

Cedar Creek Revealed: A Shenandoah Watershed Assessment Model

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Shenandoah Resource Center

- 2002, was established to serve Potomac Headwaters Region
- Conservancy worked with Valley stakeholders to identify “signature landscapes” and important resources
- PC’s focus was on threatened and unique natural resources, particularly related to water
- Cedar Creek topped the list

Why Cedar Creek?

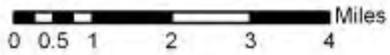
- Among the least disturbed watersheds in the Valley
- Changing land uses and increasing development pressure
- Location – just 75 miles from Washington, DC (I-81 & I-66)
- Diverse mix of land ownership





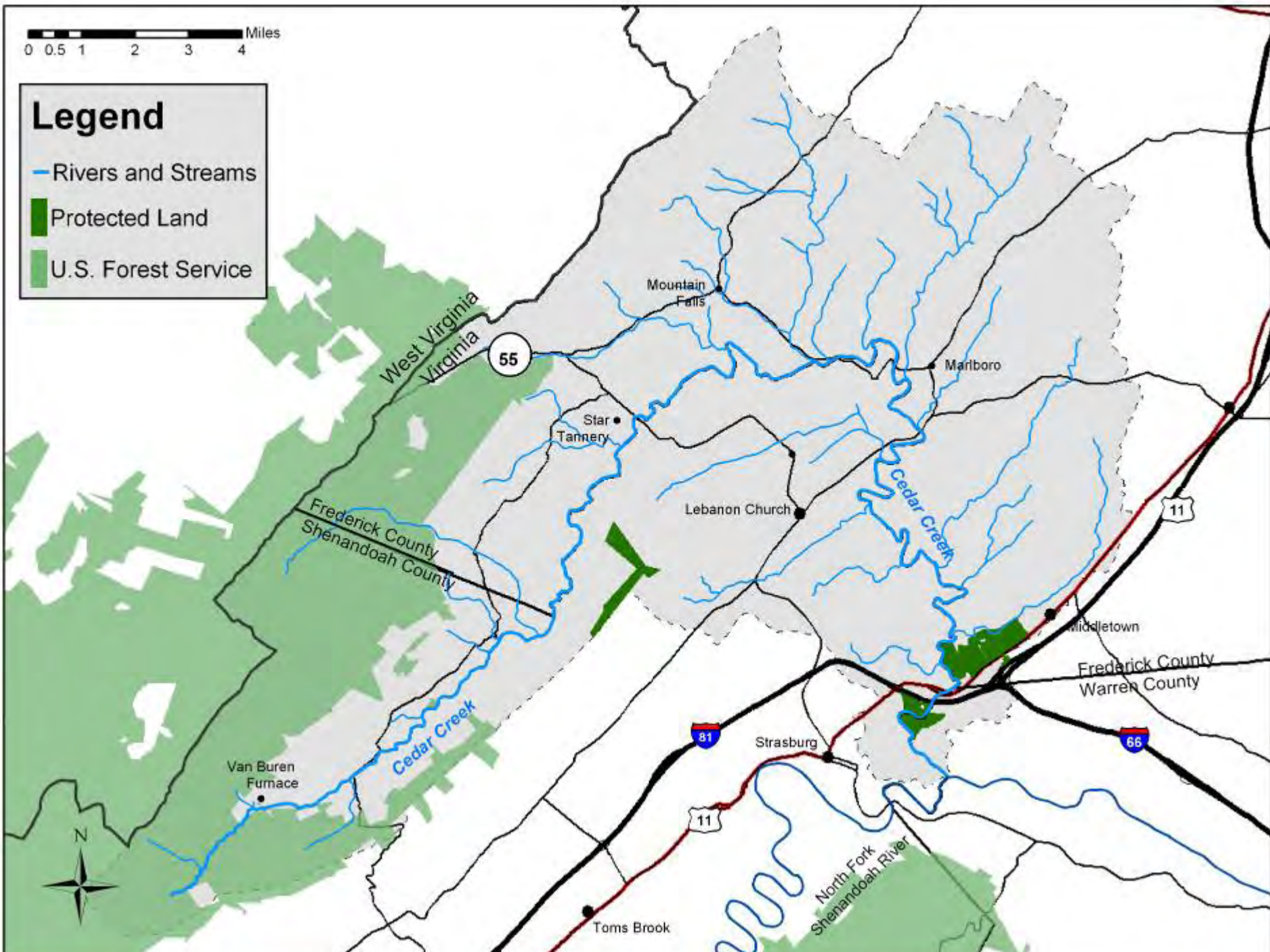
Cedar Creek: A Snapshot

- 157 square miles
- Headwaters in the George Washington National Forest
- Watershed contains parts of 3 counties
- Wealth of historical resources such as Belle Grove and the Cedar Creek Battlefield



Legend

- Rivers and Streams
- Protected Land
- U.S. Forest Service





Assessment Goal

To gain a snapshot of the existing conditions regarding water quality, aquatic life and plants in the watershed.

- Tool for PC to use when focusing restoration & conservation efforts
- Tool to help the local community build an understanding of this special resource





Ecological Assessment of Cedar Creek

- Initiated in 2004 – report released 12/05
- Partnership between Potomac Conservancy and Shenandoah University
- Technical assistance from the Dept. of Game and Inland Fisheries and Div. of Natural Heritage
- PWP Partners – VADOF, GWJNF





Aquatic Habitats

- Study sampled 6 sites
- Captured more than 2,500 individual fish representing 30 species



Terrestrial Habitats

- 9 sites surveyed
- 7 – terrestrial communities
- Upland Seep
- Mountain Slope Forest
- Floodplain Wetland
- Limestone Bluffs
- Bottomland Forest
- Mesic Upland Forest
- Dry Upland Forest with Limestone Outcrops





Historical Context

- Highlights important historical resources in the watershed
- Broadening target audience
- Integration of historic resources into our evaluation and prioritization process.
- Increasing potential funding sources and public appreciation

The Verdict?

- Cedar Creek is in good shape
 - 268 species of plants
 - 12 species never before recorded in Frederick County
 - 4 new record for Shenandoah County
 - 1 globally rare plant species
 - Overall Index of Biotic Integrity (IBI) score of 4.25 (out of 5)



Threats to the watershed

- Land fragmentation
- Expansion of transportation corridors
- Mismanagement of natural resources on private lands
- Invasive species
- Lack of recreational planning and access

What Can We Do?

- To manage forests
- To protect water quality
- Provide proper public access
- To Permanently protect resources
- To Foster long-range land use planning





Assessment Model

Detailed study

- Better understanding issues and resources

Targeted outreach

- Identify priority lands and landowners to address specific issues. (forest management, riparian buffers, recreation, agricultural BMPs)

Tailored restoration and protection

- PC, VADOF, NRCS, VADCR, Ducks Unlimited, USFS





Mt. Pleasant Farm

106-acre working farm, forest resources, and 1 mile Cedar Creek

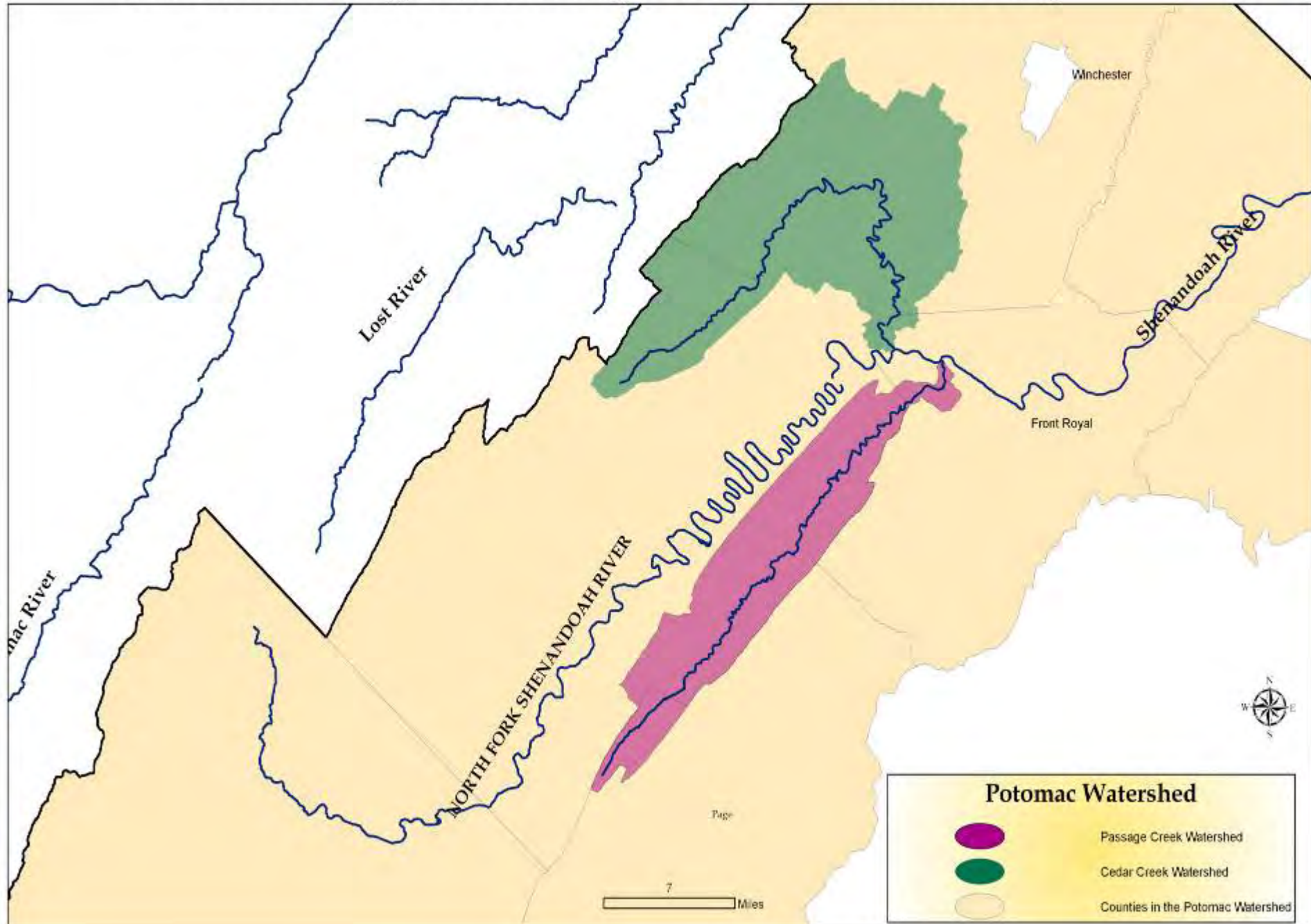
- Study site
- CREP buffer
- Forest Management Plan
- Easement Purchase

Passage Creek

- Located in Fort Valley an isolated high elevation valley
- Surrounded by National Forest
- Heritage Trout Stream
- High Recreational Usage
- Drains into North Fork Shenandoah (PC “signature landscape”)



Cedar Creek and Passage Creek Protecting the Heart of the Shenandoah Valley





Passage Creek

Field work in progress

- Working with VADOF to identify riparian landowners for the study
- USFS –sampling sites, recreational resources, threat identification
- Virginia Tech, VA Dept Natural Heritage, VADGIF



Future Work – Passage Creek

- Prioritization & Analysis
- Targeted Outreach
- Tailored Restoration and Protection



Thank You

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