

Long Range Plan for the Guyan Conservation District

**Boone, Cabell, Lincoln, Logan, Mingo, and
Wayne Counties, West Virginia**

April 2016

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Introduction:

The purpose of this plan is to create a working document that describes the natural resources in the Guyan Conservation District (GCD), inventories problems that currently exist, and prioritizes projects for NRCS incentive programs, especially the Environmental Quality Incentives Program (EQIP).

This plan will look at priorities for conservation work in GCD over the next five to ten years, however the plan should be reviewed annually and adjusted as necessary based on current events and changing resource concerns.

GCD Profile:

The Guyan Conservation District (GCD) consists of 6 counties, Boone, Cabell, Lincoln, Logan, Mingo and Wayne Counties. The GCD is situated in the largest metropolitan area in West Virginia, which includes Huntington, the second largest city in West Virginia, and adjacent to Kanawha County in which Charleston, the State Capital, is located. Though some areas in this District are urban and highly populated, the vast majority of the land is in rural coal communities. There are 1,678,080 acres in the GCD, 81% of that land is forested, with Cabell County being least forested at 69%.

Generally the entire District is economically depressed as coal mining and other industries have left the area. Population has decreased over the years due to poor job opportunities. In Huntington and Charleston, major businesses such as hospitals and universities, as well as federal, state, and county government account for the main employment opportunities.

The major road systems connect most communities to this metropolitan area, including Interstate 64, Route 119, Route 52, Route 152, and Route 3.

Major rivers in the GCD are the Ohio River, Big Sandy River, Tug Fork River, Guyandotte River, Mud River, and Coal River. There are several recreational lakes, including Beech Fork, East Lynn, Upper Mud River Dam, and Laurel Lake. Other unique recreational opportunities include the Hatfield and McCoy ATV Trails and the Coal River Water Trail.

Soils:

There are two Major Land Resource Areas (MLRA) in the GCD, MLRA 125- Cumberland Plateau and Mountain and MLRA 126- Central Alleghany Plateau. Land ownership in the MRLAs is very different. The land in MRLA-125 is largely owned by land holding companies which are leased to coals companies; whereas in MRLA-126 the land is mainly owned by private individuals.

MLRA 125 covers the majority of the GCD, encompassing the southeast corner of Cabell, eastern part of Lincoln, the southern half of Wayne, and all of Boone, Logan, and Mingo Counties. MLRA 125 is dominated by very steep, rugged sideslopes which are broken by strongly sloping to steep ridgetops and very narrow bottoms along streams. The bottomland is the only suitable building sites and most of the population is crowded into these very narrow bottomlands. Soils are skeletal, with greater than 35% rock fragments throughout the profile.

MLRA 126 encompasses most of Cabell, part of Lincoln, and northern Wayne County. MLRA 126 is bench-break, hill and hollow topography, with a dendritic drainage pattern. Floodplains are narrow, but

widen out along major streams, and form extensive bottomlands and terraces along the Ohio River. Soils are medium and heavy textured, usually less than 35% rock fragments throughout the profile, dominated by red clay upland soils with slow permeability.

Below are maps of MRLAs 125 and 126:

MLRA 125 - Cumberland Plateau and Mountains

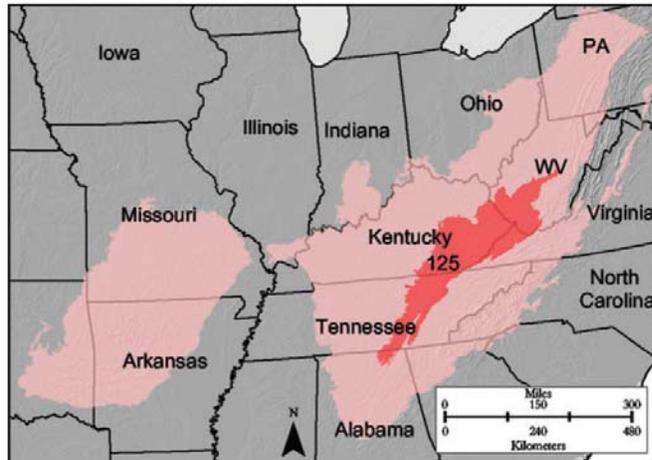


Figure 125-1: Location of MLRA 125 in Land Resource Region N

MLRA 126 - Central Allegheny Plateau

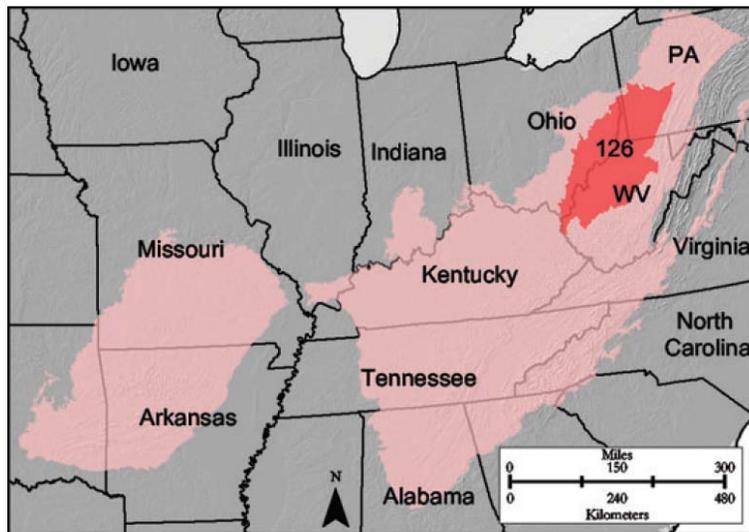


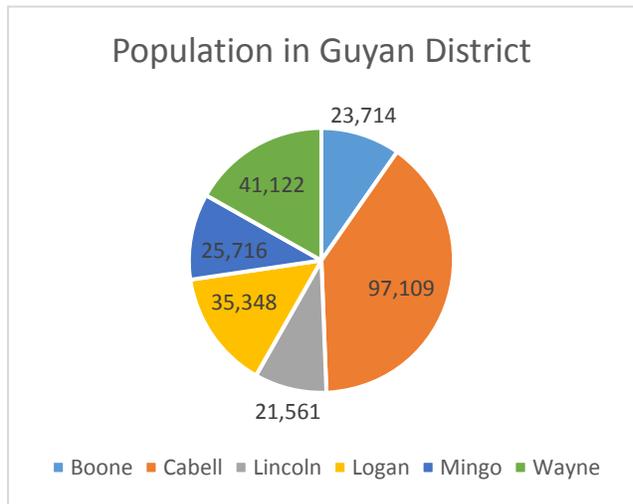
Figure 126-1: Location of MLRA 126 in Land Resource Region N

Socio- economic Information:

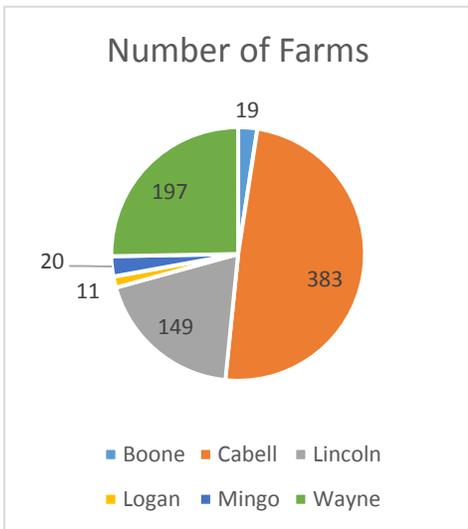
Population and economic characteristics within the Guyan Conservation District (Boone, Cabell, Lincoln, Logan, Mingo and Wayne) were derived from several references including the US Census and USDA Ag Census.

Population: In 2014, there were approximately 244,570 people residing within the District. Cabell County has the largest population with 97,109 compared to the other counties in the District (shown in the graph to the right). District wide, there was a population decrease of 2.5% since the 2010 Census.

Income: The average per capita income for the District in 2013 was \$20,933 while median

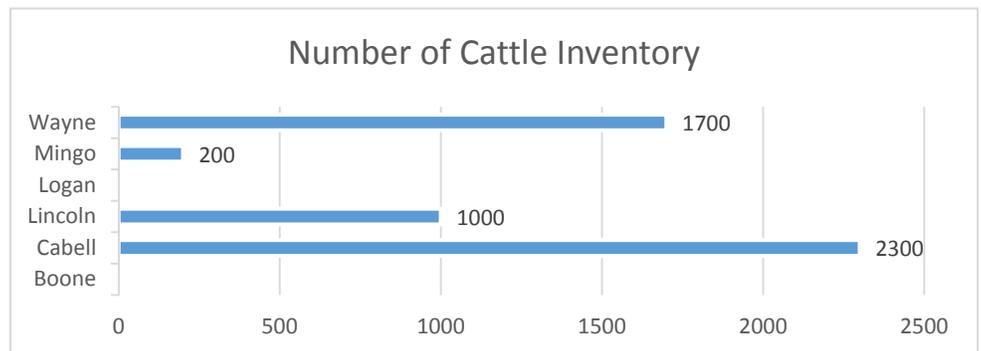


household income is estimated at \$37,563. An estimated 23% of the District population are below the poverty rate. A comparison of Guyan District income statistics compared to statewide averages indicate slightly lower values. Statewide, per capita income is \$23,237, median household income is \$41,576 and the poverty rate is 18.3%.



There are approximately 1,159 farmers operating 779 farms in the District. The farms span over 103,420 acres making the average farm size around 132 acres. According to the graph shown to the left, Cabell County has roughly 49% of all farms in Guyan District which makes it the strongest agriculture county in the District. The Guyan District contributes about 2.9% to West Virginia’s agricultural sector. In addition, the average farmer’s age is 62 years old.

Guyan District livestock sector resulted in about \$2,192,000 in livestock sales in 2015. According to the graph below, Cabell County has the highest cattle inventory with 2,300 head, while Mingo had the lowest with 200 head of cattle. Logan and Boone did not have data collected for their county on cattle inventory.



Most Common/ Important Agricultural Enterprises and Conservation Practices:

The most common agricultural enterprise in the GCD are cow/ calf operations. Historically the majority of the work has been done in MLRA 126 which includes Cabell, Lincoln, and Wayne counties. Typical practices installed are watering facilities, fence, heavy use areas, and waste storage facilities. Based on reports generated in Protracts, contract management system, the most contracts have been obligated in Cabell County as well as the most EQIP dollars obligated. Also to note, 25% of the contracts obligated in these counties are repeat participants. With the limited farmland, historically the contracts have been obligated to the same farmers.

Of recent, through the Strike Force Initiative and Forestry funding, more work has been occurring on small truck crop farms and woodlands in MRLA-125. The common practices on these types of farms have been high tunnels, forest stand improvement, and brush management. In the last 6 years, 55 contracts for high tunnels and 24 forestry contracts have been approved. This would account for 32% of the total contracts obligated in the GCD since Protracts has been utilized for contract management. High tunnels have provided an opportunity for small farms to improve plant productivity and profit. There is a high tunnel planned or applied in every county in GCD.

Below the table lists number of different participants, total contracts- active, completed, cancelled or terminated, and EQIP dollars obligated.

County	Participants	Contracts	Active	Completed	Canc/ Term	\$ Obligated
Boone	4	5	2	2	1	\$34,512
Cabell	75	99	18	64	17	\$1,101,628
Lincoln	54	68	14	46	8	\$547,102
Logan	1	1	1	0	0	\$10,108
Mingo	1	1	0	1	0	\$1,136
Wayne	47	70	16	34	20	\$634,344
Totals	182	244	51	147	46	\$2,328,830

Established Partners:

The Guyan Conservation District has been the most significant partner to NRCS in this District. They have historically participated in local work group meetings and have provided a tremendous amount of outreach to the farmers and participants in this District. They have been receptive of input from NRCS on creating and administrating their cost- assistance program, Agriculture Enhancement Program (AgEP). Practices included in AgEP have been selected to compliment EQIP and not overlap. NRCS has in return provided technical assistance. The District also funds field days and workshops throughout the District to provide outreach and technical information to the EQIP participants.

In addition, the Cabell, Lincoln, and Wayne County Farm Bureaus as well as Farm Service Agency, WV Department of Agriculture, WVU Extension Service, WVSU Extension Service, WV Conservation Agency (WVCA) and WV Division of Forestry have provided outreach to landowners on EQIP funding in the District.

Resource Concerns and Program Suitability:

The GCD has a diverse set of resource concerns due to topography and land use.

Resource Concerns MLRA-125 Cumberland Plateau and Mountains:

In MLRA- 125, the most significant concerns have been associated with flooding. In this area, the majority of homes are located in the natural floodplains. Large storm events occur every 5-10 years, causing significant damage to homes, business, and the streambanks. In the past, the Emergency Watershed Program (EWP) has been utilized to solve streambank erosion, but only on areas with eminent threat of life or property. Sites without eminent threat to life or property are generally not funded through EWP, and since they occur on urban, non- agricultural lands, the sites are not eligible for EQIP.

In addition to flooding, the area in MLRA-125 has water quality concerns due to failing or absence of septic systems. If municipal sewage treatment plants are present in a community, they are generally poorly functioning and lack proper funding for needed improvements. This resource concern is out of the scope of EQIP.

Resource Concerns MRLA- 126 Central Allegheny Plateau:

Most of the grazing land in the GCD is located in MRLA- 126 (Cabell, Lincoln, and Wayne Counties). Farms are not generally located in certain watersheds. As with farms in the entire District, they are dispersed between urban land and vast woodland with absentee landowners. In addition, program participation is highly variable from one watershed to the next.

Pasture Management:

- a. Soil Erosion- Sheet and Rill Erosion**
- b. Degraded Plant Condition- Undesirable Plant Productivity and Health**
- c. Soil Quality Degradation- Compaction**
- d. Livestock Production Limitation- Inadequate Livestock Water**

Grazing land throughout the District has very common resource concerns. Farmers in this District have stocking rates that exceed their carrying capacity on the farm. Overgrazing is a culture the District. In addition, livestock water location limits farmers' ability to utilize areas of pasture. As a result, grazing land is not uniformly grazed, causing overgrazing in areas with water, and under-utilization in others- typically ridgetops. The topography of the land limits areas for pond site construction and pipeline. Municipal water sources are now more readily available but in some cases the sites where water is needed limits the cost- effectiveness and implementation.

Farmers successful in implementing proper management are able to graze until December or January, but most farmers in the GCD start feeding supplemental hay in late September or October- or force their cattle to overgraze pastures and adjacent woodlands.

Program Suitability:

An approach to solve these resource concerns on grazing land in a more focused approach is to provide cost incentive on conservation plans that increase the grazing season. Through the prescribed grazing tools found in the eFOTG and Pasture Condition Score Sheet (PCS), a conservation plan can be developed that will document these additional grazing months. The goal for the PCS would be to increase a score from the District's average of 26 to greater than 30 and decrease soil loss to acceptable levels. Success would be measured in months extended. Practices that may be needed are watering facilities, fence, critical area plantings, forage and biomass plantings, brush management and stockpiling grazing payments. Currently there is not a payment schedule available for stockpiling forages through EQIP. Nutrient management and forage and biomass plantings to increase legumes through frost seeding would be installed through AgEP. An estimated \$800,000 over 5 years would be required to address this resource concern in MRLA- 126. Current staffing levels are suitable to complete the work required.

Partnerships:

1. Guyan Conservation District: AgEP Participation and Outreach Activities
2. WVU Extension Service: Outreach Activities
3. Farm Bureau: Outreach Activities

Winter Feeding Operations:

- a. **Soil Erosion- Sheet and Rill**
- b. **Soil Quality Degradation- Compaction**
- c. **Water Quality- Excessive Sediments in Surface Water**
- d. **Water Quality- Excessive Nutrients in Surface Water**

Extended winter feeding results in additional resource concerns. There is limited flat land that hay can be fed due to topography. In addition, rotation of feeding areas in pastures is limited since equipment is not safe to operate and cultural practices such as rolling hay bales along the slope would result in loss of feed.

Waste storage facilities have been utilized in recent years to solve the resource concerns associated with livestock winter feeding areas. Although somewhat controversial in the actual resolving of resource concerns, these facilities are needed due to the limited areas to feed hay. However, in some cases, they have supported farmers with a history of overgrazing, and/or shortened grazing season due to stocking rate.

Program Suitability:

This approach will promote the proper grazing measure mentioned previously. Ranking would give priority to number of months properly grazed after October 15th, with higher priority of relocating current feeding operations away from streams. Results could be measured in additional months fed on grazing land and number of feeding operations relocated away from water courses. Practices needed to solve this resource concern include waste storage facilities, heavy use area, access road, watering facilities, animal trails and walkways, and nutrient management. The GCD will provide funding of additional heavy use areas through AgEP needed after the first year of use that may not have been

identified during the planning process. In addition, AgEP would be used to install roof runoff management on adjacent existing structures in the area where cattle are overwintered. An estimated \$700,000 over 5 years would be needed to address this concern in the GCD.

Partnerships:

1. Guyan Conservation District: AgEP Participation and Outreach Activities
2. WVU Extension Service: Outreach Activities
3. Farm Bureau: Outreach Activities

Resource Concerns MLRA- 125 and 126

Local Food Movement:

1. **Degraded Plant Condition- Undesirable Plant Productivity and Health**
2. **Degraded Plant Condition- Excessive Pest Pressure**

In recent reports from the USDA, the Appalachian region has been categorized as a Food Desert. A Food Desert is a geographic area where affordable, nutritious food is hard to obtain. In addition, the Centers of Disease Control and Prevention (CDC) lists West Virginia as having one of the highest rates of obesity in the US at over 35%. Several news articles have listed the Huntington- Ashland (KY) area in the top 5 obese cities. As a result, the local food movement has become more popular in this district. Farmers markets and local food markets are increasing in the Huntington/ Charleston area but product is not readily available. The resource concern that limits the production of local fruits and vegetable crops is degraded plant productivity due to limited growing season, seasonal drought, and deer damage.

Program Suitability:

The practices needed to address this resource concern are a high tunnel, micro-irrigation, irrigation pipeline, nutrient management, and pumping plant. High tunnels are gaining in interest, typically with new to USDA customers. Addressing this resource concern has been successful in the GCD due to the small areas suitable to farm.

EQIP is suitable for the high tunnel and nutrient management practices. Micro- irrigation associated practices have historically not been included in EQIP contracts because most landowners have not irrigated their crops previously. Generally the Agricultural Management Assistance Program (AMA) has provided cost assistance for these practices. Although, it seems that the EQIP manual has changed slightly under 515.52 (5) which deals with irrigation practice eligibility. It appears that the requirement of irrigating 2 of 5 years is only required if the resource concern insufficient water is identified. Generally, high tunnels only identify degraded plant condition as the resource concern. The CPPE recognizes a positive effect of irrigation practices on this resource concern (degraded plant condition). There may be a possibility to include these irrigation practices in future EQIP contracts, since insufficient water is not present without the high tunnel practice.

If EQIP cannot be used for irrigation, the AMA program or AgEP program will be utilized for the micro-irrigation practices. Deer damage is better suited for cost assistance through AMA, though has not been included in recent years.

A focused ranking criteria could give priority to certain counties based on the level of practice adoption of high tunnels as well as first time applicants. Success could be measured in number of high tunnels to new USDA customers. An estimated \$4,000,000 would be needed over the next 5 years to fund 50 high tunnels per year. Additional staff may be needed.

Partnerships:

4. Guyan Conservation District: Outreach Activities
5. WVU Extension Service: Outreach Activities
6. WV State University Extension Service: Outreach Activities
7. Farm Bureau: Outreach Activities

Healthy Forests:

- 1. Degraded Plant Condition: Undesirable Plant Productivity and Health**
- 2. Degraded Plant Condition: Inadequate Structure and Composition**
- 3. Degraded Plant Condition: Excessive Plant Pest Pressure**

Insects, disease, and overstocking have contributed to a decline in forest health throughout the GCD. Infiltration of invasive species such as autumn olive, tree of heaven, multiflora rose, and oriental bittersweet inhibit the growth and reproduction of native species. Access roads to complete TSI practices planned in Forest Stewardship Plans are inadequate. .

Program Suitability:

Implementation of practices planned through WVDOF Forest Stewardship Plans on 1,000 acres over a 5 year period would decrease the abundance of noxious and invasive species, improve wildlife habitat, and increase forest production for a healthier forest ecosystem. Availability to a shared DOF employee may generate more interest in forest health. Practices needed include forest stand improvement, tree and shrub establishment and associated practices, and brush management. An estimated \$100,000 will be needed over 5 years to address this resource concern.

Access roads are currently not feasible due to standard and specification requirements. This may be a practice that could be added in the future.

Partnerships:

8. Guyan Conservation District: AgEP Participation and Outreach Activities
9. WVDOF: Outreach Activities and Forest Stewardship Plans
10. Farm Bureau: Outreach Activities

Forest Fires:

- 1. Degraded Plant Condition- Wildfire Hazard, Excessive Biomass Accumulation**

Forest fires have been a major problem in the GCD due to fuel loads not managed by landowners. The firebreak practice has not been selected as an eligible practice in WV EQIP. Practice scenarios available

are not suited for WV. The access road standards and specifications limits application due to slope and there is currently no standard for fire roads. This may be something for future years to focus on for EQIP.

The table below lists the number of fires per acre in each county over a 10 year period.

10 Year Fire Occurrence Summary				
2006 to 2015				
County	Number Fires	Forest Acres	Non Forest Acres	Total Acres
Boone	342	20,990.60	1,575.55	22,566.15
Cabell	252	813.50	52.10	865.60
Lincoln	307	4,411.70	88.90	4,500.60
Logan	364	9,077.30	562.05	9,639.35
Mingo	438	20,916.02	554.10	21,470.12
Wayne	457	9,668.00	264.70	9,932.70
Total	2,160	65,877.12	3,097.40	68,974.52

Local Work Group:

A local work group meeting was held on March 30, 2016. Approximately 25 people attended including GCD supervisors from 4 counties, Larry Six from DOF and local landowners. Several concerns were discussed at the meeting including inadequate livestock water, grazing management systems, invasive species, winter feeding operations, local food movement, wildlife damage, streambank erosion, fishery habitat, forest fires, soil erosion on abandoned land, litter, and manure management. A second meeting was held on April 14, 2016 to prioritize the resource concerns that would be suitable for EQIP funding. The group consisted of 2 GCD supervisors and 5 local landowners. The group agreed that resource concerns that increased the grazing season, the local food movement, and resource concerns associated with overwintering of livestock were among the most important in the GCD.