



WV Issue 6 – Sustainability of Urban Forests

Sub-Issue 1: Building program capacity at the community level

6.1 Long-term Strategy 1

Target larger urbanized areas with technical and financial assistance to build successful urban forestry programs.

Strategy Narrative:

Data analysis reveals four geographic regions with a concentration of large, urbanized areas. These areas include: the Upper Ohio River Valley; Kanawha River Valley; the upper half of the I-79 corridor; and eastern panhandle counties within the Chesapeake Bay Watershed. Communities within these regions will be targeted with the following strategies to build their capacities to maintain long-term urban forestry programs:

1. Provide technical assistance to communities to foster new tree advocacy groups and support existing tree boards.
2. Provide sample public tree ordinances and technical assistance to communities developing urban forestry programs.
3. Provide a variety of training courses to tree advocacy groups and municipal employees to improve local knowledge and tree care skills.
4. Provide grants to allow communities to conduct inventories and develop management plans.
5. Encourage municipalities to develop professional tree care staff by promoting the International Society of Arboriculture (ISA) Certified Arborist program.

Technical assistance and training will be provided primarily through the WVDOF Urban and Community Forestry staff with assistance from the WVDOF Chesapeake Bay Forester in the eastern panhandle. Continued USFS support, particularly through Redesign Grants, will be critical to providing funding for community inventories and management plans. The WVDOF's Conservation Education Program will also play a significant role with making residents and local leaders aware of the many benefits of comprehensive tree care efforts.



Performance Outcomes

Increase the number of larger communities achieving “Developing and Managing” status as part of the Community Accomplishment Reporting System (CARS).

Timeline

Efforts to build program capacity in larger communities are ongoing and will continue for the next five years.

Sub-Issue 2: Climate Change Mitigation and Energy Conservation

6.2 Long-term Strategy 1

Promote urban canopy cover assessment, goal setting, and enhancement.

Strategy Narrative

Communities identified as benefitting the most from increasing canopy cover are found in essentially the same four geographic regions previously described in Sub – Issue 1. These areas include: the Upper Ohio River Valley; Kanawha River Valley; the upper half of the I-79 corridor; and eastern panhandle counties within the Chesapeake Bay Watershed. Specific strategies within these regions are:

1. Encourage and fund communities to conduct canopy cover assessments and set canopy cover goals.
2. Assist communities with the identification of high priority planting areas.
3. Provide funding through Cool Community Grants to support strategic tree planting projects.
4. Promote Project CommuniTree to increase planting efforts on a regional scale.
5. Strengthen partnerships with electric utility companies to expand tree planting through the Municipal Tree Restoration Program.
6. Support Forest Legacy efforts to identify and preserve critical forest land in the wildland urban interface (WUI).

Limited staff and financial resources will make an annual prioritization of target communities necessary. Redesign funds will be applied to support canopy assessments, goal setting, and strategic plantings. WVU, the Canaan Valley Institute, and the WVDOF’s GIS Specialist will also provide valuable support for these assessments.



Performance Outcomes

Increase the canopy cover in areas with high population density and high proportions of impervious surface area.

Timeline

Most of these specific strategies are not currently funded and will drive most Redesign Grant requests over the next five years. Target communities will be selected in 2010 and be continually updated each year through 2015. Project CommuniTree and Municipal Tree Restoration Program (MTRP) partnerships are ongoing and will be expanded each year.

Sub-Issue 3: Population Dynamics and Resource Allocation

6.3. Long-term Strategy 1

The WVDOF will target small, rural communities with technical and financial assistance to build successful urban forestry programs.

Strategy Narrative

Priority landscape areas include smaller communities in: the I-79 Corridor between Charleston and Morgantown; coalfield counties south and west of Charleston; the Upper Ohio River Valley; and the eastern panhandle counties in the Potomac River drainage. Strategies to build successful urban forestry programs in less populated municipalities will parallel those employed with larger cities, including:

1. Provide technical assistance to communities to foster new tree advocacy groups and support existing tree boards.
2. Provide sample public tree ordinances and technical assistance to communities developing urban forestry programs.
3. Provide a variety of training courses to tree advocacy groups and municipal employees to improve local knowledge and tree care skills.
4. Provide grants to allow communities to conduct inventories and develop management plans.
5. Utilize the Mountaineer Treeways Programs to facilitate volunteer-based tree planting projects.
6. Utilize Arbor Day events and Tree City USA awards to increase public awareness of the important role trees play in their communities.



Most small communities in West Virginia are surrounded by abundant forest land. This creates a challenge for the WVDOF when promoting urban forestry initiatives in these communities. Many citizens and community leaders take trees for granted and it is often very challenging for these small communities to establish adequate budgets for tree planting and care. Awareness can be developed through local events, such as volunteer tree planting projects, and strengthened through personal contact with WVDOF staff. Components to success will involve the WVDOF's Partnership Coordinator, private sector donations, USFS funding, Project CommuniTree, and West Virginia State University assistance.

Performance Outcomes

Increase the number of rural communities participating in UCF and achieving "Developing" status in "CARS".

Timeline

Efforts to build program capacity in small communities are ongoing and will continue for the next five years.

Sub-Issue 4: Air Quality

6.4 Long-term Strategy 1

Increase the capacity of trees within urban areas and surrounding forests to filter and reduce airborne pollutants.

Strategy Narrative

Priority areas correspond with regions of concentrated industrial development, manufacturing, and mineral extraction located in: the I-64 corridor from Charleston to Huntington; the Upper Ohio River Valley from Parkersburg to Weirton; larger communities in the Potomac River drainage; the Upper I-79 Corridor; and the southern coalfield counties. Strategies to increase canopy cover and maintain the buffering capacity of surrounding forest land in these regions will include:



1. Encourage and fund communities to conduct canopy cover assessments, set canopy cover goals and perform UFORE analysis of canopy benefits. UFORE is an acronym for "Urban Forest Effects" and refers to a computer model that calculates the structure, environmental effects, and values of urban forests.
2. Assist communities with the identification of high priority planting areas.
3. Provide funding and trees through Cool Community Grants and Mountaineer Treeways to support strategic tree planting projects.
4. Promote Project CommuniTree to increase planting efforts on a regional scale.
5. Strengthen partnerships with electric utilities to expand tree planting through the Municipal Tree Restoration Program.
6. Support Forest Legacy efforts to identify and preserve critical forest land in the urban interface.
7. Support Wildland Urban Interface initiatives to reduce wildfires which pose serious threats to air quality on a regular basis.

Potential exists for the development of more extensive partnerships with the chemical, coal, and manufacturing industries to gain joint support for projects that enhance canopy cover and air quality. Current trends towards "carbon-neutral" manufacturing and energy production will provide additional opportunities for industry-funded tree planting and conservation projects in surrounding communities.

Performance Outcomes

Increase in canopy cover within urban areas and conservation of surrounding forest land serving as buffers for communities.

Timeline

Canopy assessments and Cool Community Grants are not currently funded and will be the focus of most Redesign Grant requests over the next five years. Target communities will be selected in 2010 and be continually updated each year through 2015. The Partnership Coordinator will begin expanding the Mountaineer Treeways Program to seek support from the manufacturing and energy production industries in 2010.



Sub-Issue 5: Public Drinking Water Quality/Quantity

6.5 Long-term Strategy 1

Enhance water quality and related public benefits by increasing tree canopy area / impervious surface area ratios in urbanized areas.

Strategy Narrative

The geographic regions of prime concern for water quality issues are: the counties in the Potomac River watershed that drain into the Chesapeake Bay; the Upper Ohio River corridor; the Kanawha River Valley; the I-64 corridor; and the Monongahela River watershed along the Upper I-79 corridor. Urban watersheds within these regions will be the focus of the following strategies:

1. Encourage and fund communities to conduct canopy cover and impervious surface assessments, and set targets for canopy cover and impervious surface percentages.
2. Assist communities with the identification of potential planting sites in areas with greater than 15 percent impervious surface coverage.
3. Provide funding and trees through Cool Community Grants and Mountaineer Treeways to support strategic tree planting projects.
4. Promote municipal policies and projects that increase permeable surface area, storm water retention, and ground water recharge.
5. Promote Project CommuniTree to increase planting efforts within the tributaries of the Chesapeake Bay.
6. Support Forest Legacy efforts to identify and preserve critical forest land in the wildland urban interface (WUI).

Initial focus will be to create “Demonstration Projects” within communities in the Potomac River Watershed. Key partners will include the Chesapeake Bay Program, WV Stream Partners, Canaan Valley Institute, and Basin Coordinators from the WV Department of Environmental Protection. Projects to promote best practices for storm water management and impervious surface area reduction will be identified and developed.

Performance Outcomes

Increase in canopy cover area / impermeable surface area ratios within urbanized areas.

Timeline

Canopy cover and impervious surface area assessments are not currently funded. Funding will be sought through Redesign Grant requests and the Chesapeake Bay Program over the next five



years. Target communities will be selected annually based on available funding. The WVDOF Urban Technical Specialist and the WVDOF Chesapeake Bay Forester will begin providing technical assistance to communities and developing partnerships with key partners in 2010.

Sub-Issue 6: Recreation

6.6 Long-term Strategy 1

Promote an investment in urban recreation infrastructure and opportunities that will positively benefit climate mitigation, air quality, water quality, and quality of life.

Strategy Narrative

Priority areas for recreational improvements were identified through a composite analysis of the previous five sub-issues. The rationale is that the creation and enhancement of green spaces, river parkways, pedestrian trail systems, and other green infrastructure will positively impact climate mitigation, air quality, water quality, and the capacity of community tree care programs. The composite analysis prioritizes the following regions: the Kanawha River Valley; the I-64 corridor; the Upper Ohio River Valley; the eastern panhandle within the Potomac River drainage; and the Upper I-79 Corridor. Strategies will involve:

1. Promote tree planting initiatives in community parks, green spaces, and along riparian corridors.
2. Assist communities with the identification of priority planting areas within recreation areas.
3. Promote the creation of additional green spaces, mini-parks, community gardens, rain gardens, and rail-trail networks with the goal of increasing permeable surface area and canopy cover.
4. Develop a grant program to assist communities with the implementation of recreation-themed projects.

Performance Outcomes

Enhanced recreation opportunities created by urban parks, green spaces, river parkways, pedestrian paths, and bike trails.

Timeline

Tree planting initiatives are ongoing through Mountaineer Treeways and other programs. Providing technical assistance and a grant program directed towards recreation projects will involve blazing new territory for the WVDOF's UCF program. Funding is not currently available, but hopefully can be established within five years.



Issue 7: Forest Health Strategy

State Issue 7: Forest Health Strategy Matrix							
Sub-Issue 7.1: Native and Exotic Diseases, Insects, and Invasive Species of Concern							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. Develop effective survey and monitoring methodologies	Statewide	2.5, 3.1, 3.2, 3.4, 3.5, 3.6, 4.2, 4.5, 6.6, 8.4, M1, M3	CFHP, CFHM, Forest Health, Stewardship, Conservation Education, UCF	WVDA, APHIS, USDA, Public and private landowners, WV Forestry Association, WV Association of Consulting Foresters, WV Woodland Owners Association, WV Farm Bureau	WVDA staff/ Federal and State Funding	To be determined through methods development	1.1, 1.2, 2.2, 3.3, 3.4, 3.7
Sub-Issue 7.2: Survey, Monitor, and Evaluate							
A. Bacterial Leaf Scorch							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. Survey, detect, and monitor	Berkeley, Cabell, Jefferson, Kanawha, Morgan, Wood counties, and Urban Areas	2.5, 3.1, 3.2, 3.4, 3.5, 3.6, 4.2, 4.5, 6.6, 8.4, M1, M3,	CFHP, CFHM, Forest Health, Stewardship, Conservation Education, UCF	WVDA, USDA, Public and private landowners, WV Forestry Association, WV Association of Consulting Foresters, WV Woodland Owners Association, WV Farm Bureau	WVDA staff, Visual surveys and laboratory analyses/ Federal and State funding	Detecting presence and/or absence	1.1, 1.2, 2.2, 3.3, 3.4, 3.7



Sub-Issue 7.2: Survey, Monitor, and Evaluate (cont.)							
B. Beech Bark Disease							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. Survey and monitor priority areas	Barbour, Braxton, Preston, Mineral, Hampshire, Taylor, Tucker, Grant, Hardy, Lewis, Upshur, Randolph, Pendleton, Webster, Pocahontas, Nicholas, Greenbrier counties	2.5, 3.1, 3.2, 3.4, 3.5, 3.6, 4.2, 4.5, 6.6, 8.4, M1, M3,	CFHP, CFHM, Forest Health, Stewardship, Conservation Education, UCF	WVDA, USDA, Public and private landowners, WV Forestry Association, WV Association of Consulting Foresters, WV Woodland Owners Association, WV Farm Bureau	WVDA staff, Visual surveys/ Federal and State funding sources	Measure Amount of Spread in Acres	1.1, 1.2, 2.2, 3.4, 3.7
C. Exotic Wood Borer / Bark Beetle Survey							
1. Survey and monitor using Lindgren funnel traps	Wood product industries, and other high risk sites	2.5, 3.1, 3.2, 3.4, 3.5, 3.6, 4.2, 4.5, 6.6, 8.4, M1, M3,	CFHP, CFHM, Forest Health, Conservation Education, Utilization and Marketing	WVDA, USDA, APHIS, Public and private landowners, WV Forestry Association, WV Association of Consulting Foresters, WV Woodland Owners Association, WV Farm Bureau	WVDA staff, Trapping methods and surveys, Taxonomic expertise/ Federal and State funding, WVU	Detecting presence and/or absence	1.1, 1.2, 2.2, 3.4, 3.7



Sub-Issue 7.2: Survey, Monitor, and Evaluate (cont.)							
D. Light Brown Apple Moth							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. Survey and monitor	Statewide	2.5, 3.1, 3.2, 3.4, 3.5, 3.6, 4.2, 4.5, 6.6, 8.4 M1, M3	USDA-APHIS-PPQ, WVDA-CAPS, Forest Health, Stewardship, CE, UCF	WVDA, USDA, Public and private landowners, WV Forestry Association, WV Association of Consulting Foresters, WV Woodland Owners Association, WV Farm Bureau	WVDA staff/ State and Federal funding	Detecting presence and/or absence	1.1, 1.2, 2.2, 3.3, 3.4, 3.7
E. Sirex Woodwasp							
1. Survey and detect	Brooke, Hancock, Marshall, Monongalia, Ohio, Preston, Wetzel	2.5, 3.1, 3.2, 3.4, 3.5, 3.6, 4.2, 4.5, 6.6, 8.4, M1, M3	WVDA-CAPS, USDA-APHIS-PPQ, Forest Health, Stewardship, CE, UCF	WVDA, USDA, Public and private landowners, WV Forestry Association, WV Association of Consulting Foresters, WV Woodland Owners Association, WV Farm Bureau	WVDA staff/ State and Federal funding	Detecting presence and/or absence	1.1, 1.2, 2.2, 3.3, 3.4, 3.7
F. Sudden Oak Death							
1. Survey and detect	Statewide	2.5, 3.1, 3.2, 3.4, 3.5, 3.6, 4.2, 4.5, 6.6, 8.4, M1, M3	CFHP, CFHM, Forest Health, Stewardship, CE, UCF	WVDA, USDA, Public and private landowners, WV Forestry Association, WV Association of Consulting Foresters, WV Woodland Owners Association, WV Farm Bureau	WVDA staff/ State and Federal funding, WVU	Detecting presence and/or absence through lab analyses	1.1, 1.2, 2.2, 3.3, 3.4, 3.7
G. Oak and Other Hardwood Decline							
1. Survey, monitor, and detect	Statewide	2.5, 3.1, 3.2, 3.4, 3.5, 3.6, 4.2, 4.5, 6.6, 8.4, M1, M3	CFHP, CFHM, Forest Health, Stewardship, CE, UCF	WVDA, USDA, Public and private landowners, WV Forestry Association, WV Association of Consulting Foresters, WV Woodland Owners Association, WV Farm Bureau	WVDA staff/ State and Federal funding, WVU	Detecting presence and/or absence	1.1, 1.2, 2.2, 3.4, 3.7



Sub-Issue 7.3: Pest Management, and Eradication							
A. Emerald Ash Borer							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. Treat high priority trees and facilitate tree removal	Statewide	2.5, 3.1, 3.2, 3.4, 3.5, 3.6, 4.2, 4.5, 6.6, 8.4	CFHP, CFHM, Forest Health, Stewardship, CE, UCF	WVDA, USDA, Public and private landowners, WV Forestry Association, WV Association of Consulting Foresters, WV Woodland Owners Association, WV Farm Bureau	WVDA staff/ State and Federal funding	Post-Treatment Survival	1.1, 1.2, 2.2, 3.3, 3.4, 3.7
2. Reduce interstate movement of infested firewood and wood products	Statewide	2.5, 3.1, 3.2, 3.4, 3.5, 3.6, 4.2, 4.5, 6.6, 8.4	CFHP, CFHM and USDA-APHIS-PPQ, Forest Health, Stewardship, CE, UCF	WVDA, USDA, Public and private landowners, WV Forestry Association, WV Association of Consulting Foresters, WV Woodland Owners Association, WV Farm Bureau	WVDA staff/ State and Federal funding	Reduction of interstate firewood and wood product movement	1.1, 1.2, 2.2, 3.3, 3.4, 3.6, 3.7
3. Survey and monitor incidence and spread	Statewide	2.5, 3.1, 3.2, 3.4, 3.5, 3.6, 4.2, 4.5, 6.6, 8.4	CFHP, CFHM, WVDA, CAPS and USDA-APHIS-PPQ, Forest Health, Stewardship, CE, UCF	WVDA, USDA, Public and private landowners, WV Forestry Association, WV Association of Consulting Foresters, WV Woodland Owners Association, WV Farm Bureau	WVDA staff/ State and Federal funding	Number of Catches or Lack of Catches	1.1, 1.2, 2.2, 3.3, 3.4, 3.7



Sub-Issue 7.3: Pest Management and Eradication (cont.)							
B. Gypsy Moth							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. Protect hardwood timber from defoliation	Statewide	2.5, 3.1, 3.2, 3.4, 3.5, 3.6, 4.2, 4.5, 6.6, 8.4, M1, M3, M9	GMCS CSCL Forest Health, Stewardship, CE, UCF	WVDA, USDA, Public and private landowners, WV Forestry Association, WV Association of Consulting Foresters, WV Woodland Owners Association, WV Farm Bureau	WVDA staff/ State and Federal funding	Reduction or elimination of defoliation in treated stands	1.1, 1.2, 2.2, 3.3, 3.4, 3.5, 3.6, 3.7
C. Hemlock Woolly Adelgid							
1. Protect high value trees	Public Lands Statewide	2.5, 3.1, 3.2, 3.4, 3.5, 3.6, 4.2, 4.5, 6.6, 8.4, M1, M3	CFHP CFHM Forest Health, Stewardship, CE	WVDA, USDA, WVDNR, MNF, NPS, Nature Conservancy, Trout Unlimited, Canaan Valley Institute, WV Forestry Association, WV Association of Consulting Foresters, WV Woodland Owners Association, WV Farm Bureau	WVDA staff/ State and Federal funding, Private landowner involvement	Post-Treatment survival	1.1, 1.2, 2.2, 3.1, 3.3, 3.4, 3.5, 3.6, 3.7
D. Mile-A-Minute Weed							
1. Biological control	Berkeley, Grant, Hampshire, Hardy, Jefferson, Kanawha, Mineral, Morgan, Ohio, Pendleton, Tyler, Upshur, Wood	2.5, 3.1, 3.2, 3.4, 3.5, 3.6, 4.2, 4.5, 6.6, 8.4, M1, M3	WVDA-CAPS, USDA-APHIS-PPQ Forest Health, Stewardship, CE	WVDA, USDA, Public and private landowners, WV Forestry Association, WV Association of Consulting Foresters, WV Woodland Owners Association, WV Farm Bureau	WVDA staff/ Biological Control Agents, State and Federal funding	Reduction or elimination of M-A-M in release areas	1.1, 1.2, 2.2, 3.1, 3.3, 3.4, 3.5, 3.6, 3.7



Sub-Issue 7.4: Public Education							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. Increase public awareness of issues surrounding native and exotic pest species	Statewide	2.5, 3.1, 3.2, 3.4, 3.5, 3.6, 4.2, 4.5, 6.6, 8.4, M1, M3, M9	CFHP CFHM Forest Health, Stewardship, CE, UCF, Fire	WVDA, USDA, Public and private landowners, WV Forestry Association, WV Association of Consulting Foresters, WV Woodland Owners Association, WV Farm Bureau	WVDA staff , Pamphlets and other literature, Fairs and festivals, Displays, News releases, Media interviews/ Federal and State funding	Increased Public Awareness	1.1, 2.2, 3.3, 3.4, 3.5, 3.6, 3.7



WV Issue 7 – Forest Health

Sub-Issue 7.1: Native and Exotic Diseases, Insects, and Invasive Species of Concern

7.1: Long-term Strategy 1

Develop effective survey and monitoring methodologies.

Strategy Narrative

In a state that is 80 percent forested, forest health by its very nature is a statewide issue. Major native and exotic diseases and pests can impact forests in any region of the state. The West Virginia Department of Agriculture, through the Cooperative Forest Health Program, is responsible for monitoring forest health in the state. Funding for this program comes from state dollars, as well as federal grants through the USFS. There are many stakeholders, mostly comprised of public and private landowners. The West Virginia Forestry Association, West Virginia Association of Consulting Foresters, Woodland Owners Association, and West Virginia Farm Bureau are among the many groups that could be considered stakeholders as well. Among the major issues when dealing with native and exotic pests is the development of effective methods to detect, survey, and monitor pests.

Performance Outcomes

Effective survey and monitoring procedures are established.

Timeline

Annually.

Sub-Issue 7.2: Survey, Monitor, and Evaluate

7.2: Long-term Strategy A1-G1

Survey, detect, and monitor the following forest pathogens and pests: bacterial leaf scorch, beech bark disease, exotic wood borers/bark beetles, light brown apple moth, sirenix woodwasp, sudden oak death, oak decline, and other hardwood declines, as well as any new and emerging pests.

Strategy Narrative

The WVDA currently conducts surveys and monitors the effects of pathogens and pests, including bacterial leaf scorch, beech bark disease, exotic wood borers, light brown apple moth,



sirex woodwasp, sudden oak death, and oak decline. The exotic wood borer survey has identified at least one new bark beetle of concern in the state. Bacterial leaf scorch has been identified in several new counties through surveys. For certain pathogens and pests, simply determining its presence in a given county is sufficient. For others, the WVDA will continue monitoring to determine the impact these pathogens and pests have on the forest. These decisions are made based on the potential for spread and the severity of impact on the resource.

Performance Outcomes

Through surveys and lab analysis, detect the presence of forest pathogens and pests and their rate of spread, when possible.

Timeline

Annually.

Sub-Issue 7.3: Pest Management and Eradication

7.3: Long-term Strategy A1-D1

1. Treat high priority areas and facilitate removal of infected/infested trees.
2. Reduce or eliminate interstate movement of firewood and other wood products in compliance with federal and state regulations.
3. Survey and monitor incidence and spread.
4. Protect hardwood timber from defoliation and other damage.
5. Protect high value trees.
6. Use biological controls when available.

Strategy Narrative

Pest management and eradication activities are continually conducted for emerald ash borer, gypsy moth, hemlock woolly adelgid, and mile-a-minute weed. These pests are considered major problems. West Virginia has initiated control measures for the emerald ash borer and has an active suppression program for gypsy moth, hemlock woolly adelgid, and mile-a-minute weed. The gypsy moth program is conducted on public and private lands statewide, while the hemlock woolly adelgid program is also statewide but only on public lands. The mile-a-minute



weed suppression program is a biological control program that occurs only in those counties where mile-a-minute weed is known to occur on both public and private lands. EAB has been detected in three counties in West Virginia as of May, 2010 – Roane, Fayette and Morgan; surveying and monitoring continues.

Performance Outcomes

1. Increase in post-treatment tree survival.
2. Continue to regulate firewood and wood product movement.
3. Reduction or elimination of tree defoliation and other damage.
4. Reduction in the spread of forest pests.

Timeline

Annually.

Sub-Issue 7.4: Public Education

7.4: Long-term Strategy 1

Increase public awareness of the issues surrounding native and exotic pest species.

Strategy Narrative

The public education segment of the Forest Health Program exists to raise public awareness about issues surrounding native and exotic pest species. Information is disseminated via a variety of outlets such as news releases, Market Bulletin articles, and Pest Alerts. Presentations are given to the Master Gardener classes, various school groups, and public meetings for gypsy moth and emerald ash borer. The WVDA also coordinates campaigns such as “Don’t Move Firewood” and prepares displays for fairs and festivals throughout the state, as well as Agriculture Day at the State Capitol.

Performance Outcomes

Increased public awareness of native and exotic forest pests.

Timeline

Annually.



Issue 8: Utilization, Marketing, and Economic Development Strategy

State Issue 8: Utilization, Marketing and Economic Development Strategy Matrix							
Sub-Issue 8.1: Infrastructure/Transportation							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. Develop infrastructure to encourage growth of primary and secondary forest industries	State, county, and federal transportation systems; Railroads, Underweight bridges	3, M4, M6, M8	U & M, Economic Action Program, WERC, Competitive grants, Stewardship	WVU-AHC, Forest Industry, WV Development Office, County Economic Development Offices, ARC, SBA, HAZ, WV Port Authority, Railroads, DOH, State and Federal Legislatures, WVFA	WVDOF staff/ ARC, Federal and State DOH, DOT, WV Port Authority, WVDO. WVDOF Staff, HAZ	Expansion of the forest industry and economic development	1.2, 3.4, 3.6
Sub-Issue 8.2: Ecological Services							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. To diversify and strengthen forest-based ecological services and educate landowners about developing ecological services markets	Statewide, Public lands, NIPF lands	1, 2, 3, 6, M4, M6, M8	Conservation Education, Stewardship, U&M, Competitive grants, UCF	Landowners, Forest Industries, ARC, WVU-AHC, WVFA, WOA, USFS, WVDNR	WVDOF staff/ WVU-AHC, SFI, FSC, Tree Farm, WVDNR	Diversity of forestry markets, Acres certified, Increased forest, wildlife, and recreation related economic development	1.2, 3.2, 3.4, 3.5, 3.6, 3.7



Sub-Issue 8.3: Biomass Energy Potential							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. Increase utilization of forest resources for biomass energy production and improve biomass energy marketing efforts	Statewide	2, 3, 6, M4, M6, M8	Conservation Education, U&M, Stewardship, Competitive grants, Fire, UCF, Forest Health	Industry, Landowners, loggers, WVU-AHC, USFS, WVDOE, WVDO, NRCS, FSA, WVFA, WVDA	WVDOF staff, WVU-AHC, MORWOOD grant/ NRCS, FSA, WVMA Wood Committee, HAZ	More use of resources available, Economic development (new facilities established)	1.2, 3.2, 3.4, 3.6
Sub-Issue 8.4: Timber Quality							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. Reduction of low grade species and improved quality of major species	Statewide, Southern coalfields	2, 3, 5, 7, M8, M6, M4	Stewardship, U&M, Fire, Competitive grants, Conservation Education, NRCS, Forest Health	Industry, Landowners, WVU-AHC, NRCS, FSC, SFI, Tree Farm, WVFA, WVDA	WVDOF staff/ Consultant foresters, USFS, Company foresters, WVU-AHC	Increased grade 1 logs and location of veneer mill in state	1.1, 1.2, 3.4



Sub-Issue 8.5: Loss of Traditional Markets and Retention/Expansion of Primary and Secondary Manufacturing							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. Substantially increase production in the primary and secondary wood products sectors	See Priority Area Maps 8.1-8.3 in Section II, Issue 8	2, 3, M4, M6, M8	Conservation Education, U & M, Economic Action Program, WERC, Competitive grants, Stewardship	Industry, Taxpayers, Landowners, ARC, WVFA	WVDOF staff/ HAZ, WVU-AHC, WVFA, SBA, WVMA Wood Committee, WVDO	Goal: Utilization and Marketing of 80 percent of annual growth	1.2, 3.4, 3.6
Sub-Issue 8.6: Workforce Development							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. Increase the availability of quality employees for both the logging and forest products sectors, as well as develop a logger training academy	See Priority Area Maps 8.1-8.3 in Section II, Issue 8	2, M4, M6, M8	Conservation Education, State and Federal Departments of Labor, U&M	West Virginians, Forest industry, WVU-AHC, WV Wood Technical Center, WERC, Workforce WV, ARC, WVU, GSC, PSC, WVFA, Landowners	WVDOF staff/ Workforce WV staff, WVU-AHC, WERC, WWTC	Increased opportunities and professionalism, Adequate numbers of trained employees available	1.2, 3.4, 3.6



WV Issue 8 – Utilization, Marketing, and Economic Development

Forest-based industries are an integral part of West Virginia’s economy, accounting for approximately \$4 billion of the state’s economy annually and more than 30,000 jobs. Each of the state’s 55 counties has some segment of the wood industry as a source of economic impact. WVDOF is charged by statute with encouraging and assisting in the expansion of forest industry in the state. The advancement of the forest products sector cannot be accomplished without a healthy and sustainable forest resource. Due to the importance of this industry to West Virginia and its residents, it is vital that the industry remains strong and that the state’s forest resources remain healthy and sustainable.

Sub-Issue 8.1: Infrastructure/Transportation

8.1 Long-term Strategy 1:

Develop infrastructure to encourage growth of primary and secondary forest industries.

Strategy Narrative:

West Virginia lacks sufficient resources to expand the transportation system which would aid growth of the forest products industry. The state also lacks industrial sites suitable for development due to topography and a lack of adequate infrastructure. There is also unwillingness among some residents and the environmental community to accept expansion of forest-based industries or the transportation networks that serve them. The West Virginia forestry community must work together to ensure the continued development of transportation networks that serve the forest products sector.

Performance Outcomes:

- 1) Establishment of new rail sidings or rail infrastructure for forest products and allied industries.
- 2) Expansion of the forest products industry.
- 3) Efficiency improvements in forest products transportation networks (shared trucking, efficient management).

Timeline:

Maintaining and enhancing transportation efficiency will be an ongoing effort by the WVDOF and allied stakeholders. Performance will be measured over a ten-year period.



Sub-Issue 8.2: Ecological Services

8.2 Long-term Strategy 1:

To diversify and strengthen forest-based ecological services and educate landowners about developing ecological services markets.

Strategy Narrative

The management of the entire forest resource is important for diversifying and strengthening the state's forest-based industries. Ecological services that are not traditionally included in forest-based industries' portfolios must be incorporated in the future if the wood products industry is to remain viable. Many of these services are not well known by traditional industry representatives; however, their importance to the public cannot be understated. The WVDOP will help identify and encourage the development of new markets related to ecosystem services to aid in the management of the state's forests.

Performance Outcomes:

- 1) Increased certification of WV forest land by industry and non-industrial owners.
- 2) Increased forest and wildlife recreational opportunities and economic development.
- 3) Improved application of the Managed Timberland program.
- 4) Increased understanding of carbon sequestration and potential carbon market.

Timeline:

Greater understanding and use of ecosystem services and associated markets, where applicable, will occur by 2015.

Sub-Issue 8.3: Biomass Energy Potential

8.3 Long-term Strategy 1:

Increase utilization of forest resources for biomass energy production and improve biomass energy marketing efforts.

Strategy Narrative



West Virginia has abundant biomass resources. The state produces approximately 2.4 million dry tons of wood residues per year, including: 1.4 million dry tons of logging residue; 941,868 dry tons of mill residues; 67,415 dry tons of urban tree residues; and 26,241 dry tons of solid wood material from construction and demolition waste. There are also opportunities to procure additional woody biomass feedstock through increased management of the state's forest resource. As new markets develop around woody biomass, landowners will have more access to markets that will help them properly manage their forests. This will also help to strengthen and ensure the long-term sustainability of the forest products sector.

Performance Outcomes:

- 1) Attract woody biomass-based sustainable industries to the state.
- 2) Increase the utilization of low-value roundwood and wood residues produced in the state.

Timeline:

This remains an ongoing effort and will continue through 2015.

Sub-Issue 8.4: Timber Quality

8.4 Long-term Strategy 1:

Reduction in the proportion of the state's forests comprised of low-grade species, as well as improved quality of major timber species.

Strategy Narrative:

West Virginia's forests comprise a large percentage of trees in the larger diameter classes and have been losing trees in the lower diameter range, consistent with the maturing nature of the state's forests. The majority (70 percent) of WV forest trees are of sawtimber size, with more than 25 percent considered as prime sawlogs. This resource base is increasingly valuable and helps position WV as a leading producer of high-quality hardwoods. At the same time, there is considerable concern being voiced by professional foresters about the long term effects of various types of diameter limit and "high-grading" harvest practices. Strategies will include:

- 1) Encourage the professional management of the timber resource.
- 2) Maintain the health and quality of the forest resource.
- 3) Discourage cutting practices that are not silviculturally sound.



Performance Outcomes:

- 1) Improved management of the timber resource.
- 2) Improved health and quality of the forest resource.
- 3) More acreage harvested using silviculturally sound and professional techniques.

Timeline:

This remains an ongoing effort and will continue through 2015.

Sub-Issue 8.5: Loss of Traditional Markets and Retention/Expansion of Primary and Secondary Manufacturing

8.5 Long-term Strategy 1:

Substantially increase production in the primary and secondary wood products sectors.

Strategy Narrative

The West Virginia forest products industry is currently in one of the worst economic down turns in modern times, although signs of recovery are beginning to appear. As markets retracted during the recent down turn, significant timber volumes were not harvested from many of West Virginia's forests. This, in turn, increased the threat of forest land conversion to non-forest use.

Some portions of the wood products sector have remained strong during these challenging times. While many of the state's traditional forest products producers have taken an indifferent attitude towards new technology and new market opportunities, others have not. These companies have sought new markets and their businesses have actually expanded during the recent downturn. They have focused their model on innovation and delivering a product that the global consumer is demanding. This has been accomplished through the expanded use of technology, digital outsourcing, market exploration, and exporting.

It is important to encourage traditional forest products-based businesses to develop skill sets around technology and new market opportunities. By combining knowledge of traditional forest management and product development, with information on technology and new marketing concepts, the future of West Virginia's forest products industry will be ensured.

Performance Outcome:

- 1) Increased production through the adoption of new technologies by existing forest products industry.
- 2) Development of new forest-based businesses in West Virginia.



- 3) Increased production from existing technologies in the current forest products sector.
- 4) A forest utilization and marketing specialist position added to the WVDOF.

Timeline:

This remains an ongoing effort and will continue through 2015.

Sub-Issue 8.6: Workforce Development

8.6 Long-term Strategy 1:

Increase the availability of quality employees in both the logging and forest products sectors, as well as develop a logger training academy.

Strategy Narrative

West Virginia has a diverse wood products employment base. The majority of employment is in sawmills, wood preservation, and secondary wood products manufacturing. Employment in logging has declined over the last decade. The average age of loggers has increased while the number of new loggers has declined. Logging is a critical component of the forest products supply chain. Without a strong logging sector, the forest products industry cannot flourish. Currently, there are approximately 4,900 employees in the logging sector, which includes over 1,300 certified loggers. There are nearly 9,000 employees statewide directly employed by the forest products sector (refer to table 8.2 of the Assessment). In order to maintain the health of the forest resource and the strength of the forest-based economy, there must be continued development of both the logging and forest products sectors.

Performance Outcome:

1. Increased training opportunities for loggers.
2. The development of a training academy to teach logging to those lacking experience in the profession.
3. Increased training opportunities for primary and secondary manufacturing employees.
4. Increased employment in the forest products sector.

Timeline:

This remains an ongoing effort and will continue through 2015.

Potential Multi-State Issue Strategies

Multi-state issues and potential projects are discussed in the State Resource Assessment and in Section I, Item D of this Strategy document. The following matrix also gives a general indication of how WVDOF will approach dealing with these 12 potential multi-state projects. Matrix narratives were not written for this section because there is a substantial amount of discussion that must take place with potential partners first, including USFS-S&PF, other states, the Monongahela National Forest, various state and federal agencies in West Virginia, NGOs, and other possible partners, as the WVDOF begins to determine courses of action for these potential projects.



Photos courtesy of Barb Breshock, Linda Carnell, and Rodger Ozburn, WVDOF; and Dave Fattaleh, (retired) WV Department of Commerce.



Multi-State Issues Strategy Matrix

Issue M1: Chesapeake Bay – DE, MD, NY, PA, VA, and WV

Long-term Strategy	Priority Landscape Area(s)	Other Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
<p>1. Target riparian areas for restoration and target forested tracts for conservation based on recommendations of Chesapeake Bay plans</p>	<p>Chesapeake Bay watershed, specifically those lands along Potomac River tributaries</p>	<p>1.1, 1.2, 1.4, 2.2, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 6.5, M5, M6, M7</p>	<p>Forest Legacy, LOA, CE, LSCA, UCF, Forest Health</p>	<p>Landowners, Local government, Partner states, WV State agencies, EPA, USDA-FS, NRCS, and FSA, Watershed organizations, Citizen action groups, Conservation organizations</p>	<p>WVDOF staff/ Federal & State funding, Cost share, Private conservation funding, landowner support</p>	<p>Increase in number of miles of riparian buffers and number of acres of forest land conserved</p>	<p>1.1, 1.2, 2.2, 3.1, 3.4, 3.5, 3.6, 3.7</p>
<p>2. Continue to employ a forestry specialist in the Chesapeake Bay to provide targeted professional input</p>	<p>Chesapeake Bay watersheds in the Potomac tributaries</p>	<p>1.1, 1.2, 1.4, 2.2, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 6.5, M5, M6, M7</p>	<p>Forest Legacy, LOA, CE, LSCA, UCF, Forest Health</p>	<p>Landowners, Local government, Partner states, WV State agencies, EPA, USDA-FS, NRCS, and FSA, Watershed organizations, Citizen action groups, Conservation organizations</p>	<p>WVDOF Forester/ Federal & State funding Cost share, Private conservation funding, landowner support</p>	<p>Increased quality and survival of riparian plantings through better planning. Also increased communication among stakeholders</p>	<p>1.1, 1.2, 2.2, 3.1, 3.3, 3.4, 3.5, 3.6, 3.7</p>



Issue M2: Reforestation of Previously Mined Lands – AL, KY, MD, OH, PA, TN, VA, and WV							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. Reforest previously mined lands, wherever needed, throughout the state	Southern coalfield counties, but opportunities may occur in coal mining regions throughout the state	2, 3, 4, 7, 8, M3, M5, M8,	Stewardship, Forest Health, Special grants, Conservation Education	State and federal agencies (WVDEP, USDI, OSM, WVDNR, US Dept. of Energy, USFS, etc.); WV Coal Association; WV Land & Mineral Owners Council; Academic institutions, Public lands, Forest products industry, Landowners, Partner states	WVDOF personnel/ Successful model reforestation programs in other states; Appalachian Regional Reforestation Initiative; federal (OSM, etc.) funding; state (WVDEP, etc.) funding, Coal Association, Nursery,	Increase in number of acres of previously mined lands reforested with native species	1.2, 2.2, 3.1, 3.2, 3.4, 3.5, 3.6, 3.7
Issue M3: Upper Ohio River Valley Watershed – OH, PA, and WV							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. Target floodplains for restoration using floodplain assessments of partner agencies	Counties bordering the Ohio River	1.2, 1.4, 2.2, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 6.2, 6.5, M2, M5, M6, M7	UCF, LOA, LSCA, Conservation Education	Landowners, Local government, Partner State agencies, EPA, USDA-FS, NRCS, and FSA, Army Corps of Engineers, Watershed organizations, Citizen action groups, Conservation organizations, Partner states	WVDOF personnel/ Federal & State funding, Cost share, Private conservation funding, Landowner support	Increase in acres of conserved, functioning floodplains	1.1, 1.2, 2.2, 3.1, 3.4, 3.5, 3.6, 3.7



Issue M3: Upper Ohio River Valley Watershed – OH, PA, and WV (cont.)							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
2. Establish priority watersheds for possible funding and projects	Ohio Valley watersheds	1.2, 1.4, 2.2, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 6.2, 6.5, M2, M5, M6, M7	UCF, LOA, LSCA, Conservation Education	Landowners, Local Government, Partner states, WV State agencies, EPA, USDA-FS, NRCS, and FSA, Army Corps of Engineers, Watershed organizations, Citizen action groups, Conservation organizations	WVDOF staff/ Federal & State funding, Cost share, Private conservation funding, Landowner support	Priority Watersheds identified	1.1, 2.2, 3.1, 3.4, 3.5, 3.6, 3.7
Issue M4: Biomass Projects – MD, OH, and WV,							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. Fully utilize and market current resources	Statewide on new projects; MORWOOD projects in OH, WV, Upper Ohio River Valley Counties	2, 3, 6, 8, M8, M6	Conservation Education, UCF, U&M, Stewardship, Competitive grants, Fire	Industry, Landowners, Loggers, ARC, WVU-AHC, USFS, WVDOE, WVDO, NRCS, FSA, WV State agencies, Partner states, WVFA	WVDOF staff/ WVU-AHC, MORWOOD grant, NRCS, FSA, WVMA Wood Committee, HAZ	More use of resource available, and economic development	1.2, 3.2, 3.4, 3.6



Issue M5: Conservation Education – DC, DE, MD, NJ, OH, PA and WV							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. In partnership with others, integrate conservation education into existing WVDOF programs to support Mid-Atlantic Conservation Education and other efforts	Statewide in WV and current state partners above	1, 2, 3, 4, 5, 6, 7, 8 Multi-State Issues	Urban & Community Forestry, Fire, Stewardship, Forest Health, Forest Legacy, Special Grants, Conservation Education	WV State agencies, County school systems, academic institutions, WVDNR, USFS, NRCS, WV Forestry Association, land conservation organizations, Partner states	WVDOF personnel, USFS personnel, PLT Steering Committee/ MACE, WVDNR, WVDEP, Chesapeake Bay Program, WVFA, WVEEA, Competitive grants	Integration of conservation education messages and materials into existing WVDOF programs	All
Issue M6: Development Issues Along the I-64, I-68, I-70, I-77, I-79, and I-81, Corridors – KY, MD, OH, PA, VA, and WV							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. Identify and protect large, contiguous blocks of working forest land, managed by professional foresters	Areas bordering these six interstate corridors, Portions of Forest Legacy Areas within the interstate Corridors	1, 2, 3, 4, 5, 6, 7, 8, M1, M2, M3, M4, M7, M8, M9	Forest Legacy, Competitive grants within FLAs, Other special grants, CE, LSCA, Stewardship, Fire, UCF, Forest Health	WVDOF, Local governments, Land developers, Forestry agencies for adjoining states, other state (DEP, DNR, DOT, etc.), and federal agencies (USFS, USFWS, etc.); land conservation organizations; Appalachian Mountain Joint Venture	Forest Legacy Programs (state and federal)/ County farmland protection boards, Other state land protection programs, (Outdoor Heritage Conservation Fund), Other state agencies, Other federal conservation program funds (LWCF)	Protection and forest management for priority forest tracts	1.1, 1.2, 2.2, 3.1, 3.4, 3.5, 3.6, 3.7



Issue M7: Oil & Gas Drilling (Marcellus Shale Region) – MD, NY,OH, PA, VA, and WV							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. Minimize forest, soil, ecological, water, and other ecosystem impacts caused by deep gas drilling into the Marcellus Shale	Areas overlaying the Marcellus Shale formation	1, 2, 3, 4, 7, M1, M3, M5	Forest Legacy, Stewardship, Forest Health, Special grants, CE, LSCA	State (WVDEP) and federal (USFS, NRCS, EPA, etc.) agencies, academic institutions, WVFA, Industry, Landowners, WV Oil and Natural Gas Association, Partner states	WVDOF personnel/ State and federal resources	No major negative impacts on forest, soils, or water; site size is limited; roads and gas lines are well planned; restoration efforts occur in a timely manner	2.2, 3.1, 3.5, 3.6,



Issue M8: Sustaining Traditional Timber Markets & Developing Non-Traditional Markets in the Appl. Region – KY, MD, OH, PA, VA, WV							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. To diversify and strengthen the state forest-based industry and educate landowners on developing markets	Statewide, State Forests	1, 2, 3, M4, M5, M6, M12	Conservation Education, Stewardship, U&M, Competitive grants, UCF	Partner states, Landowners, Forest Industries, ARC, WVU-AHC, WVFA, WOA, USFS, WVDNR, WERC, WVDO	WVDOF staff, WVU-AHC/ SFI, FSC, Tree Farm, WVDNR staff	Diversity of forest resources, acres certified, increased forest and wildlife recreation, and economic development	1.2, 3.2, 3.4, 3.6, 3.7
2. Double current production	See Priority Area Maps 8.1-8.3 in Section II, Issue 8	2, 3, M4, M5, M6, M12	CE, U & M, Economic Action program, WERC, Competitive grants, Stewardship	Industry and taxpayers, Partner states, USFS	WVDOF staff, HAZ, WVU-AHC/ WVFA, SBA, WVMA Wood Committee, WVDO	Goal: Utilization and Marketing of 80 percent of annual growth	1.2, 3.4, 3.6
Issue M9: Slow-the-Spread (Gypsy Moth) – IA, IL, IN, KY, MI, MN, NC, OH, VA, WI, and WV							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. Slow the Spread of Gypsy Moth	STS treatment areas in NC, VA, WV, KY, OH, WI, IN, MN, IL, MI, IA	2.5, 3.1, 3.2, 3.4, 3.5, 3.6, 4.2, 4.5, 6.6, 8.4, M3, M5, M6, M8	CE, Stewardship, LSCA, UCF, U&M, STSP, Forest Health	Public and Private landowners / Partner states, Federal and State agencies	WVDA staff/ Federal and State funding sources	Reduction in spread rate	1.1, 2.2, 3.3, 3.4, 3.5, 3.6, 3.7



Issue M10: Mid-Atlantic Fire Compact Activities – DE, MD, NJ, OH, PA, VA, and WV							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. To continue and enhance the training and education of wildfire suppression personnel in the Mid-Atlantic Compact. Also to strengthen the inter-compact mobilization of suppression resources. To continue the availability of the Wildland Fire Academy.	Personnel and equipment supplied as requested for suppression activities in the following states: WV, VA, OH, PA, DE, NJ, MD, as well as nationally	2, 3, 7, M2, M5, M6, M11	CE, Stewardship, Forest Health, Fire, Competitive grants, Special project grants	Forestry and Wildland Fire Response Agencies throughout WV, VA, OH, PA, DE, NJ, MD, Private landowners, USFS	WVDOF staff/ State and Federal agency personnel and resources.	Increased awareness and knowledge of Wildland Fire effects, suppression techniques and nationally acknowledged Wildland Fire Resources	1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6



Issue M11: Appalachian Forest Heritage Area – MD, VA, and WV							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. Integrate forest restoration and conservation into the Appalachian Forest Heritage Area initiative	16 counties falling within defined Appalachian Forest Heritage Area in three states	1.1, 1.2, 1.4, 2.2, 2.5, 3.1, 3.4, 3.5, 3.6.1, 3.6.2, 3.6.5, 3.6.6, 3.6.7, 3.6.8, 4.1.4, 4.2, 4.3, 4.4, 4.5, 6.2, 6.6, 7, 8.2, 8.3, M1, M3, M5, M8	UCF, LSCA Stewardship, Forest Health, Conservation Education, Special grants, Forest Legacy, U&M	Appalachian Forest Heritage Area; WV Forestry Association; local, state (WVDNR, WV Division of Tourism, etc.), and federal (USFS, USFWS, etc.) agencies; economic development authorities; forest products industry, land conservation organizations, Partner states	Wide variety of local, state, federal, private resources -- including Forest Legacy, Central Appalachian Spruce Restoration Initiative, etc.	Appalachian Forest Area Initiative that incorporates forest restoration and conservation as priorities	1.1, 1.2, 2.1, 2.2, 3.1, 3.4, 3.5, 3.6, 3.7
Issue M12: "Call Before You Cut" – IA, IL, IN, MO, OH, and WV							
Long-term Strategy	Priority Landscape Area(s)	Secondary Issues Addressed	Program Areas that Contribute	Key Stakeholders	Resources Available/ Required to Implement	Measure of Success	Supports National Objective
1. Encourage landowners to manage their family forests with a long term goal	NIPF Priority areas as identified in Issue 3	2.2, 3.1, 3.4, 3.5, 4.1, 4.2, 7.4, 8.4, M5, M6, M8	UCF, Stewardship, LOA, LSCA, CE, Forest Health, U&M	WVDOF, USFS, Private Consultant Foresters, Private Landowners, Forest Industry, Partner states	WVDOF personnel/ Federal & State funding, Cost share, Private conservation funding, Landowner support	Increase numbers of Forest Stewardship plans	1.2, 2.2, 3.1, 3.4, 3.5, 3.6, 3.7
2. Encourage landowners to seek reputable and responsible companies to harvest their timber	NIPF Priority areas as identified in Issue 3	2.2, 4.1, 8.2, 8.7, M5, M6, M8	Stewardship, LOA, LSCA, CE, U&M	WVDOF, USFS, Private Consultant Foresters, Private Landowners, Loggers, Forest Industry, Partner states	WVDOF personnel/ Federal & State funding, Cost share, Private conservation funding, Landowner support	More timber sales done under solid contracts	1.2, 2.2, 3.1, 3.4, 3.6



IV. Translating Strategies to Annual Actions

The matrix for each long-term strategy provides a general sense of both resources available and resources required to implement the various strategies. These resources include such things as WVDOF personnel, USFS technical assistance, federal grants, other partner contributions, state funding, etc. More detailed information on these items, by project, will be developed at a later time and contained in the annual work plans.

Some of the strategies will be implemented soon, while others may not be implemented for some time. Also, some actions can be completed quickly (1 – 5 years), while others may take many years to accomplish completely. Certain strategies, such as fire prevention, monitoring forest growth and yield data, and enforcing LSCA laws are ongoing annually.

To assist in translating strategies into annual work plans and actions, the WVDOF will:

1. Convene internal, multi-program work planning sessions on an annual basis to ensure that actions are prioritized correctly, interdisciplinary approaches are being discussed, and necessary resources required to carry out actions are identified. Care will be taken to ensure that critically important programs and activities are maintained. The WVDOF will also be proactive in identifying and implementing new and emerging ideas.
2. Work with partners throughout the year to help set priorities, identify emerging issues, and measure the success of implementation, as well as make any necessary changes or modifications.
3. Work closely with the USFS to make necessary adjustments to strategies and annual actions in order to help establish priorities, maximize accomplishments and their effectiveness, and make annual adjustments as necessary.
4. Review other West Virginia statewide plans annually to ensure effective coordination of efforts.
5. Meet with the State Stewardship Committee, State NRCS Technical Committee, State Urban and Community Forestry Council, Forest Legacy Sub-Committee, CWPMA Working Group, the Fire Learning Network, WVDA Forest Health staff, Monongahela National Forest, and other groups as necessary to report implementation progress, and to gather planning input for annual statewide and programmatic work plans.
6. Utilize various USFS and NAASF meetings, such as the Forest Resource Planning Committee (FRPC), Cooperative Forest Management (CFM), Fire Supervisors, and others, to stay abreast of current and emerging ideas and direction regarding annual actions and annual work plans.



7. Prepare annual accomplishment reports. This will be important to track successes and to provide information on where to focus efforts in succeeding years.

Annual grant proposals and narratives will be used to develop specific actions from this strategy document. Multi-state proposals will be pursued, as appropriate, with considerable input from the USFS and adjacent state agencies.

Flexibility in developing narratives and proposals will be very important. Some grant proposals may need to be oriented around a single program, but there will be others where funding, technical assistance requests, and reporting will be integrated across programs.

Certain annual actions will be geographic in nature, often focusing on certain priority areas, while other annual actions will be statewide or programmatic (non-geographical) in nature.

As suggested in the assessment and strategy guidance documents, WVDOF will employ adaptive resource management techniques where necessary. In essence, when there is not enough information available to properly answer questions or to make complete plans for certain actions, a “learning by doing” process will be employed. A commitment will be made to gather better information. New information will be incorporated into updated models and management strategies. The data that feeds state assessments and strategies will continue to evolve and be improved. The WVDOF will adjust as necessary when better information and direction become available.

The WVDOF will comply with all USFS requirements for implementing and carrying out annual actions. The WVDOF will also be at the table to provide input and influence decisions in a positive manner.

A recent paper was put forth to explain the Redesign Implementation Council (RIC) decision on integrating state strategies with non-competitive grant narratives. The RIC consists of five USFS members and five NASF members; the RIC is providing guidance for implementing the requirements of the 2008 Farm Bill. The WVDOF intends to follow this guidance to the extent practicable. This information is provided below:

Redesign Implementation Council (RIC) Decision – use an adaptive management approach

During its meeting on March 17-18, 2010, the RIC decided to proceed with an adaptive management approach to develop and phase-in a grant narrative template by FY2012.



In Phase 1 (for the FY2011 process) the RIC will provide some broad, yet flexible, guidance for referencing the State Strategy and linking to the national priorities and objectives in the non-competitive grant narratives.

RIC will work towards developing examples or templates that states may opt to use in FY2011 in place of their existing formats. To do this, USFS staff will collect current grant narrative templates or example grant narratives from the USFS Regions, Northeastern Area (NA) S&PF, and the International Institute for Tropical Forestry (IITF). In consultation with the states, RIC will identify key components from existing templates and examples and will develop new templates for optional use in FY2011.

The Forest Service Regions, NA, and IITF will encourage states to use one of the templates developed by RIC or their existing grant narrative formats for FY2011. Narratives will reference the State Strategy in one of two ways:

1. An introduction in the narrative describing how the annual work relates to the State Assessment and Strategy (e.g. a half-page overview).
2. Throughout the grant narrative, reference the State Strategy (by State Strategy section, page, or strategy number) to relate the importance of the proposed activities.

Either way, narratives should clearly indicate which activities will meet multiple State Strategy objectives.

Phase 2 will be used for allocating funds in FY2012. The RIC will seek input from state and federal agencies on the templates piloted in FY2011 and further refine them to create a flexible template(s), for all states to use for FY2012 grant narratives. As grant narratives and the Assessments and Strategies become more intertwined, the template(s) will adapt and change to best serve the needs of both grantee and grantor, resulting in a streamlined and simple process. States will have the option to modify the template(s), when they do not meet their needs.



V. Monitoring and Reporting

As mentioned previously, WVDOF will use adaptive management techniques - revising future actions based upon the outcomes achieved from the initial actions taken – in its monitoring and reporting processes. The WVDOF will also follow all USFS requirements and protocols for monitoring and reporting accomplishments.

The following information was presented at the national meeting on Assessments and Strategies which was held in Colorado in November 2009. It provides a good overview of the current federal/state accomplishment reporting system, provides some recommendations and other pertinent observations, and discusses items to consider when incorporating new reporting systems for state strategies beginning in federal FY 2011. WVDOF plans to utilize USFS and Northeastern Area Association of State Foresters (NAASF) reporting guidance to the extent possible, as it evolves over the next year.

Current State Annual Accomplishment Reporting

Individual states currently report on accomplishments in various program-specific reporting systems (Figure 1). The accomplishment reporting systems for the Forest Legacy, Forest Stewardship, and Urban and Community Forestry programs are housed in the National Information Center (NIC). Accomplishments for Forest Health, Conservation Education, and Fire are reported through separate systems and mechanisms.

Accomplishment data from these systems are fed into the USFS Performance Accountability System (PAS), which is an agency-wide system that links accomplishment information from existing Forest Service data systems to provide insight into how well the organization measures against strategic goals. PAS supports management decisions regarding allocation of resources and provides information to help set priorities and prepare budget requests/justifications, as well as provide information for products like the USDA Score Card, Performance Accountability Report, and Congressional briefings.

Information reported to the various systems, shown in Figure 1, is utilized in a variety of ways:

- Agency accomplishment reporting and congressional briefings
- Program-specific funding allocation formulas
- Program implementation/management (e.g., information in the Forest Legacy Information System (FLIS) is used for Forest Legacy project selection)
- Annual regional reports, such as the NA S&PF Year in Forestry.
- Program-specific reports
- The State Fact Sheets, which are generated by a system that automatically pulls information from the various systems.

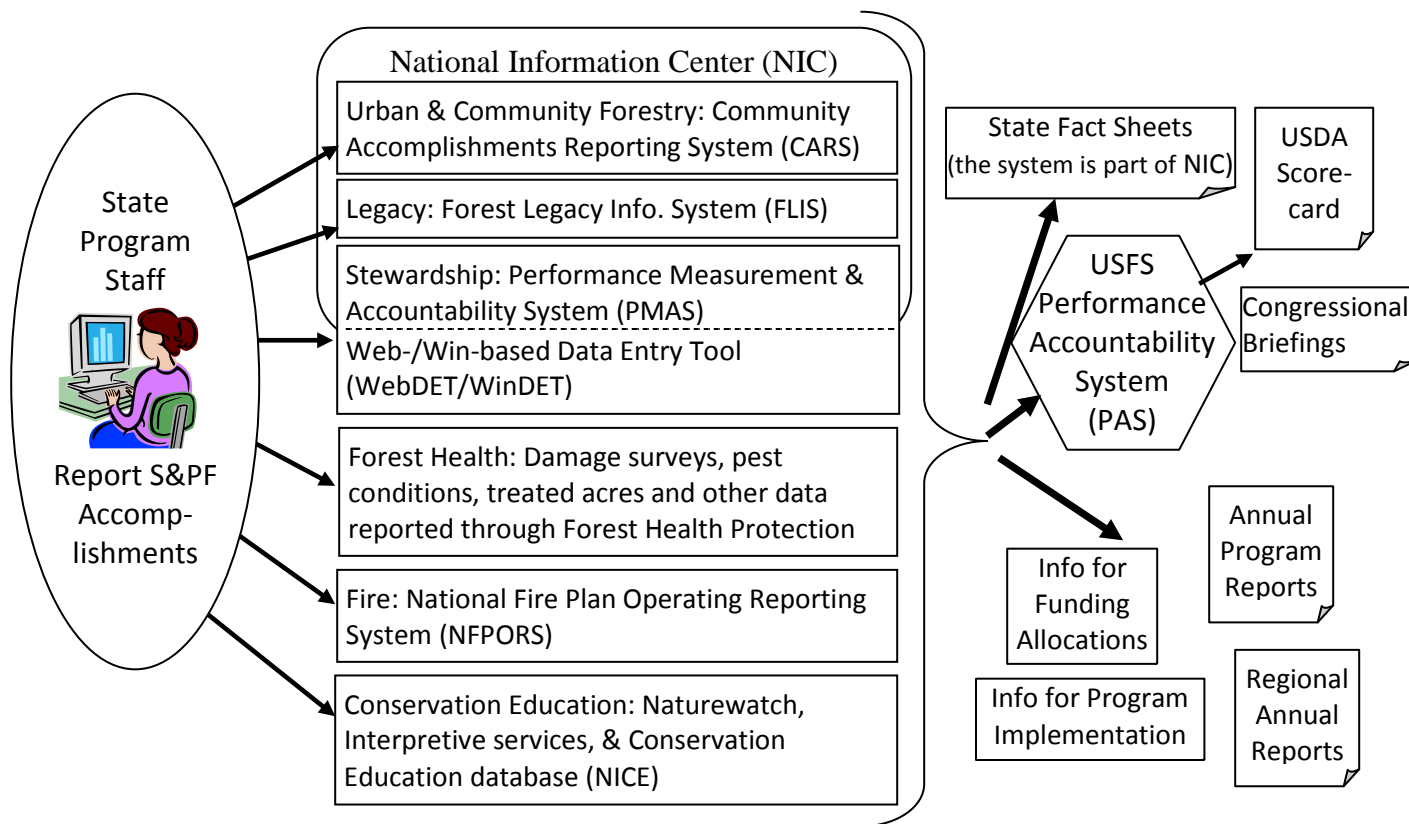


Figure 1. Flow chart for current State & Private Forestry accomplishment reporting.

What works well with the current accomplishment reporting process:

- Current systems are in place. There is benefit in program-specific applications that are designed to meet specific needs. However, it is difficult for a single application to meet all the programmatic and accomplishment reporting needs for all S&PF programs.
- The National Information Center (NIC) is set up to be a one-stop place for reporting. State staff can gain access to multiple systems with one user log in (reduces administrative overhead). NIC provides role-based reporting, allowing appropriate individuals to access each application. Good customer service and support is provided for the NIC applications.
- For several of the systems, accomplishments can be reported throughout the year (e.g. NIC, WebDET, FLIS, CARS).
- Some of the systems (e.g. NIC) have publicly accessible reports, which allow others to see the projects and make contacts to get more information for technology transfer.

**Challenges with the current accomplishment reporting process include:**

- Maintaining multiple systems for S&PF accomplishment reporting entails numerous challenges, such as higher costs and more resources required. Some users have to obtain and keep track of multiple accounts (e.g. one for NIC systems, one for Conservation Education Reporting).
- Identifying and coordinating reporting on accomplishments for efforts that are integrated across program areas (e.g. for a project to which multiple programs contribute). It may also result in duplication of reporting and double counting of accomplishments for such efforts.
- Demonstrating on-the-ground results through spatial accomplishment reporting (WebDET/WinDET accommodates spatial accomplishment reporting, but is not yet fully operational or integrated at this time). The CARS report facilitates spatial accomplishment tracking by census-defined places. Spatial accomplishment reporting is also currently under development for FLIS.

Items Important to Accomplishments Reporting in FY2011 & Beyond

The following items are important to consider for reporting accomplishments starting in Fiscal Year 2011 and beyond:

1. S&PF National “Core” Performance Measures

Tasked by the Redesign Implementation Council, work groups of state and USFS staff have worked over the past two years to develop a set of S&PF national core performance measures in order to demonstrate and communicate S&PF accomplishments more effectively. The current list of national “core” performance measures for S&PF is under final review by the Redesign Implementation Council. The measures will be framed and organized by the national priorities and objectives. This will include measures on which states are already reporting and new measures to be pilot tested starting in FY2011.

2. State Annual Report on Use of Funds

The 2008 Farm Bill amends the Cooperative Forestry Assistance Act and requires state forestry agencies to submit an “annual report detailing how funds made available to the State under this Act are being used.” To date, no national guidance has been developed for these required state annual reports. The “core” measures (see #1 above) will likely tie in to the state annual reports and the state annual reports will likely feed into the national annual report (see #3 below).

Note: The National Information Center (NIC) has the infrastructure in place to automate all or portions of the state annual report, such as pulling information from multiple current reporting systems and adding new information to create state report documents.



3. S&PF National Redesign Annual Report Card

An important component of S&PF Redesign is to more effectively demonstrate and communicate results. Annual S&PF Redesign Report Cards for FY2007 and FY2008 accomplishments were published by NASF. These “report cards” were focused on the Redesign effort and accomplishments achieved through the competitive funding initiative. The annual report for FY2009 was written to include success stories achieved through “core funding,” as well as with competitively allocated funds. The report also featured information and examples about the Statewide Forest Resource Assessments and Strategies.

A new web-based data collection tool located on S&PF’s National Information Center (NIC) is being used to report accomplishments achieved through the FY 2009 competitive allocation grants. USFS personnel enter basic information for each grant/project. State personnel submit accomplishment information, including partners that participated in implementing the project, deliverables, and outcomes accomplished. Reference is also made to any larger strategic issues or priority landscapes that are involved. Once all FY 2009 project data has been entered into the NIC Portal, the site will be made available to the public for read-only access.

4. Potential for Spatial Accomplishment Tracking

A national geo-database that integrates performance information for all S&PF programs will be used to present and track combined impacts on the landscape, particularly with respect to priority landscape areas. Using WebDET, or a similar tool, states will spatially record accomplishments for all programs as they occur. This will continuously update and build upon a geo-database that contains both tabular and spatial accomplishment data. Spatial data will consist primarily of shape files, each covering a particular piece of the landscape. Tabular data will describe the type of program activity that is being carried out on that landscape. Once a shapefile is recorded, and thus is associated with a particular landscape, it can be related at any point in time to any/all existing underlying data sets that are associated with that particular landscape. The underlying data sets will likely include the priority landscape areas that are identified in the statewide Assessment. Because each of these underlying data sets will be associated with one or more of the “redesign” outcomes or objectives, each acre of accomplishment (including program and activity data) will also be linked to the national objectives.

The following scenario illustrates how this will work for the Forest Stewardship Program: A Forest Stewardship Plan covering 150 acres in West Virginia might be written for a 10-year period. Using WebDET, a shapefile for the property is generated and associated with all underlying data that West Virginia’s statewide Assessment has identified for the plan property, such as high wildfire risk, threats of insect infestation, or the need for silvicultural treatment.

From the information now contained in West Virginia’s geodatabase, the measures of performance can be auto-generated for each of the 10 years covered by the management plan (e.g. 150 acres treated to reduce the threat of wildfire, managed to reduce insect risk, or for timber stand improvement (TSI) projects completed). With spatial accomplishment tracking, WVDOF can assess and monitor cumulative accomplishments or impacts at any time, with respect to statewide resource management objectives or intended program outcomes. As new monitoring and accomplishment reporting requirements and directions evolve, WVDOF will adjust its reporting systems as necessary. The WVDOF will also provide input to help establish this reporting system.



VI. Appendix

A. *Stakeholder Involvement*

Numerous stakeholders and collaborators have been involved during development of both the Assessment and the Strategy. Though WVDOF has prepared two separate documents, the entire planning effort has been conducted as one continuous process. With few exceptions, the agencies, organizations, committees, and individuals identified were involved with the development of both documents.

To avoid excessive duplication in this document, please refer to the Assessment: Section VI – Collaboration With Others and to Section VIII – Appendix, Item 4. Collaboration Timeline, for information about the collaboration process and stakeholders involved.

Some of the more recent collaborative stakeholder efforts have included meetings with:

State Forest Stewardship Committee: 1/20/10 and 4/22/10

State NRCS Technical Committee: 1/6/10 and 4/21/10

Monongahela National Forest: 12/15/09, 5/13-14/10, and 06/08/10

US Fish & Wildlife Service/National Park Service/US Army Corps of Engineers (both the Pittsburgh, PA District and the Huntington, WV District)/West Virginia University Division of Forestry and Natural Resources/WV DNR Wildlife Resources/WV DNR Parks and Recreation: 1/29/10

West Virginia Forestry Association (A.B. Brooks Forestry Symposium): 2/10/10

The Nature Conservancy (discussions in regard to Forest Legacy, Fire Learning Network/prescribed burning, cooperative weed management, red spruce/balsam fir restoration, and assistance with the first draft of the potential multi-state project strategy matrix): February-April, 2010

State Urban and Community Forestry Council: 2/24/10

Meetings and calls with **USFS S&PF** and various other state forestry agencies re: the new Stewardship Project: January-June, 2010

WV Tree Farm Committee (meetings and phone discussions): January-May, 2010

Discussions with **USFS S&PF, KY Division of Forest Resources, Ohio Division of Forestry, the WV Coal Association, the WV Department of Environmental Protection, US Office of Surface Mining, and the Virginia Department of Forestry** re: Mined Land Reforestation, which is addressed in the Assessment/Strategy: January – June, 2010

Potomac Highlands CWPMA – Meeting with committee members, local organizations, and land owners regarding invasive species control: 4/20/10 – Grant County, WV and 04/22/10 – Pendleton County, WV



Meetings and discussions with the **WV Department of Agriculture** re: Forest Health and Invasive Species issues: January-June, 2010

WVU Appalachian Hardwood Center – Various meetings, input, and conversations regarding both assessment and strategies, including biomass, certification, sustainability, carbon sequestration, and marketing & utilization; also, technical content and journalistic edits of both the Assessment and the Strategy: January-June, 2010

USFS S&PF Assessment and Strategy progress review – Wormstead, Luther, Lueckel, Sykes: 1/15/10 and 4/28/10

West Virginia Hardwood Alliance Zone - WVHAZ is dedicated to the development of the secondary hardwood processing industry in the following seven-county region; Barbour, Lewis, Preston, Randolph, Tucker, Upshur, Webster counties. Numerous discussions regarding the Assessment and Strategy occurred with WVHAZ over the last year and a half at executive committee meetings. In addition, Assessment and Strategy topics were presented at the WVHAZ Wood Industry Summit held at West Virginia Wesleyan College in Buckhannon, WV on May 25th, 2010

Appalachian Fire Learning Network – Meet with network members, including the Monongahela National Forest, The Nature Conservancy, and attendees from Virginia to discuss strategies for implementing prescribed burns in fire adaptive ecosystems for projects along the WV/VA border. Met on June 1-2, 2010 at Watoga State Park, Pocahontas County, WV

The meetings, conference calls, and presentations listed above have included both assessment and strategy discussions.

There have been interactions with various other community groups, citizen action groups, organizations, agencies, and individuals regarding numerous specific issues and strategies related to the broad Assessment/Strategy, including:

- Chesapeake Bay and other similar watershed and riparian restoration projects;
- Forest Legacy and other conservation easements;
- Growing seedlings at the Clements State Tree Nursery for red spruce, balsam fir, and high elevation hardwood restoration projects, as well as growing seedlings for mined land reforestation;
- Community Wildfire Protection Plans and preparedness/suppression/training issues with VFD's and other organizations;
- Management activities on State Forest lands;
- Cities and communities on UCF issues/strategies;
- Implementation of forestry related programs related to the 2008 Farm Bill;
- Mined land reforestation efforts of the Appalachian Regional Reforestation Initiative (ARRI); discussions with WV DEP, Federal OSM, community groups, legislative contacts, the WV Coal Association, and others.



B. Other Plans Consulted

Various other plans, documents, and processes were considered and consulted in the development of both the Assessment and the Strategy, including:

- Forest Legacy Assessment of Need 2003 (AON)
- State Comprehensive Outdoor Recreation Plan 2009 (SCORP)
- West Virginia Wildlife Conservation Action Plan 2006 (WVWCAP)
- Forest Management Review Commission Strategic Plan for Sustainability of WV's Forests 2010 (FMRC)
- Community Wildfire Protection Plans 2004-2009 (CWPP)
- WV Urban and Community Forestry Strategic Plan (2005-2009)
- Potomac Highlands Cooperative Weed and Pest Management Area Strategic Plan 2010
- The Red Spruce Restoration MOU, coordinated by the US Fish and Wildlife Service, and co-signed by several agencies and organizations
- Various portions of the Monongahela National Forest Land Management Plan
- Cooperative plans, reimbursement agreements, and others with the Natural Resources Conservation Service
- Grants and agreements with the WVU Division of Forestry and Natural Resources Davis College of Agriculture, Forestry & Consumer Sciences
- Agreements with the West Virginia Department of Agriculture, especially those related to Forest Health
- The contents of the West Virginia Forest Stewardship Operating Plan, which is scheduled to undergo a review and revision beginning in July, 2010 – to include updates and additions for wildlife management, biomass, carbon sequestration/credits, T&E species, prescribed burning, and cooperative wildfire protection plans
- Existing management plans for State Forests



C. Acronym List

AFHA	Appalachian Forest Heritage Area
AFT	American Farmland Trust
AHC	Appalachian Hardwood Center
ALB	Asian Long-horned Beetle
AON	Assessment of Need
APCW	Ability to Produce Clean Water
APHIS	Animal and Plant Health Inspection Service
ARC	Appalachian Regional Commission
ARRI	Appalachian Regional Reforestation Initiative
ATFS	American Tree Farm System
BA	Basal Area
BBD	Beech Bark Disease
BLS	Bacterial Leaf Scorch
BMPs	Best Management Practices
BTU	British Thermal Unit
CAPS	Cooperative Agricultural Pest Survey Program
CARS	Community Accomplishment Reporting System
CBP	Chesapeake Bay Program
CBSA	Core Based Statistical Area
CBYC	Call Before You Cut
CEAP	Conservation Effects Assessment Project
CEC	Conservation Education Council
CFFP	Cooperative Forest Fire Protection
CFHM	Cooperative Forest Health Management
CFHP	Cooperative Forest Health Protection
CFM	Cooperative Forest Management
CIG	Conservation Innovation Grants
CNC	Computer Numerical Control
CO ₂	Carbon Dioxide



CP	Conservation Practice
CREP	Conservation Reserve Enhancement Program
CRP	Conservation Reserve Program
CSCL	Cooperative State-County-Landowner Program
CSOs	Content Standards and Objectives
CSP	Conservation Stewardship Program
CSRV	Cumberland/Southern Ridge and Valley
CVNWR	Canaan Valley National Wildlife Refuge
CWPMA	Cooperative Weed and Pest Management Area
CWPP	Community Wildfire Protection Plans
CWS	Community Water Systems
DBH	Diameter Breast Height
DC	District Conservationist (NRCS)
DOH	Division of Highways
DOT	Department of Transportation
EAB	Emerald Ash Borer
EBI	Environmental Benefits Index
EI	Erosion Index
ELP	Environmental Literacy Plan
EO	Executive Order
EPA	Environmental Protection Agency
EQIP	Environmental Quality Incentives Program
ESRI	Environmental Systems Research Institute
FCC	Federal Communication Commission
FCIC	Farm Crop Insurance Corporation
FFA	Future Farmers of America
FFO	Family Forest Owners
FFY	Federal Fiscal Year (October 1 - September 30)
FHTET	Forest Health Technology Enterprise Team
FIA	Forest Inventory and Analysis (USDA Forest Service)



FIP	Forestry Incentives Program
FLA	Forest Legacy Area
FLEP	Forest Land Enhancement Program
FLIS	Forest Legacy Information System
FLN	Fire Learning Network
FLP	Forest Legacy Program
FMRC	Forest Management Review Commission
FOTG	Field Office Technical Guide
FRA	Forest Resource Assessment
FRPC	Forest Resource Planning Committee
FRPP	Farm and Ranch Lands Protection Program
FSA	Farm Service Agency (USDA)
FSC	Forest Stewardship Council
FWAP	Forest Water And People
FY	Fiscal Year
GIS	Geographic Information System
GMCS	Gypsy Moth Cooperative Suppression
GPRA	Government Performance and Results Act
GRP	Grasslands Reserve Program
GSC	Glenville State College
GWNF	George Washington National Forest
HAZ	Hardwood Alliance Zone
HELC	Highly Erodible Land Conservation
HFRP	Healthy Forest Reserve Program
HML	High / Medium / Low
HUC	Hydrologic Unit Code
HWA	Hemlock Woolly Adelgid
IITF	International Institute for Tropical Forestry
IMPER	Impervious Percent
IPM	Integrated Pest Management



ISA	International Society of Arboriculture
ISEP	Invasive Species Eradication Program
JNF	Jefferson National Forest
kWh	Kilowatt-hour
LBAM	Light brown Apple Moth
LFW	Local Fire Warden
LOA	Land Owner Assistance
LSCA	Logging Sediment Control Act
LWG	Local Working Group
MACE	Mid-Atlantic Conservation Education Cooperative
MCF	Thousand Cubic Feet
MMBF	Million Board Feet
MNF	Monongahela National Forest
MORWOOD	Mid-Ohio River Valley Woody Biomass Project
MOU	Memorandum of Understanding
MP	Management Prescription
MRLC	Multi-Resolution Land Characteristics Consortium
MT	Managed Timberland
MTRP	Municipal Tree Restoration Program
MWEEs	Meaningful Watershed Educational Experiences
NA	Northeastern Area (USDA Forest Service)
NAAEE	North American Association of Environmental Education
NAASF	Northeastern Area Association of State Foresters
NACD	National Association of Conservation Districts
NAD	North American Datum
NASF	National Association of State Foresters
NASS	National Agricultural Statistics Service
NCLB	No Child Left Behind
NCLI	No Child Left Inside
NED	National Elevation Dataset



NFPORS	National Fire Plan Operating Reporting System
NGO	Non-Governmental Organization
NHD	National Hydrography Dataset
NHLA	National Hardwood Lumber Association
NHP	Natural Heritage Program
NIC	National Information Center
NICE	Nature Watch, Interpretive Services, and Conservation Education Database
NIDRM	National Insect and Disease Risk Map
NIPF	Non-Industrial Private Forestland
NLCD	National Land Cover Database
NNIS	Non-Native Invasive Species
NNL	National Natural Landmark
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service (USDI)
NRA	National Recreation Area
NRCS	Natural Resources Conservation Service (USDA)
NRI	National Research Initiative
NRS	Northern Research Station (USDA Forest Service)
NVC	National Vegetation Classification
NWCG	National Wildfire Coordinating Group
NWI	National Wetlands Inventory
NWR	National Wildlife Refuge
NWTF	National Wild Turkey Federation
ORBCRE	Ohio River Basin Consortium for Research and Education
ORINWR	Ohio River Islands National Wildlife Refuge
OSM	Office of Surface Management (USDI)
PAD	Protected Areas Database
PAS	Performance Accountability System
PL	Public Law
PLT	Project Learning Tree



PMAS	Performance Measure Accountability System
PPE	Personal Protective Equipment
PPI	Priority Planting Index
PPQ	Plant Protection and Quarantine (APHIS)
PSC	Potomac State College
RAWS	Remote Automated Weather Stations
REIT	Real Estate Investment Trust
RESA	Regional Education Service Agency
RGS	Ruffed Grouse Society
RIC	Redesign Implementation Council
RMRS	Rocky Mountain Research Station
RTE	Rare, Threatened, and Endangered (species)
S&PF	State & Private Forestry (USDA Forest Service)
SAP	Spatial Analysis Project
SBA	Small Business Administration
SCORP	Statewide Comprehensive Outdoor Recreation Plan
SF	State Forest
SFA	State Fire Assistance
SFI	Sustainable Forestry Initiative
SFSCC	State Forest Stewardship Coordinating Committee
SGNC	Species in Greatest Need of Conservation
SIP	Stewardship Incentives Program
SMCRA	Surface Mining Control and Reclamation Act
SP	State Park
SSMC	State Species of Management Concern
SSURGO	Soil Survey Geographic Database
STATSGO	State Soil Geographic Data Base
STC	State Technical Committee
TIMO	Timberland Investment Management Organization
TMDL	Total Maximum Daily Load



TNC	The Nature Conservancy
TRI	Toxic Release Inventory (EPA)
TSI	Timber Stand Improvement
TSP	Technical Service Provider
U&M	Utilization and Marketing
UCF	Urban and Community Forestry
UFORE	Urban Forest Effects
UFS	Urban Forest Sustainability
US	United States
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USDI	United States Department of Interior
USFS	United States Forest Service (USDA)
USFWS	United States Fish and Wildlife Service (USDI)
USGS	United States Geological Survey
UTC	Urban Tree Canopy
UTM	Universal Transverse Mercator (coordinate system)
VFA	Volunteer Fire Assistance
VFD	Volunteer Fire Department
WC	Wetland Conservation
WebDET	Website Data Entry Tool
WERC	Wood Education and Resource Center
WFSI	Wildland Fire Susceptibility Index
WHIP	Wildlife Habitat Incentives Program
WinDET	Windows Data Entry Tool
WMA	Wildlife Management Area
WOA	Woodland Owners Association
WRA	Wildfire Risk Assessment
WREP	Wetlands Reserve Enhancement Program
WRP	Wetlands Reserve Program