



SUSQUEHANNA RIVER BASIN COMMISSION

Introduction	1
Description	2
Methods	3
Data Analysis	4
Results/Discussion	6 - 11
Conclusion	11
References	12
Appendix	12

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www.srbc.net/pubinfo/publications/techreports.htm

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Chemung Subbasin Small Watershed Study: Cohocton River A Water Quality and Biological Assessment, April 2007 - February 2008

The Susquehanna River Basin Commission (SRBC) completed a water quality survey in the Cohocton River Watershed from April 2007-February 2008 as part of the Year-2 small watershed study in the Chemung Subbasin (Figure 1). Year-1 and Year-2 surveys are part of SRBC's Subbasin Survey Program, which is funded in part by the United States Environmental Protection Agency (USEPA). This program consists of two-year assessments in each of the six major subbasins in the Susquehanna River Basin on a rotating schedule.



Figure 1. Location of Cohocton River Watershed in the Chemung River Subbasin

The Year-1 studies are broad-brush, one-time samples of about 100 stream sites to assess water quality, macroinvertebrates, and physical habitat. The Year-2 studies focus on a particular region or small watershed within the major subbasin, and typically consist of quarterly sampling over a one-year period at a set number of sampling locations. SRBC conducted the Chemung Subbasin Year-1 study from June-August 2006 (Buda, 2007). The Year-2 sampling plan is tailored for the individual needs or concerns of a chosen watershed, and, through sampling seasonally at various flow regimes, a more detailed evaluation of the watershed can be made. For more information on SRBC's Subbasin Survey Program, see reports by Buda (2006 and 2007) and Steffy (2007). These reports are posted on SRBC's web site at www.srbc.net/pubinfo/techdocs/Publications/techreports.htm.



Headwaters of the Cohocton River west of Atlanta, N.Y.

The Cohocton River Watershed was chosen for the detailed Year-2 study for several reasons. During initial coordination meetings with state and local agencies in the area, many groups expressed interest in having additional data for the Cohocton River, as there has not been any recent ongoing monitoring in the watershed. Based on these coordination meetings, SRBC created a sampling plan, which included establishing 25 sampling locations to address numerous potential issues in the Cohocton River Watershed.

The Cohocton River Watershed is one of the major drainages in the Chemung Subbasin, and much of the land remains forested and undeveloped. However, agriculture does represent almost 20 percent of the land use in the watershed, and there are local concerns about the resulting impacts of nutrients and sediment. Nineteen sites were sampled throughout the watershed to assess ambient water quality and document nutrient levels likely resulting from agricultural practices.

The water quality of tributaries entering Lamoka and Waneta Lakes was another concern that was addressed in the sampling plan. To evaluate where excess nutrients in the lakes may be originating, SRBC sampled six sites around, between, and downstream of the lakes. Quarterly sampling at these 25 sites was conducted throughout the watershed to provide information for determining any temporal or spatial changes in water quality and to provide evidence of anthropogenic influence, particularly with regard to agricultural sources of nutrients or the possibility of other sources, such as septic systems.

In addition, due to the numerous large automobile salvage yards in the watershed, quarterly volatile organics sampling (specifically looking for BTEX - benzene, toluene, ethyl benzene, xylenes mix) also was incorporated upstream and downstream of two salvage yards to assess any surface water impacts from these facilities.

SRBC also has numerous other involvements in and around the

Cohocton River Watershed that will benefit from the additional data provided from this project. Since October 2005, staff has been conducting water quality sampling on the Cohocton River at Campbell, N.Y., as part of the Chesapeake Bay Program's Non-tidal Water Quality Monitoring Network. Monthly nutrient and sediment data are collected, as well as seasonal storm samples, weather permitting. More information on this program can be found at www.srbc.net/programs/CBP/nutrient-program.htm.

Additionally, in 2007, SRBC expanded its Early Warning System (EWS) program into the New York State portion of the Susquehanna River Basin to protect public drinking water supplies. This program helps protect public water supplies that serve the almost 700,000 customers in the Elmira and Binghamton, N.Y., areas. The EWS program involves a monitoring network that helps minimize the impact from contaminant spills, and provides data for improving day-to-day treatment operations, further ensuring a continuous and safe supply of drinking water. The City of Elmira's water treatment facilities, included in the EWS network, are located downstream of the outlet of the Cohocton River. The treatment facility benefits from the real-time monitors that record temperature, turbidity, dissolved oxygen, and conductance. There is also an ultraviolet absorbance monitoring system, which can be used to detect organic contaminants. By monitoring these few major parameters continuously, any changes can be detected early, before they threaten the safe supply of drinking water. For more information on the EWS program at SRBC, go to [http://www.srbc.net/programs/docs/EWSGeneral\(2_07\).pdf](http://www.srbc.net/programs/docs/EWSGeneral(2_07).pdf).

This Year-2 watershed study will provide valuable biological, chemical, and habitat information to SRBC and other agencies, including the Upper Susquehanna Coalition (USC), New York State Department of Environmental Conservation (NYSDEC), Southern Tier Central Regional

Planning and Development Board (STCRPB), the Soil and Water Conservation Districts of Steuben and Schuyler Counties, local citizens, and other interested parties.

DESCRIPTION of the Cohocton River Watershed

The Cohocton River Watershed drains 604 square miles and flows southeast through the southern tier of New York State (Figure 1). More than 80 percent of the watershed is located in Steuben County, with smaller sections located in Schuyler (ten percent), Livingston (three percent), Yates (two percent), and Ontario (less than one percent) counties. The Cohocton River and the Tioga River converge in the Village of Painted Post, N.Y., to form the mainstem of the Chemung River. Most of the streams in the Cohocton River Watershed, including all the sampling locations, are designated as either Class B or Class C waters, which are typically intended for primary and secondary recreation and fishing. Two sampling sites, the Cohocton River south of Avoca (about river mile 25.0) and the mouth of Meads Creek (MEAD 0.1), are in reaches designated as trout waters. In addition, Twelvemile Creek (TWVE 0.5) is listed by NYSDEC as trout spawning waters.

The Cohocton River Watershed is a primarily rural area with forested lands covering more than 75 percent of the basin. Agriculture makes up almost 20 percent of the watershed, and just over one percent is developed land. Two large lakes and numerous sizeable wetland areas make up most of the remaining area. The largest population center is Bath, located in the central region of Steuben County (Figure 2). Land use information is based on the 2000 land use coverage from the Chesapeake Bay Program.

The entire Cohocton River Watershed falls within Ecoregion 60, which is the Northern Appalachian Plateau. This ecoregion is a combination of agriculture and forested land and is considered a transition ecoregion between