ReadMe File for Project Information

Sampling for TMDL Development

Watersheds were sampled to assist in developing Total Maximum Daily Loads for impaired streams. Sampling frequency and parameters sampled vary based on impairment.

1. AMD Sampling for TMDL Development 2001 (water chemistry)
2. AMD Sampling for TMDL Development 2002 (water chemistry)
3. AMD Sampling for TMDL Development 2003 (water chemistry)
4. AMD Sampling for TMDL Development 2004 (water chemistry)
5. AMD Sampling for TMDL Development 2005 (water chemistry)
6. Beaverdam Branch and Mill Run TMDL (water chemistry)
7. Cedar Run TMDL Development (water chemistry)
8. Conestoga River Watershed TMDL (water chemistry and habitat)
9. East Branch Fishing Creek TMDL (water chemistry)
10. Frankstown Branch Juniata River ICE/TMDL (water chemistry)
11. Lycoming Creek Acid Deposition TMDL (water chemistry)
12. Newport Creek TMDL sampling (water chemistry)
13. Octoraro Creek TMDL (water chemistry)
14. Wiconisco Creek sampling for TMDL development (water chemistry)

Subbasin Survey Year-1

Major subbasins in the Susquehanna River Basin are sampled on a 6-12 year rotating basis to determine general health of the streams.

1. Chemung
    - Chemung Subbasin Survey Year-1 – 1997 (water chemistry)
    - Chemung Subbasin Survey Year-1 – 2006 (water chemistry, macros, habitat)
    - Chemung Subbasin Survey Year-1 – 2012 (water chemistry and habitat)
2. Juniata
    - Juniata Subbasin Survey Year-1 – 1986 (water chemistry)
    - Juniata Subbasin Survey Year-1 – 1995 (water chemistry)
    - Juniata Subbasin Survey Year-1 – 2004 (water chemistry, macros, habitat)
    - Juniata Subbasin Survey Year-1 – 2010 (water chemistry, macros, habitat, fish)
3. Lower Susquehanna
    - Lower Susquehanna River Subbasin Survey Year-1 – 1986 (water chemistry)
    - Lower Susquehanna Subbasin Survey Year-1 – 1996 (water chemistry)
    - Lower Susquehanna Subbasin Survey Year-1 – 2005 (water chemistry, macros, habitat)
    - Lower Susquehanna Subbasin Survey Year-1 – 2011 (water chemistry, macros, habitat)
4. Middle Susquehanna
    - Middle Susquehanna River Subbasin Survey Year-1 – 1984 (water chemistry)
    - Middle Susquehanna Subbasin Survey Year-1 – 2001 (water chemistry, macros, habitat)
    - Middle Susquehanna Subbasin Survey Year-1 – 2008 (water chemistry, macros, habitat)
5. Upper Susquehanna

- Upper Susquehanna River Subbasin Survey Year-1 – 1985 (water chemistry)
- Upper Susquehanna Subbasin Survey Year-1 – 1998 (water chemistry, macros, habitat)
- Upper Susquehanna Subbasin Survey Year-1 – 2007 (water chemistry, macros, habitat)

6. West Branch Susquehanna
    - West Branch Susquehanna River Subbasin Survey Year-1 – 1985 (water chemistry)
    - West Branch Susquehanna Subbasin Survey Year-1 – 1994 (water chemistry)
    - West Branch Susquehanna Subbasin Survey Year-1 – 2002 (water chemistry, macros, habitat)
    - West Branch Susquehanna Subbasin Survey Year-1 – 2009 (water chemistry, macros, habitat, fish)

<u>Subbasin Survey Year-2</u>

Based on the Subbasin Survey Year-1 findings and public interest, a watershed or study area is selected for further study.

1. Chemung
    - Chemung Subbasin Survey Year-2 – Cohocton River Watershed (water chemistry, macros, habitat)
2. Juniata
    - Juniata Subbasin Survey Year-2 – Low Flow Monitoring (water chemistry, macros, habitat, fish)
    - Juniata Subbasin Survey Year-2 – Morrison Cove (water chemistry, macros, habitat)
3. Lower Susquehanna
    - Lower Susquehanna Subbasin Survey Year-2 – Yellow Breeches Watershed (water chemistry)
    - Lower Susquehanna Subbasin Survey Year-2 – Lower Reservoirs (water chemistry, macros, habitat, fish)
4. Middle Susquehanna
    - Middle Susquehanna Subbasin Survey Year-2 – Wyalusing Creek (water chemistry, macros, habitat)
    - Middle Susquehanna Subbasin Survey Year-2 – Lackawanna River (water chemistry, macros, habitat)
5. Upper Susquehanna
    - Upper Susquehanna Subbasin Survey Year-2 – 2000 (water chemistry, macros, habitat)
    - Upper Susquehanna Subbasin Survey Year-2 – Whitney Point (water chemistry, macros, habitat, fish)
6. West Branch Susquehanna
    - West Branch Susquehanna Subbasin Survey Year-2 – Drury Run and Birch Island Run (water chemistry, macros, habitat, fish)
    - West Branch Susquehanna Subbasin Survey Year-2 – Morgan Run (water chemistry, macros, habitat)

Natural Gas Drilling

Sample locations are related to natural gas drilling and water withdrawals. Sampling can be conducted pre-, post-, or during natural gas activities.

1. Aquatic Resource Surveys for Natural Gas Withdrawal Locations (water chemistry, macros, habitat, fish)
2. ARS Research (water chemistry, macros, habitat, fish)
3. Remote Water Quality Monitoring Network (water chemistry, macros, habitat)

Interstate Stream Water Quality Network

Streams crossing the New York/Pennsylvania and Pennsylvania/Maryland border are monitored.

- Interstate Stream Water Quality Network – data from 1982 to 2008 (water chemistry, macros, habitat)
- Interstate Stream Water Quality Network 2008 (water chemistry, macros, habitat)
- Interstate Stream Water Quality Network 2009 (water chemistry, macros, habitat, fish)
- Interstate Stream Water Quality Network 2010 (water chemistry, macros, habitat, fish)
- Interstate Stream Water Quality Network 2011 (water chemistry, macros, habitat, fish)
- Interstate Stream Water Quality Network 2012 (water chemistry, macros, habitat, fish)

Large River Assessment

Monitor the mainstem Susquehanna River and its major tributaries.

1. Large River Assessment 2005 (water chemistry, macros, habitat)
2. Large River Assessment 2007 (water chemistry, macros, habitat)
3. Large River Assessment 2008 (water chemistry, macros, habitat)
4. Large River Assessment 2009 (water chemistry, macros)
5. Large River Assessment 2010 (water chemistry)
6. Large River Assessment Pilot Project (water chemistry, habitat)

Other Projects

1. ICE Sampling in the Yellow Breeches Creek (water chemistry, macros, habitat)
    - Assist PADEP with unassessed waters in PA
2. Low Flow Monitoring Project 2012 (water chemistry, habitat, fish)
    - The purpose of the low flow monitoring network is to evaluate and quantify the ecological impacts of low flow events throughout the SRB.
3. Targeted Watershed Grant – Paxton Creek (water chemistry, macros)
    - Urban watershed Best Management Practice study
4. Whitney Point Lake and Watershed Adaptive Management and Monitoring Plan (water chemistry, macros, habitat, fish)
    - The objectives of the Whitney Point Project (2009-2013) was to annually monitor river conditions surrounding Whitney Point Lake and document the impacts of flow augmentation in periods of low flow.