



Virginia's Water Quality Programs: Overview of Status and Costs

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**VIRGINIA'S
TRIBUTARY
STRATEGIES**

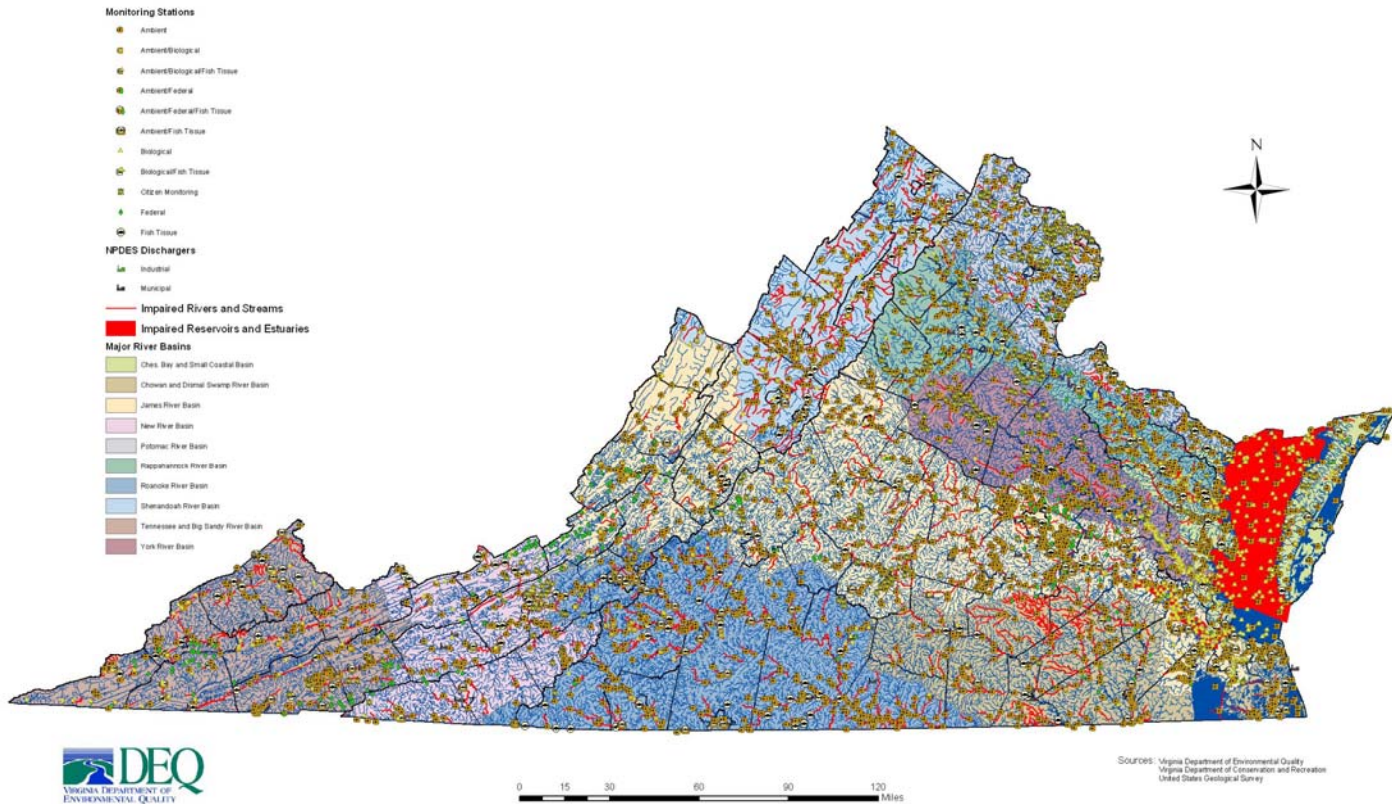


Status of Virginia Waters

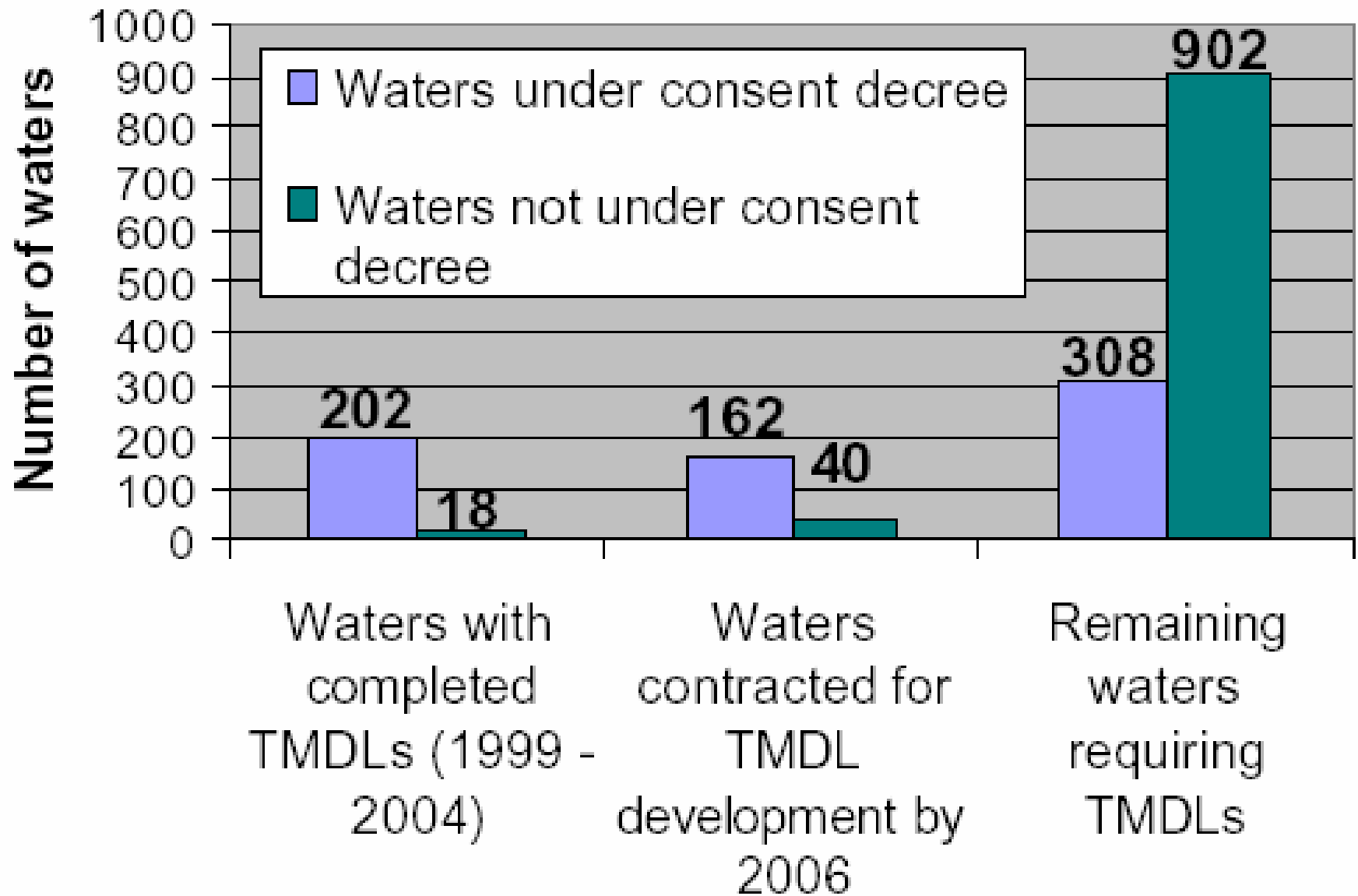
- 2004 Water Quality Assessment Results
 - 6,900 stream miles impaired [out of 13,200 miles assessed]
 - 89,900 acres of lakes impaired [out of 109,000 acres assessed]
 - 1,810 square miles of estuaries impaired [out of 2,500 square miles assessed]
- Bacteria, nutrients, sediments, toxics, pH and natural conditions contribute to these impairments

Impaired Waters in Virginia

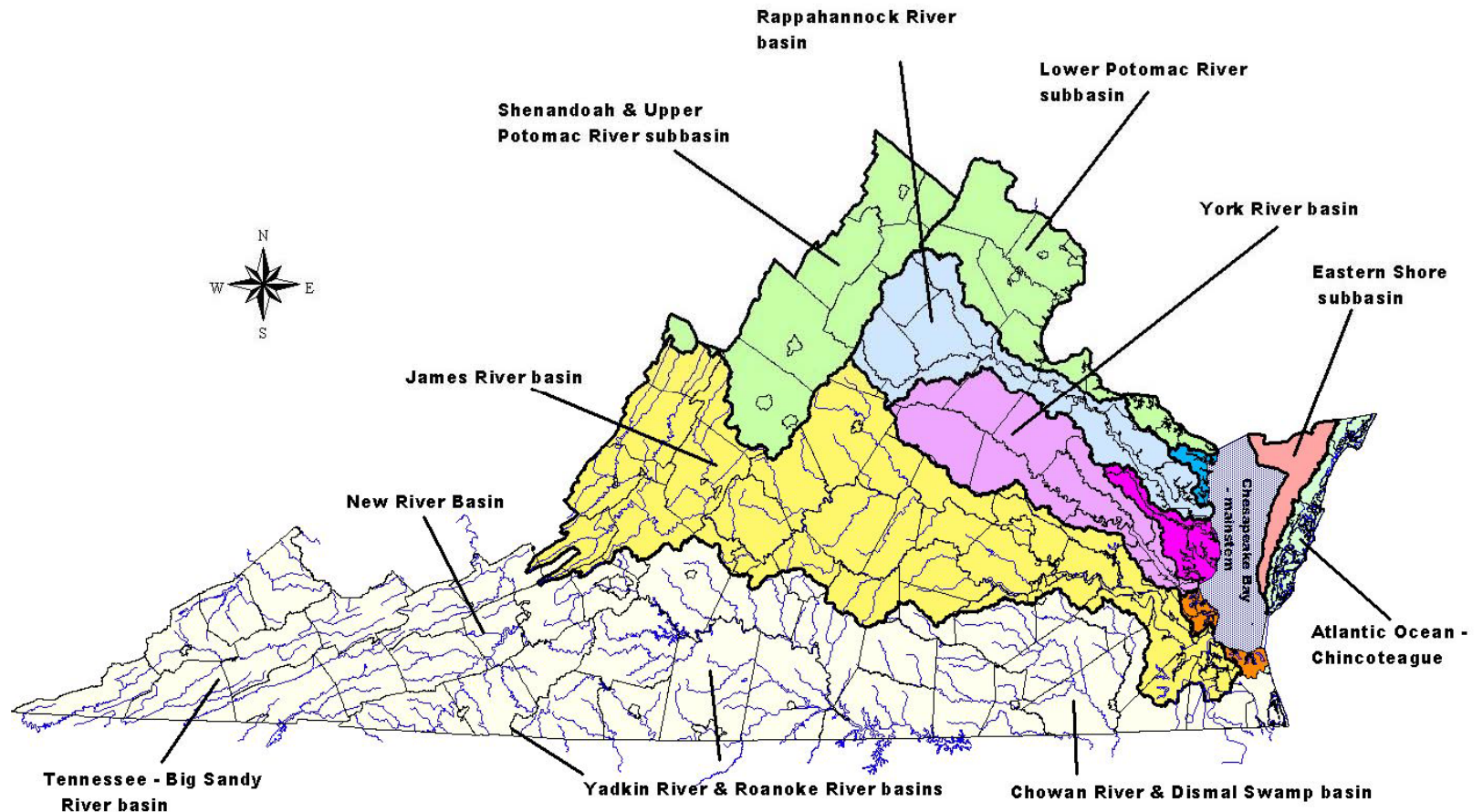
2004 Section 303(d) Waters In Virginia



Status of TMDL development for impaired waters



Virginia Tributary Strategy River Basins



Legislative Actions

Chesapeake Bay Nutrient Credit Exchange Program (HB 2862 / SB 1275)

- **SWCB to issue “Watershed General Permit” containing nutrient waste load allocations for each significant discharger**
- **Allows trading within basins among facilities covered by WGP**
- **Authorizes establishment of “Nutrient Credit Exchange Association”**

WQIA Amendments

HB 2777 SB 1235 SB 810

- Updates Act (“C2K” and “tributary strategy plans”)
- Statement of Policy “It shall be the be the policy of the General Assembly to provide annual its share of support”
- Requires DEQ to sign grant agreements with significant dischargers

WQIA Amendments (con't)

- “Sliding Scale” for point source grants from 35% to 75% based on a ratio
- Additional “priorities” – Agricultural Practices, Pounds of Reduction

Status of Regulatory Actions

New water quality standards:

- Chesapeake Bay standards adopted by SWCB in March 2005
- Special standards for tidal James and York rivers will be considered in June 2005
- Process underway for adopting nutrient criteria for lakes/reservoirs and freshwater streams/rivers

Status of Regulatory Actions

New regulations for Chesapeake Bay dischargers

- **Water Quality Management Planning Regulation**
 - sets nutrient waste load allocations
- **Regulation for Nutrient Dischargers** – sets technology-based nutrient concentration limits for certain discharges
 - SWCB action expected this summer
- **Watershed General Permit** – authorizes discharge of nutrients from all dischargers
 - SWCB action by early 2006

“Evolution” of Cost Estimates

- Initial cost estimates developed for the Chesapeake Bay Program (CBP). These estimates served as the basis for the initial Virginia estimate of \$3.2 billion and Blue Ribbon Panel.**
- Point Source Cost estimates remain the same**
- Nonpoint estimates used CBP as a starting point adjusted estimates using program experience and best professional judgment by DCR**

“Evolution” of Costs Estimates (con’t)

- The Blue Ribbon Panel aggregated costs prior to the completion of the analysis and used a best guess.
- The numbers we have developed are the last estimates we will do. We will focus now on actual costs and budgets.
- The estimates presented here will change as program implementation continues.



Cost Estimates – Point Sources*

Capital and O&M cost estimates for significant dischargers to meet nutrient reduction commitments:

VA River Basins	Number of Wastewater Treatment Plants	Total Capital Cost Point Sources [\$ Millions]	Annual O&M Cost Point Source [\$ Millions/year]
Potomac	43	476	23
Rappahannock	22	92	2
York	11	30	1
James	39	487	15
Eastern Shore	5	14	1
VA Total	120	1,099	42

*NOTE: capital cost figures are planning level, order-of-magnitude cost opinions, accurate from -30% to +50%

Funding Analysis - Needs

- **Total point source capital need: \$1.099 B**
 - for all 120 treatment plants
- **POTW capital cost need: \$1.014 B**
 - for 100 publicly owned plants
- **Variables:**
 - These are cost estimates: could be higher or lower
 - Not all POTWs may need, or decide, to upgrade prior to 2010; for 20 POTWs with existing nutrient removal, the need to upgrade depends upon current flow, rate of growth and nutrient removal efficiency at existing facility

Funds for FY06 WQIF



- **Deposit into VA Water Quality Improvement Fund for FY06**
 - Point sources: \$65.7 million*
 - Non-point sources: \$26.8 million*
- **PS grants range from 35% to 75% based on financial need of community**
- **NPS grants 60% bay watershed, 40% southern rivers**
- * **Total funds less reserve**

Estimated NPS Costs

	State \$ Costs	Other \$ Costs*	Total
Agriculture	\$624 M	\$235 M	\$859 M
Urban	\$290 M	\$7,229M	\$7,519 M
Mixed Open	\$381 M	\$13 M	\$394 M
Forest	\$0	\$2.3 M	\$2.3 M
Septic	\$4 M	\$78 M	\$82 M
Total	\$1,300 M	\$7,557 M	\$8,857M

* Includes regulatory requirements, local government and landowner costs.

“State Costs” vs “Other Costs”

- “State Costs” are those cost that would be reasonably borne by the Commonwealth based on existing programs and past practice.
- “Other Costs” include private/local share of state cost share programs, regulatory requirements, voluntary efforts, etc.

TMDL Costs

- Plan Development: between \$7,000 and \$16,500 per impaired segment.
- Implementation: Range from \$330,000 to \$1 million per mile (estimates based on existing TMDLs for bacteria and sediment on free-flowing streams). Could be much higher for other impairments (e.g. PCBs, sewer upgrades, mining and others)

TMDL and Ches Bay TS Costs

TMDL (Bay non TS) = \$4.2 billion

TMDL (Non Bay) = \$1 billion

TS \$8.8 billion x .07* = \$6.2 billion

TS Point Source = \$1.1 billion

Total = \$12.5 billion**

* Estimated 30% cost efficiency

** Total cost, we have not yet done “state cost
“ analysis

Current Events

- Secretary is required by Code to issue guidance for WQIF grants
- Secretary must convene Advisory Committee and have 60 day comment period
- Advisory Committee met on 5/5/05, Public Comment period to begin with publication of next VA Register.