



West Virginia

2020 State Forest Action Plan

National Priorities Section Addendum



WEST VIRGINIA

2020 FOREST ACTION PLAN

NATIONAL PRIORITIES SECTION ADDENDUM

The 2008, 2014 and 2018 Farm Bills, under Title VIII – Forestry, amends the Cooperative Forestry Assistance Act of 1978, to include the requirement that each state develop a long-term, statewide assessment and strategies (now known as Statewide Forest Action Plans) for forest resources. These assessments and strategies focused on three national priorities:

- Conserve and Manage Working Forest Landscapes for Multiple Values and Uses
- Protect Forests from Threats
- Enhance Public Benefits from Trees and Forests

These documents were developed with a comprehensive team of stakeholders to address cross-boundary, landscape scale actions that would be the most efficient activities to address issues of concern developed for the assessment phase of the Forest Action plan.

This document serves as a record of activities taken by all state stakeholders to address strategic actions identified in West Virginia's 2010 Statewide Forest Action Plan, 2016 - 2020.

Please note: Supplemental language provided in the 2014 Farm Bill as signed on February 7, 2014, indicates additional coordination requirements. In subsequent reporting, accomplishments with these partners should be included. Section 2A(c)(5) reads; *“as feasible, appropriate military installations where the voluntary participation and management of private or State-owned or other public forestland is able to support, promote, and contribute to the missions of such.*



National Priority 1

Conserve and Manage Working Forest Landscapes for Multiple Values and Uses

State Issue 1 Addressed: Competing Land Uses

Issue 1 Addressed: Competing Land Uses	
Long-term Strategy	Measure of Success
1. Protect significant forest land by acquiring working forest conservation easements.	Acquisition of approximately eight conservation easements.

Strategy Narrative:

The goal of the Forest Legacy Program in West Virginia is to protect from development, parcelization, and fragmentation, regionally significant properties that contain important environmental values and contribute to working forest economies and local communities. Priority landscape areas for planned land protection activities are the Cheat River, Potomac Highlands, Allegheny Mountains, and Greenbrier / New River Forest Legacy Areas. Forest Legacy competitive grants and administrative grants will be used to provide funding for the Forest Legacy Program to purchase conservation easements, protect land, and administer the program. These easements are to protect properties that are desirable and that will not cause difficulty for the West Virginia Division of Forestry (WVDOP). Further, the titles shall be clear and free of defect; rights-of-way shall be free of problems; boundary disputes shall be resolved; and easement language is to be clear, so as to avoid problems in the future. The WVDOP shall not acquire more easements than it can effectively monitor.

Strategic Accomplishment:

Eight conservation easements have been acquired (7 with federal funding, 1 with non-federal funding).

State Issue 2 Addressed: Communication and Education

Sub-Issue 2.1 Addressed: Lack of forestry education in public schools	
Long-term Strategy	Measure of Success
1. Contact each elementary school in West Virginia with forestry information.	Increase the knowledge of forestry issues within the citizenry of the state starting with contacting each elementary school every 1-3 years.

Strategy Narrative:

Priority areas correspond to regions where major educational emphasis is central to the project or where this emphasis is severely lacking. Some of the areas include the eight-county area of West Virginia's Eastern Panhandle within the Potomac River drainage of the Chesapeake Bay watershed; the four Northern Panhandle counties; the Upper I-79 Corridor; and the southern coalfield counties. Strategies to increase educational opportunities and build educational capacity and outreach within these areas will include:

1. Contact each elementary school in West Virginia with forestry information.
2. Contact pre-service teaching colleges / universities to establish partnerships for Conservation Education.
3. Encourage participation in the Project Learning Tree curriculum to promote using the forest as a “window to the world.”

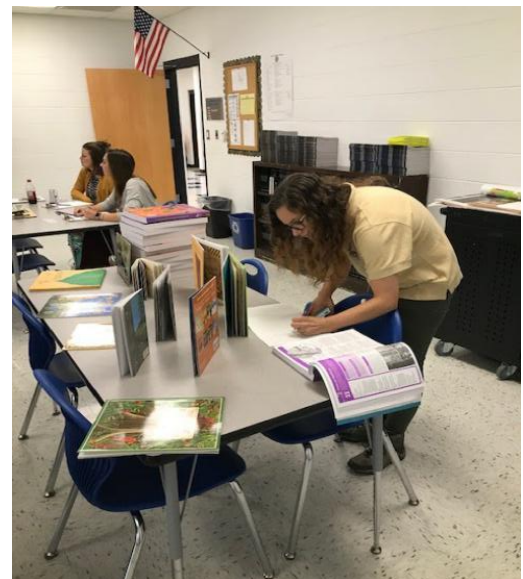
Potential exists for further development of more extensive partnerships with universities, colleges and other industries to gain joint support for projects that enhance forestry knowledge. Current developments of new educational standards, new Project Learning Tree curriculum modules, and incorporating hands-on and STEM activities have allowed opportunities for WVDOF partnerships with county school districts. The WVDOF also uses program-specific information (Fire, Logging, stewardship, etc.) and Project Learning Tree as tools to accomplish its educational mission.



Strategic Accomplishment:

AmeriCorps - In 2017, the West Virginia Division of Forestry contracted an AmeriCorps member through the Appalachian Forest National Heritage Area to serve as an Education and Outreach Aide under the Assistant State Forester for Education and Communication who also serves as the state-wide Project Learning Tree coordinator. The addition of an AmeriCorps member located in the central part of the state has allowed for greater WVDOF participation in more environmental education activities as follows:

- Water Festivals (hosted by the Department of Environmental Protection)
- Envirothon
- Scouting events
- 4-H events
- Summer and after school program events in the central and southern regions of the state
- PLT workshop for Appalachian Forest National Heritage Area (AFNHA) AmeriCorps members from other AFNHA service sites
- Potomac Highlands Cooperative Weed and Pest Management Area invasive species education programs



The AmeriCorps member also played a key role in the development and review process of the new WVDOF website; and is responsible for contributing social media posts to be reviewed by commerce communications for Facebook and Twitter as a part of the public outreach effort. As of this year, outreach numbers have increased by 40% on the website, and the Facebook following has increased from around 11,000 followers to nearly 15,000 followers.

Educator Training – The WVDOF is using Project Learning Tree as one of its vehicles to implement training. Many educators do not have a strong science background, so with a structured, easy to follow, goal driven approach to teaching, PLT is ideal for any teaching background. Requests for trainings are increasing now that Next Generation and Common Core standards are being implemented into the curriculum. Demand for hands-on training and materials allow the WVDOF to be the technical resource for students and teachers to understand the natural world. Over the past five years, the WVDOF has reached 1,075 elementary-, middle school-, high school- and pre-service educators. This amounts to conservation education reaching more than 25,800 students.



WVDOF is a co-sponsor of Project Learning Tree in the state along with an NGO, West Virginia Forestry Association. WVDOF has appointed one of its foresters to accept the position as Statewide PLT Coordinator. This position within the division has been a great opportunity to continue the momentum and consistency of the education program in the state. With the creation of the new education focused position, the director has allowed for time to bring awareness of Conservation Education into the southern part of the state where fire education was traditionally the main emphasis. To help out with outreach in the state and especially the southern counties, Marshall University, Glenville State College and West Virginia University's Pre-Service Education professors have partnered

with WV PLT to become PLT facilitators to incorporate training for their Pre-Service students before they begin teaching in the school system.

STEM - WVDOF has been involved with planning and participating in the Mineral County STEM festival at Potomac State College of WVU since the beginning. Over 6000 visitors have taken part in the festival over the last five years. A recent demand for emphasis on STEM (Science, Technology, Engineering and Mathematics) related activities has given WVDOF a very important niche in supporting current education standards. Forestry is a complex science that requires all STEM facets to properly bring together the necessary practices to maintain the balance between a healthy forest ecosystem and an industrial aged world.



Water Festivals- The WVDOF participates in day long outdoor learning festivals centered around water education that are hosted by our partner agency WVDEP and sister program Project Water Education for Teachers (PWET). These festivals are held state-wide with a current focus in the more southern areas of the state. Because PLT closely aligns with some of the content found in the PWET curriculum, PLT activities are a great fit with the festival theme and help to promote cooperation between not only state agencies but with the sister programs as well. It is estimated that PLT content provided through the water festivals reach around 2500 students each year.



Smokey Bear – Smokey Bear programs continue to be the prime method to promote the fire prevention message in school systems. Our goal was to visit every elementary school within the state every 1-3 years and with hundreds of programs presented bi-annually, that goal has been met.

Correlating WVDOF informative activities to West Virginia educational standards - WVDOF took some of their common program presentations and requested that educators let them know how WVDOF's presentations allowed them to achieve their educational goals. This has helped promote non-professional educators (WVDOF personnel) deliver content that is beneficial for schools in many ways.

Figure 2.2 Examples of West Virginia Science Awards

Grade 3	Science
Standard	General Science Content
Topic	Forces and Interactions
Objectives	Students will
S.3.GS.1	plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.
S.3.GS.2	make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.
S.3.GS.3	ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.
S.3.GS.4	define a simple design problem that can be solved by applying scientific ideas about magnets.*
Topic	Interdependent Relationships in Ecosystems
Objectives	Students will
S.3.GS.5	construct an argument that some animals form groups that help members survive.
S.3.GS.6	analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.
S.3.GS.7	construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

Strategic Accomplishment:

The West Virginia Division of Forestry in conjunction with the Little Kanawha, Upper Ohio, and West Fork Conservation Districts have held a practice forestry contest for Ag-Ed students in preparation for the state FFA Career Development Events (CDE) since the late 1980's. The Upper Ohio CD was the first to have a contest and then over the years the Little Kanawha and West Fork had their own contests until an agreement was made in 2017 to combine the three separate contests into one for ease of the WVDOF and ease of the schools in being able to come and participate.

The students are tested on: General forestry knowledge, Tree ID, Compass and Pacing, Tree measurements, Tool ID, and Business problem. The schools participate in a team of four members.

The following are the number of schools and students present over the last five years.

Year	# of Schools	# of students
2016	7	27
2017	10	37
2018	9	37
2019	6	25
2020	No contest due to Covid-19	

State Issue 3 Addressed: Sustainability of Forest Resources in West Virginia

Sub-Issue 3.1 Addressed: Growth, Yield, and Management	
Long-term Strategy	Measure of Success
4. Employ the full range of cost share and financial assistance programs to enable NIPF landowners to actively manage their forests.	Increase in acres of NIPF lands with preharvest silvicultural and forest health treatments

Strategy Narrative:

WVDOP will work closely with the NRCS and its EQIP program to provide more financial assistance, (EQIP, RCPP, CSP, etc.), to NIPF landowners for forestry practices. This will benefit all forestry programs and issues in the state.

Strategic Accomplishment:

YEAR	EQIP Plans	Planned Acres
2018	77	3,113
2019	39	1,628
2020	134	3,017

Note: It has been difficult to keep foresters in the NRCS positions for several reasons (advancement in agency, layoffs, or found better employment).

State Issue 7 Addressed: Forest Health Strategy

Sub-Issue 7.1 Addressed: Native and Exotic Diseases, Insects, and Invasive Species of Concern	
Long-term Strategy	Measure of Success
1. Develop effective survey and monitoring methodologies.	To be determined through methods development.

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.

Strategic Accomplishment:

There is a percentage of beech trees that remain healthy despite the degree of Beech Bark Disease (BBD) present. Studies have shown that when eggs are directly placed onto the bark of these trees, the scale insect doesn't establish itself. This indicates a level of resistance to the scale. In the absence of feeding activity by the beech scale insect, there is little opportunity for *Neonectria* to invade, minimizing impact of the fungus. The WVDA has employed the technique of conducting artificial challenges of beech trees with the beech scale for assessing genetic resistance of beech trees to beech scale infestation. This technique attempts to provide a rigorous test of a tree's ability to resist insect infestation by placing scale eggs in direct contact with the bark of a test tree and provides an ideal environment for the insect to thrive.

After one year, an evaluation of the beech scale challenges is conducted on each challenge tree to determine if the scale hatched, fed, reproduced, and established a colony. If the scale did not, the Beech tree is considered resistant and scion will be collected and sent for grafting to root stock and further testing for resistance by geneticists with the USFS, Northern Research Station.

The WVDA along with the USFS, Northern Research Station, Monongahela National Forest, and State and Private Forestry have established a resistant beech seed orchard at the USFS Timber and Watershed Laboratory located in Parsons, WV. The purpose is for the orchard to propagate regionally adapted beech nuts for restoration plantings to reestablish healthy American beech trees in our forests.

Strategic Accomplishment:

West Virginia Department of Agriculture Plant Industries Division began using the USDA FS Forest Disturbance Monitor (FDM) system to detect, survey, and monitor forest disturbances throughout the state, all year long, in near real time. The FDM is a canopy green down signature detector that uses satellite data to detect and digitize forest disturbances. The FDM has been a significant improvement from the traditional method of only flying aerial surveys during gypsy moth defoliation windows. Use of the FDM has resulted in the most comprehensive disturbance data reported by the division.

Strategic Accomplishment:

To date there are seventy-eight beech bark disease resistant beech trees of four different genotypes planted in the orchard in Parsons, WV. The trees are cared for by both Forest Service and West Virginia Department of Agriculture staff. In the spring of 2020, a deer fence was constructed to protect the beech trees.



Beech bark disease resistant beech trees planted in Parsons, West Virginia.

National Priority 2

Protect Forests from Threats

State Issue 2 Addressed: Communication and Education

Sub-Issue 2.2 Addressed: Public Perception of Forestry	
Long-term Strategy	Measure of Success
1. Provide forestry interpretive/interactive areas of all State Forests and the Chesapeake Bay.	Install interactive sites that can be accessed by the public to educate them in forestry practices to help them better understand reasons they are done.

Strategy Narrative:

The geographic regions of prime concern for interpretation are State Forests and counties in the Potomac River watershed that drain into the Chesapeake Bay; the Upper Ohio River corridor: Education activities within these regions will be the focus of the following strategies:

1. Identify and incorporate educational goals and targets in each State Forest
2. Identify an area to develop educational/interpretive facilities in the Chesapeake Bay Watershed

Strategic Accomplishment:

The *Chesapeake Bay Program* began in 2003 with major emphasis on the eight Eastern Panhandle counties. This goal has come to light through many organizations' involvement. Many riparian tree plantings have taken place in the Chesapeake Bay area, and signage has been done to inform people of why practices have been put in place and how they can help achieve the Chesapeake Bay goals. A timber harvest is being conducted in cooperation with a local 4-H camp with the plan for this to become a demonstration area to educate the public of harvests and their role in the Bay's water quality. Over the past five years the Chesapeake Bay Program has achieved the following accomplishments:

Non-CREP buffers coordinated by WVDOF:

- 1st half 2015: 1160 feet of buffers, which was 1.3 acres
- "Progress Year 2016" (which is 2nd half 2015 + 1st half 2016): 5,710 feet of buffers, or 4.7 acres
- Progress Year 2017: 4.6 acres
- Progress Year 2018: 5 acres
- Progress Year 2019: 13 acres

Tree planting projects coordinated by the WVDOF included "Trees for Bees", Bay Communities Grants, and 319 work. Some of the tree planting accomplishments include:

- Progress Year 2016: 356 trees (agricultural, corresponds to 1.19 acres) plus 674 trees ("urban")
- Progress Year 2017: 2.7 acres plus 160 trees
- Progress Year 2018: 1.7 acres plus 72 trees
- Progress Year 2019: 0.6 acres plus 363 trees

The *State Forests* have been conducting public walks to help educate local individuals about why the State Forests are there and their benefits. Usually this happens before a harvest. Areas of the forests are being designated as “Pollinator Zones”. Pollinators such as bees and butterflies are essential to maintaining a balanced ecosystem, food and shelter, for wildlife. In addition to the “Pollinator Zones”, through the practice of Multiple Use Management, many wildlife areas and smaller more specialized areas called “Wildlife Pods” have been created as part of a larger effort to create a mosaic of wildlife habitats throughout the forests called “Forest Management Complexes”. Signage has been added to the state forests to highlight the importance of these created wildlife areas and the management methods used to achieve these land improvements. Interpretive signage informing the public of recent harvest activities.

Strategic Accomplishment:

WV Division of Forestry’s Honor Guard

Former WVDOT Director, Barry Cook wanted to establish an honor guard and have a chaplain on staff to see to the honoring and comfort of employees during times of loss. During the formation of the DOF Honor Guard many outside agencies offered assistance and direction. State forestry agencies from Maine, Virginia, North Carolina, Florida and Texas A&M offered technical advice, direction on uniforms, equipment needs and protocols. The Tyler County and Gilmer County fire departments offered support and supplies in some cases due to the close working relationship they have with the DOF. Across the state most fire departments work with the DOF during emergency response and the Honor Guard builds that rapport when we have a presence during services for their members.



Members of the WVDOT Honor Guard



The message of the honor guard is to convey to the public that the DOF is not simply a group of foresters. Honor Guard units are synonymous with all fire and law enforcement agencies. The DOF is first and foremost forest fire control and forest fire law enforcement. Hopefully when the public sees our highly uniformed Honor Guard it will help them to see the DOF as necessary public service first responders and law enforcement.

The Honor Guard attends many festivals and any forestry related events that would be appropriate for attendance. Currently we have 9 DOF personnel that are active in the Honor Guard.

Within the next 10 years there are plans to expand the WVDOT Honor Guard participation through recruitment of new employees. Attend public activities within more counties across the state.

State Issue 3 Addressed: Sustainability of Forest Resources in West Virginia

Sub-Issue 3.1 Addressed: Growth, Yield, and Management	
Long-term Strategy	Measure of Success
3. Bring more NIPF lands into the Stewardship Program at a faster rate and retain these lands as "current" stewardship plans.	Improvement in retention rates of "stewardship plan" landowners and increase in rate of new plans being prepared.

Strategy Narrative:

WVDOF foresters, private consultants, and WVU Extension will identify ways to focus efforts on stewardship planning. The WVDOF will work closely with the USDA Forest Service to implement the new Stewardship Project which became effective in 2011. The WVDOF will also work closely with the Natural Resource Conservation Service (NRCS) Environmental Quality Incentives Program (EQIP) to identify ways to work together on this long-term strategy.

All program areas and identified issues will benefit from this information, as will all stakeholders with interest in the forests of West Virginia.

This strategy will require personnel from state and federal agencies cooperating closely with consultants, university researchers, and other interested parties. State funds and federal grants were necessary to implement this strategy.

Strategic Accomplishment:

- Nineteen Quarterly Forest Stewardship Plan Writer workshops were held.
- Three-hundred and forty-nine plans were written covering 49,698 acres.
- Meet Your Forester seminars – 14 seminars held with 322 participants.
- Walk in the Woods peer-to-peer sharing of forest management activities – 19 Walks in the Woods with 337 participants.
- Successful implementation of SMART through new hardware and software, training for forestry staff, training to consultant forester plan writers, and GIS Manager involvement with SMART development team.
- Development of internal standard operating procedures, plan checklists, and spreadsheets to track plan from initial application to developed Forest Stewardship plan.
- WVU extension had 7700 contacts to NIPF landowners
- Five monitoring surveys conducted – Three by WVU extension and two by WVDOF staff.

Sub-Issue 3.5: Habitat Diversity and Conservation	
Long-term Strategy	Measure of Success
2. Participate in Fire Learning Network to better understand the importance of and uses for prescribed fire in certain types of silvicultural and ecological habitats.	Prescribed fire benefits are well understood and used to achieve specific goals when applicable.

Strategy Narrative:

Prescribed fires, under carefully controlled and monitored conditions, can have important silvicultural, habitat diversity, and other ecological benefits. While prescribed fire has been common in other parts of the country for many years, it is somewhat new to West Virginia.

WVDOF is interested in working with public agencies, universities, NGOs, and others to begin implementing prescribed fire projects where it is determined to be beneficial. A certain degree of education and acceptance will be necessary for all parties to become fully engaged in these activities.

The Conservation Education, Fire, and Forest Health programs will be highly involved initially. Federal grants, state budgets, and other funding sources will be necessary. Research entities and Extension will have roles, as will forestry-related companies, consultants, NGOs, and private landowners.

Strategic Accomplishment:

- Annual prescribed fire practice on WVU Research Forest to enhance oak regeneration.
 - 4 prescribed burns, 32 acres treated, 120 students trained.
- Annual prescribed fire practice on Glenville State College properties.
 - 4 prescribed burns, 7-8 acres treated, 80 students trained
- WVDOF assisted WVDNR with prescribed fire to maintain certain vegetative communities on Wildlife Management Areas.

WVDNR Vegetation Control Burning	
Year	Acres
2016	120
2017	234
2018	91
2019	239
2020	139

Sub-Issue 3.6: Public Lands	
Long-term Strategy	Measure of Success
2. Cooperate with other public agencies to achieve forest management goals.	Active interagency projects are occurring.

Strategy Narrative:

The state lands manager is working with other agencies on three specific working groups, all dealing with forest health issues: The Gypsy Moth Working Group, the Hemlock Conservation Group and the Invasive Species Working Group. In addition, other cooperative efforts are occurring with the CWPMA, the Fire Learning Network, High Elevation Restoration Working Group (name changed to Central Appalachian Spruce Restoration Initiative – CASRI), the Monongahela National Forest, and other potential partnerships.

Strategic Accomplishment:

The State Lands Manager continues to meet with the working groups dealing with forest health issues. In the spring of 2016, the WVDA survey showed 3,974 acres on Seneca State Forest, and 1,432 acres on Calvin Price State Forest met the egg mass threshold and were treated to prevent gypsy moth defoliation.

Other forest health issues include Diplodia Corticola killing dominate and codominant red oak in Greenbrier and Pocahontas Counties. The DOF discovered this on State Forests and has worked with WVDA, the USDA Forest Service State & Private and WVU. Samples were collected and various laboratories worked to identify the causal agent.

The WVD OF provided additional input and professional opinions on the Ty Chest project on the Monongahela National Forest. Non-commercial wildlife habitat enhancement has been completed on this project, but commercial timber harvesting has yet to take place.

The WVD OF continues to participate in the CWPMA.

The WVD OF has three Good Neighbor Authority agreements in place with the Monongahela National Forest. Part of the work has been completed but due to COVID-19 and poor market conditions, commercial timber harvest preparations were put on hold. This work is scheduled to resume in 2021.

The WVD OF was able to obtain two used John Deere 450-G dozers from the Ohio Division of Forestry. This was made possible through an MOU and the fact that both states are members of the Mid-Atlantic Fire Compact.

The WVD OF also obtained a used 750 John Deere dozer from the Ohio Division of Forestry and a used 310D John Deere Backhoe from the USFS Monongahela National Forest, all made possible through the Federal Excess Personal Property (FEPP) program.

This Equipment will be used to maintain roads for management and fire control access on State Lands, to construct fire lines on State Lands for prescribed fire implementation and for wildfire suppression on any lands in WV.

The WVDOT purchased a Kenworth truck from the WV State Agency for Surplus Property to use in transporting the newly acquired equipment. A lowboy equipment trailer was also purchased with funding from a good neighbor agreement with the USFS.

CASRI – the WVDOT continues to actively participate in this group and has hosted several tours on Kumbrow State Forest as well as participated/presented on several tours on the Monongahela National Forest.

State Issue 5 Addressed: Wildfire Management, Resource Protection, and Public Safety

Sub-Issue 5.1 Addressed: Prevention, Preparedness, and Suppression	
Long-term Strategy	Measure of Success
1a. Continue to provide timely and effective wildfire suppression services for the citizens of West Virginia. 1b. Continue to provide education and training in efforts to reduce overall fire occurrence and acres burned. 1c. Continue to provide advanced training opportunities.	Fewer fires and less acreage burned.

Strategy Narrative:

The prevention, preparedness, and suppression program covers the entire state. There is the potential for wildland fires to occur in every county. The WVDOT will continue to use federal and state funds and work with federal, state and local authorities to provide the most efficient wildland fire suppression services to the citizens of the state.

Strategic Accomplishment:

Significant replacement of fire suppression equipment has been accomplished. Wildfire suppression training was provided to 3,500 individuals with emphasis on volunteer fire departments. Over \$580,000 in equipment has been provided to volunteer fire departments. Over 1,350 prevention programs were presented that contacted about 300,000 individuals. Advanced training was provided to agency personnel as needed. These measures have increased wildfire suppression capacity and effectiveness, wildfire prevention awareness, and trained personnel. The number and size of wildfires has decreased over the 2015-2020 period when compared to the 10-year average. However, wet weather over two years in the time period contributed to the decline also.

Sub-Issue 5.2 Addressed: Southern Coal Fields "Predictive Burn Area"	
Long-term Strategy	Measure of Success
1. Continue strong prevention, education, and suppression presence in this area. Maintain investigative abilities in fire prone areas. Work with VFDs and local authorities to reduce number of fires and acres burned.	Prompt suppression efforts with decreased acres burned, and fewer fires.

Strategy Narrative:

In this 14-county area of the state, 57 percent of West Virginia's wildfires occur, as well as 95 percent of the state's total acres burned, which remains the same as reported in 2015. With this amount of wildland fire activity, there will be a constant presence of WVDOF personnel. The WVDOF uses federal grant funds to help train and equip local fire agencies. The WVDOF will continue emphasis in this area in efforts to reduce the number of wildland fires and decrease the size of the fires that do occur.

Strategic Accomplishment:

There has been a decrease in the number of fires but an increase in acres burned over the time period when compared to the 10-year average. There has been an 8% increase in average fire size compared to the 10-year average. A one-third reduction in field personnel that occurred in 2016 contributed to the increase in acreage and average fire size. Two wildland fire investigators with canines continue to be stationed in the area.

Sub-Issue 5.3 Addressed: Mine Breaks	
Long-term Strategy	Measure of Success
1. Locate, monitor, and contain exposed coal seams that are burning.	Work with coal companies to locate and establish control lines; reduce size and number of fires.

Strategy Narrative:

In the past, grant funds have been available to treat mine breaks in efforts to reduce the number of fires and acres burned by their occurrence. Through similar means of funding and working with local mining and land companies, new and existing mine breaks need to be treated or re-treated.

Strategic Accomplishment:

All burning coal seams have been located and mapped. Previously installed mitigation measures are maintained annually. Burning coal seams are periodically inspected to determine potential for causing wildfires. A total of 176 inspections were conducted over the reporting period. Land ownership transfers continue to delay additional mitigation and negotiations with present owners continue to progress. Liability concerns and right of ingress-egress also create obstacles to additional mitigation measures.

Sub-Issue 5.4 Addressed: Identify Existing and New Wildland-Urban Interface (WUI) Areas	
Long-term Strategy	Measure of Success
1. Provide educational information and assistance to communities for development of CWPP plans; Assist with the implementation of existing plans; Expand the availability of the WUI program beyond the current Priority areas.	Increased acres and communities involved in program and successful implementation of existing plans.

Strategy Narrative:

The WVDOP currently has a successful WUI/CWPP program in the Eastern Panhandle area of the state. As population increases and land-use changes occur throughout the state, the need to expand the WUI/CWPP program to other developing areas of the state is becoming apparent.

Strategic Accomplishment:

During the period 2015-2019, 183 WUI assists were made and one state facility plan was updated covering 8,502 acres. The WUI/CWPP program has been expanded statewide. Several high at-risk communities were contacted regarding development of a CWPP, but little interest has been expressed. Efforts continue to educate communities on wildfire threat and development of a protection plan.

Sub-Issue 5.5 Addressed: Location of Volunteer Fire Department Coverage in Forested Areas	
Long-term Strategy	Measure of Success
1. Work to improve training and response capabilities of rural fire departments throughout the state.	Increase or continue cooperation with VFDs; Provide timelier and more effective wildfire response; Fewer gaps in response areas.

Strategy Narrative:

The WVDOP works closely with VFDs throughout the state to improve response capabilities. With the assistance of federal grant funds, the WVDOP is able to train VFD members and supply them with wildland firefighting clothing and equipment. This program must continue, and it must expand in certain geographic areas in order to meet response time capabilities.

Strategic Accomplishment:

The locations of all fire departments have been incorporated into our GIS system. Available equipment lists have been prepared for most cooperators. During the period, 171 wildfire suppression training programs were given to over 2,081 volunteer firefighters. Over \$580,000 in equipment was provided through VFA and SFA grants to increase suppression capacity. Over \$1,100,000 in FEPP and FFP equipment has been obtained for fire departments during the period.

Sub-Issue 5.6 Addressed: Wildfire Fuels / Fire Potential	
Long-term Strategy	Measure of Success
1. Monitor wildland fire fuels to predict or prevent catastrophic fire activity. Locate and map potential "problem" areas.	Map all high-risk fire areas in the state.

Strategy Narrative:

West Virginia has approximately 12 million forested acres within its boundaries. The majority of these forests are of the oak/hickory and mixed hardwood timber types. Combined with decreased timber activity throughout the state, there is potential for wildland fire to occur statewide. The WVD OF will monitor and locate areas of increased potential and areas of known higher fire occurrence and take appropriate action.

Strategic Accomplishment:

The Division of Forestry continues to operate and maintain 13 RAWS sites. All fire origins are incorporated into our GIS system to identify high fire occurrence areas. The entire state has been mapped for risk potential. The majority of land ownership data and boundaries have been incorporated into our GIS system. Storm, insect, and disease damage areas are evaluated for wildfire risk potential when they occur.

Sub-Issue 5.7 Addressed: Lack of Public Understanding of Prescribed Fire and WVD OF Participation in the "Fire Learning Network"	
Long-term Strategy	Measure of Success
1. Assist and support other state and federal agencies and NGOs in prescribed fire activities; WVD OF will participate in the FLN.	Partnerships with TNC, USFS, Other agencies; Increased public understanding of the role of fire in ecosystem management; Plan and conduct a prescribed burn on a State Forest.

Strategy Narrative:

The WVD OF does not currently conduct prescribed burning on its properties but will begin to consider implementing prescribed fires on State Forest land. The WVD OF will assist state and federal agencies, as well as NGOs, with their prescribed fire activities. Begin explaining the ecosystem benefits of fire in the WVD OF's public education activities, when appropriate. Wildfire and arson related problems are prevalent in certain parts of the state and have been historically. Prevention and rapid response for suppression, as well as law enforcement actions, have been the focus of the WVD OF Fire Program for decades. Therefore, the agency must carefully consider how and where to begin implementing a prescribed burn program in West Virginia.

Strategic Accomplishment:

The WVD OF has worked with other state and federal agencies to support their prescribed fire programs by reviewing burn plans and issuing burning permits where warranted. Monitoring assistance is also provided upon request on burn days. The WVD OF participates in the Fire Learning Network. Prescribed fire for wildlife enhancement and forest regeneration has been performed on state forests. In 2018, a prescribed fire law was enacted that officially authorized the use of prescribed fire, but only on Wildlife Management Areas, State Forests, and federal property.

Sub-Issue 5.8 Addressed: Silvicultural Benefits of Prescribed Fire	
Long-term Strategy	Measure of Success
1. Continue to assist and support other State and Federal agencies in their prescribed fire activities; Plan and conduct a prescribed burn on State Forest land.	Increased cooperation with USFS, WVDNR Wildlife, TNC, on prescribed fires; Increased public understanding; Completion of a prescribed burn on a State Forest.

Strategy Narrative:

The WVDOP does not currently practice prescribed burning on its own lands. The WVDOP will assist state and federal agencies with their silvicultural related prescribed fire activities. Identify at least one potential area on State Forest lands for a prescribed burn to achieve silvicultural objectives.

Strategic Accomplishment:

In 2018, a state law was enacted authorizing prescribed burning on Wildlife Management Areas and State Forests. Assistance was provided to the Division of Wildlife in conducting prescribed burns on wildlife management areas. One prescribed fire was conducted on a state forest for silviculture purposes and others are being planned.

Sub-Issue 5.9 Addressed: Property Values in the Wildland-Urban Interface	
Long-term Strategy	Measure of Success
1. Monitor and evaluate the value of damage caused by wildfires throughout the state as populations grow and land uses change.	More accurate property damage values from wildfire assessed, especially in WUI areas.

Strategy Narrative:

The WVDOP is the primary response agency for all wildfire incidents on state-and privately-owned forest lands. By monitoring property values and land use changes, the WVDOP will be able to determine the value of property damage loss caused by wildfire and the expenses incurred in suppressing these fires.

Strategic Accomplishment:

The property value assessments for most counties in the state have been obtained incorporated into the WVDOP GIS system. Missing data will be incorporated when it becomes available.

State Issue 6 Addressed: Sustainability of Urban Forests

Sub-Issue 6.4 Addressed: Air quality	
Long-term Strategy	Measure of Success
1. Increase the capacity of trees within urban areas and surrounding forests to filter and reduce airborne pollutants.	Increase in canopy cover within urban areas and conservation of surrounding forest land buffering communities.

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 Demonstration City, Chesapeake Bay 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 that 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 toward "carbon-neutral" manufacturing and energy production will provide additional opportunities for industry-funded tree planting and conservation projects in surrounding communities.



Strategic Accomplishment:

Mountaineer Treeways – Financial support from private sources has allowed us to provide additional tree planting opportunities through the Mountaineer Treeways Program that address multiple planned objectives. Over the past five years, the Mountaineer Treeways program involved 41 communities and volunteer organizations and resulted in the planting of 4,705 trees.

Sub-Issue 6.5 Addressed: Public drinking water quality/quantity	
Long-term Strategy	Measure of Success
1. Enhance water quality and public benefits by increasing tree canopy to impervious surface ratios in urbanized areas.	Increase in canopy cover and permeable surface area within 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 Demonstration City, Chesapeake Bay 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.

Strategic Accomplishment:

Carla Hardy WV Project CommuniTree - promotes tree planting and education on public land through volunteerism in the Potomac Headwaters of West Virginia. This volunteer-based program also focuses on

enhancing and promoting awareness of watershed and riparian area needs such as storm water management, water quality issues, buffer zone planting and soil erosion. Since 2015, the program has resulted in the establishment of 4,264 trees across the Chesapeake Bay Watershed with volunteers dedicating 21,164 hours to tree planting.

State Issue 7 Addressed: Forest Health Strategy

Sub-Issue 7.3 Addressed: Pest Management and Eradication	
Long-term Strategy	Measure of Success
1. Protect high value trees.	Post treatment survival.

Strategy Narrative:

Pest management and eradication activities are continually conducted for gypsy moth and hemlock woolly adelgid. These pests are considered major problems. West Virginia has an active suppression program for gypsy moth and hemlock woolly adelgid. The gypsy moth program is conducted on public and private lands statewide, while the hemlock woolly adelgid program is statewide but only on public lands.

Strategic Accomplishment:

Hemlock Woolly Adelgid

Every year WVDA personnel conduct surveys for high-value and high-profile hemlock trees on state lands that are infested with hemlock woolly adelgid (*Adelges tsugae*). The purpose of the survey is to locate candidates for chemical intervention to reduce HWA populations and decrease the aesthetic, economic, and environmentally adverse impacts caused by defoliation, dieback, decline, and resulting mortality.

Since 2004, the WVDOP has been conducting chemical suppression treatments on state lands. In 2010, we expanded the program to include federal lands, which has resulted in the treatment of 1,974 trees on said lands and over 18,000 trees treated on state lands. Treated trees are monitored post treatment to measure the effectiveness of the suppression efforts.

Another method of controlling the hemlock woolly adelgid that we have been using since 1999 is biological control through predacious beetles. So far, we have implemented four different species of predators in different areas of the state. As of yet, we have not been able to recover any of our predators, but we have seen improvement in the infested areas where they have been released.



WVDA staff applying Coretect, measuring and tagging infested Hemlocks at Cathedral State Park, Tucker County, WV.

National Priority 3

Enhance Public Benefits from Trees and Forests

State Issue 2 Addressed: Communication and Education

Sub-Issue 2.3 Addressed: Lack of Internal Formal Training

Long-term Strategy	Measure of Success
1. Train selected WVDOF personnel on Project Learning Tree Program.	Increase in the number of WVDOF (2-3) personnel who will become PLT facilitators/trainers in each WVDOF region.

Strategy Narrative:

The priority landscape area: statewide.

Strategies to build capacity include:

1. The WVDOF will coordinate with the Project Learning Tree Steering Committee and WVFA to set up training for selected WVDOF personnel as well as other interested personage on how to effectively present programs to teachers, students, and various other groups.
2. Provide materials that will assist non-formal educators to accomplish educating teachers on the natural resource content and helping them better understand their natural world.
3. Maintain an active role in educational opportunities around the state. These can be school sponsored events, camps, parades, festivals.

Awareness can be developed through local events, such as volunteer tree planting projects, and strengthened through personal contact with WVDOF staff.

Strategic Accomplishment:

Boy Scouts Jamboree – The WVDOF has been involved with the Boy Scout Jamboree in 2013 and 2017 and the International Scouting Jamboree in 2019 at the Summit Bechtel Center in Fayetteville, WV. The Jamboree introduced the new facility to more than 40,000 scouts, leaders, and the public. The WVDOF worked with the Scouts to develop a Conservation Trail. They had a venue set up and an interactive Conservation Trail Challenge to utilize technology and find answers to questions. The WVDOF venue also assisted several Scouts who were looking for information to aid them in getting a Forestry Merit Badge. The international event showcased forestry and its use for the future.



Girl Scouts: By offering training for girl scout troop leaders in the state, the WVDOF provides the groundwork for those leaders to better prepare scouts with life skills and to earn coveted badges. In addition to facilitator trainings, foresters who are certified in PLT from WVDOF will set up booths at scouting events such as GirlFest, so that the girl scouts can get hands on training needed to complete tasks for badges.

Certified Forester Trainings: Foresters employed outside of the WVDOF are often involved in teaching forestry basics to the public and to other foresters. To better equip these forestry professionals with activities that are easily accessible to all audience types, the Division of Forestry provides facilitator trainings in the PLT curriculum. Once certified in the PLT program, foresters are considered non-formal educators, and can often reach a more diverse audience than can traditional classroom teachers alone.



Residential camps – Over 1,500 young people have attended residential camps that have all involved WVDOF personnel in teaching positions. These camps include WV State Conservation and Jr. Conservation Camps give a general overview of natural resources careers. The Ted Harriman Forest Industries Camp concluded a 68-year run by teaching students various in-depth aspects of Forestry in one week.

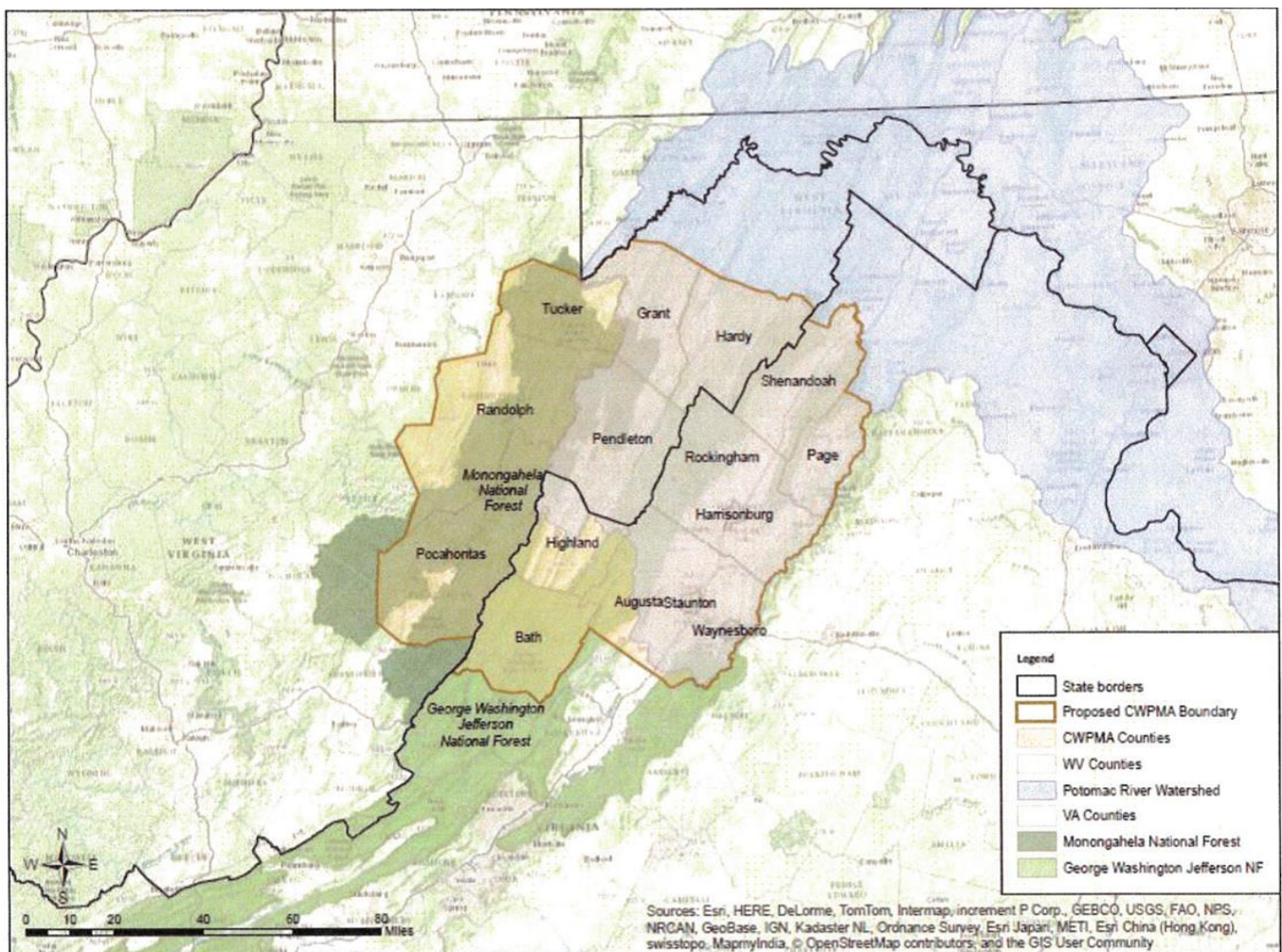
Environmental Literacy Forum - WV Division of Forestry has been involved with the “Meaningful Water Education Experience (MWEE)” model of teaching utilized in states whose drainage systems directly impact the Chesapeake Bay. The Environmental Literacy Forum hosted by National Oceanic Atmospheric Administration (NOAA) is a way to bring educators and programs like PLT together to better network and create a more meaningful outdoor hands on science experience for school children. These students will have the opportunity to be a part of a MWEE. In the near future, the West Virginia MWEE partners hope to support the planning and carrying out of the very first MWEE here in the state. Currently, Project Learning Tree is initiating environmental literacy as part of their programming.



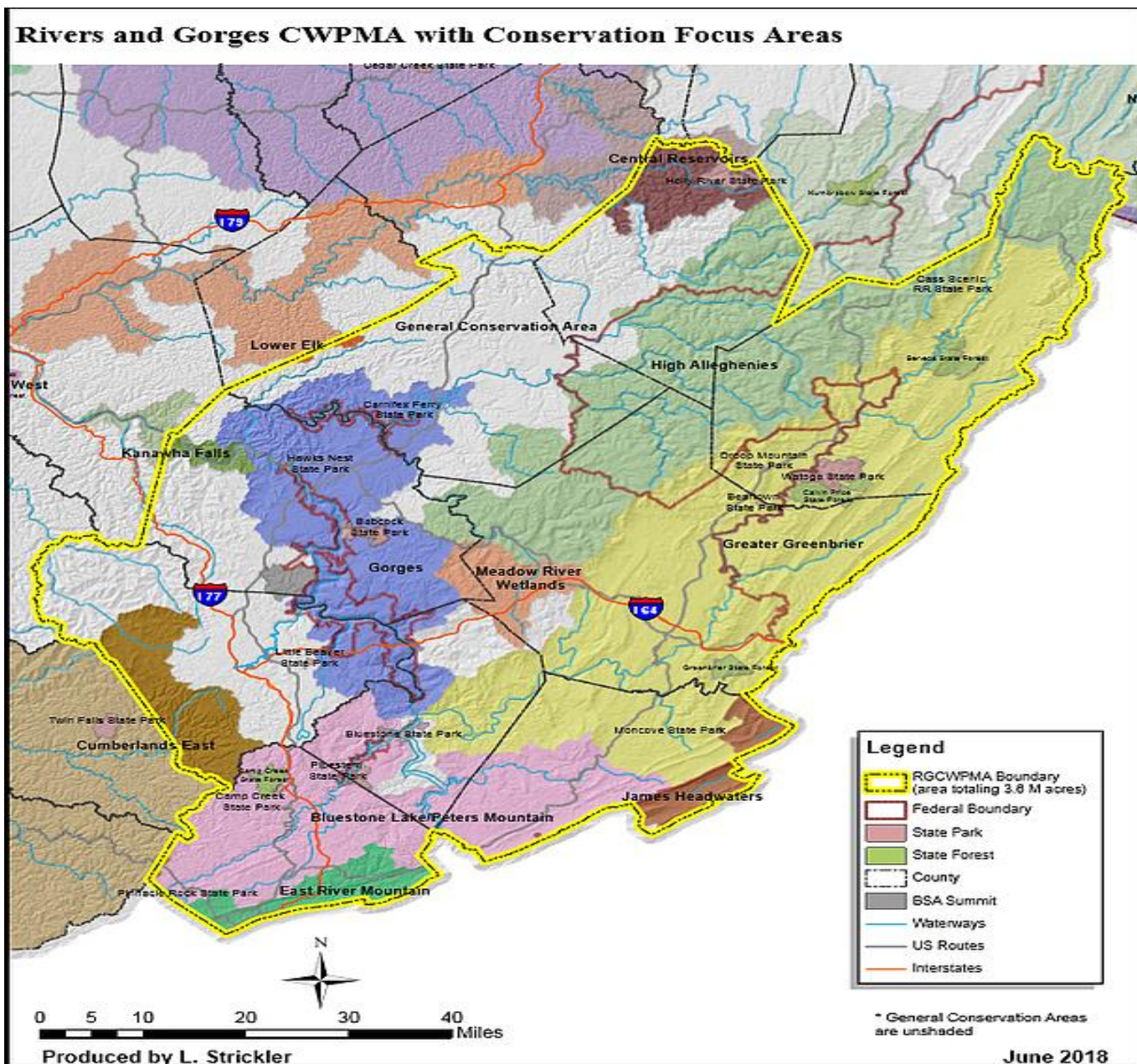
Cooperative Weed and Pest Management Area (CWPMA) – Curriculum for students aged pre-k through high school was refined and created to meet state-wide education standards and the 2014 WV Invasive Species Strategic Plan produced by the WVDNR ([2014 Invasive Species Strategic Plan](#)) by multiple agencies including WVDOF involved with the CWPMA effort in 2019 ([CWPMA Management Plan](#)). Over the past five years, Julie Colaw worked with the CWPMA’s Education and Outreach Committee (which WVDOF is a member of and participates in this endeavor) to educate her 700 students in the identification of invasive species (garlic mustard, autumn olive, tree-of-heaven, Japanese knotweed, and stilt grass).

Through a grant from Toyota, the students were able to purchase equipment that aided their research. They have learned to identify invasive species, use GPS, and map where garlic mustard occurred in their area. The four-week classes culminated in garlic mustard pulls at Seneca Rocks Discovery Area. The students pulled more than 19,000 pounds of the invasive weed.

In 2015, the Potomac Highlands Cooperative Weed and Pest Management Area expanded their area from three counties to 14 counties incorporating the AFHA Landscape area.



Potomac highlands cooperative weed and pest management area 2015 (Source: <https://bugwoodcloud.org/mura/phcwpma/assets/File/MOU%20Potomac%20Highlands%20CWPMA%20EXECUTED%20.pdf> accessed October 14th, 2020).



Rivers and Gorges Cooperative Weed and Pest Management area in West Virginia 2018 (Source: <https://riversgorgescwpma.wixsite.com/rgcwpma> accessed October 14th, 2020).

In 2018, The CWPMA began a new group known as the Rivers and Gorges CWPMA. Education components have now expanded into 4 county school systems.

The CWPMA worked with the AFNHA AmeriCorps program to release educational content for all grades in regard to Non-Native Invasive Species (NNIS). These materials are available through Google Docs and are accessible to educators statewide.

New in 2019, through a grant from the USFS, 4 new sets of educational totes were manufactured by the Americorps Members for several agencies and organizations. Three-dimensional figures of Snakehead Fish were painted as well as costumes constructed to be added to the educational bins.

State Issue 2 Addressed: Communication and Education

Sub-Issue 2.4 Addressed Not taking Advantage of Current/Future Technology

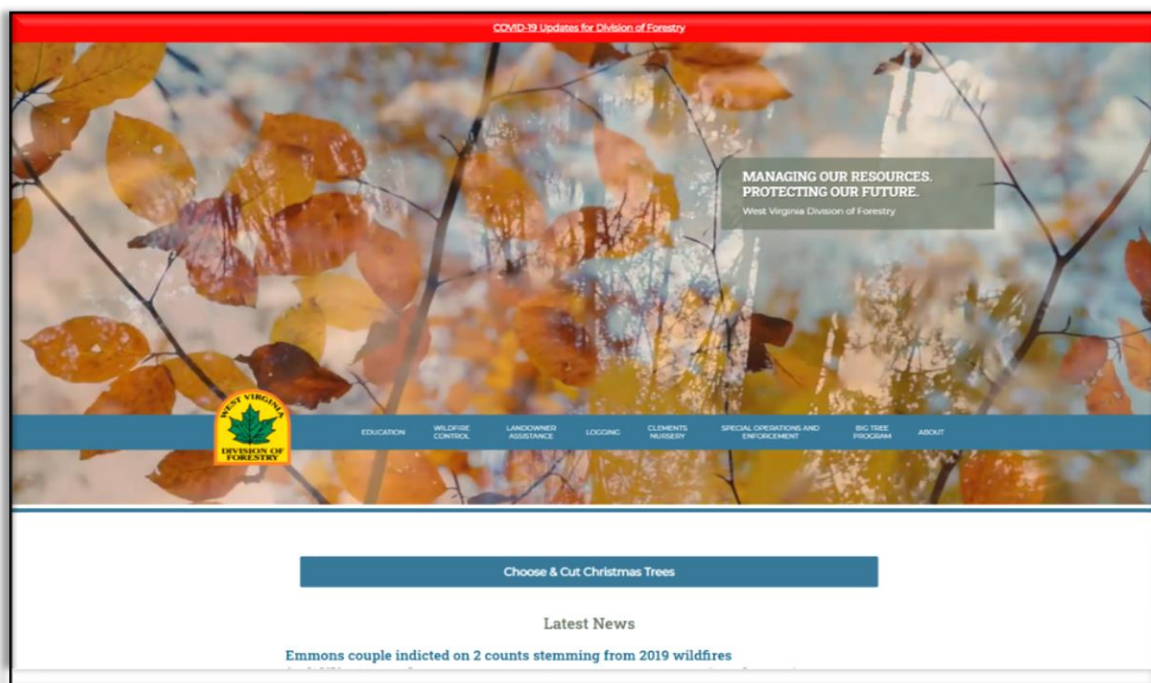
Long-term Strategy	Measure of Success
1. Identify opportunities to improve communication strategies through existing and new technologies.	Increased use of web, social media, and other evolving communication outlets to inform and educate the public about forestry issues.

Strategy Narrative:

We are creatures of habit and while newspapers, radio and TV spots have their place; our technology has outpaced our ability to keep up. We need to survey, or study better means of communicating to the public through new and different media such as webinars, podcasts, videoconferencing, and social networking sites.

Strategic Accomplishment:

Using the WV Department of Commerce's Communication Division, WVD OF has reimaged a new Facebook page and Twitter account (wvforestry). These allow the public to see current events and share their thoughts. It also allows them easier access to the WVD OF to find out information they are seeking. WVD OF has had a website for several years. It was outdated and not current. In 2019, the WVD OF website was revamped to streamline information to the public. Within six months a report showed a 40% increase in traffic from the July release.



Screen shot of the new WVD OF Website revised in 2019.

The WVD OF Website (<https://wvforestry.com/>) has seen a boost in 279,000 pageviews and 179,000 unique pageviews. The webpages receiving the most traffic at the Fire, Logging, Nursery, Ginseng, and Forest Management pages.

Within the past year the WVDOT Social Media platforms of Facebook and Twitter have seen an increase in activity with the following statistics:



- impressions for the Forestry social channels are up 51.3% or 1.4 million impressions
- engagements are up 66.8%
- post links are up 139%
- total audience up 20.8%
- WVDOT posts are up 182%.



Strategic Accomplishment:

Special Operations – The WVDOT Special Operations Unit which houses our Forestry Investigators is now utilizing the technology of Esri's ArcGIS Survey 123 application.

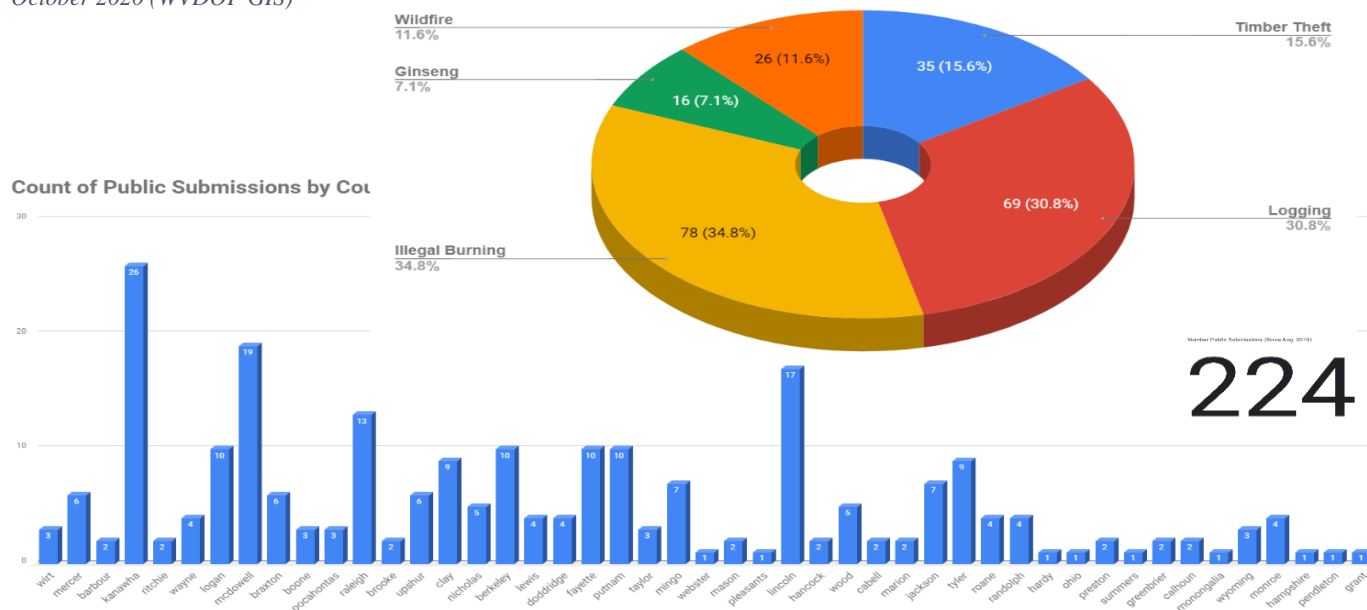
Since August of 2019, the application allows the public 24-hour access to notify DOT field foresters and investigators of forestry violations such as wildfire, timber theft, illegal burning, ginseng and logging



Special Operations Unit Investigators John Bird and Don Kelly with bloodhounds Boone and Raisey.

Dashboard showing Public submissions by violation type and number by county (August 2019 - October 2020 (WVDOT GIS))

Public Submissions for Nature of the Violation (Since Aug. 2019)




violations. Submitted public complaints of suspected violations generate an immediate email to field foresters for an initial follow-up.


Upon initial review of a complaint, field foresters can request the Special Operations Unit through a separate Survey 123 application on their state issued cell phones or laptops if complaints are deemed valid and require further investigation. All field foresters have been trained on use. Requests can also be made if field foresters are contacted by the public or outside agencies for emergencies such as search and rescue.

Communications have greatly improved for the public and within the agency with immediate email notifications allowing quick response critical for investigations and emergencies.

Additionally, all data is tracked for use in future planning, analytics and reporting for management to acquire potential appropriated funding for the Special Operations Unit to insure continued support of DOF programs for the public and protection of resources.



West Virginia Division of Forestry
Special Operations Request Form



Submitted By: Charlie Spencer

Date and time of request: November 21, 2020 1:27 PM

Incident request type: Wildfire

Is a Bloodhound needed? Yes

UTM E = 428981

UTM N = 4208425

Submitted Time: 11/21/2020 1330

County = Boone

Who is making this request? Charlie Spencer


Outside agency request type:

Agency making request:

Outside agency contact phone number:

Additional comments: While finding a way into an existing fire from yesterday Eric Jarrel went through this area an hour ago and no fire was there. When he went back to meet the crew to lead them in he found a new set that was set after he went through. Definitely appears to be arson.

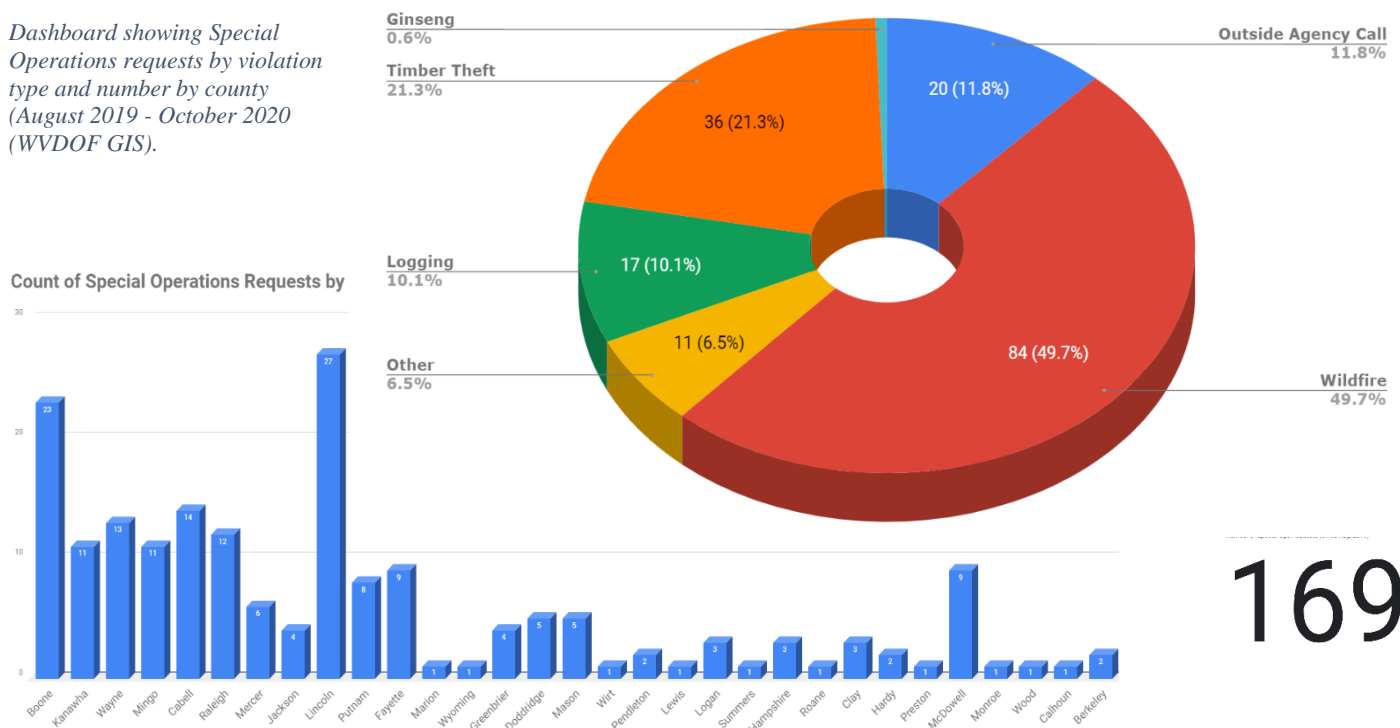
Request location topo map: 1:24,000 Scale



Example WVDOF Special Operations PDF request form sent as an email attachment to the Investigations Unit.

Special Ops Requests by Type (Since Aug. 2019)

Dashboard showing Special Operations requests by violation type and number by county (August 2019 - October 2020 (WVDOF GIS)).



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Strategic Accomplishment:

Unmanned Aircraft System (UAS) Drone program - New



technology is also being utilized by several of our in- house programs with the inception of the DOF UAS program, established in 2018. Initially created to improve forestry related field inspections, the program has grown to all other agency

programs, establishes cooperative projects with state and federal partners, and provides a cost-effective, beneficial service to the residents of the state.

Drones are housed strategically around the state and currently we have 9 certified pilots. The drone program is being utilized in fire situations and logging investigations. It has also been utilized by other agencies in the location of missing persons and boating incidents. Pilots are kept up to date on the latest technology and trained to use new programs that will benefit the agency and West Virginia stakeholders.

At the time of the 2010 SFAP, drones were just beginning to come on the scene, and in the last 5 years, the technology has literally exploded both in commercial and public safety industries. Certain tasks that were dangerous and expensive just a few years ago are now easily accomplished with an unmanned aircraft – from infrastructure inspections to fighting wildfires, the world now has the capability to save lives and money with drones. Many federal and state natural resource management agencies have embraced drone tech, and aside from some security issues, are embedding the use of UAS into their daily activities.

Even though the program runs on a very limited budget, WVDOF UAS pilots have logged more than 600 flights in support of various missions. Future use of drones as an educational tool are also being explored. Approximately 30 agency employees are involved in the program.



UAS program Manager Rodger Ozburn with one of the WVDOF's DJI drones.



The **Special Operations Unit** utilizes drones for criminal investigation and documentation for investigations. The footage is used as part of the criminal investigations leading to a recent indictment. Drones are used to show an area before the area was ignited and after. It provides a better “birds eye view” useful for understanding fire behavior.

State Issue 3 Addressed: Sustainability of Forest Resources in West Virginia

Sub-Issue 3.1 Addressed: Growth, Yield, and Management	
Long-term Strategy	Measure of Success
5. Work closely with Family Forest Owners (FFOs) to better understand their concerns and priorities; and also to provide them with professional forestry technical assistance and educational materials to help them meet their needs in a sound, scientific manner.	Increase in number of Stewardship plans written.

Strategy Narrative:

There are an estimated 243,000 FFOs in West Virginia and about 38 percent of family forest owners own less than 20 acres of forest. Another 29 percent own between 20 and 49 acres of forest. The total FFO acreage in the state is estimated to be over 7 million acres. These landowners, many of whom are “new” to forest landownership, often have objectives that are different from the larger traditional forest landowners. It is imperative that we work closer with these FFOs, understand their reasons for forest landownership, and find ways to assist them in professionally managing their properties.

All WVDOP program areas, all primary issues identified in the Assessment, and most of the potential multi-state projects identified, will benefit from working closer with FFOs and more fully understanding their concerns. There is a conservation education aspect that flows both ways on this topic, which will help resolve associated issues.

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 (CBYC) is an ongoing project initiated in Ohio that strives to: 1) Encourage private landowners to contact professional foresters for advice and/or assistance with timber harvesting and forest management activities; 2) Encourage landowners to seek reputable loggers for timber sales on their property and to provide information to landowners about proper timber sales contracts.

Other key stakeholders include state and federal agencies, consultants, WVU Extension, and other interested parties. Considerable resources in terms of grants, personnel, budget, and creative ideas/new techniques will be required to begin reaching FFOs.

Strategic Accomplishment: Several MOUs in place:

- Appalachian Forest Heritage Area
- George Washington and Jefferson National Forests
- Monongahela National Forest
- Natural Resources Conservation Service
- The Nature Conservancy
- Private landowners
- U.S. Fish and Wildlife Service – West Virginia Field Office
- U.S. Forest Service - Northeastern Area State and Private Forestry

- U.S. Forest Service - Northern Research Station
- West Virginia Department of Agriculture
- West Virginia Division of Forestry
- West Virginia Division of Highways
- West Virginia Division of Natural Resources
- West Virginia Native Plant Society

Sub-Issue 3.3 Addressed: Reforestation of Mined Lands and Other Lands	
Long-term Strategy	Measure of Success
3. Maintain a viable nursery to produce seedlings compatible for planting in West Virginia.	Clements Nursery remains viable and produces adequate variety and numbers of seedling species to supply all needs in West Virginia.

Strategy Narrative:

WVDOF will work to ensure Clements Nursery remains economically viable, producing enough quality seedlings each year to meet the state's planting needs. This will benefit all WVDOF programs and impact several of the multi-state projects. All categories of stakeholders interested in forestry will be involved in this. WVDOF staff, other state and federal agencies, and others will be involved at some level. It is the WVDOF's goal for the nursery operations to be self-sufficient.

Strategic Accomplishment:

YEAR	Seedlings Sold	Improved Seed Collected (lbs.)
2016	397,135	74
2017	520,112	593
2018	327,306	217
2019	254,400	1
2020	136,000	0

Sub-Issue 3.5: Habitat Diversity and Conservation	
Long-term Strategy	Measure of Success
1. Increase efforts to identify, protect, and restore high priority conservation forest ecosystems, unique native ecological communities, and other significant habitats; will include invasives control in CWPMAs.	MOUs, increased acreages protected and restored.

Strategy Narrative:

State and federal agencies, non-governmental organizations (NGOs), universities, and other forestry entities are extremely interested in these types of projects. Recognizing the importance of this aspect of forest ecology and its role in healthy forest ecosystems is just now becoming commonly accepted by all affected parties and stakeholders.

The Forest Legacy, Fire, Conservation Education, Forest Health, Water Quality, and other programs, including potential multi-state projects, will all be involved in this issue. Grant funding, federal and state monies, cost-share activities, volunteer efforts, and other means will be involved in finding solutions and implementing strategies.

Multi-partner groups, like the current Potomac Highlands CWPMA and Rivers and Gorges CWPMA, will be necessary to effectively solve some of the problems. That group involves state and federal agencies, private citizens, NGOs, universities and other research entities, Extension Service, and others.

Strategic Accomplishment: Several MOUs in place.

- Appalachian Forest Heritage Area
- George Washington and Jefferson National Forests
- Monongahela National Forest
- Natural Resources Conservation Service
- The Nature Conservancy
- Private landowners
- U.S. Fish and Wildlife Service – West Virginia Field Office
- U.S. Forest Service - Northeastern Area State and Private Forestry
- U.S. Forest Service - Northern Research Station
- West Virginia Department of Agriculture
- West Virginia Division of Forestry
- West Virginia Division of Highways
- West Virginia Division of Natural Resources
- West Virginia Native Plant Society

Strategic Accomplishment:

Sites and acres treated on the Potomac Highlands Cooperative Weed & Pest Management Area.

YEAR	SITES	ACRES
2015	24	2,183
2016	28	1,821
2017	33	1,151
2018	26	1,635
2019	20	1,603

Sub-Issue 3.6 Addressed: Public Lands	
Long-term Strategy	Measure of Success
4. Maintain State Forest property boundaries.	All boundaries repainted every 10 years.

Strategy Narrative:

Part of land management is designating property boundaries on the ground. This work is dependent upon having funds for materials, labor, and contractors.

Strategic Accomplishment:

In the past ten years all boundaries on Kumbrabow State Forest have been repainted. In 2017-2018 11 miles of boundary were painted on Seneca State Forest and 5 miles were painted on Calvin Price State Forest. In 2019, 5.5 miles of boundary were repainted on Cabwaylingo State Forest.

Sub-Issue 3.6 Addressed: Public Lands	
Long-term Strategy	Measure of Success
7. Provide diverse wildlife habitat.	Each new project provides approximately 10 percent of area specifically for wildlife.

Strategy Narrative:

One of the mandates for the management of State Forests is to demonstrate sound, scientific, multiple-use management. To that end, providing diverse wildlife habitat is important. This is accomplished through working with other land management agencies and obtaining funding from outside sources, including the National Wild Turkey Federation (NWTF) and the Ruffed Grouse Society (RGS). This work is primarily for early successional habitat and/or savannah development that will provide age class diversity, and other important habitat.

Strategic Accomplishment:

In the past five years there have been 41 harvest projects started on State Forests, which have:

- Contained 3,250 acres
- Created 391 acres of clear cut that will be allowed to regrow (currently early successional habitat)
- Created 12 acres of wildlife clearings that will be maintained as clearings (early successional habitat)
- Created 35 acres of oak savannah habitat

- Created 230 acres of other early successional habitat such as cut back borders, shelterwood and deferment cuts
- Total early successional habitat created amounts to 633 acres or 20 percent of the total area harvested, which exceeds our 10 percent goal

These projects were designed with the help of local DNR Wildlife Resources Section Wildlife Managers.

Funding help was provided by the NWTF, primarily by purchasing lime, seed, and fertilizer for oak savannah development and for some maintained wildlife clearings. NWTF also helped fund stump removal and grading for savannahs.

The Ruffed Grouse Society owns a Caterpillar 299D XHP which has been used to create over 100 acres of early successional habitat on Kumbrabow State Forest.

The WVDOP has assisted in providing transportation for the WVDNR employed equipment operator/assistant over the past five years.

State Issue 4 Addressed: Water Quality Strategy

Sub-Issue 4.1: Sedimentation of Streams	
Long-term Strategy	Measure of Success
1. Continue to improve/enforce LSCA.	Number of valid LSCA complaints decreased.

Strategy Narrative:

In a state with a mandatory best management practice (BMP) compliance, licensing for loggers, and a regulatory inspection system for the state's harvesting operations, West Virginia's forest industry is required to meet legislatively mandated performance standards. However, the WVDOP has reorganized the program to go above and beyond legislative requirements with positive and measurable results. The WVDOP will continue to improve and refine efforts as funding and personnel allow.

Interaction with other programs is minimal, with the WVDOP LSCA/Water Quality program bearing the majority of the inspection and enforcement workload. Fire and landowner assistance personnel assist as workloads allow.

Stakeholders with a high interest in this activity include landowners, public land management agencies, the forest products industry, the West Virginia Department of Environmental Protection, and the Environmental Protection Agency.

This strategy will require personnel and cooperation from state and federal agencies and an increased presence and recognition from the USDA Forest Service. The program has great potential for tracking harvesting trends and monitoring sustainability criteria, as well as the obvious water quality improvements.

Strategic Accomplishment:

In the last five years, the WVDOP has sponsored one modification to our existing legislation that helped to strengthen and enforce the states logging sedimentation laws. We have also continued to adapt and improve on our Logging Operation Notification, Inspection and Enforcement (LONIE) online racking system which was developed in 2013 to help us improve the timing and accuracy of our logging information to improve efficiency.

In 2016 we suffered a serious setback to our efforts. The severance tax on timber that previously funded our LSCA program was discontinued and as such we had to remove 42 positions. We performed almost no inspections for nearly a year until we were able to secure a few more positions and reorganize our staffing structure. Though to this day, our capacity to fully execute the mandates of the program remains impaired.

With the above development, we have really been unable to make much progress on lowering our number of valid complaints received. However, the good news is we have managed to keep them from increasing dramatically with our yearly totals hovering around 100 to 115. In Fiscal Year 2020 the total number of valid complaints received was 107.

Sub-Issue 4.3: Impaired Watersheds	
Long-term Strategy	Measure of Success
1. Assist WVDEP with their non-point source water pollution program.	Streams removed from 303(d) list

Strategy Narrative:

The West Virginia Department of Environmental Protection has an excellent system in place for targeting non-point source polluted streams in the state and working towards their removal from the 303(d) list of impaired streams. The WVDOF can leverage resources by cooperating with WVDEP to complement programs, rather than duplicating efforts. The WVDOF advises and plans for forestry-related issues in WVDEP high-priority sub-watersheds.

The primary programs that are involved within the WVDOF are the Water Quality and Landowner Assistance programs. These programs will educate other stakeholders and provide advice and oversight to ensure that forestry operations are properly planned and implemented for maximum return on the investment of funds and time.

Stakeholders with a high interest in this activity will include public land management agencies, landowners, various citizen action groups, and conservation organizations, WVDEP, the USDA Forest Service, and the Environmental Protection Agency.

Though some funding is currently available, there is not enough funding to meet the demands to clean up all the impaired streams within the state. With increased funding, more areas will be targeted; priority will be given to areas where identified high-priority sub-watersheds overlap with the WVDEP's targeted sub-watersheds.

Strategic Accomplishment:

Over the last half decade, the WVDOF continues to provide logging operation data to the WVDEP annually on TMDL requests. Logging operation data is pulled from LONIE and given to them to use in their analysis of stream health. Though ultimately, we aimed too high in our strategic accomplishments here. We are only able to make a small impact on overall stream health given our jurisdictional limitations. We continue to do what we can by providing data and overseeing the non-point source issues that arise because of silvicultural operations but that is pretty much our limit. That said, we have adjusted our goals in the next 10-year plan to accomplishments we are able to impact much more positively.

Sub-Issue 4.5: Chesapeake Bay Watershed	
Long-term Strategy	Measure of Success
1. Continue support for the Chesapeake Bay Program	Stream miles improved and forested riparian acres increased

Strategy Narrative:

The key to this strategy is to increase public interest and support for the program. The Chesapeake Bay is high priority for water quality improvement efforts. As such, significant funding is available and there is a higher-than-normal level of public awareness. Even so, there is still difficulty in finding landowners willing to participate in conservation efforts. Very high land values in the area make conservation and preservation efforts economically unattractive to many landowners.

The WVDOT's Chesapeake Bay Forester position, cooperatively funded by USFS, WVDEP and WVDOT, has made a positive impact upon the state's efforts by improving education and conservation activities in watershed tributaries. The WVDOT can continue to provide specialized forestry education and advice to cooperators and interested parties and increase awareness and interest in the program.

The primary programs that are involved within the WVDOT are the Water Quality and Landowner Assistance programs. These programs will educate other stakeholders and provide advice and oversight to ensure that forestry operations are properly planned and implemented for maximum return on the investment of funds and time. The Forest Legacy program has significant impact by purchasing conservation easements in the area.

Stakeholders with a high interest in this activity include municipalities, local governments, various citizen action groups, public land management agencies, conservation organizations, the WVDEP, the USDA Forest Service, and the Environmental Protection Agency. The consequences of the activities affect areas outside the state since this is part of a multi-state program.

Strategic Accomplishment:

High Priority watersheds were identified in cooperation with the WVDEP and a forester was allocated to locate, plan and coordinate plantings within these watersheds. During the last 5 years staffing issues related to the budget cuts for the Division as well as employee turnover have made any progress quite challenging. We are still suffering from inadequate funding but we now have a riparian focused forester back on board and we are looking forward to making better progress towards our goals.

Still though even with the hardships, the WVDOT helped to establish 32.5 more acres of riparian forest buffer in those watersheds. Outside of direct establishment of riparian buffer, this position also provides enormous benefit in the form of technical expertise to other agencies and organizations who are also working on protection projects and utilize the WVDOT's services. In total, we average 4,000+ employee hours per year in this program alone.

State Issue 6 Addressed: Sustainability of Urban Forests

Sub-Issue 6.1 Addressed: Building program capacity at the community level	
Long-term Strategy	Measure of Success
1. Target larger urbanized areas with technical and financial assistance to build successful urban forestry programs.	Increase in the number of large, priority communities achieving 'Developing' and 'Managing' status in 'CARS'

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 WVDOP 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 WVDOP staff. Components to success will involve the WVDOP's Partnership Coordinator, private sector donations, USFS funding, Project CommuniTree, and West Virginia State University assistance.

Strategic Accomplishment:

Financial Assistance - Administered 18 Demonstration City grants totaling \$131,464 that yielded municipal tree inventories, management plans, UTC assessments, and various public tree care improvements to enhance ecosystem services.

Sub-Issue 6.2 Addressed: Climate Change Mitigation and Energy Conservation	
Long-term Strategy	Measure of Success
1. Promote urban canopy cover assessment, goal setting and enhancement.	Increased canopy cover in areas with high population density and impervious surface area.

Strategic Accomplishment:

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:

- Encourage and fund communities to conduct canopy cover assessments and set canopy cover goals.
- Assist communities with the identification of high priority planting areas.
- Provide funding through Demonstration City and Chesapeake Bay grants to support strategic tree planting projects.
- Promote Project CommuniTree to increase planting efforts on a regional scale.
- Strengthen partnerships with electric utility companies to expand tree planting through the Municipal Tree Restoration Program.
- 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.

Strategic Accomplishment:

UTC assessments and Plans – Utilized UTC assessments to identify high priority forest land and develop land management strategies at county and municipal levels. Completed land cover assessments include: Berkeley County’s Opequon Creek Watershed, Jefferson County (including sub-assessments of homeowner association properties and public parks), Town of Bath (including the newly annexed Greenway Cemetery), City of Martinsburg, and assessments of all 101 schoolyards in the Potomac Basin. Jefferson County, and the municipalities of Bolivar, Charles Town, Harpers Ferry, Ranson, and Shepherdstown have adopted UTC Plans and Goals. The Town of Bath and City of Martinsburg have drafted plans and goals but have yet to adopt them.

Sub-Issue 6.3 Addressed: Population Dynamics and Resource Allocation	
Long-term Strategy	Measure of Success
1. Target small, rural communities with technical and financial assistance to build successful urban forestry programs.	Increase in the number of rural, priority communities participating in urban forestry and achieving 'Developing' status in 'CARS'.

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 program 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 WVDOT 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 WVDOT staff. Components to success will involve the WVDOT's partnership coordinator, private sector donations, USFS funding, Project CommuniTree, and West Virginia State University assistance.

Strategic Accomplishment:

Technical assistance – The Urban and Community Forestry program's objective is to establish long-term tree care programs in municipalities throughout the state. Our program delivers the necessary knowledge and tools to communities to make comprehensive urban forestry management successful. Since 2015, 1,083 technical assists have been provided to communities and volunteer organizations to support existing municipal tree care

programs and to encourage additional communities to begin actively managing urban forests, while positively impacting and average of 567,011 West Virginians each year.

State Issue 7 Addressed: Forest Health Strategy

Sub-Issue 7.4 Addressed: Building program capacity at the community level	
Long-term Strategy	Measure of Success
1. Increase public awareness of issues surrounding native and exotic pest species.	Increased public awareness.

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 Master Gardener classes, various school groups, and public meetings. 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 Legislature.

Strategic Accomplishment:

1. The WVDA Plant Industries Division continues to perform:

- News releases via newspaper, website, television, and radio
- Annual forest health calendars distributed to the public, approximately 10,000 in the last five years.
- Market Bulletin articles, 27 in the last five years.
- WVDA Pest Alerts and other literature sent to State Parks and Forests, landowners, and WVU Extension agents
- Pest Alerts published on the WVDA website
- Master Gardener/Naturalist programs, approximately 55 in the last five years.
- Educational presentations for various school groups
- Participation in the WV State Fair, as well as local county fairs, the Mountain State Forest Festival, and Agriculture Day at the Legislature
- Yearly public meetings regarding gypsy moth
- Campaigns such as the “Don’t Move Firewood”
- Processing of 350 specimens sent by landowners, and multiple house calls by WVDA specialists to diagnose tree problems or assess hazard trees
- Participation in projects among members of the West Virginia Invasive Species Working Group

2. Forest Pest Outreach Survey Grant

A Forest Pest Outreach Survey grant funded by the Farm Bill was given to the Plant Industries Division. These efforts serve to educate the public about Asian longhorned beetle (ALB), emerald ash borer (EAB) and other exotic, invasive forest pests as well as provide valuable data to the WVDA and USDA-APHIS-PPQ. Educating the public may lead to the early detection of Asian longhorned beetle (ALB) which has not yet been found in the state. WVDA staff make presentations to disseminate information about these forest pests and promote the Hungry Pests website to groups such as The Nature Conservancy, 4-H, Boy Scouts, Girl Scouts, Master Gardeners, Master Naturalists, WV Forestry Association, WV Nursery and Landscape Association (WVNLA), WV Christmas Tree Growers Association (WVCTGA) and WV public schools throughout the state. Potential cooperators are not limited to these groups. WVDA staff contact as many organizations as possible in order to maximize outreach efforts and increase participation. Staff dispense bags of pest information to State Parks throughout West Virginia. These bags are distributed to the public when they visit the nature centers located at each State Park. When the public is informed and aware of these pests, they are more confident in contacting officials when they suspect an infestation. The goal of this grant is to organize citizen volunteers throughout the state.

State Issue 8 Addressed: Utilization, Marketing and Economic Development

Sub-Issue 8.5: Workforce Development	
Long-term Strategy	Measure of Success
1. 1. Substantially increase production in the primary and secondary wood products sectors.	Goal: Utilization and marketing of 80 percent of annual growth.

Strategy Narrative:

The West Virginia forest products industry is currently in one of the worst economic downturns in modern times, although signs of recovery are beginning to appear. As markets retracted during the recent downturn, 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.

Additionally, there is a significant need to benchmark the economic contribution of the state on a regular basis to determine what sectors could benefit from expansion and which sectors provide diminishing economic return.

Strategic Accomplishment:

- Economic Contribution Analysis for the state’s forest products industry conducted by the WVU Appalachian Hardwood Center (Gabbert, 2019) showed that in 2017, the Forest Products Industry contributed, in total, about \$3.4 billion to the West Virginia economy.

Sub-Issue 8.6: Workforce Development	
Long-term Strategy	Measure of Success
1. Increase the availability of quality employees for both the logging and forest products sectors, as well as develop a logger training academy	Increased opportunities and professionalism, adequate numbers of trained employees available

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 2010 Forest Resource 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.

Strategic Accomplishment:

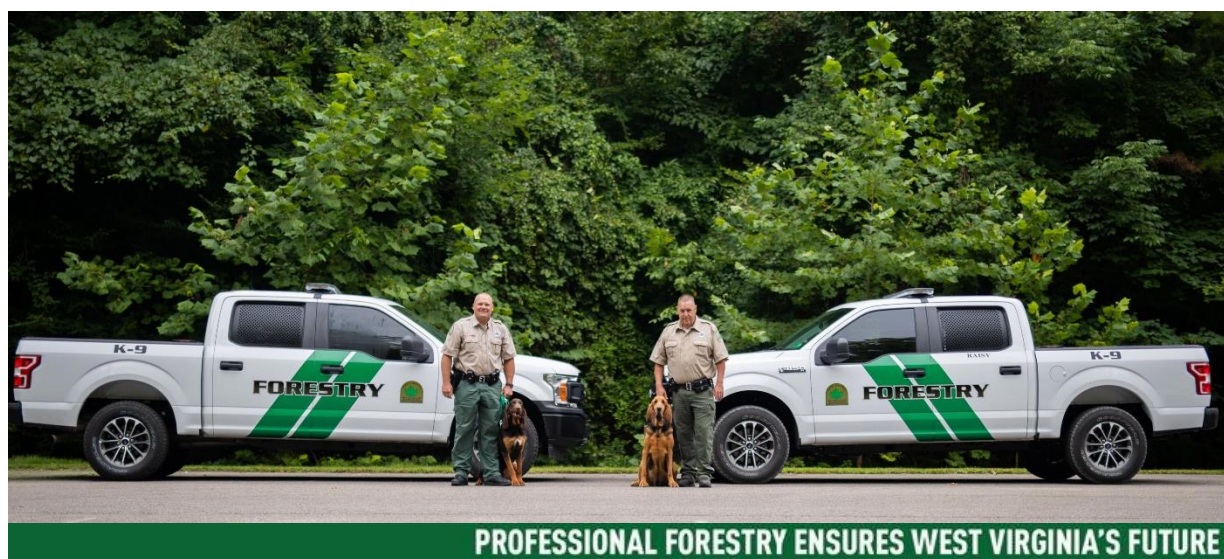
- The West Virginia Loggers Council (WVLC) was formed in the latter half of 2015 with the following Mission:
 - To improve and expand the use of professional logging practices responsive to the needs of loggers, customers, employees, landowners, log haulers, and the general public; to provide educational training for members within the logging and hauling profession; to improve worker safety; and to provide an information network for timber-harvesting professions, related supply chain entities, and be a voice for timber harvesting and timber transportation businesses.

- The activities and initiatives of the WVLC have included: resolving the Workers Compensation issue for loggers through development of an insurance captive (which is still in development); identifying an insurance company that will write workers comp insurance for loggers that quality; getting legislation passed to increase log truck weights for 6-axle combinations; and legislation that adds pup trailer combinations with 6-axes to the original law. The WVLC also sponsors the West Virginia Logger of the Year award. In 2019, the WVLC initiated regional meetings, with a total of 6 being offered. The focus of the meetings was on workers compensation insurance alternatives.

Strategic Accomplishment:

- A strategic plan was developed for Hardwood Alliance Zone (HAZ) by the WVU AHC in 2019 to focus future efforts of the HAZ to improve industry support by the group in future years. The plan included both regional and individual county economic analyses (for each county in the HAZ), results and recommendations from an issues based survey of a sample population of forest product companies in the HAZ region, and finally, a strategic plan that included a set of proposed strategic goals for the HAZ to work on and accomplish over the next three to five years.
- Logger certification BMP workshops and chain saw safety classes 2016-2020.

Year	Yearly Classes/Workshops Held	Annual Number of Attendees
2016	41	1,325
2017	42	999
2018	41	1,052
2019	44	1,126
2020	36	545



Special Operations Unit Investigators John Bird and Don Kelly with bloodhounds Boone and Raisey.