



# Commonwealth of Virginia's Chesapeake Bay Watershed General Permit

National Training Workshop for CWA 303(d) Listing & TMDL Staff

Environmental Law Institute

Shepherdstown, WV

May 30, 2018

Allan Brockenbrough, VA DEQ

**GVPDES WPTNTPDNTCBWV**

**or**

**“Nutrient Trading Regulation”**

**General VPDES Watershed Permit for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia (9 VAC 25-820-10)**

# Background on Chesapeake Bay Watershed



- Portions of 5 states and the District of Columbia in 2 EPA regions lie within the Basin:
  - 64,000 square miles watershed
  - 11,684 miles of shoreline
  - 200 miles long and 21 ft. deep on average
- Significant portions of Chesapeake Bay and its tidal tributaries are listed as impaired because of nitrogen, phosphorus, and sediment
- Home to over 17 million people
- Agricultural land use grew by >100,000 acres between 2004 and 2014
- Largest land area per unit volume of water of any estuary in the world
- Bay states adopted tributary strategies prior to 2010 TMDL to achieve nutrient reduction goals developed by the Chesapeake Bay Program

# Brief Chronology of Events in Virginia

2005

- **Tributary Strategies** establish loading goals
- **Legislation** requiring watershed general permit

2007

- **VPDES Watershed General Permit** becomes effective on January 1, 2007

2010

- **Bay TMDL** issued by EPA on December 29, 2010

2011

- **Effluent limits** in 2007 **VPDES Watershed General Permit** become effective

2012 & 2017

- **Virginia** reissues the **VPDES Watershed General Permit** on January 1, 2012

# Drivers for Virginia's Approach

- General Assembly determines that adoption and utilization of a watershed general permit and market-based point source nutrient credit trading program will assist in:
  - meeting the nutrient cap load allocations cost-effectively and as soon as possible in keeping with the 2010 timeline and objectives of the Chesapeake 2000 agreement,
  - accommodating continued growth and economic development in the Chesapeake Bay watershed, and
  - providing a foundation for establishing market-based incentives to help achieve the Chesapeake Bay Program's nonpoint source reduction goals.

# CB Watershed Nutrient General Permit Highlights

General permit overlays individual NPDES permits and address nutrients only

Calendar year annual TN and TP load limits

Cap & Trade Program

“Bubbling” or aggregate permits allowed

Common schedule of compliance

Point Source-to-Point Source trading for existing facilities to meet initial load cap

Point Source-to-Nonpoint Source trading reserved to accommodate new and expanding facilities

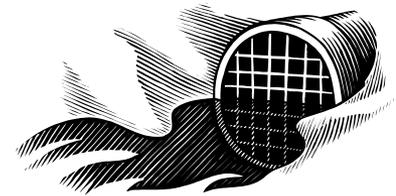
Permittees given ownership of the market

# Watershed General Permit Requirements

- **Coverage**
  - Over 150 facilities
  - Significant Dischargers
  - Covers facilities in each of the 5 watersheds
- **Limits**
  - Annual mass delivered loads for nitrogen and phosphorus for all dischargers
  - Based on TMDL implementation
  - More restrictive requirements as needed to meet local TMDLs or water quality standards in individual permits
  - Compliance
    - Addresses significant existing discharges and new and expanding discharges
    - Conditions for nutrient credit transactions
- **Other permit components**
  - compliance schedules and plans
  - monitoring and reporting

# Virginia's Chesapeake Bay Watershed-based General Permit

- Compliance with wasteload allocation requirements **for existing facilities** through
  - Annual mass load meets permit requirements
  - Acquisition of sufficient point source credits independently or through the Nutrient Credit Exchange Association
  - Acquisition of credits through payments to Nutrient Offset Fund if no other option available



# Virginia's Chesapeake Bay Watershed-based General Permit



- New or expanding facilities offset **new or expanded discharge** through acquisition of
  - Compliance credits from one or more permitted facilities
  - Purchase of WLAs from other sources (either short term or permanent)
  - **Credits from nonpoint source best management practices**
  - Credits through payments to Nutrient Offset Fund if no other option available
  - Allocations through other means approved by Virginia DEQ on a case-by-case basis

# Virginia Watershed-based Permit Benefits

- **Environmental Benefits**
  - Quicker nutrient reductions from point sources
  - Manages additional loadings from growth through offsets of loads from new or expanding facilities
  - Creates incentives for NPSs to meet load allocations
  - BMP secondary benefits (e.g., habitat restoration, carbon sink)
- **Benefits to Permittees**
  - Provides several different tools for achieving compliance
  - More cost-effective approach than treatment upgrades only
  - Allows for future growth as it eases costs and resource demands
- **Benefits to Virginia DEQ**
  - More streamlined and efficient permitting process
  - Increased stakeholder support



# Point Source Compliance Trades

## 2011

35 facilities	246,309 lbs of TN	1.5 % of WLA
	79,128 lbs of TP	4.5 % of WLA

## 2016

25 facilities	388,144 lbs of TN	2.1 % of WLA
	26,737 lbs of TP	1.9 % of WLA

100 of 119 significant facilities trade as members of the Virginia Nutrient Credit Exchange Association.

# Nonpoint Source Trading in VA

Originally reserved for accommodating new and expanding point sources only

Guidance adopted in January 2008

First bank approved in July 2008



**Trading Nutrient Reductions from Nonpoint Source Best Management Practices in the Chesapeake Bay Watershed: Guidance for Agricultural Landowners and Your Potential Trading Partners**



# 2016 Nutrient Trades

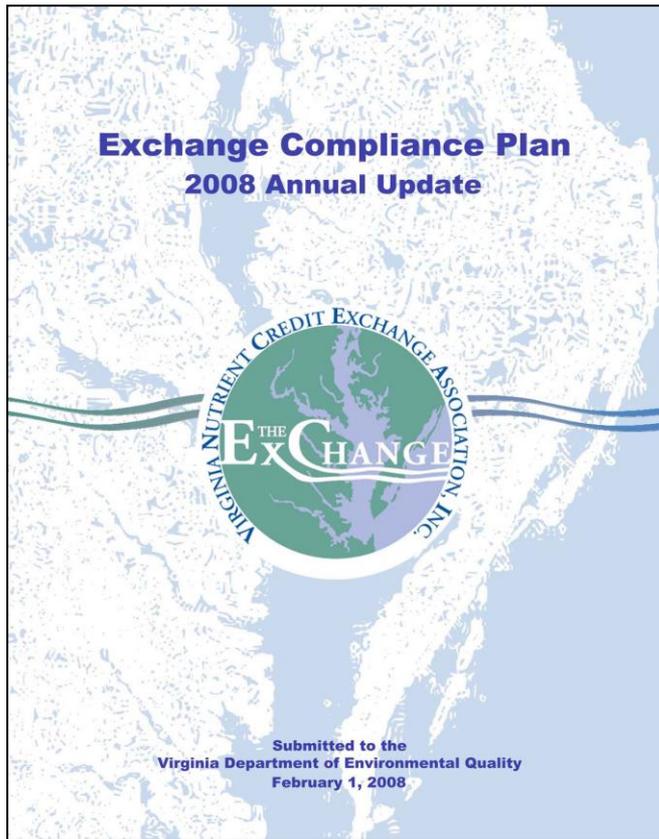
## Point Source to Point Source under Watershed General Permit

- 25 facilities acquired approximately 27,000 lbs of TP and 390,000 lbs of TN credits
- Several minor WLA trades
- Approximately \$1,800,000 market value

## Non-Point Source Credits Sold (Permanent Offsets)

- Approximately 900 lbs of TP with 5,400 lbs of TN retired
- Approximately \$18,000,000 market value

# Primary Factors in Success of the Point Source Trading Program

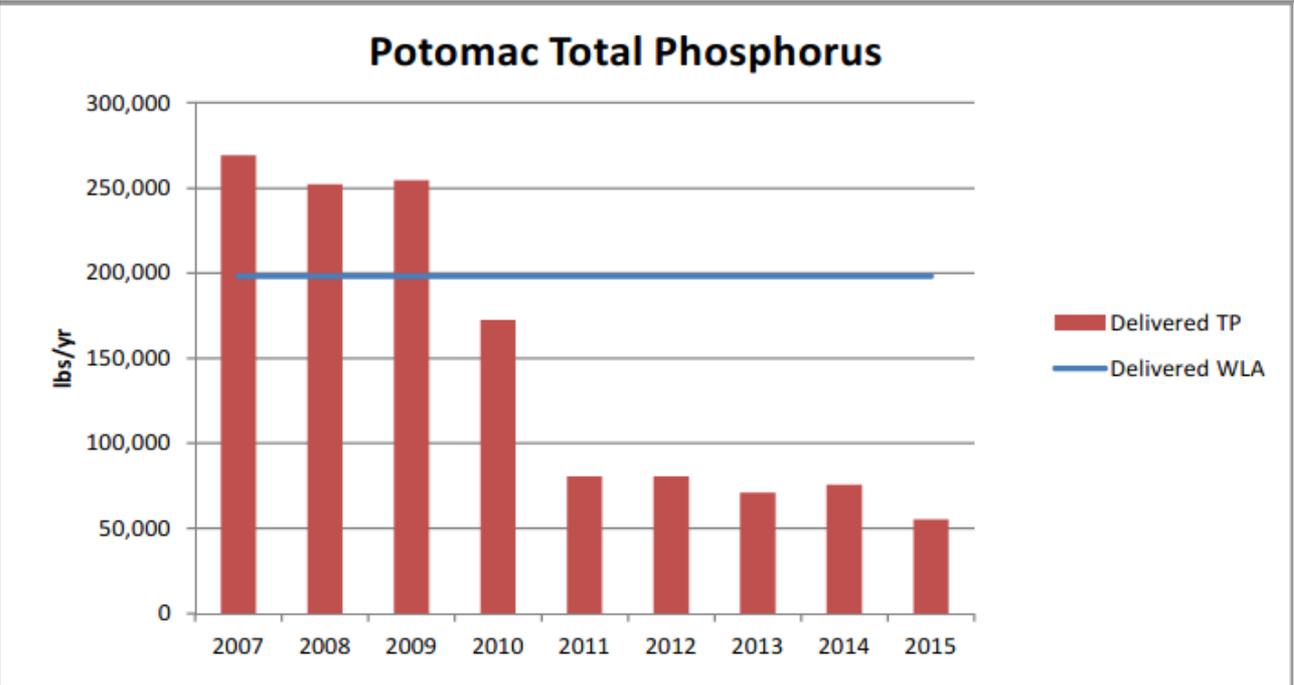
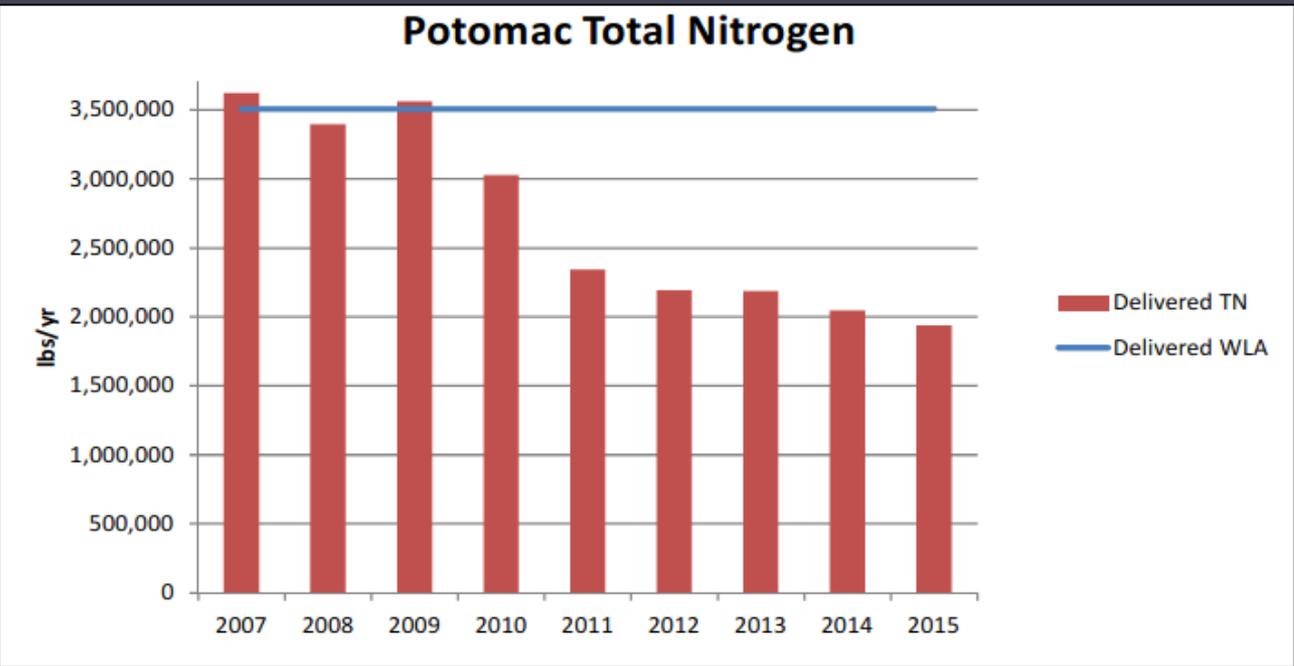


- Watershed general permit
  - Expedient – one negotiation
  - Common schedule of compliance
  - Consistent requirements
- Formation of the Virginia Nutrient Credit Exchange Association with voluntary membership
- Permittees given ownership of the market and have embraced the program

# Nutrient Credit Exchange Association

- The Nutrient Credit Exchange Association is an association of owners of 108 permitted facilities discharging nutrients in the Bay watershed.
- Voluntary membership in non-stock corporation formed to facilitate the trading program
- Benefits of Membership
  - Easy access to buyers and sellers
  - Acts as clearinghouse – buys all generated credits and offers cost-sharing from sales
  - First right to buy generated credits

# Point Source Nutrient Reductions

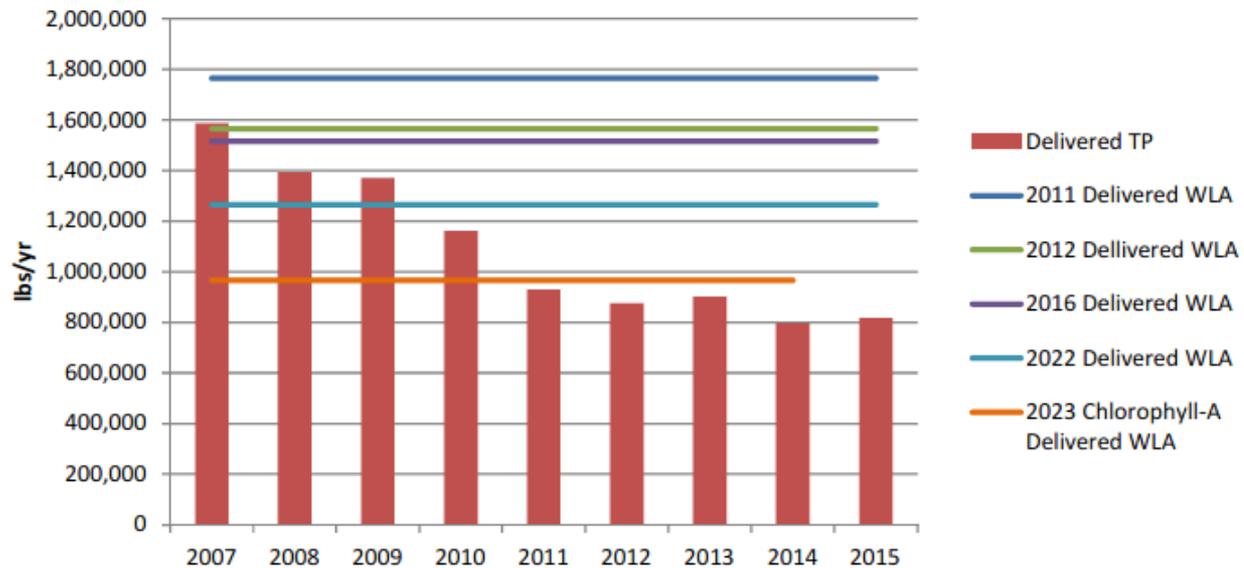


# Point Source Nutrient Reductions

## Statewide Total Nitrogen



## Statewide Total Phosphorus



# Grateful Dead-Zone: Thank You for Not Growing



Follow

30 NOV 2017

Blog Post CBF in Maryland, CBF in Virginia

## What does this mean?

The overall message is best stated by Beth McGee: "**There is scientific consensus that the dead zone is getting smaller over time, and ending earlier in the summer.** This is an indication that the [Clean Water Blueprint](#) is working. But we also know that much more needs to be done to achieve a Bay that is healthy for all living creatures."

We will always have year to year variations in the dead zone due to the weather, but the long-term trend is very encouraging. **The Chesapeake Clean Water Blueprint's ongoing programs to reduce [nutrient pollution](#) are working and we hope to keep on truckin' for smaller dead zones in years ahead.**



# Questions?

