

A landowner's guide to Crooked Run

Crooked Run is a beautiful river, rich in [history](#). The core of the first settlement in the northern Shenandoah Valley was in the Crooked Run watershed in between Middletown and Cedarville in the 1730's when colonists began to establish farms and homesteads in the region. The very first person to settle and build a home in what eventually became Warren County was Thomas McKay, who constructed his home at a bend in Crooked Run at the intersection of Reliance Road and Highway 340/522. Mr. McKay settled here and used what is now known as McKay springs for his drinking water and Crooked Run to water his livestock. Though much has changed in the area since then, this part of Warren and Frederick Counties has largely maintained its rural character, with the majority of the watershed in agricultural and forested land uses. Despite the fact that large portions of the land surrounding the river remain pristine, water monitoring has shown that Crooked, Stephens and West Runs and Willow Brook have high concentrations of bacteria, which means that people face an increased risk of getting sick when coming into direct contact with the water (swimming and splashing water into your eyes or mouth). As a result, these streams are included on Virginia's list of "dirty waters."



A study of the sources of bacteria in Crooked Run and Willow Brook was completed by the VA Department of Environmental Quality in 2014. Bacteria sources include failing septic systems and straight pipes (pipes discharging untreated sewage into the stream), pet waste, runoff of manure from pasture and cropland, livestock in the stream, and wildlife. This plan can act as a [road map](#) to fix these problems with the help of local landowners. The plan lists the actions needed to restore these streams so that they are considered safe for all types of recreation. Examples include: repairing failing septic systems, excluding livestock from streams, and planting trees and shrubs along the river. It is expected that it will take about [ten years](#) to remove the streams from the dirty waters list.

Many of the actions included in this plan can improve stream health *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 actions can be considerable. The estimated cost to make the river safe for swimming is about [\\$8M](#). The good news is that there are numerous state and federal programs to help landowners with the cost of these actions.

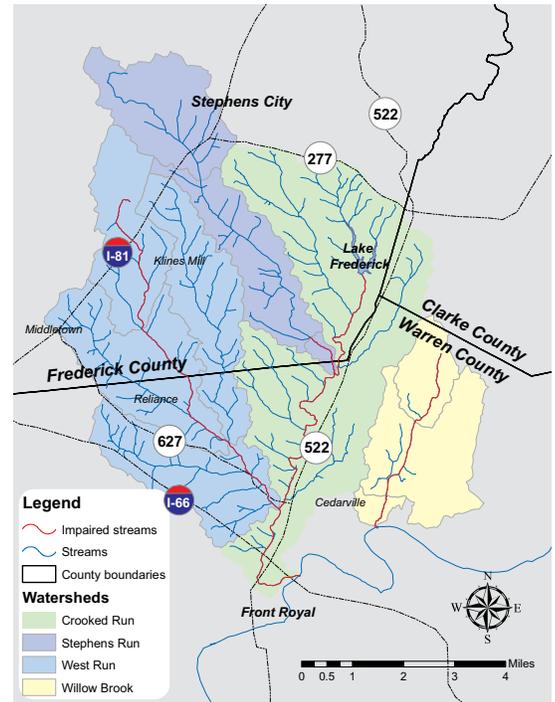
[Outreach will be critical](#) to make the community aware of the actions landowners can take to help, and the resources available to them. Outreach could include farm tours where BMPs have been installed and postcard mailings reminding homeowners to have their septic tank pumped every 3-5 years. Key partners in this effort include: USDA Natural Resource Conservation Service, the Lord Fairfax SWCD, the Health Department, Clarke, Frederick and Warren Counties and [local landowners](#).

What is needed to clean up Crooked Run and Willow Brook?

The list of actions below is an estimate of what it would take to make these streams safe for all kinds of recreation. 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 river.

Residential actions:

- 584 Septic tank pumpouts
- 5 Connections to public sewer
- 340 Septic system repairs
- 30 Septic system replacements with conventional systems
- 112 Septic system replacements w/ alternative waste treatment sys.
- 2 acres streamside plantings
- 8 Pet waste disposal stations
- 20 Pet waste composters/digesters
- 1 Pet waste education program
- 10 acres treated by rain gardens and bioretention filters
- 70 acres treated by detention basin retrofits



Agricultural actions:

- 17.8 miles livestock stream exclusion fence (includes length of fence on both sides of the stream)
- 9,091 acres improved pasture management
- 4 acres vegetative cover on critical areas of pasture (highly eroded or denuded areas)
- 362 acres tree planting on highly erodible pasture
- 122 acres annual cover crop plantings
- 0.4 acres streamside plantings on cropland
- 23 acres continuous no till
- 43 acres permanent vegetative cover on cropland

To learn how you can help:

- Technical and financial assistance with agricultural practices

Lord Fairfax Soil and Water Conservation District

website: <http://lfsxcd.org> phone: (540)465-2424 extension 5

- Information about septic system maintenance, contact your local Health Department

Frederick County

phone: (540)722-3482

Warren County

phone: (540)635-3159

Clarke County

phone: (540)955-1033

website: www.vdh.virginia.gov/LHD/LordFairfax

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

Virginia Department of Environmental Quality

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