft Stormwater Handbook 1.0 for a 30-day public comment period beginning February 26, 2024. The HRPDC submitted a regional comment letter that highlighted concerns with the transition period and future revisions. The cover memo included with the draft Handbook indicated that there would be a transition period to allow plans submitted between July 1, 2024 and June 30, 2025 to use either the existing manuals or version 1.0 of the Handbook. There was concern that the regulatory updates needed to require use of the Handbook may not go into effect until after July 1, 2025, and it was suggested that the transition period be extended until the regulatory updates are effective. Also included in the regional letter were requests for the DEQ to provide clarity on how and when changes to the Handbook will be prioritized and a seat for HRPDC staff on the Handbook review committee.

The DEQ has emphasized their intent to keep the Handbook a living document with regular updates. The Handbook is hosted on EnCode Plus and users are asked to submit comments through that platform any time. On July 15, 2024, the DEQ released a draft of version 1.1 of the Stormwater Handbook for a 30-day public comment. No changes were made to the BMP specifications, so it was not expected to impact plans that were in progress at the time. Therefore, no regional comment letter was submitted.

The DEQ established the Technical Review Committee (TRC) to evaluate the comments that have been submitted and to help inform version 1.2 of the Handbook. The TRC includes representatives from the development community, state agencies, universities, nonprofits, and local governments, including HRPDC staff. The TRC met four times during FY 2025, on August 12, December 9, February 3, and May 13. The DEQ intends to include updates to the construction-BMP specifications in version 1.2, which is expected to be effective in late 2025. The updates to the post-construction BMP specifications will be the priority for version 1.3.

### ***10.3 Virginia Runoff Reduction Method and Target Phosphorus Load***

The DEQ has updated the VRRM and the target phosphorous load. They first presented the proposed changes at the May 2023 Stormwater Handbook SAG meeting and initiated a 60-day informal comment period on June 22, 2023. The draft VRRM 4.0 included updated loading rates by land use, an additional land cover classification – mixed open, and additional BMP design specifications. The HRPDC submitted a comment letter on August 15, 2023 detailing several concerns with the draft VRRM 4.0, as it appeared to: 1) provide less of an incentive to protect forested and natural lands, 2) lead to fewer BMPs being implemented, and 3) have a negative impact on local water quality. The updates also relied on older data from the Chesapeake Bay model and did not include considerations for increased intensity and frequency of rainfall. Furthermore, there was still a concern that VRRM 4.0 and the updated target phosphorous load, 0.26 pounds of TP per acre per year, could not be required until the regulations were also updated.

The DEQ considered the comments provided and made changes to the VRRM. The new draft, VRRM 4.1, was made available for public comment in February 2024. The HRPDC submitted a regional comment letter on March 27, 2024 that asked the DEQ to reconsider the methodology used to develop the new VRRM and take into account: 1) the state of the science on loading rates, 2) new research on soil compaction, 3) pollutants other than phosphorus, and 4) the impacts of increased intensity, duration, and frequency of precipitation. Additionally, there was a request for the DEQ to form a Regulatory Advisory Panel when the regulatory action to incorporate the new VRRM and the new target total phosphorous load is initiated.

As described in Section 10.1 above, the 0.26 pounds of total phosphorous per acre per year threshold, the new Stormwater Handbook, and version 4.1 of the VRRM were incorporated into the VESM regulations with an effective date of July 1, 2025.

#### **10.4 Statewide MS4 and Construction General Permit Fee Schedule**

The DEQ was directed by the General Assembly to increase the MS4 and Construction General Permit fees to generate revenue to support 60-62% of the program administration costs. They established a RAP to help develop a proposal, and HRPDC staff participated. The RAP met once on February 7, 2025.

During the meeting, DEQ staff explained that their total personnel and discretionary costs for the Stormwater Program for FY 2024 was \$8.2M. Based on the revenues generated, the deficit was between \$1.75M and \$1.9M, whether you consider 60 or 62 percent, respectively.

DEQ suggested increasing the MS4 permit issuance and maintenance fees by 61%, which would cover 62% of DEQ's program costs. The Phase I MS4 maintenance fees would go from \$8,800 to \$14,099, and the Phase II MS4 maintenance fees would go from \$3,000 to \$4,806, annually. The increases are somewhat expected given that the fees have remained consistent for 15 years; however, there are concerns about the effective date of the fee changes with respect to local budget cycles.

DEQ presented four options for increasing the Construction General Permit fees to the RAP. The State Water Control Law allows DEQ to collect up to 30% of the total fees and currently they collect 28%. Options 1 and 2 would generate enough revenue to cover 60% of DEQ's program costs. In Option 1, DEQ would continue to collect 28% of the total fee, and the total fee would be increased by 56%. In Option 2, DEQ would collect 30% of the total fee, and the total fee would be increased by 45%. Option 3 would generate enough revenue to cover 62% of DEQ's program costs. The total fee would be increased by 61%, and DEQ would collect 30%. Option 4 would continue the existing fee schedule in localities with a local VESMP Authority and would increase the fees significantly in opt-out localities to meet 62% of DEQ's program costs. Several RAP members noted that Option 4 was not likely to gain much support because it would serve as a disincentive for development in opt-out localities. However, there are concerns that the MS4 communities could be subsidizing the opt-out localities if the increases are across the board.

Instead of proposing any of the fee increases presented at the RAP meeting, DEQ presented a

different methodology to the State Water Control Board at their March 27, 2025 meeting. They proposed increasing the fees annually based on the Consumer Price Index. The Board authorized the DEQ to move forward. The proposal was published in the August 11, 2025 edition of the Virginia Register, and the formal public comment period will close on October 10, 2025.

### **10.5 Virginia CBPA Designation and Management Regulation**

Chapter 1207 of the 2020 Acts of Assembly amended the Chesapeake Bay Preservation Act (“Bay Act”) to include “coastal resilience and adaptation to sea level rise and climate change” and “the preservation of mature trees or planting of trees as a water quality protection tool and as a means of providing other natural resource benefits” to the criteria requirements for use by local governments in granting, denying, or modifying requests to rezone, subdivide, or use and develop land in CBPAs. Adding these new criteria necessitated updates to the CBPA Designation and Management regulation. The final regulatory amendments became effective on September 29, 2021 and localities had three years to implement the changes to their programs.

The DEQ had a grant to work with the Virginia Institute of Marine Science (VIMS) and the Virginia Coastal Policy Center (VCPC) to develop guidance to assist local governments in implementing the coastal resilience provisions of the CBPA Designation and Management regulation. The stakeholder group, including HRPDC staff and representatives from the Cities of Hampton and Virginia Beach, met twice during FY 2022.

In conjunction with the Regional CBPA Workgroup, HRPDC staff submitted extensive comments on the first draft of the guidance on May 4, 2022, which featured the following priority concerns: 1) the lack of instructions for local government implementation, 2) overstepping the requirements included in the regulation, and 3) the need for examples and instructions for the resilience assessment.

The DEQ provided a revised draft of the guidance on September 6, 2022. While several of the concerns were addressed, the HRPDC submitted another regional comment letter on October 6, 2022 describing the remaining concerns, including: 1) adding references to account for intensely developed areas, 2) clarifying that the resilience assessment could be completed by either the applicant or the locality, 3) needing guidance for determining the lifespan of a project, and 4) clarifying that a local CBPA board should only consider the CBPA regulations and it is inappropriate for the board to consider the requirements of the Tidal Wetland Guidelines.

Recognizing that the revisions to the resiliency guidance and the development of supporting materials such as training modules and ordinance language was taking longer than anticipated, the DEQ distributed an email to all the Bay Act localities on December 22, 2022 indicating that the climate change and mature tree provisions would not be enforced until October 2025. This one-year extension is helpful to the localities; however the CBPA regulations still indicate a compliance date of September 29, 2024. On October 27, 2023, the HRPDC submitted a letter to the DEQ Director Mike Rolband asking for the regulations to be changed to reflect the new

implementation date. Director Rolband explained that changing the regulations would take too long and instead offered a formal letter, which was dated October 24, 2024.

On March 20, 2024, the DEQ provided a third draft of the resiliency guidance, along with a model ordinance, a locality implementation checklist, a resiliency assessment template, an adaptation measure checklist, and a nature-based adaptation measure list. On May 3, 2024, the HRPDC submitted a regional comment letter that included the following concerns: 1) the uncertain documentation requirements for projects with a lifespan of less than 30 years, 2) the acknowledgement that localities will decide whether an accessory structure is permitted to be within any potential impact identified in the Resiliency Assessment, 3) a recommendation to remove the requirement to evaluate the frequency, extent, direction, and duration of tides when assessing buffer function, and 4) a request to make the living shoreline exemptions consistent with the regulations.

The coastal resiliency guidance was updated and published in the Virginia Register on August 11, 2025. The formal public comment period will close on September 10, 2025.

The DEQ had planned to share a revised draft of the *Riparian Buffers Modification and Mitigation Manual* with the SAG; however, the timeline for those updates has not been made available.

## **11.0 REGIONAL STUDIES**

### ***11.1 Regional Water Quality Monitoring Program***

In FY 2014, the HRPDC and the Phase I MS4 localities partnered with the USGS and the HRSD to create the Hampton Roads Regional Water Quality Monitoring Program (RWQMP). The purpose of the study is to characterize the sediment and nutrient loadings from the major urban land-uses in the Hampton Roads region. The measured sediment and nutrient loads will be compared to the loading rates in the Chesapeake Bay Watershed Model and used to improve the accuracy of the model in the Coastal Plain. In FY 2015, the locations of the 12 stations (2 per Phase I MS4 permittee) were selected, and seven stations were installed. In FY 2016, three additional stations were installed. In FY 2017, the remaining two stations were brought online. Since then, all twelve stations continued to collect storm event and baseflow samples, which are analyzed for nutrients and sediments. The stations continuously monitor flow, turbidity, temperature, and conductivity. Additional information on the project objectives, site locations, and data collected can be viewed on the recently updated [program website](#).

The RWQMP was incorporated into the 2016 Phase I MS4 permits and is included in the reissued 2024 permits with an expanded sampling plan to better identify sources of nutrients in each watershed. Each year, HRPDC staff develops a summary report that includes the locations of monitoring stations, a summary of available data, and an interpretation of the data to include in the MS4 Annual Reports for the Phase I permittees. The report is based on the annual update presented to the Regional Stormwater Workgroup by Mr. Aaron Porter (USGS).

### ***11.2 Community Flood Preparedness Fund Awards***

HRPDC staff regularly briefs locality planning, public works, floodplain management, and resilience staff on the Community Flood Preparedness Fund (CFPF) program through its Regional Environmental and Coastal Resiliency Committees. In FY 2022, the Department of Conservation and Recreation (DCR) awarded \$32.4M from the CFPF over two grant rounds to local governments across Virginia to reduce the impacts of flooding. This included approximately \$22M for Hampton Roads communities for resilience planning, stormwater infrastructure upgrades, and green infrastructure. In FY 2023, another \$65.4M was awarded from the CFPF, including \$29.4M for projects, studies, and planning efforts in Hampton Roads. HRPDC staff developed a dashboard and an ArcGIS StoryMap illustrating the Hampton Roads projects that have been awarded CFPF dollars in the first three rounds. In FY 2024, DCR awarded \$53.9M from the CFPF statewide, including \$26.8M for Hampton Roads communities. In FY 2025, another \$67.1M was awarded statewide, which included \$15.1M for the Hampton Roads localities and the HRPDC, which brought the regional total to \$93.3M awarded for 45 projects, studies, and plans.

### ***11.3 Regional Community Flood Preparedness Fund Studies***

In FY 2023, the HRPDC was awarded funds in the third round of the CFPF to complete a set of studies to support the development and implementation of local and regional resilience plans, policies, and projects. The studies include: 1) an assessment of local hydraulic and hydrologic (H&H) data and models, 2) a hazardous floodwaters analysis, 3) a cost benefit analysis for regional resilient stormwater design standards, and 4) performance of BMPs in the coastal plain in the face of climate change. The HRPDC also received an award for a capacity building project focused on regional Community Rating System (CRS) support.

Three of the projects have been completed so far: 1) the hazardous floodwaters analysis, 2) the coastal plain BMPs study, and 3) the regional CRS support project. For the floodwaters analysis, HRPDC staff partnered with AECOM to identify hazardous properties at risk from current and future flooding and to determine the gaps in current policy regulating those types of properties. HRPDC staff collaborated with AMT for the coastal plain BMPs study, which included a review of state design manuals and scientific literature to determine which stormwater practices perform best under coastal plain conditions in the face of climate change. And finally, HRPDC staff continued to work with AMT for the regional CRS support project, in which local government staff and other program experts were interviewed to develop recommendations for new regional products or changes to existing products that could earn the localities additional CRS points.

### ***11.4 Comparison of Stormwater Local Assistance Fund Awards***

Through the Stormwater Local Assistance Fund (SLAF), the DEQ has awarded \$244.6M for stormwater projects across the Commonwealth. The Stormwater Managers are interested in how the resources are distributed and which types of projects are most likely to be funded. As in previous years, during FY2025, HRPDC staff conducted several analyses looking at trends in the program over the years. Over ten rounds of SLAF awards, the Hampton Roads localities have been awarded \$45.5M for 103 projects.

Staff compared the numbers of projects and dollars awarded to Hampton Roads, Northern Virginia, and Richmond-area localities, evaluated the most popular BMP types, and presented the results to the Regional Stormwater Workgroup. Stream restoration continues to be the most popular BMP funded by the program, and the Northern Virginia localities had more projects awarded than the other regions.

During FY2025, HRPDC staff added a new analysis to determine the most frequently awarded BMPs in Hampton Roads over the ten rounds of the program. While stream restoration is the most popular BMP statewide, it is tied with wet ponds in Hampton Roads as the most popular practice. Constructed wetlands and shoreline restoration have also been popular in the region.

### ***11.5 Stormwater Program Utility Matrix***

A comprehensive stormwater program utility matrix, including Phase I and Phase II MS4 permittees, was developed in FY 2000 to address both utility and programmatic issues. The matrix includes the rate structures, the type of bill, the frequency of billing, the number of utility customers, and program contact information. HRPDC staff coordinates with local government stormwater program staff to update the information in the matrix annually. The matrix from Hampton Roads is then shared with VAMSA to inform the statewide stormwater utility survey.

### ***11.6 HRSD Microbial Source Tracking***

HRSD began a pathogen program to conduct microbial source tracking (MST) in June 2015. Using genetic markers, HRSD identifies and tracks human sources of bacteria in local stormwater networks. HRSD is providing sampling and analysis services while the local governments are providing staff time for the investigations. Several localities have taken advantage of the program including Chesapeake, Hampton, Newport News, Norfolk, Virginia Beach, and Suffolk.

HRSD adopted the Integrated Plan in February 2022, in which they committed to spending \$10M by 2030 and an additional \$10M by 2040 to fund equipment, field/lab time, and infrastructure repair reimbursement to localities. Mr. Kyle Curtis with HRSD presented the details of the reimbursement program to the Regional Stormwater Workgroup in July 2024. Mr. Curtis recently noted that HRSD has capacity for additional MST studies and has funds remaining to support local repairs.

### ***11.7 Updates to SSORS***

The Hampton Roads localities and HRSD use the Sanitary Sewer Overflow Reporting System (SSORS) to report sanitary sewer overflows to the DEQ, the VDH, and local staff. The database automatically notifies those who are included on the list of spills within their locality. HRPDC staff provides oversight of SSORS and maintains the contract to support it.

## **12.0 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 Committee structure also provides a forum for state and federal regulatory agency staff to meet

with the region's localities to discuss evolving stormwater management regulations and other emerging regulatory issues. In addition, HRPDC staff provides technical support to member localities on a wide variety of issues upon request. In FY 2025, technical assistance to localities was focused on disseminating information related to: 1) evaluating state policy initiatives for impacts on local government programs and 2) implementation of and compliance with the Chesapeake Bay TMDL.

### **13.0 MEMORANDUM OF AGREEMENT**

The Regional Stormwater Management Program was established in 1996 as a formal program of the HRPDC with support and participation from the seventeen-member local governments. A MOA was created that outlines the basic regulatory and programmatic premises for the cooperative program, incorporating the Regional Program Goals, described earlier in this report. The MOA establishes a division of program responsibilities among the HRPDC and the participating localities, addresses questions of legal liability for program implementation, and includes other general provisions. The MOA was renewed in 2023. While the previous MOAs were reauthorized by the signatories every five years, the newest MOA has a term of ten years.

### **14.0 RELATED PROGRAMS AND PROJECTS**

In various combinations, the eleven MS4 communities, as well as the other six counterpart communities, and HRPDC staff participate in a wide variety of related programs. These programs are noted here because of their relationship with stormwater management.

#### ***14.1 Chesapeake Bay Program Participation***

The Chesapeake Bay Program (CBP) is a regional partnership that has led and directed the restoration of the Chesapeake Bay since 1983. CBP partners include federal and state agencies, local governments, nonprofit organizations, and academic institutions. Partners work together through the CBP's goal teams, workgroups, and committees to collaborate, share information, and set goals.

Since the development of the Chesapeake Bay TMDL in December 2010, the Hampton Roads region has devoted considerable attention to the research, developments, and decisions ongoing within the CBP. HRPDC and local government staff have participated in the deliberations of many CBP committees and workgroups focused on urban stormwater, watershed planning, land use planning, modeling, and local government's role in the Bay Program. HRPDC staff serve as Vice Chair for the Urban Stormwater Workgroup, at-large member of the Water Quality Goal Implementation Team (WQGIT) and the Land Use Workgroup (LUWG), representative for the WQGIT on the Beyond 2025 Committee, and a member of the Scientific and Technical Advisory Committee (STAC). HRPDC staff also participate in the Climate Resilience and Wastewater Treatment Workgroups. During FY 2025, staff focused on: 1) the second phase of the Beyond 2025 report, 2) the revised Chesapeake Bay Watershed Agreement, 3) revisiting the urban nutrient management Expert Panel report, 4) the 2021/2022 land use/land cover data, and 5) highlighting the need to provide resources and incentives to address unregulated urban



stormwater loads.

Through the Urban Stormwater Workgroup, HRPDC staff are: 1) informing the Bay Partnership of the resilience work being done by localities in the region, 2) advocating for research on the co-benefits of BMPs for water quality and flooding concerns, and 3) tracking decisions related to updated fertilizer application rates and the implications for total phosphorus loading rates for the Phase 7 model.

HRPDC staff also participate in meetings of the Principal Staff Committee (PSC), Management Board, Local Government Advisory Committee (LGAC), Modeling Workgroup, and Watershed Technical Workgroup on an as needed basis. These meetings provide a high-level overview of policy-level decisions as well as technical insights on model development. Staff meet monthly with representatives from the Northern Virginia Regional Commission and DEQ who are directly involved in decision-making for the Bay Program. Staff also convey information to VAMSA and the Metropolitan Washington Council of Governments' Bay TMDL Tracking Team.

#### ***14.2 DEQ Contract with Planning District Commissions in the Bay Watershed***

In partnership with the other Virginia planning districts in the Chesapeake Bay watershed, HRPDC continued the contract agreement with the DEQ to provide support for implementation efforts related to Virginia's Chesapeake Bay TMDL Phase III Watershed Implementation Plan (WIP).

The 2024 contract supported the parking lot retrofit project at the Regional Building. The City approved the plans in June 2024, and the construction phase began in August 2024. The contract was used to fund contractor oversight during construction. With additional funding support from the DEQ, construction was completed in February 2025. The project features several stormwater management practices, including a bioretention basin, conservation landscaping, and porous concrete panels. Other green practices were also included, such as electric vehicle charging stations and recycled tire wheel stops.

The 2025 contract will focus on developing on-demand Chesapeake Bay TMDL training webinars for localities and supporting HRPDC's collaborative efforts with Hampton Roads local government staff and the partner PDCs within the Bay watershed.

#### ***14.3 Industrial Partners Grants***

The HRPDC received a Small Watershed Technical Assistance (SWTA) grant in September 2020 from the National Fish and Wildlife Foundation (NFWF) to conduct an evaluation of private industries willing to voluntarily implement and report large-scale BMPs on their property to reduce nutrients and/or mitigate flooding. Staff hired a consultant, Whitman, Requardt & Associates, LLP for the evaluation. The project was completed in FY 2022. The industrial partners indicated a willingness to report existing BMPs and were interested in implementing new projects especially those with multiple benefits and financial incentives.

HRPDC staff expanded on the 2020 SWTA grant and was awarded a NFWF Small Watershed Implementation Grant in September 2022. HRPDC staff and partners are working with Buckeye

Industries, LLC to implement a living shoreline and other BMPs at their facility along the Elizabeth River. The intent of the project is to develop a pilot for implementing and reporting BMPs and to explore a mechanism for growing a coalition of the willing for industrial properties across the region.

In February 2024, staff partnered with Wetlands Watch, the Elizabeth River Project, the Chesapeake Bay Landscape Professional (CBLP) program, and Stromberg, Garrigan, and Associates to host a living shoreline design charette. This charette included local staff and practitioners interested in learning how to design stormwater practices on an industrial property with potential contaminants on-site. Experts from the DEQ were on hand to provide guidance and two viable designs were developed to aid in the future construction of BMPs.

The Buckeye Industries, LLC living shoreline was completed in May 2025, and the next steps will be to finalize the designs and plantings for the green spaces.

#### ***14.4 Trading with HRSD***

HRSD, HRPDC staff, and the MS4 permittees collaborated to develop a regional template for MOAs to establish the framework for trading pollutant reduction credits to comply with the Bay TMDL pollutant reduction requirements. Individual MOAs between each MS4 permittee and HRSD were signed in 2017.

Currently HRSD treatment plants operate below design flows, as those were established to ensure capacity to support regional population projections in 2040 and beyond. Annual average flows in 2015 were approximately 60% of design flows. As a result of plant flows well below design flows in combination with significant investment in nutrient removal technologies, HRSD currently discharges nutrients and sediment significantly below permitted limits and is projected to do so for the foreseeable future. The difference between permitted mass load limits and current performance provides ample capacity to absorb load reductions required from stormwater dischargers in Hampton Roads through at least 2036. As mentioned above, a portion of the capacity credits available from HRSD's efforts are currently available for MS4 needs to achieve TMDL compliance.

HRSD continues to move forward with their Sustainable Water Initiative for Tomorrow (SWIFT) project, their multi-year initiative that takes treated wastewater, purifies it to drinking water standards, and then injects it into the Potomac Aquifer. In addition to replenishing the water in the aquifer, the SWIFT project will significantly reduce the volume of treated wastewater reaching the James, York, and Elizabeth Rivers. The project will generate enough permanent nutrient and sediment credits to meet nearly all the regional urban stormwater waste load allocations in the Chesapeake Bay TMDL. HRSD representatives have given several presentations on the project at the Regional Environmental Committee and Regional Stormwater Workgroup meetings.

Trading with HRSD, first using the capacity credits and then using the permanent credits from SWIFT, provides a cost-effective option for MS4 permittees to meet a portion of the waste load allocations of the Chesapeake Bay TMDL.

#### ***14.5 Resilient Stormwater Design Standards***

HRPDC staff worked with the Coastal Resiliency Committee and other local, regional, state, and federal partners to develop recommendations for regional resilient design standards that are built on the Regional Sea Level Rise Planning Policy and Approach that the Commission adopted in October 2018. The standards include updated sea level rise scenarios, future precipitation projections, rainfall design storms, tailwater elevations, and joint rainfall-tidal design storms. The Commission approved a resolution on January 16, 2025 that encourages the local governments in Hampton Roads to consider adopting policies to implement the regional resilient design guidelines.

#### ***14.6 Roadway Flooding Sensors***

The HRPDC developed a pilot project that installed a regional network of water level sensors to monitor roadway flooding. The primary objective of this project was to use real-time data to make informed decisions and build a smart network of available driving conditions. The secondary objective was to make this data available to stakeholders of the Hampton Roads area to better understand and predict future flooding events. In early 2023, twenty sensors were installed across seven municipal jurisdictions. The distributed sensor network is made up of pressure transducers and radar sensors measuring water level relative to the roadway elevation. Each of the sites is equipped with telemetry to share this information with a web-based data portal that displays the water level in relation to the roadway elevation. The data from this portal is securely shared with the navigation app Waze through their community partnership program. The HRPDC was recently awarded \$236,000 in Round 5 of the CFPF to expand the network to include approximately 50 additional sensors, including sensors in more communities.

#### ***14.7 Virginia Municipal Stormwater Association***

Ten localities in Hampton Roads are members of the Virginia Municipal Stormwater Association (VAMSA). In FY 2025, those Stormwater Managers and HRPDC staff actively participated in VAMSA by contributing to regulatory comment letters, attending member meetings, and serving on several committees, including Phase I MS4, Phase II MS4, Chesapeake Bay TMDL Tracking Team, State Grants, Stormwater Utility, BMP, and Flooding committees.

#### ***14.8 Forestland and Urban Tree Canopy Conservation Plan***

House Bill 309 from the 2024 Acts of Assembly requires the DOF to establish a Forestland and Urban Tree Canopy Conservation Plan by November 1, 2026. The elements of the plan include: 1) examining the status of forests and tree canopy, 2) identifying priority forestland for conservation, 3) developing conservation goals, and 4) identifying current and potential funding streams. The plan is required to be developed in conjunction with a Technical Advisory Committee (TAC) and updated at least every five years. HRPDC staff serve on the TAC, and the first meeting was held on March 5, 2025. DOF received state funding to support the development of the plan, and one of their first priorities was to secure a contractor to help with a statewide

high resolution satellite imagery analysis to characterize the loss and gain of forestland and urban tree canopy from 2018 compared to 2023. The analysis was shared at the second TAC meeting, which was held on August 27, 2025. The next steps for the DOF will be to select a consultant to develop the conservation plan. The TAC is expected to meet again in early 2026 as the plan begins to take shape.

#### ***14.9 York River and Small Coastal Basins Roundtable***

During FY 2025, HRPDC staff participated in meetings of the York River and Small Coastal Basins Roundtables. The Roundtable is focused on public education, recognizing business practices for watershed resilience, grant applications to synthesize regional information on the health of the watershed, and habitat restoration. HRPDC staff are part of the Habitat Restoration Committee, which meets monthly.

#### ***14.10 Living Shoreline Collaborative***

The Living Shoreline Collaborative (LSC) is a partnership including non-profits, state agencies, local governments, HRPDC, Master Gardeners, contractors, and consultants whose goals are to build and share knowledge of living shorelines and promote their implementation in the tidal James River watershed. There are three focus areas: 1) monitoring, 2) training, and 3) implementation and outreach. The LSC presents an annual summit, holds quarterly meetings, offers field visits, and implements living shoreline projects. HRPDC staff participated in the Living Shoreline Summit, which was held on October 30, 2024.

### **15.0 CONCLUSION**

Through the Hampton Roads Planning District Commission, the seventeen localities of Hampton Roads have established a comprehensive Regional Stormwater Management Program. This program provides technical assistance, coordination, comprehensive technical studies and policy analyses, and stormwater education. 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 eleven localities with VPDES Permits for their Municipal Separate Storm Sewer Systems to comply with permit requirements.

The Regional Stormwater Management Program provides a mechanism through which the strengths of the seventeen local stormwater programs can be mutually supportive. It allows for cost-effective compliance with permit requirements, promotes regional consistency, and leads to improved environmental quality throughout the Hampton Roads region.