FFY15

Richmond Regional PDC Technical Assistance FINAL REPORT

Grant Number: NA15NOS4190164

Task Number: 48

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Virginia Coastal Zone MANAGEMENT PROGRAM

Richmond Regional Planning District Commission

Planning district commissions make government more efficient and effective through coordinated planning and program analysis. Virginia's General Assembly created planning districts in 1968 under the authority of the *Virginia Area Development Act*-revised as the *Regional Cooperation Act* in 1995- "to promote orderly and efficient development of the physical, social and economic elements of the districts." Through planning district commissions, now 21 in number, local governments solve mutual problems which cross boundary lines and obtain expertise from professional staff and advice on making the most of scarce taxpayer dollars through intergovernmental cooperation.

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Executive Summary

Technical Assistance Report

RRPDC staff processed 53 environmental reviews and 31 intergovernmental reviews during the reporting period.

Coordination & Training Report

On December 8, 2015 RRPDC staff hosted an Environmental Technical Advisory Committee (TAC) meeting. RRPDC staff provided updates on a few items of interest including items related to the Chesapeake Bay TMDL and local environmental news stories. City of Richmond staff provided an update about RVA H20, the City's integrated permit planning process. The meeting concluded with a round robin discussion focusing on local program updates and the High Watermark Program slated for implementation in the City of Richmond.

On April 7, 2016 RRPDC staff facilitated an Environmental TAC meeting. City of Richmond staff provided an overview of the RVA H2O process, the integrated permit planning process underway in the City of Richmond. There was also a roundtable discussion about local program updates and considerations for educating elected officials and administrative personnel about the costs and requirements associated with environmental permitting and programs.

On May 24, 2016 RRPDC staff facilitated an Environmental TAC meeting. Discussion revolved around the best ways to educate local elected and administrative leaders about the programs, policies, and permit associated with the Clean Water Act. The TAC resolved to start with a presentation to the RRPDC Board.

On June 17, 2016 RRPDC staff hosted an Environmental TAC meeting. DEQ staff provided a training and Q & A session for local staff about a new BMP input web portal under development.

On July 14, 2016 a staff representative from the Environmental TAC provided an educational presentation to the RRPDC Board on the programs and permits related to the Clean Water Act.

On July 27, 2016 RRPDC staff hosted an Illicit Discharge Detection and Elimination (IDDE) Workshop for interested localities in the Richmond and Crater regions. Staff from the Center for Watershed Protection provided presentations and related materials on efficient and effective operation of a local IDDE program.

Report on Local Implementation Advocacy

RRPDC staff worked with Groundwork RVA to create and implement programs and projects that educate youth about water quality, green infrastructure and the environment and improve urban neighborhoods. Projects range from youth educational programing to greenway planning and development, urban agriculture on vacant land, outdoor classrooms and pocket parks on vacant land.

Report on Green Infrastructure Analysis

RRPDC staff has analyzed the regional green infrastructure forest core layer. A report is provided herein.

Benefits Accrued

RRPDC staff keeps a log of actions, projects, events, etc that can be included in this report. Updates to the log are made throughout the year and were used to make the final report included herein.

Product #1: Technical Assistance

Throughout the grant year, RRPDC staff provided Technical Assistance to locality staffs. RRPDC staff processed 53 environmental and 31 intergovernmental reviews during FFY14. These reviews include, but are not limited to groundwater withdrawal permits, environmental impact reports, federal coastal consistency certifications, Virginia water protection permits, Virginia pollution abatement permits, etc.

Once these reviews are received, RRPDC staff communicates with local staffs about comments or concerns they may have. PDC staff performs any further research or analysis necessary to fully understand the regional impacts of proposed actions in question. RRPDC staff prepares and submits an appropriate comment letter for the proposed project or permit.

An example of how this review system facilitates communication between state and local staffs as well as among locality staffs within the Richmond region was evident as the VPDES permits related to coal ash pond de-watering in the James River watershed proceeded. Permits for ash ponds at three separate facilities were processed: one upstream from the region in Fluvanna County, one in the region in Chesterfield County, and one downstream from the region in the City of Chesapeake. Local staffs throughout the Richmond region used the review process to request and receive information from DEQ staff, pose questions concerning the proposed permits, and submit comments.

Product #2: Coordination & Training

RRPDC Staff hosted four coordination and training regional meetings throughout FFY15. Agendas and meeting materials from these meetings are included in Appendix B. RRPDC staff worked with Environmental Technical Advisory Committee members to provide an educational presentation to the RRPDC Board in July 2016. This presentation served to educate board members and encourage better understanding and cooperation among localities in the region with regards to water quality programs. Appendix A includes meeting materials and notes from the meetings listed below.

On December 8, 2015 RRPDC staff hosted an Environmental Technical Advisory Committee (TAC) meeting. RRPDC staff provided updates on a few items of interest including items related to the Chesapeake Bay TMDL and local environmental news stories. City of Richmond staff provided an update about RVA H20, the City's integrated permit planning process. The meeting concluded with a round robin discussion focusing on local program updates and the High Watermark Program slated for implementation in the City of Richmond.

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RRPDC staff are members of the James River Advisory Council (JRAC) attending regular meetings throughout the year. Information gathered at these meetings is always shared with local staffs. For more information about JRAC see www.jamesriveradvisorycouncil.org .

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RRPDC staff are members of the Middle James Roundtable (MJRT) Steering Committee. The Steering Committee has regular quarterly meetings throughout the year, one of which is the annual

meeting for planners and other professional from all over the middle James River watershed. As with JRAC, RRPDC staff shares information gathered at MJRT steering committee meeting with local planning staff. For more information about the MJRT see http://www.mjrt.org/ .

Product #3: Local Implementation Advocacy

In FFY15, RRPDC staff continued to support Groundwork RVA, serving in the role of Board Chair and guiding the organization's direction. Groundwork RVA is focused on creating the next generation of conservation leaders by engaging youth from underserved neighborhoods in projects and programs to give them the tools to improve their own neighborhoods. Over the past two years RRPDC staff has helped grow Groundwork from a fledgling organization to a respected member of the Richmond non-profit community, making meaningful, lasting change in urban neighborhoods and in the lives of young people.

In the past year, Groundwork has significantly bolstered its Green Workforce landscaping program, as well as undertaken several projects to improve urban neighborhoods. Projects include trail planning, turning a vacant lot into a pocket park, creating an outdoor classroom, maintaining an urban farm built on a vacant lot and creating a new access ramp to the James River. In each project process, youth participants learn not only how to create the project but the environmental principles involved, such as native plant cultivation and watershed management.

More information about GroundworkRVA's projects can be found at http://groundworkrva.org/ in addition to social media: https://www.facebook.com/groundworkrva , https://www.instagram.com/groundworkrva/ , and https://twitter.com/GroundworkRVA .

Product #4: Green Infrastructure Analysis

In FFY14, RRPDC staff updated the regional green infrastructure base map from 2007 to 2013. Updated GIS data and aerial photography flown by the Commonwealth of Virginia were used for the update process. A key element of the base map update involved the update of ecological forest core GIS data. Developed areas were removed from the forest core layer and the cores were rescored using a process developed by RRPDC staff and the original forest core data set creators at Virginia Department of Conservation and Recreation Division of Natural Heritage. In FFY15 RRPDC staff analyzed changes seen in the forest core layer from 2000 to 2007 to 2013. In an effort to better understand the nature of forest loss, RRPDC staff also used the Richmond regional existing land use GIS data set that had been updated using the same 2013 aerial photography. This report presents the findings of that analysis.

The Richmond region saw a dramatic rate of core area loss between 2000 and 2007; a total of 102,090 acres were lost to development at an average annual rate of 14,584 acres a year. In the face of this core area loss, the number of cores in the Richmond region increased; the total number of cores increased by 103 between 2000 and 2007. This increase is a sign of core destruction, not creation. This increase in the total number of cores is a result of large cores being split into smaller cores.

The total area and average annual rate of core loss for 2007 – 2013 was markedly slower, in part attributable to a downturn in the economy. Between 2007 – 2013, the total core area loss was 28,166 acres with an average annual rate of loss of 4,694 acres. There was also a reduction in the number of cores; 151 fewer cores existed in 2013 than in 2007.

	Total Acres in Cores	Total Number of Cores
2000	796,519	1,410
2007	694,429	1,513
2013	666,266	1,362

The focus of analysis during FFY15 was to compare core areas lost to development to iterations of the Richmond region existing land use data with the goal of discerning which land uses have contributed to core area loss. Before looking at the analysis findings, it is important to review the nature of the existing land use data and the method for removing development from the cores.

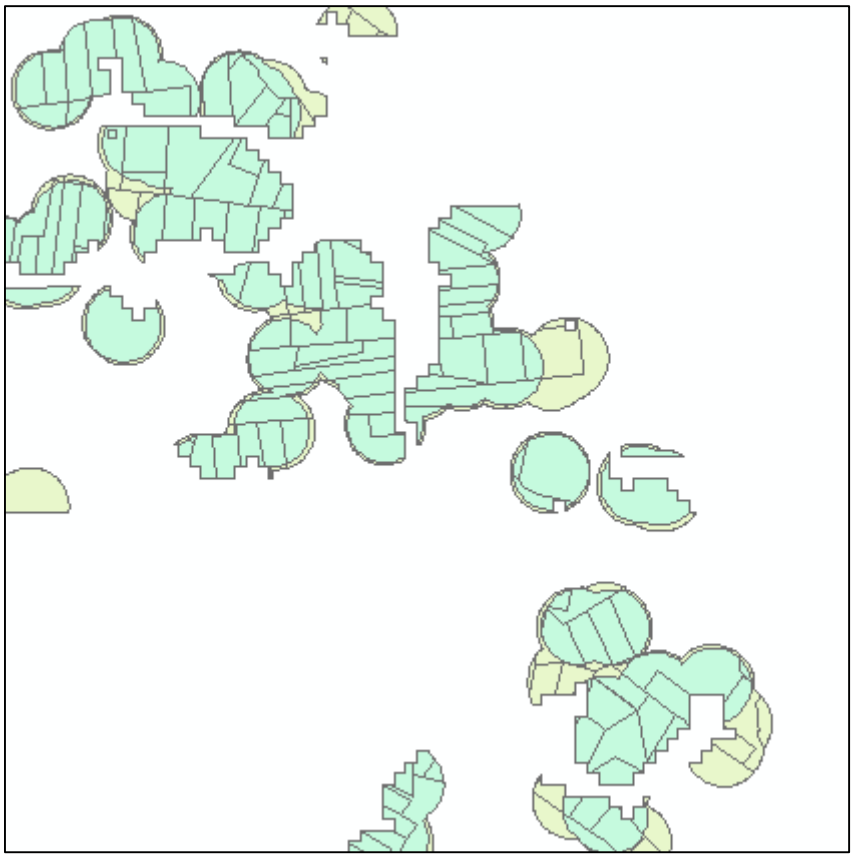
The Richmond region existing land use data is a parcel based data set; the existing land use for a parcel is assigned based on analysis using aerial imagery and other locally available data sources. Existing land use classifications include a variety of residential densities ranging from multifamily buildings to single family houses on lots up to 20 acres, commercial/office, industrial, institutional, airport, parks. open space, forest, and agriculture. A detailed description of the existing land use categories is available on the RRPDC website: http://www.richmondregional.org/planning/Planning.htm in links under "Existing Land Use."

When considering the analysis findings that follow, it is important to understand the methodology for updating the regional forest cores. RRPDC staff developed the update

methodology in consultation with DCR-NH staff and staff from the Green Infrastructure Center, a non-profit located in Charlottesville, VA. The steps for the update process were as follows:

1. Buildings/structures located in cores are identified using GIS.
2. 100 meter buffers are applied to the buildings to imitate the impact of development on the ecological function of forest cores.
3. The 100 meter buffers are removed from the ecological core geography using GIS, much like a hole-puncher is used on a sheet of paper.
4. Any remaining cores less than 10 acres are removed from the data set as being too small for ecological integrity and relevance in the DCR-NH model.

In order to understand which land uses are responsible for core area loss, RRPDC staff used GIS to intersect core area lost due to the building buffers mentioned above or remaining areas too small to constitute a core with the regional existing land used data. As seen in the picture below, the result is pieces of parcels that coincide with lost core area. RRPDC staff are able to use this intersection data in GIS to tally the land uses removed from cores.



Because the buffer and tiny remainders of core that were removed from the regional forest core data set are larger than the actual building constructed, areas of nearby parcels are sometimes included in core area removal no matter their condition. In other words, forested and agricultural areas were removed from cores due to their proximity to new development. Remember, the 100-meter buffer that was used to remove development is due to the possible impact of invasive

species and other ecological harm that can be introduced by development; not all land in the buffer has been cleared for development. For more information about the nature and role of the forested ecological cores and impacts to them, see http://www.dcr.virginia.gov/natural-heritage/vaconvision .

The chart below presents the analysis findings. Residential development accounted for the vast majority or core area lost in two ways. First, residential is the primary developed land use present in the area removed from cores. Second, nearly all the agriculture and forest land removed from cores is due to location inside a building buffer associated with residential development. Proximity to commercial, industrial, or institutional development accounts for less than 10% of forest and agriculture land area removed from cores as a result of development buffers.

Land Uses Associated with Core Area Loss

	2000-2007		2007-2013		2000-2013	
Land Use	**Acres**	**Percent**	**Acres**	**Percent**	**Acres**	**Percent**
Agriculture and Forest	39,898.9	40%	19,380.2	57%	59,279.1	44%
Commercial, Office, Industrial, Institutional	2,092.6	2%	1,495.0	4%	3,587.6	3%
Right of Way	0.5	0.0005%	17.3	0.1%	17.7	0.01%
Residential	57,598.3	58%	13,211.8	39%	70,810.1	53%
Total	99,590.2	100%	34,104.3	100%	133,694.5	100%

A map depicting core loss over time is included in Appendix B.

This analysis reveals that ecological forest cores in the Richmond region are largely disappearing due to residential growth patterns. Those interested in the Richmond region's green infrastructure network for its multifunctional role in aspects of daily life including water quality, recreational assets, biodiversity, and natural heritage, can reflect on this information when considering growth and development patterns proposed in local comprehensive plans. Local planners and elected leaders can use this information to prompt deeper analysis that could impact many aspects of the development process from zoning regulations, to site design requirements, to transportation and infrastructure project planning.

Product #5: Benefits Accrued

Public River Access

RRPDC has been dedicating CZM technical assistance funds over the past five years to projects which support, promote or make available public access to the Region's rivers:

- In FFY11 technical assistance funds were used to inventory and map all of the existing public access locations with descriptions of site, access, and location on the six rivers of the Richmond Region, including the North Anna, South Anna, Pamunkey, Chickahominy, James, and Appomattox Rivers. 3,000 copies of the public information brochure were printed and distributed widely throughout the region through localities, recreational outlets, and visitor centers.
- A FFY11 Coastal Focal Grant was used to support the James River Park System (JRPS) supported by in-kind volunteer labor to construct a one-mile river trail with interpretative signage and a kayak launch on Chapel Island of the Great Ship Lock Park. This project provides a vital access point to the James River, and offers the public greater opportunity to appreciate the varied history and important functions the site now serves to improve water quality.
- Making partial use of FFY14 and 15 technical assistance funds, the Regional River Guide was updated with additional public access points and reprinted to meet the demand for the brochure. Funding for the additional printing was secured from MeadWestvaco (now WestRock) in coordination with the Capital Region Collaborative (CRC). In the 2nd update images and information was edited. The 3rd printing included 15 additional access points through the mapping inventory. More information about the Rivers of the Richmond Region Guide is available here http://www.richmondregional.org/planning/RiversGuide.htm .
- An FY14 Coastal Focal Grant was secured to contribute to the T. Potterfield Dam Walk South Bank Habitat Restoration and Native Plant Demonstration project on the southern bank of the James River in downtown Richmond. Set to be completed by December 2016, the project has cleared invasive species from the southern bank. Habitat will be restored using native plants, bioswales and rain gardens to filter runoff, along with interpretative signage to educate the public. Greater visual connection to the James River from totally new vantage points along the walk and the south bank are an added benefit from this project.
- FFY15 technical assistance funds enabled the RRPDC to provide technical support to the James River Association through the CRC in the preparation of a Regional Rivers Plan for the four (4) major rivers in the Richmond Region including the James, Appomattox, Chickahominy and Pamunkey rivers. In final production, the plan describes each river's character, providing an inventory of existing conditions, and outlining local and regional projects for implementation to make the rivers a more coordinated network for enhanced recreation, entertainment, and commerce. The CRC James River Action Team will use the plan as a guide to set priorities, identify funding sources and explore more sustainable ways to maintain public connections to the river. River visitation data is being used as one measure of river activity for the CRC Regional Community Indicators Project.

APPENDIX A

AGENDA

Water Quality Roundtable Meeting

December 8, 2015

RRPDC Board Room
9211 Forest Hill Avenue, Suite 200
Richmond, VA 23235

CALL TO ORDER ……..……1:30 P.M.

1:30 Welcome, Introductions, & Update Notes
- 2nd Virginia Marine Debris Summit – March 7-9
- Dominion Coal Ash Environmental Review & RTD Article
- Statewide Land Cover GIS data
- Chesapeake Bay Program Land Use Work Group

1:45 City of Richmond – RVA H2O update

2:00 Round Robin Discussion
- Richmond High Watermark Program
- Local Stormwater Program updates

3:30 Adjourn

AGENDA

Regional Environmental Roundtable Meeting

April 7, 2016

RRPDC Board Room
9211 Forest Hill Avenue, Suite 200
Richmond, VA 23235

CALL TO ORDER ……..……1:30 P.M.

1:30 Welcome, Introductions, & Update Notes
- Center for Watershed Protection IDDE Workshop Opportunity
- VCZM Strategy – Leveraging Economic Benefits of the Natural Resources of the Lower Chickahominy

1:45 City of Richmond – RVA H2O update

2:00 City of Richmond – Chesapeake Bay TMDL Cost Estimates

2:45 General Discussion
- Local Program Updates
- Other topics: General Assembly/Legislation, etc.

3:30 Adjourn

RRPDC Environmental TAC

Meeting - April 7, 2016

In Attendance:

Mike Flagg (Hanover)
Scott Smedley (Chesterfield)
Scott Dunn (Chesterfield)
Rachel Chieppa (Charles City)
Pat Bradley (Richmond)
Grace Le Rose (Richmond)
Bob Steidel (Richmond)
Steve Yob (Henrico)
Jenn Cobb (Henrico)
Jonet Prevost White (Richmond)
Shaun Reynolds (Powhatan)
Sarah Stewart (RRPDC)
Barbara Jacocks (RRPDC)

Localities not in Attendance: Goochland and New Kent

Items of Discussion:

- CWP IDDE Workshop Opportunity
- VCZM Program Strategy – Leveraging Economic Benefits of the Natural Resources of the Lower Chickahominy
- Climate change and sea level rise impacts to Richmond Region – any work being done?
- RVA H20 Update
- Chesapeake Bay TMDL Cost Estimates
- General Assembly

Consensus was reached on the following items:

(Action items highlighted in red.)

- General interest, varying from each locality, in the CWP IDDE Workshop Opportunity. RRPDC staff to coordinate and plan workshop, especially if it can be condensed to a shorter period of time (some felt it would be redundant and would not need to include Bay TMDL segment).

- EnvTAC concerned about current and future impacts of General Assembly actions on local unfunded mandates and ability to raise adequate revenue, e.g. restriction of stormwater utility fee user classes
- EnvTAC agreed that long term cost estimates associated with the Bay TMDL should be approached with much caution if at all given the many unknown elements that will or may be factored in the near future, e.g. Bay Watershed model 2017 update, BMP credit values, etc.
- EnvTAC members expressed concern that hiring a consultant to do such long term estimates and speak on behalf of the localities may be confusing and not appropriately depict the nuances of each locality's individual programs.
- As an alternative, EnvTAC agreed that education of elected leaders (local and state) about the numerous state and federal mandates and programs for which they are responsible should occur. Programs mentioned include Bay TMDL, MS4 and CSO permits, Virginia Stormwater Management Program, Chesapeake Bay Act, Erosion and Sediment Control, Stormwater Local Assistance Funding, Stormwater Utility Programs.
- EnvTAC agreed that the RRPDC offers an ideal forum through which to provide this education and discussion.
- RRPDC staff will coordinate with the EnvTAC at a meeting in the near future (April – May) plans to facilitate an educational forum, or a series of RRPDC Board meeting updates ("storm water stories")for the localities to share in June and July. RRPDC Community Affairs Manager to attend this meeting to assist and discuss possible connections with the Capital Region Caucus of the General Assembly.
- EnvTAC agreed that finding and keeping trained staff for local programs has been difficult recently. Competition for those with needed certifications is tight among localities and the private sector.

AGENDA

Regional Environmental Roundtable Meeting

May 24, 2016

RRPDC Board Room
9211 Forest Hill Avenue, Suite 200
Richmond, VA 23235

CALL TO ORDER ……..……1:30 P.M.

1:30 Welcome, Introductions, & Update Notes
- DEQ BMP Web Application Preview – June 17
- FEMA Resilience Workshop – July 12
- Center for Watershed Protection IDDE Workshop Opportunity – Date TBD

1:45 Education - RRPDC staff discussion and outreach
- RRPDC staff
- Larry Land, VACO
- Chris Pomeroy, AquaLaw/VAMSA

2:00 General Discussion – desired approach to education
- Audience(s)
- Topic(s)
- Timeline

2:20 Refining Regional Approach
- Examples of educational materials

2:50 Wrap Up

3:00 Adjourn

RRPDC Environmental TAC

Meeting – May 24, 2016

In Attendance:

Scott Dunn (Chesterfield)
Scott Flanigan (Chesterfield)
Randy Hardman (Hanover)
Ingrid Stenbjorn (Ashland)
Tom Dickerson (Ashland)
Shaun Reynolds (Powhatan)
Debbie Byrd (Goochland)
Keith White (Henrico)
Jen Cobb (Henrico)
Jonet Prevost-White (Richmond)
Pat Bradley (Richmond)
Sarah Stewart (RRPDC)
Barbara Jacocks (RRPDC)

Localities Not Represented:

New Kent
Charles City

Future Meeting Reminders:

- DEQ BMP Web Application Preview – June 17
- FEMA Resilience Workshop – July 12
- Center for Watershed Protection IDDE Workshop – Date TBD

Discussion Summary

1. RRPDC staff summarized internal and external discussions on the subject of education for decision makers. External discussions were with VaCO staff (Larry Land) and AquaLaw staff (Chris Pomeroy):

   VaCO hosts regional meetings with a set agenda—Region 3 (including all localities except Powhatan and Goochland) will be meeting July 14 but agenda not set yet. Region 5 (includes only Powhatan) topic was telecommunications. Discussion was inconclusive about how best to approach State legislators, whether it would just be by jurisdiction and/or through VaCO or VML.
2. Locality staff and RRPDC staff discussed what actions would best accomplish local goal of helping local and state decision makers (administrative and elected) understand

existing framework of Federal, State and Local water quality policies, permits, and programs. A distinction between the two "audiences" seemed to emerge: State legislators are mostly focused on programs vs. Local elected are focused on cost issues.

3. Locality staff discussed the complexity of describing to local decision makers the many factors, unknowns and uncertainty for identifying cost-benefits for compliance and implementation prior to model year 2017 and 2025 assessments for the Chesapeake Bay TMDL. Where do we start? It does not add to the public education process to dismiss compliance with the larger Act as an "unfunded mandate" without recognizing the benefits to local water quality.

Consensus was reached on the following Next Steps:

- **Locality staff will present to the RRPDC Board at the July 14 meeting.** The presentation will be an overview of Federal, State and Local water quality policies, permits, and programs. **Pat Bradley (City of Richmond) will provide the presentation.**
- **Locality staff will assist RRPDC staff in the creation of a summary hand out.** This hand out will include a very brief definition/overview of Clean Water Act related programs. A chart/matrix will detail these policies and programs in MS4 vs non-MS4 localities.
- These two items (presentation and hand out) can lay the basis for possible follow-up presentation(s) to the RRPDC board that would include more details about MS4 and non-MS4 localities.
- To be effective, the group felt we need to have a series (2-3) of unfolding stormwater stories to complete the picture—Clean Water Act, TMDL, Water Quality Standards, Urban, Rural
- Examples of other ways to educate are welcome, i.e. RVA H2O, Chesterfield's plans to produce YouTube videos which could provide a series from general to more specific topics

CHESAPEAKE BAY BMP WAREHOUSE DEMO

Virginia Department of Environmental Quality
June 17, 2016

Agenda

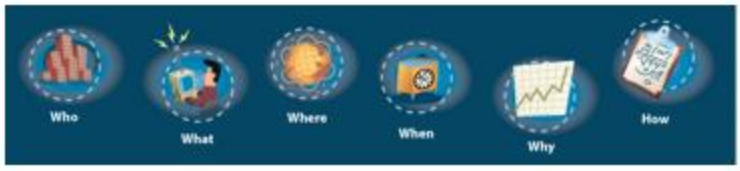
- BMP Warehouse Overview
- Demo
- Rollout Discussion

BMP Warehouse Overview

- Web-based application for BMP data submission
  - National Environmental Information Exchange Network (NEIEN)
  - Chesapeake Bay Program
- Potential for expanded future use
  - Streamline reporting for MS4s
  - Streamline reporting for Bay Act localities
  - Section 319 funded urban BMPs

Demo

Rollout Discussion



Contact Information:

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Clean Water Act – Key Terms & Acronyms

RRPDC Board Meeting – July 14, 2016

TMDL – Total Maximum Daily Load: The maximum amount of a pollutant a water body can receive while still meeting water quality standards.

WQS – Water Quality Standards: Numeric limits for specific physical, chemical, biological, or radiological characteristics of water. These statements and numeric limits describe water quality necessary to meet and maintain uses such as swimming and other water-based recreation, public water supply, and the propagation and growth of aquatic life.

NPDES – National Pollutant Discharge Elimination System: This national permit program addresses water pollution by regulating point sources that discharge pollutants to waters of the United States. In Virginia, DEQ administers the program as the **VPDES, Virginia Pollutant Discharge Elimination System.**

MS4 – Municipal Separate Storm Sewer System: a publicly-owned conveyance or system of conveyances (i.e., ditches, curbs, catch basins, underground pipes, etc.) that is designed or used for collecting or conveying stormwater and that discharges to surface waters.

> **Phase I** – also known as individual permits: In the early 1990s, operators of systems serving more than 100,000 people (per the 1990 Census) obtain a permit to discharge stormwater from their outfalls.
>
> **Phase II** – coverage under state general permit: In 2003, operators of small MS4s in "urbanized areas" as defined by the latest decennial Census obtain a permit to discharge stormwater from their outfalls.

CSS – Combined Sewer System: a sewage collection system designed to collect both sanitary and surface runoff from stormwater. Ideally, it is treated at a public owned treatment works.

CSO – Combines Sewer Overflow: a discharge of untreated storm and wastewater from a combined sewer system into the environment. CSOs typically occur when combined sewers fill up with too much water for the system to handle, most often during heavy rains, and the excess water is released into a stream or river.

Waters of the US – These waters fall under Federal jurisdiction and permitting. Waters of the U.S. include: traditional navigable waters, interstate waters, the territorial seas, impoundments of jurisdictional waters, covered tributaries, and covered adjacent waters.

Point Source pollution comes from a discreet source, such as a pipe or channel.

Nonpoint Source pollution originates from sources not identified as point sources. Sub-/urban stormwater runoff not channeled into a municipal system, agricultural runoff, and atmospheric deposition are all examples of nonpoint source pollution.

A SUMMARY OF CLEAN WATER ACT REQUIREMENTS

RVA H2O
EVERY DROP COUNTS

RVAH2O.org

CITY OF RICHMOND

Purpose

Clean Water Act (CWA)

Regulatory Framework

- **Water Quality Standards**
- **Total Maximum Daily Loads (TMDLs)**

Permits

Key Terms and Acronyms

- TMDL – Total Maximum Daily Load
- WQS – Water Quality Standards
- NPDES
- MS4
- Phase I
- Phase II
- CSO
- Waters of the US
- Point Source vs Nonpoint Source
- MEP or Maximum Extent Practicable

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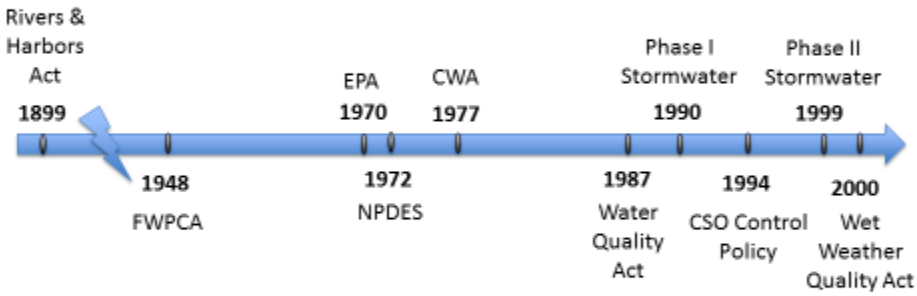
Evolution of the CWA



CWA Framework

- Goals
  - water quality standards
  - prohibitions
- Permits
- Plans
- Funding mechanisms

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CWA Objective and Goals

- **Objective:** Restore & maintain chemical, physical, and biological integrity of nation's waters
- **Interim Goals:**
  - By 1985: Eliminate discharges
  - By July 1, 1983: Achieve WQ to provide protection & propagation of fish, shellfish and wildlife; provide for recreation in & on the water for swimming, fishing
  - Control toxic discharges

Who Needs a Permit?

All "point sources" "discharging pollutants" into "waters of the U.S."

→ Must obtain a NPDES permit from EPA or an authorized State

RVA H2O
EVERY DROP COUNTS

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Water Quality Standards

Water quality standards are established by states, territories, and tribes, but are approved by EPA

- **Water quality goals of a waterbody:**
  - **Designated uses**
  - **Water quality criteria**
  - **Anti-degradation policy**

Total Maximum Daily Loads (TMDL)

- **State assesses if water quality standard is met**
  - **If NOT MET → TMDL**
  - **TMDL - plan for returning to meet standards**
  - **Includes wasteload allocations used to set permit limits**

Permit Limits

- Technology-based effluent limits (TBELs)
  - Performance based – does not require specific technology
- Water quality-based effluent limits (WQBELS)
  - Set to protect water quality standards

A "Point" of Confusion

Point source

- Discharge from a discrete point into US waters
- Regulated under NPDES

- ***Non-Point source***
  - Runoff that is *NOT* a point source
  - Voluntary program

Stormwater or Municipal Separate Storm Sewer System (MS4)

- 1987 Amendment to Clean Water Act
  - MS4s are *point sources*

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NPDES Stormwater Regulations

- Regulated Stormwater Discharges:
  - From MS4s
    - Phase I – Large and Medium (Henrico, Chesterfield)
    - Phase II – Small (everyone else)
  - From Industrial Activity
    - Stormwater Discharges from Construction Sites
  - "As Designated" Discharges
- Stormwater & CSOs

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MS4 Localities in the Richmond Region

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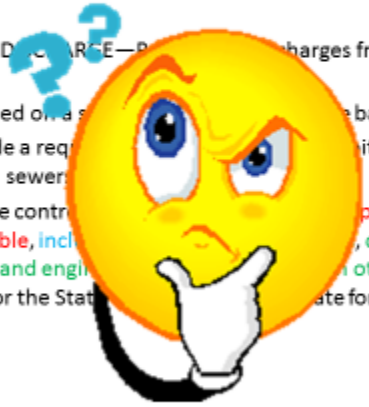
Clean Water Act (Sec 402) and MS4s

- (p) MUNICIPAL & INDUSTRIAL STORMWATER DISCHARGES
- (3) PERMIT REQUIREMENTS
  - (A) INDUSTRIAL DISCHARGES—Permits for discharges associated with industrial activity shall meet all applicable provisions of this section and section 1311 of this title.
  - (B) MUNICIPAL D[illegible]RGE—P[illegible]harges from municipal storm sewers—
    - (i) may be issued o[illegible] basis;
    - (ii) shall include a req[illegible]it non-stormwater discharges into the storm sewer[illegible]
  - (iii) shall require contr[illegible]pollutants to the maximum extent practicable, incl[illegible], control techniques and system, design and engi[illegible] other provisions as the Administrator or the Stat[illegible]te for the control of such pollutants.



Wrap-Up

- Water Quality Standards
- TMDLs
  - Ches Bay for N, P, sediment; local for bacteria
- Permits for WWTP and stormwater discharges
- Stormwater primarily addressed via management plans

RVA H2O
EVERY DROP COUNTS

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Richmond Area IDDE Workshop

July 27, 2016

Multi-Purpose Room, 1st Floor

Chesterfield County Community Development Building

9800 Government Center Parkway, Chesterfield, VA

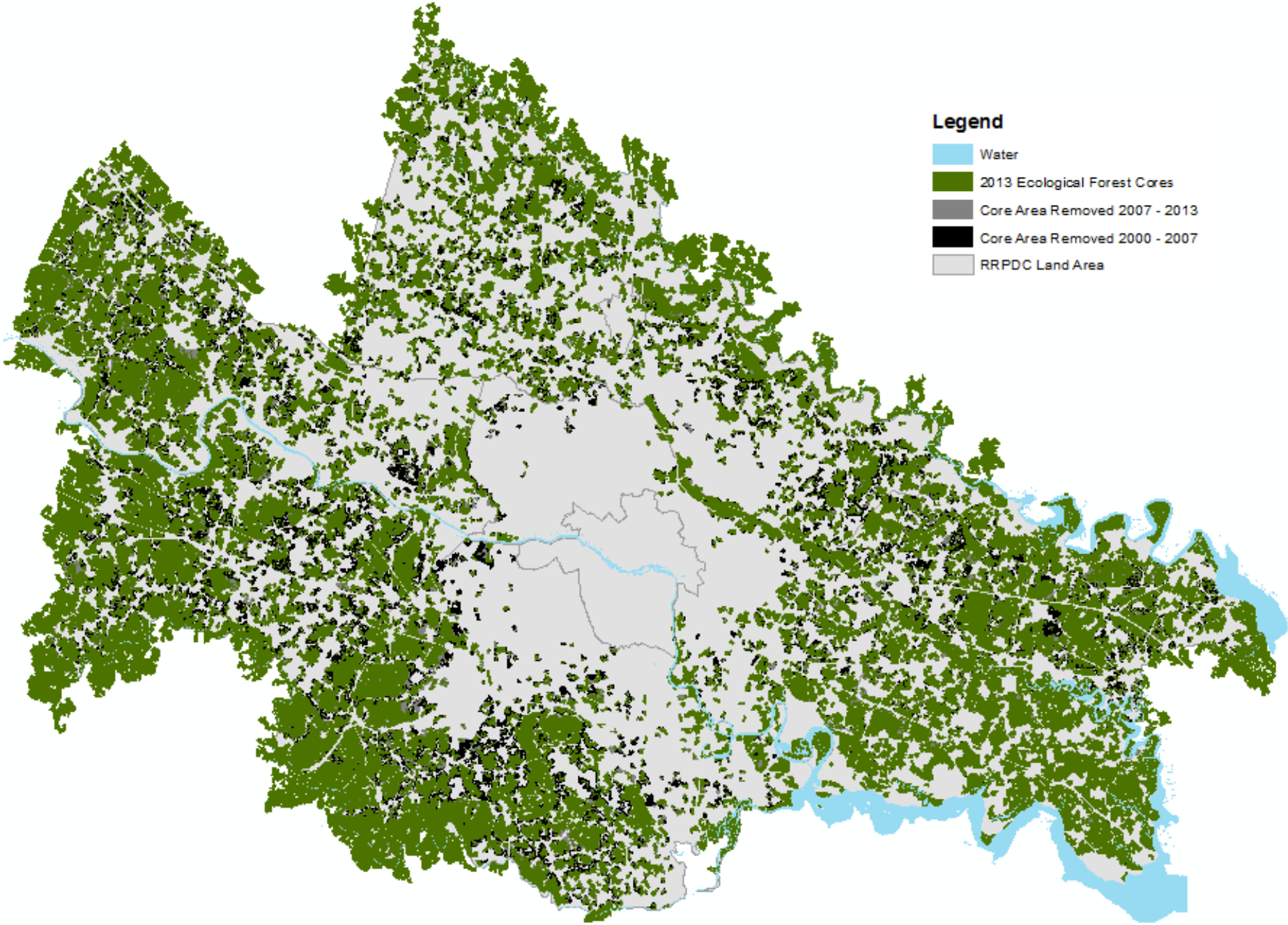
Workshop Sponsored & Supported by Virginia Environmental Endowment, conducted by Center for Watershed Protection with support from the Richmond Regional Planning District Commission

AGENDA

Time	Topic	Description
8:30 – 8:40	Introductions & Workshop Overview	
8:40 – 9:10	IDDE 101 & Water Quality	Brief introduction to the concepts, terms, and regulatory context for IDDE as part of a local MS4 program. What are common types of discharges? Research on the role of illicit discharges in the overall water quality picture: a few case studies
9:10 – 9:30	Desktop Analysis & Prioritizing Areas for IDDE Investigations	Examples of conducting a desktop/GIS analysis to refine and prioritize IDDE work
9:30 – 10:00	Indicator Methods	Quick overview of candidate screening methods, including single indicator and flowchart
10:00 – 10:15	*BREAK*	
10:15 – 10:35	Facilitated Discussion	• What has been sampled among the Richmond-area jurisdictions? • What types of illicit discharges have you found most common? • What are pros and cons of various chemical indicators as part of a screening program?
10:35 – 11:05	Field Investigations & Safety Procedures	Overview of field testing, equipment & supplies, tracking & documentation, field & lab safety. Holding/sampling times for various tests.
11:05 – 11:40	Fixing discharges, source tracking	• Overview of methods for tracking & locating • Enforcement procedures • local case study (TBD)
11:40 – 12:00	***Adjourn/BREAK***	
NOTE: The following sessions are optional for those interested in the expert panel grey infrastructure protocols. *If you plan to stay,* **PLEASE BRING YOUR LUNCH WITH YOU, AS THERE WON'T BE MUCH TIME TO BREAK FOR LUNCH.**		

12:00 – 12:30	Overview of the protocols	Background on the expert panel; how the protocols work to achieve actual pollutant reductions
12:30 – 1:20	Hands-on exercise of a hypothetical case	Work in groups of 2 or 3 to go step-by-step through the process of documenting a discharge removal credit.

APPENDIX B


Legend
Water
2013 Ecological Forest Cores
Core Area Removed 2007 - 2013
Core Area Removed 2000 - 2007
RRPDC Land Area