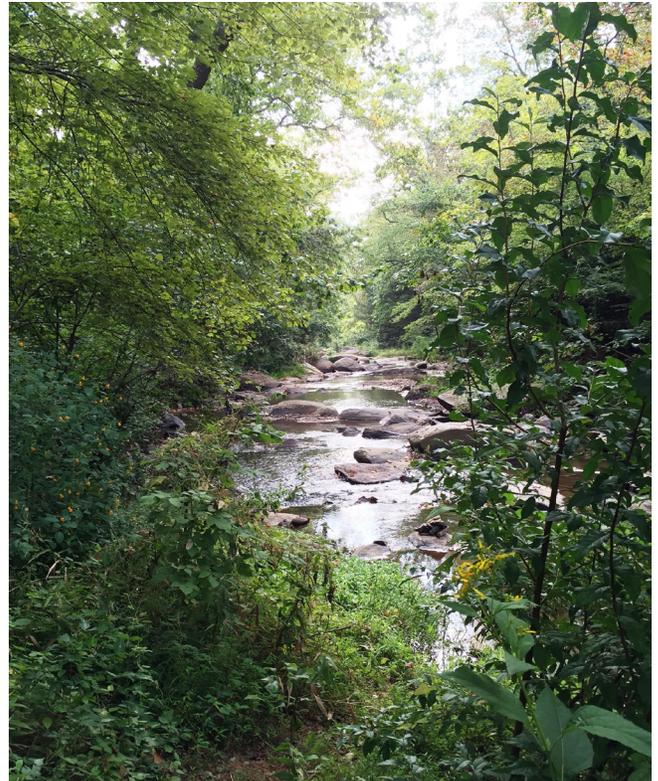


A landowner's guide to the Hardware River

The Hardware River is a beautiful river, rich in **history**. The river is stocked with brown and rainbow trout three times a year, offering excellent opportunities for fishing. Smallmouth bass, channel catfish, and largemouth bass are also commonly found in the waters of the Hardware. In addition, the Hardware River Wildlife Management Area is located along the banks of the river. This protected area includes over 1,000 acres of forest offering excellent opportunities for hunting, birding and hiking. Despite the fact that large portions of the land surrounding the river remain pristine, water monitoring has shown that the Hardware has 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, the Hardware River and its North Fork are included on Virginia's list of "dirty waters."

A study of the Hardware River and the sources of bacteria in the water was completed by the VA Department of Environmental Quality in 2007. Bacteria sources include failing septic systems and straight pipes (pipes discharging untreated sewage into the stream), 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 the Hardware so that it is considered safe for all types of recreation. Examples include: repairing failing septic systems, excluding livestock from streams, implementing rotational grazing systems, and planting trees and shrubs along the river. It is expected that it will take about **ten years** to remove the river 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 **\$10M**. 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.



In addition, there are numerous state and federal programs available to help landowners with the cost of some of these actions.

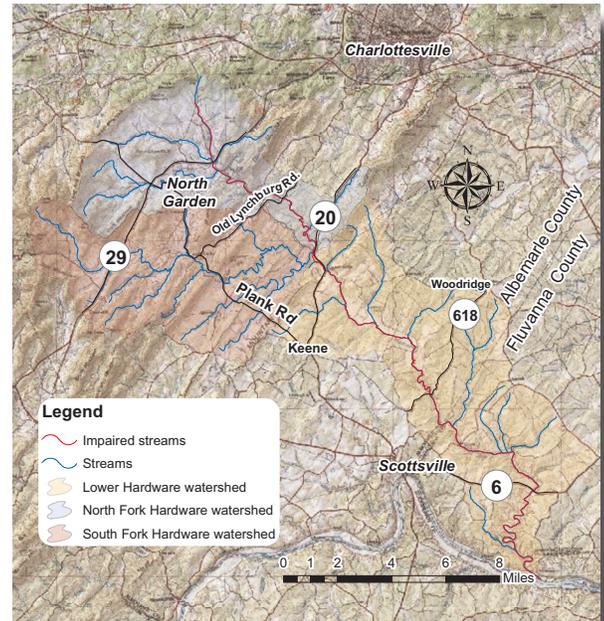
Outreach will be critical to make the community aware of the problems facing the Hardware River, the actions landowners can take to help, and the resources available to them. Outreach could include farm tours where a rotational grazing system is used, and postcard mailings reminding homeowners to have their septic tank pumped every 3-5 years. Key partners in this effort include: USDA Natural Resource Conservation Service, the Thomas Jefferson SWCD, the Health Department, Albemarle and Fluvanna Counties and **local landowners**.

What is needed to clean up the Hardware River?

The list of actions below is an estimate of what it would take to make the river 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:

- Septic tank pumpouts (438)
- Septic system repairs (93)
- Septic system replacements with conventional systems (234)
- Septic system replacements with alternative waste treatment systems (176)
- Streamside plantings (7 acres)
- Pet waste disposal stations (3)



Agricultural actions:

- Livestock stream exclusion fence (includes length of fence on both sides of the stream) (16.6 miles)
- Improved pasture management (8,500 acres)
- Establish vegetative cover on critical areas of pasture (highly eroded or denuded areas) (52 acres)
- Tree planting on highly erodible pasture (239 acres)
- Barnyard runoff controls (for horses) (2 acres)
- Manure storage/composting facilities (for horses) (2)
- Streamside plantings on hayland and cropland (26 acres)
- Annual cover crop plantings (51 acres/year)

To learn how you can help:

- Technical and financial assistance with agricultural practices

Thomas Jefferson Soil and Water Conservation District

website: <http://tjswcd.org> phone: (434)975-0224

- Information about septic system maintenance

Albemarle County Health Department

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

phone: (434)972-6200

Fluvanna County Health Department

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

phone: (434)591-1965

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

Virginia Department of Environmental Quality

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