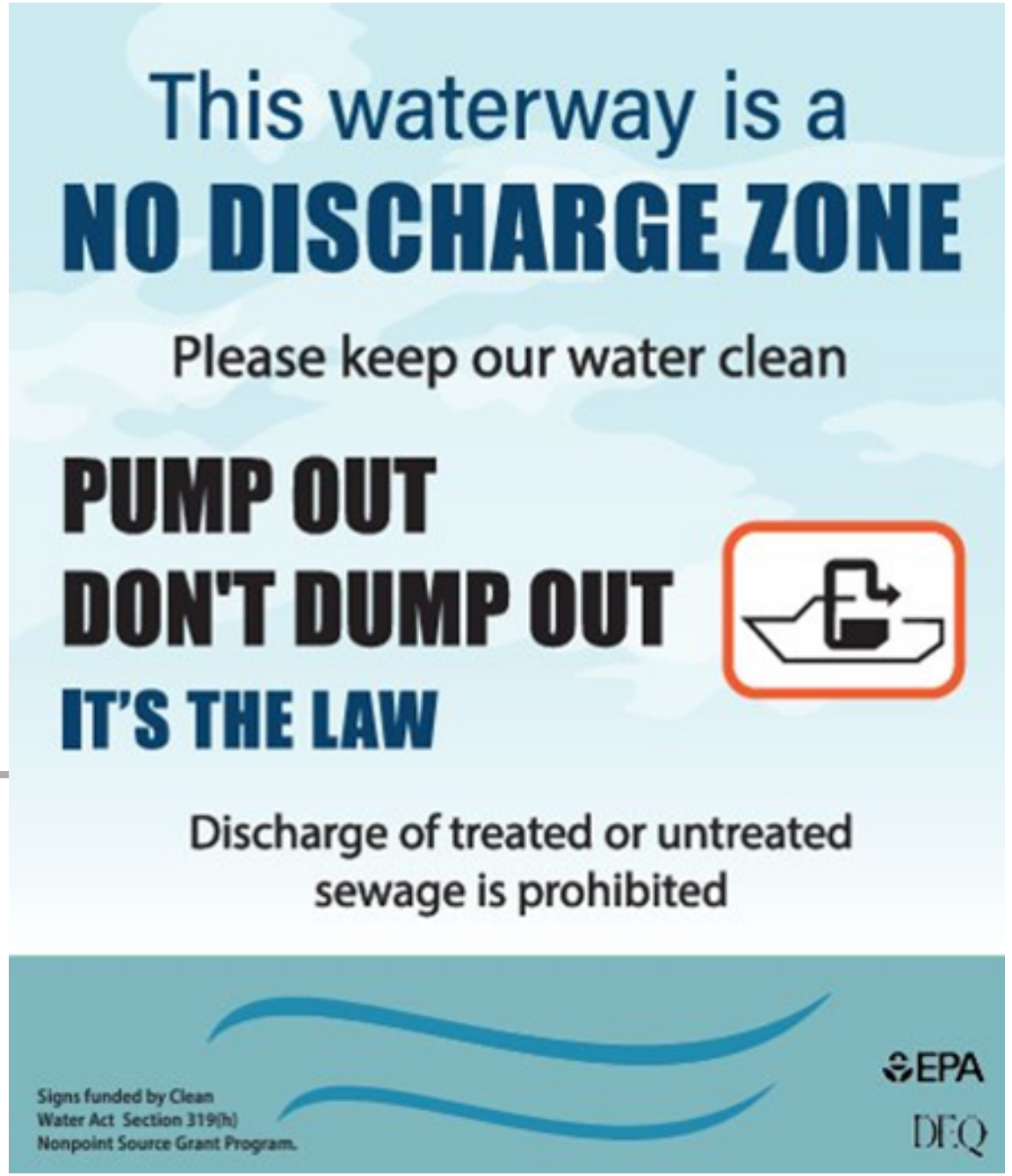
Northern Neck No-Discharge Zone

Application to EPA



Anne Schlegel
TMDL Coordinator
Virginia Department of Environmental Quality
February and March 2025

Agenda

- Welcome and Introductions
  - Opening Remarks / Introductions
  - Meeting Objectives
- Summary of a No Discharge Zone Application
- Wrap-up and Next Steps
  - Public Comment Period
  - Next steps in Application Process
- Questions

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What is a Vessel Sewage No-Discharge Zone?

A waterway where the discharge of both untreated **and treated** sewage from all vessels is prohibited under the federal Clean Water Act

Important Note

No-Discharge Zones do **not** apply to discharges incidental to vessel operation (gray water, bilge water, etc.).

Image source: Tidewater Oyster Gardeners Association

Marine Sanitation Devices (MSDs)

- All vessels with installed toilet must be equipped with an MSD
- A device which either treats sewage to varying degrees or holds sewage onboard
- 3 types: Type 1, Type 2, Type 3
- EPA regulates performance standards for MSDs
- USCG regulates the design and certification, operation of MSDs
- Note: Portable toilets are not considered installed toilets

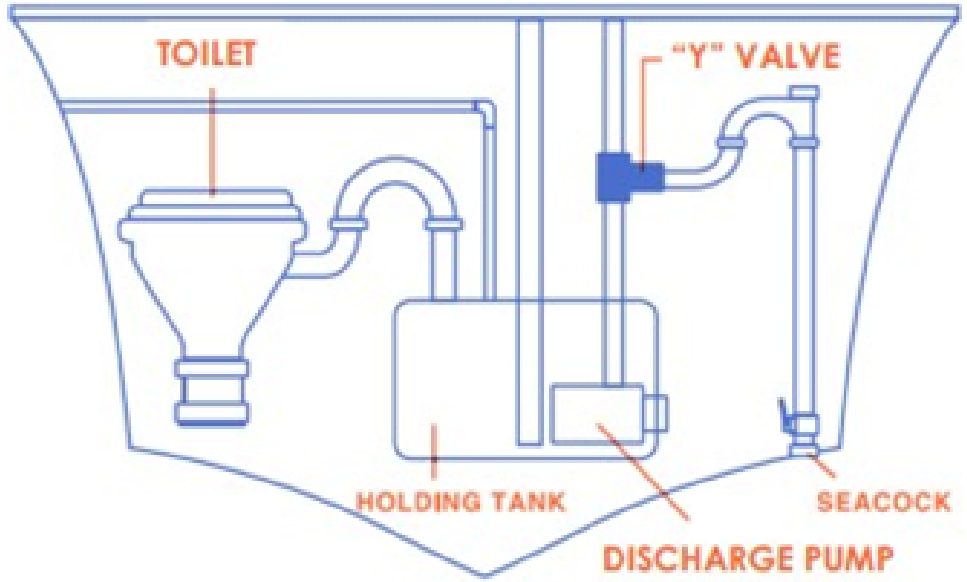

Image source: California's When Nature Calls

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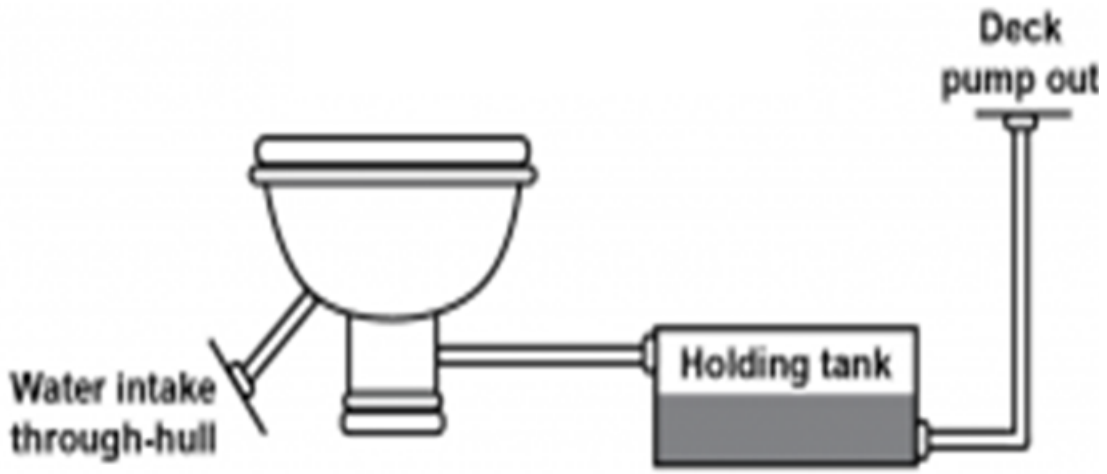
Marine Sanitation Devices (MSDs): Type 1 and Type 2

- Treat and release devices
- Type 1
  - Typically uses maceration and disinfection such as chlorination
  - Most common type of treat and release MSD
  - Can only be installed on vessels <= 65 feet in length
- Type 2
  - Typically employs biological treatment and disinfection (some Type 2s may use maceration and disinfection)
  - Type 2 or Type 3 must be installed on vessels > 65’ in length if the vessel has an installed toilet

Marine Sanitation Devices (MSDs): Type 3

- A holding tank where sewage is stored until it can be discharged shore-side at a pumpout facility or more than 3 miles offshore
- Can be used on a vessel of any size
- Can be installed in combination with a Type 1 or Type 2



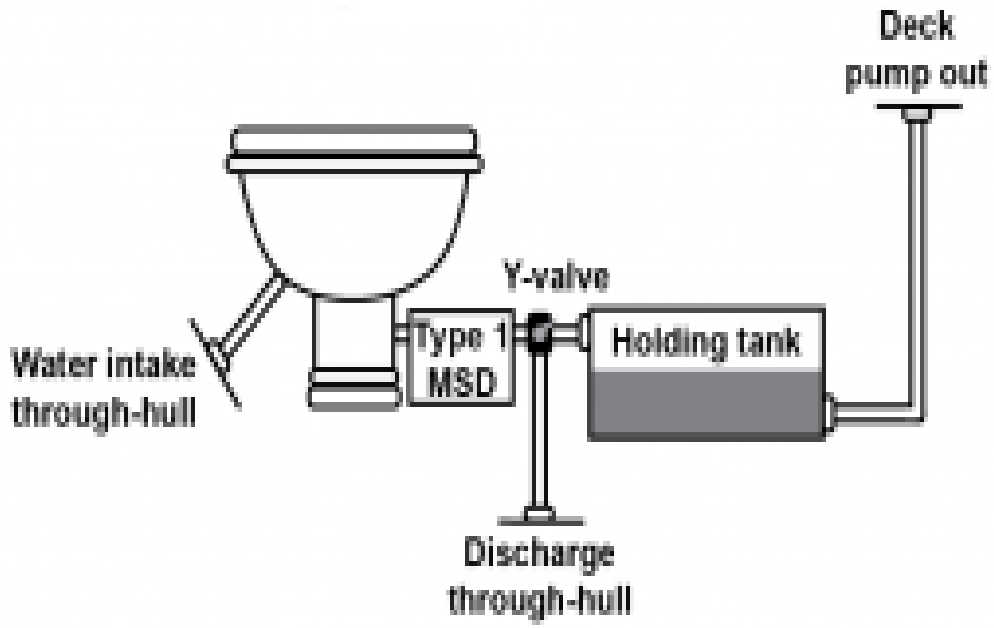


Image source: Sailors For the Sea Powered by Oceana

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MSD Effluent Standards of Performance

MSD Standards of Performance

- Type 1
  - No visible floating solids
  - Fecal coliform bacteria count <=1000 per 100 ml
- Type 2
  - No more than 150 mg of total suspended solids per liter
  - Fecal coliform bacteria count <= 200 per 100 ml
- Type 3
  - Must prevent discharge of all treated and untreated sewage

Water Quality Standards

- The national criteria for fecal coliform bacteria in shellfish waters is a mean of 14 per 100 ml

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Essentials to Include in an NDZ Application to EPA

- Reasons for proposing NDZs and the need for environmental protection in proposed NDZ waters
- Maps showing proposed NDZ boundaries
- Information on vessel population that may be using the proposed waters
- Details about pumpout facilities in the area
- Demonstration that there are adequate pumpout facilities for the number of vessels in the area
- Request for input from stakeholders

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Reasons for proposing NDZs and the Environmental Need

- Section 62.1-44.33 of the Code of Virginia
  - Provides for the establishment of NDZs in all impaired tidal creeks
- Vessel sewage may have a disproportionate impact on water quality and shellfish resources
- A single toilet flush of untreated sewage from a vessel can cause the same environmental impact as 10,000 flushes from a home toilet, where waste is processed by a sewage treatment facility.(1)
- A single overboard discharge of human waste can be detected in up to a one square mile area of shallow enclosed water (such as a bay).(2)

Image source: Tidewater Oyster Gardeners Association

(1) California Department of Boating and Waterways
(2) Florida Department of Environmental Protection

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Reasons for proposing NDZs and the Environmental Need

- Discharges of raw or partially treated sewage may impact human health and aquatic life
  - Release of disease-causing microorganisms, nutrients, organic matter, metals, and toxins
  - Accidentally ingesting contaminated water
  - Oysters are filter feeders
- Encourages overall watershed stewardship
- NDZs address vessels as a source, allowing stakeholders to focus on “land based” source reductions

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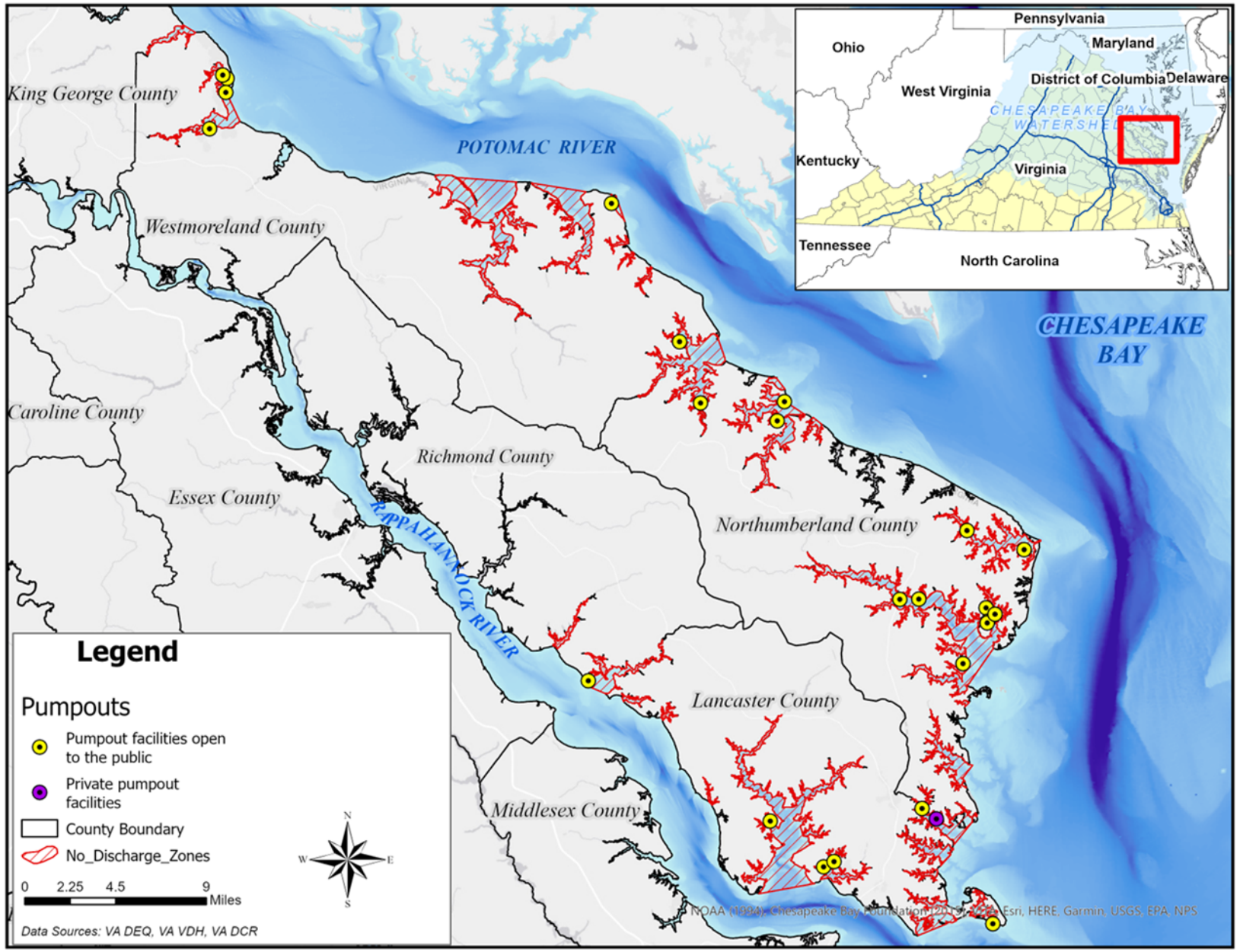
Proposed NDZ Boundaries



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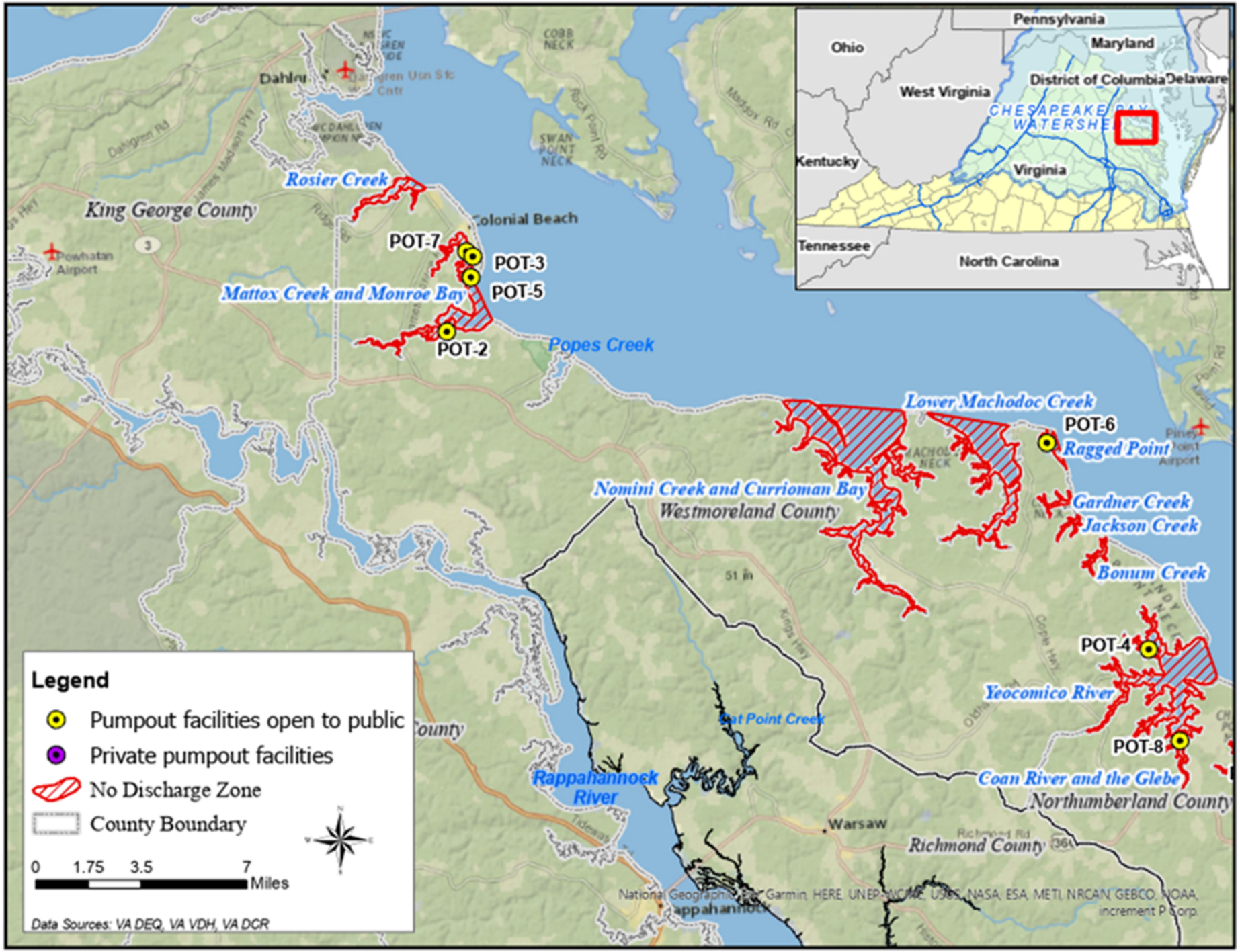
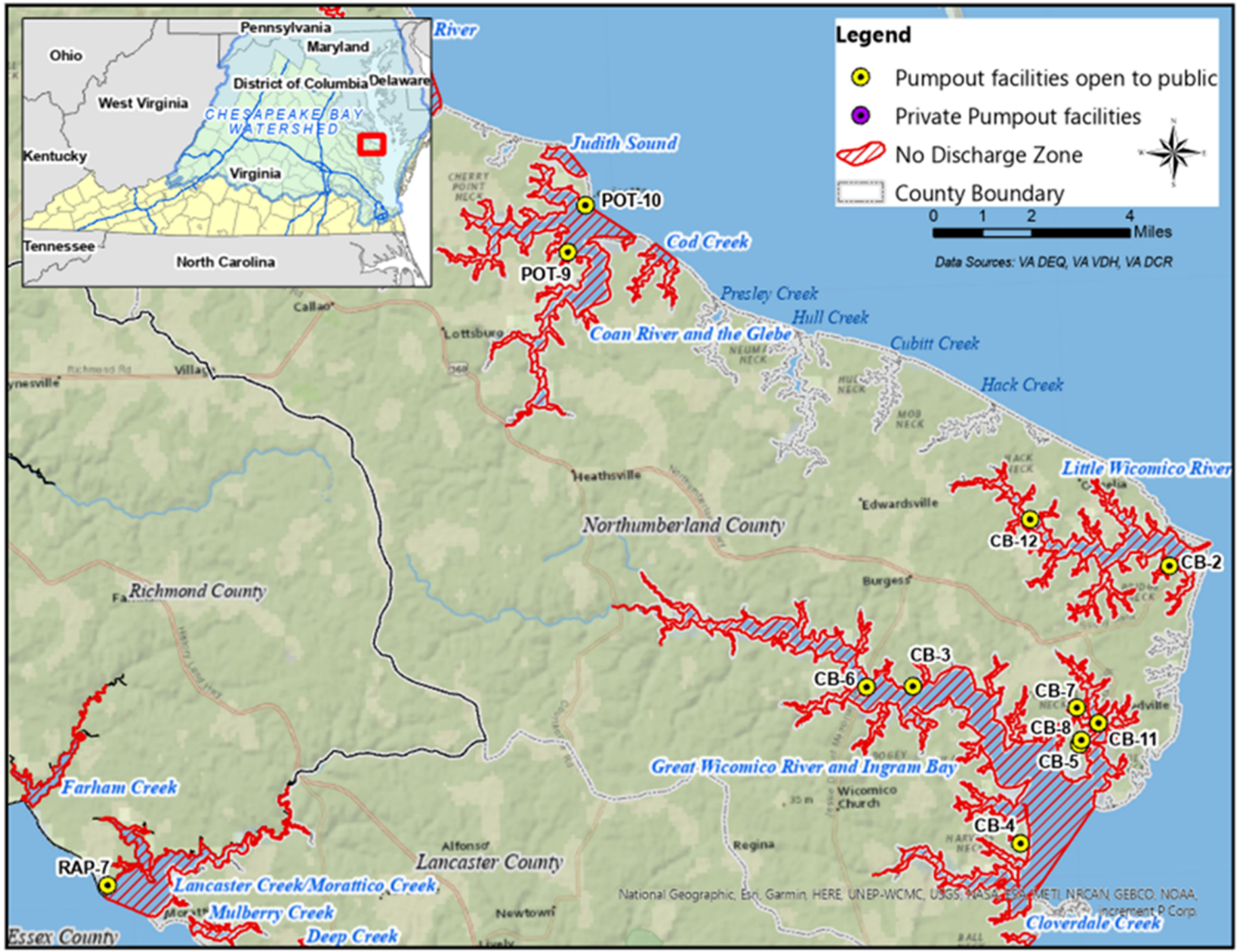

Pennsylvania
Ohio
Maryland
District of Columbia
Delaware
West Virginia
CHESAPEAKE BAY WATERSHED
Kentucky
Virginia
Tennessee
North Carolina
Rosier Creek
King George County
Colonial Beach
POT-7
POT-3
POT-5
Mattox Creek and Monroe Bay
POT-2
Popes Creek
Lower Machodoc Creek
POT-6
Ragged Point
Nomini Creek and Currioman Bay
Westmoreland County
Gardner Creek
Jackson Creek
Bonum Creek
POT-4
Yeocomico River
POT-8
Coan River and the Glebe
Northumberland County
Rappahannock River
Warsaw
Richmond County
Legend
Pumpout facilities open to public
Private pumpout facilities
No Discharge Zone
County Boundary
0 1.75 3.5 7
Miles
Data Sources: VA DEQ, VA VDH, VA DCR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Pumpout facilities open to public
Private Pumpout facilities
No Discharge Zone
County Boundary
0 1 2 4
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Kentucky
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River
Judith Sound
POT-10
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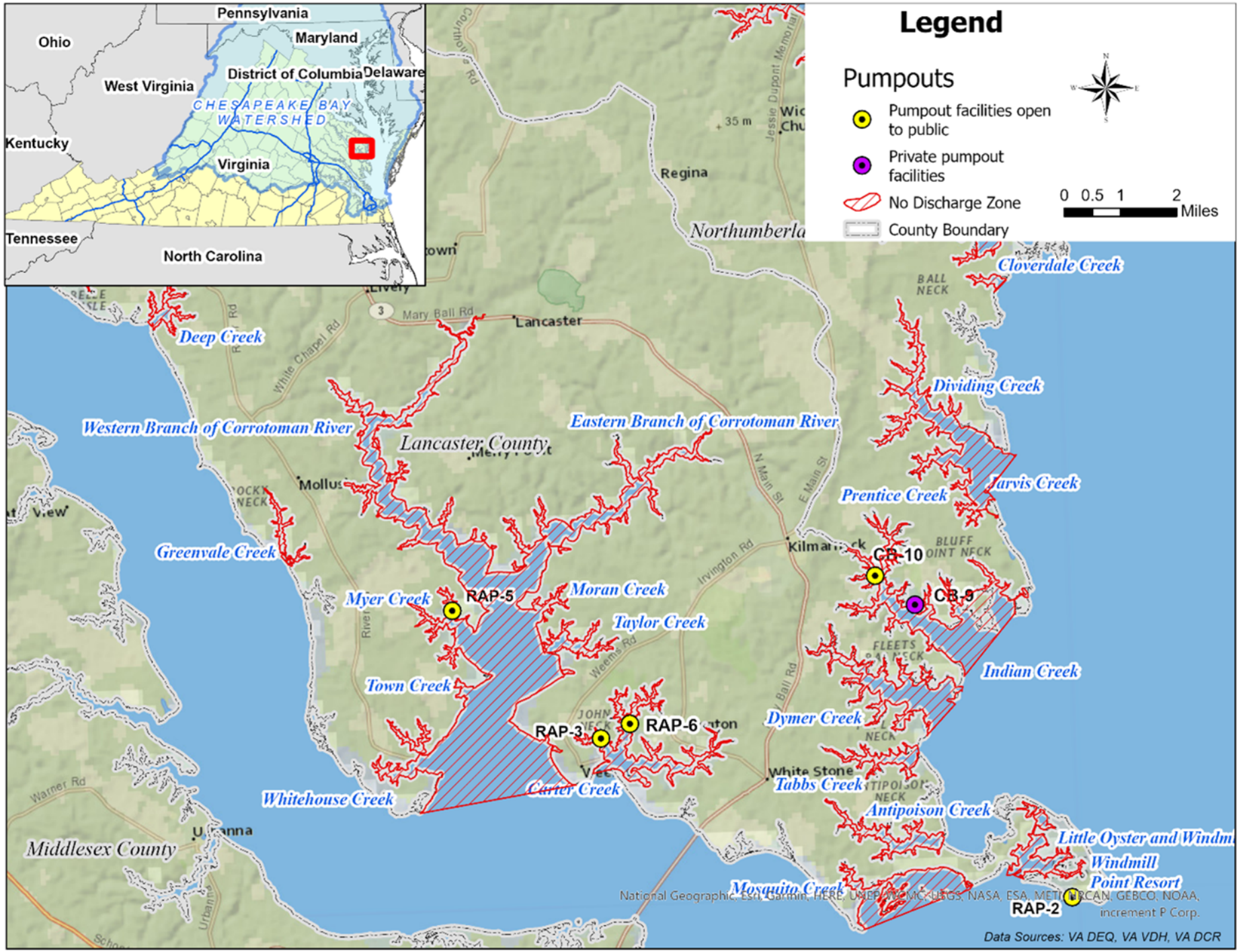
Cod Creek
Presley Creek
Hull Creek
Coan River and the Glebe
Cubitt Creek
Hack Creek
Little Wicomico River
CB-12
CB-2
Northumberland County
Richmond County
CB-3
CB-6
CB-7
CB-8
CB-11
CB-5
Great Wicomico River and Ingram Bay
CB-4
Farham Creek
RAP-7
Lancaster Creek/Morattico Creek
Mulberry Creek
Deep Creek
Lancaster County
Essex County
Cloverdale Creek
Callao
Lottsburg
Heathsville
Edwardsville
Burgess
Wicomico Church
Regina
Newtown
National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp


Legend
Pumpouts
Pumpout facilities open to public
Private pumpout facilities
No Discharge Zone
County Boundary
0 0.5 1 2
Miles
Pennsylvania
Maryland
Ohio
West Virginia
District of Columbia
Delaware
CHESAPEAKE BAY WATERSHED
Kentucky
Virginia
Tennessee
North Carolina
Lancaster
Lancaster County
Middlesex County
Regina
Northumberla
Mary Ball Rd
White Chapel Rd
Irvington Rd
Weems Rd
Warner Rd
Deep Creek
Western Branch of Corrotoman River
Eastern Branch of Corrotoman River
Greenvale Creek
Myer Creek
Moran Creek
Taylor Creek
Town Creek
Whitehouse Creek
Carter Creek
Cloverdale Creek
Dividing Creek
Prentice Creek
Jarvis Creek
Indian Creek
Dymer Creek
Tabbs Creek
Antipoison Creek
Mosquito Creek
Little Oyster and Windmi
Windmill Point Resort
RAP-5
RAP-6
RAP-3
RAP-2
CB-10
CB-9
National Geographic, Esri, Garmin, HERE, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.
Data Sources: VA DEQ, VA VDH, VA DCR

Selection of Waters to Propose for NDZ Designation

- Public shellfish grounds, private shellfish leases, and private oyster gardens occupy significant portion of proposed NDZ areas
- Five of top 20 aquaculture sites in Virginia*
  - Yeocomico River
  - Coan River
  - Little Wicomico River
  - Great Wicomico River
  - Lower Machodoc

*Virginia Marine Resources Commission

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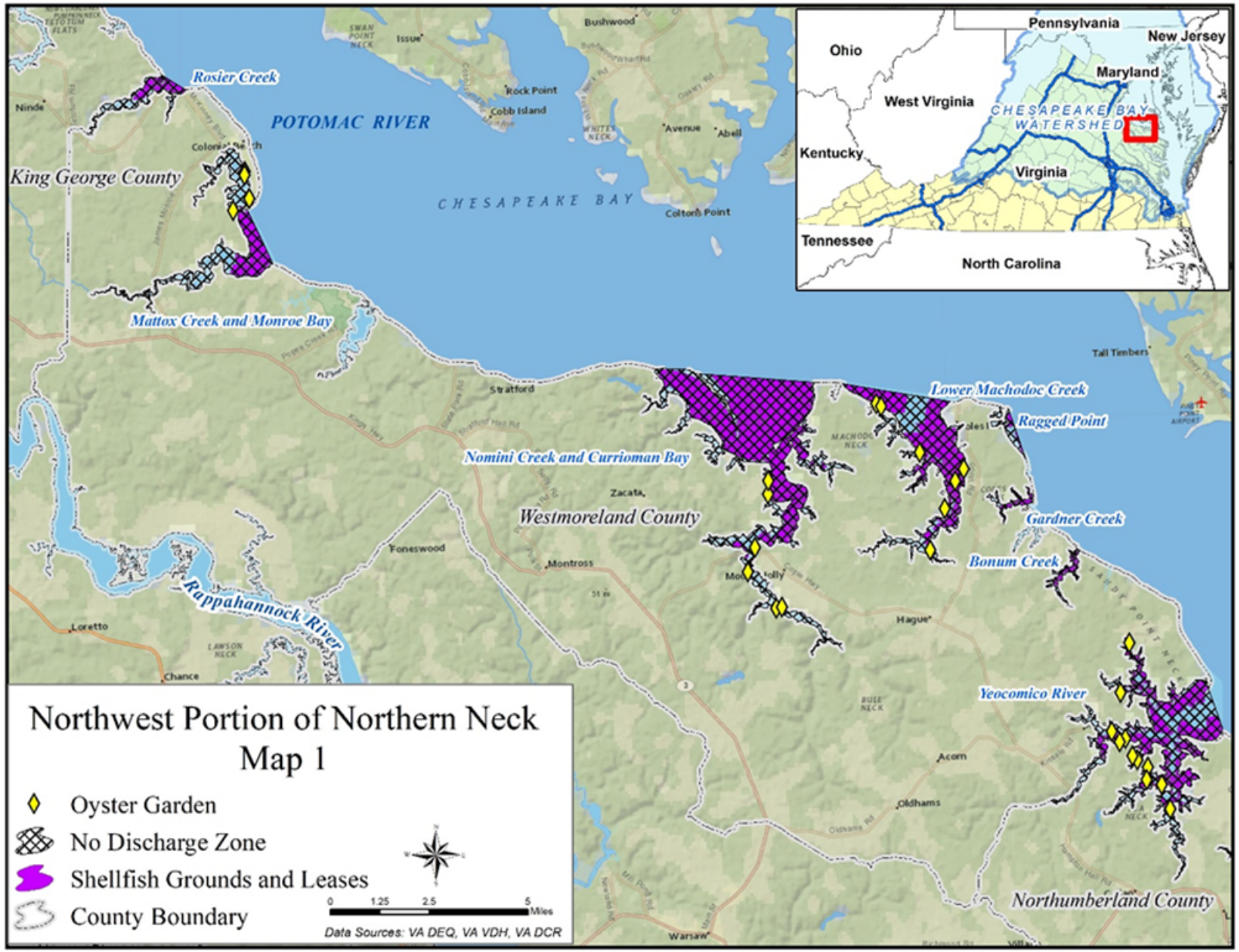
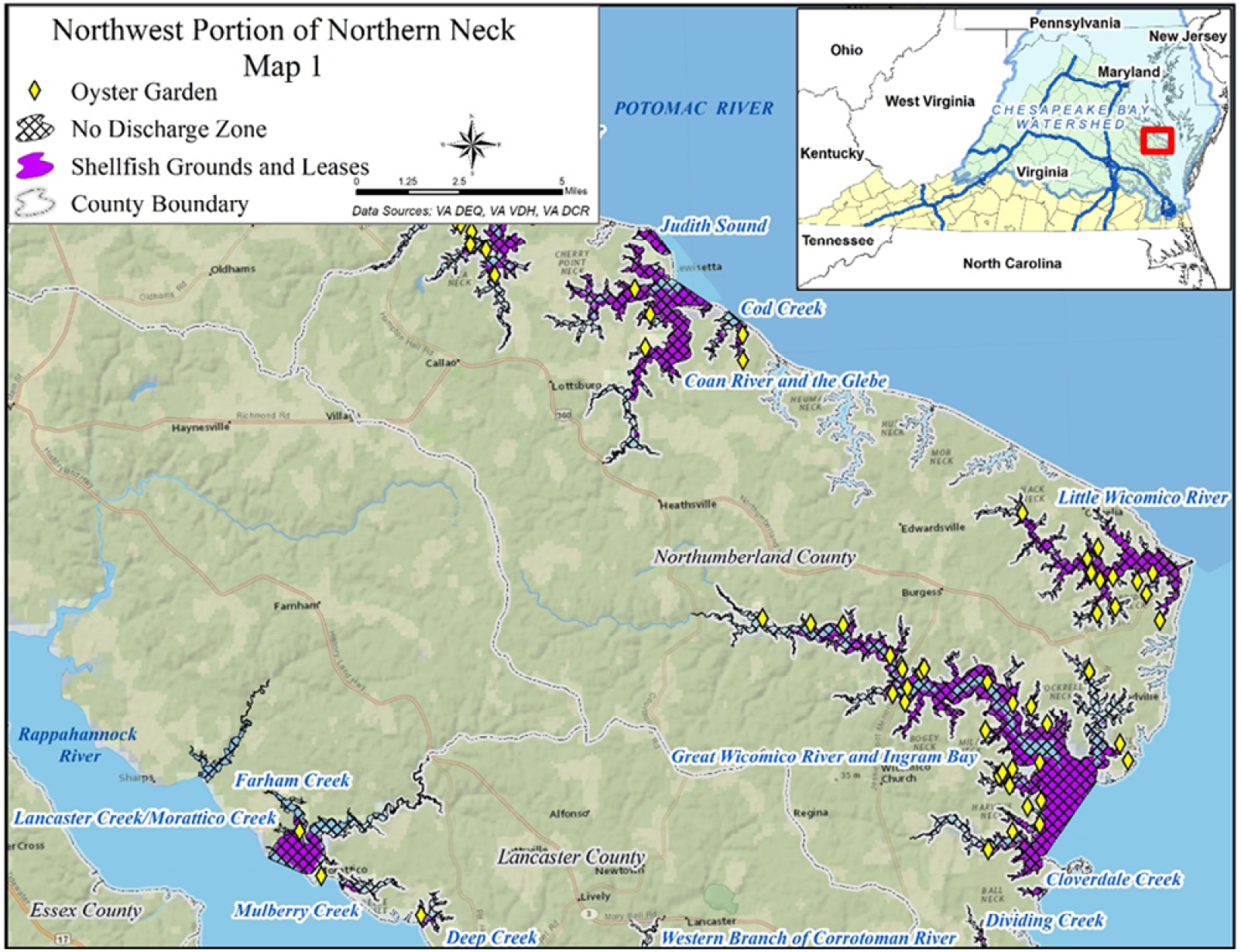
Shellfish Grounds, Leases, and Oyster Gardens



Shellfish Grounds, Leases, and Oyster Gardens



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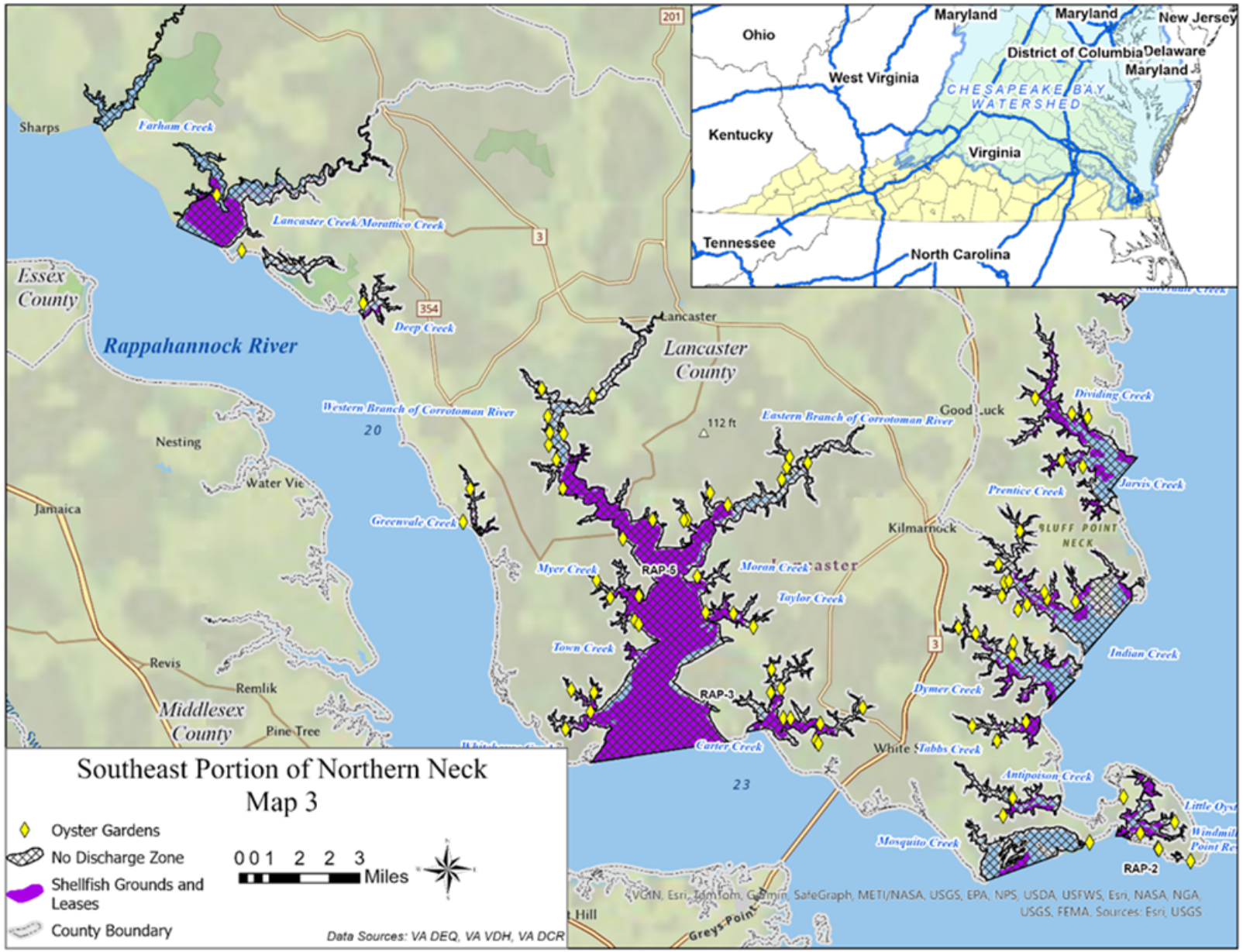
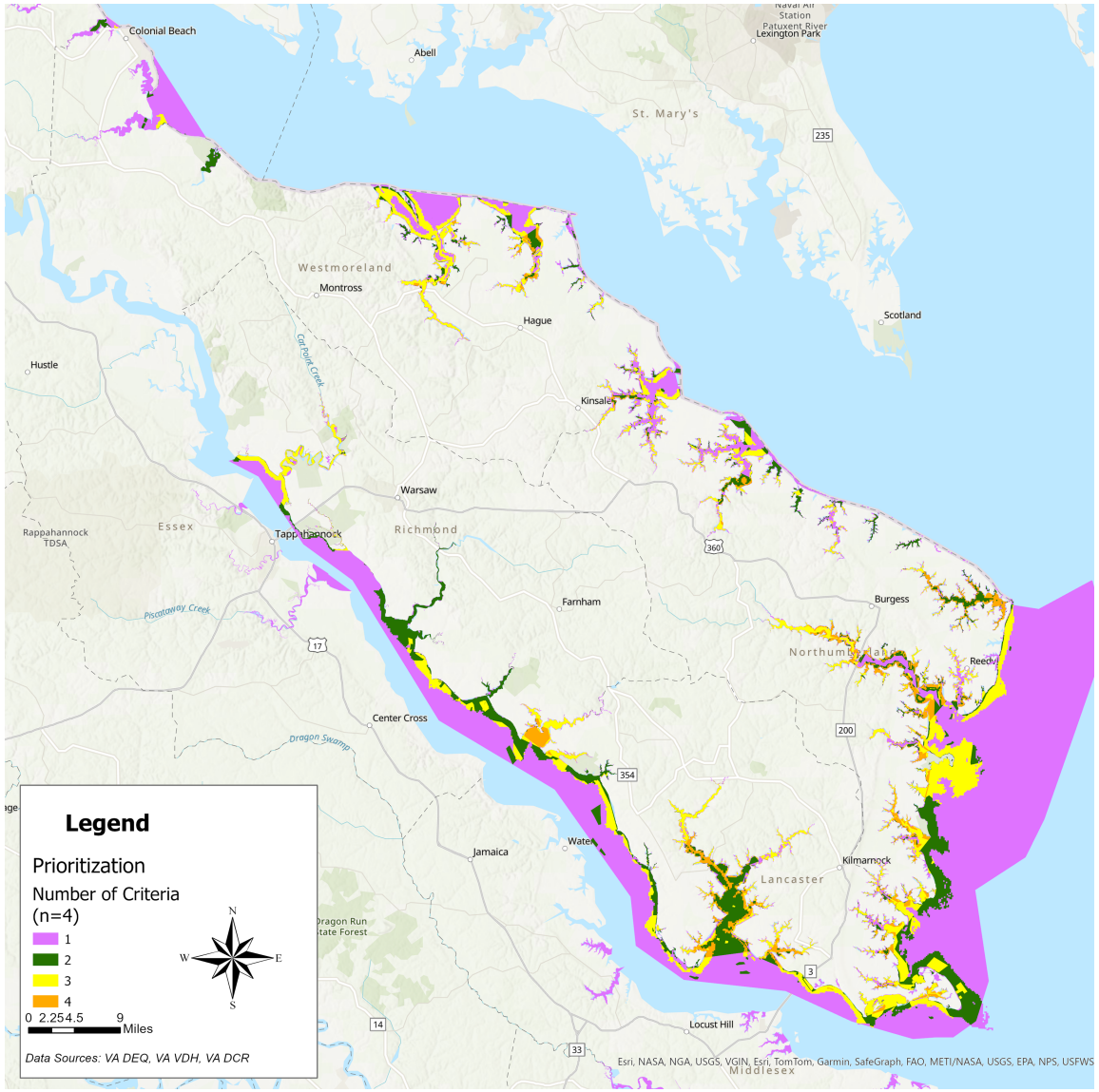


Selection of Waters to Propose for NDZ Designation

VIMS' Center for Coastal Resources Management to develop geospatial analysis tool to determine areas that would benefit most from NDZ designation

Most waters in NN meet at least 3 of the 4 following criteria:

- Shellfish Grounds
- Slow or Intermediate Flushing
- Water Quality Impairments
- Costal Ecological Value Assessment



Vessel Population

Vessel Length (ft)	Estimated Number of Recreational Vessels	Estimated Number of Transient Vesels	Estimated Number of Commercial Vessels	Total Number of Vessels
16-25	7,510	375	299	**8,184**
26-39	1,881	393	138	**2,412**
40+	267	124	57	**448**
Total:	**9,658**	**892**	**494**	**11,044**

Data from Department of Wildlife Resources vessel registrations, United States Coast Guard documented vessels, and Automated Identification System data

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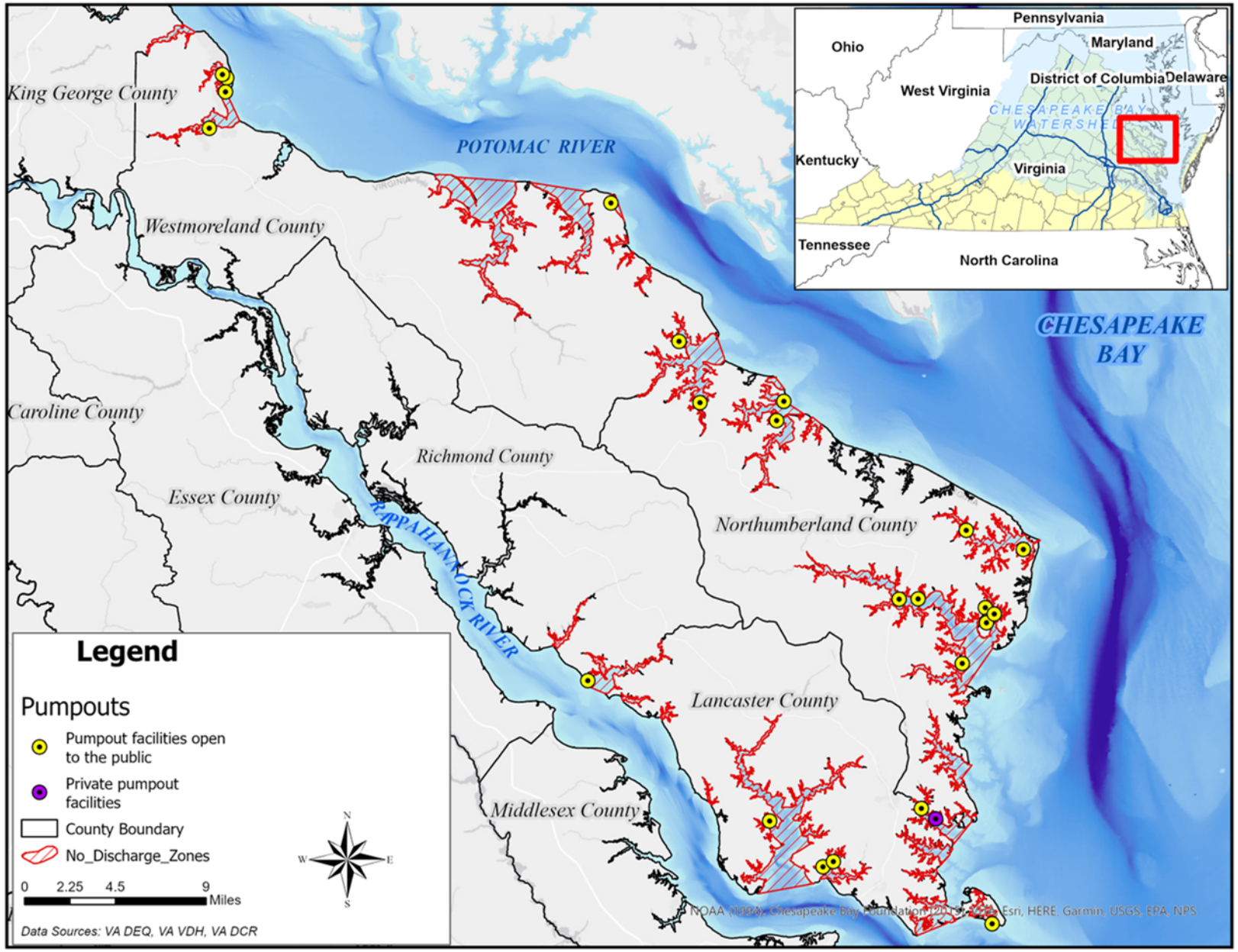
Vessel Population in a Peak Period

- Estimate the number of vessels that may need a pumpout and that may be using the proposed waters on a peak holiday weekend (e.g. July 4th)
  - 40% of all vessels
- Assumptions used to estimate number of vessels with an MSD onboard
  - 20% of vessels 16 – 25 feet in length
  - 50% of vessels 26-39 feet in length
  - 100% of vessels 40 or more feet in length
  - 10% of commercial vessels
- Total: 1,262

Pumpout Facilities

- 25 public pumpout facilities throughout the Northern Neck waters



Pumpout Facilities

- Pumpout facility information included in the application
  - Type of pumpout: Stationary, Portable
  - Mean low water depth at the pumpout
  - Cost for using pumpout
  - Hours of operation and seasonal closures
  - Pumpout facility waste management details
- Estimated number of vessels that can be pumped out by existing facilities on a peak holiday weekend (e.g. July 4th)
  - 1,456
  - This is compared to the number of vessels potentially needing a pumpout: 1,262

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What does an NDZ Designation Mean for Marinas?

- Marinas with pumpouts
  - Display NDZ signage
  - Include NDZ information in slip rental contract
- Marinas without pumpouts*
  - Either install pumpout or have a written agreement with VDH to not allow vessels with MSDs

* Some marinas may be exempt from these requirements.

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What does an NDZ Designation Mean for Vessel Operators?

- Vessels without installed toilet
  - No change
- Vessels with a holding tank
  - No change, close Y-valve leading to overboard discharge
- Vessels with MSD Type 1 or 2 without a holding tank
  - Disable the use of that system
  - Discharge properly treated sewage after exiting the NDZ or retrofit with a holding tank

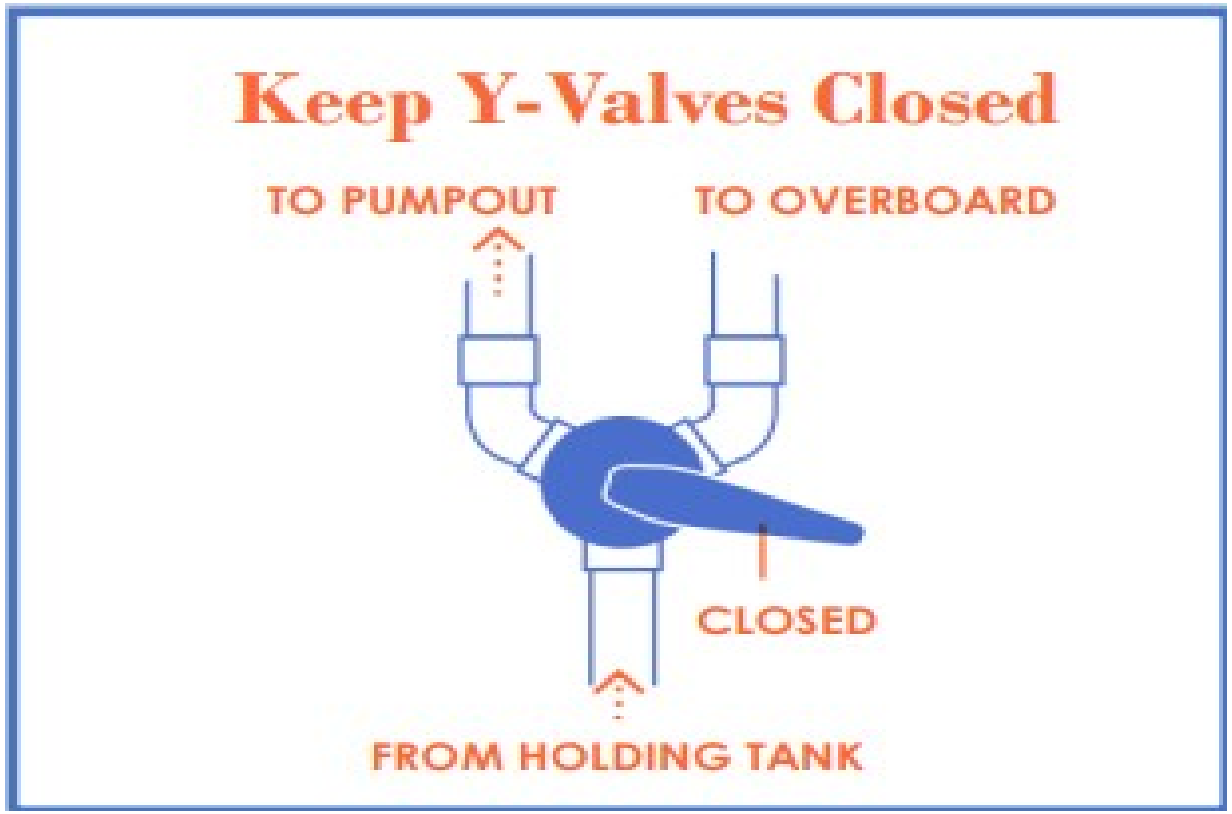

Image from When Nature Calls

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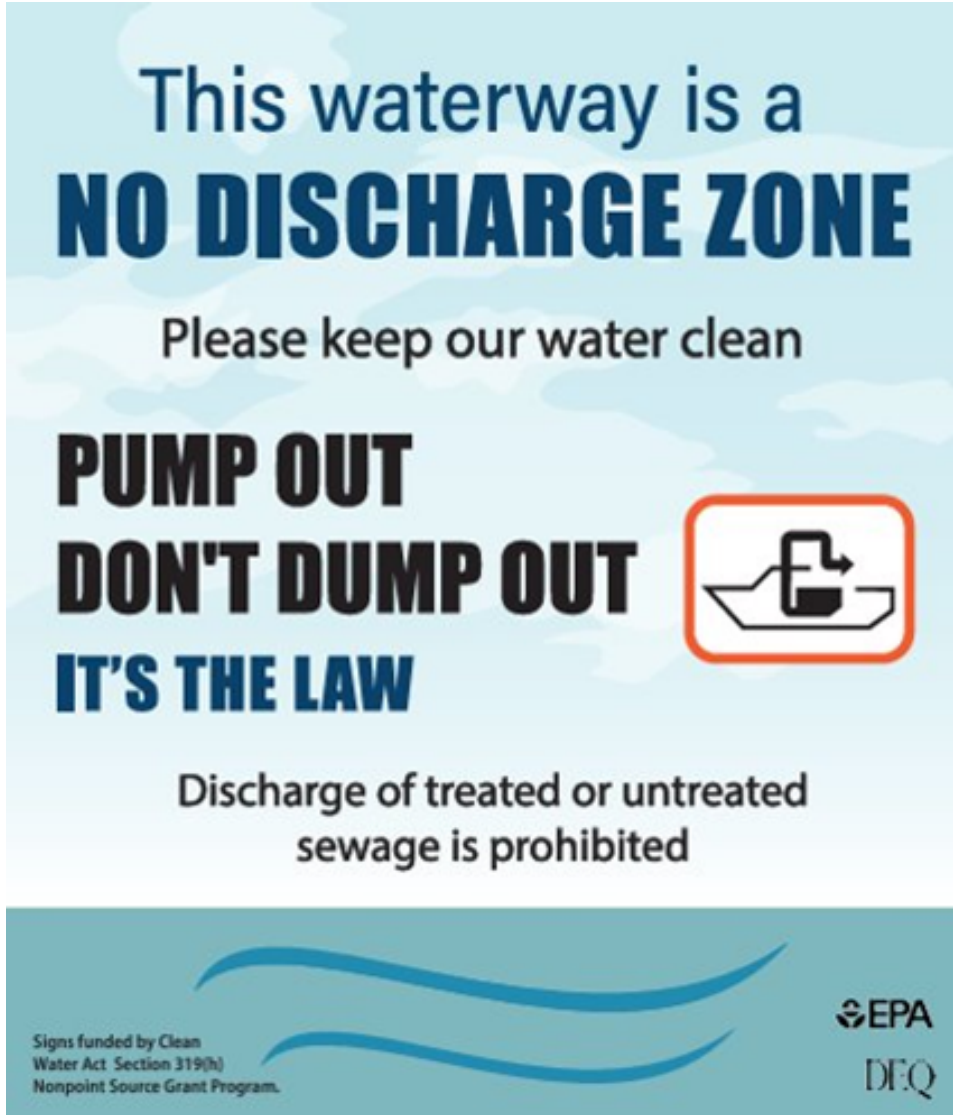
How are NDZs implemented?

- Signs located at marinas or other places where vessels are moored
- Marina Leasing slips
- Outreach and Education
- Enforcement



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Next Steps

- Public Comment Period (Feb. 26, 2025 – April 7, 2025)
- Submit the application to EPA
  - Federal register for public comment
  - Provide approval or disapproval in 90 days
- DEQ then presents to State Water Control Board to enter the designations into Virginia's regulation

Questions & Written Comments

Public Comment Period (Feb 27 – April 7, 2025)

Please send all comments to:

Anne.Schlegel@deq.virginia.gov

OR

Anne Schlegel
P.O. Box 1105
Richmond, VA 23218

The NDZ application can be viewed on DEQ's website:

https://www.deq.virginia.gov/our-programs/water/water-quality/implementation/no-discharge-zone-program

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