

BCWA Buffalo Creek Watershed Alliance

of the Merrill W. Linn Land and Waterways Conservancy

Buffalo Creek Watershed Map Water Trail Guide: Cowan to Lewisburg

The Buffalo Creek Watershed

The Buffalo Creek watershed, or drainage area, covers 134 square miles in the heart of Union County, Pennsylvania. It offers many opportunities for recreation: boating, fishing, swimming, hiking, biking, and exploring the picturesque countryside by automobile. These maps and guide are meant to help you and your family enjoy Buffalo Creek and its environs.



Boating on Buffalo Creek



Farmland in the Buffalo Valley

The Buffalo Creek Watershed Alliance

The Buffalo Creek Watershed Alliance (BCWA) was founded in 2002 by the Merrill W. Linn Land and Waterways Conservancy. The Alliance has as its central purpose to encourage ecologically responsible stewardship of Buffalo Creek, its tributaries, and the environment within its watershed. It works to ensure high water quality in both surface and ground water throughout the watershed, to promote the ecological health of the watershed area, to educate the public about the nature and value of the stream, and to facilitate cooperation among all organizations interested in and affected by the watershed. These stakeholders include businesses, industries, landowners, developers, local governments and other agencies whose actions affect the stream and adjacent land development. The BCWA encourages farmers to put in streambank fencing and other best management practices to reduce pollution and erosion. It also seeks to preserve areas of the watershed that serve as habitat for wildlife and as places for outdoor recreation. Alliance activities include buffer plantings and clean-ups along the streambank, and regular monitoring of the water quality at ten sites along the main branch. The BCWA constructed and now maintains a treatment system at the headwaters of the creek for remediating the effects of acid rain in the uppermost seven miles of the main branch. Further information about the BCWA and the Buffalo Creek Watershed is available at our website and on Facebook.



www.buffalocreek.org

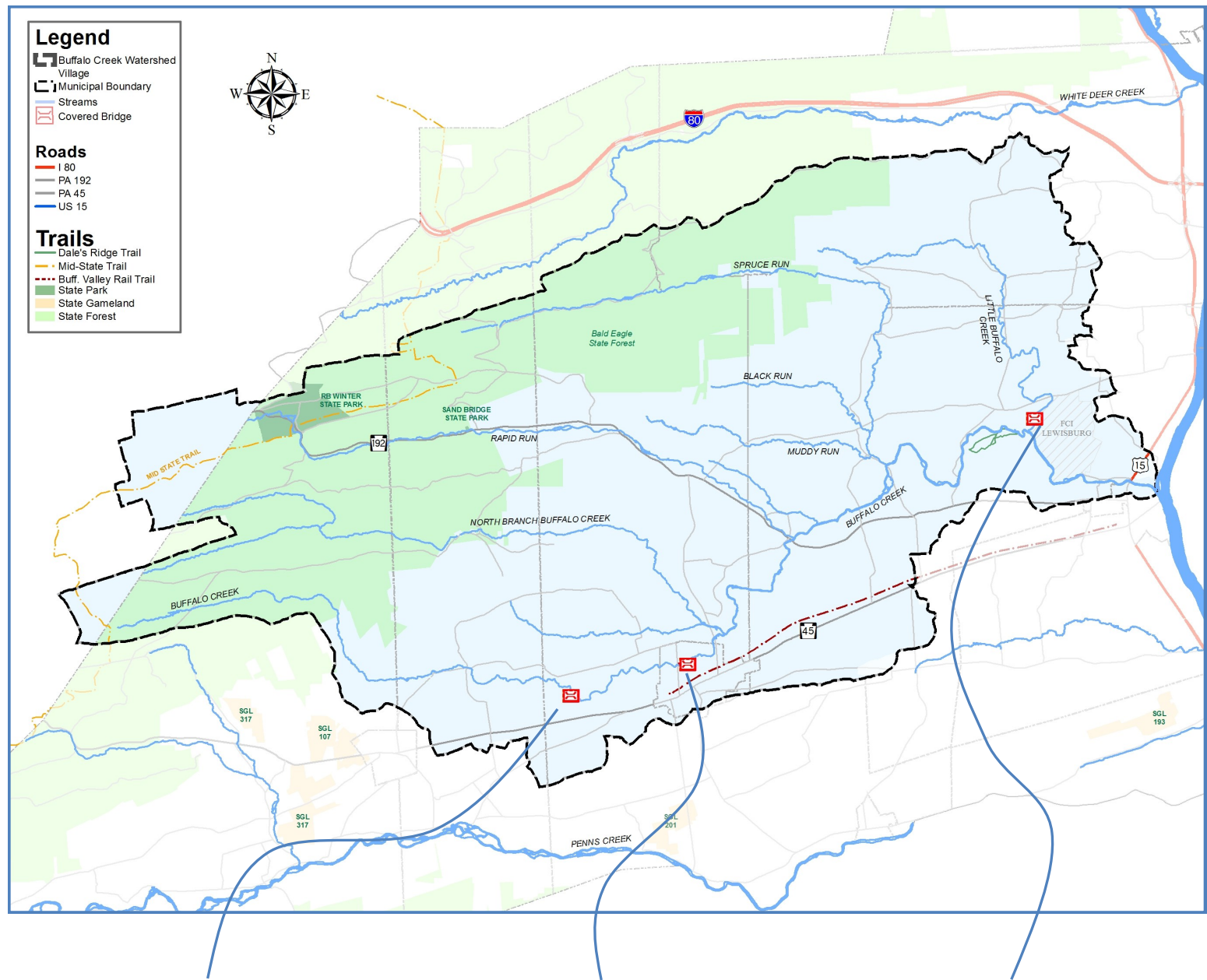


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Buffalo Creek Watershed



Hayes Bridge, built in 1882, is 70 feet long and crosses Buffalo Creek two miles west of Mifflinburg



Hassenplug Bridge was built in 1825, is 80 feet long and crosses Buffalo Creek two miles west of Mifflinburg. It is reputed to be the oldest covered bridge still in use in Pennsylvania



Huber Bridge was built in 1850, is 33 feet long, and crosses Little Buffalo Creek just before it enters the main stream

Covered Bridges on Buffalo Creek

Natural, Cultural and Recreational Resources of the Buffalo Valley

Buffalo Creek Watershed

The main branch of Buffalo Creek is approximately 28 miles long and has 268 stream miles within its watershed. All the main tributaries of Buffalo Creek begin as pristine streams in the mountains of Bald Eagle State Forest and flow down through the Buffalo Valley before joining the Susquehanna River at the north edge of Lewisburg. Located primarily in the headwater areas of Bald Eagle State Forest, 60% of the watershed is forested. As it descends from the mountains another 34% is agricultural land. Approximately 6% of the area is developed for residential, commercial and industrial uses. The topography varies from steeply sloped forested mountainous areas in the western portion to rolling hills with gentle slopes in the farm valley floor to the east. The two boroughs of Mifflinburg and Lewisburg and the villages of Cowan, Mazeppa, Forest Hill, Vicksburg, Kelly Crossroads, Buffalo Crossroads and Pleasant Grove are all situated within the Buffalo Creek Watershed.

Major tributaries of Buffalo Creek include the North Branch, Rapid Run, Spruce Run and Little Buffalo Creek. The North Branch and Spruce Run are both used for public water supplies. The North Branch has received the highest quality rating of the PA Department of Environmental Protection. It is an Exceptional Value watershed from its headwaters to the Mifflinburg public water intake. Spruce Run and Rapid Run (which flows from Raymond B. Winter State Park to the village of Cowan) are both rated as High Quality Cold Water Fisheries. They are streams that have excellent water quality and other features that require special protection. These streams support species indigenous to cold water habitat, notably trout. A segment of the main branch of Buffalo Creek has the same High Quality rating from its headwaters to the bridge at Pleasant Grove. Other tributaries—Little Buffalo Creek and Beaver Run—are rated as Cold Water Fisheries.



Geology

The Buffalo Creek Watershed is located in the ridge and valley province of Pennsylvania which is characterized by folded, faulted and fractured sedimentary rocks. Buffalo Creek lies in a broad valley between folded ridges to the northwest and southeast, and flows mostly on easily-eroded rocks. The underlying geology has been found to have a dramatic impact on water quality. The North Branch and Spruce Run originate in rock that contains limestone and dolomite, which provide a natural buffer to acid in the stream, but underlying rock at the Buffalo Creek headwaters is mostly sandstone, which does not. All three branches are subject to acid precipitation, but only in the headwaters of the main branch does the unbuffered acid cause a problem for fish and wildlife.

Timbering

During the 18th and 19th centuries, timber interests clear cut all but a very few inaccessible areas in Union County. The creation of largely treeless mountain slopes resulted in serious erosion of the soil over decades. Eroded soil and rock made its way to the streambeds of Buffalo Creek, raising them as much as 20 feet, and narrowing the stream channels. Now the creek's natural tendency is to widen out. As it erodes away its banks adjacent landowners lose land and the stream builds up sandbars.



Widening Channel & Bank Erosion

Mills

In the 18th and 19th centuries there were over a dozen mills located on Buffalo Creek and its tributaries. Those mills built dams to concentrate the water toward the water wheels that powered saws for lumber and grinding stones for grain. Silt gathered behind each dam. As these dams disappeared over time, the silt behind them made its way downstream, raising the creek level and filling in behind Susquehanna River dams downstream.



Boating on Grove's Mill race

BCWA Socio-Economic Profile

The Buffalo Creek Watershed is a very important economic resource. It provides drinking water for residents, businesses and industries. In particular the North Branch of Buffalo Creek and Spruce Run are used for public drinking water supplies, while many homeowners have wells that tap the groundwater in the watershed. The leading business activity in the watershed remains crop and livestock production and farm support services. Timber harvesting, while not as dominant as it once was, continues to provide resource materials for lumber and other wood products. Tourism has also been on the rise and continues to support the local economy while traditional manufacturing trades are in decline.

Grove's Mill

The stream valleys of this area were the first places to be inhabited by native cultures and European settlers. They provided a source of water, waterpower, food, transportation at times, and flat areas of fertile soil to convert to farmland and home sites. In the early 1800s sawmills and gristmills became commonplace as the population expanded. Their dams and mill races were frequent along Buffalo Creek. Most of these mills disappeared long ago, but Groves Mill, located on Hoffa Mill Road, continues to grind grains just as it did in the 18th century.



Grove's Mill

State Forest and Parks

Raymond B. Winter State Park and Bald Eagle State Forest provide the public with access to thousands of acres of land in the western part of the watershed for hiking, horseback riding, mountain biking, cross-country skiing, camping, and swimming. Buffalo Creek and its tributaries are popular among anglers in search of trout, and hunters in pursuit of waterfowl, white-tailed deer, wild turkey and black bear.



Raymond B. Winter State Park



Winter on Buffalo Creek

Hiking Trails

There are many good hiking trails in the Bald Eagle State Forest. In addition, the Mary Koon's Trail starting at 8th Street in Mifflinburg and the Dale's Ridge Trail starting at the Strawbridge Road access provide short, scenic and easy walks along Buffalo Creek. Both are popular with bird watchers. Running through the heart of Union County for 9 miles between Mifflinburg and Lewisburg is the Buffalo Valley Rail Trail, an excellent hiking and biking trail that offers scenic views of the towns, hamlets, and farms.



Dale Engle Walker house near Dale's Ridge



Frederick Gap Trail at Buffalo Creek



Buffalo Valley Rail Trail

Remediation Site

Water in the headwaters of the main branch of Buffalo Creek has been contaminated by many years of acid precipitation and was unable to support aquatic life in the upper seven miles of the creek. In order to neutralize the acidic water and restore healthy conditions in the stream, a passive treatment system was completed near Buffalo Flat Road in the Bald Eagle State Forest in 2010. Stream water is collected and piped by gravity into two limestone basins where chemical and biological reactions increase its alkalinity and raise its pH level. The treated water then flows back into the creek, causing the water downstream to return to more normal pH readings. The fish, insects and other aquatic life that once thrived there have now reappeared. This project was funded by the Pennsylvania Growing Greener Fund and the Foundation of Pennsylvania Watersheds and constructed in cooperation with DCNR-Bald Eagle State Forest.



BCWA's Acid Remediation Site on Buffalo Flat Rd