

## Blue Ridge Mountain Communities Area Watershed Plan

# Future of the Mountain: A Common Vision for the Jefferson County Blue Ridge Mountain Communities Area



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## ABBREVIATIONS

<b>ATC</b>	Appalachian Trail Conservancy
<b>HOA</b>	Homeowners' Association
<b>USEPA</b>	United States Environmental Protection Agency
<b>WVDEP</b>	West Virginia Department of Environmental Protection

## TERMS

<b>Best Management Practice (BMP)</b>	EPA definition: "technique, process, activity, or structure used to reduce pollutant content of stormwater discharge" For this project: type of water pollution control
<b>Geographic Information System (GIS)</b>	A system that stores and displays statistical and demographic information linked to a map of the land area that it describes
<b>Tributary</b>	A stream or river that flows into a main river
<b>Stakeholder</b>	Any person or individual with a vested interest
<b>Vision</b>	A document that describes a picture for the future, created with input from Blue Ridge Mountain citizens, which will guide Jefferson County in creating a small area plan for the Mountain
<b>Watershed</b>	Area of land that drains into a river, lake, or bay

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# 1. INTRODUCTION

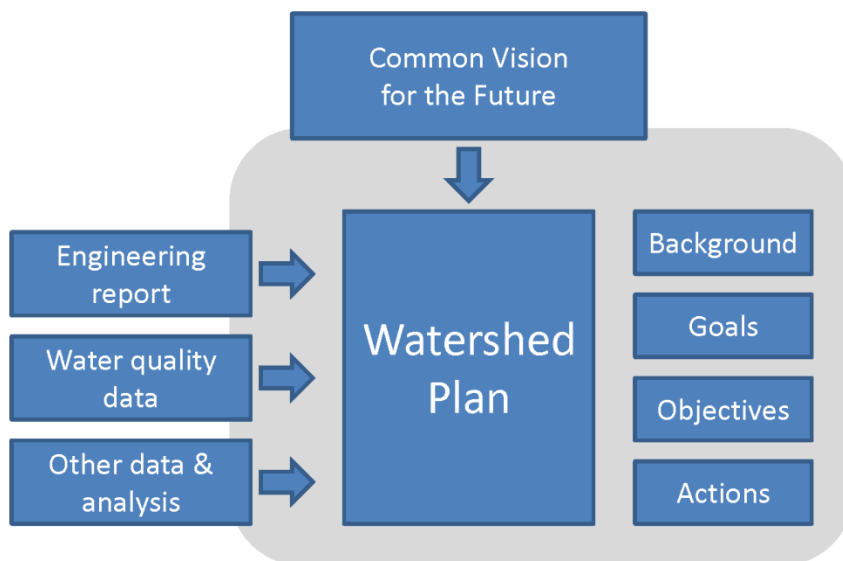
## 1.1 Background

The Blue Ridge Mountain Communities Area in Jefferson County West Virginia, referred to as “the Mountain,” lies within the Shenandoah River watershed. The Mountain area is bordered by the Shenandoah River to the west, the Appalachian Trail and Virginia line to the east, the confluence of the Potomac and Shenandoah Rivers to the north, and the Clark County, Virginia line to the south. Not only does the Shenandoah River serve as the community’s western border, but it also serves as a major tributary that affects the water quality of the Chesapeake Bay.

In 2009, President Obama signed an executive order mandating improved water quality for the greater Chesapeake Bay watershed, which includes six states and the District of Columbia. As the Shenandoah is part of the Chesapeake Bay watershed, the National Fish and Wildlife Foundation awarded Jefferson County a grant to develop a locally supported vision document and to create engineering recommendations, to guide the preparation of a locally supported watershed management plan for the Shenandoah River watershed in Jefferson County. Through the Blue Ridge Mountain Communities Area Watershed Plan, Jefferson County seeks to take a positive step toward protecting such a culturally significant area of the county and meeting the presidentially mandated order.

The goal is to create a watershed management plan that allows future development and improvement of the area, while maintaining or improving the water quality of the watershed. The visioning process served to both guide preparation of a watershed management plan to improve the water quality of the Shenandoah River, and also to incorporate the thoughts of Mountain residents and other stakeholders regarding the future. Beyond the vision document, relevant data, analysis, and resources will serve to ground the watershed plan; information presented in the engineering report will serve as a key component in the watershed plan (Figure 1).

**Figure 1: Components of a watershed plan**



## **2. THE STAKEHOLDER PROCESS**

The Blue Ridge Mountain Communities planning process presents a unique opportunity for Jefferson County to involve many different stakeholders. The creation of a common vision is a cooperative, stakeholder-driven community process that serves to guide the planning process. The development of a common vision facilitates the creation of partnerships to help protect the distinctive features of the Mountain communities and the Shenandoah River watershed. This process also helps residents and other stakeholders identify and build on their assets by stimulating community involvement and developing a stakeholder-driven vision to address watershed issues and concerns. The stakeholder process is made up of a series of three facilitated public meetings with residents and stakeholders to create a common vision. Key components in this process include a website and citizens' committee.

### **2.1.1 Stakeholder meetings**

A series of three facilitated meetings with residents and stakeholders allowed for the gathering of ideas to create a common vision. Each of the meetings built on the results of the previous meeting, and were held at various times, days of the week, and locations to allow for diverse participation.

The first stakeholder meeting encompassed outlining the planning and visioning processes, as well as an initial discussion of current assets and real or perceived areas of concern. The second meeting included an educational speaker presenting Best Management Practices (BMPs) for addressing stormwater runoff on steep slopes. A facilitated discussion followed the presentation. The discussion allowed residents and stakeholders the opportunity to expand upon the issues and assets collected during the first meeting. The third meeting allowed residents and stakeholders to refine the mission and vision statements contained within the draft vision document. All input received from the facilitated meetings was considered and incorporated into the final vision document.

### **2.1.2 Citizens' committee**

The citizens' committee serves to provide information to, and relay input from, stakeholders. The Blue Ridge Mountain Watershed Citizens Committee consists of 23 self-nominated stakeholders and residents. They were appointed by the Jefferson County Planning Commission and the Department of Planning and Zoning to assist with the following:

- Inspire wide-ranging citizen involvement in the watershed plan,
- Encourage citizen attendance and participation in public visioning meetings,
- Identify threats to the watershed and Shenandoah River water quality,
- Identify economic opportunity mechanisms that will protect the watershed, and
- Communicate the shared vision and its impact on watershed preservation goals to the community.

### **2.1.3 Website**

A website dedicated to the planning process serves as another means to provide updates and collect feedback for both the vision and plan: [www.blueridgecommunitiesplan.com](http://www.blueridgecommunitiesplan.com). The county-developed interactive website serves multiple objectives. It broadens the cross section of involved stakeholders and provides for an alternative means of public participation. The website offers information about the process, including the grant proposal, updates, meeting notes, and maps. The website also functions as a place for the public to contact the county with questions, suggestions, and comments.

### **3. VISION FOR THE FUTURE OF THE MOUNTAIN**

The following mission statement was adopted by participants to guide the visioning process:

*To work together to preserve existing qualities and create a viable picture for the future of the Mountain to guide Jefferson County's Blue Ridge Mountain Communities Area watershed plan.*

#### **3.1 Respect for Mountain residents' property rights while in pursuit of maintenance and improvement of water quality**

Residents and stakeholders continually expressed that they would like to see that existing laws, rules, and regulations are considerably and properly enforced. Participants also expressed that they would like to see a manned sheriff substation on the Mountain. Additionally, many understood the potential need for new future regulations to protect the watershed and Mountain residents, as well as to preserve the personal property rights enjoyed by Mountain residents.

The Mountain has a culture of self-sufficiency. Many residents realize that there is a healthy balance between landowner rights and local and state regulations. In addition to the Mountain culture, several citizens expressed that the Homeowners' Association (HOA) covenants, relative to their communities, were another attraction to becoming a Mountain resident. As such, any newly proposed rules or regulations need to respect the balance between law and property rights. Some participants of the visioning process felt that providing options may inspire residents to maintain and improve water quality, while still allowing for positive landowner choices.

#### **3.2 Protection of the Mountain's unique natural features and social resources to preserve its quality of life**

Participants of the process expressed the importance of identifying the existing natural and social resources currently on the Mountain, so that they can be preserved. The identification of these resources began while collecting input from residents and stakeholders at the facilitated meetings. The identification process is ongoing and can be amended and refined during future planning efforts.

##### **3.2.1 Natural features**

Residents and stakeholders participating in this process want to see the Mountain retain its character and natural beauty. To this point, negative impacts upon the habitat have been minimized. Additionally, participants want to see current tree canopy preserved. The Mountain topography, trees, and vegetation serve to mitigate soil erosion and runoff. Protected natural features also maintain the current beauty and quality of life and create opportunities for recreation and tourism.

Natural features to be protected and enhanced include the following:

- Natural beauty and features, fish and wildlife, trees and vegetation
- Headwaters, streams, springs, and pristine waterways that can be used for "baseline" research
- Topography
- The Shenandoah River and its economic opportunities for outdoor recreation and tourism
- Large parcels of undeveloped land that serve as a wildlife corridor such as Rolling Ridge Foundation; research future easements for conservation



### **3.2.2 Social resources**

Social resources to be fostered include the following:

- Personal and community responsibility, love of the Mountain, willingness and passion
- Cultural and social communities, varied interests, and diversity
- Churches
- History of the Mountain, long-standing owners, history of ownership
- Mountain culture of self sufficiency
- Local experts, ingenuity
- HOAs
- Appalachian Trail

### **3.2.3 Future considerations**

Residents and stakeholders participating in this process made the following suggestions to be considered when developing the watershed plan for the Mountain:

- Record the history of the Mountain
- Create parks with river access
- Expand recreational resources, such as ball fields and programs offered through Jefferson County Parks and Recreation
- Research land available for parks or a recreation center
- Explore building an all-terrain vehicle track, as long as it does not impair water quality
- Develop trails and campsites on West Virginia Division of Natural Resources property

## **3.3 Preservation of the existing development pattern that makes the Mountain so attractive to its residents**

Longtime property owners and newcomers to the Mountain enjoy the natural feel and wooded landscape of their personal property on the Mountain and seek to maintain these elements. Looking to the future, residents seek the preservation of the natural feel and wooded landscape on the Mountain that contrasts with the urbanized feel of the neighborhoods in the valley. Recognizing that many lots were platted in high density patterns, with some areas originally meant for campsites, the housing units compared to the number of platted lots are low within these areas.

Although there was not a consensus among participants on this specific issue, some residents would like to see some commercial development in the future. The types of development suggested, which should possibly be discussed in more detail during future planning efforts, included small market stores, a gas station, a hardware store, and parks and recreational opportunities.

### **3.3.1 Future considerations**

Residents and stakeholders participating in this process made the following suggestions to be considered when developing the watershed plan for the Mountain:

- Explore non-contiguous development rights
- Increase minimum lot size to result in low density
- Determine maximum build-out and limit density
- Use slope calculations when building to avoid building in inappropriate areas



### **3.4 Maintenance and improvement of the Mountain's roads so they provide reliable access and minimize their environmental impacts**

Participants agreed that the Mountain's roads should be maintained and improved to provide access with minimal environmental impacts. To accomplish this vision, they suggested the following actions:

- Identify and explore using BMPs for steep slope development and maintenance
- Study stormwater management for roads and prioritization of improvements
  - Identify and document problem areas during storms and provide information to the West Virginia Division of Highways
- Involve the Department of Transportation in establishing stormwater BMPs for the Mountain
- Contact Allegheny Power regarding unsafe utility poles and lines
- Redesign and reconstruct base asphalt roads
- Establish standards for better road maintenance, including proper grading and gravel placement
- Remediate the effects of steep slope development by incorporating rain gardens or terracing, which have been used for thousands of years to decrease erosion from the fast flow of water
- Recycle/reuse equipment and materials involved in road repair and maintenance
- Explore alternative(s) to the orphan road program

#### **3.4.1 Future considerations**

Residents and stakeholders participating in this process made the following suggestions to be considered when developing the watershed plan for the Mountain:

- Address current problems on existing roads, such as surface runoff and stormwater flowing from gravel roads and large trails
- Address impacts of new Route 9 (e.g., blasting effects on land and water, sediment pollution)
- Explore financial opportunities for road maintenance
- Reassess road and culvert design and maintenance, ownership
- Consider infrastructure improvements (e.g., fire protection, roadways, emergency services)
- Consider alternative emergency exit options to Virginia besides Mission Road, which is essentially a long cul-de-sac. Options provided by residents include the following:
  - Shannondale Lane past Eagles Nest Lane to provide eastern access
  - An alternative access to the south
- Consider trained Mountain residents as a means to maintain roads
- Consider tax credits or equipment that qualified neighbors or HOAs could use to maintain roads

### **3.5 Use of stormwater best management practices for new construction on the Mountain to mitigate erosion and protect water quality**

The use of stormwater BMPs will minimize stormwater runoff and reduce pollutants in ground and surface water. The goal is to have no negative effect on the Shenandoah or the Chesapeake Bay. Participants suggested applying these practices to new development so that, for example, any new development would be in appropriate areas. Some suggested that existing residents not be burdened with new development regulations; others suggested that voluntary use of BMPs on existing development where necessary may not be enough to address stormwater runoff and promote watershed health. Participants expressed concern regarding individual lot regulations that affect their property rights; participants envision creative alternatives and flexibility in the use of BMPs.

### **3.5.1 Future considerations**

Residents and stakeholders participating in this process made the following suggestions to be considered when developing the watershed plan for the Mountain:

- Use BMPs for stormwater management, including the following specific suggestions:
  - Retain greenspace to promote natural stormwater filtration
  - Incorporate wildlife and habitat in new development
  - Preserve natural resources such as trees
  - Stabilize ground when clearing for development
  - Prevent clear cutting
  - Use mitigation measures
  - Replant to reduce runoff
  - Use slope calculations when building to maintain and improve water quality
  - Use terracing on slopes
  - For new houses, install a 1,000 to 1,500 gallon tank in the ground to catch roof runoff, and install a 6'x3'x3' ditch filled with stone at the end of the driveway
- Have individual land owners control their own stormwater runoff on their property (e.g., with terracing of steep slopes, graduated method)
- Consider holding Certificate of Occupancy until site work is complete
- Have offenders fix the problem they created; if noncompliant, perhaps county can collect bids to fix problem and bill the cost to the offender
- Increase enforcement; hire more compliance officers to ensure compliance with federal, state, and local regulations

## **3.6 Maintenance of the Mountain's existing private wells and septic systems and existing public water systems where necessary to ensure clean drinking water, as well as clean rivers and creeks**

During the visioning process, citizens of the Mountain agreed to support the maintenance of existing private and public systems where necessary to ensure clean drinking and surface waters. Participants also agreed that Jefferson County consider property rights when assessing land use regulations on individual lots. Many participants expressed strong concern regarding public water and sewer systems.

### **3.6.1 Future considerations**

Residents and stakeholders participating in this process made the following suggestions to be considered when developing the watershed plan for the Mountain:

- Maintain existing septic systems (e.g., enhance responsibility, implement a 5-year pump-out)
- Address potential or real issues with existing septic systems (i.e., leaking septic systems)
- Improve enforcement of rules and laws with septic installation and inspection process; many federal, state, and local regulations apply
- Explore improvements to existing water system, but not necessarily city water
- Explore opportunities for grey water collection
- Explore use of composting toilets
- Address tourism/recreation issues (e.g., Appalachian Trail visitors use bathroom on trail)
- New developments should explore the use of community wells and community septic systems
- Provide education, as well as technical resources and grants from the Health Department
- Explore tax breaks and grant monies for maintaining septic systems

## **4. MOVING FORWARD**

### **4.1 Collection and use of baseline water quality data on the Mountain, and support of water quality monitoring into the future**

Participants in the visioning process had the most consensus and passion about collection and use of water quality data. Some participants expressed, for example, that this data collection was long overdue. Participants agreed that baseline water quality data must be collected and analyzed before and during the watershed planning processes to identify water quality problems (if any), as well as type and source. More specifically, participants also suggest identification of pollution from connected watersheds to detect what is coming into the Shenandoah from upstream in Virginia, for example. After baseline data are collected, participants support ongoing stream monitoring, especially as way to meet the United States Environmental Protection Agency (USEPA) standards for the Chesapeake Bay.

#### **4.1.1 Future considerations**

Residents and stakeholders participating in this process made the following suggestions to be considered when developing the watershed plan for the Mountain:

- Divide the water quality data and monitoring efforts by subwatershed, to better identify and highlight water quality successes and address water quality issues
- Incorporate a well study at Westridge Hills
- Continue to fund the Shepherd University water study (expand, make public)
- Establish a publicly accessible consolidated database of archived water study data
- Install automatic water sampling systems with five-year commitment in locations on the Shenandoah and Potomac Rivers
- Support water quality studies conducted by Shepherd University and local scientists
- Examine practices and plans of similar communities (e.g., gravel roads, karst, wooded, mountainous areas)

### **4.2 Use of education as an important component of allowing development while maintaining water quality**

Participants agreed that awareness about the Mountain's current conditions and assets is as important as education to protect and improve water quality. In addition, participants suggested spreading the word about available assistance programs. This education and awareness can happen every day, communicating with our neighbors and within our community. County officials, enforcement agents, politicians and residents, as well as other stakeholders such as realtors and developers, are the primary focus for education efforts about rules, regulations, and BMPs.

### 4.2.1 Future considerations

Residents and stakeholders participating in this process offered suggestions about who and what to teach, as well as ideas as how that education could occur. The following suggestions to be considered when developing the watershed plan for the Mountain:

#### Who and what to teach

- Residents and developers about stormwater BMPs for development, roads, and culverts
- Landowners, HOAs, and individuals about using graders on roads to WVDOH standards
  - WVDOH has permit process to allow residents to do some work on the roads
- Residents on water usage and disposal (“Every drop matters”)
- Residents on septic maintenance
- Residents and lawn care businesses on the proper use of lawn fertilizer, pesticides
- Decision makers on the disparity of tax dollars collected and spent on Mountain by the County

#### How to educate

- Educate by subwatershed to address the community and issues specific to particular areas
- Define issues specific to each Mountain area (e.g., by subwatershed) so that residents can be informed about the issues that affect them directly
- Start at elementary school level
- Develop a program geared to youth groups such as Boy Scouts or Girl Scouts
- Make a library of educational resources accessible
- Make use of existing community-created website for Mountain-specific topics
- Hold monthly water quality workshops to inform public of ways they can help
- Re-establish HOAs in the various Mountain communities to inspire personal responsibility
- Suggest that realtors use a disclosure form at closing to disclose special circumstances regarding protection of waterways on the Mountain (e.g., stating that the roads are only state-maintained and there is not an HOA to address any community-shared responsibilities)

## 4.3 Identification and use of key tools in planning efforts

Residents and stakeholders participating in this process identified key resources for the development of the watershed plan for the Mountain. The following were suggested as beneficial resources:

- Existing stream monitoring and analysis
  - Rolling Ridge Foundation
  - Shepherd University
  - West Virginia Division of Forestry has identified Appalachian Trail as a focus area
- GIS data from the ATC and local office, Appalachian Trail Park office
- Loans to fix failing septic systems
  - West Virginia Housing Development Fund
  - Central Appalachia Empowerment Zone
- State programs to help owners with replacing vegetation
- Federal grant programs such as the Clean Water Act Section 319 funds
- Engineers with expertise on flooding, historical data, and karst topography
- Law enforcement litter control programs
- Use of public perception surveys in key locations

## **4.4 Integration and active participation of key partners in planning efforts**

Besides key tools, residents and stakeholders participating in this process identified key partners to include when developing the watershed plan for the Mountain, and other planning efforts. The partners identified included local groups and government entities, as well as relevant state and national groups.

### **Local groups include, but are not limited to, the following:**

- Landowners and residents
- Volunteer groups
- Churches
- Educators
- School boards
- HOAs (e.g., Jefferson County Organization of HOAs)
- Garden clubs
- Senior programs
- Homemaker groups (or similar)
- Businesses
- Recreational use and tourism businesses (such as River Riders)
- Mountain Lake Club
- Lawn maintenance companies (regarding chemicals)
- Realtors
- Builders
- Blue Ridge Litter Lookout (BRILLO)
- Rolling Ridge Foundation
- Appalachian Trail Conservancy
- Friends of the Shenandoah River
- Shenandoah River Keepers
- Sportsman’s groups and hunting clubs
- Shepherd University
- Blue Ridge Environmental Coalition

### **Government entities include, but are not limited to, the following:**

- Fire departments
- Law enforcement
- Jefferson County Planning and Zoning Departments
- Jefferson County Commission
- Water Advisory Committee
- Jefferson County Economic Development Authority
- Jefferson County Health Department
- State Delegates and Senators
- West Virginia Department of Transportation
- West Virginia Division of Highways
- WVDEP
- West Virginia Division of Natural Resources
- State Historic Preservation Office
- State and local representatives

### **Relevant state and national groups include, but are not limited to, the following:**

- West Virginia Rivers Coalition
- Environmental and conservation groups
- Harper’s Ferry National Historic Site
- Appalachian Trail Park office
- Virginia delegate or representative
- Telecom industry, power companies
- USEPA