

Lower Susquehanna Subbasin

Small Watershed Study: Yellow Breeches Creek

A Bacteriological Assessment, February - November 2006



**SUSQUEHANNA RIVER
BASIN COMMISSION**

Introduction1

Description2

Background4

Methods4 - 6

Results6 - 15

Discussion16 - 17

Appendix18

References18

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

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INTRODUCTION

The Susquehanna River Basin Commission (SRBC) completed a water quality survey in the Yellow Breeches Creek Watershed from February-November 2006 as part of the Year-2 small watershed study in the Lower Susquehanna River Subbasin (Figure 1). The Year-1 study of more than 100 sites throughout the entire Lower Susquehanna Subbasin was conducted from June-November 2005 (Buda, 2006). This study of the Yellow Breeches Creek Watershed was somewhat different from other Year-2 studies conducted by SRBC, as it focused primarily on recreational water quality. Concurrently with this project, SRBC was involved in an Instream Comprehensive Evaluation assessment within the Yellow Breeches Creek Watershed, with a focus on the impaired stream reaches, for the Pennsylvania Department of Environmental Protection (PADEP). SRBC and PADEP are both interested in the implications bacteria may have on recreational water quality, because the Yellow Breeches Creek is used heavily for recreational purposes, including



Figure 1. Location of Yellow Breeches Creek Watershed in the Lower Susquehanna Subbasin.

fishing, swimming, kayaking, tubing, and canoeing. The potential impacts of bacteria on drinking water are also of concern, as there are several drinking water intakes located on the Yellow Breeches Creek.

SRBC staff members also participate in the activities of the Yellow Breeches Watershed Association (YBWA) through its board of directors. The YBWA recently completed a watershed assessment and rivers conservation plan and is working with Cumberland and York Counties and the Pennsylvania Fish and Boat Commission (PFBC) to develop a water trail in the lower watershed area for recreational use.

In June 2003, through a grant from PADEP, SRBC prepared Source Water Assessment and Protection (SWAP) reports for Pennsylvania American Water Company (PAWC) and United Water of Pennsylvania for the water intakes on the Yellow Breeches Creek. United Water treats approximately 2.3 million gallons per day (mgd), and serves more than 25,000 people

Courtesy PA Environmental Council



Yellow Breeches Creek provides many excellent recreational opportunities.

J. Zimmerman

in the Mechanicsburg area (PADEP, 2003). PAWC treats about 5.4 mgd and serves more than 87,400 people, in addition to industrial and commercial customers (PADEP, 2003). According to the SWAP reports, the primary contaminant concerns for the Yellow Breeches Creek are associated with low-intensity development and agricultural activity (PADEP, 2003). Runoff from development and agriculture often are associated with increased bacteria levels. The primary goals of this Year-2 study were to characterize the extent of bacteria contamination in the Yellow Breeches Creek Watershed and to compare the outcomes of sampling three different types of pathogen indicator bacteria. The data from this study can be used as background information by PADEP for future Total Maximum Daily Load (TMDL) or water quality standards work, and by other interested parties, such as water suppliers, watershed associations, and conservation groups in the Yellow Breeches Creek Watershed.

DESCRIPTION of the Yellow Breeches Creek Watershed

The Yellow Breeches Creek drains 219 square miles and flows east through Adams, York, and Cumberland Counties before joining the Susquehanna River at New Cumberland, Pa. The creek is designated as High-Quality Cold Water Fishes, and in 1992 it also was designated as a Scenic River by the Commonwealth of Pennsylvania. In addition, Mountain Creek, a tributary of the Yellow Breeches Creek, is designated for trout stocking from Mt. Holly Springs to the mouth.

About 79 percent of the Yellow Breeches Creek Watershed is located in Cumberland County, 18 percent is in York County, and just 3 percent is in Adams County. The origin of the mainstem of the Yellow Breeches Creek is west of the town of Walnut Bottom, Cumberland County, and the creek

flows eastward toward Mt. Holly Springs, Cumberland County. The largest tributary, Mountain Creek, begins in northern Adams County and joins the Yellow Breeches Creek in Mt. Holly Springs. For more than 21 miles of its length, from Williams Grove to New Cumberland, the Yellow Breeches Creek serves as the boundary between Cumberland and York counties. There are 22 municipalities fully or partially located in the Yellow Breeches Creek Watershed, with the majority being in Cumberland County: Camp Hill, Lemoyne, Mechanicsburg, Mt. Holly Springs, New Cumberland, and Shiremanstown Boroughs; Cooke, Dickinson, Hampden, Lower Allen, Monroe, Penn, Southampton, South Middletown, and Upper Allen Townships. The remaining municipalities are: Dillsburg Borough, and Carroll, Fairview, Franklin, and Monaghan Townships in York County; and Huntington and Menallen Townships in Adams County.

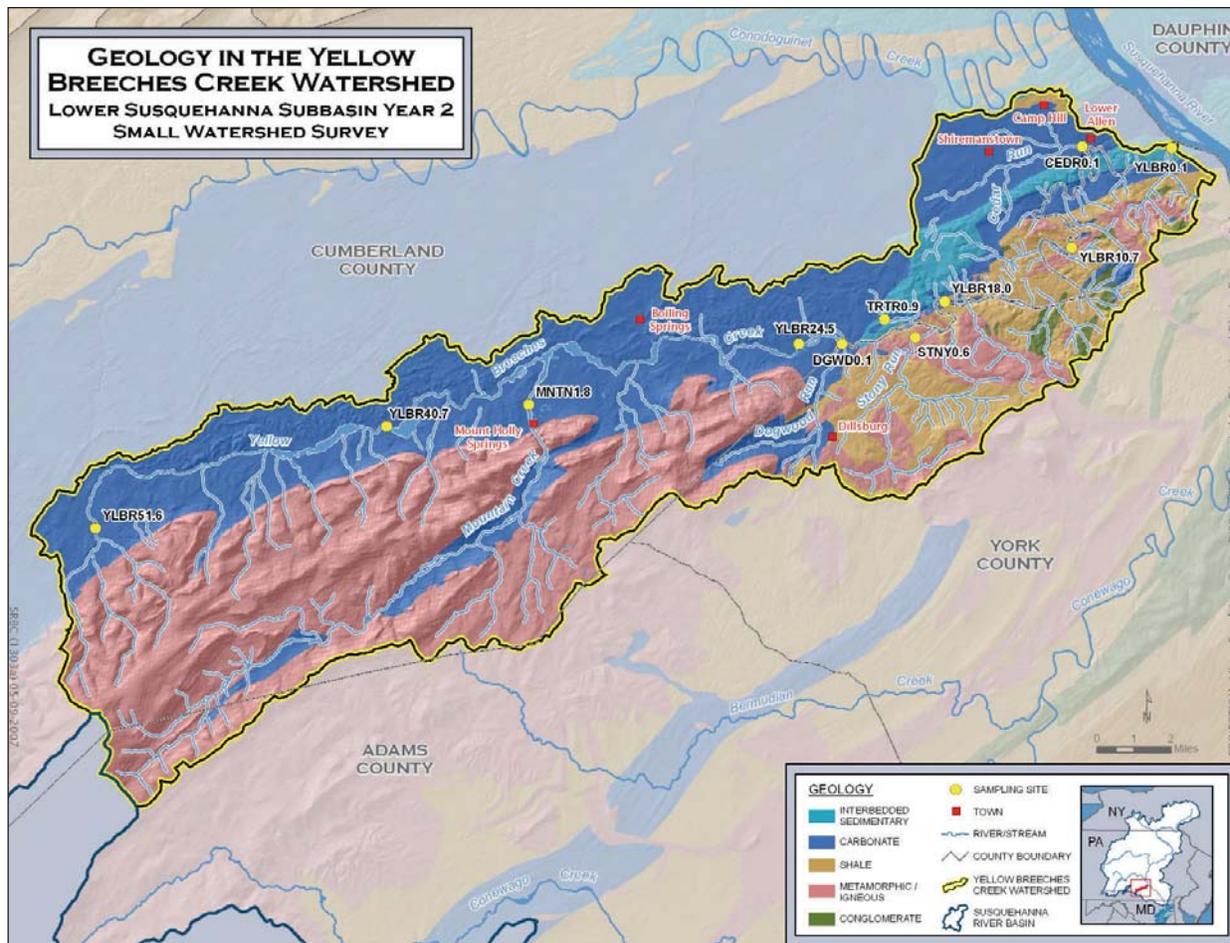


Figure 2. Geology and Sampling Site Locations in Yellow Breeches Creek Watershed.

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