

WEST VIRGINIA STATEWIDE FOREST RESOURCE STRATEGY



**Prepared by the West Virginia
Division of Forestry
June 18, 2010**

WEST VIRGINIA STATEWIDE FOREST RESOURCE STRATEGY

Strategies for addressing the issues and priority areas identified in the Forest Resource Assessment
June, 2010

Produced by:

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Acknowledgements:

This document was produced with contributions and input from WVDOF employees, other state and federal agencies, a variety of organizations, and various other stakeholders, who are identified in the Appendix and most of whom also contributed to the Forest Resource Assessment.

The following WVDOF employees and Clark Haynes of the West Virginia Department of Agriculture (WVDA) had primary responsibility for taking the issues, sub-issues, and priority areas identified in the Assessment and developing long-term strategies to address them in Section 3: Strategy Matrix and Narrative:

John Rowe – *Competing Land Uses*

Dan Kincaid – *Sustainability of Forest Resources*

Jeremy McGill – *Water Quality*

Bob Hannah – *Sustainability of Urban Forests*

Clark Haynes (WVDA) – *Forest Health*

Linda Carnell – *Communications and Education*

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Ben Webster – *Wildfire Management*

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Economic Development*

The GIS work for this document was completed by **Steve Harouff**, WVDOF, with the exception of the Forest Health maps, which were completed by **Shawn McCauley**, WVDA.

In addition to the Strategy Matrix and Narrative sections, written by the authors listed above, other sections were written by Dan Kincaid. Appendix items were written by Steve Harouff.

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Oversight of this Strategy project was accomplished by State Forester, **Randy Dye**.

Cover photo: *Summer Scene Along the North Branch of the Potomac River in Mineral County, West Virginia* – Steve Shaluta, WV Department of Commerce.

See Appendix for a list of the most frequently used acronyms and abbreviations used in this document.

This project was funded in part through grants from the USDA Forest Service and the National Association of State Foresters. The USDA and the WVDOF both prohibit discrimination in all programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status.



File Code: 3000-4

Date: **AUG 20 2010**

C. Randall Dye
State Forester
WV Division of Forestry
1900 Kanawha Boulevard, East
Charleston, WV 25305


Dear Randy,

I want to personally congratulate you and your staff on delivering your statewide forest resource assessment and strategy. On behalf of Secretary Vilsack and Chief Tidwell, I officially approved your documents as meeting the requirements of the Farm Bill on August 6, 2010.

Collectively, the assessments and strategies provide a blueprint for the future of forest management in the continental United States and its associated islands and territories. Identifying forest conditions and trends, along with priority issues and landscapes, sets the stage for states and partners to leverage resources on strategic investments that will benefit the public and the nation's forests today and in the future.

Approval of the assessments and strategies is the beginning. The implementation phase will be ripe with opportunities for the Forest Service to work with you and your partners in exciting and innovative ways. As we proceed together to put your strategy in to action, I look forward to your thoughts on how we can continue to improve and refine our delivery of state and private forestry programs on the landscape.

Sincerely,



JAMES E. HUBBARD
Deputy Chief, State and Private Forestry

cc: Kent Connaughton, Kathryn P. Maloney





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West Virginia scenes in Tucker, Pendleton, and Fayette counties. (Steve Shaluta, WV Department Commerce).



I. Introduction

A. *Background and General Information*

The 2008 Farm Bill required each state to complete a Statewide Forest Resource Assessment and Strategy by July 1, 2010 in order to continue receiving federal funds under the Cooperative Forestry Assistance Act. These federal funds include those for the following traditional programs: Stewardship, Forest Legacy, Forest Health, Urban & Community Forestry, and Fire, as well as competitive grants, and special programs such as Chesapeake Bay and others.

The West Virginia Division of Forestry (WVDOF) first developed a State Assessment to identify key forestry-related issues and priority landscape areas. This State Strategy is a companion document, which will cover broad, long-term strategies for addressing those issues and priority areas. This State Strategy is intended to be an overarching document with few detailed actions. More specific activities and detailed budget information will be contained in the Annual Grant Narrative/Proposal(s) for a given year (this will include actions/projects that are part of the core funding, as well as projects awarded through the competitive funding process). Finally, a State Annual Report on accomplishments will also be prepared, using performance measures that are currently being developed.

Minimum requirements and recommendations – National guidance provides the minimum requirements and recommendations for State Strategies, as follows:

1. Outline long-term strategies for addressing the priority landscapes identified in the State Assessment. Identify which national State & Private Forestry (S&PF) priorities and objectives are supported by each strategy. The broad priorities and objectives are:
 - Conserve and Manage Working Forest Landscapes for Multiple Values and Uses
 - Protect Forests from Threats
 - Enhance Public Benefits from Trees and Forests
2. Briefly describe how the state will use federal funding, along with other resources, to address state, regional, and national priorities.
- 3.* Include a long-term timeline for project and program implementation.



4. Identify partner and stakeholder involvement.
- 5.* Identify performance outcomes/measures of success within priority forest landscape areas.
- 6.* Discuss anticipated protocols for developing annual action plans, monitoring, and annual reports.
7. Discuss incorporation of existing statewide plans, including State Wildlife Action Plans, Community Wildfire Protection Plans, the State Comprehensive Outdoor Recreation Plan, the Forest Legacy Assessment of Need, and others; and include a glossary of terms and acronyms.

*(Recommended, not required)

S&PF Program integration – As directed by the 2008 Farm Bill, these State Assessments and Strategies are “deemed to be sufficient to satisfy all relevant state planning and assessment requirements under the “Cooperative Forestry Assistance Act.”

Flexibility for State Assessments and Strategies and Annual Implementation – While states were asked to identify landscape areas (where possible) that show where national, regional and state resource issues and priorities converge, there was flexibility for the content and structure of both the State Assessment and Strategy. This flexibility allowed each state to use the best data available, work with stakeholders in ways deemed appropriate for each state, and to adequately consider other state priorities, as determined to be relevant by the State Forester.

States could organize their State Strategy based on specific issues (as WVDOF did), referencing the three national S&PF themes. Some states used criteria and indicators, or conditions and trends, to organize their State Strategies.

While the State Strategy does serve as a planning document for the S&PF programs, it can also serve as a broader strategic planning document to guide all state forestry activities. The strategies outlined in this State Strategy document are long-term, broad, and flexible. They will function as guidelines, and not be operational or prescriptive. For successful implementation of the strategies, and to aid in developing the S&PF annual grant proposals and narratives, it will be necessary to develop specific annual actions from this State Strategy.

Specific work to implement the long-term strategies outlined in the State Strategy will be prioritized and specified in more detail in an annual statewide action plan for a given fiscal year. Under this approach, individual staff or program units will obtain broad, long-term direction from the State Strategy, but will develop operational annual work plans developed from an annual statewide plan. While an annual statewide action plan is not a Farm Bill requirement, it will aid in the development of funding requests (the Annual Grant Proposal and Narrative, State budget process, etc.) and in bringing the strategies down to an operational level for individual state staff units. Figure 1 illustrates the anticipated process for implementing the State Strategy.

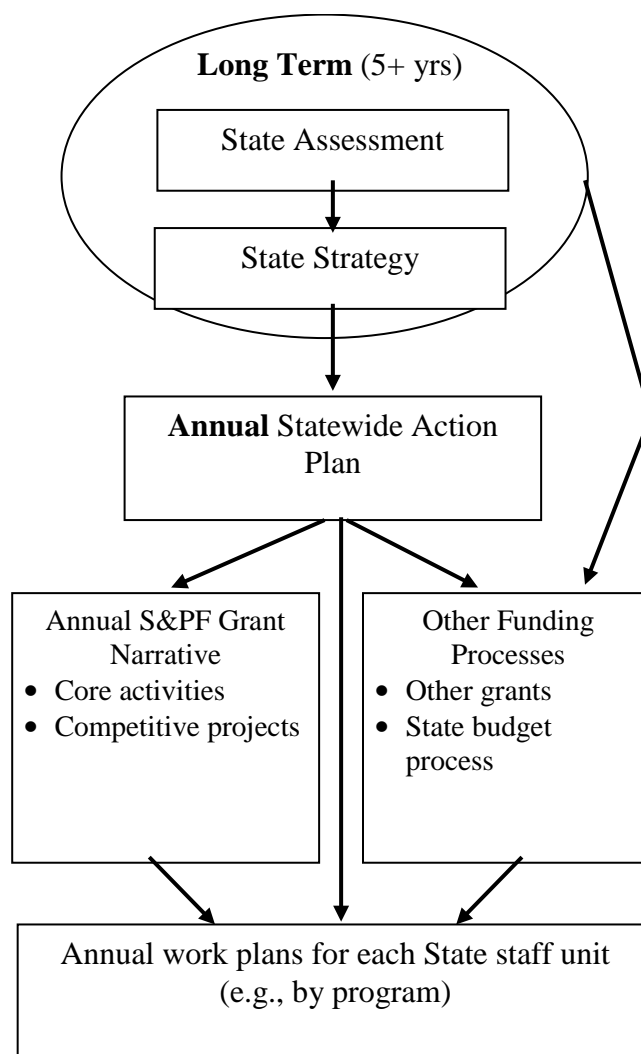


Figure 1: Suggested process for implementing the State Strategy (NAASF/NA S&PF Guide for Statewide Forest Resource Strategies, 2009).



Forest scene in West Virginia. (Photo courtesy of Rich Widmann, US Forest Service).

S&PF Redesign: the Pieces and Processes Related to State Assessments and Strategies –

Following the Farm Bill requirements, along with national and regional guidance, state forestry agencies: 1) developed a State Assessment to identify priority issues and landscape areas, and 2) addressed these in the State Strategy. The State Assessment and Strategy documents were approved by the State Forester and then submitted to the USDA Forest Service (USFS). Federal review/approval of the State Assessments and Strategies ensured that the documents met the minimum requirements of the 2008 Farm Bill. Specific activities and detailed budget information for a given fiscal year will evolve from the long-term State Strategy and will be outlined in an Annual Grant Proposal/Narrative. This annual action will be completed as part of the core funding process, as well as through projects awarded in the competitive allocation process. Accomplishments will be reported using the S&PF performance measures currently being developed (in the near term to include existing S&PF reporting systems) and the State Annual Report (USFS will develop a template for this report). This information will be compiled and reported nationally using the S&PF Annual Report.

Figure 2 depicts the overall pieces and processes related to State Assessments and Strategies.

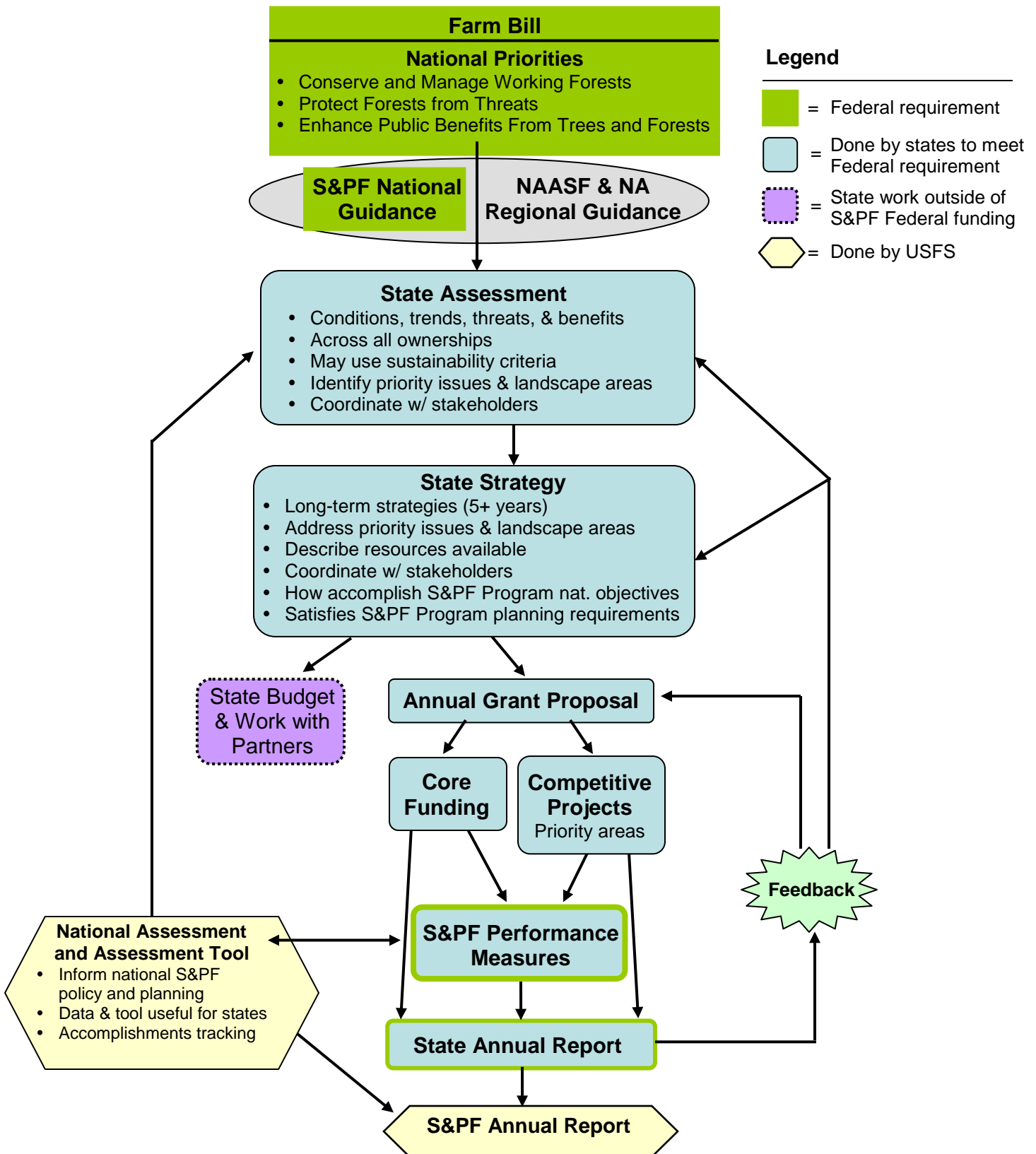


Figure 2: Flow chart to summarize the pieces and process for State Assessment and Strategies (NAASF/NA S&PF Guide for Statewide Forest Resource Strategies, 2009).



Annual Grant Narrative/Proposal – According to national guidance, “States are encouraged to use a single annual grant narrative, which outlines actions to address the state assessment and resource strategy, for all S&PF programs that are authorized to receive funding under a consolidated grant option.” Currently, WVDOF includes the following programs in its consolidated grant: Urban and Community Forestry, State Fire Assistance, and Forest Stewardship. Forest Legacy requires a separate grant because Congressional direction stipulates that Forest Legacy grant narratives must be written for specific projects or for specific tasks. Also, Volunteer Fire Assistance component of the Fire Program stands alone and is not part of the consolidated grant. Federal Fiscal Year (FFY) 2011 will be the first year that states will utilize the State Strategy to identify actions for the grant narrative(s). Additional guidance from the USDA Forest Service will be required for the grant narratives and proposals. States will be given considerable flexibility in this process.

Performance Measures – S&PF Performance Measures that will be used starting in FFY 2011, including how those performance measures will be reported, are currently being developed by the S&PF Redesign Performance Measure Working Group. The S&PF Performance Measures will be posted on the S&PF Redesign website when available.

State Annual Report – The USDA Forest Service (USFS) will develop the format, content, and process for submitting the State Annual Report (required by the 2008 Farm Bill). The first State Annual Report will cover accomplishments for FFY 2011.

National Assessment and Tool – A new geospatial tool is currently being developed by the USFS. The S&PF national assessment will use this tool to provide information for future State Assessments. This tool, or other on-line tools, will eventually be used for tracking accomplishments spatially.

Revisions and Updates – The federal 2008 Farm Bill requires that state forestry agencies update the Assessment and Strategy documents every five years, with the first revision due in 2015. The WVDOF realizes that much of the information contained in the first versions of these documents will need to be updated, modified, or otherwise improved. Undoubtedly, new sections and topics will be added. These documents are intended to be fluid, “living” documents that can be amended as necessary as new or better information becomes available. Many of the existing data gaps will be completed by 2015, while new data gaps will certainly be identified in this constantly evolving process.

The WVDOF will maintain:

- Errata files identifying mistakes, omissions, and any corrections which need to be made to these documents.
- A file on new or additional stakeholder and partner comments and input that will be collected and used in the 2015 revision.
- A list of new ideas, emerging issues, and various other revisions that will need to be incorporated in 2015.



The WVDOF feels as though this is the best and most comprehensive planning process it has ever completed. However, the Assessment and Strategy are both very broad documents, intended to provide an overview of what the WVDOF currently views as the most important forestry related issues in West Virginia and the potential strategies for resolving them. Specific strategies and projects will be covered in the annual grant narratives.

Time constraints, existing workloads, and staffing deficiencies presented significant challenges in meeting deadlines and other requirements of this process. The WVDOF fully intends to improve upon these documents with each subsequent revision. The WVDOF made considerable efforts to ensure that the 2008 Farm Bill and USFS requirements were met.

B. National Priorities and Objectives

In September 2008, the “national themes and objectives” were jointly approved by the National Association of State Foresters (NASF) and by the USFS State & Private Forestry Redesign Implementation Council (RIC) (Table 1). The wording has been modified slightly since that time and is now referred to as the “national priorities and objectives”.

The WVDOF used these national priorities and objectives as one component to help guide the development of both the State Assessment and the Strategy. In Section III of this Strategy document (Strategy Matrix and Narratives), the appropriate national priorities and objectives are referenced for each particular issue/sub-issue.

Table 1: National Priorities and Objectives (NASF/RIC, 2008).

National Priorities and Objectives*
1. Conserve and Manage Working Forest Landscapes for Multiple Values and Uses
1.1. Identify and conserve high priority forest ecosystems and landscapes
1.2. Actively and sustainably manage forests
2. Protect Forests from Threats
2.1. Restore fire-adapted lands and/or reduce risk of wildfire impacts
2.2. Identify, manage, and reduce threats to forest and ecosystem health
3. Enhance Public Benefits from Trees and Forests
3.1. Protect and enhance water quality and quantity
3.2. Improve air quality and conserve energy
3.3. Assist communities in planning for and reducing forest health risks
3.4. Maintain and enhance the economic benefits and values of trees and forests
3.5. Protect, conserve, and enhance wildlife and fish habitat
3.6. Connect people to trees and forests, and engage them in environmental stewardship activities
3.7. Manage trees and forests to mitigate and adapt to global climate change



C. West Virginia State Issues and Sub-Issues

The issues and sub-issues listed in Table 2 below were identified and discussed in the State Resource Assessment. Much of this document addresses the strategies that will be utilized to address these various issues and sub-issues.

These issues and sub-issues evolved from a combination of collaborative external input, internal WVDOF meetings, discussions with the USFS, and reviews of various natural resource plans. This process is detailed in Section VI – Collaboration with Others, in the State Resource Assessment, as well as Appendix Items A and B of this Strategy document.

The various maps shown in Section II - Priority Landscape Areas and Issues of this Strategy document resulted primarily from analyzing these issues using GIS technology. These strategies are detailed in both matrix and narrative form in Section III of this document.

Table 2: State issues and sub-issues identified in the State Resource Assessment (WVDOF 2010).

West Virginia Identified State Issues	
Issue 1	Competing Land Uses
1.1	Fragmentation and Parcelization
1.2	Urbanization
1.3	Population Growth
1.4	Conversion to Nonforestry Use
1.5	Mineral Extraction
1.6	Agriculture
1.7	Property Taxes
Issue 2	Communications and Education
2.1	Lack of Forestry Education in Public Schools
2.2	Public Perceptions of Forestry
2.3	Lack of Internal Formal Training
2.4	Not Taking Advantage of Current and Future Technologies
2.5	Future Issues That Will Affect the WVDOF
Issue 3	Sustainability of Forest Resources in West Virginia
3.1	Growth ,Yield, and Management
3.2	Fire and Forest Health
3.3	Reforestation of Mined Lands and Other Lands
3.4	Forest Regeneration
3.5	Habitat Diversity and Conservation
3.6	Public Lands
Issue 4	Water Quality
4.1	Sedimentation of Streams
4.2	Protection of Riparian Areas
4.3	Impaired Watersheds
4.4	Protection of Public Drinking Water
4.5	Chesapeake Bay Watershed



Table 2 (cont.): State issues and sub-issues identified in the State Resource Assessment (WVDOF 2010).

Issue 5	Wildfire Management, Resource Protection and Public Safety
5.1	Prevention, Preparedness and Suppression
5.2	Southern Coal Fields "Predictive Burn Area" (14 Hot Counties)
5.3	Mine Breaks
5.4	Identify Existing/New Wildland Urban Interface (WUI) Areas
5.5	Location of Volunteer Fire Department Coverage in Forested Areas
5.6	Wildfire Fuels / Fire Potential
5.7	Lack of Public Understanding of Prescribed Fire and WVDOF Participation in the Fire Learning Network (FLN)
5.8	Silvicultural Benefits of Prescribed Fire
5.9	Property Values in the Wildland Urban Interface
Issue 6	Sustainability of Urban Forests
6.1	Building Program Capacity at the Community Level
6.2	Climate Change Mitigation and Energy Conservation
6.3	Population Dynamics and Resource Allocation
6.4	Air Quality
6.5	Public Drinking Water Quality and Quantity
6.6	Recreation
Issue 7	Forest Health
7.1	Native and Exotic Diseases, Insects, and Invasive Species of Concern
7.2	Survey, Monitor, and Evaluate
7.3	Pest Management and Eradication
7.4	Public Education
Issue 8	Utilization, Marketing, and Economic Development
8.1	Infrastructure/Transportation
8.2	Ecological Services
8.3	Biomass Energy Potential
8.4	Timber Quality
8.5	Loss of Traditional Markets and Retention/Expansion of Primary and Secondary Manufacturing.
8.6	Workforce Development



D. Potential Multi-State Issues

The 12 potential multi-state issues addressed in this section are brought forward from the State Resource Assessment, as prescribed by the 2008 Farm Bill and in joint guidance suggested by Northeastern Area Association of State Foresters (NAASF) and the USFS. These are the multi-state issues that are of most interest to the WVDOF at this point in time. Future discussions with the USFS and adjacent state agencies will move these potential projects forward, enhance them, eliminate them, or perhaps identify new issues of mutual interest. More background information about this can be found in Section V – Potential Multi-State Projects in the State Resource Assessment.

Over half of these 12 multi-state issues are already being addressed in some form or another by West Virginia and other states. Primarily, this involves separate approaches and activities within each of the various states. However, in multi-state issues 1, 9, 10, and 12, there is already a considerable amount of interstate coordination occurring. This can be enhanced with the proper amount of emphasis placed upon these issues by both the USFS and the various states. The WVDOF is interested in additional interstate cooperation and coordination, as appropriate.

The WVDOF has also worked closely with the Monongahela National Forest (MNF) to identify which of these multi-state issues might be of mutual interest (along with, of course, many of the other issues and sub-issues addressed in the Assessment and Strategy documents). In addition, the MNF has identified 10 multi-state issues as being important from a national forest perspective. The WVDOF anticipates eventually being involved as a partner in most, if not all, of those issues. Information about the WVDOF and MNF potential partnerships on multi-state projects is detailed on the last two pages of Section V – Potential Multi-State Projects in the State Resource Assessment.

The WVDOF has also included the 12 potential multi-state issues which follow in a matrix at the end of Section III of this Strategy document. This matrix provides a preliminary identification of possible long term strategies, priority landscapes, interested/involved stakeholders, national priorities and objectives addressed, and other related categories for each of the 12 potential multi-state issues. There were no narratives written to follow the matrix (as was done for each of the state issues and sub-issues in that section) because WVDOF believes there needs to be more coordination and direction provided by the USFS before that can take place. The WVDOF looks forward to taking part in discussions over the next year or two in moving forward with coordinated multi-state projects.

Following are the 12 potential multi-state issues as identified in the State Resource Assessment:



1. Chesapeake Bay – DE, MD, NY, PA, VA, and WV

Several natural resource and conservation efforts have been taking place for the past decade or more to clean up the Chesapeake Bay and restore it to its former condition. This has been recognized as a high national priority. Federal agencies, including the EPA, USDA, and USDI, are involved in this effort. The states noted above are involved in various efforts to reforest Chesapeake Bay tributaries, reduce sediment loads into those streams, minimize urban impacts, and restore the Bay to its former condition. Also, the 2008 Farm Bill established the Chesapeake Bay Watershed Initiative to help prioritize forestry projects in NRCS activities. The WVDOF has a forester assigned to focus efforts and energies on Chesapeake Bay projects. The WVDOF is working closely with numerous state, local, and federal agencies on this project.

2. Reforestation of Previously Mined Lands – AL, KY, MD, OH, PA, TN, VA, and WV

The WVDOF is currently pursuing opportunities, and will continue to do so, in conjunction with the states listed above, to establish forests on previously mined lands that are in need of reforestation as a result of past mining practices. The WVDOF is communicating with the WVDEP, the federal OSM, USFS, the WV Coal Association, neighboring state forestry agencies, and others in this effort. Some of these areas have been replanted to trees and some have reforested naturally. However, thousands of acres of mined lands that were previously forested are now either barren or have been reseeded to grass.

3. Upper Ohio River Valley Watershed – OH, PA, and WV

There is a growing recognition that focused conservation efforts in the states bordering the Ohio River would be highly beneficial to the overall environment along this major national waterway. Recently, a Congressional caucus was established to begin exploring ideas to assist with this effort. It is entirely possible that a Congressional effort could get directed toward this watershed, much the same as other conservation and environmental restoration efforts have been directed at the Chesapeake Bay, the Upper Mississippi River Watershed, the Lake Tahoe Basin, and others. Forestry would be a major part of any such wide-scale effort. It is likely that Kentucky, Indiana, and Illinois would also be part of such a project.

4. Biomass Projects – MD, OH, and WV

The WVDOF is interested in cooperating with these states and others to explore development of bio-energy facilities and is currently working with the Ohio Division of Forestry and the WVU AHC on a “Mid-Ohio River Valley Woody Biomass Project (MORWOOD).” Developing bio-energy facilities is a capital-intensive undertaking. Investors and lenders require well-defined supply agreements to be in place prior to committing capital for investment. The MORWOOD project seeks to address: 1) the significant lack of quantitative supply and availability data for woody biomass, 2) the inadequacy of biomass supply chains capable of producing and delivering large quantities of biomass, and 3) the development of a model that could be replicated elsewhere.



5. Conservation Education – DC, DE, MD, NJ, OH, PA, and WV

The Mid-Atlantic Conservation Education (MACE) cooperative, representing the forestry agencies in the above states, was very active from 1995 – 2005. Since that time, retirements, changing personnel, budget cuts, etc. have caused the group to become less active. The major focus was to work on conservation education activities that were common to the mid-atlantic states. Previous projects included an educational forestry CD ROM, a Forestry Activity Guide for Teachers, Project Learning Tree correlations with state science teaching standards, and other related projects. MACE formerly met twice per year, but meetings have recently become less frequent. MACE’s goal was to elevate the overall quality and quantity of conservation education activities and programs in the states. West Virginia is interested in seeing the group become active once again and to work on issues that are common to the respective states.

6. Development Issues Along the I-64, I-68, I-77, I-79, and I-81 Corridors – KY, MD, OH, PA, VA, and WV

Rampant, unplanned development in West Virginia, especially along the interstates between Huntington and Charleston, between Morgantown and Clarksburg, and near I-81 in the eastern panhandle, is causing a variety of natural resource problems. Among these are fragmentation and parcelization of forests, unplanned urbanization, water quality issues, and other problems. Most of these problems occur adjacent to and near interstates or other major highways, and likewise occur in adjacent states. The WVDOF would like to work with adjacent states on ways to minimize impacts to forests and other natural resources, as well as to resolve related issues of mutual concern.

7. Oil & Gas Drilling (Marcellus Shale Region) – MD, NY, OH, PA, VA, and WV

The recent technological developments in the oil and gas industry, which allow the drilling of deeper wells to tap previously unreachable gas deposits, have had impacts on forests and other natural resources. This is anticipated to increase in the future. These deeper wells require as much as five acres for a well site. Since most of these wells are being drilled on forest land, it results in parcelization, fragmentation, invasive species introductions, and other potential impacts. Also, the large amount of water used in the process creates erosion problems and sedimentation and other types of water quality impacts to streams. The Marcellus region includes the states listed above, and together they will be able to explore possible joint solutions to problems associated with this activity.

8. Sustaining Traditional Timber Markets and Developing Non-Traditional Markets in the Appalachian Region – KY, MD, OH, PA, VA, and WV

The ability to effectively manage the region’s forests in the future will be based in large part on sustaining existing markets in order to sell products economically. Without this, and without the development of new markets and new products, it will be extremely difficult to manage the forests in a sound, scientific manner. The WVDOF wants to explore solutions to these problems with adjacent states.



9. Slow-the-Spread (Gypsy Moth) – IA, IL, IN, KY, MI, MN, NC, OH, VA, WI, and WV

This is an on-going effort between the USDA Forest Service and the states listed above. The WVDOF will continue efforts and partnerships in the program, and work toward any possible improvements in the program, in order to lessen the impacts of gypsy moth infestations on valuable hardwood forests. Maintaining and/or increasing awareness of the problems associated with gypsy moth is essential to sustaining or increasing the funding levels necessary to keep this forest health pest under control. In West Virginia the Forest Health Program is administered by WVDA.

10. Mid-Atlantic Fire Compact Activities – DE, MD, NJ, OH, PA, VA, and WV

Numerous joint activities presently occur within this existing multi-state organization. These activities are encompassed by the federal grants in Firewise, State Fire Assistance, Volunteer Fire Assistance, and special grants, and typically involve efforts in fire prevention, detection, and suppression. Working together, these states often pool efforts and knowledge related to firefighting equipment, vehicles, personal protective equipment, education, and training. It is likely that many of the future advances in the fire program will involve participation in the Mid-Atlantic Fire Compact.

11. Appalachian Forest Heritage – MD, VA, and WV

This is a regional effort to integrate central Appalachian forest history, culture, products, and forest management into a multi-state heritage tourism initiative. Some initial meetings and discussions have occurred at the local level. Multi-state grants to focus greater financial attention to this project and to broaden its scope are likely necessary in order to advance it in a timely manner.

12. Call Before You Cut – IA, IL, IN, MO, OH, and WV

Many landowners do not understand how to get proper information about how and when to sell timber or to conduct a proper timber sale. Thus, they often realize a lower than fair payment for their timber and they are often faced with a poor logging operation on their property. Call Before You Cut is an ongoing project initiated in Ohio that strives to:

- Encourage private landowners to contact professional foresters for advice and/or assistance with timber harvesting and forest management activities.
- Encourage landowners to seek reputable loggers for timber sales on their property and to provide information to landowners about proper timber sales contracts.

WVDOF is currently involved in this multi-state effort with the states listed above and would be open in the future to exploring further efforts along these lines.



Photos courtesy of Shawn Grushecky, WVU Appalachian Hardwood Center.

II. Priority Landscape Areas and Issues

The following information is a summary of the priority areas and composite maps that were developed for each of the eight issues addressed in the State Resource Assessment. The issues were developed by WVDOF program specialists, with input from a wide range of sources, considering various threats to, and opportunities for, the forest resources of the state. The maps and analyses of data were completed by the WVDOF GIS Specialist, working closely with each program specialist. The Issue 7: Forest Health maps and analysis of data were completed by the WVDA GIS specialist.

This section will help clarify where many WVDOF strategies will be focused during the next few years. Certain programmatic projects will continue to have a statewide application. Adjustments will be made as necessary to priority areas, composite areas, and emphasis items, with an eye toward making the 2015 revision an even better and more complete document.



West Virginia in the fall. (Source unknown).

Issue 1: Competing Land Uses

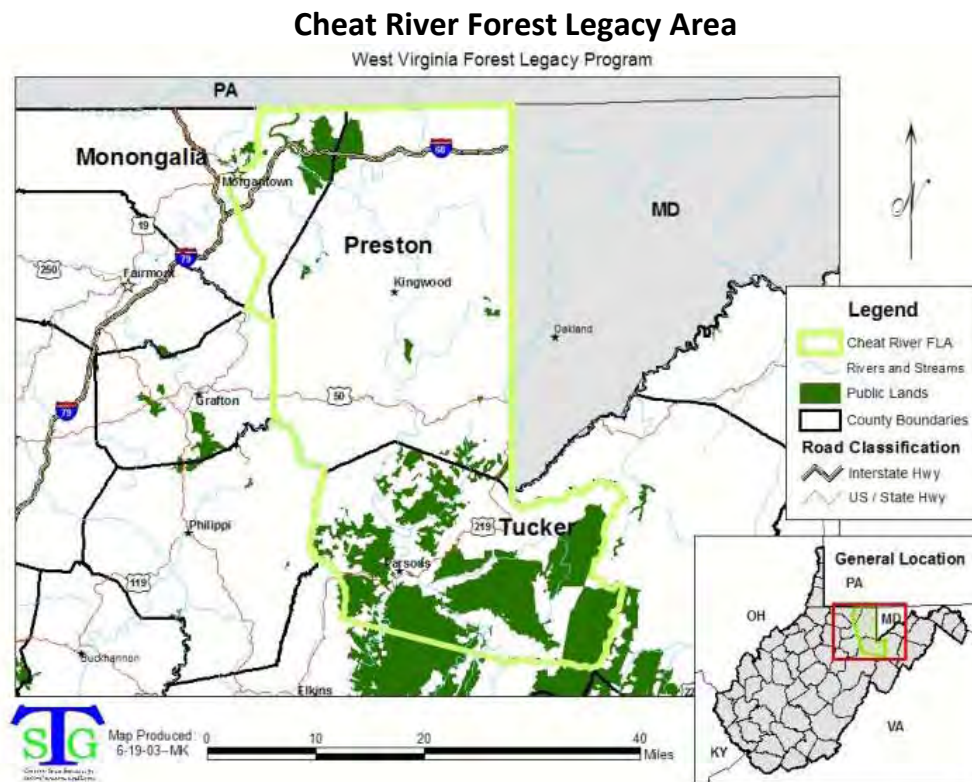
The WVDOF has concluded that the Forest Legacy Program (FLP) will be implemented according to the current Assessment of Need (AON) approved on December 2nd 2003, which is hereby incorporated into this document by reference. A copy of the State Lead Agency designation letter dated April 23rd 2001, the AON, and the AON approval letter are on file in the state office of the Director of the WVDOF.

The priority areas for this issue are the four Forest Legacy Areas (FLAs), which were identified in the 2003 Forest Legacy (AON): Cheat River, Potomac Highlands, Allegheny Mountains, and the Greenbrier/New River region.

The primary purpose of this issue is to protect as much forest land as possible, within the identified priority areas, from:

1. The combined threats of conversion to non-forest uses, and
2. Reduction in forest parcel sizes that result from development pressures, population growth, intergenerational transfer of forest land, and other related threats.

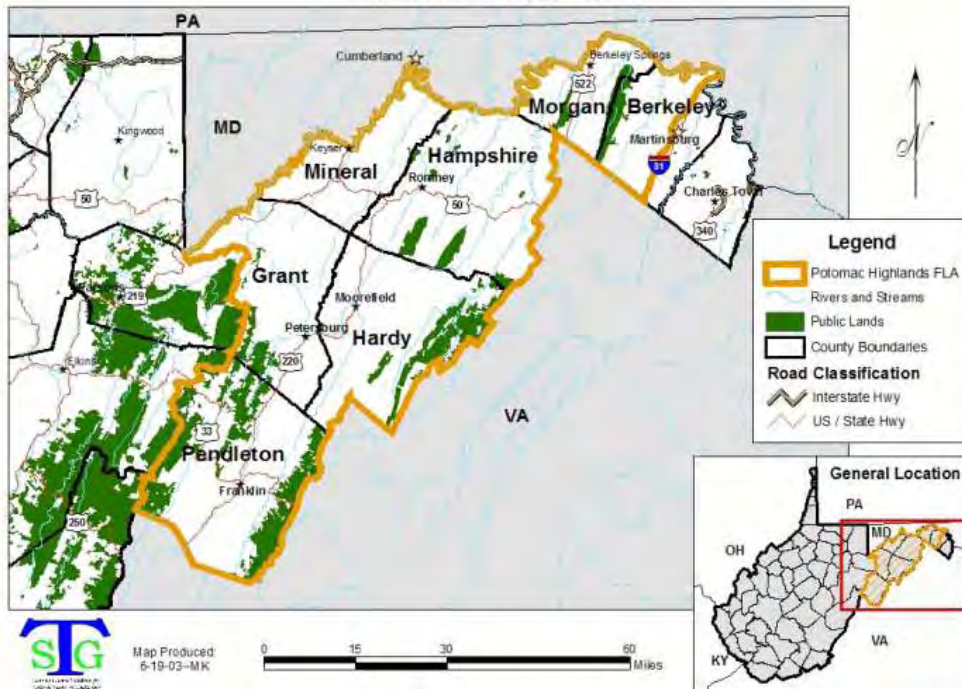
The means of protection are by the acquisition of conservation easements from willing sellers. The following are the four FLA area maps for this issue:



Map S1.1: Forest Legacy Area 1 – Cheat River (WVDOF, 2003).

Potomac Highlands Forest Legacy Area

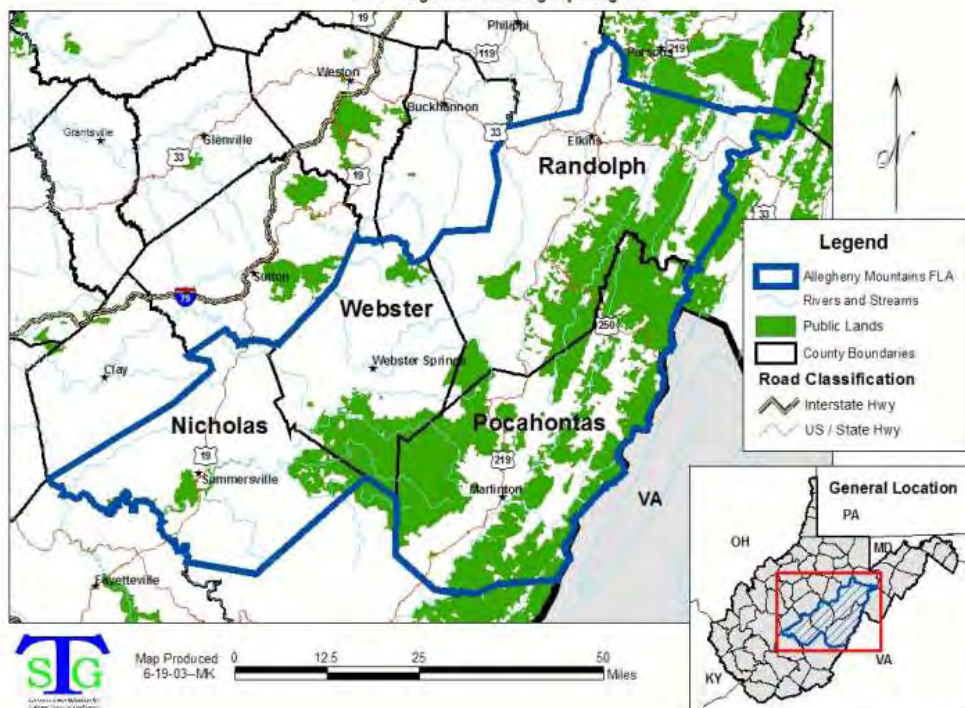
West Virginia Forest Legacy Program



Map S1.2: Forest Legacy Area 2 – Potomac Highlands (WVDOF, 2003).

Allegheny Mountains Forest Legacy Area

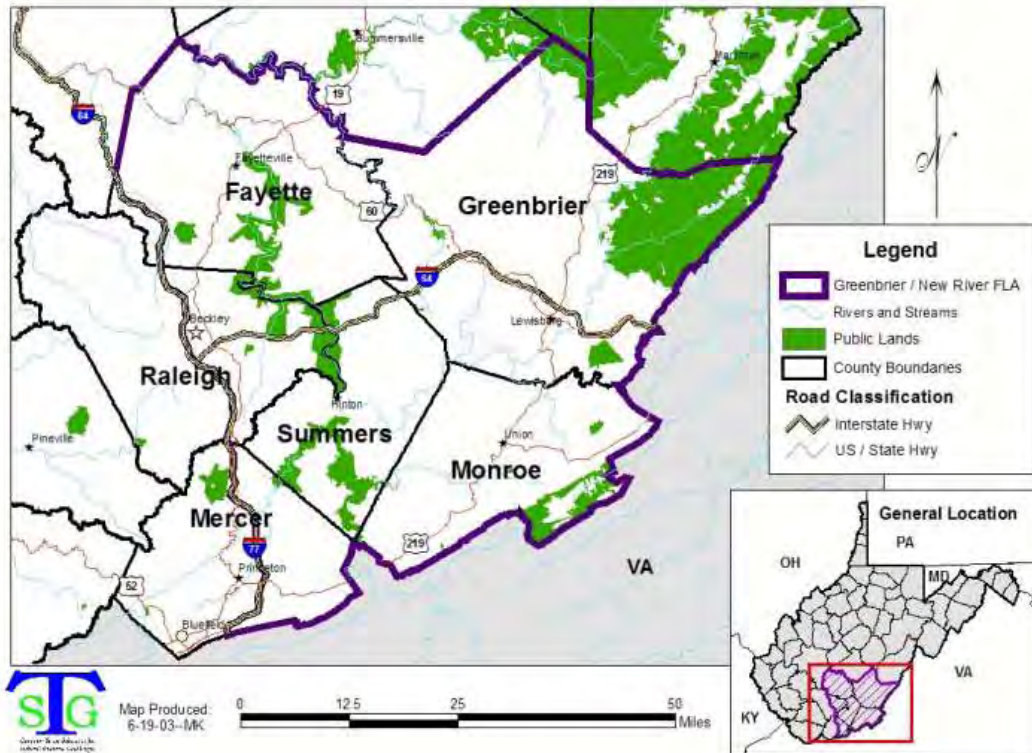
West Virginia Forest Legacy Program



Map S1.3: Forest Legacy Area 3 – Allegheny Mountains (WVDOF, 2003).

Greenbrier / New River Forest Legacy Area

West Virginia Forest Legacy Program



Map S1.4: Forest Legacy Area 4 – Greenbrier/New River (WVDOF, 2003).

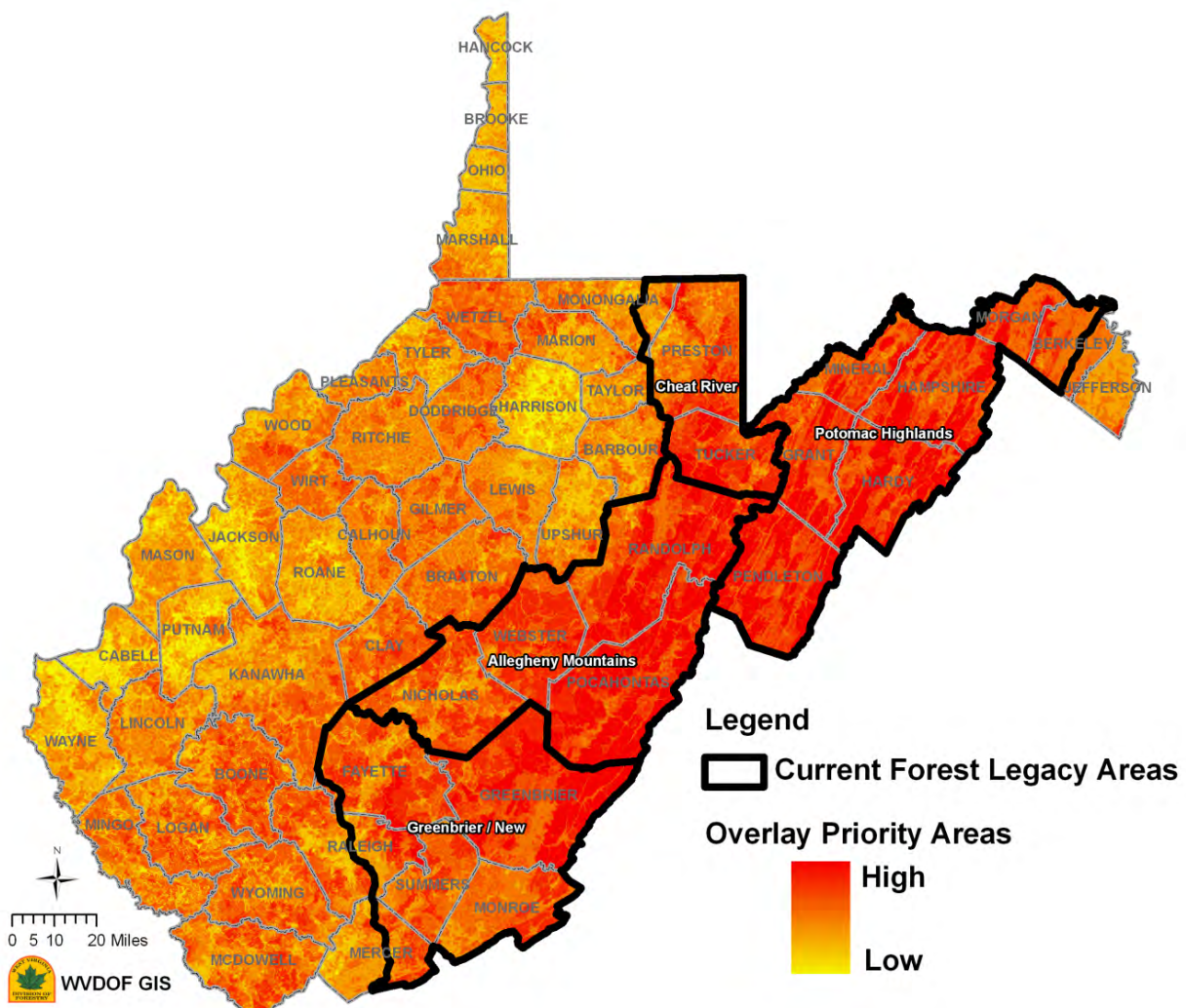


Grandview State Park on the New River in Fayette County WV – Forest Legacy Area 4. (Source unknown).



Issue 1: Validation Map

A fifth map for Issue 1 (Map S1.5) is the result of an overlay analysis which was done to determine if any changes or additions to the four Forest Legacy Areas would be warranted. Layers such as housing density, coalfield locations, and forest patch sizes/locations, among others, were used to determine that the current FLAs are indeed valid, and will remain unchanged for the duration of this first Assessment/Strategy period (2010–2015).



Map S1.5: Competing land use issue overlay results showing that the majority of high scores fall within current Forest Legacy Areas (WVDOT GIS, 2009).



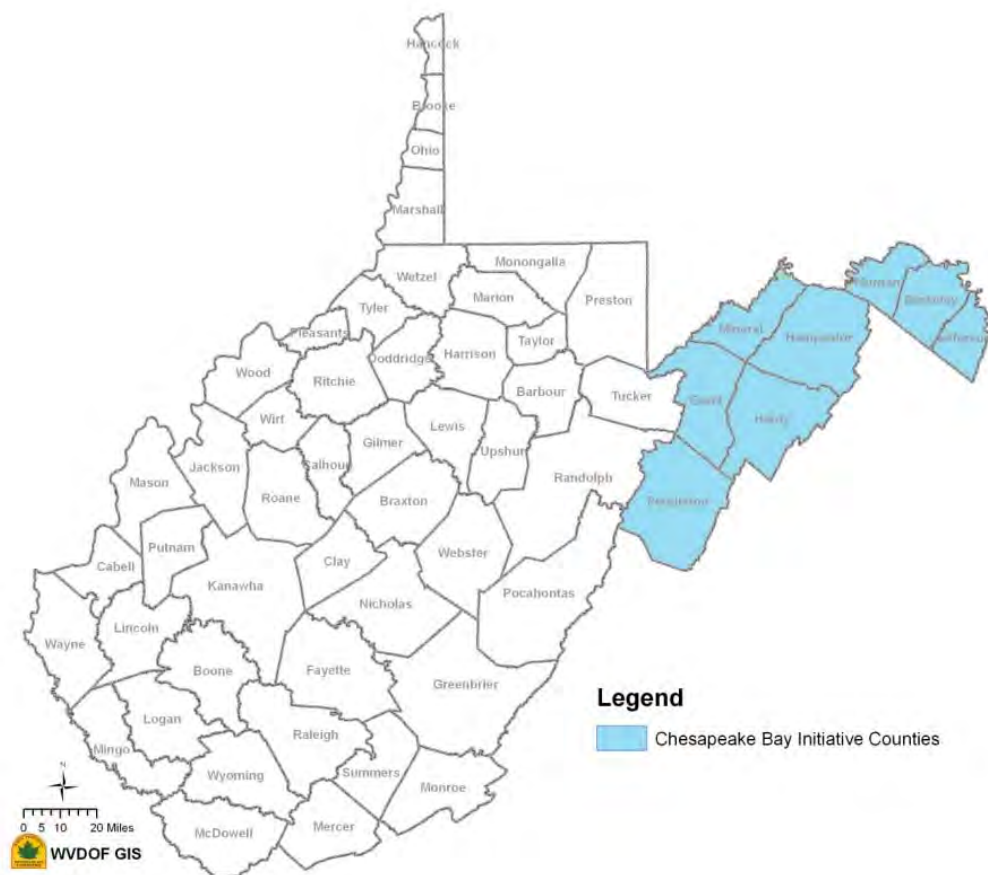
Communications and education activities of the West Virginia Division of Forestry. (Photos courtesy of Linda Carnell, WVDOF; and Ron Snow, WV Department of Commerce).

Issue 2: Communications and Education

The West Virginia Division of Forestry has a long history of providing conservation education to the citizens of the state. Each year brings new program focus, initiatives, and educational opportunities. The WVDOF plans to maintain this presence in the state by working with the public to help people better understand forests, their management, and how these forests affect all West Virginians.

Issue 2: Priority Areas

In 2002, a new Chesapeake Bay Initiative was initiated and is currently changing the way people view watersheds, water quality, and riparian areas. Residents are participating in several projects aimed at protecting and improving water quality within that watershed. Public outreach is conducted by several agencies and watershed affiliates in the eight-county eastern panhandle region (Map S2.1).



Map S2.1: Chesapeake Bay counties in West Virginia (WVDOF GIS, 2009).

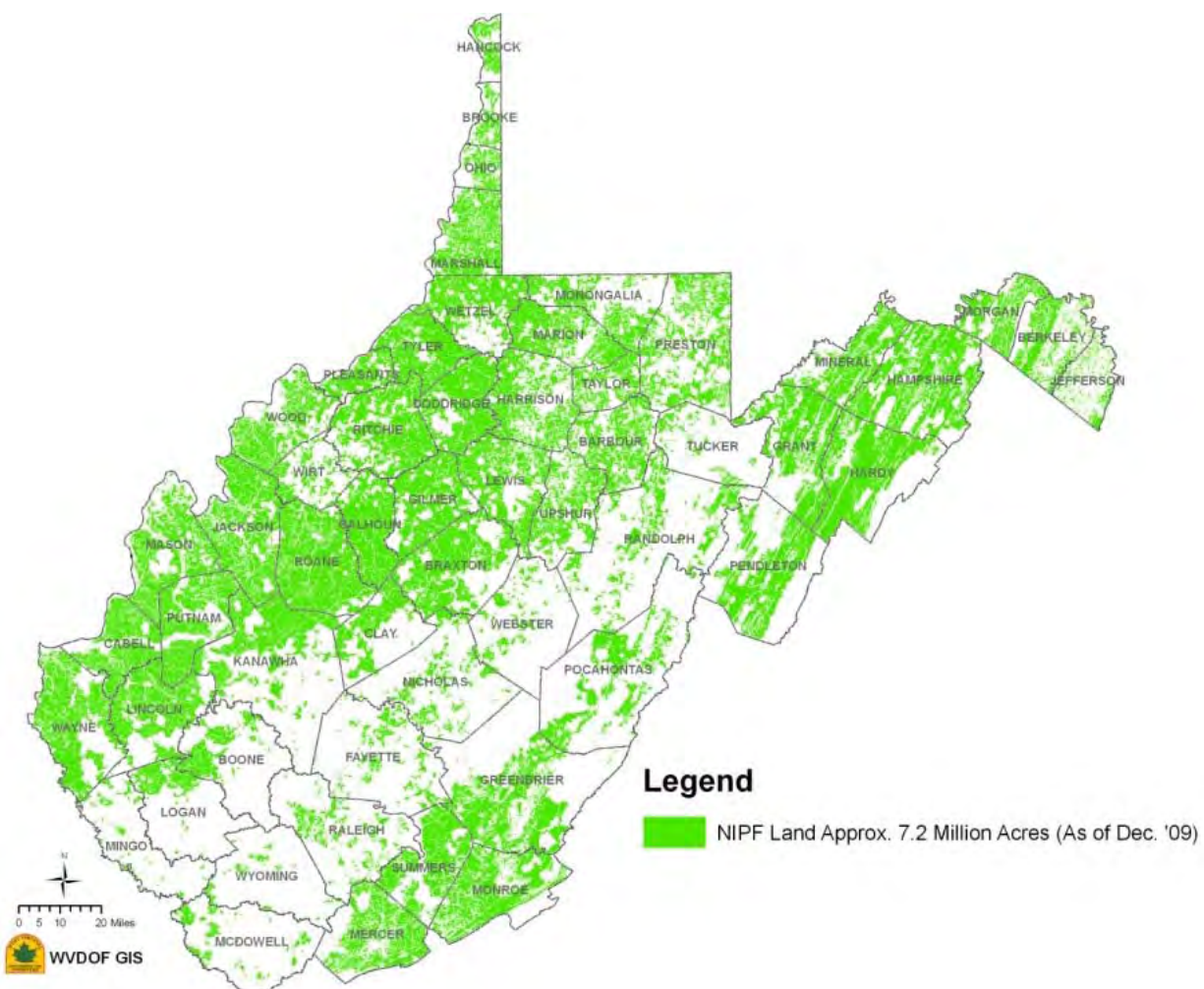


Photos courtesy of Ron Snow and Steve Shaluta, WV Department of Commerce.

Issue 3: Sustainability of Forest Resources in West Virginia

Issue 3: Priority Areas

Non-industrial private forest (NIPF) parcels of 1,000 acres or less are the primary focus of the WVDOF Forest Stewardship Program (Map S3.1). NIPF lands encompass approximately 7.2 million acres, which is roughly 60 percent of the forested land base in the state. Non-NIPF ownerships include public lands, institutional investors (TIMOs/REITs), coal companies, forest products companies, urban areas, and miscellaneous non-NIPF land owners.



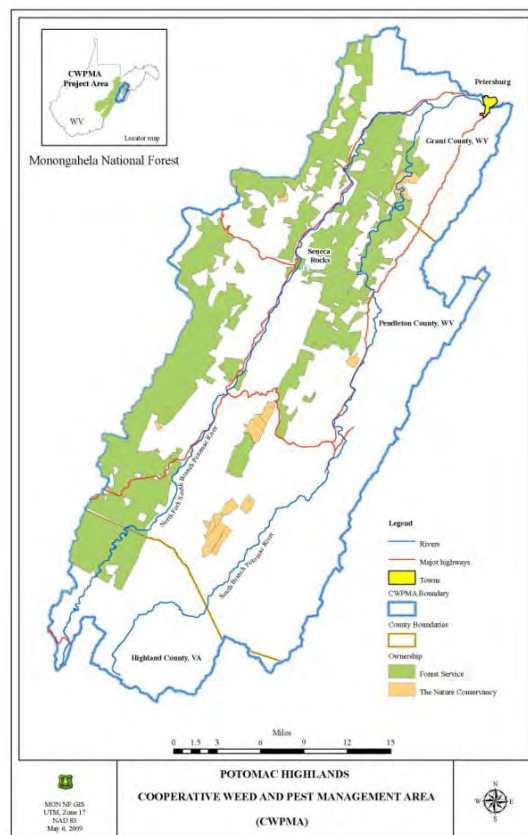
Map S3.1: Priority areas for the Forest Stewardship Program (NIPF lands, WVDOF GIS, 2009).

In early 2009, a group representing various agencies and organizations met to explore the idea of setting up a cooperative weed management area in West Virginia. The idea was to focus efforts at controlling invasive species and protecting critical habitats within the designated area. As a result, the Potomac Highlands Cooperative Weed and Pest Management Area (CWPMA) was established (Map S3.2).

The three main goals of the CWPMA are to:

- Decrease the impacts of invasive species on native plant and animal communities, public and private forests, agricultural lands, and local economies.
- Develop and support partnerships among a diverse group of private land owners, concerned citizens, agencies, non-profit organizations, educational facilities, and local governments.
- Increase public awareness of the invasive species problem through workshops, field tours, public meetings, and by sharing informational resources.

By mid-2010 a Memorandum of Understanding will be developed and signed by all parties involved in this effort. The WVDOF will be a partner and is a member of the Steering Committee. Projects will be identified and work will begin in 2010. Part of the CWPMA boundary extends into Highland County, Virginia; therefore, this project can reasonably be thought of as a multi-state project.



Map S3.2: Potomac Highlands Cooperative Weed and Pest Management Area 2009.



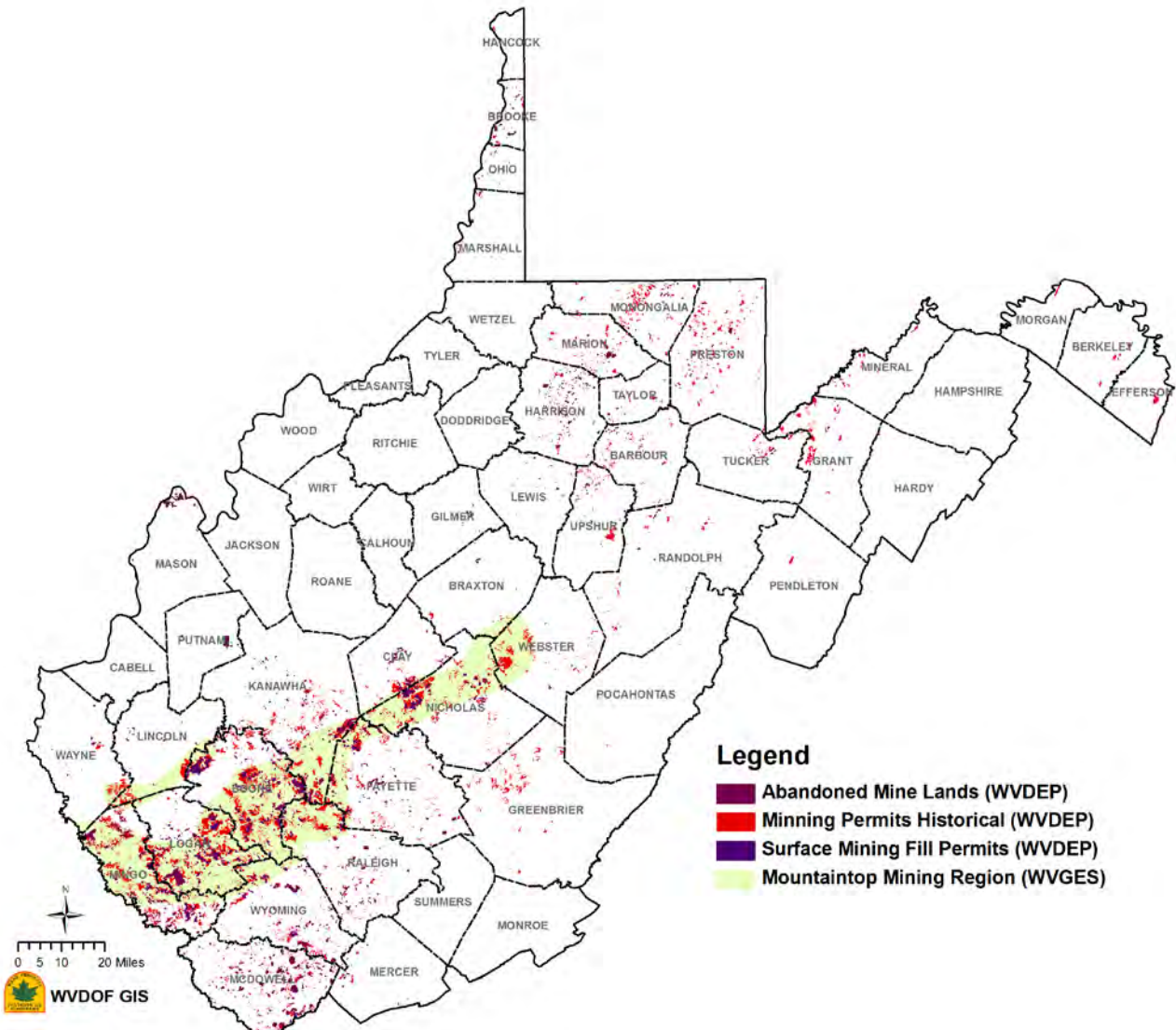
One of the sub-issues addressed in Issue 3 is the reforestation of mined lands. Accurate data is not available for all areas in need of reforestation and this will be identified as a data gap for the 2015 revision. By some estimates, there could be as many as several hundred thousand acres of mined lands in need of reforestation.

Many of these locations are known, but most are on private lands and they present some access difficulties. A detailed study will be required in order to determine exact locations and to map them. It is known that:

- Some previously mined lands have been replanted to trees, with a wide variety of survival and growth rates.
- Some lands have reverted naturally to trees, where soil and site conditions were favorable for seed germination.
- Some lands were re-vegetated with grasses.
- Some lands are classed as abandoned mine lands and some of these are still “open” (not forested).
- There are also considerable acres that have been issued permits to be mined, but have not yet been mined. The WVDOF expects that many of these acres will be replanted to trees.

In general, most of the mined areas were native forest lands prior to mining. The Assessment /Strategy is a good place to begin to address the issue of reforestation on these areas. It is a complex issue, deserving of attention, with more questions than answers at this point. There are scientific, social, economic, and political considerations involved.

Map S3.3 shows the general location of past and present mining areas in West Virginia where there are significant opportunities for reforestation. This information was provided by the WV Department of Environmental Protection and the WV Geologic and Economic Survey.

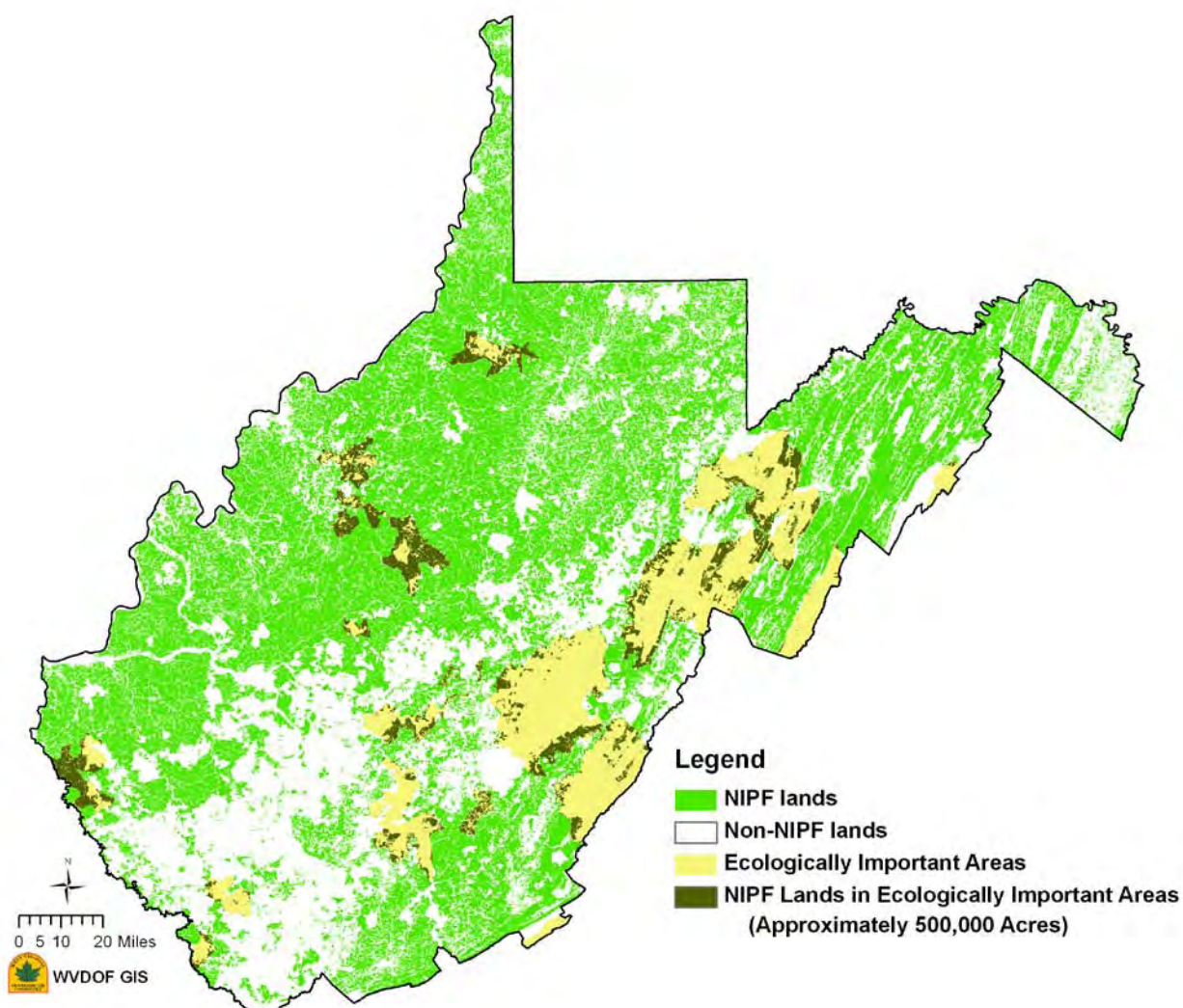


Map S3.3: Past and present mining areas in West Virginia (WVDEP 1996-2009).

Issue 3: Composite Maps of Areas with Multiple Priorities

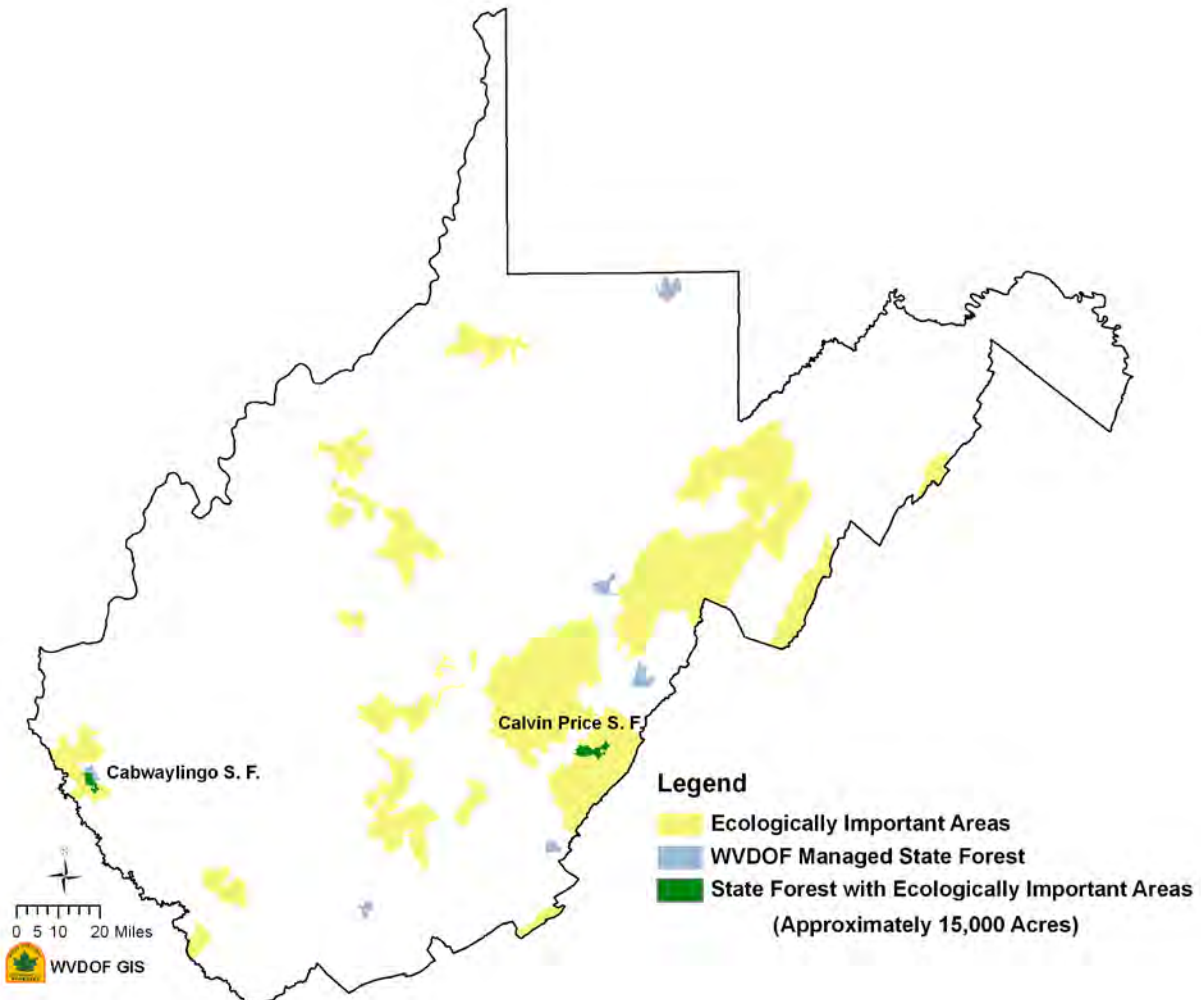
The following 12 composite maps (Maps S3.6 through S3.17) show combined areas that are priority areas for Issue 3, as well as priority areas for other issues. This shows where multi-program efforts could be concentrated, if funding becomes available and if circumstances warrant.

1) Map S3.6 indicates NIPF lands that overlap with the map of Important Native Ecological Communities. Approximately 500,000 acres of NIPF land lies in areas considered ecologically important.



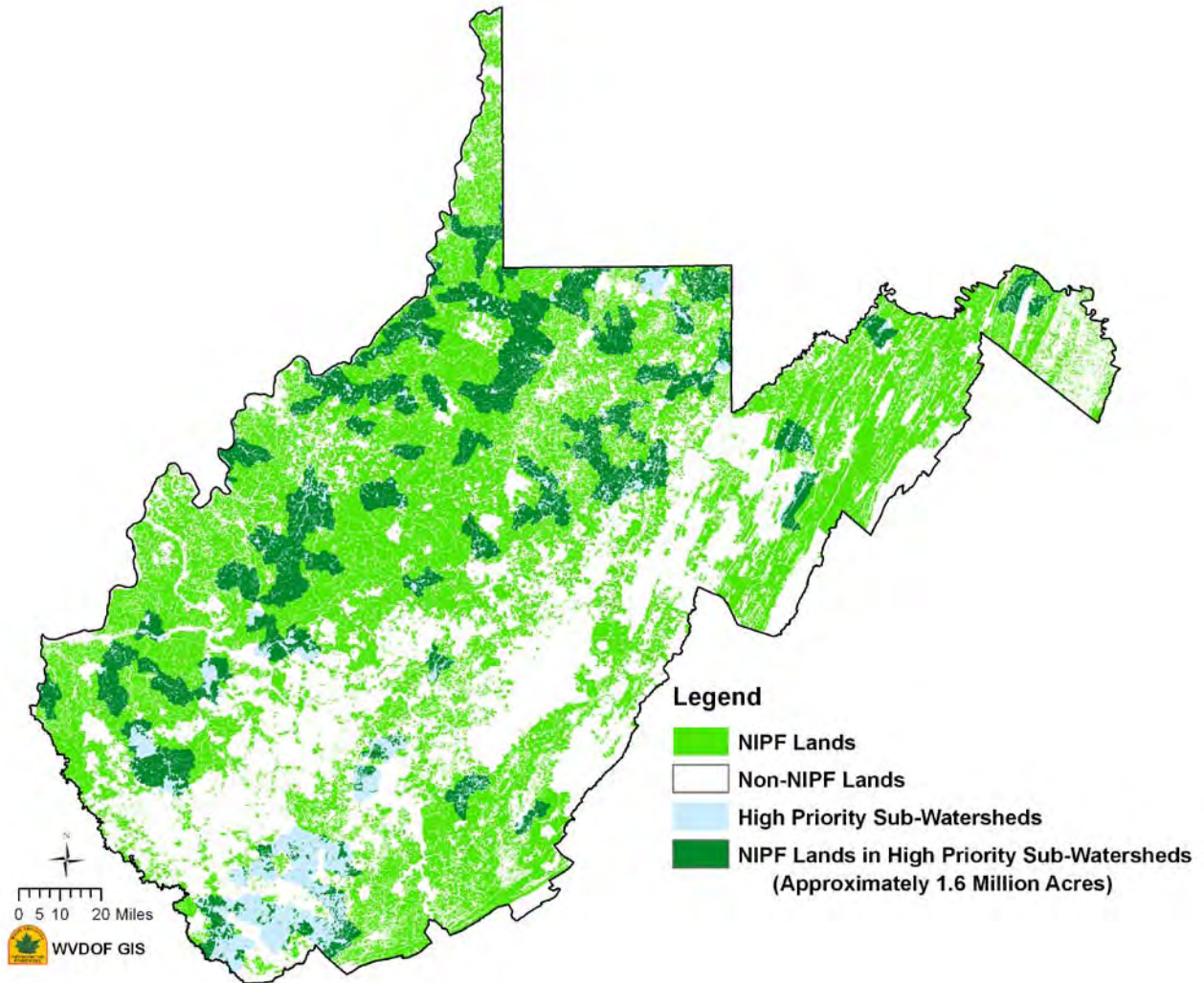
Map S3.6: NIPF lands which lie within ecologically important areas of West Virginia (WVDOF GIS, 2009).

2) Cabwaylingo and Calvin Price State Forests contain approximately 15,000 acres in areas considered ecologically important (Map S3.7).



Map S3.7: WVDOF managed State Forests which contain ecologically important areas of West Virginia (WVDOF GIS, 2009).

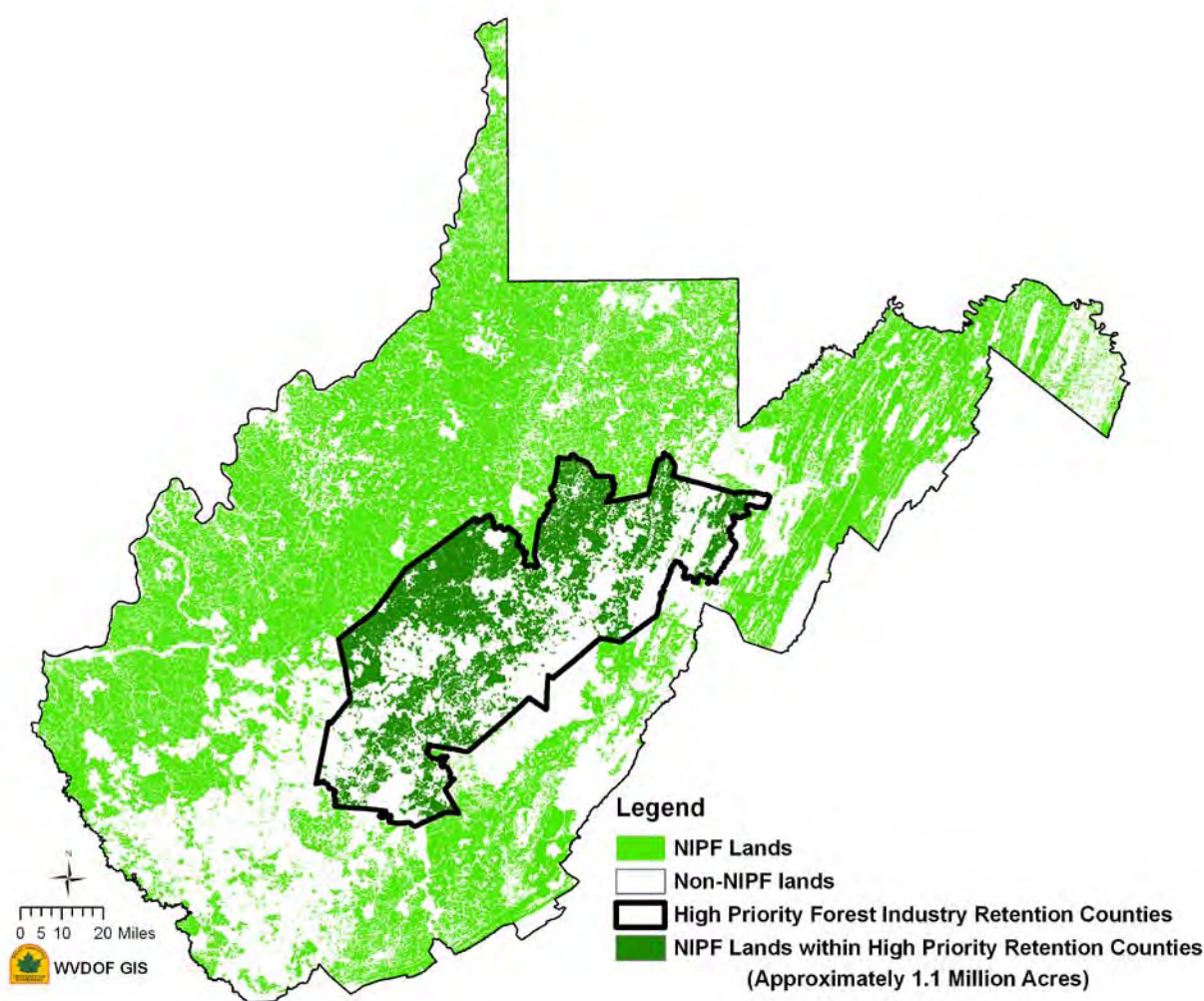
3) Approximately 1.6 million acres of NIPF lands contain areas that are high-priority for water quality issues (Map S3.8). In these areas, combined silvicultural and water related cost-share efforts could work together to improve water quality.



Map S3.8: NIPF lands within Issue 4 Water Quality High Priority sub-watersheds in West Virginia (WVDof GIS, 2009).

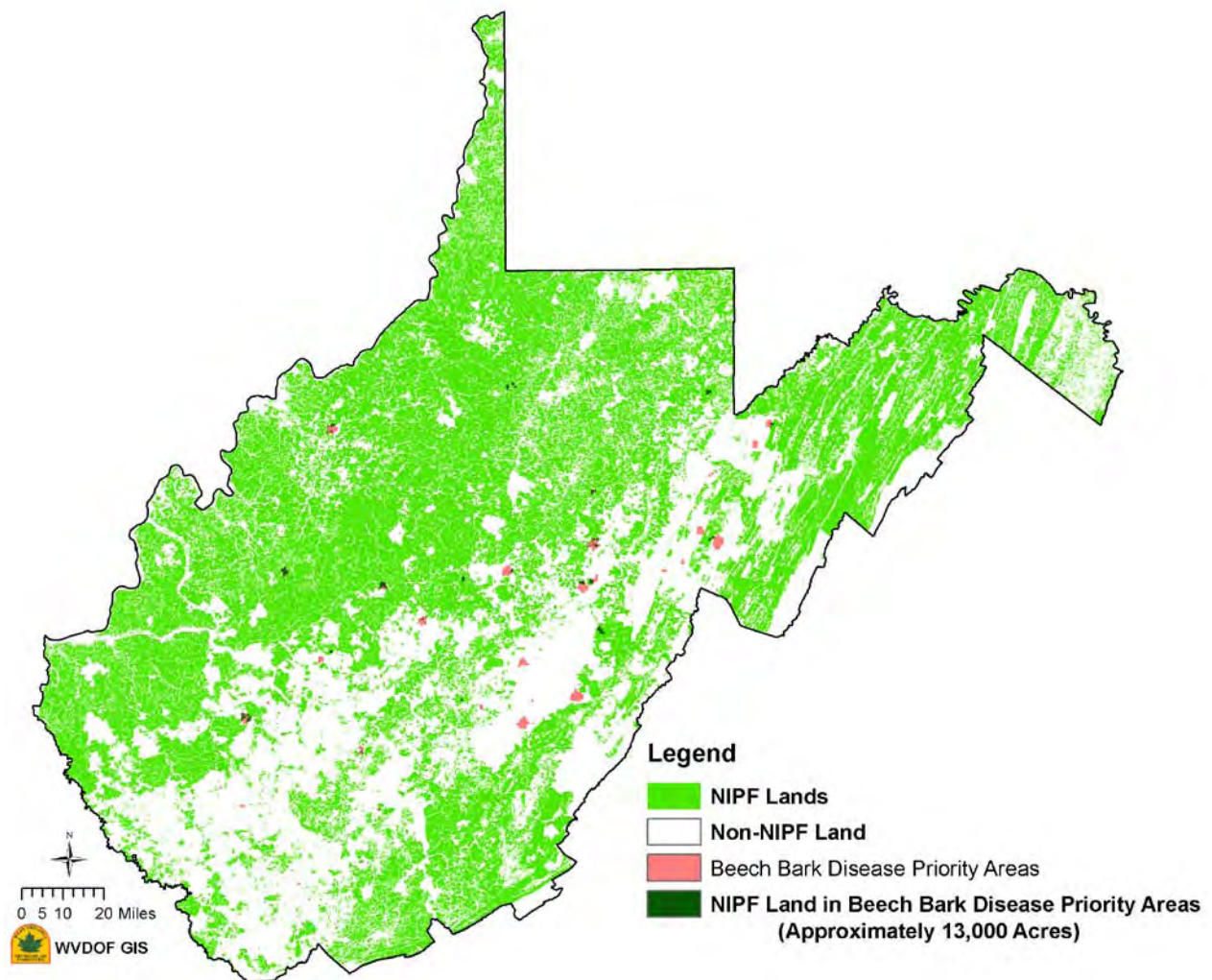


5) The central highland counties were identified in Issue 8 as priority areas for maintaining an adequate supply of high-quality timber to help sustain a healthy forest products industry. Focusing stewardship and cost-share assistance to NIPF landowners in those counties, in order to increase growth and yield of timber and other wood products from their properties, would help to retain industry as well as aid in future expansion (Map S3.10).



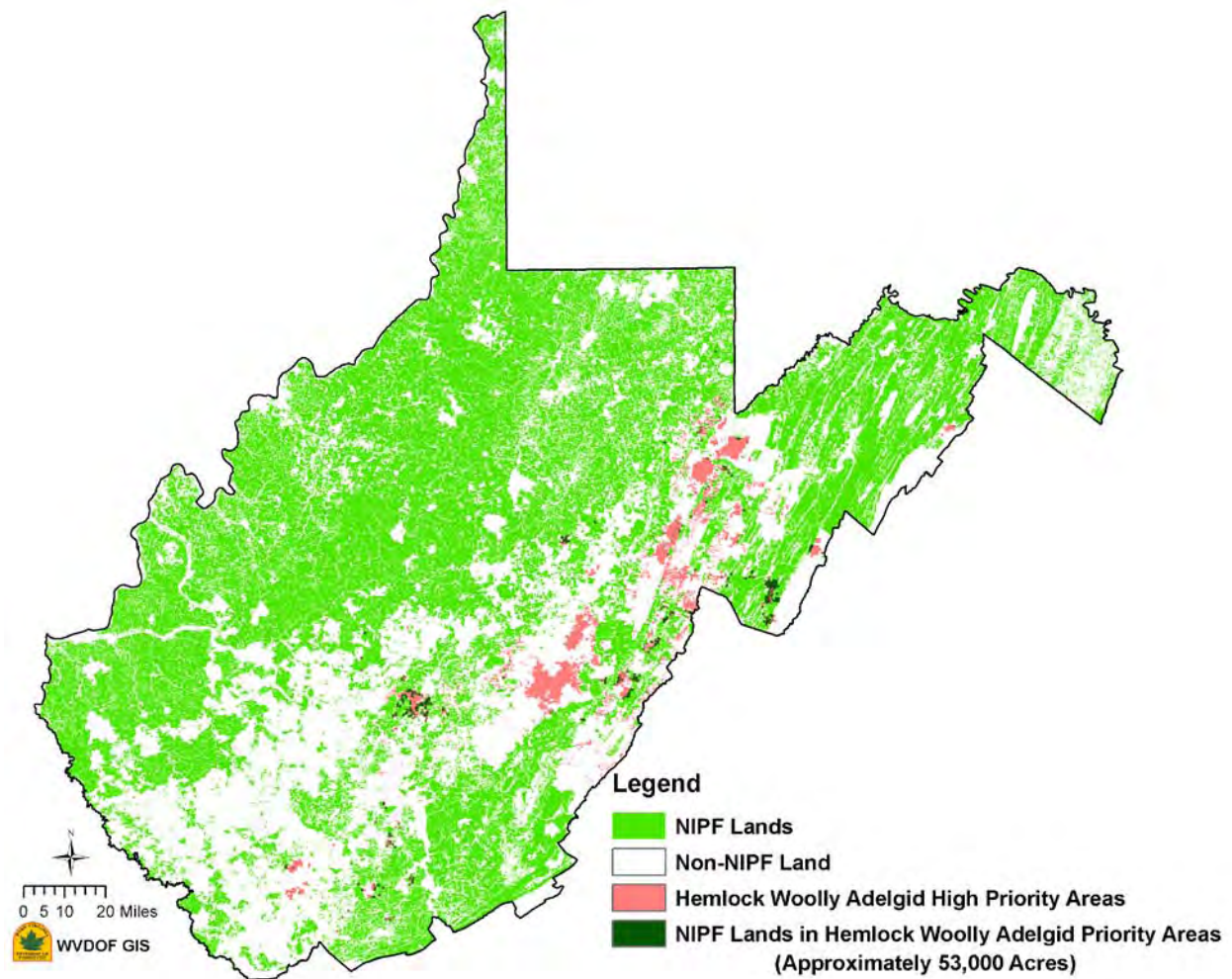
Map S3.10: NIPF lands combined with Issue 8 high-priority counties for retention of the forest products industry (WVDOF GIS, 2009).

7) Although beech bark disease, hemlock woolly adelgid, and gypsy moth are not the only concerns in regard to the health of the state's forests, there is a large amount of work currently being undertaken by state and federal agencies to control these problems. Priority areas for control of beech bark disease on NIPF lands are scattered across the state, representing approximately 13,000 acres (Map S3.12). A substantial amount of beech bark disease occurs in the Monongahela National Forest and control efforts are ongoing there. NIPF lands should get equal consideration. Beech is important to many private landowners as a tree with both aesthetic and wildlife benefits. It is also an important ecological component of the beech-birch-maple forest type.



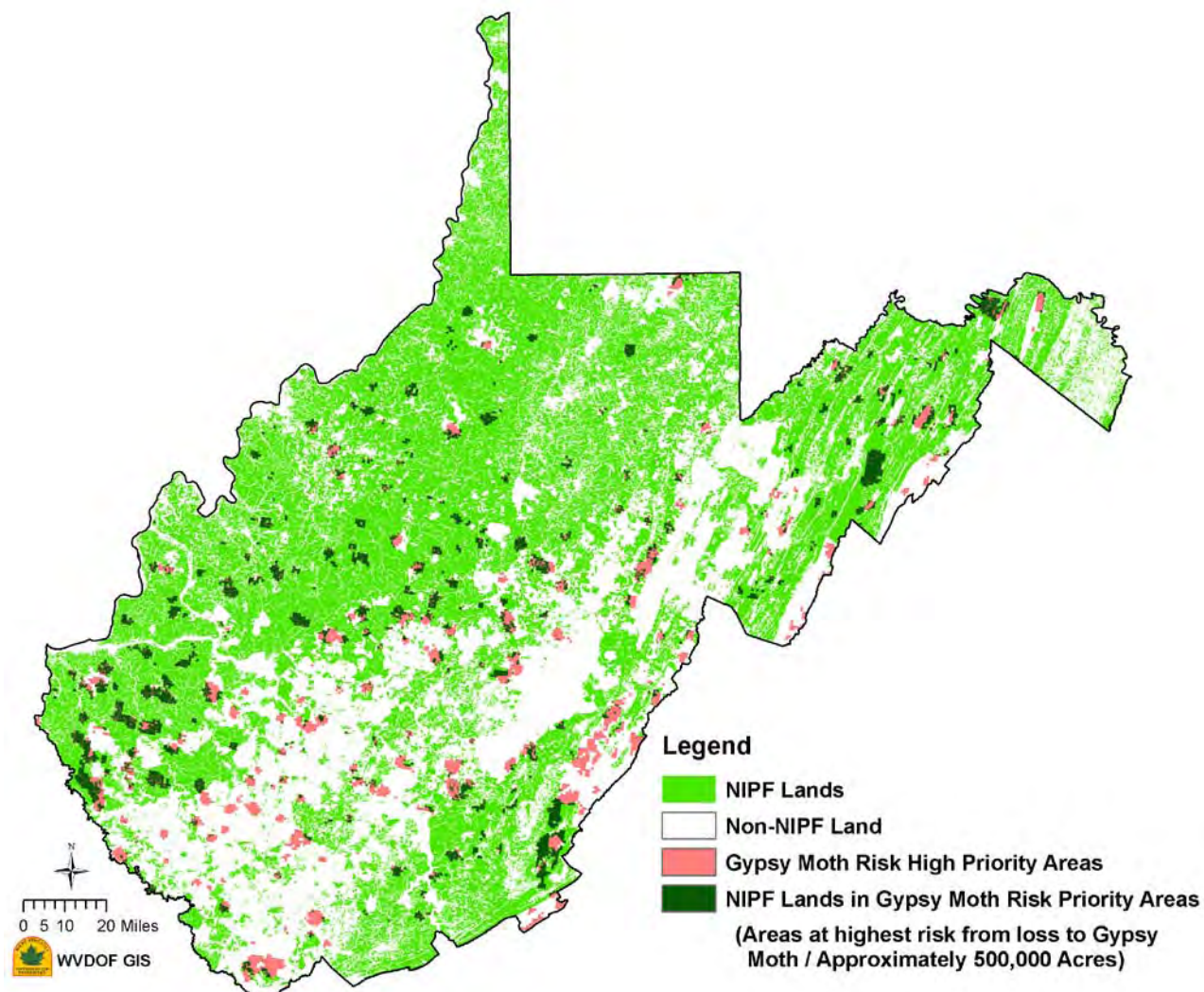
Map S3.12: High priority areas for beech bark disease occurrence on NIPF lands of West Virginia (WVDOF GIS, 2009).

8) Map S3.13 indicates where hemlock woolly adelgid priority areas occur on NIPF lands. This adelgid has been steadily moving from the northeastern states southward for many years and is killing hemlocks at a rapid rate. Hemlock is an important species along trout streams, for bird roost and escape cover, and for aesthetics. It is an important ecosystem component of forests in the mountains, coves, and along streams. It is possible that some hemlock woolly adelgid control efforts will become a priority on NIPF lands, although most past efforts have occurred on public lands.



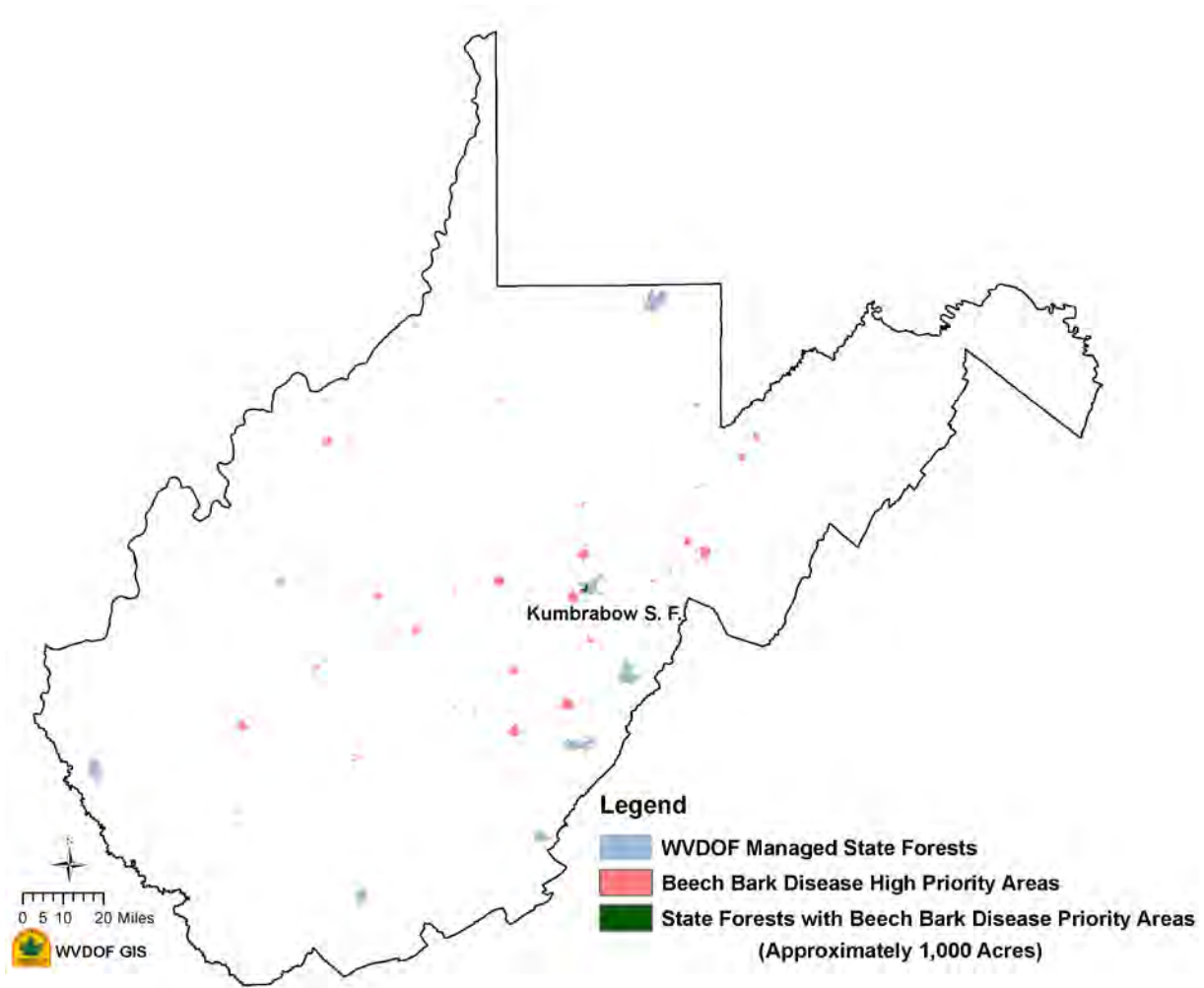
Map S3.13: High priority areas for potential hemlock woolly adelgid occurrence on NIPF lands of West Virginia (WVDOF GIS, 2009).

9) Map S3.14 depicts NIPF lands deemed to be at highest risk from loss to gypsy moth defoliation. Gypsy moth has been a problem in West Virginia for many years and periodically causes mortality or reduced vigor, primarily in oak species, in many areas of the state. This map helps identify areas where private landowner cost-share practices could be employed to help control gypsy moth infestations and reduce the negative impacts of this insect on NIPF lands.



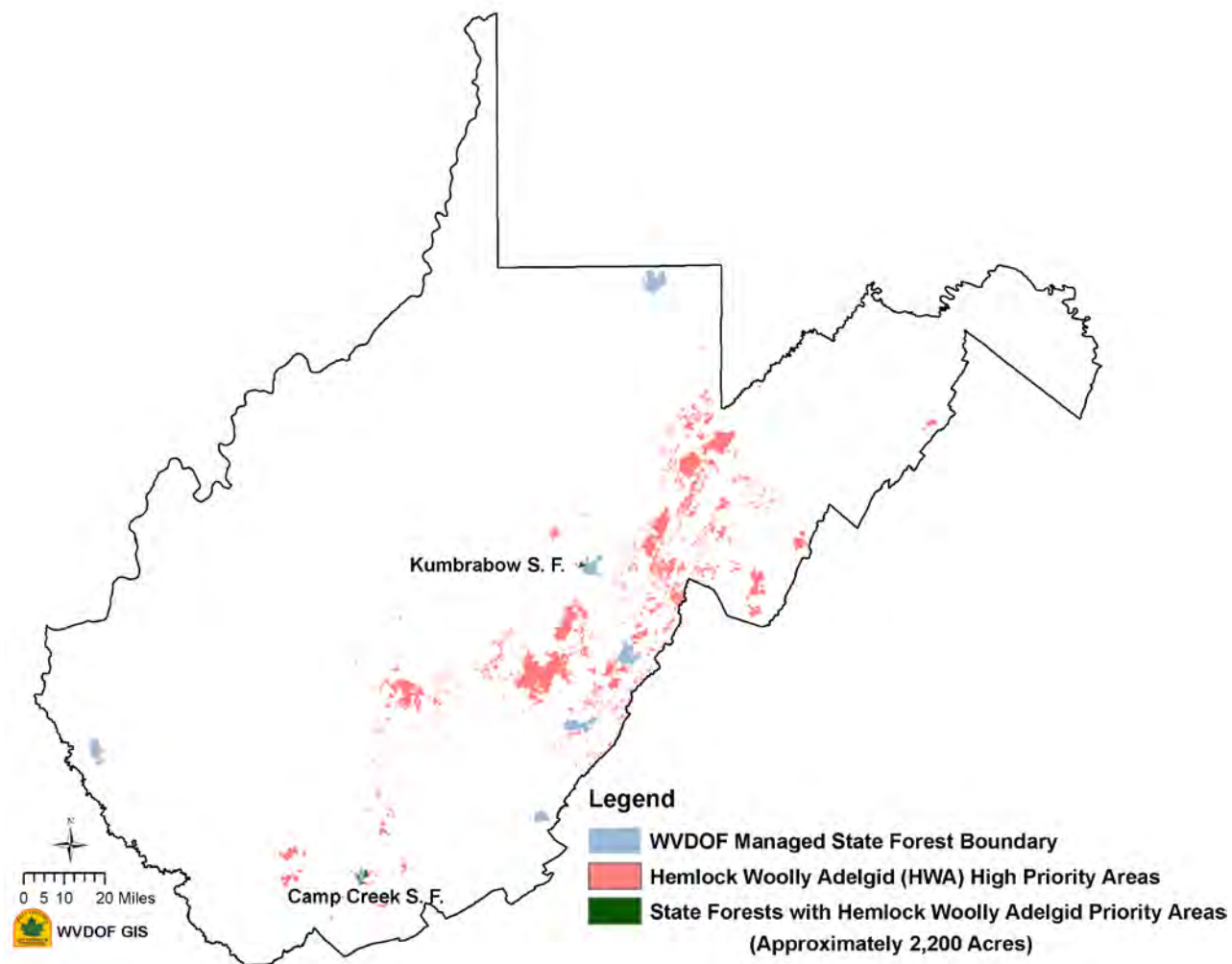
Map S3.14: Areas at highest risk from loss due to gypsy moth infestations on NIPF lands of West Virginia (WVD OF GIS, 2009).

10) The next three maps S3.15 thru S3.17 show potential problem areas on state forests as a result of impacts from beech bark disease, hemlock woolly adelgid, and gypsy moth infestations. Map S3.15 indicates that Kumbrabow State Forest in Randolph County has about 1,000 acres that could potentially be impacted by beech bark disease.



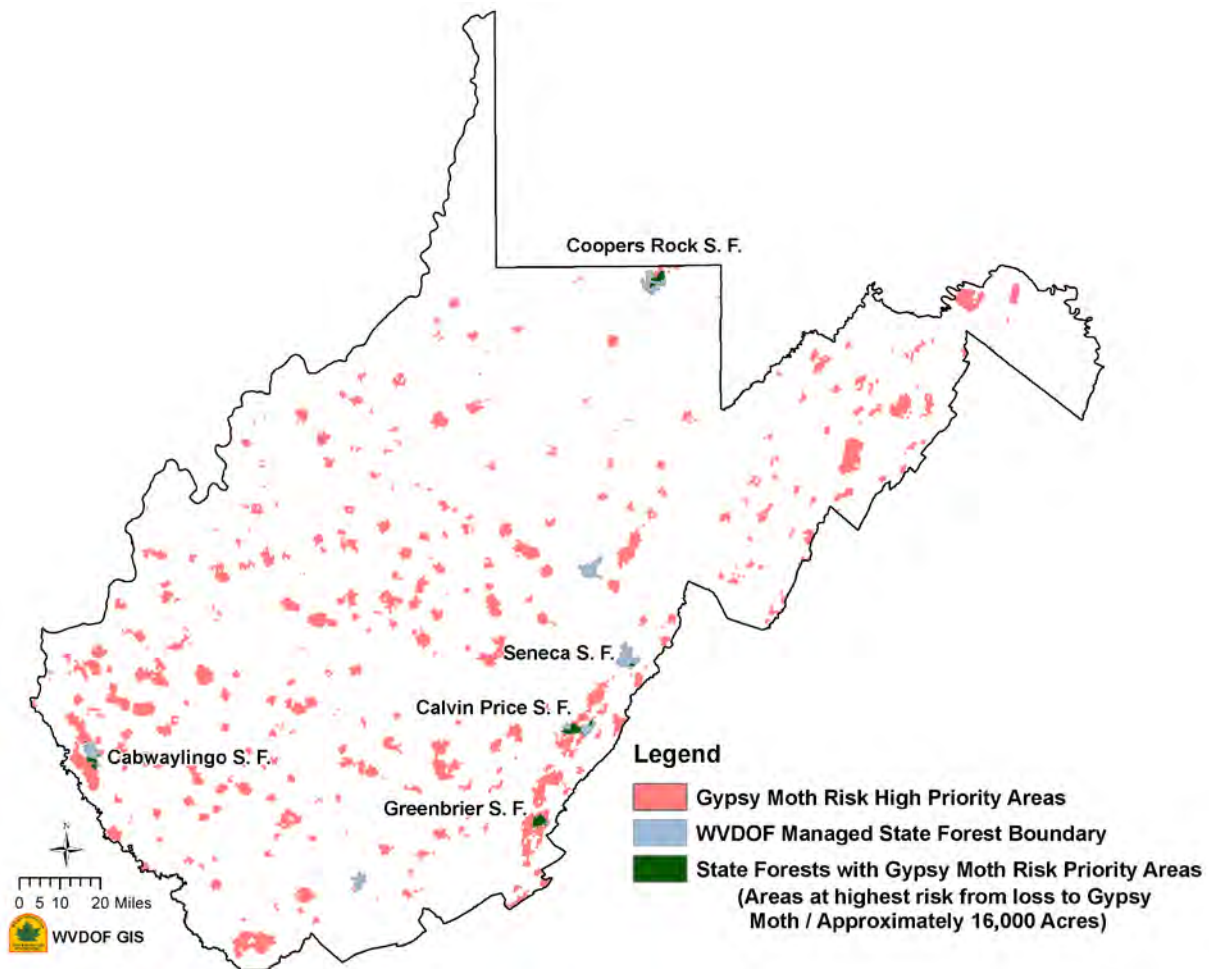
Map S3.15: High priority areas for beech bark disease occurrence on State Forest lands of West Virginia (WVDOF GIS, 2009).

11) Approximately 2,200 acres on State Forests are identified as hemlock woolly adelgid priority areas. These areas occur in Kumbrabow State Forest in Randolph County and Camp Creek State Forest in Mercer County (Map S3.16). These are not “pure” hemlock stands. Although the tree does occur in some pure clumps or groups, it is usually intermixed with several other tree species. And as mentioned in the NIPF section above, hemlock is important for aesthetics, as bird roost and escape cover, and as a temperature moderator along native brook trout streams.



Map S3.16: High priority areas for potential hemlock woolly adelgid occurrence on State Forest lands of West Virginia (WVDOF GIS, 2009).

12) About 16,000 acres of State Forest land is at risk to defoliation from gypsy moth infestations. These areas occur in Greenbrier, Calvin Price, Seneca, Coopers Rock, and Cabwaylingo State Forests (Map S3.17). The WVDOF has worked closely with the WV Department of Agriculture on spray projects to control the impacts of gypsy moth on State Forests.



Map S3.17: Areas at highest risk from loss due to gypsy moth on State Forest lands of West Virginia (WVDOF GIS, 2009).

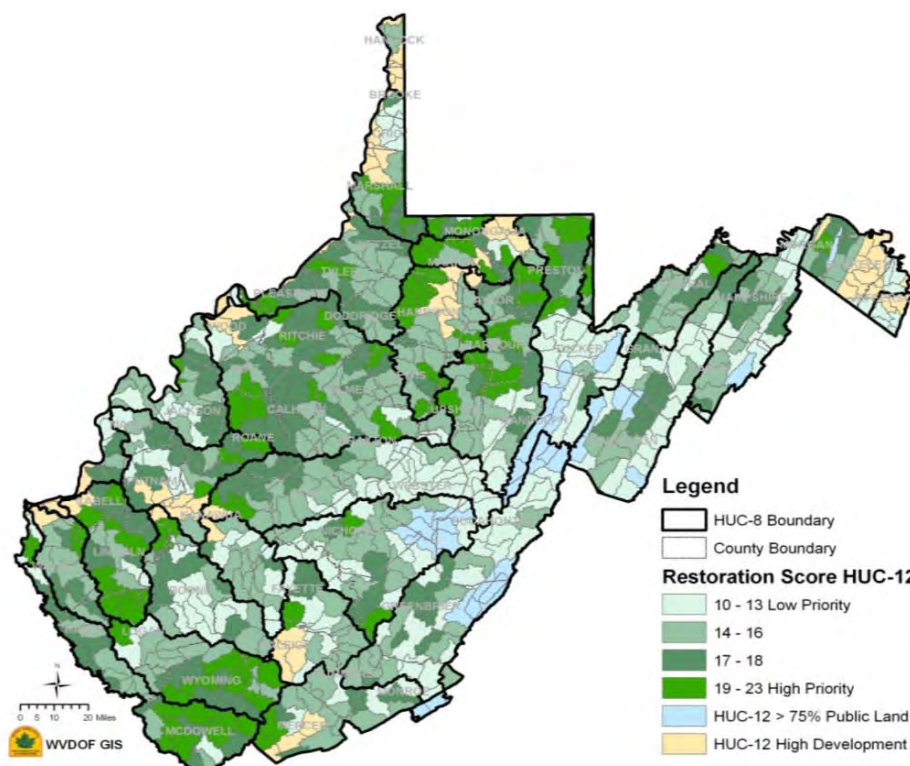
Issue 4: Water Quality

Issue 4: Priority Areas

Issue 4 Water Quality priority areas were established by using 12 digit Hydrologic Unit Codes (HUC-12) sub-watershed boundaries. A HUC is a U.S. Geological Survey hierarchical system based on surface hydrologic features classified into hydrologic unit codes. An assessment of sub-watersheds was done to determine restoration (Map 4.1) and protection (Map 4.2) priority areas in the state. A composite map with areas of highest priority (Map 4.3) was also developed that further identifies areas based upon combined restoration and protection needs. In addition, a Chesapeake Bay priority area map (Map 4.4) is shown to recognize the current state and federal emphasis being placed on water quality improvement programs within that watershed.

Note: Areas with a high percentage of public lands and areas of heavy urban development were not considered as part of this analysis. High-development urban areas are analyzed in Issue 6.

By analyzing and prioritizing available data, WVDOT determined areas of the state where water quality restoration efforts are most needed (Map S4.1). These efforts could include projects such as riparian plantings, stream bank restoration, conversion of land back to forests, and proper implementation of BMPs during timber harvesting activities to minimize stream sedimentation.



Map S4.1: HUC-12 sub-watershed restoration priority areas in West Virginia. Bright green areas indicate the highest priority watersheds for this type of effort, followed by dark green areas (WVDOT GIS, 2009).