

# Water Quality Monitoring and Planning TRO

Roger Everton

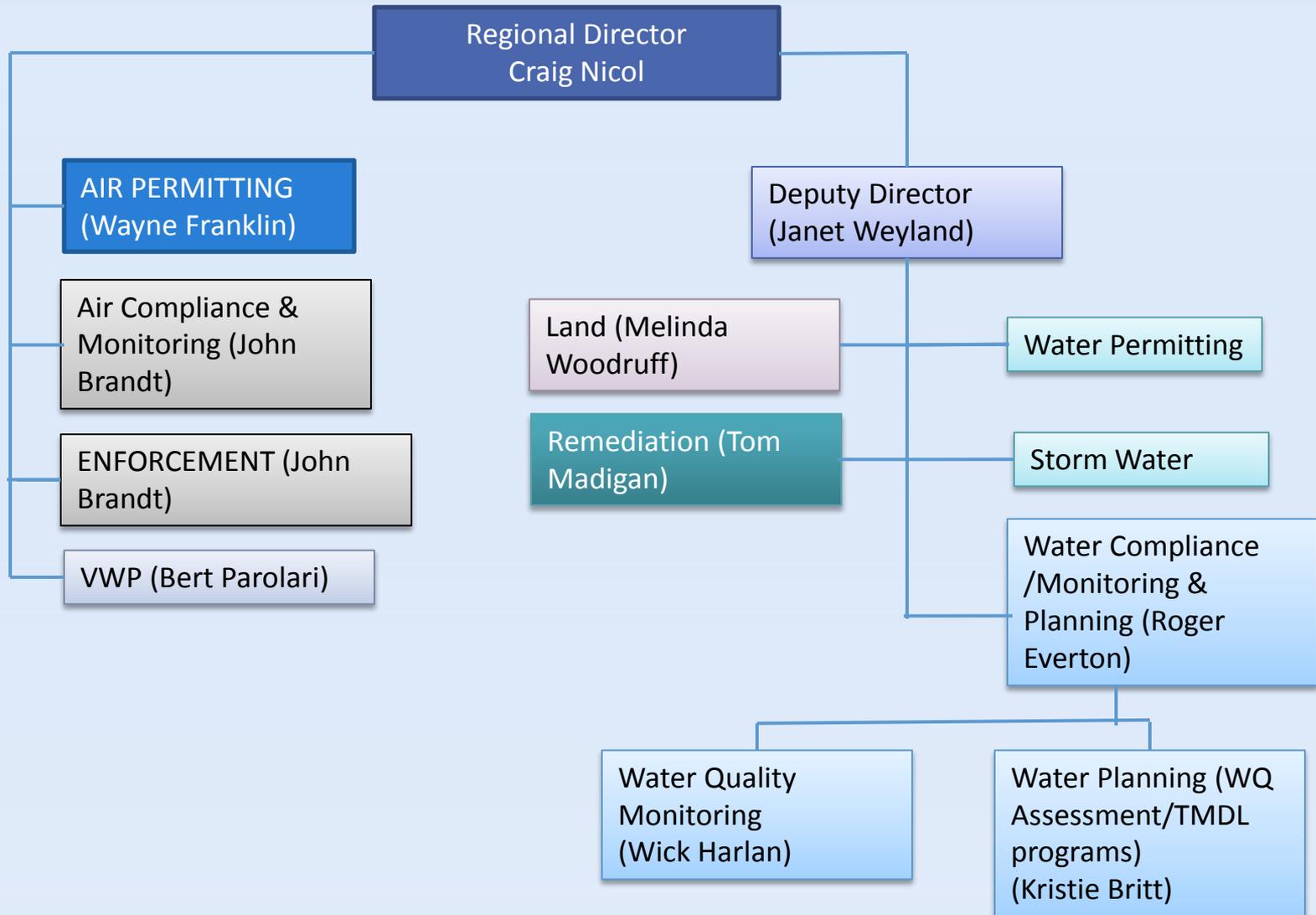
Water Compliance and Monitoring Manager

Kristie Britt

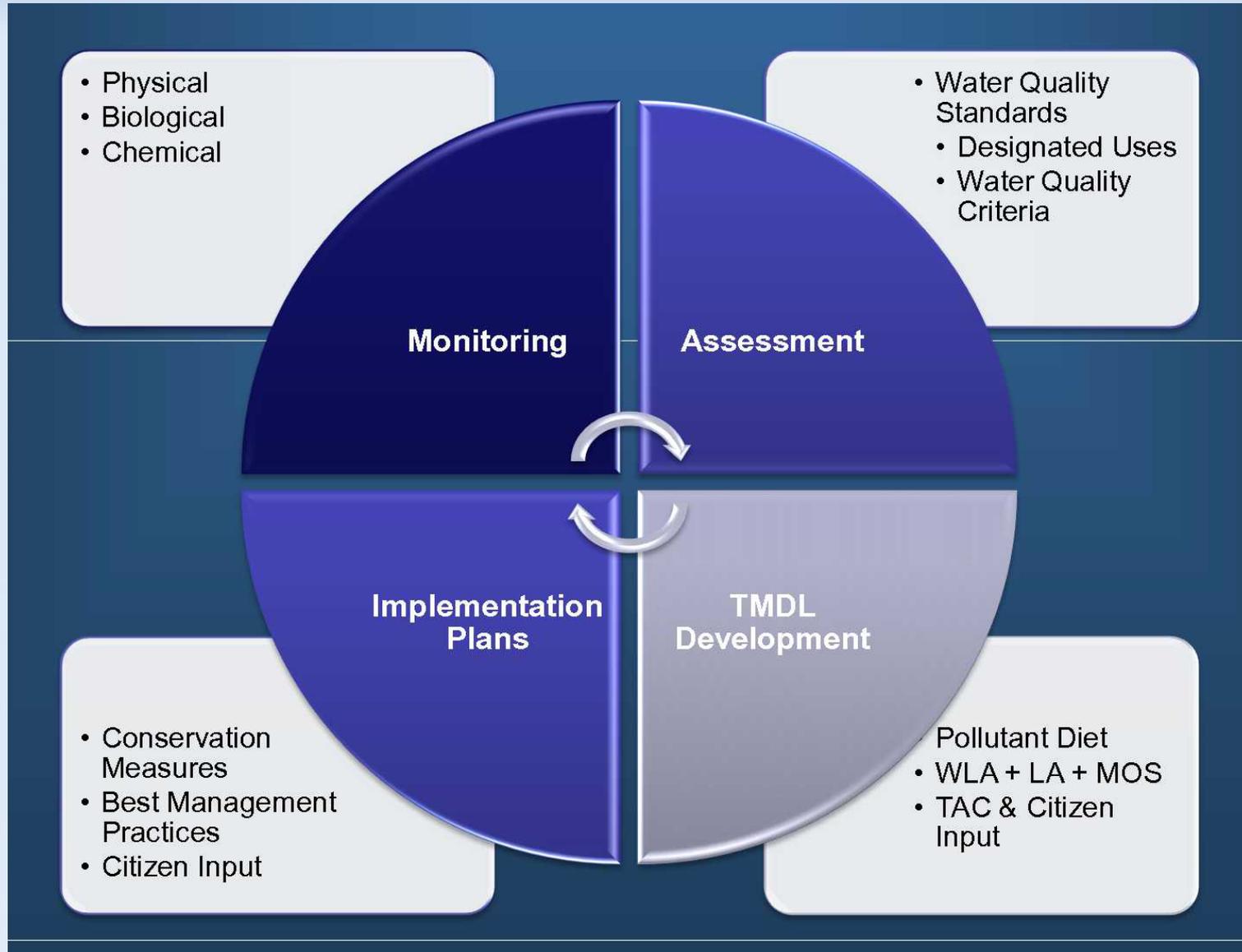
Water Planning Supervisor



# Tidewater Regional Office



# Planning Program Process



# Water Quality Monitoring

- Ambient Monitoring – Trend/Watershed/TMDL
- Chesapeake Bay
- Probabilistic – Freshwater & Coastal
- Biological
- Lakes
- Fish Tissue
- Special Studies (Kepone, HABs, Pollution response)

# 2014 Section 303(d) Waters in Virginia

## Monitoring Stations

- Ambient (2495)
- Ambient/Biological (1236)
- Ambient/Biological/Fish Tissue (12)
- Ambient/Fish Tissue (83)
- ▲ Biological (653)
- ◆ Citizen Monitoring (752)
- ★ Other Non-Agency Monitoring (473)
- ◆ Federal (239)
- Fish Tissue (152)
- ★ Trend (394)
- ◆ VDH-BEACH (49)

## VPDES Dischargers

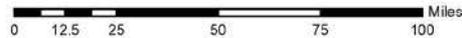
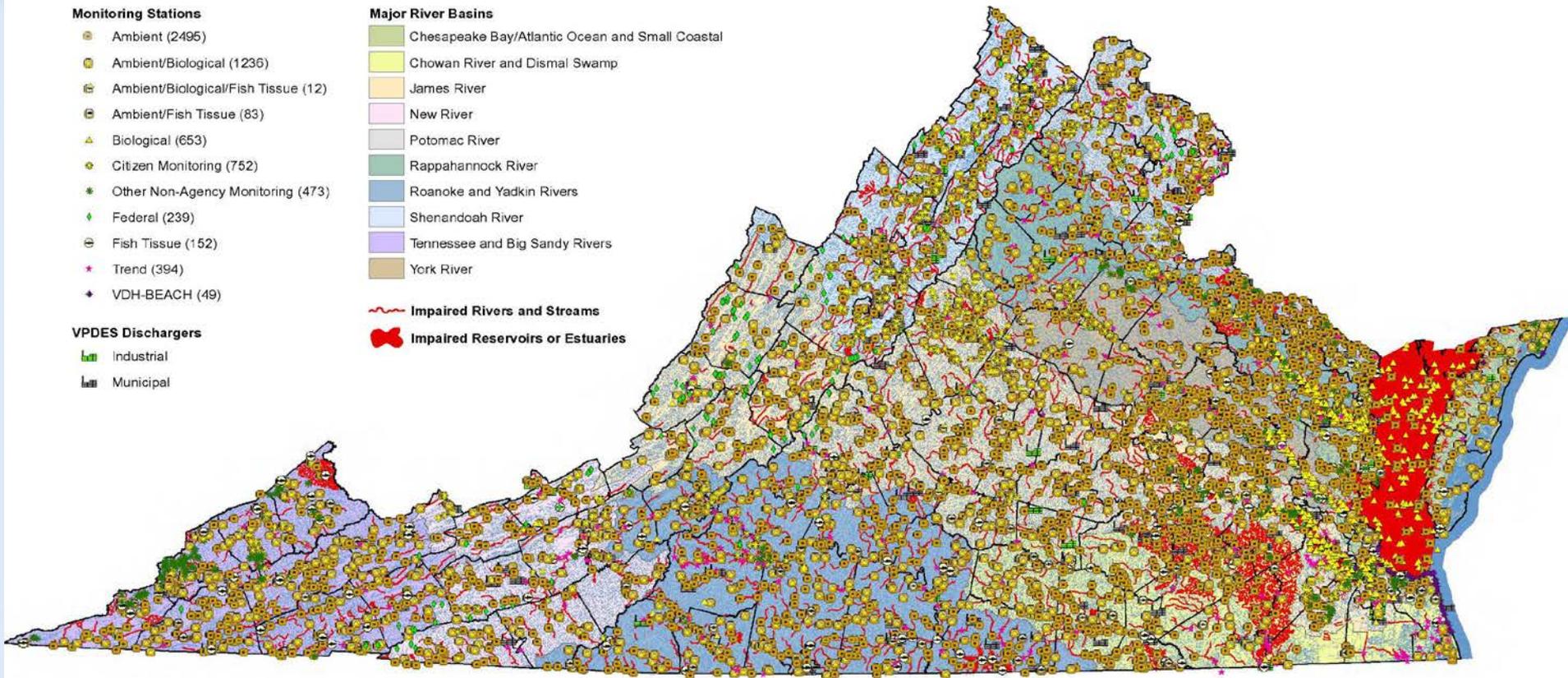
- Industrial
- Municipal

## Major River Basins

- Chesapeake Bay/Atlantic Ocean and Small Coastal
- Chowan River and Dismal Swamp
- James River
- New River
- Potomac River
- Rappahannock River
- Roanoke and Yadkin Rivers
- Shenandoah River
- Tennessee and Big Sandy Rivers
- York River

— Impaired Rivers and Streams

■ Impaired Reservoirs or Estuaries



Sources: Virginia Department of Environmental Quality  
 Virginia Department of Conservation and Recreation  
 United States Geological Survey

# TRO – Water Quality Planning

- Water Quality Assessment – 305(b) / 303(d) Integrated Report (biennial)
  - Evaluates the health of our states waters- 305(b)
  - Lists impaired waters -303 (d)
    - TRO staff : Steve DeVilbiss
- **Total Maximum Daily Load (TMDL)**
  - Determines the total amount of a pollutant a waterbody can receive and still meet water quality standards
    - TRO staff: Rachel Hamm
- **Implementation Plans (IP) and Grant Management**
  - IP determine Best Management Practices to implement the non point source loads in the TMDL watershed

# Integrated Report (IR)

- IR evaluates waters based on VA Water Quality Standards
- IR is based on a Six Year Assessment Period (2016 IR ):  
Jan. 2009 – Dec. 2014
- Waters are classified as supporting, not supporting or insufficient data
- Waters classified as not supporting will be placed on the 303(d) list (TMDL is needed)

# Total Maximum Daily Load

A TMDL is the amount of a particular pollutant that a stream can receive and still meet Water Quality Standards

$$\text{TMDL} = \text{Sum of WLA} + \text{Sum of LA} + \text{MOS}$$

Where:

**TMDL = Total Maximum Daily Load**

**WLA = Waste Load Allocation (point sources)**

**LA = Load Allocation (nonpoint sources)**

**MOS = Margin of Safety**

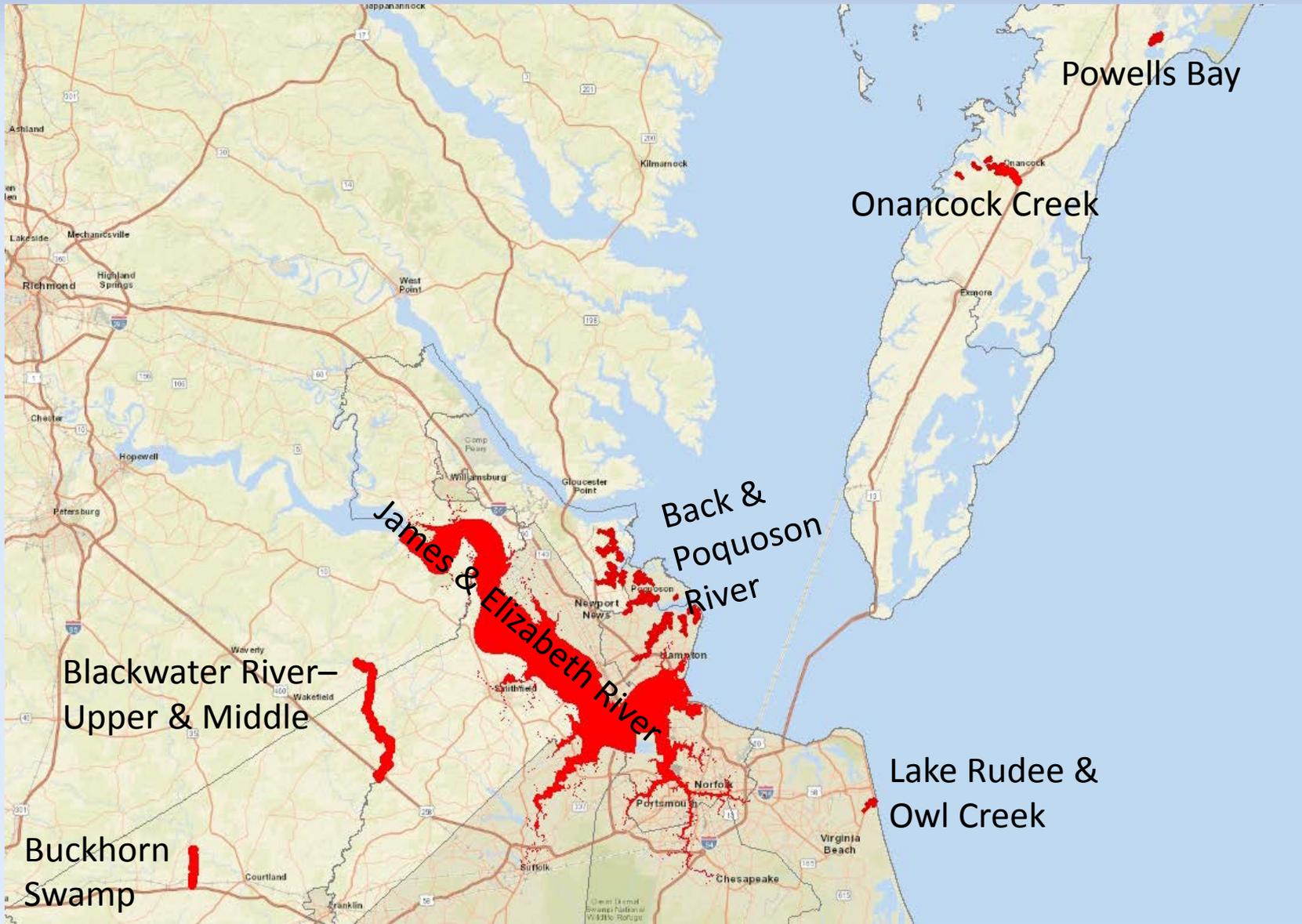
# TRO TMDL Status

- 2 Eastern Shore TMDLs : Bacteria and DO at EPA for approval
- 4 local TMDLs - 2017
  - Back River Fecal Coliform TMDL modification
  - Poquoson River Fecal Coliform TMDL modification
  - Lake Rudee Fecal Coliform and Enterococci TMDL
  - Owl Creek DO, Fecal Coliform and Enterococci TMDL
- Multi –region: Tidal James River and Elizabeth River PCB TMDL in development

# TMDL Program Priorities

- DEQ TMDL Program Priorities are implemented based on the EPA 303(d) Program Vision
  - allow states to take ownership of their own priorities in addressing 303d waters
- First Phase of Vision is 2016-2022
- Involved prioritizing impaired waters for TMDL
- More information is available on DEQ Website:  
[www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/TMDL/TMDLDevelopment/TMDLProgramPriorities.aspx](http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/TMDL/TMDLDevelopment/TMDLProgramPriorities.aspx).

# 2017-2022 TRO TMDL Priorities



# TMDLs Planned 2018-2022

## Southampton-Isle Of Wight

Buckhorn Swamp: E.coli

Blackwater River (Upper & Middle): E.coli

## Eastern Shore – Accomack

Powells Bay: Enterococci

Onancock: Enterococci and Fecal Coliform

Joynes Branch: E.coli

# TMDL DATA on Website

## TMDL Report Search

<http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/TMDL/TMDLDevelopment/ApprovedTMDLReports.aspx>

The screenshot shows the Virginia DEQ website's navigation menu with options like 'My DEQ', 'Permits', 'Laws & Regulations', 'Programs', 'Locations', 'About Us', and 'Connect With DEQ'. Below the menu, there are links for 'Documentation for Select TMDLs', 'Stressor Analysis Reports', 'Draft TMDL Reports', 'Approved TMDL Reports', and 'TMDL Program Priorities'. The main content area is titled 'TMDL Reports' and 'Search for Approved TMDL Reports'. It includes a search form with fields for 'Waterbody Name', 'City/County', 'Major River Basin', 'Pollutant', 'EPA Approval Date (Year)', and 'SWCB Approval Date (Year)'. A 'Search' button and a 'Clear form' button are at the bottom of the form. Example searches are provided for 'Opequon Creek, OPEQUON, op' and 'Albemarle, ALB, albem'.

## Map Search

<http://www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx>

VEGIS: VA Environmental Geographic Information System

The screenshot shows the Virginia DEQ VEGIS map search interface. It features a map of Virginia with various TMDL watersheds highlighted in blue and yellow. The map is titled 'Virginia DEQ Home > VEGIS Home > Web Map'. The interface includes a search bar, a 'Map' button, and a 'Results' tab. A legend on the left side of the map lists various layers, including 'TMDL\_IP\_Watersheds', 'Implementation Watersheds', 'Chesapeake Bay TMDLs', 'TMDL Watersheds', 'Bacteria', 'Sediment', 'Toxics', 'Nutrients', 'Organic', 'Other', '2014\_Adb\_Anyuse', 'DEQ Offices (2009)', 'VPDES Permits (2004)', 'Monitoring Stations (2014)', 'DEQ Regions (2009)', 'VPDES Dischargers (2014)', 'Rivers (2014)', 'Estuaries (2014)', 'Reservoirs (2014)', and 'Number Of Impaired Segments Pe'. The map also shows a scale bar (12.5 miles) and coordinates (77° 43' 48.21" W, 37° 40' 46.93" N).

# Implementation Plans

- Plan that details actions or strategies that must be undertaken to achieve load reductions as defined by the TMDL

## Key Elements:

- identify causes and sources to be controlled
- corrective actions (BMPs, education program etc)
- cost benefit analysis
- measurable goals
- timeline
- Public involvement

# Approved IPs in TRO

- EPA approved 2015:
  - Chuckatuck & Brewers Cr (Suffolk & IOW): Bacteria
  - The Gulf, Barlow, Mattawoman, Jacobus and Hungars Cr (Northampton): Bacteria
- EPA approved 2014:
  - Kings Cr (Northampton): Bacteria
  - Three Creek, Mill Swamp, Darden Mill Run (Southampton, Sussex, Greenville, Brunswick): Bacteria

# Proposed IPs for Development

<b>Stream Name /TMDL Completion Date</b>	<b>Basin</b>	<b>HUC</b>	<b>Impairment</b>	<b>Locality</b>
Bleakhorn Creek, Bennett Creek, Knotts Creek (2010)	Lower James	G13	Shellfish	Suffolk
Poquoson River, Back Creek, and Back River (2014)	Coastal	C07	Recreation Shellfish	City of Poquoson, York County, Hampton, and Newport News

# NPS Grant Programs

- Section 319 of Clean Water Act
  - Virginia is awarded grant funds to implement the nonpoint source program
  - Applicants for grants are sought through Request for Applications (RFA) process
  - Provides funding for projects from EPA approved IPs (Closed Jan 31, 2017 for Projects starting April-July 2017)
  - Provides funding for VA Watershed Roundtables (Issued Dec 2, 2016, Next RFA August 2017)

# 319 NPS Funding

- Any entity that has the technical ability to address nonpoint source projects and can establish appropriate partnerships (govt, sub-state entities, non-profits, Cities-Counties, PDCs, SWCD, RC&D etc)
- Activities proposed in request can not be related or credited to NPDES or permitted activity
- RFA defines eligibility and intent
- Next Request for Application– tentative and based on funding availability
  - Issue request April 2017
  - Close August 2017
  - Once awarded funding would be available July 2018

# Questions?

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