

A landowner's guide to Buffalo and Cedar Creeks

Buffalo and Cedar Creeks are **beautiful** streams, rich in **history**. Buffalo Creek is known by Rockbridge County residents to offer wonderful opportunities for canoeing, kayaking and fishing, while Cedar Creek runs under Natural Bridge, one of the most notable scenic and historically valuable places in the Commonwealth. In addition, Buffalo Creek was recently designated as a Special Project Area by the VA Outdoors Foundation due to the fact that it is one of the last largely forested connections between the Alleghany and Blue Ridge Mountains. Despite the fact that large portions of these watersheds remain pristine, Buffalo Creek (including the North and South Forks), Colliers and Cedar Creeks are all included on Virginia's list of impaired streams. Water quality monitoring has shown that these streams have high concentrations of bacteria, which means that people face an increased risk of illness or infection when coming into "primary contact" with the water (swimming and splashing water into your eyes or mouth). In addition, Colliers Creek does not support a healthy and diverse population of aquatic life due to excess sediment in the creek.



A study of the streams and the sources of bacteria and sediment in their watersheds was completed by the VA Department of Environmental Quality in 2013. Bacteria sources include failing septic systems and straight pipes (pipes discharging untreated sewage into the stream), runoff of manure from pasture and cropland, livestock access to the streams, and wildlife. Primary sediment sources in Colliers Creek include pasture, hay and developed areas. This plan has been developed in order to provide a **road map** to address these issues, working closely with landowners in the watersheds. A series of actions has been identified that will lead to restoration of these streams so that they are once again considered safe for primary contact and supportive of aquatic life. Examples of these actions include: repairing and replacing failing septic systems, excluding livestock from streams, implementing rotational grazing systems, and utilizing continuous no-till on cropland. It is expected that it will take about **ten years** to remove the streams from the Commonwealth's impaired waters list. Within 15 years, sufficient actions could be implemented to prevent the streams from ever violating the state's water quality standard for bacteria.

Many of the actions included in this plan have the potential to benefit water quality in the streams *and* offer **economic gains** to landowners. These may include reduced veterinary bills for farmers with livestock, and higher property values for homeowners with functional septic systems. However, the upfront cost of some of these best management practices can be considerable. The estimated cost to remove these streams from the impaired waters list is about **\$9.2M**. The good news is that a large portion of this money would be returned to the local economy through the use of local contractors to construct fences, install wells and repair septic systems. **Outreach will be critical** to increasing landowner adoption of these practices. It is estimated that one full time position will be needed in order to work with landowners. The Natural Bridge Soil and Water Conservation District (SWCD) could house this position should funding be located. Successful implementation of this plan will depend on strong partnerships. Key partners include: Rockbridge County, USDA Natural Resource Conservation Service, the SWCD, the Health Department, and **local landowners**.

What is needed to remove the Buffalo and Cedar Creeks and their tributaries from Virginia's impaired waters list?

The list of actions below is an estimate of what it would take to remove the creeks from Virginia's impaired waters list. While the list is long and the extent of work needed is large, it is important to remember that if everyone makes small changes in their daily lives, it will make a **BIG** difference in the creeks.



Residential/urban best management practices needed:

- 424 septic tank pumpouts
- 209 septic system repairs
- 180 septic system replacements with conventional systems
- 53 septic system replacements with alternative waste treatment systems
- 2 pet waste stations
- 7 acres treated with stormwater BMPs (stormwater clarifier and rain gardens)

Agricultural best management practices needed:

- 32 miles of livestock stream exclusion fence (includes length of fence on both sides of the stream)
- 16,156 acres of improved pasture management
- 18 acres of permanent vegetative cover on critical areas of pasture (highly eroded or denuded areas)
- 195 acres of reforestation of highly erodible pasture
- 5 small acreage grazing systems (for equine)
- 2 waste storage facilities
- 769 acres of pasture treated by water control structures
- 20 acres of continuous no till
- 3 acres of contour stripcropping
- 6 acres of streamside buffers on cropland
- 3,000 feet of streambank stabilization

For information on how you can help:

- Technical and financial assistance with agricultural best management practices

Natural Bridge Soil and Water Conservation District

website: www.naturalbridgeswcd.com phone: (540)463-7124

- Information about septic system maintenance, repairs and replacements

Rockbridge County Health Department

website: www.vdh.virginia.gov/LHD/CentralShenanoah/ phone: (540)463-3185 ext. 4

- Information about water quality, citizen monitoring, and TMDL implementation

Virginia Department of Environmental Quality

website: www.deq.virginia.gov phone: (540)574-7850