

*Long Range Strategic Plan for the Eastern
Panhandle Conservation District*



Table of Contents

Section I. Introduction

- 1.1 Vision**
- 1.2 Mission**
- 1.3 Purposes**
- 1.4 Time Frame**

Section II. Natural Resource Inventory

- 2.1 Natural Resources**
- 2.2 Humans**
- 2.3 Soil**
- 2.4 Water**
- 2.5 Plants and Animals**

Section III. Natural Resource Analysis

- 3.1 Partner Conservation Efforts**
- 3.2 Summary of Resource Condition**
- 3.3 Resource Concern Description**

Section IV. Natural Resource Problems and Desired Future Outcomes

- 4.1 Water Quality**
- 4.2 Soil Health**
- 4.3 Grassland Management**



Section I. Introduction

1.1 Vision

The vision of this collaboration is shared responsibility and commitment to local action with the intent that effective land stewardship in the Eastern Panhandle Conservation District will be achieved.

1.2 Mission

The mission of this cooperative plan is to build alliances among stake holders and resource professionals and strategically utilize limited resources to effectively solve natural resource problems in the Eastern Panhandle Conservation District.

1.3 Purpose

The Long Range Strategic Plan is the road map for NRCS and our conservation partners to effectively address some of the most critical and urgent natural resource problems facing the Eastern Panhandle Conservation District. The purpose is to identify and solve, with measurable objectives, priority resource concerns within the Eastern Panhandle Conservation District using a strategic focused approach.

1.4 Time Frame

The Long Range Strategic Plan will cover the period of 2016-2021. This Plan is intended to be a living document and as such will be reviewed annually beginning January 2017.



Section II. Natural Resources

The Eastern Panhandle Conservation District is comprised of Morgan, Berkeley, and Jefferson Counties and is located on the far eastern reach of West Virginia. To begin the plan for the Eastern Panhandle Conservation District an assessment of current and past conditions of the District's resources will be completed and analyzed using the following subcategories:

1. Human Resources
2. Soil Resources
3. Water Resources
4. Plant and Animal Resources

2.2 Human Resources

Population and economic characteristics

The Eastern Panhandle Conservation District covers 762 square miles and has a unique and diverse population base primarily due the close proximity to the Washington DC metro area. According to the United States Census Bureau the population of the Eastern Panhandle Conservation District in 2014 was estimated at 180,487 which is an increase of 3.2% from 2010. This is the largest increase in population for a Conservation District in the State. In fact, of the 14 Districts, only 4 showed a population increase. Of the population, 5% is Black, 4% Hispanic or Latino, 2% Asian, and 89% White. The per capita income is \$26,382 with the median household income of \$52,904. The poverty rate is 13%, lowest in West Virginia.

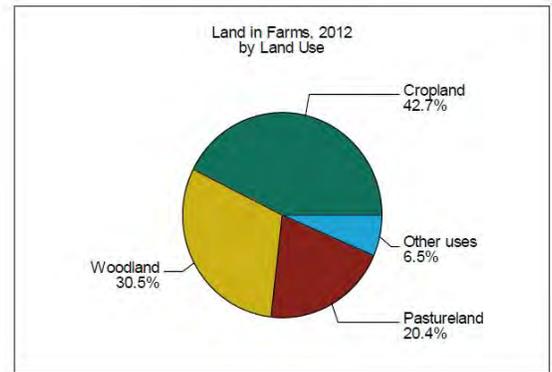
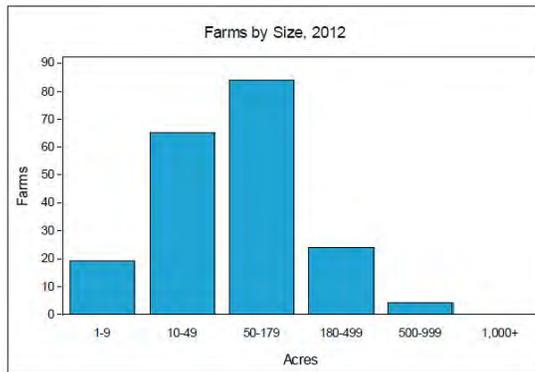
Agriculture Summary

County summaries will be provided using data from the 2012 Census of Agriculture published by the National Agriculture Statistics Service.



Morgan County

	2012	2007	% change
Number of Farms	196	212	- 8
Land in Farms	18,386 acres	22,440 acres	- 18
Average Size of Farm	94 acres	106 acres	- 11
Market Value of Products Sold	\$3,020,000	\$1,851,000	+ 63
Crop Sales \$2,332,000 (77 percent)			
Livestock Sales \$688,000 (23 percent)			
Average Per Farm	\$15,409	\$8,733	+ 76
Government Payments	\$86,000	\$32,000	+ 169
Average Per Farm Receiving Payments	\$6,632	\$842	+ 688

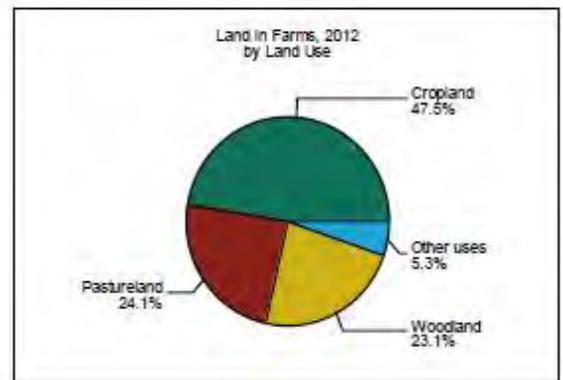
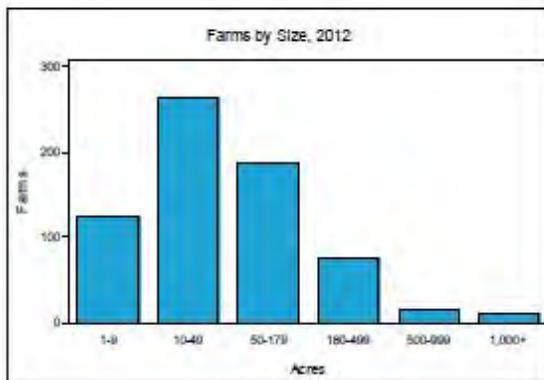


Ranked items among the 55 state counties and 3,079 U.S. counties, 2012

Item	Quantity	State Rank	Universe ¹	U.S. Rank	Universe ¹
MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD (\$1,000)					
Total value of agricultural products sold	3,020	32	55	2,934	3,077
Value of crops including nursery and greenhouse	2,332	11	55	2,671	3,072
Value of livestock, poultry, and their products	688	44	55	2,923	3,076
VALUE OF SALES BY COMMODITY GROUP (\$1,000)					
Grains, oilseeds, dry beans, and dry peas	132	14	49	2,626	2,926
Tobacco	-	-	6	-	436
Cotton and cottonseed	-	-	-	-	535
Vegetables, melons, potatoes, and sweet potatoes	178	13	52	1,567	2,802
Fruits, tree nuts, and berries	(D)	4	52	(D)	2,724
Nursery, greenhouse, floriculture, and sod	928	4	50	1,103	2,678
Cut Christmas trees and short rotation woody crops	25	12	36	679	1,530
Other crops and hay	(D)	(D)	54	(D)	3,049
Poultry and eggs	35	14	54	1,763	3,013
Cattle and calves	472	45	55	2,798	3,056
Milk from cows	-	-	30	-	2,038
Hogs and pigs	26	11	52	1,687	2,827
Sheep, goats, wool, mohair, and milk	6	47	54	2,818	2,988
Horses, ponies, mules, burros, and donkeys	(D)	(D)	52	(D)	3,011
Aquaculture	(D)	9	20	(D)	1,366
Other animals and other animal products	3	50	55	2,601	2,924
TOP CROP ITEMS (acres)					
Forage-land used for all hay and haylage, grass silage, and greenchop	6,076	38	54	2,079	3,057
Apples	(D)	4	52	(D)	2,167
Wheat for grain, all	193	4	21	2,117	2,537
Winter wheat for grain	193	4	21	2,033	2,480
Cut Christmas trees	186	9	38	280	1,557
TOP LIVESTOCK INVENTORY ITEMS (number)					
Cattle and calves	1,466	44	55	2,808	3,063
Layers	1,023	29	54	1,851	3,040
Horses and ponies	388	30	55	2,308	3,072
Chickens	(D)	1	1	168	338
Pheasants	(D)	1	6	(D)	962

Berkeley County

	2012	2007	% change
Number of Farms	676	833	- 19
Land in Farms	70,089 acres	75,102 acres	- 7
Average Size of Farm	104 acres	90 acres	+ 16
Market Value of Products Sold	\$30,545,000	\$21,715,000	+ 41
Crop Sales \$23,982,000 (79 percent)			
Livestock Sales \$6,563,000 (21 percent)			
Average Per Farm	\$45,184	\$26,069	+ 73
Government Payments	\$374,000	\$176,000	+ 112
Average Per Farm Receiving Payments	\$3,815	\$1,265	+ 202

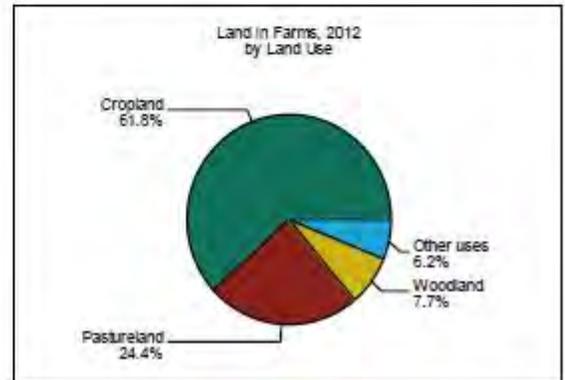
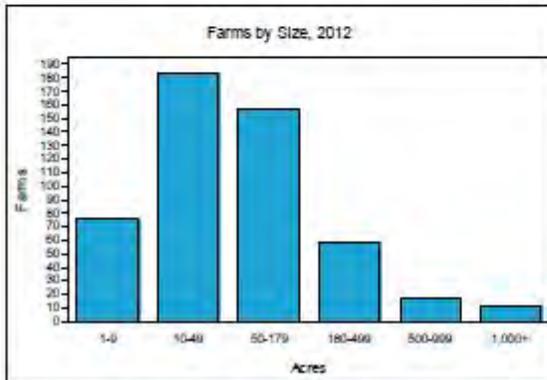


Ranked items among the 55 state counties and 3,079 U.S. counties, 2012

Item	Quantity	State Rank	Universe ¹	U.S. Rank	Universe ¹
MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD (\$1,000)					
Total value of agricultural products sold	30,545	9	55	2,137	3,077
Value of crops including nursery and greenhouse	23,982	2	55	1,613	3,072
Value of livestock, poultry, and their products	6,563	15	55	2,359	3,076
VALUE OF SALES BY COMMODITY GROUP (\$1,000)					
Grains, oilseeds, dry beans, and dry peas	4,002	3	49	1,825	2,926
Tobacco	-	-	6	-	436
Cotton and cottonseed	-	-	-	-	635
Vegetables, melons, potatoes, and sweet potatoes	699	2	52	970	2,802
Fruits, tree nuts, and berries	17,623	1	52	116	2,724
Nursery, greenhouse, floriculture, and sod	355	11	50	1,517	2,678
Cut Christmas trees and short rotation woody crops	18	16	36	774	1,530
Other crops and hay	1,285	5	54	1,705	3,049
Poultry and eggs	169	8	54	1,259	3,013
Cattle and calves	2,647	25	55	2,155	3,055
Milk from cows	2,433	5	30	962	2,036
Hogs and pigs	(D)	3	52	(D)	2,827
Sheep, goats, wool, mohair, and milk	116	12	54	1,245	2,988
Horses, ponies, mules, burros, and donkeys	560	2	52	496	3,011
Aquaculture	(D)	3	20	(D)	1,366
Other animals and other animal products	121	7	55	992	2,924
TOP CROP ITEMS (acres)					
Forage-land used for all hay and haylage, grass silage, and greenchop	20,056	6	54	967	3,057
Com for grain	3,400	4	48	1,537	2,638
Apples	2,607	1	52	24	2,167
Soybeans for beans	1,126	4	17	1,659	2,162
Com for silage	1,001	5	39	1,123	2,237
TOP LIVESTOCK INVENTORY ITEMS (number)					
Pullets for laying flock replacement	(D)	6	47	392	2,637
Cattle and calves	9,066	19	55	2,001	3,063
Layers	2,352	11	54	1,180	3,040
Horses and ponies	791	10	55	1,505	3,072
Goats, all	765	4	54	766	2,996

Jefferson County

	2012	2007	% change
Number of Farms	501	546	- 8
Land in Farms	66,965 acres	72,091 acres	- 7
Average Size of Farm	134 acres	132 acres	+ 2
Market Value of Products Sold	\$35,531,000	\$19,459,000	+ 83
Crop Sales \$15,997,000 (45 percent)			
Livestock Sales \$19,534,000 (55 percent)			
Average Per Farm	\$70,920	\$35,639	+ 99
Government Payments	\$852,000	\$476,000	+ 79
Average Per Farm Receiving Payments	\$6,868	\$3,843	+ 79



Ranked items among the 55 state counties and 3,079 U.S. counties, 2012

Item	Quantity	State Rank	Universe ¹	U.S. Rank	Universe ¹
MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD (\$1,000)					
Total value of agricultural products sold	35,531	6	55	2,024	3,077
Value of crops including nursery and greenhouse	15,997	3	55	1,840	3,072
Value of livestock, poultry, and their products	19,534	8	55	1,634	3,076
VALUE OF SALES BY COMMODITY GROUP (\$1,000)					
Grains, oilseeds, dry beans, and dry peas	12,109	1	49	1,441	2,926
Tobacco	-	-	6	-	436
Cotton and cottonseed	-	-	-	-	635
Vegetables, melons, potatoes, and sweet potatoes	(D)	4	52	(D)	2,802
Fruits, tree nuts, and berries	1,915	3	52	325	2,724
Nursery, greenhouse, floriculture, and sod	506	7	50	1,344	2,678
Cut Christmas trees and short rotation woody crops	(D)	1	36	(D)	1,530
Other crops and hay	658	24	54	2,240	3,049
Poultry and eggs	63	10	54	1,540	3,013
Cattle and calves	6,447	9	55	1,622	3,056
Milk from cows	11,692	1	30	455	2,038
Hogs and pigs	(D)	1	52	(D)	2,827
Sheep, goats, wool, mohair, and milk	168	8	54	930	2,988
Horses, ponies, mules, burros, and donkeys	536	3	52	519	3,011
Aquaculture	(D)	8	20	(D)	1,366
Other animals and other animal products	450	1	55	452	2,924
TOP CROP ITEMS (acres)					
Forage-land used for all hay and haylage, grass silage, and greenchop	14,261	19	54	1,299	3,057
Corn for grain	10,990	1	48	1,158	2,538
Soybeans for beans	7,601	2	17	1,179	2,162
Wheat for grain, all	3,559	1	21	1,262	2,537
Winter wheat for grain	3,559	1	21	1,179	2,480
TOP LIVESTOCK INVENTORY ITEMS (number)					
Cattle and calves	15,596	7	55	1,560	3,063
Layers	2,960	10	54	1,131	3,040
Horses and ponies	1,769	1	55	567	3,072
Sheep and lambs	799	12	51	1,063	2,897
Goats, all	646	9	54	857	2,996

Agriculture Summary

From the three county summaries provided by Census of Agriculture, you can see a very diverse agriculture base in the Eastern Panhandle Conservation District.

In contrast to most of WV, land in farms in the Eastern Panhandle Conservation District, is comprised mostly of cropland. This is due to the topography and high percentage of Prime Farmland Soils.

Jefferson County leads the state in almost every crop production category. Nearly 25,000 acres of row crops are planted annually. This primarily consists of corn, soybeans, and wheat. Also, Jefferson County is the top county in WV for milk production.

Berkeley County is unique in that it leads the state for fruits, tree nuts and berry production. Over 2,600 acres were reported in apple production.

Morgan County is more similar to typical agriculture production in WV. It is primarily forage based cattle operations with a handful of high end truck crop producers.



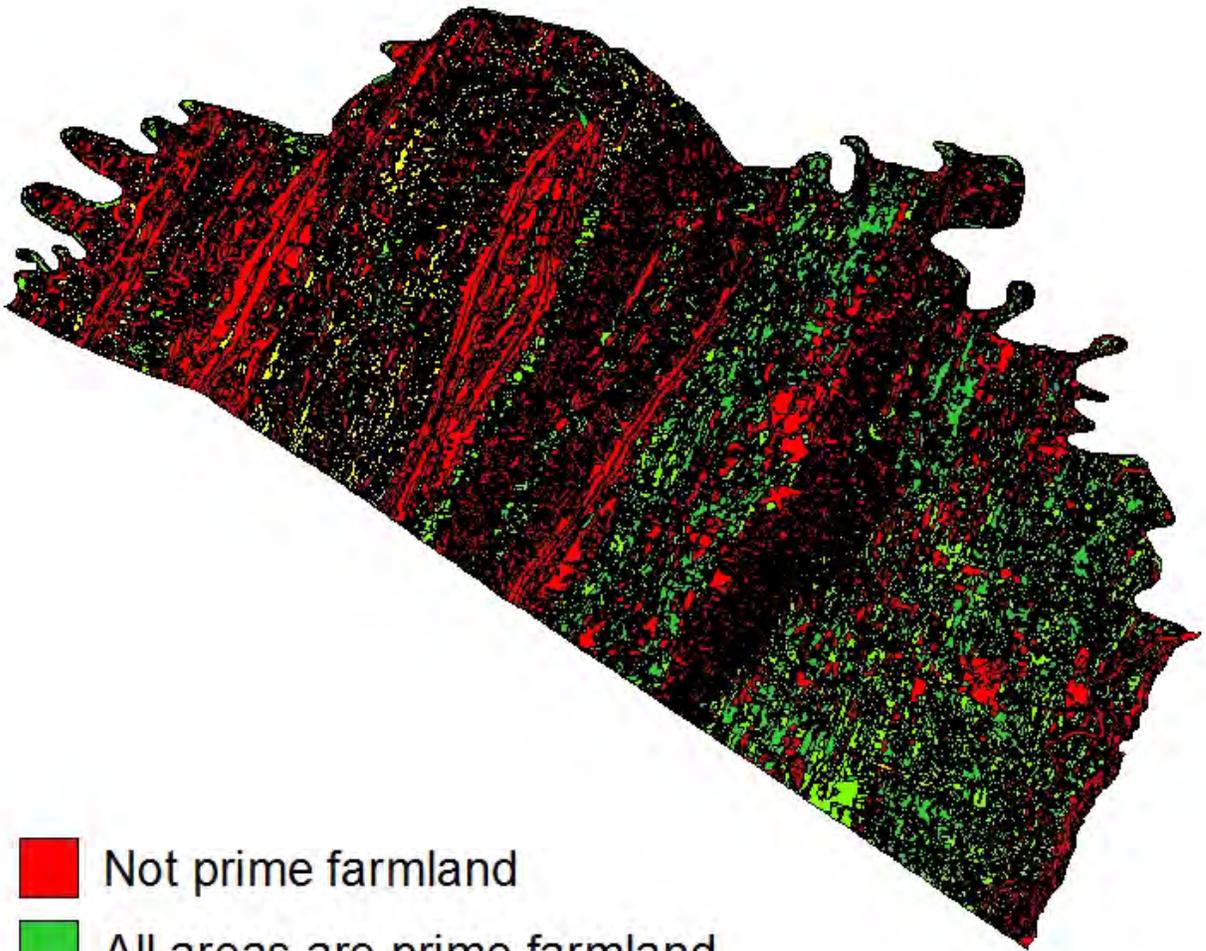
2.3 Soil

The Eastern Panhandle Conservation District is located within two major land resource areas. Nearly all of Morgan, Berkeley, and Jefferson Counties are part of the Ridge and Valley Province (MLRA 147). A tiny portion of eastern Jefferson County is part of the Northern Blue Ridge Province (MLRA 130A). (Because the Northern Blue Ridge represents only minor acreage, it will not be discussed.) Major soils in the district can be divided into 2 groupings.

In Morgan County and some parts of Berkeley and Jefferson Counties, soils are developed from acid, highly folded shale, siltstone, and sandstone. A system of generally parallel rivers drains this area as the rivers flow northeastward toward the Chesapeake Bay. Most areas are wooded. Common soils in this area are the Weikert, Berks, Calvin, Hazleton, and Dekalb soils. Many times these upland soils were mapped as complexes due to landform complexity. Slopes range from 3 to 70 percent, and the steeper slopes are very susceptible to erosion. Berks, Calvin, and Dekalb soils are moderately deep, with low to moderate amounts of clay in the subsoil, and rock fragments averaging greater than 35 percent in the soil profile. Hazleton soils are deep, with low to moderate amounts of clay in subsoil, and rock fragments averaging greater than 35 percent in the soil profile. Weikert soils are shallow, with low to moderate amounts of clay in the subsoil, and rock fragments averaging greater than 35 percent in the soil profile. Weikert soils are difficult to manage due to droughtiness. Minor soils such as Sideling, Buchanan, and Blackthorn, located in foot slope positions, are more suited to pasture and sometimes hayland due to deeper subsoils, though some areas may be limited due to a seasonal high water table or excessive surface stones. Bottomland soils such as Monongahela, Pope, and Philo, and Combs make up small areas on many floodplains and terraces along major streams and rivers, and contain the majority of cultivated lands outside of the limestone valley. Limitations for cultivated crops are flooding frequency and a seasonal high water table.

Travelling east into Berkeley and Jefferson Counties, the Great Valley is the most prominent landscape feature. Soils of higher fertility developed from the extensive limestone bedrock, and cropland, hayland, and pastureland is much more abundant here. Common soils in the valley include the Hagerstown, Duffield, Funkstown, Oaklet, Opequon, and Poplimento soils. Slopes generally range from 0-25%, and the steeper slopes have a moderate to severe hazard of erosion. These limestone soils are well drained, mostly fine or very fine in texture, have moderate to high amounts of clay in the subsoil, and are moderately deep to very deep to bedrock. Some areas may contain sinkholes or areas of limestone outcrop, which is a water quality concern. Some of these limestone soils have slow permeability rates and a high shrink-swell potential. Opequon soils are shallow and droughty, and are most suited to pasture. Funkstown soils are subject to flooding and ponding. Minor soils of the Great Valley include Carbo, Swanpond, and Ryder soils. Limitations are similar to the major soils. Huntington and Lindside soils are found along major streams in the Great Valley, and are also used for cultivated crops and hayland. Limitations are flooding frequency, and a seasonal high water table in the Lindside soils. The Lappans and Fairplay soils have developed in marl sediments, and are found in narrow floodplains below limestone springs. Use as farmland is a water quality concern.

Farmland Classification



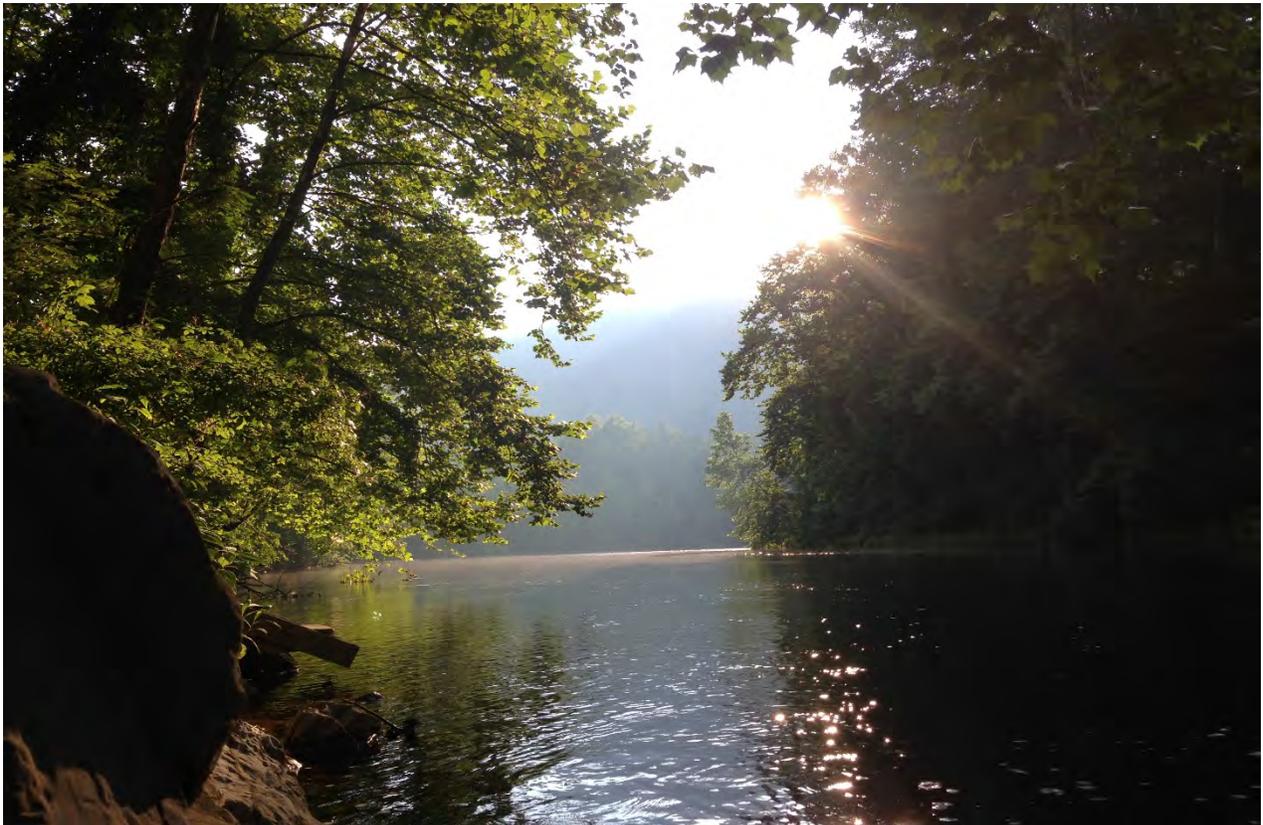
-  Not prime farmland
-  All areas are prime farmland
-  Farmland of statewide importance
-  Farmland of local importance
-  Farmland of unique importance

2.4 Water

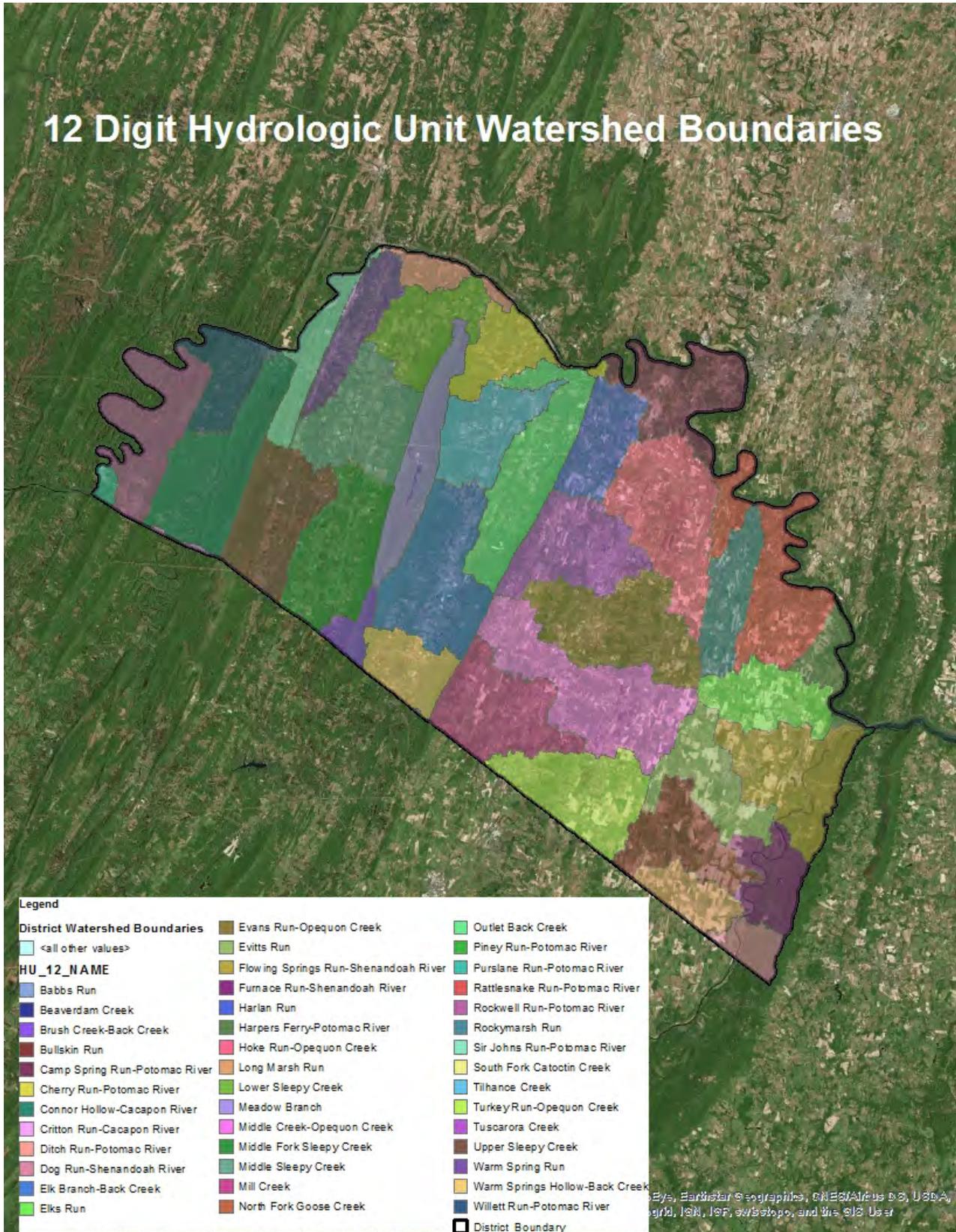
The Eastern Panhandle Conservation District has two main river drainages. The eastern and northern Boundary is the Potomac River. Just west of the Blue Ridge Mountains flows the Shenandoah River. The confluence of these rivers is in historic Harpers Ferry in Jefferson County. The Potomac River flows eastward and outlets to the Chesapeake Bay.

Water is a very precious resource in the Eastern Panhandle District, especially surface water runoff. With the large amount of cropland and nutrients applied, it is very important to keep the soil and nutrients in place. Also, with almost half of the District on Karst topography, ground water protection is important as well. Sinkholes act as a direct conduit for groundwater contamination from surface runoff.

The two main river drainages are further broken down into 42, 12, digit hydrologic units. See map for watershed boundaries and acreage.



12 Digit Hydrologic Unit Watershed Boundaries



Legend

District Watershed Boundaries	Evans Run-Opequon Creek	Outlet Back Creek
<all other values>	Evitts Run	Piney Run-Potomac River
HU_12_NAME	Flowing Springs Run-Shenandoah River	Purslane Run-Potomac River
Babbs Run	Furnace Run-Shenandoah River	Rattlesnake Run-Potomac River
Beaverdam Creek	Harlan Run	Rockwell Run-Potomac River
Brush Creek-Back Creek	Harpers Ferry-Potomac River	Rockymarsh Run
Bullskin Run	Hoke Run-Opequon Creek	Sir Johns Run-Potomac River
Camp Spring Run-Potomac River	Long Marsh Run	South Fork Cacotoin Creek
Cherry Run-Potomac River	Lower Sleepy Creek	Tilhance Creek
Connor Hollow-Cacapon River	Meadow Branch	Turkey Run-Opequon Creek
Critton Run-Cacapon River	Middle Creek-Opequon Creek	Tuscarora Creek
Ditch Run-Potomac River	Middle Fork Sleepy Creek	Upper Sleepy Creek
Dog Run-Shenandoah River	Middle Sleepy Creek	Warm Spring Run
Elk Branch-Back Creek	Mill Creek	Warm Springs Hollow-Back Creek
Elks Run	North Fork Goose Creek	Willlett Run-Potomac River
		District Boundary

Esri, Earthstar Geographics, CNES/Airbus DS, USDA, AeroGRID, IGN, IGF, swisstopo, and the GIS User Community

2.5 Plants and Animals

Below is a WV statewide list of Federally Threatened and Endangered Animal and Plant species in WV. Some species are not found in the Eastern Panhandle Conservation District.

List was provided by WVDNR

FEDERALLY THREATENED AND ENDANGERED SPECIES IN WEST VIRGINIA

Federally Endangered Species

Virginia big-eared bat (*Corynorhinus townsendii virginianus*)

Indiana bat (*Myotis sodalis*)

Gray bat (*Myotis grisescens*) (Accidental, not seen since 1991)

Eastern cougar (*Puma concolor cougar*) (Considered extirpated)

Diamond darter (*Crystallaria cincotta*)

Pink mucket pearly mussel (*Lampsilis abrupta*)

Tubercled-blossom pearly mussel (*Epioblasma torulosa torulosa*) (Considered extirpated)

Northern riffleshell (*Epioblasma torulosa rangiana*) James spinymussel (*Pleurobema collina*)
Fanshell (*Cyprogenia stegaria*)

Clubshell (*Pleurobema clava*)

Snuffbox (*Epioblasma triquetra*)

Rayed bean (*Villosa fabalis*)

Spectaclecase (*Cumberlandia monodonta*) Sheepnose (*Plethobasus cyphus*)

Guyandotte River Crayfish (*Cambarus veteranus*)

Shale barren rockcress (*Arabis serotina*) Running buffalo clover (*Trifolium stoloniferum*)
Harperella (*Ptilimnium nodosum*) Northeastern bulrush (*Scirpus ancistrochaetus*)

Federally Threatened Species

Flat-spired three-toothed land snail (=Cheat Threetooth) (*Triodopsis platysayoides*)

Cheat Mountain salamander (*Plethodon nettingi*) Madison Cave isopod (*Antrolana lira*)

Northern long-eared bat (*Myotis septentrionalis*) Big Sandy Crayfish (*Cambarus callainus*)

Virginia spiraea (*Spiraea virginiana*)

Small whorled pogonia (*Isotria medeoloides*)

Federally Listed Plants in West Virginia

Endangered:

<i>Arabis serotina</i>	Shalebarren Rockcress
<i>Ptilimnium fluviatile</i>	Harperella
<i>Scirpus ancistrochaetus</i>	Northeastern bulrush
<i>Trifolium stoloniferum</i>	Running Buffalo Clover

Threatened:

<i>Isotria medeoloides</i>	Small Whorled Pogonia
<i>Spiraea virginiana</i>	Virginia Spiraea

Below is a list of invasive species in WV provided by WVDNR

Threat	Scientific Name	Common Name
1	<i>Acer platanoides</i>	Norway Maple
1	<i>Ailanthus altissima</i>	Tree-Of-Heaven
1	<i>Alliaria petiolata</i>	Garlic Mustard
1	<i>Arthraxon hispidus</i>	Small Carpgrass
1	<i>Berberis thunbergii</i>	Japanese Barberry
1	<i>Bromus tectorum</i>	Cheatgrass
1	<i>Celastrus orbiculata</i>	Asian Bittersweet
1	<i>Centaurea stoebe ssp. micranthos</i>	Spotted Knapweed
1	<i>Coronilla varia</i>	Purple Crown-Vetch
1	<i>Dioscorea oppositifolia</i>	Chinese Yam
1	<i>Elaeagnus umbellata var. parvifolia</i>	Autumn Olive
1	<i>Euonymus alata</i>	Winged Euonymus, Winged Spindletree
1	<i>Euonymus fortunei</i>	Winter Creeper
1	<i>Hydrilla verticillata</i>	Hydrilla
1	<i>Iris pseudacorus</i>	Yellow Iris
1	<i>Lespedeza cuneata</i>	Chinese Bushclover
1	<i>Ligustrum vulgare</i>	European Privet
1	<i>Lonicera japonica</i>	Japanese Honeysuckle
1	<i>Lonicera maackii</i>	Amur Honeysuckle
1	<i>Lonicera morrowii</i>	Morrow's Honeysuckle
1	<i>Lonicera tatarica</i>	Tatarian Honeysuckle
1	<i>Lythrum salicaria</i>	Purple Loosestrife
1	<i>Microstegium vimineum</i>	Japanese Stiltgrass
1	<i>Phalaris arundinacea</i>	Reed Canarygrass
1	<i>Phellodendron japonicum</i>	Cork Tree
1	<i>Phragmites australis</i>	Common Reed
1	<i>Polygonum cuspidatum</i>	Japanese Knotweed
1	<i>Polygonum perfoliatum</i>	Asiatic Tearthumb
1	<i>Pueraria montana var. lobata</i>	Kudzu
1	<i>Pyrus calleryana</i>	Bradford Pear
1	<i>Rosa multiflora</i>	Multiflora Rose
1	<i>Rubus phoenicolasius</i>	Wine Raspberry
1	<i>Schedonorus phoenix</i>	Tall Fescue
1	<i>Schedonorus pratensis</i>	Meadow Fescue

Threat	Scientific Name	Common Name
1	<i>Sorghum halepense</i>	Johnson Grass
1	<i>Vinca minor</i>	Lesser Periwinkle

WVDNR manages three Wildlife Management Areas (WMA) in the Eastern Panhandle Conservation District listed below.

Widmeyer

Location: Morgan County

Accessible from state Route 9/11 off state Route 9 about three miles north of Great Cacapon.

Size: 422 acres

Terrain: upland oak-pine mixture

Hunting Prospects: deer, squirrel, turkey

Accommodations and Facilities

On the WMA: Camping is not permitted.

Owned by WVDNR

Managed by Wildlife Resources Section

Sleepy Creek

Location: Berkeley and Morgan counties

Approximately six miles southeast of Berkeley Springs and 11 miles west of Martinsburg, state Routes 8/2 (Highland Ridge) and 13/5 (Glenwood Road) in Morgan County or state Route 7/9 (Jones Springs and Shanghai) in Berkeley County.

Size: 22,928 acres

Terrain: oak-hickory forest covers 3,500 acres while Virginia pine-oak forest blankets most of the area

Hunting Prospects: deer, grouse, squirrel, turkey

> Furbearers – bobcat, fox, raccoon

Fishing Opportunities

Sleepy Creek Lake: 205 acres •

> Boat launch

Game Fish: largemouth bass, bluegill, crappie, northern pike

Accommodations and Facilities

On the WMA: Campsites – 75 primitive with pit toilets

> Trailers over 17 feet are not recommended due to graveled roads.

Shannondale Springs

Location: Jefferson County

Four miles east of Charles Town, south on state Route 9 and then turn onto Mission Road.

Size: 1,361 acres

Terrain: rolling hills ranging in elevation from 350 to 700 feet with mature hardwood forest, brush land and open fields

Hunting Prospects: deer, mourning dove, raccoon, squirrel, turkey, waterfowl, woodcock

> Furbearers – beaver, gray and red fox, mink, muskrat, opossum, raccoon, skunk

Fishing Opportunities

Shenandoah River: boat launch

Game Fish: rock and smallmouth bass, channel catfish, panfish

Accommodations and Facilities

On the WMA: Camping is not permitted.

Owned by WVDNR

Managed by Wildlife Resources Section



Section III. Natural Resource Analysis

3.1 Partner Conservation Efforts

The following paragraphs will list current and ongoing work by known partners and will be updated as needed.

Eastern Panhandle Conservation District

The Eastern Panhandle Conservation District is focusing their land treatment efforts mainly through the Agricultural Enhancement Program. They currently accept applications for forage reseedings, stream fencing, lime application, and heavy use area protection. They also have a county wide water quality improvement program in Jefferson County that allows for stream fencing and alternative water sources for livestock. They are current sponsors for 8 watershed dams constructed through the PL-566 program on Warm Springs Run in Morgan County. Education and outreach is also a high priority with the EPCD. They provide ongoing educational programs through numerous schools throughout the district, including providing a tree seedling to all 3rd grade students in schools that participate! Also, they hold an annual tree sale to provide low cost tree seedlings to the public along with equipment rentals including no-drills, lime and litter spreaders

Farm Service Agency

The Farm Service Agency is focusing their land treatment efforts through the Conservation Reserve Enhancement Program (CREP). This program establishes riparian forested buffers along streams to improve and enhance water quality. Along with the buffer, stream crossings and alternative water sources for livestock are additional opportunities. They also provide much needed loan assistance to producers unable to obtain funding through private sources.

West Virginia Conservation Agency

The West Virginia Conservation Agency works hand in hand with the Eastern Panhandle Conservation District. They provide oversight and guidance with program implementation. Currently, they are the lead sponsor for an ongoing Conservation Innovation Grant (CIG) that is researching inter seeding cover crops. They are also very active and support the WVDA in nutrient management plan development. We have a statewide partner agreement that employees a staff position in the Eastern Panhandle Conservation District.

West Virginia Department of Agriculture

The WVDA is providing soil testing services all the way from field sampling to laboratory analysis. Their staff is active in the Conservation District working with agriculture producers to provide nutrient management planning services.

West Virginia Division of Forestry

The WVDOF provides landowner assistance with timberland management. They provide stewardship plans to landowners to help them properly manage their forest land. Also, they

are a partner with NRCS to provide support with the EQIP forestry program implementation by providing plans and practice certification.

West Virginia University Extension Service

WVU is providing much needed educational services with landowners in the EPCD. This includes multiple winter dinner meetings and pesticide certification courses. Their main programs include the master gardener and wild yard program. They operate and maintain a tree fruit research facility in Kearneysville, Jefferson County. This allows them to assist local tree fruit growers with many issues such as pest management. They are supporting the Conservation Innovation Grant as well. WVU continues to operate their soil testing laboratory in Morgantown where they provide soil test recommendations at no cost.

West Virginia Department of Natural Resources

WVDNR operates and maintains the 3 Wildlife Management Areas (WMA) within the Conservation District. They manage for general wildlife habitat including whitetail deer, turkey, squirrel, and bear. Also, they provide trout stocking in the spring and fall for several streams including Opequon Creek, Mill Creek, Middle Creek, Tuscarora Creek, Rocky Marsh Run, Long Marsh Run, Evitts Run, Bullskin Run to name a few.

United States Fish and Wildlife Services/Trout Unlimited

USFWS in conjunction with trout unlimited provide conservation practice implementation to support riparian forest buffer establishment. This includes installing practices such as fence, stream crossings, pipeline, watering facilities, and tree planting. Trout unlimited also is currently working on brook trout habitat restoration within the Potomac Headwaters.

West Virginia Department of Environmental Protection

WVDEP is currently implementing several section 319, of the Clean Water Act, grants in the Eastern Panhandle Conservation District. Elks Run watershed (Ag/septic) located in Jefferson County, Sleepy Creek (Ag/septic) in Morgan County, Mill Creek (Ag/Septic/NSD) and Tuscarora Creek (NSD/Septic) located in Berkeley County. Also, they have a 319 protection plan on Elk Branch of Back Creek located in Berkeley County.

Landowners and Farmer

Landowners within the Eastern Panhandle Conservation District are the primary stewards of the land. They strive to implement conservation practices to improve and protect our natural resources.

Section III Natural Resource Analysis

3.2 Summary of Resource Condition

Humans

The Eastern Panhandle is one of the few areas in the state that is growing. It supports a rather diverse population in comparison to the majority of West Virginia. Residential and Commercial growth was slowed by the housing market collapse between 2008 and 2010. However, as the economy has improved since this time, growth is once again on a slow rise.

Soil

The Eastern Panhandle Conservation District is blessed with good quality soil that supports the most row crop production in West Virginia. A large portion of our soils are considered prime farmland especially in Jefferson County. Some limitations to be noted are the shale formed soils that are shallow and droughty. Also, the limestone formed soil, Karst topography, has its limitations as well, including rock outcrops and sinkholes.

Another concern to be noted is the conversion of prime farmland to residential and commercial property to accommodate the ongoing population growth. A fair balance is needed to ensure production of food and fiber can support the population.

Water

Water, in terms of quality, at this time is the highest priority resource. By Executive Order, States within the Chesapeake Bay Drainage are required to develop and implement Watershed Improvement Plans. These plans outline limits of sediment, nitrogen, and phosphorus each state is allowed to contribute to the Bay. Using the Chesapeake Bay Model, states can determine what practices need implemented to meet required milestones within the Executive Order.

As previously described in the plan, all of the Eastern Panhandle Conservation District waters drain to the Chesapeake Bay via the Potomac and Shenandoah Rivers. It is key that water quality improves in terms of sediment and nutrients as it leaves our landscape.

Plants and Animals

Again, the Eastern Panhandle stands alone with the diversification of plants grown including traditional row crops and orchards to forage for hay and livestock pasture. Lacking however, is our forest land. With on average of only 20% of land in farms show forest as a land use.

Domestic animals are very diverse as well. The majority being beef cattle. However, even with dairy farming dwindling within the state, Berkeley and Jefferson County rank 3 and 1, respectively, within WV for milk production. Also, to be noted is the high concentration of horses within the District. Jefferson again ranks top in the state. This is primarily due to Charles Town races and the WV breeders program.

The wild game population is also very diverse and abundant. Potentially over abundant when considering the whitetail deer population. They considerably impact crop yields to a point where producers are constructing fence to exclude them from their fields, specifically tree fruit producers.

Section IV. Natural Resource Problems and Desired Future Outcomes

A Local Work Group meeting was held on March 8th at the Martinsburg Service Center. In attendance were representatives from the Eastern Panhandle Conservation District, West Virginia Conservation Agency, Farm Service Agency, WVU Extension Service, West Virginia Division of Forestry, West Virginia Department of Environmental Protection Agency, and the Natural Resources Conservation Service.

Discussion began with an overview from NRCS on their newly adopted Farm Bill Programs allocation strategy called, Focused Conservation Approach (FCA). In short, (FCA), will use project proposals, developed from long range strategic plans, to focus NRCS resources on priority resource concerns, practices, or watersheds specific to each Conservation District.

Each Agency present was asked to provide an update on current projects and potential work to be completed within the next 5 years. This is summarized in Section 3.1 of this document.

From there, historic resource concern data and practices implemented through NRCS Farm Bill Programs from 2011-2015, were reviewed and evaluated. See attachments 1 and 2.

In no particular order, it was decided the following resource concerns would be a priority within the Eastern Panhandle Conservation District:

4.1 Water Quality Excessive Nutrients in Surface and Ground Water

Water Quality Degradation Excessive Sediment in Surface Water

As mentioned earlier in the long range plan, Executive Order made Water Quality within all agencies a top priority. Again, with the entire District drainage flowing to the Chesapeake Bay it is important to focus our resources as appropriate to address this resource concern.

Throughout the Conservation District there are several farms where livestock have direct access to water bodies such as streams, creeks, springs, and ponds. Without buffers, this leads to direct contribution of sediment and nutrients. This also occurs on crop fields where land application of manures and commercial fertilizer is adjacent to water bodies.

Concentrated livestock winter feeding areas that are poorly located, uncovered, and without proper manure storage and handling facilities become a top priority for conservation planning assistance. There is also a potential need within the dairy industry to improve or expand existing manure handling facilities.

Desired future outcome:

Promote the establishment of riparian forest buffers and associated practices such as fence, stream crossings, and alternative watering systems to exclude livestock from water bodies.

Promote relocation of livestock winter feeding areas and implement components of a waste management system such as comprehensive nutrient management plans, waste storage facilities, heavy use area protection, roof and covers, roof runoff management, underground outlets etc.

4.2 Soil Quality Degradation Compaction and Organic Matter Depletion (Soil Health)

With the abundance of cropland within the Conservation District it is important to maintain a healthy productive soil. Most of the cropland is considered no-till or minimum till. Very little if any full width tillage occurs within the District. A very important, and sometimes overlooked, part of a no-till cropping system is cover crops. Using cover crops will help increase organic matter percentage and also reduce the impacts of soil compaction. Also, the use of legumes alone or in cover crop mixes will allow producers to decrease the amount of nitrogen fertilizer applied. With nearly 30,000 acres in crop production, an opportunity exists to encourage the use of cover crops with producers who currently exclude them from their rotation and to encourage those who do use cover crops to plant a cover crop mix to meet the soils need.

Desired future outcome:

Increase cover crop acreage within the Conservation District. Begin to match cover crop selection with soil health needs.

4.3 Degraded Plant Condition Undesirable Plant Productivity and Health

Cropping systems within the Conservation District consist of traditional row crops, orchards, truck crops, and forage systems. There is a concern, with population growth, to improve crop production across these categories. Some growers need assistance with soil test interpretation, proper seed/crop selection, and nutrient management for intended crops. Conservation practices such as nutrient management, forage and biomass planting, conservation crop rotation to name a few will help solve this concern.

Forest productivity and regeneration is also of the same concern. With the limited amount of forest land within the District, it is of utmost importance to maintain healthy timber production. Conservation practices such as timber stand improvement, brush management and tree and shrub establishment are just a few practices to address this concern

Desired future outcome:

Encourage the development of nutrient management plan, assist with crop/forage selection. Encourage crop rotations to meet the soils need.

Encourage the development and implementation of Forest Stewardship Plans.

4.3 Livestock Production Limitation Inadequate Feed and Forage

Livestock Production Limitation Inadequate Livestock Water

With the Eastern Panhandle known for its crop production, often times pasture resources are unfortunately over looked. Numerous farms throughout the District are overstocked by livestock. This leads to overgrazing and poor animal performance. Prescribed grazing plans,

along with associated practices, such as, fence, water developments, and watering facilities will allow for better more efficient use of our pasture resources.

Desired future outcome:

Encourage the development and adoption of Prescribed Grazing Plans to improve utilization of pasture resources. Establish rotational grazing systems to improve pasture production and improve animal production.

Human Concerns

There are several local farm markets within the Eastern Panhandle Conservation District. Recent raw food standards and regulations will impact the ability for the markets to operate by increasing labor costs.

Desired future outcome:

Provide education assistance for producers to be able to comply with new regulation.

The next step

Prior to adjourning the Local Work Group meeting, it was discussed to hold another meeting late spring to discuss specifics for local project proposals. Specifically, to narrow our approach to address these resource concerns, either by location within the District, watersheds as an example, or by specific practices.

