

Implementation Plan Development for Bacteria TMDL's in Back Bay and North Landing Watersheds in Virginia Beach



March 2010



TMDL

- Total Maximum Daily Load
- The theoretical maximum amount of a pollutant that can be discharged to a water body each day and still meets it's designated use.

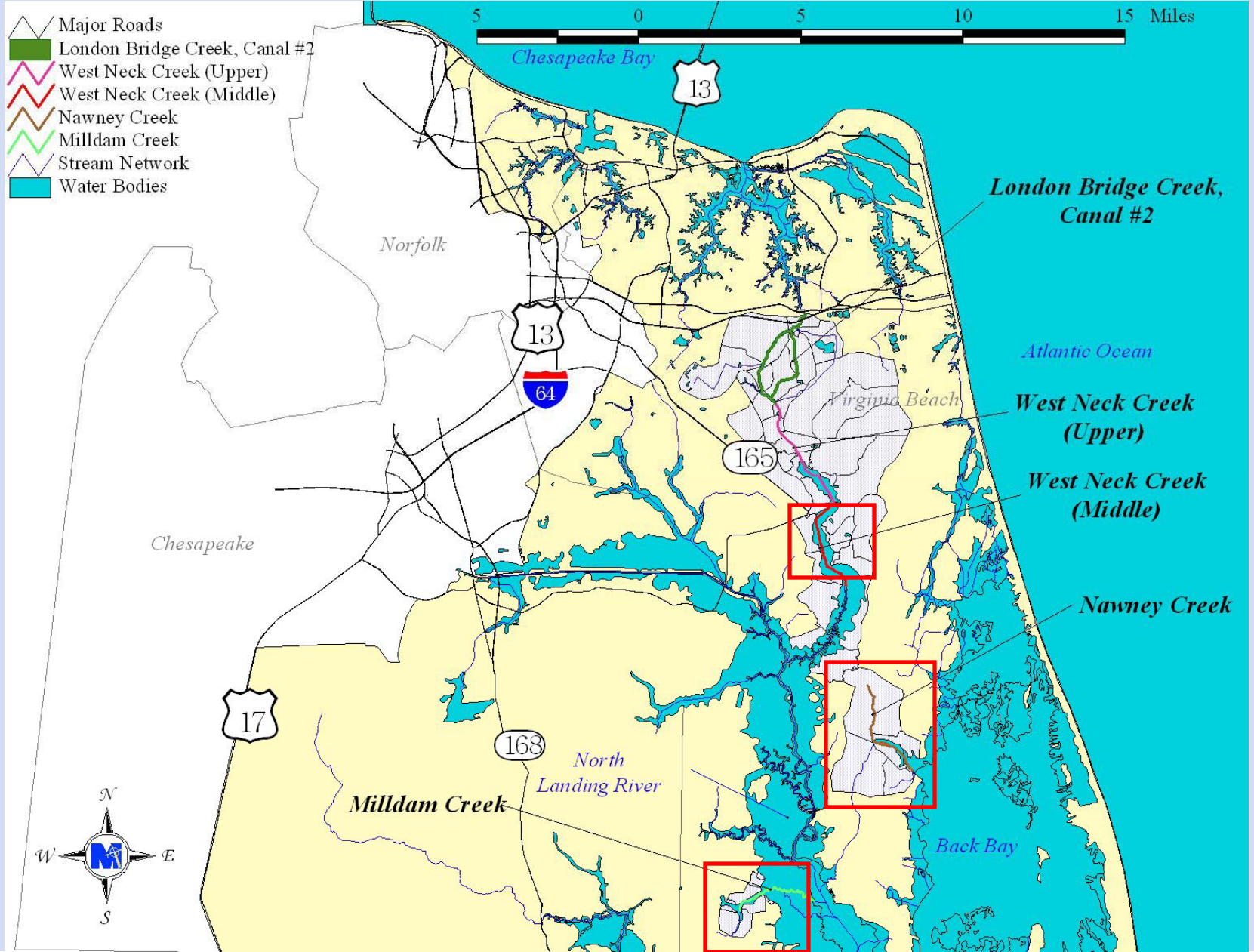
Implementation Plan (IP)

- A Management plan made up of several actions and programs designed to reduce pollutant loads so that the TMDL is met.
- IP's are required by Virginia as specified in the Virginia Water Quality Monitoring, Information and Restoration Act

What are We Required to do?

- The current TMDL assigns a Load Allocation because it considers all sources as Non-Point and therefore the location of the source is unknown.
- The City will ultimately get a mandatory Waste Load Allocation for its Streets and a few non-agricultural subdivisions. This requirement is placed on the City.

Impaired Waters of Interest



What has the City done?

- Our Rural Citizens are connected to their Community
- They spotted inaccuracies in the data originally used to do the TMDL Study
- The City has:
 - Re-Studied the Nanny Creek Basin
 - Obtained Input from our Citizens and Stakeholders
 - Corrected the land uses and Animal population numbers
 - Revised the likely bacterial source information

Source	State	City Study
Wildlife		
Beaver	34	0
Deer	60	211
Ducks	38	43
Geese	14	256
Gulls	113	209
Muskrats	321	1601
Nutria	0	533
Youth	0	117
Adults	0	413
Raccoons	272	227

Source	State	City Study
Livestock		
Cattle	0	8
Goats	0	154
Horses	15	275
Hogs	3727	609
Sheep	0	77

Source	State	City Study
Human and Pet		
Dogs	141	431
Cats	158	0
Septic Tanks	260	352
Failing	40	35*
Uncontrolled Discharges	4	Unknown*

Why the Big Difference?

- DEQ is under a mandate to develop TMDL's as a result of a law suit by the Canoe Club on EPA.
- A Consent Order was signed by the State. No funding was provided with this mandate.
- DEQ has had to develop over 500 TMDL's so far.
- There are 14,000 + impaired waters in the State.
- TMDL's had to be developed quickly and with limited funding. The only available information was spotty and dated.
- City Study Cost 10x as much and took 18 months.

So, What does all this mean?

- If the States model was inaccurate, Are the creeks still impaired? – Yes. the Impairment is based on actual water testing and the Bacterial numbers are too high.
- Then what is the value of the City's Study? –The revised study indicates the likely sources of the bacteria and is used to develop an IP that address the sources and maximize effectiveness of their reduction.

Category	Management Option Management	Development Phase
Agricultural BMPs	Equine Facility Inventory for Virginia Beach	Phase I
	Manure Management Assistance for Landowners	Phase I
	Soil and Water Conservation Programs	Ongoing
	Lead Ditch Maintenance	Ongoing
Stormwater Programs	Cleaning and Maintaining Flow in Roadside Ditches	Ongoing
	Instream Testing	Phase I
	Calculation of a WLA for the MS4	Ongoing
Septic System Programs	Provide Information to Residents on Septic Tanks and Maintenance.	Phase I
	Provide Septic Tank Assistance to Homeowners	Phase I

Management Category	Management Option	Development Phase
Pet Waste Programs	Pet Waste Ordinance	Completed
Erosion and Sediment Control	Enforcement of Virginia Beach Erosion and Sediment Control Ordinance	Ongoing
Aquatic Resource Restoration	Riparian Buffer Enhancement Plan	Ongoing

Management Category	Management Option	Development Phase
Education Programs	"Scoop the Poop" Program	Ongoing
	Watershed Markers	Ongoing
	Education for Livestock and Equine Facility Owners	Ongoing
	Stormwater Education programs in Schools	Ongoing
	Agriculture/Conservation Education Programs	Ongoing
	Environmental Education Programs	Ongoing

Management Category	Management Option	Development Phase
Land Use Management	Wetlands and Waterfront Operations Program	Ongoing
	Habitat Enhancement Committee	Ongoing
	Floodplains Management	Ongoing
	Southern Watersheds Management Ordinance	Completed
	Green Ribbon Committee Recommendations	Ongoing
Wildlife Contribution Controls	City Ordinance to Prevent Feeding of Waterfowl on Public Land	Completed
	Evaluate/Inventory Wildlife Populations within the Watershed	Phase I
	Explore Introduction of Wildlife Management Programs	Phase I
	Increase penalty for wildlife dumping	Completed

Management Category	Management Option	Development Phase
Watershed Studies	Data Collection and Analysis in Nanney Creek Watershed	Completed
	Data Collection and Analysis in Milldam Creek Watershed	Phase I
	Data Collection and Analysis in Middle West Neck Creek Watershed	Phase I

What is Next?

- Plan has been submitted to DEQ for Approval and USEPA for concurrence
- Implementation in 2010 upon Approval

The background of the slide is a blue sky with a sun flare on the left side, transitioning into a blue ocean with ripples. The text "QUESTIONS?" is centered in the upper half of the image.

QUESTIONS?