

Mercer County Watersheds

Act 167 Stormwater Management Plan

5.1.4. Slippery Rock Creek Watershed

Only a small portion of Mercer County lies within Slippery Rock Creek watershed, including: a portion of Liberty Township, and a portion of Springfield Township.

Within the Slippery Rock Creek watershed, the primary stormwater related concern was increased runoff, with the secondary issue being stream flooding. (Appendix C, Figures 7 & 8)

A small portion of the Slippery Rock Creek watershed is located in the southeast part of the county. It drains an area of approximately 194,340 acres (303.7 square miles), of which 2,892 acres (4.5 square miles) are located within Mercer County. This watershed's drainage flows out of the county to the south into the Beaver River, part of the Ohio River watershed. In general, the Slippery Rock Creek watershed is relatively flat in topography with few slightly steeper slopes. The watershed consists of poorly drained soils with underlying bedrock that has moderate to low porosity and permeability, predisposing the area to excess runoff. Aside from a few small areas of low density urban areas, the majority of the Slippery Rock Creek watershed that lies within Mercer County consists primarily of forest and farmland. Following is a detailed description of the Slippery Rock Creek watershed within Mercer County.

Soils – The Canfield-Ravenna association makes up the small part of the Slippery Rock Creek watershed that lies within Mercer County. This association can be found on gently sloping to moderately steep uplands, and is underlain by glacial till. This association ranges from moderately well drained to somewhat poorly drained. (Appendix A, Figure 6.) The Slippery Rock Creek watershed also contains 1,508 acres (2.4 square miles) of prime farmland soils, the majority of which are currently forested. (Appendix A, Figure 5.)

Geology – The majority of this watershed is composed of approximately 2,171 acres (3.4 square miles) of the Allegheny formation. This formation consists of limestone, clay, and coal and has low porosity and moderate to low permeability. The remainder of the watershed is composed of the Pottsville formation, which consists of shale, siltstone, claystone, limestone, and coal. It has variable porosity and moderate to low permeability. (Appendix A, Figure 3.)

Slope – In general, the part of the Slippery Rock Creek watershed that lies within Mercer County is relatively flat having a 0-8% grade. A small portion of the northern aspect of the watershed is hilly in topography, having a grade of 16%-25%. (Appendix A, Figure 4.)

Land Use – Appendix A, Figure 7 contains a map of the primary land uses within Mercer County, overlain with the watershed boundaries. The following table presents coverage of the most dominant land uses within the watershed:

Land Use	Acres	Square Miles	Percent of Watershed
Forested	1,290	2.0	45%
Farmland	1,165	1.8	40%
Wetland	186	0.3	<1%
Low Density Urban	60	0.1	<1%
High Density Urban	38	0.1	<1%
Water	39	0.1	<1%

Stormwater Management Issues Identified as Significant by Each Municipality within the Slippery Rock Creek Watershed

Liberty Township

- There were no comments related to this watershed.

Springfield Township

- Extreme storm events cause stream flooding, property damage, erosion of stream banks and beds, and bridge/culvert damage caused by increased surface runoff and poor drainage.
- Stabilization of peak flow conditions.
- Control the erosion of stream banks and beds, causing undercut roads and utilities, damage to in-stream habitat, clogging to culverts and bridges.
- Decrease watershed pollution including dissolved and un-dissolved pollutants from increased runoff causing negative impacts to recreation, aesthetics, and in-stream habitat.