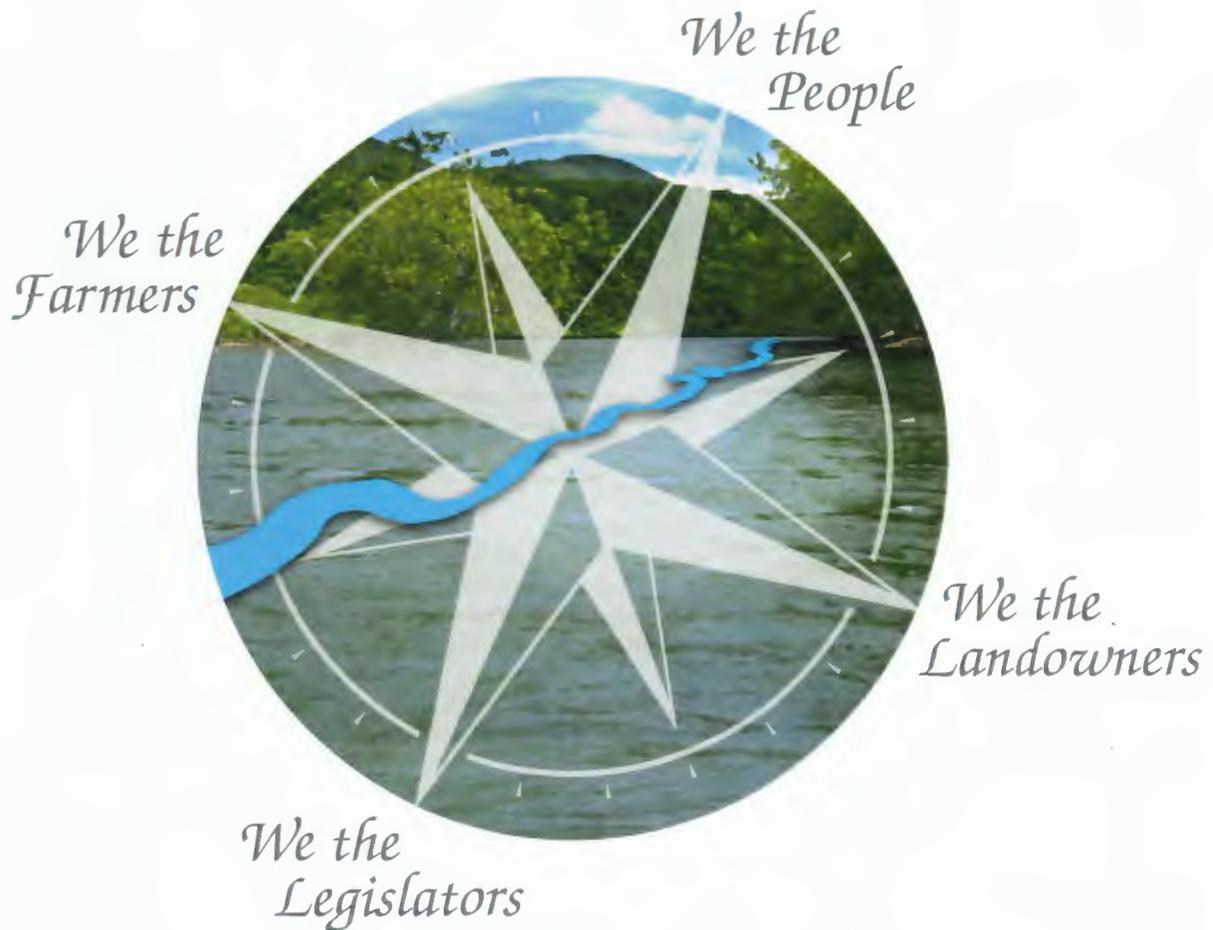


Shenandoah Watershed Compact



Charting a Course to a Healthy and Prosperous Future

Winter 2020



Introduction

More than 300,000 of us live in the Shenandoah watershed. Our interests in the river are at times both complementary and competing. As economies in the Shenandoah Valley change, so do the challenges and pressures facing water resources. Both urban and rural areas generate pollutant loads that compromise local waters and those downstream, such as the Potomac River and Chesapeake Bay.

In spring 2019, nearly 90 community stakeholders participated in a series of workshops and forums to explore the future of the Shenandoah River by responding to a central question:

How can our communities ensure clean and plentiful drinking water while maintaining a thriving economy that sustains the high quality of life and values of our rural Valley home?

Participants in the forums brought a depth of knowledge and passion for the river, land, wildlife, and culture of the Valley. Their enthusiasm, expertise, and commitment convinced us that now is the time for a compact on meaningful collaboration toward a healthy Shenandoah River and a vibrant and sustainable regional economy.

Water quality improvement is an ongoing process. All of us, though, recognize that the Shenandoah Valley's future depends on clean water, that prosperity and a healthy watershed go hand in hand, and that the fate of the watershed rests with the people who live and work within it. Everyone must be aware of their own role and personal responsibilities and have a say in how those responsibilities are carried out.

This compact is a guidebook for decision-makers, stakeholders, and everyone who seeks to enhance appreciation for the Shenandoah River. The river is an irreplaceable resource, our lifeline to health and prosperity.

—Mark Frondorf, *Shenandoah Riverkeeper*

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Chesapeake Bay
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United States Environmental
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Challenges and Opportunities

The Shenandoah River and its tributaries face a variety of challenges:

Development

- Habitat fragmentation
- Pollution from stormwater runoff from ever-expanding impervious surfaces
- Increased demands on the river and groundwater for industrial and drinking water from population and business growth

Human, Industrial, and Agricultural Activity

- Pharmaceuticals, caffeine, and other substances unfiltered by wastewater treatment plants
- Pollutants such as mercury, bacteria, sediment, and PCBs
- A decline in species that are indicators of stream health at the bottom, or benthic level
- Invasive, nonnative plant and animal species
- Algae from excess nitrogen and phosphorous, which robs streams of oxygen and sunlight

Environmental Events

- Fish kills
- Climate change

Public and Governmental Indifference

- Lack of political will and public apathy about improving water quality
- Limited public access points to the river
- Lack of funding for and coordination among state and federal agencies and conservation groups

Fortunately, we also have opportunities to improve river stewardship:

Education and Access

- People care about issues that directly affect them. Greater access to the river will allow more people to play, fish, and otherwise enjoy and appreciate their river, thereby increasing their concern for its welfare.
- Educating homeowners and the general public about the water system and the nature of our unique limestone karst topography can help them take easy steps to protect the water supply.

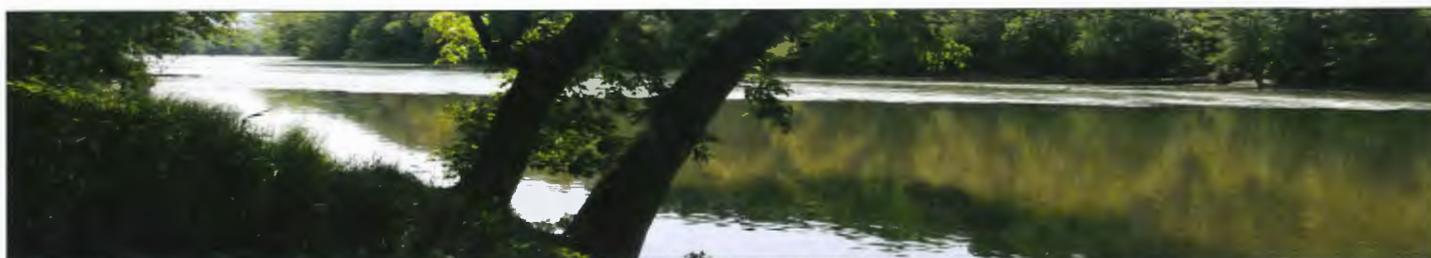
Stewardship and Conservation

- The number of people who care about the river is growing; many are committed to addressing its problems. New river-advocacy groups continue to form, and membership remains strong in existing groups. In addition, river advocates are collaborating more to defend water quality.
- The Valley's necklace of public lands provides a relatively protected source for the river's headwaters.

Tourism and Publicity

- The Shenandoah's national and international renown serves as a magnet for landscape-based tourism and makes the river a highly visible model for success (and failure!).

Water has been described as the "oil of the future." The Shenandoah Valley is blessed with an abundance of water, but we cannot take this gift for granted. Fortunately, many people feel a sense of urgency: now is the time for focused, strategic efforts.



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Vision

- Fueled by renewable energy, a robust river-based economy supports diverse, sustainable agriculture; environmentally conscious industry; recreational tourism; and historic preservation.
- The Shenandoah is a protected watershed respected by local communities that value its beauty and unique character as a swimmable, drinkable, and fishable (fish safe for consumption) national treasure and natural resource.
- Public and private needs and values are balanced in determining use of the water and our floodplains. Ephemeral (seasonal) streams and ponds are protected for their role in sustaining biodiversity and providing a natural clean water filter. Stormwater runoff is minimized, regulated, and carefully monitored.
- People of all backgrounds and income levels have access to the water. Ongoing education through a variety of venues and vehicles ensures that watershed users appreciate and steward the Shenandoah River and its tributaries.



Charting a Course to the Future: How We Get There

The Shenandoah Riverkeeper convened two workshops and three forums on the future of the Shenandoah watershed. Participants created a shared vision, upheld by an understanding that leadership rests with local stakeholders. They also identified six broad goals, achievable within a few years, supported by specific steps toward the long-term vision.

Goal 1. A swimmable, drinkable, fishable river How We Get There

- Partner with Soil and Water Conservation Districts to convene agricultural symposiums on the value of fencing livestock out of waterways, to encourage the use of nutrient management plans to match nitrogen amount and timing with crop needs, and to inform farmers and the public about the process of obtaining assistance for additional best management practices.

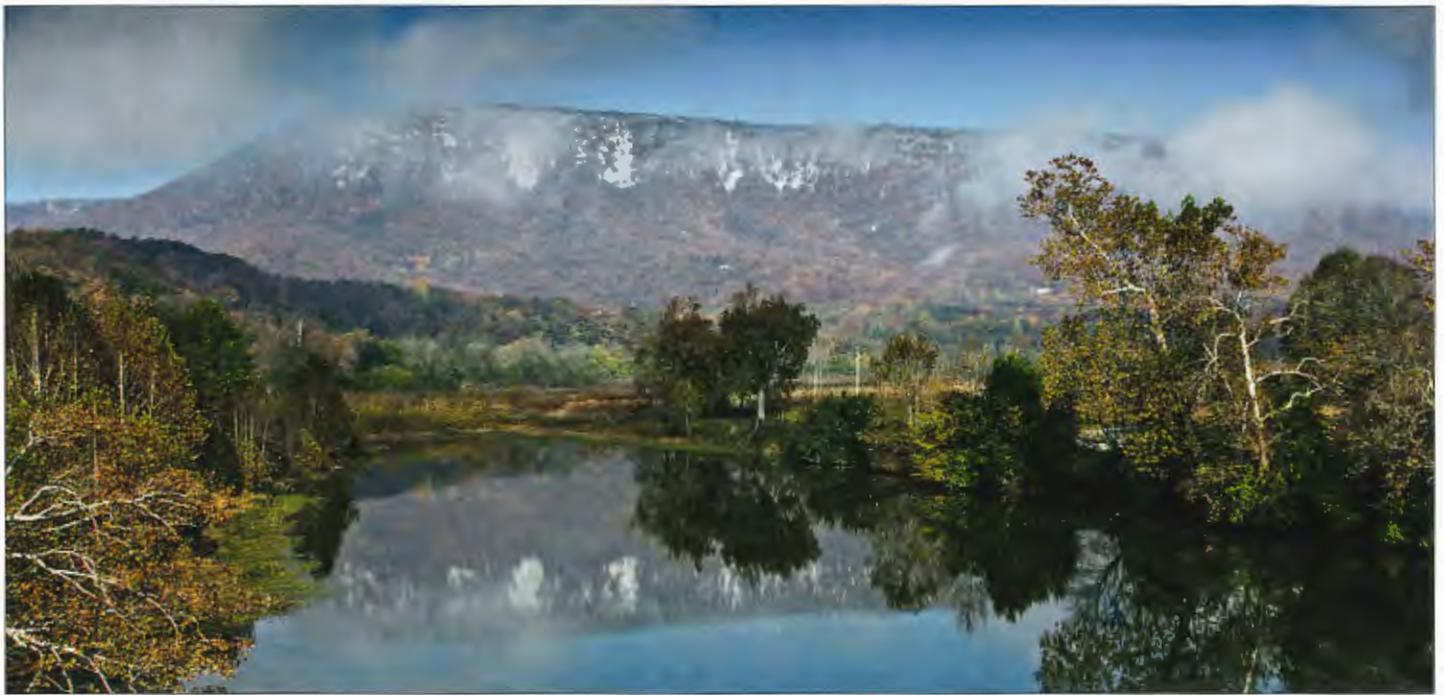


Forum participants focused their conversations on solutions.

- Greatly expand riparian vegetated buffers along all creeks, streams, and rivers.
- Consider regulatory measures to exclude cattle from the river by 2025 to meet the goals of the Chesapeake Bay Watershed Implementation Plan.
- Create a riparian buffer maintenance fund that pays contractors to maintain best management practices at no cost to farmers.
- Require that poultry integrators (industry) safely dispose of litter, rather than leaving the task to their farmers.
- To reduce runoff, encourage developers and local government to mandate permeable surfaces for driveways and parking areas in planning documents and ordinances where possible, especially for commercial and public buildings.

Goal 2. Thriving local economies How We Get There

- Incorporate “watershed-conscious” language in town and county comprehensive plans. Support agriculture by protecting farmland and encouraging residential and commercial development in existing towns served by municipal water and sewer treatment plants.



The Shenandoah River South Fork, like the North Fork, has dozens of plant and animal species facing an uncertain future.

- Analyze growth assumptions and water-use estimates in locality water supply plans to ensure that worst case scenarios will leave enough water for the ecological health of the river and the economic health of the river recreation and tourism economy.

Goal 3. Adequate funding and educational resources
How We Get There

- Mandate K–12 watershed education tied to Virginia’s Standards of Learning in all public schools, with lessons focused on water quality, wildlife, and river culture, with opportunities for direct engagement through field trips. Explore ways to continue this education through universities and civic organizations.

Goal 4. An informed, invested public
How We Get There

- Provide all elected officials with information pertaining to the river and watershed. Request responses regarding their positions on the issues.

- Create educational and marketing campaigns for watershed protection; for example, a campaign that rewards farmers for implementing best management practices and provides consumers with the ability to support those farmers through increased awareness.
- Ensure that all water consumers and users are aware of the vulnerability of the Shenandoah Valley’s karst geology, whose porous structure facilitates passage of surface pollutants into our groundwater and streams.

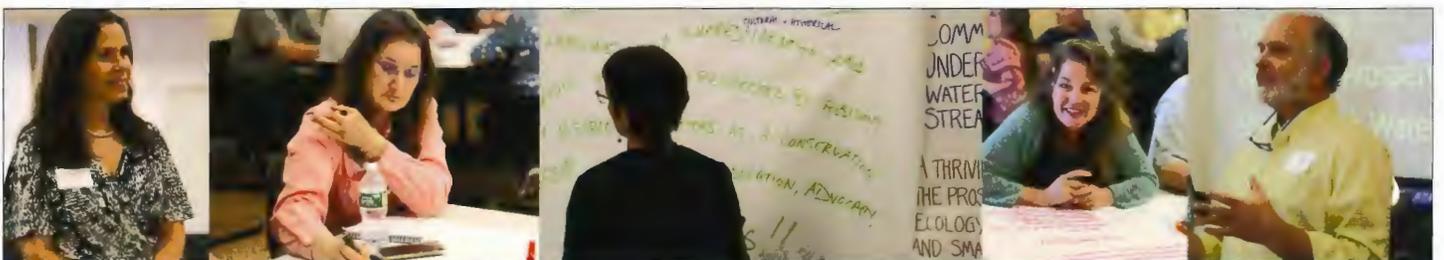
Goal 5. A robust communications network
How We Get There

- Create a grassroots network of trained river advocates to promote the vision for a healthy watershed.

Goal 6. Investment in conservation, preservation, education, and recreation

How We Get There

- Inform developers, industry, and business of the importance and benefits of proportional sharing in the responsibility and cost of preserving and improving land, natural resources, and social services.



The 2019 community workshops and forums drew nearly 90 people who explored the future of the Shenandoah River.



Who Can Help Realize the Vision for the Shenandoah River Watershed?

- **We the People** of the Shenandoah River watershed understand our relationship and responsibilities as stewards of the natural resources in our care. Taking initiative to educate ourselves and our communities, we actively protect our commonly held resource from damage inflicted by social, economic, and natural causes.
- **We the Farmers** make up a thriving agricultural community that provides leadership in achieving water quality restoration. As stewards of the Shenandoah River watershed, we model best management practices that define our region as a conservation zone recognized and respected for an ethos grounded in education, advocacy, and action. Working together, all citizens and businesses demonstrate by word and deed their understanding and appreciation of the river as a shared resource whose health and resilience requires an equally shared responsibility.
- **We the Landowners** whose property bounds the river strive to create and support clean drinking water and a healthy ecosystem by preserving and creating riparian buffers that prevent erosion while filtering debris and pollutants. As a community, we are engaged and aware of our vital role in maintaining a healthy physical environment for all river inhabitants, including flora and fauna.
- **We the Legislators** commit to public education, incentives, legislation, and enforcement that ensure stewardship for a healthy watershed in perpetuity, protecting our natural resources for future generations. We support decisions that aid residents in understanding their interrelationship with and impact on the watershed through citizen forums, access to government, and opportunities for direct river use and education.



Hundreds of farmers in the watershed have implemented practices to protect water, with more joining every day.



Our Valuable Valley

The Shenandoah Valley encompasses 2,973 square miles, including Augusta, Rockingham, Shenandoah, Page, Warren, and Clarke Counties and the cities of Staunton, Waynesboro, Harrisonburg, and Winchester. The Valley is home to a diverse population of people, plants, and animals. Some species live nowhere else in the world. The Shenandoah salamander, for example, is found only in Shenandoah National Park.

According to the Virginia Department of Game and Inland Fisheries (2005), Virginia has 926 animal species of greatest concern. In the North and South Fork watersheds these include four mammals, two reptiles, two amphibians, one aquatic crustacean, one fish, and 24 bird species. Fourteen plant species, several of which grow in the Shenandoah Valley, are listed as endangered in Virginia.



What Can You Do?

Let's imagine that the Shenandoah watershed begins in our own neighborhoods. What goes on our lawns and down storm drains ends up in local streams and then the river. So our first commitment is easy: Do no harm. If you want to get more involved, there are so many ways. You can volunteer to clean up litter or plant trees. You can learn about lawncare and gardening that's good for the river. And that's just a start. We invite you to learn more at <https://www.potomacriverkeepernetwork.org/compact>.



Our River, Past and Future

Few rivers enjoy the name recognition and mystique of the Shenandoah River. Archeological evidence illustrates the importance of the river and Valley to cultures that occupied the area for thousands of years before European arrival. Dating from 9300 BCE, the oldest evidence of inhabited structures in North America were unearthed along the North and South Forks near Front Royal. People who live in the watershed today know the river for its beauty, tranquility, abundance, and cultural traditions.

Flowing from south to north, the river served as a major commercial route from Waynesboro, Virginia, to Harpers Ferry, West Virginia, where the main stem joins the Potomac River. Europeans constructed large flat-bottomed boats called "gundalows," which plied the waters in spring and fall, when waters flowed high. Powered by waterwheels, mills along the banks ground the Valley's abundant grain harvest into flour. Gundalows carried pig iron from forest smelters, called furnaces, and other goods downstream to the confluence, where they were loaded onto trains for

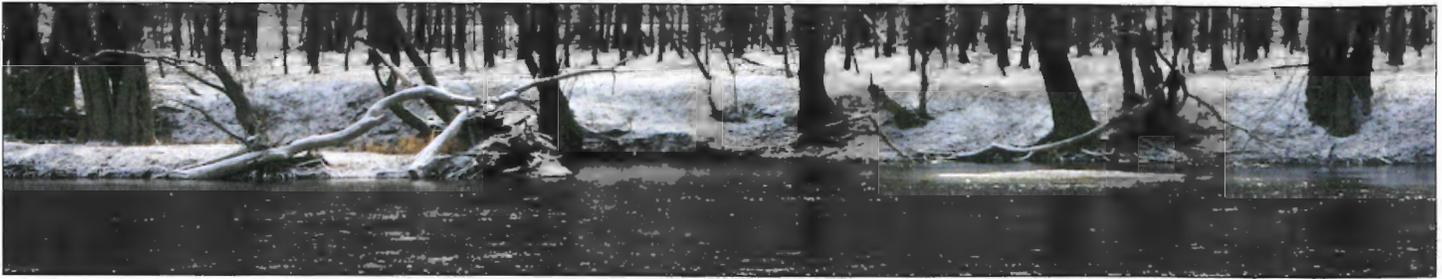
broader distribution throughout our young and growing nation.

The river is dynamic, particularly the South Fork, which channels a significantly greater volume of water than the North Fork. Flooding remains a significant issue. Our steep mountain terrain funnels stormwater and snowmelt into the Valley, swelling creeks, overwhelming low-water bridges, and threatening property and infrastructure. Historic and recent floods have repeatedly damaged homes and washed out roads.

Today, town and county comprehensive plans guide development away from flood plains; however, impervious surfaces such as parking lots and rooftops expand as the population grows, preventing runoff from filtering into the soil by expressing pollutants straight down the most convenient stormwater drain—and into the nearest stream. Collaboration between communities in the watershed can develop, restore, and maintain a diverse, resilient, and sustainable environment for generations to come.



What goes on our lawns and down storm drains ends up in local streams; from there, it flows to the river.



Cleaning up the river and protecting its special character will take dedication and hard work.



Conclusion

The Shenandoah Valley is an exceptionally beautiful part of the world, but cleaning up the river and protecting the unique features that make the area so special will require dedication and hard work. Collaboration, cooperation, financial resources, and education are essential to making and keeping the river healthy and clean. We have the responsibility to care for this treasure, for our own benefit, for generations to come, and for the plants and animals who share this land and water.

We sincerely appreciate the efforts of all those who dedicate their lives to leaving the world better than they found it. We invite everyone to join in this effort. Do what you can. Every little bit helps!

We also particularly thank all the forum participants:

Augusta County
Rockingham County
Shenandoah County
Warren County
Town of Front Royal
Shenandoah Valley Soil & Water Conservation District
Lord Fairfax Soil & Water Conservation District
Headwaters Soil & Water Conservation District
James Madison University
Eastern Mennonite University
Shenandoah University
Downriver Canoe Company
Shenandoah River Outfitters
Pure Water Forum
Alliance for the Shenandoah Valley
Shenandoah National Park
The Downstream Project

Virginia Poultry Federation
Virginia Department of Agriculture & Consumer Services
Virginia Department of Environmental Quality
Virginia Department of Game and Inland Fisheries
Trout Unlimited
Seven Bends State Park
Northern Shenandoah Valley Regional Commission
Friends of the North Fork
Friends of the Middle River
Friends of Shenandoah River
Izaak Walton League
Private industry
Private citizens
Farmers
Bobby Whitescarver, Hoffman Farms
Shamoka Run Farm, Leo Tammi
Fields of Gold – Shenandoah Valley Farm Trails
Blacks Run Forest Farm/New Community Project



Forum participants agreed: The working landscapes of the Shenandoah watershed are integral to the future of the Valley.