Creating solutions for water quality issues in New Jersey.

Musquapsink & Tenakill Watershed Restoration & Protection Plans – QAPP Overview

Presentation delivered by Katie Buckley, RCE Water Resources Program
March 6, 2007
NNJWA March Meeting

PROJECT BACKGROUNDS

• A Watershed Restoration & Protection Plan is a Plan that when implemented, will achieve the required reductions defined by the TMDL.
• The “Protection” part of this project means that these waterways are C1 – antidegradation waters.
• Tenakill WRPP project period: 8/2006 – 12/2009
• Musquapsink WRPP project period: 9/2006 – 12/2009
• The completed Plan will define measures to be implemented that will result in a % pollutant reduction. The implementation of these projects will be a priority for state and federal funding.
MONITORING SCHEDULE

• Samples will be collected bi-weekly under both low and high flow conditions from May through October 2007 (12 regular events);
• In addition to regular sampling, bacteria samples will be collected 3 more times each month in June, July, & August for a 5 in 30 geometric mean;
• 3 storm events: ideally 1 each season.
• The deliverable of this work will be a data report included as an appendices in the Plan.

PARAMETERS

• *In situ* parameters
  – DO
  – Temperature
  – pH
• Nitrogen
  – Ammonia
  – TKN
  – Nitrite & Nitrate
• Phosphorus
  – Total
  – Dissolved OrthoP
• Bacteria
  – Fecal coliform
  – E. coli
• Total Suspended Solids
• Flow, stream width, and depth so that we can calculate volume and pollutant load.
• Benthic monitoring will be conducted at 4 stations in each watershed.
WHY DO WE WANT TO COLLECT DATA IN THE TENAKILL BROOK?

- According to USGS 01378387 on the Tenakill Brook, 10.2 miles of stream are impaired for fecal coliform.
- The TMDL will require a 96% reduction in fecal coliform loading to the Tenakill Brook so that water quality standards can again be met.
- The TMDL lists potential sources, but does not include information on how this % reduction will be met.
- The Watershed Restoration & Protection Plan will define specific pollutant sources, identify management strategies and potential funding sources, and prioritize water quality improvement strategies.

WHY DO WE WANT TO COLLECT DATA IN THE TENAKILL BROOK? (cont’d)

- The Tenakill Brook is also impaired for aquatic life and arsenic. Due to questions in listing, arsenic will not be addressed in this project, but will be directly addressed by the NJDEP.
- Stations have been carefully chosen and will build upon the findings of the WMA5 Priority Segment project.
TB4 – TENAKILL BROOK AT RIVEREDGE ROAD, TENAFLY

- Location is at Riveredge Road near Tenafly Road.
- This station will represent the water quality of the headwaters of the Tenakill Brook.
- Also a benthic station.
TB3 – TENAKILL BROOK TRIB AT GROVE STREET, TENAFLY

• Site is next to the Tenafly Swim Club.
• Also known as Northern Brook.
• This is an unmapped and unnamed tributary to the Tenakill Brook.

CB1 – CRESSKILL BROOK AT MORNINGSIDE AVE., CRESSKILL

• Site is upstream of confluence with the Tenakill Brook at the Morningside Ave crossing.
• Benthic monitoring site.
DB1 – DEMAREST BROOK AT MAPLE ROAD, DEMAREST

- Site is adjacent to a cul-de-sac at Maple Road, upstream of the County Road crossing.
- Benthic monitoring site.

TB2 – TENAKILL BROOK AT WAKELEE FIELD, DEMAREST

- Site is below the dam at Demarest Duck Pond at the bridge crossing at Wakelee Field.
TB1 – TENAKILL BROOK AT CEDAR LANE, CLOSTER

- Site is downstream of Veteran’s Memorial Park at the Cedar Lane crossing.
- Also the location of the USGS Station 01378387.
- Benthic monitoring site.

WHY DO WE WANT TO COLLECT DATA IN THE MUSQUAPSINK BROOK?

- Very little data exists for the Musquapsink Brook.
- The TMDL is based on 5 samples collected in 2000 at USGS 01377499, Musquapsink Brook at Rivervale.
- The TMDL requires a 96% reduction in fecal coliform loading in 6.6 miles of stream so that water quality standards can be met.
- The TMDL lists potential sources, but does not include information on how this % reduction will be met.
- The Musquapsink Brook is also impaired for total phosphorus, aquatic life, and arsenic. Due to questions in listing, arsenic will not be addressed in this project, but will be directly addressed by the NJDEP.
MUSQUAPSINK BROOK SAMPLING MAP

MB6 – MUSQUAPSINK BROOK AT HARRINGTON AVE, WESTWOOD

- Station is next to the Brook Avenue School on Harrington Avenue.
- Benthic monitoring site.
**MB5 – MUSQUAPSINK BROOK AT THIRD AVE, WESTWOOD**

- Site is located next to park on Third Avenue.
- Large duck and goose population.
- Below the Beth El and Cedar Park Cemeteries.

**MB4 – MUSQUAPSINK BROOK AT FOREST AVE, WESTWOOD BORO**

- Formerly looking at sampling at Lafayette, but relocated site to Forest Avenue.
- Benthic monitoring site.
MB3 – MUSQUAPSINK BROOK AT RIDGEWOOD AVE, WESTWOOD

- Adjacent to Westwood Jr.-Sr. High School on Ridgewood Avenue.
- Below interbasin transfer.
- Benthic monitoring site.

MB2 – MUSQUAPSINK BROOK AT WOODFIELD AVE, WASHINGTON

- This station is below the most northern dam on Schlegel Lake on the western shoreline.
MB1 – MUSQUAPSINK BROOK AT HILLSDALE AVE, HILLSDALE

- Located next to easement and parking area for a baseball field.
- MB1 will yield water quality information for the headwaters of the Musquapsink Brook.
- Benthic monitoring site.

SR1 – SADDLE RIVER AT GROVE STREET, RIDGEWOOD

- The Saddle River will be monitored upstream of the United Water interbasin transfer site.
HB1 – HOHOKUS BROOK AT SADDLE RIVER COUNTY PARK, RIDGEWOOD

• The Hohokus Brook will also be monitored upstream of the United Water interbasin transfer location, but downstream of 2 treatment plant discharges.

NEXT STEPS

• Continue to gather existing watershed data.
• Conduct physical stream assessments throughout each watershed.
• Alert residences, police departments, and municipal officials of sampling activities.
• Begin monitoring.
• Arrange benchmark-oriented meetings so that RCE and project partners can report findings back to NNJWA and stakeholders of the watershed.
QUESTIONS?

Call or email me at (732) 932-9011 or at katieb@rutgers.edu.

Our website will have project updates and information and can be viewed at www.water.rutgers.edu.

Thank you!