

Mercer County Watersheds Act 167 Stormwater Management Plan

5.1.2 Sandy Creek Watershed

The following municipalities lie within the Sandy Creek watershed: A portion of Deer Creek Township, a portion of New Vernon Township, a portion of Salem Township, a portion of Sandy Creek Township, all of Sandy Lake Borough, all of Sandy Lake Township, all of Sheakleyville Borough, all of Stoneboro Borough, and a portion of Worth Township.

The primary stormwater concern in the Sandy Creek watershed was increased runoff. Secondary issues included poor drainage and road wash-outs. Other issues mentioned were: road flooding, undersized culverts, acid mine drainage, sedimentation, stream bank erosion, flooding, and beaver dams. (Appendix C, Figures 3 &4.)

The Sandy Creek watershed is located in the northeast corner of Mercer County. It drains an area of approximately 102,839 acres (160.7 square miles), of which 50,772 acres (79.3 square miles) are located within Mercer County. This watershed's drainage flows out of the county to the east and into the Allegheny River watershed. In general, the watershed is flat in topography, with some steeper slopes around streams. It consists of moderately drained to poorly drained soils with underlying bedrock that has moderate to low porosity and permeability, predisposing the area to excessive pooling and runoff. Areas of high density urban land use within the watershed include Sandy Lake and Stoneboro, and small areas adjacent to Routes 285 and 358. This urban land use predisposes the area to increased runoff, flooding, sedimentation, and water pollution. The remainder of the Sandy Creek watershed consists mainly of farmland to the northwest and forested area to the east. The northern portion of the watershed is dotted with wetlands, some considerable in size. These wetlands provide flood storage and help water to infiltrate into the groundwater rather than running off into and flooding nearby creeks. Following is a detailed description of the portion of the Sandy Creek watershed that lies within Mercer County:

Soils –Sandy Creek is dominated by the Wayland, course variant-Papakating-Red Hook soil association. This association is found on nearly level slopes within the floodplains and is underlain by alluvium and ranges from very poorly drained to moderately drained. The Sandy Creek floodplain consists of the Chenango-Braceville-Halsey association, a soil association found on gently sloping to moderately steep terraces and moraines underlain by glacial till. It ranges from well drained to very poorly drained. The remainder of the watershed consists of the Ravenna-Frenchtown association, a somewhat poorly drained to poorly drained association found on nearly level to gently sloping uplands. (Appendix A, Figure 6.) The Sandy Creek watershed within Mercer County also contains approximately 24,037 acres (37.56 square miles) of prime farmland soils, the majority of which remain forested. (Appendix A, Figure 5.)

Geology – Approximately 7,012 acres (11.0 square miles) of the Cuyahoga formation can be found underlying Sandy Creek in the northwest. This formation is composed of sandstone and has low porosity and low permeability. The Shenango formation makes up the floodplain of Sandy Creek, approximately 14,349 acres (22.4 square miles). This formation is composed of siltstone and has moderate to low porosity and moderate to low permeability. The Pottsville formation, composed of shale, siltstone, claystone, limestone, and coal, makes up the majority of the east, approximately 23,796 acres (37.2 square miles) and has variable porosity and moderate to low permeability. The Pottsville formation is intermixed with approximately 5,579 acres (8.7 square miles) of the Allegheny formation, a formation composed of limestone, clay, and coal. (Appendix A, Figure 3.)

Slope – The watershed is relatively flat with 0-8% slopes in the southeast; however, steeper slopes (>25% in grade) can be found along Sandy Creek. The northern part of the watershed is relatively hilly, with slopes of 9-15% grade throughout. Some of the smaller streams are surrounded by slopes of 16-25% grade. (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	27,206	42.5	54%
Farmland	15,747	24.6	31%
Wetland	2,271	3.5	<1%
Water	1,852	2.9	<1%
Low Density Urban	779	1.2	<1%
High Density Urban	718	1.1	<1%

Stormwater Management Issues Identified as Significant by Each Municipality within the Sandy Creek Watershed:

Deer Creek Township

- Finding funding to respond to stormwater related issues within Deer Creek Township
- Road flooding and berm erosion along roadways in Deer Creek Township caused by excessive runoff.
- Poor drainage and soil infiltration caused by existing soil types.
- Stabilizing peak flow conditions.
- Maintain groundwater supplies as increasing runoff decreases the amount of rain that becomes groundwater. Decreased groundwater supplies may have negative effects on well water supplies or dry up stream baseflow in dry periods.
- Control the erosion of stream beds and banks, undercut roads and utilities, damage to in-stream cover, and clogging of bridges and culverts during extreme storm events.

- Resolve street and stream flooding caused by increased runoff and poor drainage.

New Vernon Township

- Stormwater controls and best management practices.
- Increased runoff entering Lake Wilhelm along Creek Road between Lake Wilhelm Road and Borland Road.
- Increased runoff from Tributary 58632 to Sandy Creek in the vicinity of the intersection of Borland Road and Irish Ridge Road.
- Control the erosion of stream beds and banks, undercut roads and utilities, damage to in-stream cover, and clogging of bridges and culverts during extreme storm events.
- Stabilizing peak flow conditions.
- Maintain groundwater supplies as increasing runoff decreases the amount of rain that becomes groundwater. Decreased groundwater supplies may have negative effects on well water supplies or dry up stream baseflow in dry periods.
- Regulate and monitor overbank flows associated with extreme storm events.

Salem Township

- Control the erosion associated with roadways and keeping culverts free of obstructions.
- Stabilizing peak flow conditions.
- Control the erosion of stream beds and banks, undercut roads and utilities, damage to in-stream cover, and clogging of bridges and culverts during extreme storm events.
- Regulate stream flooding, soil erosion, stream bed and bank erosion, in-stream sedimentation, and bridge/culvert damage caused by increased runoff.

Sandy Creek Township

- Control stream bank erosion along Sandy Creek in the vicinity of Armour Road and Old Perry Road.
- Control stream bank erosion along Tributary 58652 to Sandy Creek in the Vicinity of Larimer Road.
- Control the erosion of stream beds and banks, undercut roads and utilities, damage to in-stream cover, and clogging of bridges and culverts during extreme storm events.
- Regulate stream flooding, soil erosion, stream bed and bank erosion, and bridge/culvert damage caused by increased runoff, undersized structures, and floodplain development.

Borough of Sandy Lake

- Sandy Lake Borough is situated in a low area. They are affected not only by situations within the borough, but also by conditions outside their corporate boundaries.
- Sandy Lake outlet to Sandy Creek – The Borough of Sandy Lake has suggested that the outlet is in need of dredging.
- Culverts under Pintree Drive have been plugged by a beaver. Pennsylvania Game Commission and PennDOT have been made aware of the problem.
- McCutchoen Run at Broad Street and Laura Drive – The box culvert under Broad Street has been obstructed. During storms the runoff along the course of Laura Drive can reach sufficient velocity to cause considerable damage.
- Hamilton Hill – Undersized culverts have caused culvert clogging and street flooding.
- Unnamed wet weather stream entering Sandy Lake Borough from the south – This stream originates at the outlet of a pond on the east side of SR 173 south of town. This stream catches water from Lakeview and Oakview School properties, possibly 2 churches, and state highway runoff. If one walks south from Elbow Street in the Borough, severe stream bank erosion will be observed. The Borough of Sandy Lake has suggested that a storm retention device and a trash rack upstream from Elbow Street would alleviate this situation.
- Flooding and property damage (basement flooding) has occurred in the vicinity of Elbow Street.
- Sandy Lake Borough has recently replaced approximately 250' of pipe and a box culvert at a crossing of Mercer Street.
- High Street – A wet weather stream crossing under High Street has the potential for washing out due to trash in the culvert crossing.
- Patton Road, (aka Coal Hill) – Patton Road is a 1/4 mile, of steep, paved roadway that has a high potential for wash out. The runoff contributes to storm water on North Main Street.
- Mill Street – Mill Street has the potential for washing due to its long, steep gradient and the collection of runoff from adjacent properties. Its ditches have been enclosed with culvert pipes with inlets at intervals along its length.
- Main Street – The elevation of the pavement on Main Street is 6”–8” higher than it was 40+ years ago. Currently, no curb exists on North Main Street (north of the traffic light). As a result, ponding occurs at many of the intersections. PennDOT storm sewers at the traffic light (intersection of SR 0062, SR 0358, and SR 0173) are inadequate. The Borough of Sandy Lake has suggested that a major storm water study be performed by PennDOT and appropriate action taken.
- Stabilizing peak flow conditions.
- Decrease watershed pollution including dissolved and un-dissolved pollutants from increased runoff causing negative impacts to recreation, aesthetics, and in-stream habitat.

- Maintain groundwater supplies as increasing runoff decreases the amount of rain that becomes groundwater. Decreased groundwater supplies may have negative effects on well water supplies or dry up stream baseflow in dry periods.
- Control the erosion of stream beds and banks, undercut roads and utilities, damage to in-stream cover, and clogging of bridges and culverts during extreme storm events.
- Regulate and monitor overbank flows associated with extreme storm events.

Sandy Lake Township

- Haun Hill Road often washes out due to excessive runoff.
- Triple Link Road frequently floods due to obstructions in the stream. Sandy Lake Township has suggested the re-routing and cleaning of the stream.
- Regulate stream flooding, street flooding, soil erosion, in-stream sedimentation, property damage, pollution, and bridge/culvert damage caused by increased runoff, undersized structures, and floodplain development.

Borough of Stoneboro

- In-stream obstructions cause pooling and prevent water transport downstream.
- Stream flooding exists in the vicinity of the intersection of Mercer Road and Mine Road. The Borough of Stoneboro has suggested a rerouting of the stream.
- A beaver dam exists east of Sandy Lake in the vicinity of Linden Road backing up water and preventing normal drainage. The Borough of Stoneboro has suggested the removal of the beaver dam.
- A beaver dam exists south of Sandy Lake in the vicinity of Franklin Road backing up water and preventing normal drainage. The Borough of Stoneboro has suggested the removal of the beaver dam.
- A beaver dam exists south of Sandy Lake along Sawmill Run backing up water and preventing normal drainage. The Borough of Stoneboro has suggested the removal of the beaver dam.
- Regulate stream, street, and property flooding, in-stream sedimentation, and property damage caused by poor drainage.
- Stabilizing peak flow conditions.
- Decrease watershed pollution including dissolved and un-dissolved pollutants from increased runoff causing negative impacts to recreation, aesthetics, and in-stream habitat.
- Maintain groundwater supplies as increasing runoff decreases the amount of rain that becomes groundwater. Decreased groundwater supplies may have negative effects on well water supplies or dry up stream baseflow in dry periods.

- Control the erosion of stream beds and banks, undercut roads and utilities, damage to in-stream cover, and clogging of bridges and culverts during extreme storm events.

Worth Township

- Regulate moderate stream bed and bank erosion.

Agency Comments

- *DCNR Bureau of State Parks:* “Yellow Boy” in seep run located 500 feet west of dam breast on Creek Road.
- *DCNR Bureau of State Parks:* Creek road is un-paved and the terrain to the south of the road is steep. Sediment is carried by small runs and road ditches directly into the lake.
- *DCNR Bureau of State Parks:* Considerable sedimentation enters the lake from existing tributaries, especially Dugan’s Run and James Run. Need for the development of new Conservation Plans for farming in the park.
- *DCNR Bureau of State Parks:* Monitor the development of proposed natural gas wells within the park.
- *Mercer County Conservation District:* In Stoneboro Borough, Sawmill Run has sedimentation and bank erosion.
- *Mercer County Conservation District:* Un-named tributary of Sandy Creek from Lakeview High School to mouth experiences flooding and sedimentation. In the Borough of Sandy Lake, an un-named tributary to Sandy Creek from Oakview Elementary to US 62 has erosion, sedimentation, and flooding.
- *Mercer County Conservation District:* Stoneboro Lake at SR 845 has flooding issues.
- *Mercer County Conservation District:* McCutcheon Run from Lara Lane to mouth in Borough of Sandy Lake has sedimentation and flooding.