



SUSQUEHANNA RIVER BASIN COMMISSION

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Report By:
Susan R. LeFevre
Biologist

Middle Susquehanna River Subbasin Small Watershed Study: Wyalusing Creek Watershed

*A Water Quality and Biological Assessment,
October 2002 - September 2003*

The Susquehanna River Basin Commission (SRBC) conducted a survey in the Wyalusing Creek Watershed from October 2002 to September 2003 as part of the Year-2 small watershed study in the Middle Susquehanna Subbasin. The Year-1 survey was conducted in the Middle Susquehanna Subbasin from July to September 2001 (LeFevre, 2002). Based on findings from the Year-1 survey and input from local interests, SRBC decided to conduct its in-depth Year-2 study in a watershed with a newly forming watershed group, in order to provide baseline data on stream health and assist in restoration efforts. Also, a Total Maximum Daily Load (TMDL) was developed recently for a stream in the Wyalusing Creek Watershed as part of Pennsylvania's requirements under the Clean Water Act. The study will assist the Pennsylvania Department of Environmental Protection (PADEP) in determining whether TMDL limits are being met. The Year-2 survey included bimonthly water chemistry samples and flow measurements, and spring sampling and assessment of the macroinvertebrate community and habitat. For more information on the Subbasin Survey Program at SRBC, see reports by Diehl and Sitlinger (2001), LeFevre (2002), and LeFevre (2003). These reports can be accessed via SRBC's web site at <http://www.srbc.net/techreports.htm>. Previous surveys were performed on the main branch Wyalusing Creek (LeFevre, 2002; Water Quality and Monitoring Programs Division, 1997; and Malione and others, 1984),

South Branch Wyalusing Creek (Rider and Blacksmith, 1985), and Pettis Creek (Bureau of Water Quality Management, 1984). A comparison of this historical data and the present assessments of these streams will be addressed in this report.

Description of the Wyalusing Creek Watershed

The Wyalusing Creek Watershed is located in Bradford and Susquehanna Counties in northeastern Pennsylvania and includes significant portions of Bridgewater, Forest Lake, Jessup, Middletown, Rush, Pike, Stevens, Herrick, and Wyalusing Townships (Figure 1).



*North Branch Wyalusing Creek
north of Gaylord Creek, Susquehanna County*

The watershed drains about a 220-square-mile area from Montrose to Wyalusing, and lies within Ecoregion 60 – Northern Appalachian Plateau and Uplands. This ecoregion is characterized as a transition region from the more urbanized, agricultural, and flatter topography areas of the ecoregions to the north and west to the more mountainous, forested, and less populated ecoregions to the south and east (Omernik, 1987).

S. LeFevre

Wyalusing Creek Watershed is mostly forested and cultivated land with two urbanized areas, Montrose and Wyalusing Boroughs, located respectively in the headwaters and mouth of Wyalusing Creek (Figure 1). Agricultural fields are mostly hay and grain for cattle feed, and the forests are predominantly oak and northern hardwoods. This watershed is located in a previously glaciated region, and the soils are derived from glacial till.

In 2003, a Wyalusing Creek Watershed group was in the early stages of forming and officially establishing itself. Some of the group's concerns in early 2003 included: excess sedimentation in streams due to quarries, stone-cutting facilities, and lumber activities; erosion of property from streams; health and quality of lakes for recreation; increasing recreation opportunities on the main branch of the Wyalusing; and the condition of bridges and debris jams during high water.

Five permitted discharges currently exist in the watershed. Three public municipal wastewater permits include discharges into Pettis, Rockwell, and Cold Creeks. One nonpublic wastewater discharge enters Wyalusing Creek near Camptown, and one industrial waste

discharge enters Wyalusing Creek upstream of the confluence of Brewer and Wyalusing Creeks.

A Superfund National Priorities List (NPL) site exists in the Wyalusing Creek Watershed near South Montrose in Bridgewater Township, Susquehanna County in the headwaters of South Branch Wyalusing Creek. Hazardous waste from aircraft manufacturing was disposed on the property of Bendix Flight Systems Division from 1952 to 1978 (USEPA, 2004a). The site was placed on the NPL in 1987, and construction of remedial activities was completed in 1996 and upgraded in 2000 (USEPA, 2004a). The site is regularly monitored for surface water and groundwater contamination, and contaminated groundwater is continually pumped and treated (USEPA, 2004a).

South Branch Wyalusing Creek also was listed on the 1996 and 1998 303(d) List of impaired waters, and PADEP completed a TMDL for nutrients and sediment in 2001 (PADEP, 2001). Three miles of the stream were listed as impaired in 1996, and the entire length (5.74 miles) was listed as impaired in 1998. The source for the listing of this

stream was an SRBC publication (McMorran, 1987); however, the original survey was performed by the Pennsylvania Department of Environmental Resources Bureau of Water Quality Management (Rider and Blacksmith, 1985). This assessment identified impairments associated with nutrients and poor habitat from inadequately treated sewage, agricultural runoff, low base flow, and detrimental agricultural practices surrounding the stream. These problems were located mostly in the headwaters of the stream. Good water quality and macroinvertebrate populations were found at the lower stations, despite some continued habitat problems. Due to these habitat impairments, the small size of the stream, and the presence of warm water fishes, the surveyors determined that the South Branch Wyalusing Creek was not meeting its designated use for Cold Water Fishes, and recommended that it be designated as Warm Water Fishes (Rider and Blacksmith, 1985). The stream designation was changed, and South Branch Wyalusing Creek is presently classified as Warm Water Fishes (The Commonwealth of Pennsylvania, 2002).

Figure 1.
*Land Use and Township Boundaries
in the Wyalusing Creek Watershed*

*Inset shows the Wyalusing Creek
Watershed area within the Middle
Susquehanna Subbasin and
the larger Susquehanna
River Basin.*

