

TMDL Implementation Plans for the Upper Nansemond River and Mill and Powhatan Creeks

Presented to the Hampton Roads Planning District Commission

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What is a TMDL?

- **Total Maximum Daily Load**
- **Definition:** Maximum amount of a pollutant that a waterbody can receive and still maintain its designated use.
- **In effect:** Planning tool to develop pollution reduction goals in order to improve water quality in impaired waterbodies.

TMDL Process: 3 Steps

1. **303d List** : Identify Impaired Waters
2. **TMDL**: Develop allowable load of pollutant in order to obtain water quality standards
3. **Implementation Plan**: Identify measures necessary to achieve the allocations

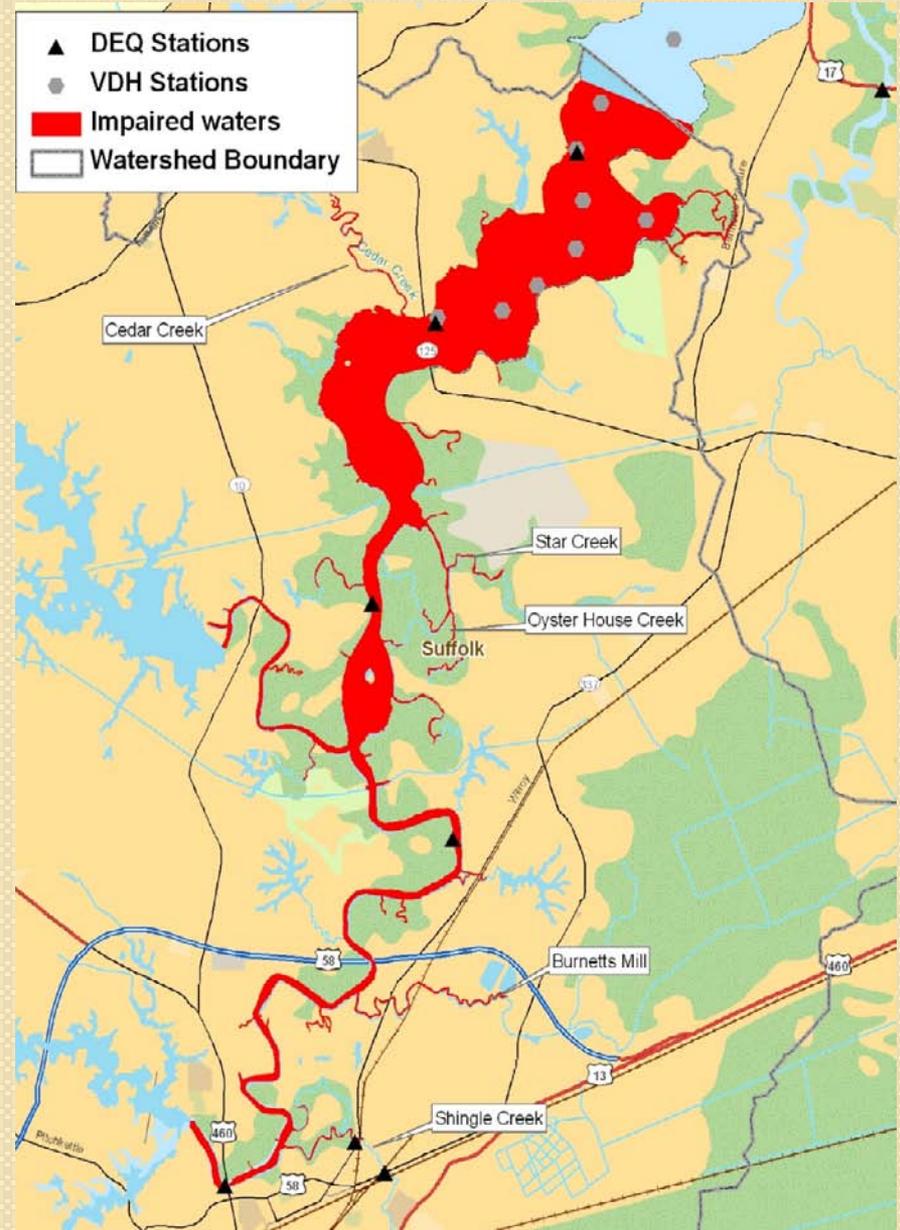
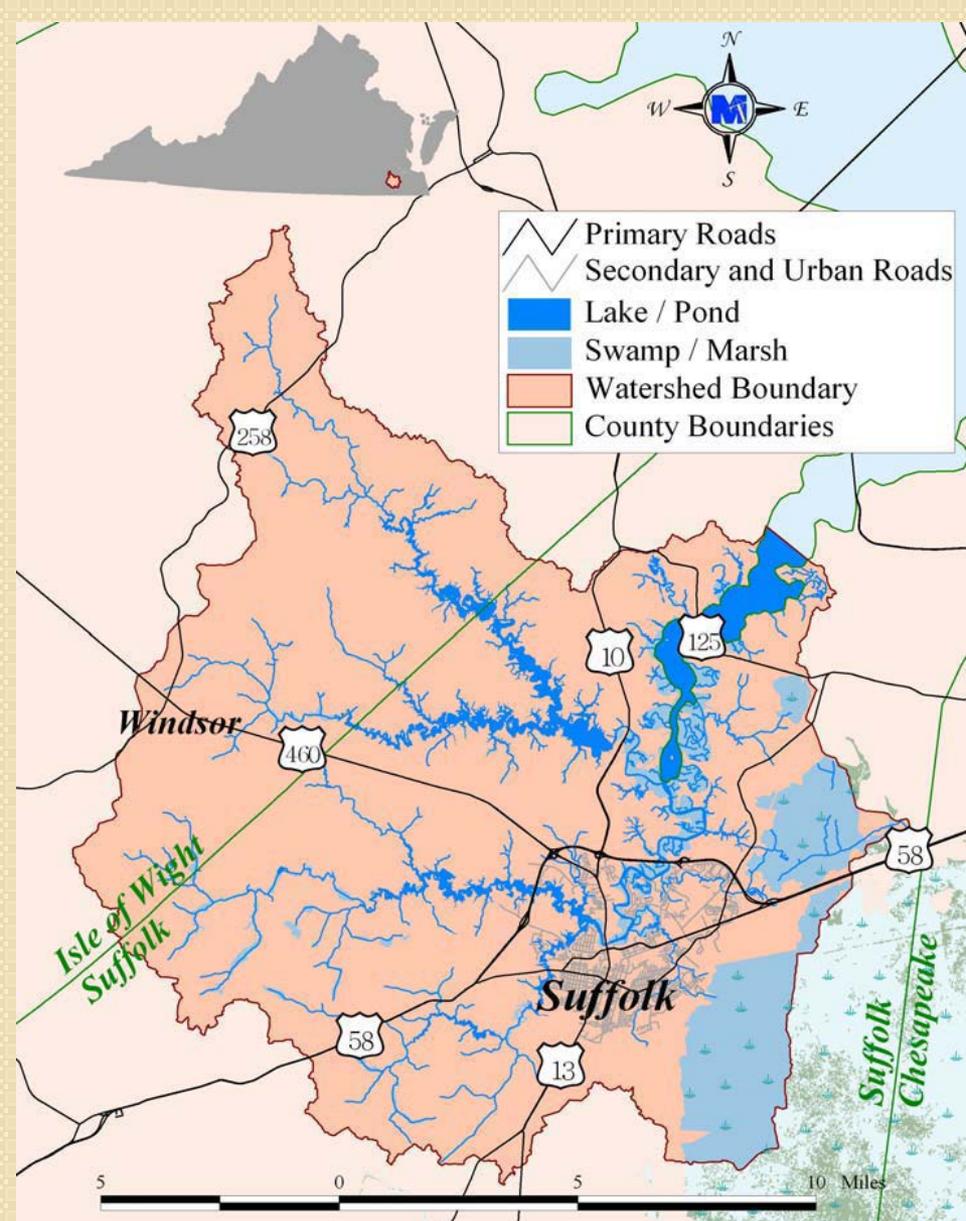
Development of TMDL Study

- Evaluation of Potential Sources
- Data Collection
- Utilize water quality models to calculate allowable load of pollutant
- Consider background sources and seasonal variations
- Allocate allowable load among point and nonpoint sources

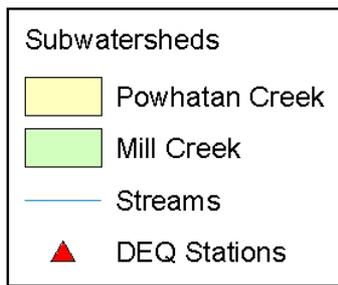
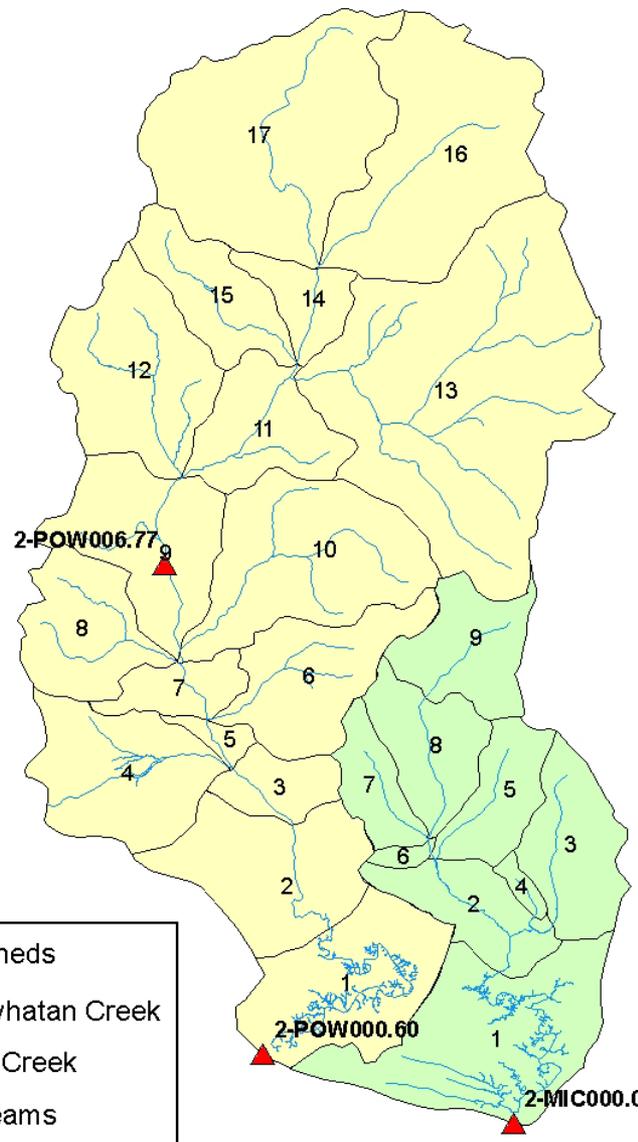
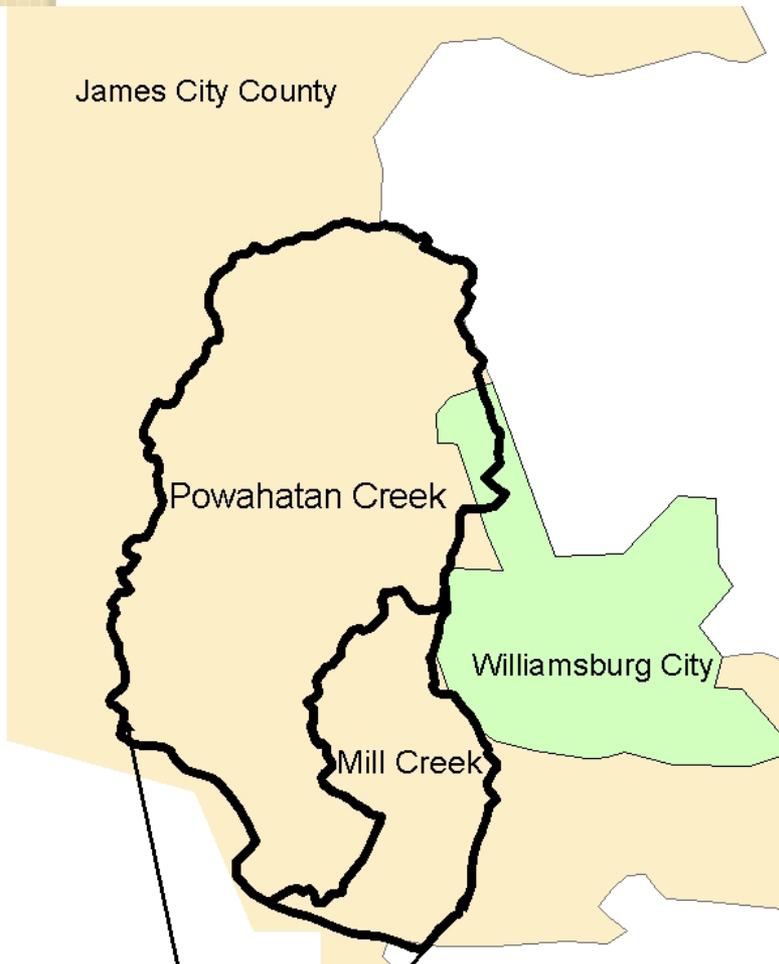
Recently Developed IPs

	Upper Nansemond and Shingle Creek	Mill Creek and Powhatan Creek
Location	Suffolk	James City County
Impaired Listing Date	1996	2002
Impaired Use	Shellfishing and Swimming	Swimming
Date of TMDL Development	2006	2008

Upper Nansemond Watershed



Mill and Powhatan Creeks



WATER QUALITY TARGETS

Use	Parameter	Geometric Mean	90 th Percentile	Instantaneous
Shellfishing	Fecal Coliform	14 cfu/100ml	39 cfu/100ml	
Primary Recreation (tidal)	Enterococci*	35 cfu/100ml		104 cfu/100ml
Primary Recreation (non-tidal)	e.coli	126 cfu/100ml		235 cfu/100ml

IMPLEMENTATION PLAN DEVELOPMENT

- Involve Local Stakeholders
- Review and update data from TMDL Study
- Target Human Sources
- Integrate watershed plans or other planning activities within the watershed
- Evaluate existing programs
- Identify existing and planned remediation activities (BMPs)
- Evaluate Progress and Effectiveness of Actions

UPPER NANSEMOND RIVER

PROGRAMS IN PROGRESS

- Septic tank pump out programs
- Storm sewer marking
- Sanitary Sewer Improvements
- Pet waste education programs
- Bacteria Source Study – Shingle Creek

PROPOSED ACTIONS

- Expand Water Quality Monitoring
- No Discharge Zone Establishment
- Living Shoreline Program
- Education Program for Horse Owners

MILL AND POWHATAN CREEKS

PROGRAMS IN PROGRESS

- Sanitary Sewer System Improvements
- Marina Improvements
- County Led Bacteria Monitoring
- Pet Waste Station Giveaways

PROPOSED ACTIONS

- Expand Boater Education Program
- Investigate No Discharge Zone for Powhatan Creek
- Wet Pond Retrofits for Bacteria Removal
- Consider Pet Waste Ordinance

Schedule

	Upper Nansemond River	Mill and Powhatan Creeks
First Public Meeting	July 9, 2009	June 18, 2009
Final Public Meeting	May 18, 2010	May 13, 2010
End of Public Comment Period	June 18, 2010	June 14, 2010
Plan Submittal to DEQ	June 30, 2010	June 30, 2010

Questions?