

# **Chesapeake Bay and Virginia Waters Clean-up Plan**

**September 17, 2007 Meeting of  
House Appropriations Committee**

# Background

- Plan required by HB 1150 [adopted by 2006 General Assembly]
- Prepared by Secretary of Natural Resources
- Report progress twice per year, with plan updates as needed
- Meet with General Assembly committees to discuss status, report progress and propose specific initiatives that may require legislative action

# Point Source Components of Plan – Chesapeake Bay

Objective: By January 1, 2011, upgrade sufficient wastewater treatment facilities to meet the Commonwealth's nutrient reduction goal for point sources.

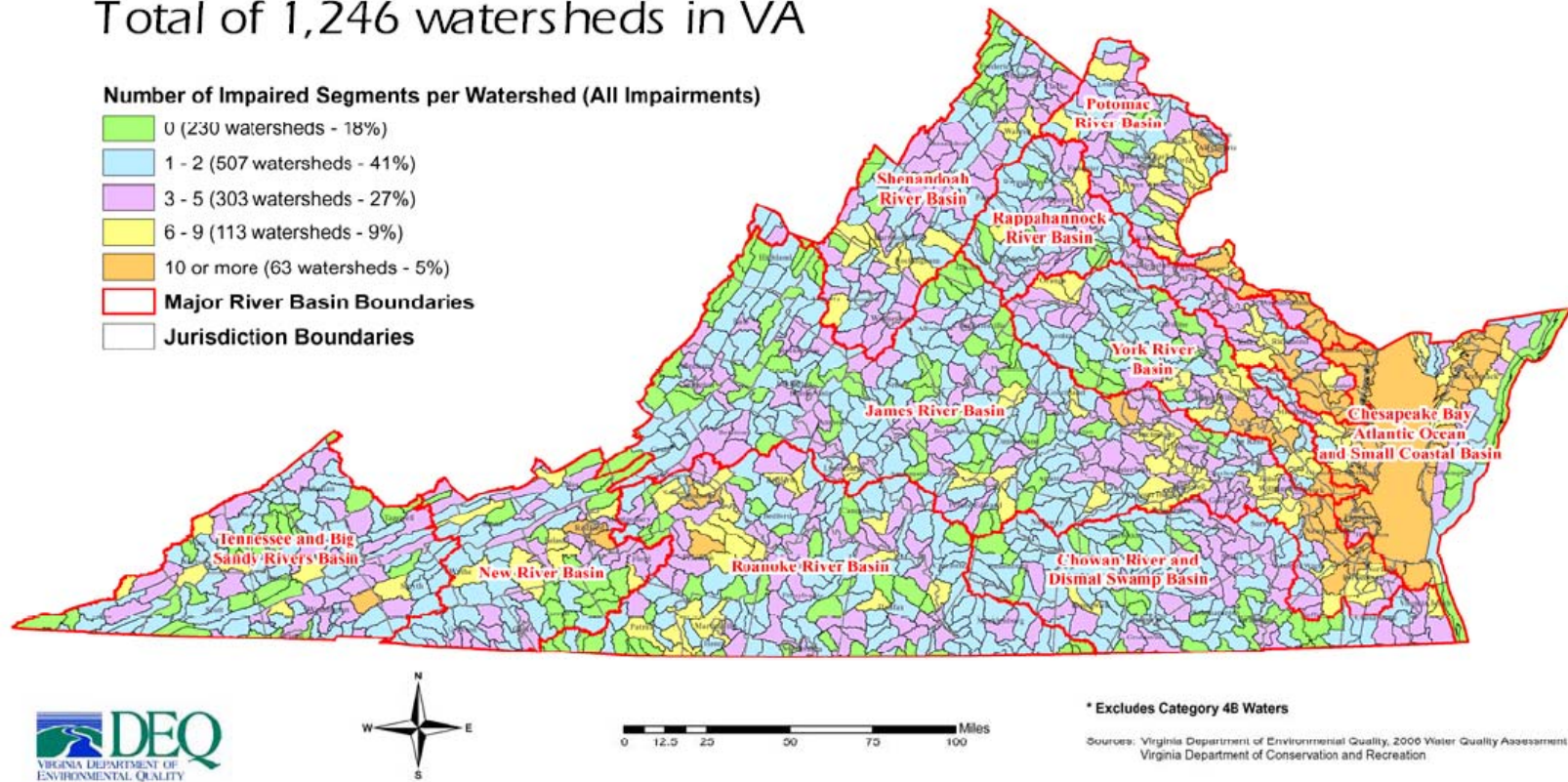
- Component #1: Implementation of Virginia's Watershed General Permit
- Component #2: Share the cost with localities utilizing Virginia's Water Quality Improvement Fund
- Component #3: Aggressively leverage the Virginia Clean Water Revolving Loan Fund
  - VCWRLF succeeded with its largest bond issuance earlier this year of \$325 million. Of this amount, \$279 million for twelve projects provides financial assistance for nutrient removal within the Chesapeake Bay watershed

# Status of Impaired Waters

<b>Virginia Waters - Types and Dimensions</b>	<b>Impaired Waters - 2006 Assessment</b>	<b>Top Reasons for Impairments</b>	<b>Uses Lost or Impaired</b>
<b>Rivers</b> - 50,357 miles	9,002 miles	High Bacteria Levels	Recreational
<b>Lakes</b> -116,058 acres	109,201 acres	Low dissolved oxygen and high PCB levels in fish tissue	Aquatic Life and Edible Fish
<b>Estuaries</b> - 2,428 sq. miles	2,212 sq. miles	Low dissolved oxygen (nutrient pollution) and high PCB levels in fish tissue	Aquatic Life and Edible Fish and Shellfish

# Distribution of Impaired\* Waters In Virginia's Watersheds

Total of 1,246 watersheds in VA



# Scope of Water Quality Monitoring

Key Water Monitoring Programs	# of Stations
Watershed Monitoring	475
Chesapeake Bay	304
Trends	326
Biological Monitoring	120
Reservoir Monitoring	66
Probabilistic	110
Fish Tissue	94
TMDLs	315
<b>TOTAL</b>	<b>1810</b>



# Status of Virginia Water Quality Improvement Fund -Point Sources-



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# Topics in Presentation

- Background on WQIF
- 2007 Legislative Changes
- Status of WQIF: Appropriations and Expenditures
- Status of Grant Agreements
- Compliance Plans To Achieve Nutrient Reductions
- Grants for Smaller Projects
- Projection for WQIF Funding Needs
- Draft Cost Control Guidelines



# Background of WQIF

- Created by 1997 Water Quality Improvement Act
- Purpose: provide cost-share grants for point source pollution prevention, reduction and control projects
- Initial focus on nutrient reduction for Chesapeake Bay restoration

# 2007 Legislative Changes

Eligible projects include:

- 89 significant dischargers listed under §10.1-1186.01;
- Two projects listed in 2007 Appropriations Act; and,
- New or expanding smaller treatment plants that must install nutrient removal

# 2007 Legislative Changes

*[cont.]*

- New grant disbursement provisions effective on July 1, 2007
  - Payments disbursed in four phases, identified by incremental percentages of 25%, 50%, 75% and 100% expenditure of the grantee's share of the cost of nutrient removal technology
- For any grant issued after October 1, 2007, DEQ shall include appropriate cost control measures

# WQIF Expenditures

(Million Dollars)

Total Available WQIF Appropriations Since 1998	\$381.22
Expenditures To Date [For 24 Prior Grant Projects and Payments on 17 Recent Projects]	(\$121.64)
Balance on Signed Agreements	(\$187.39)
Unobligated Funds	<b>\$72.19</b>

# Status of WQIF Grant Agreements

River Basins	No. of WQIF Eligible Significant Dischargers	WQIF Signed Agreement	Agreement Expected in FY08	Application Received	No Application [est. grant]	Basin Total
		-----Million Dollars-----				
Shen/Potomac	35	\$169.00 [11]	\$88.78 [12]	\$46.91 [7]	\$62.94 [6]	\$367.63
Rappahannock	19	\$14.40 [3]	\$11.42 [4]	\$22.63 [7]	\$13.07 [5]	\$61.52
York	9	\$0.00 [0]	\$2.49 [1]	\$76.06 [8]	\$1.17 [1]	\$79.72
James	25	\$22.67 [2]	\$8.43 [4]	\$189.56 [12]	\$55.57 [4]	\$276.23
E. Shore	3	\$2.79 [1]	\$0.00 [0]	\$9.68 [2]	\$0.00 [0]	\$12.47
State Total	91	\$208.86 [17]	\$111.12 [21]	\$344.84 [36]	\$132.75 [16]	\$797.57

Note: Projects for one discharger in Potomac basin and one in York basin will be done in two phases.

# Watershed General Permit

- Authorized by legislation under VA Chesapeake Bay Watershed Nutrient Credit Exchange Program adopted in 2005
- Objective is to meet the nutrient cap load allocations cost-effectively and as soon as possible
- Permit effective January 1, 2007; covers 124 significant dischargers and 8 new or expanding small dischargers
- Compliance Plans submitted by August 1 - describe how dischargers will meet their nutrient limits
- Nutrient Credit Exchange Association coordinated plan submission for 96 significant dischargers
- Trading allows dischargers to stage upgrades so construction projects are spread out and costs minimized
- Plants that defer construction can purchase credits from the “basin market” to achieve their limits
- Growth in VA localities from new and expanding plants will eventually require nutrient removal at all treatment facilities



# Compliance Plans Forecast Success

[Meet Nutrient Caps Starting January 1, 2011]

-----Million Pounds Per Year-----

River Basins	No. of Significant Dischargers	2006 Nitrogen Load	Compliance Plan – 2011 Nitrogen Load	Nitrogen Cap	Plan vs. Cap
Shen/Potomac [w/o Blue Plains]	44	4.34	3.44	3.47	-0.03
Rappahannock	25	0.48	0.37	0.53	-0.16
York	11	1.40	0.88	1.01	-0.13
James	39	14.09	13.06	13.90	-0.84
E. Shore	5	0.13	0.03	0.04	-0.01
<b>Total</b>	<b>124</b>	<b>20.44</b>	<b>17.78</b>	<b>18.95</b>	<b>-1.17</b>

NOTE: Reduction in Blue Plains nutrient load from Virginia not regulated by VA Watershed General Permit, but by EPA permit.

# WQIF Grants for Smaller Projects

- New or expanding smaller facilities need to install nutrient removal to ensure nutrient loads do not increase.
  - Six localities have submitted applications requesting \$13.53 M
- Town of Craigsville
  - HRSD – King William
  - Louisa Co. – Regional STP
  - Louisa Co. – Zion Crossroads STP
  - Clarke Co. – Boyce
  - Town of Middletown

# Future WQIF Needs

Purpose of Additional Nutrient Control Projects	# of Additional Projects	Estimated Capital Cost
Meet VA point source nutrient caps by January 1, 2011	33	\$213.60
Maintain VA point source nutrient caps due to population growth – complete after 2011	24	\$242.36
Future Cap Maintenance	16	\$132.75
Totals	73	\$588.71

# Funding Needs Prior to 2011

- To meet 2011 [33 add'l Projects] = \$213.60 M
  - Uobligated in WQIF = -\$ 72.19 M
  - Funds Needed = \$141.41 M
- Cap maintenance projects = \$133.04 M  
[at least 10 expected to start before 2011]
- Small Projects [6 have applied] = +\$ 13.53 M
- TOTAL = **\$287.98 M**

# Cost-Control Guidelines

- HB1710/SB771 requires DEQ to identify and evaluate options to ensure the efficient use of WQIF grants
- Any grant issued after October 1, 2007 shall include policies and guidelines for the enforcement of appropriate cost control measures
- DEQ staff worked with representatives of local governments and conservation community to develop cost-control guidelines
- Public comment period closed on September 14 – DEQ reviewing comments
- May reconvene stakeholder group if warranted
- Guidelines scheduled for publication by October 1

# Draft Cost-Control Guidelines

## Highlights

- Support alternatives to standard procurement method of competitive sealed bidding, such as the “Design-Build” approach
  - Has potential to reduce delivery time and capital cost by overlapping the design phase and construction phase of a project
  - Locality needs approval from the Design-Build/Construction Management Review Board, pursuant to §2.2-2406
- Require Value Engineering Analysis when nutrient removal costs are greater than \$10 million; optional for smaller projects
  - Reduce costs without reducing product or process performance
  - A VE team conducts a short-term workshop, taking a systematic and creative approach to identify unnecessary high costs that can be reduced
- Life Cycle Cost Evaluation of options required as part of Preliminary Engineering Report
- Allow nutrient removal technology systems to be sized to treat the flow in any reasonable and necessary expansion of the wastewater facility for a 20 year design life



# Draft Cost-Control Guidelines

## Highlights *[cont.]*

- Coordinate with Nutrient Credit Exchange Program:
  - Revision to VA Code allows DEQ Director not to sign a grant agreement with an eligible facility if it is determined that using nutrient credits would be significantly more cost-effective than installing nutrient controls
  - To aid in ensuring nutrient credits will be available, a provision in grant agreements will require WQIF grantees to make nutrient credits generated by the funded facility available for trading
    - At least 50% of the credits for members of the Nutrient Credit Exchange Association
    - At least 75% of the credits for non-NCEA members
- Require compliance with VA Public Procurement Act, with no exception for smaller localities [ $< 3,500$  population]