

Public Meeting to Discuss No Discharge Zone (NDZ) Draft Application

Waterbodies in Northumberland County and portion
of Yeocomico River in Westmoreland County

May 31, 2011



Agenda

Introduction to No Discharge Zones (NDZs) - Margaret Smigo
Piedmont Regional Water
Quality Studies Coordinator

*Overview of NDZ application prepared by
Northern Neck Planning District Commission (NNPDC)
for waterbodies in Northumberland County* – Stuart McKenzie
NN PDC Environmental
Planner

Question and Answer Session

– *Group; Please write questions/comments on notecards. Your facilitators will collectively address each card after the presentations.*

A No Discharge Zone...



...is a federally designated body of water where discharge of *treated* vessel waste is prohibited (MSD I/II)

****NOTE****

NDZs do NOT apply to discharges incidental to operation (ie – graywater, bilge water, weather deck runoff)

Clean Water Act (1972)

- The Clean Water Act (CWA) prohibits the discharge of untreated waste into United States territorial waters
- §312 (33 U.S.C. 1322):
 - mandates all commercial and recreational vessels *with an installed toilet* be equipped with a United States Coast Guard (USCG) certified *Marine Sanitation Device (MSD)*
 - designates EPA with responsibility of setting MSD performance standards
 - allows states to apply for complete prohibition of vessel sewage for waters requiring greater environmental protection
 - US Coast Guard or any other Federal or state government entity may provide enforcement

Standards for Marine Sanitation Devices

40 CFR Part 140.3

- **Type I MSD** must produce an effluent having a fecal coliform bacteria count $\leq 1,000$ per 100 milliliters and no visible floating solids
- **Type II MSD** must produce an effluent having a fecal coliform bacteria count ≤ 200 per 100 milliliters and suspended solids ≤ 150 milligrams per liter
 - *Required on boats > 65 ft*
- **Type III MSD** holding tank (with or without discharge capability)



MSDs include any equipment for installation on board a vessel which is designed to receive, retain, treat, or discharge sewage, and any process to treat such sewage.

Why is Treated Overboard Discharge (MSD I/II) an Issue?

- MSDs (I/II) may not be capable of destroying enough bacteria in waterways with bacteria impairments (shellfish and recreational uses impaired)
- MSDs (I/II) may not ALL be capable of destroying all pathogens in human waste (i.e. viruses – Hepatitis A, Norovirus)
- MSD (I/II) chemicals may be harmful to the environment (boaters are known to add deodorizers with formaldehyde, chlorine, zinc, etc.)
- Nutrients only minimally removed by MSDs (I/II) (Nitrogen/Phosphorus) and contribute to:
 - Depletion of dissolved oxygen in water
 - Algal blooms as well as harmful algal blooms such as Red Tide and Pfiesteria
 - Low or no dissolved oxygen affects aquatic organisms such as fish, oysters, and crabs
 - Impairments of submerged aquatic vegetation (SAV) due to decreased light infiltration

Chesapeake Bay TMDL calls for significant nitrogen/phosphorus reductions NDZs included in Virginia's Phase I Watershed Implementation Plan as a tool to benefit that effort.

Disconnect between Water Quality Standards (WQS) and MSD Treatment Requirements - Bacteria

Designated Use Protected	Water Quality Standards Geometric Mean	Indicator Organism
Recreation/Swimming (Used for Beach Closures - VDH)	104 CFU/100ml	<i>Enterococcus</i>
Recreation/Swimming (Waste Water Treatment Facilities - DEQ)	35 CFU/100ml	
Shellfish	14 MPN/100ml	Fecal Coliform

MSD Type	Minimum Treatment Required
Type I	1000 Fecal Coliform/100ml
Type II	200 Fecal Coliform/100ml
Type III	NONE – Holding Tank Only

No *Enterococcus* standard for MSDs

****NOTE****

MSD discharge *even at the allowable concentration* can be detrimental to local water quality of Bay tributaries and can further exacerbate existing bacteria problems affecting recreational and shellfish uses!



Extent of VA Bacteria Impairments



Most tidal tributaries of Bay have a shellfish or recreation use impairment and are more sensitive to pollution due to less volume and flushing than larger waterbodies

Map of bacteria impairments - VADEQ Integrated Assessment Report 2008

Disconnect between Water Quality Standards and MSD Treatment Requirements – Nutrients

Secondary DEQ Standards for Waste Water Treatment Facilities	Water Quality Standards (Single Sample Maximus Instantaneous)
Biological oxygen demand (BOD ⁵)	= 30 mg/l
Suspended Solids (SS)	

MSD Type	Minimum Treatment Required
Type I	No visible floating solids
Type II	Suspended solids = 150mg/l
Type III	NONE – Holding Tank Only

- MSDs do not have BOD requirements which are a measure of the concentration of biologically degradable material in organic wastes and reflects amount of oxygen consumed in five days by biological processes breaking down those wastes.
- Ches Bay TMDL requiring enhanced treatment of WWTFs for Nutrient/Phosphorus (not required by MSDs)

****NOTE****

MSD discharges *even at the allowable concentration* can be detrimental to local water quality of Bay tributaries and can further exacerbate existing nutrient pollution affecting aquatic life and submerged vegetation via algal blooms!

Federal NDZ Guidance

United States
Environmental
Protection Agency

Office of Water
Washington, DC 20460

EPA 842-B-94-004
August 1994



Protecting Coastal Waters from Vessel and Marina Discharges:

A Guide for State and Local Officials

**Volume I. Establishing No Discharge Areas under §312
of the Clean Water Act**

For Full Document Visit

<http://www.epa.gov/reg3wapd/nodischarge/index.htm>



Federal NDZ Guidance

Water Criteria for Designation

- Certain fresh waters
- Waters where the presence of adequate alternatives (i.e. sewage pump-outs) can be established
- Waters of particular environmental significance, regardless of pump-out availability (i.e. sensitive species)
- Areas surrounding drinking water intakes regardless of pump-out availability

Federal NDZ Guidance

Key elements of an application for NDZ designation:

- (1) *A certification that the protection and enhancement of the waters described in the petition require greater environmental protection than the applicable Federal standard;*
- (2) *A map showing the location of commercial and recreational pump-out facilities;*
- (3) *A description of the location of pump-out facilities within waters designated for no discharge;*
- (4) *The general schedule of operating hours of the pump-out facilities;*
- (5) *The draught requirements on vessels that may be excluded because of insufficient water depth adjacent to the facility;*
- (6) *Information indicating that treatment of wastes from such pump-out facilities is in conformance with Federal law; and*
- (7) *Information on vessel population and vessel usage of the subject waters (EPA Guidance 842-B-94-004)*

Federal Requirements of MSDs in a NDZ

- In a no-discharge zone:
 - *Type I and II devices must be secured by*
 - *Closing the seacock and padlocking it*
 - *Using a non-releasable wire tie*
 - *Removing the seacock handle (with the seacock closed)*
 - *Lock door leading to toilet*
 - *Type III devices must be secured by*
 - *Closing overboard discharge valve and removing handle*
 - *Securing with a padlock or with non-removable wire tie*

Virginia Regulatory Background

VADEQ Guidance Memo No. 08-2003 (2/26/2008)

Visit <http://www.deq.virginia.gov/waterguidance/pdf/082003.pdf>

The Virginia NDZ process:

- Application process can be initiated by
 - Stakeholder petition (*external*)
 - Component of a water quality study clean up plan (*internal*)
- Determination of necessity, level of support, pump-out availability, and a draft application is prepared in collaboration with stakeholders
- Public meeting and comment period
- Submit to EPA (lengthy public comment process as well)
- Present approved designation to SWCB

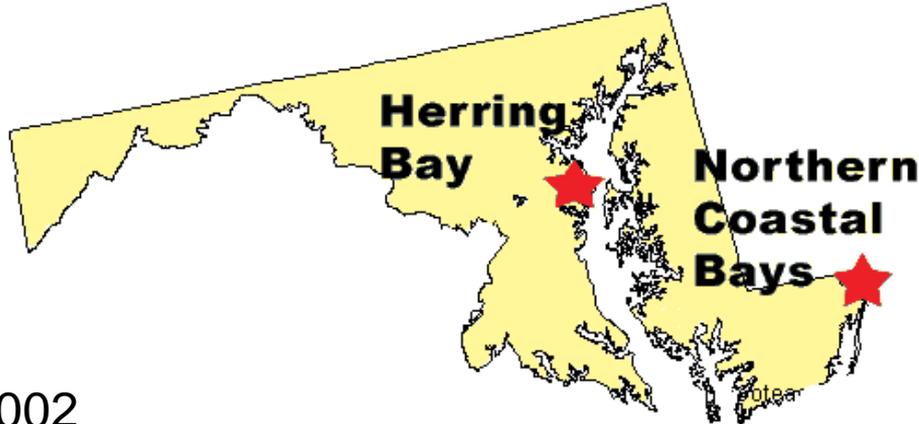
Virginia Regulatory Background

VA Code §62.1-44.33

“The tidal creeks of the Commonwealth are hereby established as no discharge zones for the discharge of sewage and other wastes from documented and undocumented boats and vessels. The Board shall adopt regulations for designated no discharge zones requiring (i) boats and vessels without installed toilets to dispose of any collected sewage from portable toilets or other containment devices at marina facilities approved by the Department of Health for collection of sewage wastes, or otherwise dispose of sewage in a manner that complies with state law...”

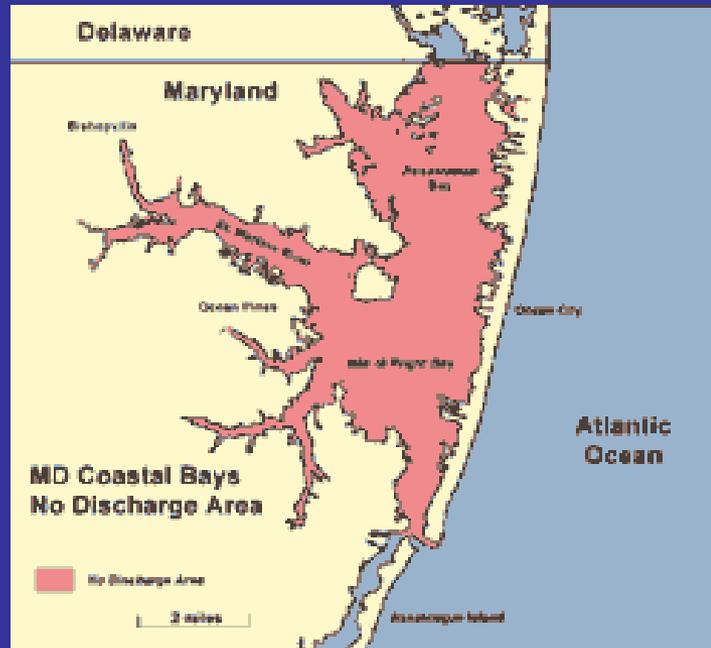
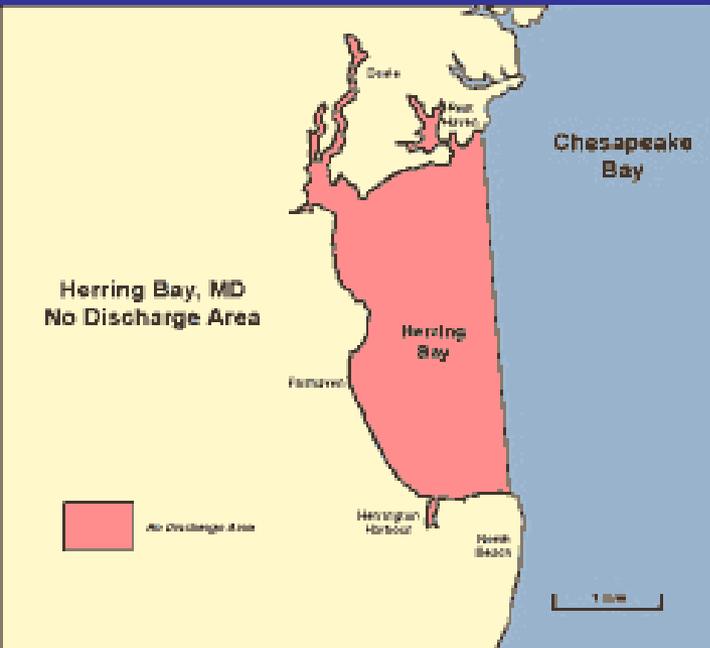
- Mandates VA DEQ to implement federal law (i.e. apply to EPA)
- Restates federal NDZ law, *plus...*
 - Mandates that houseboats have holding tank & use pump-outs
 - Extends enforcement authority to **all** law enforcement agencies
 - Requires marinas in NDZs to give notice to patrons via:
 - Signage
 - Language in slip rental contracts

NDZs in Maryland...



Maryland recently withdrew its application for a NDZ to cover their entire portion of the Chesapeake Bay

2002



NDZs in Virginia

Approved VA NDZs

- Smith Mountain Lake, Bedford, Franklin, & Pittsylvania Counties (2000)
- Lynnhaven River, Virginia Beach (2007)
- Broad and Jackson Creeks, Fishing Bay, Middlesex County (2009)

Application in revision

- Owl Creek / Rudee Inlet, Virginia Beach

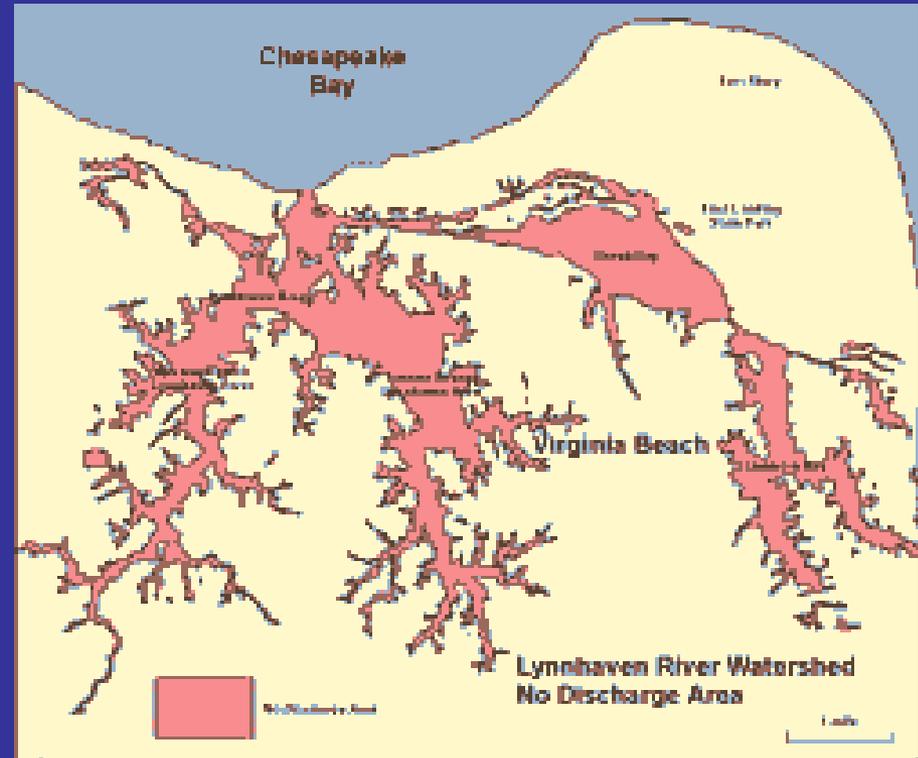
Applications in preparation

- Northern Neck counties – Farnham Creek to Rosier Creek from Richmond to Westmoreland Counties
 - Applications to be submitted for waterbodies for each County

Other nearby counties have requested information ☺

Virginia NDZ Experience - Lynnhaven

- Huge stakeholder involvement throughout TMDL/IP process
 - *Lynnhaven River Now* (non-profit group)
- Positive impact of NDZ outreach:
 - Shellfish growing areas closed since 1930's now re-opened
 - Cavalier Golf & Yacht Club reported more pump-outs
 - FYY 2006 - 154 pump outs (pre NDZ)
 - FYY 2007 - 299 pump-outs (post NDZ)

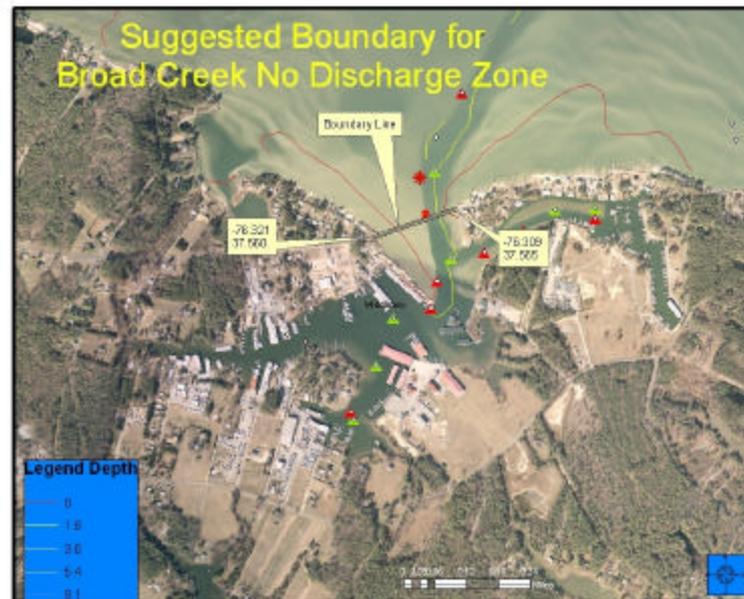


****NOTE**** In addition to the NDZ, dye tablets are placed in MSD tanks upon pumpout. Other localities or marinas with NDZs may opt to make dye tablets mandatory to assist enforcement !

Virginia Experience – Deltaville

Including Broad & Jackson Creeks and Fishing Bay

- Local citizen interest prompted NDZ application development
- Sign placement at marinas; best to solicit conspicuous land-based postings on private and/or marina property
- EPA approved 2009; will need time to assess effectiveness of NDZ on water quality



Virginia Experience – Northern Neck

- Focus area includes tidal tributaries in Richmond (Farnham & Lancaster Creeks), Lancaster, Northumberland, & Westmoreland Counties (Farnham Ck to Rosier Ck)
- Includes ~40 impaired Shellfish/recreation use TMDL segments
- Varied levels of support
 - increasing with each application
 - Opposition from the recreational boating community – believe that preventing the use of MSDs in NDZ areas will contribute to the pollution in tributaries of the Bay
- Federal stimulus funding used towards data collection and application development (Contractor – NN PDC) – deadline is June 30, 2011

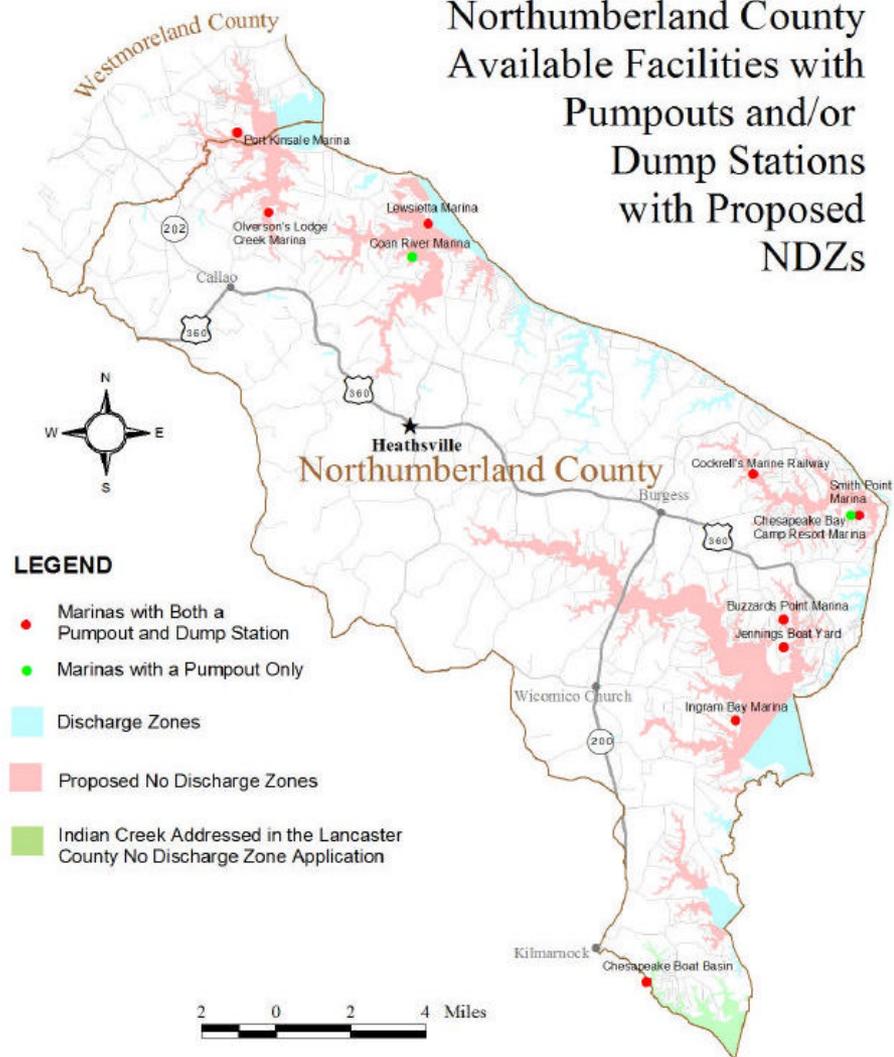
Waterbodies proposed for NDZ designation in current draft application:

Northumberland County:

Jarvis, Prentice, Dividing, and Cloverdale Creeks, Great Wicomico, Little Wicomico River, Cod Creek, Coan River and the Glebe, Judith Sound, and Yeocomico River

Westmoreland County:

portion of Yeocomico River



Why is a NDZ Beneficial?

- Can improve water quality which leads to the restoration of beneficial uses
- In impaired waterbodies, a NDZ addresses boats as a source allowing stakeholders to focus on “land based” source reductions
- Improves attractiveness of water bodies for marina owners & local business with minimal to no regulatory burden
- Can provide a local economic boost due to increased pumpouts/dumpouts and incidental sales
- Encourages overall watershed stewardship

Public Comment Period for draft NDZ Application for waterbodies in Northumberland County

Draft Application Online:

<http://www.deq.virginia.gov/tmdl/ndz.html>

Send Comments by June 30, 2011 to:

Mail:

Margaret Smigo

4949-A Cox Road

Glen Allen VA, 23060

Email:

Margaret.Smigo@deq.virginia.gov

Fax:

(804)527-5106

Margaret Smigo – TMDL Coordinator (804)527-5124

David Lazarus – Watershed Program Manager (804)527-4299

To report a non-working pump-out
contact Preston Smith at VDH (804)864-7468



Extra Slides

HB 1943: Passed House and Senate

Summary as introduced:

No discharge zones. Clarifies that a no discharge zone cannot be established in the Chesapeake Bay or the main stem openings of the major rivers that flow into the Bay. The bill also describes the actions that must be taken to ensure that there is no discharge of sewage from vessels while in a no discharge zone.

<http://leg1.state.va.us/cgi-bin/legp504.exe?ses=111&typ=bil&val=HB1943>