



Virginia Council

Upper South River - Shenandoah Watershed Improvement Project

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What is the Upper South River Watershed Improvement Project?

A principal source of the Shenandoah River, the Upper South River rises in the agricultural community of Greenville and flows 28 miles north past the village of Stuart's Draft and through the City of Waynesboro. Fed by numerous valley spring creeks and streams coming down from the Blue Ridge, the Upper South River Watershed contains active farms, thriving industry, rapidly developing residential communities, National Forest, and a revitalizing urban core.

The Upper South River Shenandoah Watershed Improvement Project is a highly collaborative partnership to improve ecological health, accelerate economic vitality, expand recreational opportunities, and foster environmental research and education. Together, the components of the Upper South River Watershed Improvement Project comprise a holistic approach to developing long-term sustainability for agrarian, residential, and urban communities based on wise management of the river and adjacent riparian zones. Lessons learned here will be of value throughout the Chesapeake Bay watershed.

Specific outcomes of this multifaceted program include the following:

- Restoration and protection of the ecological health of the upper South River watershed including its tributaries from the City of Waynesboro upstream to its headwaters
- Establishment of a nationally recognized research and higher education center - The Center for Coldwaters Restoration - devoted to 1) the propagation and restoration of native brook trout and other aquatic species, 2) the study of interrelationships among climate and the functioning of ground and surface water systems in valley and mountain environments, and 3) interpretation and education of students and the general public on issues related to water quality
- Creation of a nationally prominent destination for trout fishing and other recreation opportunities including hiking, biking, and birding
- Development of a natural resource campus for the co-location of state and federal agencies engaged in the ecological management of the upper South and James River watersheds

Why Improve the Watershed?

Watershed restoration touches every corner of a local community – from owners of family farms to industrialists, from gardeners to regional planners, from students to senior citizens, from anglers to governments responsible for public water supplies and wastewater treatment. Everyone benefits from a healthy watershed. The positive impacts of watershed restoration are many and varied and include the following:

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II. Economic Benefits

Enhanced Agricultural Yield

Protecting streams and creating riparian buffers boosts a farmer's bottom line. Removing cattle from streams and providing off-stream water supplies result in more rapid weight gain for cattle, higher milk production for dairy herds, and reduced veterinary bills. Numerous government programs – often available at little or no cost to participants – provide long-term financial income to farmers who exclude livestock from streams. Increased revenue from higher yield and payments from water conservation initiatives bolster agricultural revenues and strengthen sustainability of the family farm. The wide range of stream conservation initiatives allows farmers to benefit from features that meet their specific needs. Thanks to the work of the Headwaters Soil and Water Conservation District staff (Waynesboro, Staunton, and Augusta County), the Valley Conservation Council, and other organizations, a growing number of farmers are implementing best practices, achieving increased yield, and improving water quality.

Energized Urban Revitalization

Creating The Center for Coldwaters Restoration, a nationally significant aquatic research and education center, in the City of Waynesboro establishes a new source of jobs and revenues into the region. The center will include native brook trout propagation, laboratories, classrooms, offices, housing for visiting scientists and advanced students, and Virginia's coldwater interpretive aquarium. Location of the center downtown will create an attractive anchor on Waynesboro's riverfront and will accelerate the redevelopment of the city's core. In addition, the center will create an attractive facility for the co-location of units of federal and state agencies focused on the ecological health of Northwest Virginia. Further the center may become an incubator for new businesses and industries that grow from advances in technology developed from research conducted in its laboratories.

Increased Revenue from Tourism

Initial studies project that the South River holds the potential to become the best trophy brook trout fishery south of Maine. Augusta County and the City of Waynesboro are served by two major interstates and within a day's drive of Atlanta, Charlotte, Baltimore, Nashville, Pittsburgh, and Washington, D.C. The combination of low-cost travel, an affluent population base, and proximity to other destinations – Shenandoah National Park, Blue Ridge Parkway, and resorts such as Wintergreen – suggest that a trophy trout river will be a draw with economic impacts similar to the Yellow Breeches/Letort in Carlisle/Cumberland County, Pa. Many businesses, including motels, resorts, bed and breakfasts, gas stations, convenience stores, restaurants, historic and cultural destinations, retail stores, vineyards, and others will benefit from expenditures by visiting anglers. Increased revenue from tourists reduces the tax burden borne by community residents.

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II. Economic Benefits Con't.

Further, the 40-acre South River Complex site is ideally located for creation of Virginia's only coldwater aquarium and interpretive center. In Richmond, Maymont Park's warmwater aquarium and science center draws hundreds of visitors each week. A similar facility focused on the Commonwealth's mountain streams and spring-fed creeks will prove attractive to tourists visiting Shenandoah National Park and will become a favored destination for school groups. Waynesboro's greenway passes through the site and will open the aquarium to hikers and bikers.

III. Expanded Opportunity for Advanced Research and Education

Waynesboro and Augusta County are located in the midst of a vibrant educational community. Within an hour's drive are Blue Ridge Community College, James Madison University, Mary Baldwin College, the University of Virginia, and Washington & Lee University. Yet Waynesboro, itself, has no higher education facility. The Center for Coldwaters Restoration will meet the following needs:

- Laboratories for advanced research and graduate education addressing such issues as the impact of climate change on the restoration of water quality and quantity in springs serving agrarian and urban communities; moderating adverse impacts of residential, industrial, and urban development in karst environments; understanding and mitigation of the effects of mercury and pharmaceutical pollution, and restoration of native brook trout as an indicator species for water quality
- Classrooms where local residents and college and university students can take specialized courses in coldwater ecology and watershed management in pursuit of degrees or certifications that prepare them for career transition and improvement
- A location where K – 12 students, teachers, and residents of the area and from throughout Virginia can come for programs that introduce them to principles of coldwater conservation; engage them in hands-on research; and extend knowledge gained through Trout-in-the Classroom, Virginia Naturally, and other programs popular in the area's schools
- A state-of-the-art facility for rearing native brook trout fingerlings for restoration in 5,000 miles of valley spring creeks and mountain streams from which they have been extirpated.

The site of the former Crompton plant (now the South River Complex) offers the perfect location for a center for education and advanced research. The site has deeded access to 3 million gallons per day of natural spring water and another small spring rises just off and flows through the property.

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Representatives from JMU; BRCC; MBC; U Va.; W&L; Virginia Tech; the City of Waynesboro; WDDI; Augusta County; Trout Unlimited; state agencies including the Departments of Game and Inland Fisheries, Conservation and Recreation, and Environmental Quality; federal agencies including USFS, USFWS, and NPS; and managers of the South River Complex are partnering to develop a vision for the education and advanced research center and to seek funding for it.

While a number of university / community led environmental consortiums exist in the country, none has either the site or the combined focus on climate, spring and karst environments, and mountain headwaters prone to acid deposition envisioned for this facility. The development of this center represents a unique effort to leverage the South River's natural resources and historic agriculture, and industry to attract higher education and research funding into the region.

IV. Enhanced Collaboration among State and Federal Agencies for Watershed Restoration

At present many state and federal agencies working in the upper Shenandoah and James River watersheds are housed in leased spaces scattered among cities in the region. The creation of a facility with offices, laboratories, and room to house specialized equipment and vehicles provides an opportunity to co-locate these agencies. Bringing the agencies together in a central location will enhance collaboration and effectiveness and reduce costs through savings in time required for travel to meetings and increased sharing of resources.

V. Upper South River - Shenandoah Watershed Project: Model for Environmental Sustainability

While the prior sections outline concrete and measurable health, economic and environmental benefits to be derived from the Upper South River Watershed Improvement Project, taken together the benefits comprise a comprehensive model of resource stewardship. This approach unites agricultural, commercial, industrial, residential, urban, rural, and recreational development in pursuit of a sustainable future based on wise use and stewardship of the Upper South River. Other communities in Virginia including Roanoke (Roanoke River) and Martinsville (Smith River) are seeking models that allow them to capitalize on their urban/rural coldwater resources. As the Upper South River Watershed Improvement Project matures, the strategies and tactics developed and lessons learned from their implementation will be shared throughout Virginia, the Chesapeake Bay region, and the East.