Monitoring and Assessment Activities in the New York Susquehanna River Basin

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Susquehanna River Basin

- 27,510 sq mile watershed (23% in NY)
- Comprises 43% of the Chesapeake Bay Watershed
- 60% forested, 85% shale

Susquehanna River Basin Commission

- SRBC is a federal-interstate compact commission established in 1971 by the federal government and the states of NY, PA, MD.
- Responsible for managing the basin’s water resources
  - Regulate water quantity not water quality
- Compliment and supplement work done by state and local agencies
Monitoring and Protection Program

• 15 full time monitoring staff

• Wide range of water quality and biological sampling
  • Routine long term sampling – headwaters -> large rivers
  • Continuous monitoring network
  • Macroinvertebrate and fish assemblage monitoring
  • Impacts of UNG industry (pipeline, water withdraws, methane)
  • Invasive species
  • Sediment and Nutrient Monitoring
  • American eel re-introduction
  • Flow-ecology
  • Chesapeake Bay related support WIP 3, County Plans
  • AMD remediation
In 2010, SRBC initiated the RWQMN as a mechanism to continually monitor changes in water chemistry as a response to the rapidly growing Marcellus Shale drilling industry.

Currently, 15 monitoring stations in Upper Susquehanna watershed (12 in NY state):
- temperature, pH, conductivity, dissolved oxygen and turbidity
- 15 minute intervals
- Reports live to a public website

Biological monitoring started in 2011.
Remote Water Quality Monitoring Network Priority Watersheds in the Susquehanna River Basin

### Area Containing Natural Gas Shales

- Sangerfield River
- Trout Brook
- Nanticoke Creek
- Catatank Creek
- Sing Sing Creek
- Baldwin Creek
- Tuscarora Creek
- West Branch Owego Creek
- Butternut Creek
- Apalachin Creek
- Choconut Creek
- Starrucca Creek
- Snake Creek
- Tioga River

### Area with No Recoverable Natural Gas Formations

- Cherry Valley Creek
- Baldwin Run
- 69. Little Buffalo Creek
- 70. Swatara Creek
- 71. Conodoguinet Creek
- 72. Yellow Breeches Creek

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Disclaimer: Use of Map for Any Purpose on An X’ed Base, No Warranties Provided, SRBC (1451w) 11-08-2018

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srbc.net | @SRBCnews
Website and Data Availability

• http://mdw.srbc.net/remotewaterquality/
Butternut Creek

- Newest Site – installed summer 2019
- Mt. Upton, NY
- Collaboration with many groups
  - Continuous, real-time water quality
  - Eel reintroduction
  - Hellbender research
Whitney Point Lake

- Worked with NYSDEC, USACE, Broome County and others

- Ecological impacts of eliminating winter drawdown and coordinating low flow augmentation releases in times of low flow

- 10 year monitoring effort

- New reservoir operations benefit downstream ecosystems and show no detrimental impacts on lake
What’s up next?

• Subbasin Survey – rotating routine monitoring (water quality, macroinvertebrates and physical habitat)
  • Chemung Subbasin
    • 20 sites sampled, Spring 2019
  • Upper Susquehanna Subbasin
    • Slated for Spring 2020

• Assisting TNC with a Chesapeake Bay Small Watershed Grant in the Cohocton Watershed
  • Improve water quality, sediment reduction
  • Restore brook trout habitat

• Water Quality Index
  • Tool for better contextualizing water quality throughout the basin
Questions?

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