

Delaware's Ches. Bay Non-Tidal Monitoring Program

Update for CY 2012

February, 2013



Monitoring Sites

Two sites in Delaware:

1. Nanticoke River at Bridgeville

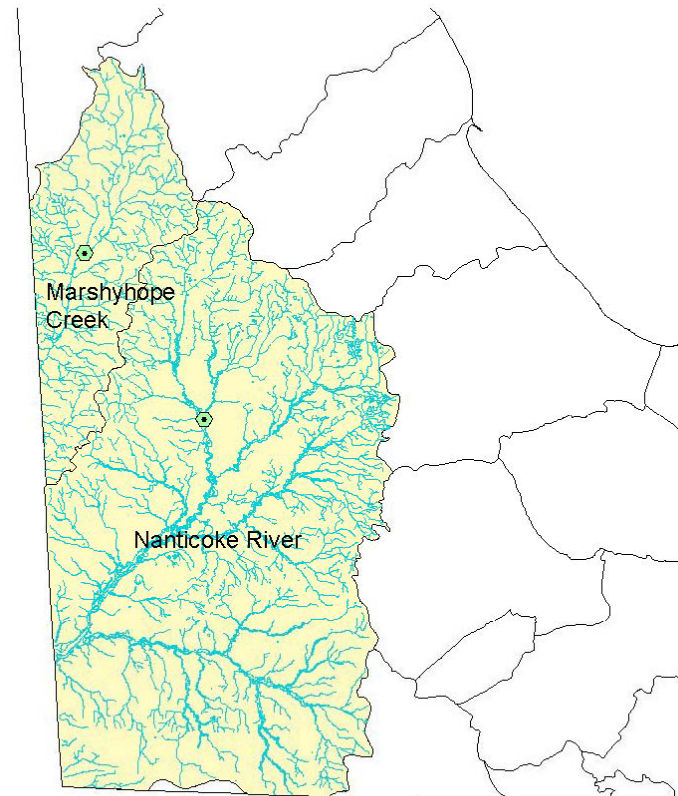
USGS No.: 01487000

STORET No.: 304191

2. Marshyhope Creek near Adamsville

USGS No.: 01488500

STORET No.: 302031



Monitoring Sites



Nanticoke River



Marshyhope Creek



Status

- Monthly sampling started in Oct. 04
- Stations were upgraded to primary in Oct. 05
- Storm samples are sent to the USGS Kentucky lab for suspended sediment/sand-fine particle analysis. The remaining parameters are analyzed at DNREC Lab.
- The sampling protocol developed by the Non-tidal workgroup is being followed.

The following parameters are analyzed at DNREC lab (or measured in the field)

Nutrients

- Total Phosphorus
- Soluble Ortho-phosphorus
- Total Nitrogen
- Ammonia Nitrogen
- Nitrite+Nitrate N

Carbon and Organics

- Total Organic Carbon
- Dissolved Organic Carbon
- Chlorophyll-a
- BOD₅, N-Inhib (CBOD)
- BOD₂₀, N-Inhib (CBOD)

General Chemistry

- Dissolved oxygen
- Total Suspended Solids
- Alkalinity
- Chloride
- Hardness
- pH
- Conductivity
- Salinity
- Temperature
- Secchi Depth
- Turbidity

Bacteria

- Enterococcus

Sampling Performed during 2012

Number of Sampling Events	Goal	Completed
Base Flow	12	12
Stormflow	4-8	3

Challenges

- Collection of required number of storm samples was a challenge last year and this was not because of lack of efforts by DNREC field crew. During last couple of years, major rain events have missed the lower western portions of Delaware; hence, making collection of storm samples very difficult.
- However, with the existence of a high-frequency water quality and nutrient monitoring equipment at the Nanticoke River site, hopefully some of the needs for storm samples can be met.

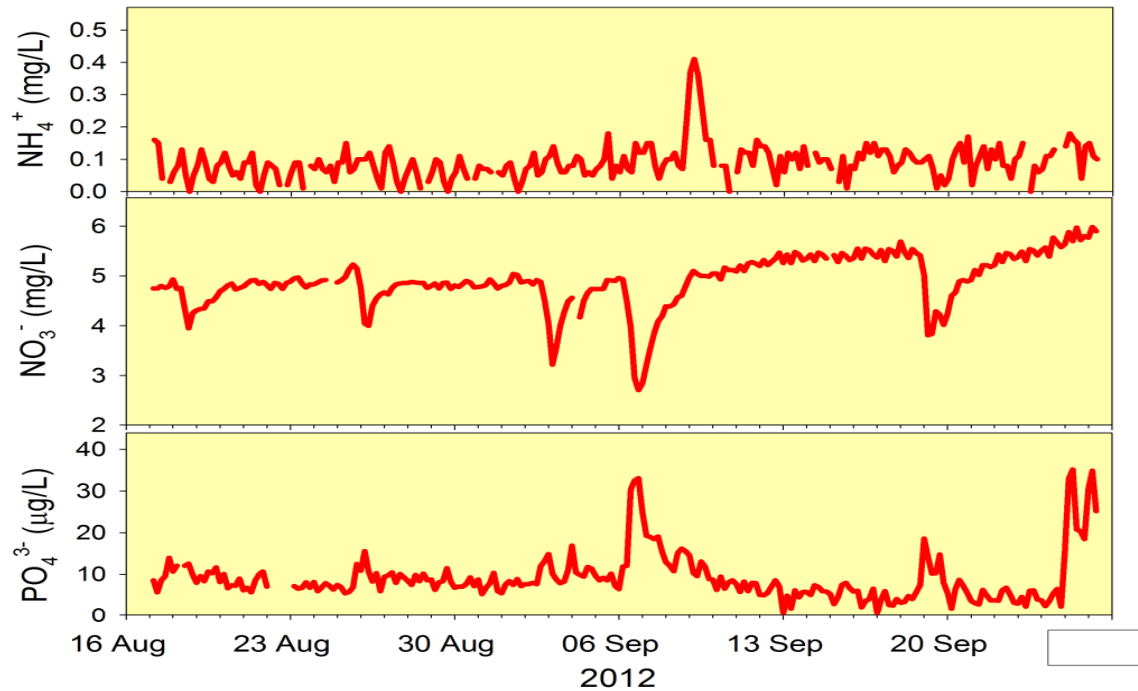
Funding

- Non-tidal Monitoring Program in Delaware is funded via State General Funds and EPA 106 Grant.
- During last couple of years, DNREC faced significant cut in its General Fund monitoring budget. However, these cuts did not impact the Non-tidal monitoring program since we consider it a priority.
- For 2013, we have full funding for the Non-tidal Monitoring Program.

A New Activity During 2012

- DNREC, through cooperation with University of Delaware, installed a high frequency water quality and nutrient data analyzer (Aqualab) at Bridgeville site on the Nanticoke River
- The Aqualab is programmed to collect high frequency samples (every 2-4 hours) and analyze them for several water quality parameters (including nutrients)

Aqualab at Nanticoke River, Bridgeville



DNREC has recently produced and posted the following YouTube Video about the function of the Aqualab at Bridgeville site for public education

<http://www.youtube.com/watch?v=GSnFkcSMF5k>