

NATURAL AND HISTORIC RESOURCES

The protection of natural and historic resources within Cambria County may be considered in terms of providing supplemental provisions that are consistent with existing federal and state regulations. County land use planning efforts to protect and preserve woodlands, steep slopes, wetlands, floodplains, agricultural land, historic resources, and mineral resources can only be considered in terms of not exceeding federal and state laws governing such resources. To this extent, the Cambria County Natural Resources Plan shall not preempt any federal and state regulatory statutes and will be consistent with their intent and purpose. The natural and historic resources that will be discussed subsequently are a vital part of the County's overall land use planning agenda and are necessary to help create a balance between protecting these vital resources while promoting economic development. The Cambria County Natural and Historic Resources Maps present a generalized overview of the natural features and historical properties that are an intricate part of the County's existing landscape.

Natural Resources

The protection and preservation of natural resources is an important aspect of the local economic base and the overall quality of life in Cambria County. Because the County's natural environment is comprised of many interconnected resources, a balance must be achieved between resource protection and the human or man-made physical development. Natural resource protection in Cambria County should employ a strategy which combines preservation of remaining resources with the mitigation of negative environmental impacts associated with development or other human activity. County agencies must continue to provide guidance to its 63 municipalities in developing and maintaining guidelines and regulations to facilitate the provision of new development, while minimizing impacts on natural resources. However, care should be exerted to insure that land use regulations maintain a careful balance between protecting personal property rights, safeguarding the public interest, and protecting land resources. The primary responsibility for insuring natural resource protection is vested in federal, state, county, and municipal authority and is mandated through legislative initiatives at various levels of government. In Cambria County, natural resource protection programs are administered by many agencies ranging from the U.S. Environmental Protection Agency (EPA), the Pennsylvania Department of Environmental Protection (DEP), and the Cambria County Conservation District.

Land Characteristics

Land resources within Cambria County can generally be described in terms of its topography, physiography and geology along with its soil, mineral and forest land characteristics. They provide the County with economic, environmental, recreational, and aesthetic benefits. These natural resources are, to a large extent, finite and interrelated and their use must be closely monitored. The benefits they provide can be greatly decreased when the quality and quantity of a resource is negatively impacted.

Topography

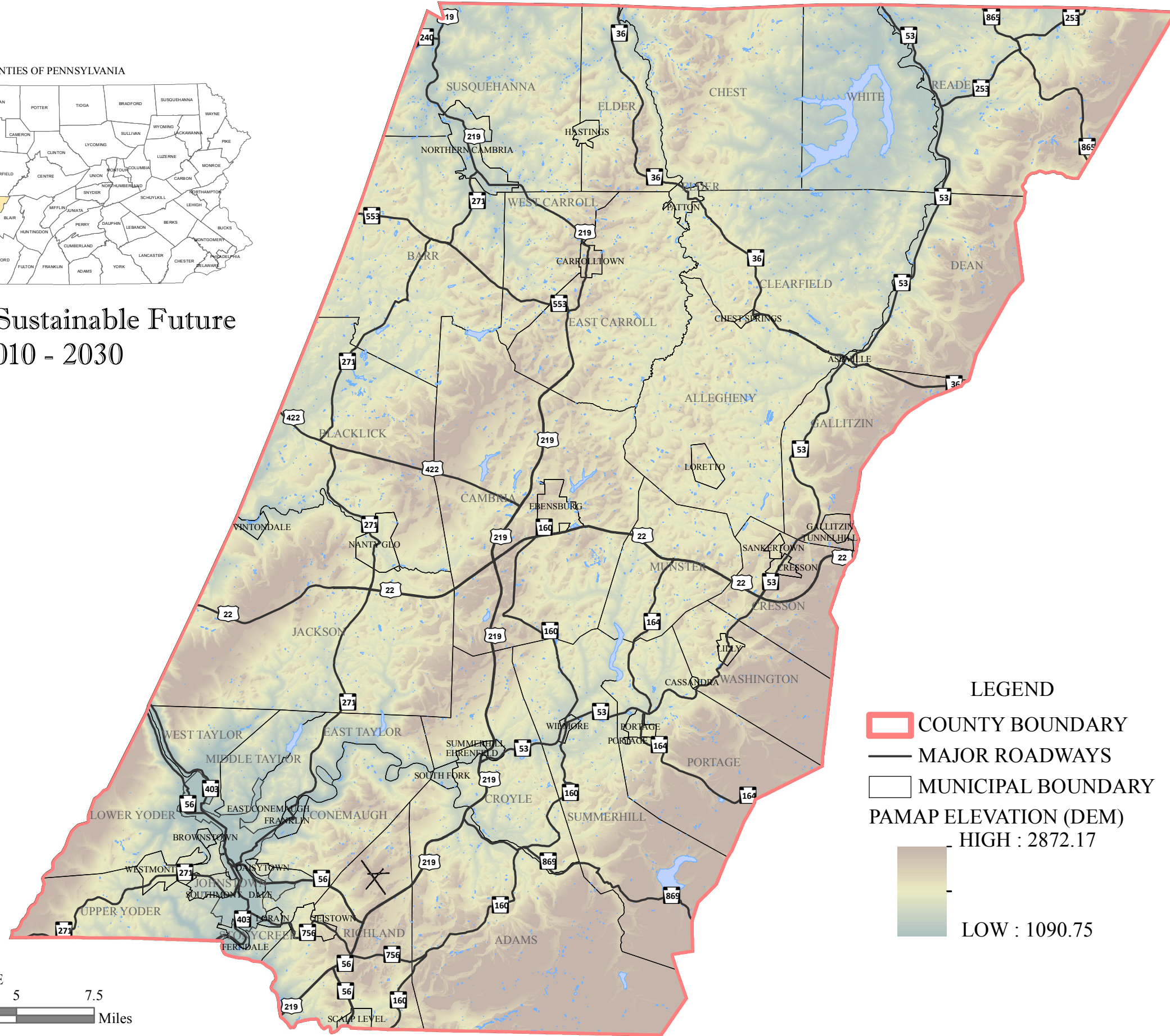
There are three distinct topographic or shaded relief landforms within the County including the Laurel Ridge of the Allegheny Mountains, the Allegheny Front, and the Pittsburgh Low Plateau. Cambria County falls between the ridgelines of two of the Allegheny Mountains; Allegheny Ridge (at the county's eastern edge) and Laurel Ridge (at its western edge). The Allegheny Mountains are an old mountain chain characterized by broad ridges formed by underlying rock which has been mildly folded, in contrast to the intensely folded ridges of the Ridge and Valley to the east, and the generally horizontal strata of the Allegheny Plateau to the west. Several long, broad ridges of the Alleghenies extend from Maryland north into Central Pennsylvania: Laurel Ridge, Chestnut Ridge, and Allegheny Ridge. Laurel Ridge reaches its northern extent in the middle of Cambria County, where it declines in elevation and is no longer a distinctly prominent landform, while the Allegheny Ridge declines somewhat in elevation across the county, but remains a prominent feature for many more miles to the northeast.

Elevations in the northern parts of the County range from approximately 1,500 to 2,000 feet. Elevations in the southern portions range from approximately 800 to 3,000 feet within the high ridges at the eastern and western boundaries of the County. The low point is a valley just east of a northeast-southwest ridge that is an extension of the high ridge in the plateau section. The entire section is greatly dissected by numerous valleys that provide breathtaking scenery and formidable barriers. The valleys are generally very steep and the influence they have exerted upon settlement and transportation patterns is apparent.

Topographic features such as slope (or gradient) of the land, can be limiting to development and certain land uses. In general, slopes that are greater than 25% are considered steep and require more special measures to attempt development. It is not uncommon to encounter steep slopes in the County. As an example, the seven-mile long and 1,350 foot deep Conemaugh Gap located between Rt. 56 (Haw's Pike) and Rt. 403 (Cramer Pike) between Johnstown and Seward has been labeled the deepest gorge east of the Mississippi River. Pronounced ridge and valley topography is also encountered around the South Fork-PA Route 53-PA Route 869 and PA Route 160 (north of Salix) corridors. The following Shaded Relief Map highlights the topographic characteristics of the County.



Toward a Sustainable Future 2010 - 2030



LEGEND

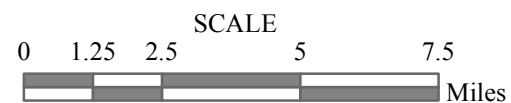
- COUNTY BOUNDARY
- MAJOR ROADWAYS
- MUNICIPAL BOUNDARY

PAMAP ELEVATION (DEM)

HIGH : 2872.17



LOW : 1090.75



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CAMBRIA COUNTY COMPREHENSIVE PLAN SHADED RELIEF MAP



JUNE 2010

Geology

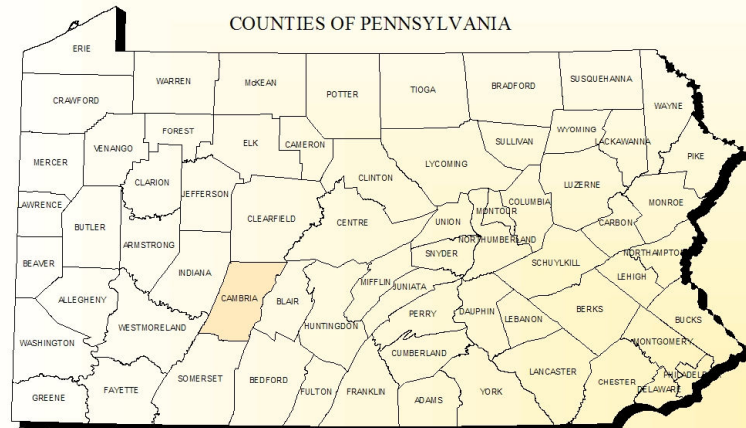
Geological and hydrological conditions may also constrict land development practices. Characteristics such as groundwater availability, drainage, stability and ease of excavation can determine development practices or if development of a site is appropriate or affordable. Geological formations are characterized into groups, with nine present in the County, and are shown on the following Geology Map. Localizing and interpolating the geological characteristics of the County yield a number of planning considerations. The Glenshaw, Casselman, Allegheny and Pottsville groups underlie the vast majority of the developable portions of the County. The remaining five (5) groups are generally located in the south-eastern and western portions of the County. Below are brief descriptions for each group/formation as defined by the Pennsylvania Geological Survey.

- ❑ Allegheny Group: This is a highly heterogeneous group composed of sandstone, shale, siltstone, claystone, limestone, coal, and underclay. This group contains Vanport Limestone and commercially valuable Freeport, Kittanning and Brookville-Cambria coals. Within this group, groundwater occurrence is irregular because of variability in rock types. Ease of excavation is variable, being difficult in sandstones and moderately easy in weaker rock. Surface drainage and foundation stability are classified as being generally good.
- ❑ Glenshaw Formation: This is a heterogeneous unit composed of alternating layers of shale, sandstone, siltstone, limestone, claystone (including underclay) and coal. Surface drainage is good, foundation stability is rated as fair to good and ease of excavation is rated as easy. Within this group, groundwater yields vary considerably with more than 50 gal/min in sandstone. Mining operations may disrupt normal groundwater occurrence.
- ❑ Casselman Group: This is a heterogeneous unit composed predominately of alternating layers of shale, siltstone and sandstone. Sandstone is generally shaly and fine to medium grained. Surface drainage is good and foundation stability is fair to good. Foundations should be excavations to sound material. Heavy structures should not be located on or near claystone because of tendency to deform under load when wet. Groundwater yields are highly variable depending on local rock conditions; higher yields are expected from sandstones and mining operations may disrupt normal groundwater occurrence. Excavation is easy and drilling rates are fair to moderate. Good source of road material and fill.
- ❑ Pottsville Group: This group consists of light to dark gray, fine-grained to coarsely conglomeratic sandstone, with subordinate amounts of gray shale, siltstone, limestone, coal, and underclay. Surface drainage is good as is foundation stability. However, areas above underclay will deform under load when wet, and underground coal and clay mines may have possible roof subsidence. Excavation of sandstone and conglomerate is difficult, other rock types are moderately easy to excavate. Median groundwater yield for this group is 50 gal/min, with sandstone and limestone providing greater yields (possibly exceeding 300 gal/min).
- ❑ Burgoon Sandstone: This is a medium to light gray, medium-grained, crossbedded sandstone. Surface drainage and foundation stability is rated as good, and ease of excavation is rated as difficult. This formation is frequently an excellent aquifer, with possible artesian flow that may yield over 300 gal/min.
- ❑ Rockwell Group: This is a fine to medium grained, crossbedded, argillaceous sandstone, with some carbonaceous shale and a few conglomerate beds. Forms high, rough ridges, natural slopes are steep and stable. Surface drainage is good and foundation stability is excellent.

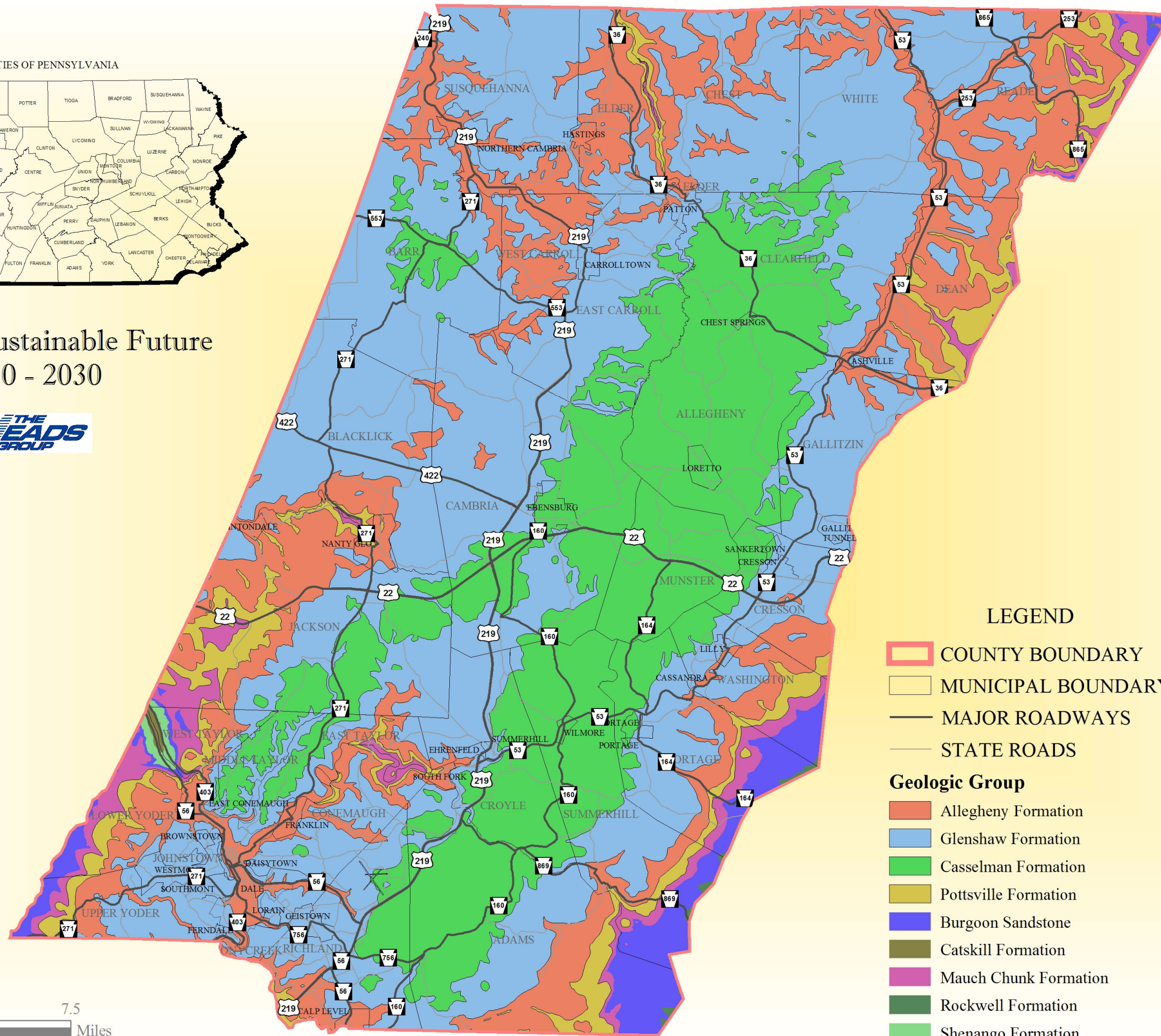
Ground water yields are excellent. Excavation is difficult and rockfalls may occur. Good source of fill, embankment and riprap.

- ❑ Mauch Chunk Group: Dominant rock types of shale, claystone, sandstone and siltstone. Forms rolling valleys of medium relief and slopes are fairly steep and stable. Surface drainage and foundation stability is good. Foundations should be excavated to sound material. Median groundwater yield for this group is 55 gal/min. Excavations are easy to moderately difficult. Good source of road material and fill.
- ❑ Senago Formation through Oswayo Formation: This formation contains greenish-gray, olive, and buff sandstone and siltstone, and gray shale in varying proportions; contains marine fossils; includes lateral equivalents of Shenango Formation, Cuyahoga Group, Corry Sandstone, Bedford Shale, and Cuswago Sandstone, plus Oswayo Formation.
- ❑ Catskill Formation: This formation is composed of grayish-red sandstone, siltstone, and shale; units of gray sandstone occur in upper part; lithologies in the upper part are arranged in fining-upward cycles.

While this information is helpful for planning purposes by providing some developmental context, site specific information would be needed to identify and address any design issues associated with actual development. The following map highlights the Geologic characteristics of the County and Table NH-1 summarizes the engineering characteristics of the four major Geologic Formations described above.



Toward a Sustainable Future
2010 - 2030



LEGEND

- COUNTY BOUNDARY
- MUNICIPAL BOUNDARY
- MAJOR ROADWAYS
- STATE ROADS

Geologic Group

- Allegheny Formation
- Glenshaw Formation
- Casselman Formation
- Pottsville Formation
- Burgoon Sandstone
- Catskill Formation
- Mauch Chunk Formation
- Rockwell Formation
- Shenango Formation



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CAMBRIA COUNTY COMPREHENSIVE PLAN GEOLOGIC CONDITIONS



JANUARY 2011

TABLE NH-1
Summary of Engineering Characteristics of Major Geological Formations/Groups
Cambria County

Geological Formation/Group	Engineering Characteristics			
	Surface Drainage	Ease of Excavation*	Foundation Stability**	Groundwater Occurrence
Allegheny Group	Generally Good	Difficult in sandstone; moderately easy in fine-grained rocks	Good; however caution when construction is planned over mined out coals	Irregular due to wide variability of rock types; median yield 50 gal/min; water usually above coal
Glenshaw Formation	Good	Easy in heavily weathered coal, shale and claystone	Fair to good; however heavy structures should be avoided over/near claystone	Groundwater yields vary considerably with more than 50 gal/min in sandstone; Mining may disrupt normal groundwater occurrence; Caution in well construction in mined-out and oil/gas producing areas to prevent contamination
Casselman Formation	Good	Easy in heavily weathered coal, shale and claystone	Fair to good; however foundations should be excavated to sound bedrock and heavy structures should be avoided over/near claystone	Groundwater yields vary considerably with higher yield found in sandstone; Mining may disrupt normal groundwater occurrence; Caution in well construction in mined-out and oil/gas producing areas to prevent contamination
Pottsville Group	Good	Difficult in sandstone; Moderately easy elsewhere	Good; except on underclay that will deform under load when wet and underground coal and clay mines may have possible roof subsidence	Median yield of 50gal/min; sandstone and limestone providing greater yields (possibly >300 gal/min); may have high iron content

Source: Adapted from Engineering Characteristics of the Rocks of Pennsylvania (2nd ed.): Pennsylvania Geological Survey

***Ease of Excavation:**

Easy – can be excavated by hand tools or lightweight power equipment

Moderately Easy – Rippable by heavyweight power equipment.

Moderately Difficult – Requires drilling and blasting for most deep excavations.

Difficult – Requires drilling and blasting in most excavations.

**** Foundation Stability:**

Good – Bearing capacity sufficient for heaviest classes of construction.

Fair – Rock composition, weathering depth and relation to water table determine foundation styles.

Poor – May provide sufficient bearing capacity for light to moderate construction if stabilized.

Soils

Soils are largely the result of weathered bedrock and products of decaying organic matters from past ages. The many factors which determine the types of soil which develop in certain areas are geology, vegetation, animal life, topography, climate, and weathering. Soil is a complex mixture of minerals, water, air, decaying organic material, and living organisms, which is ecologically sensitive and subject to erosion. Soil erosion occurs when the vegetative cover that holds soil particles together is removed due to intensive farming practices and land development. Consequently, the activities which involve the use, removal, or displacement of soil should be managed appropriately to prevent depletion. Restrictive soils (e.g., wet, erodible, and shallow soils) represent sensitive environmental conditions that pose potential environmental hazards if improperly used and/or developed. The hazards result from poor drainage and erodible characteristics. Development in areas containing restrictive soils poses special challenges and calls for the use of appropriate engineering practices.

There are four (4) major soil associations found in Cambria County. These associations include (1) Cookport-Hazleton- Laidig; (2) Gilpin-Ernest-Wharton; (3) Brinkerton-Wharton- Cavode; and (4) Atkins-Philo. Table NH-2 provides a summary of the Soil Associations.

The insert image to the right shows the location of the soil associations in the County (The numbers 1-4 correspond to the soil associations shown below).

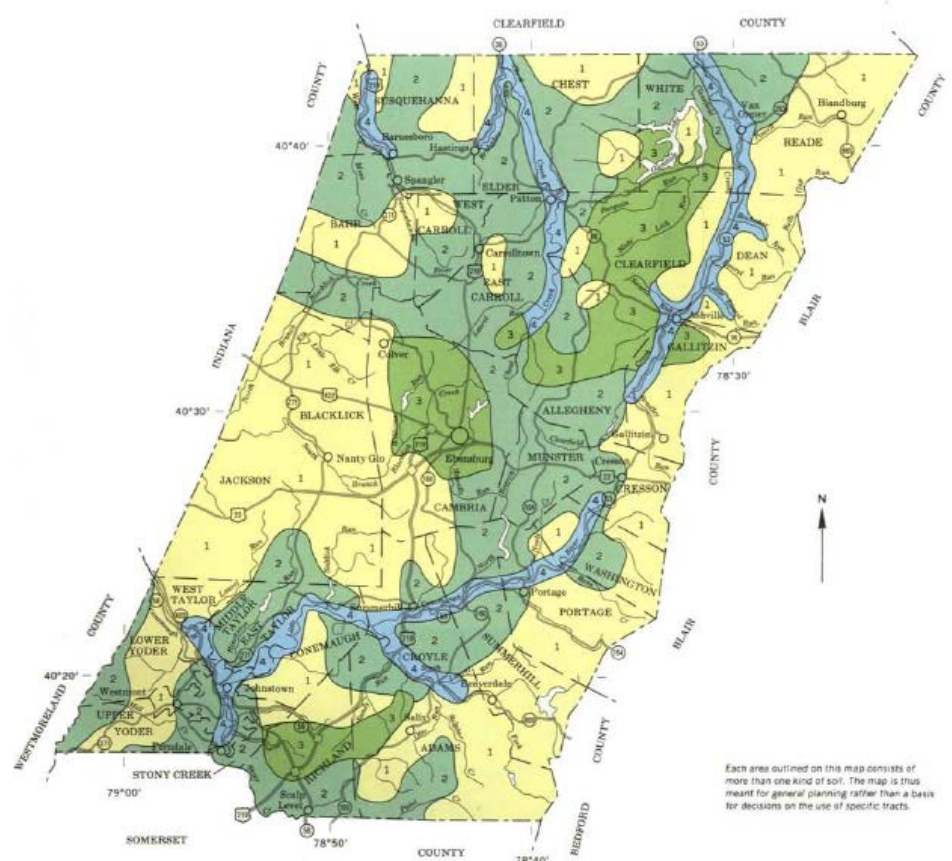


TABLE NH-2
Summary of Soil Associations
Cambria County

Soil Association	Description	Percentage of County	Land use
1 Cookport- Hazleton- Laidig	Deep; nearly level to steep; moderately well drained to well drained, occur on broad mountains and broad to narrow ridges that have colluvial side slopes dissected by drainage ways.	45	Primarily forest, with some areas used for crops or pasture, and a few areas in urban or industrial use. Main limitations are stoniness, slope, erosion, and a seasonal high water table.
2 Gilpin-Ernest- Wharton	Moderately deep and deep, gently sloping to moderately steep, well drained and moderately well drained soils on ridges and hills that are dissected by drainage ways.	39	Most areas of this association are in cropland and woodland. Some areas are used for urban and industrial development. Limitations on uses are moderate depth to bedrock, a seasonal high water table, slow permeability, and slope.
3 Brinkerton- Wharton- Cavode	Deep, nearly level to moderately steep, poorly drained to moderately well drained soils on broad ridges dissected by drainage ways.	12	Most areas of this association are in crops, hay, and pasture. Main limitations on use are a seasonal high water table, slow permeability, and erosion.
4 Atkins-Philo	Deep, nearly level, poorly drained and moderately well drained soils in floodplains.	4	Most areas of this association are in pasture, woodland, and urban uses. Main limitations on uses are a seasonal high water table and flooding.

Source: Cambria County Soil Survey and Cambria County Natural Heritage Inventory

Important Soils

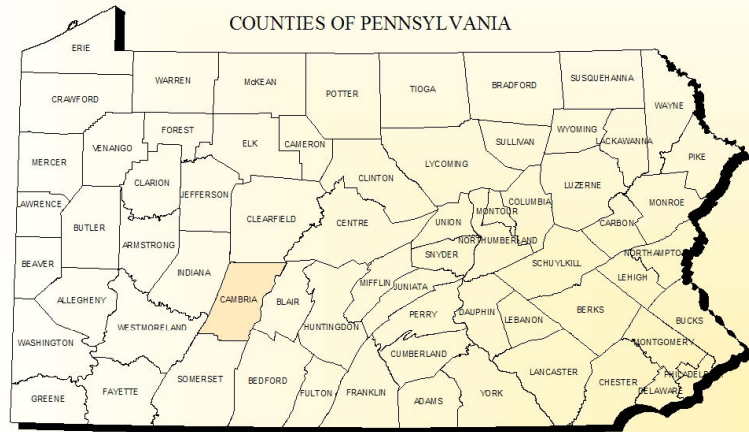
In addition to reviewing general soil associations and their respective characteristics described earlier, prime farmland soils and hydric (wet) soils were also assessed at greater detail and are described below.

- ❑ Prime Farmland: According to the United States Department of Agriculture (USDA), prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. This land could be cultivated, pastured, or forested, but is not urban/built-up land or water areas. Prime farmland, when properly managed, can economically produce sustained high yields of crops with minimal environmental impacts.
- ❑ Statewide Important Soils: Farmland of Statewide Importance is land other than Prime Farmland which has a good combination of physical and chemical characteristics for the production of crops.

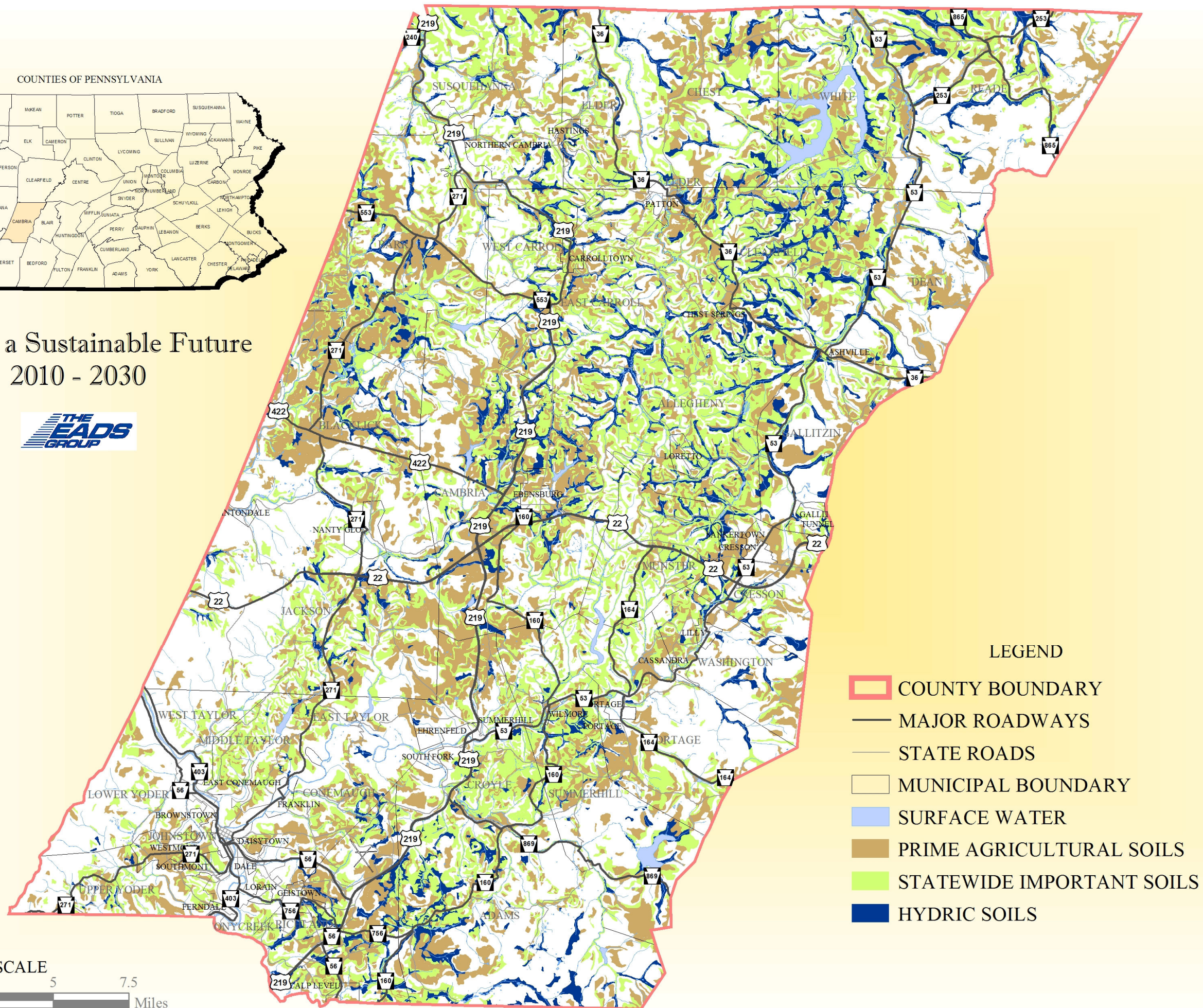
- ❑ Hydric Soils: The National Technical Committee on Hydric Soils (NTCHS) defines hydric soils as soils that form under conditions of saturation, flooding, or ponding for long enough during the growing season to develop anaerobic (oxygen free) conditions in the upper portion of the soil. Under natural conditions, these soils support the growth and regeneration of hydrophytic vegetation (plants that tolerate and/or thrive in saturated/inundated conditions) and are *commonly associated with wetland areas*. Soils where hydrology has been artificially modified (drained, filled, etc.) are considered hydric if the soil in its unaltered state was hydric. Additionally, soils that have become sufficiently wet due to artificial measures that would not be classified as hydric in an unaltered state are also considered hydric. Some hydric soil series have phases that may not be hydric due to varying hydrologic conditions, it is therefore necessary to collect specific field information to qualify a site-specific soil as hydric.

Information localized from the Cambria County Soil Survey and the USDA Natural Resources Conservation Service is graphically depicted on the Important Soils Map and described below:

- ❑ There is over 95,000 acres of Prime Farmland in the County. Prime Farmland is rather evenly dispersed across the County with higher concentrations seemingly in the north and north western sections of Croyle and Summerhill Townships and through Cambria Township and also in Blacklick and Barr Townships.
- ❑ There is over 109,000 acres of Statewide Important Soils in the County. As with Prime Farmland, Statewide Important Soils are rather evenly dispersed across the County with higher concentrations seemingly trending North-South through the central municipalities in the County including Croyle, Summerhill, Munster, Allegheny, West Carroll, Clearfield and White Townships.
- ❑ There is over 42,000 acres of Hydric Soils in the County, dispersed throughout the lower lying areas in the County generally concentrated in the along stream and river corridors.



Toward a Sustainable Future
2010 - 2030



LEGEND

- COUNTY BOUNDARY
- MAJOR ROADWAYS
- STATE ROADS
- MUNICIPAL BOUNDARY
- SURFACE WATER
- PRIME AGRICULTURAL SOILS
- STATEWIDE IMPORTANT SOILS
- HYDRIC SOILS



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CAMBRIA COUNTY COMPREHENSIVE PLAN IMPORTANT SOILS



JANUARY 2011

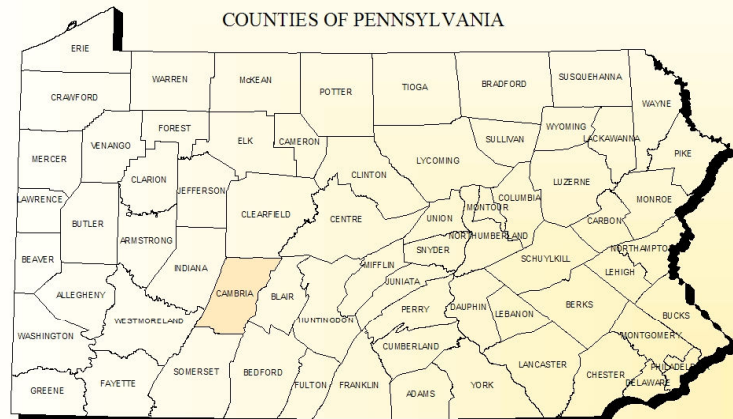
Agricultural/Farmland Preservation

As noted earlier, there are over 95,000 acres of Prime Farmland in the County. Prime farmland, when properly managed, can economically produce sustained high yields of crops with minimal environmental impacts. The Cambria County Conservation District via the County Agricultural Land Preservation Board oversees an Agricultural Security Area (ASA) program that gives those land owners in the program special consideration from local and state government agencies, and other “nuisance” challenges, thus encouraging the continuing use of the land for productive agricultural purposes. In terms of land use planning, the inclusion of a tract or parcel in an ASA signifies a landowner interest in the preservation of agriculture at least on that tract or parcel.

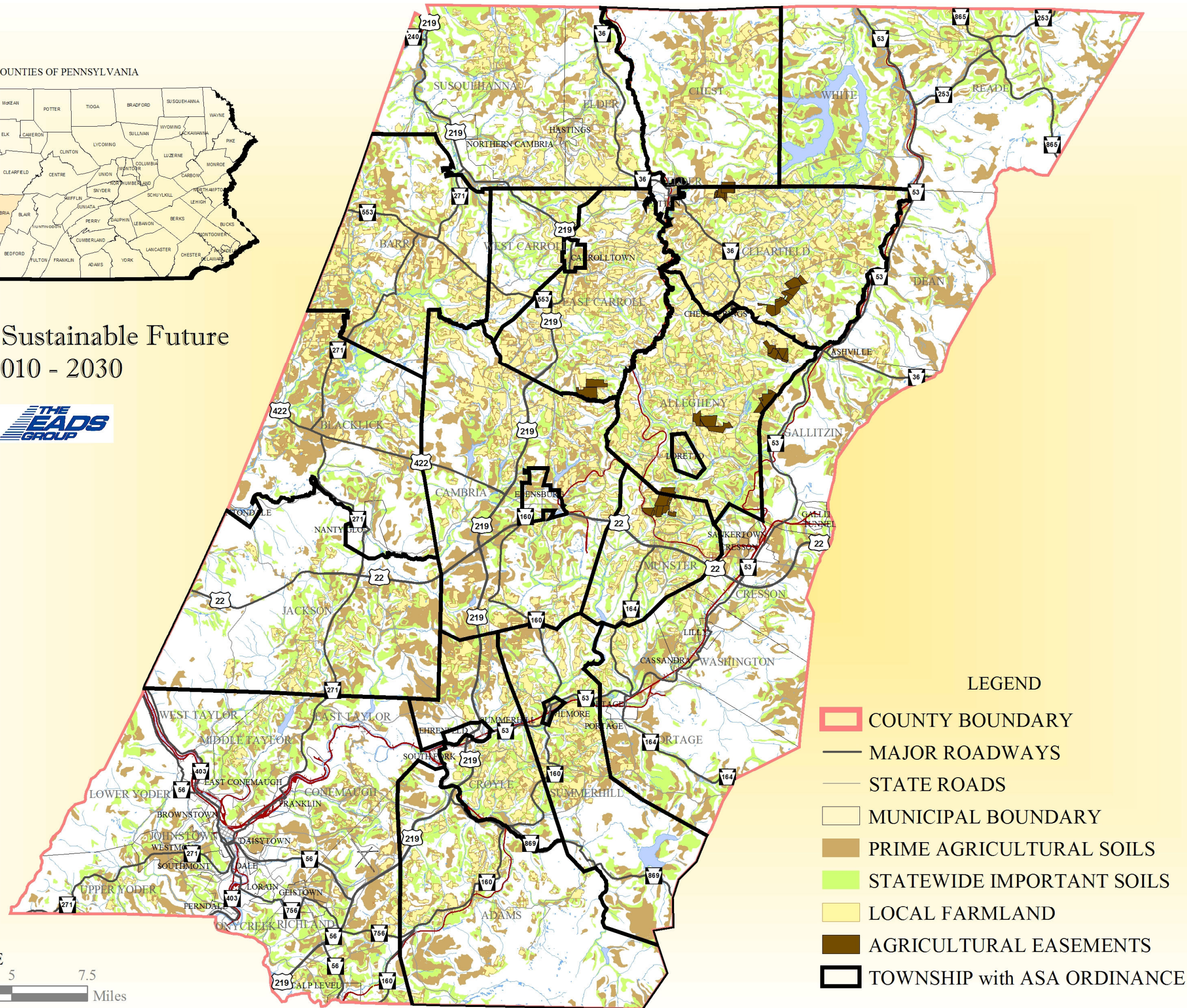
Agricultural security areas are intended to promote more permanent and viable farming operations over the long term by strengthening the farming community's sense of security in land use and the right to farm. Agricultural security areas are created by local municipalities in cooperation with individual landowners who agree to collectively place at least 250 acres in an agricultural security area. The following Municipalities have Agricultural Security Area ordinances in place:

- Adams Township
- Croyle Township
- Summerhill Township
- Jackson Township
- Cambria Township
- Munster Township
- Barr Township
- East Carroll Township
- West Carroll Township
- Allegheny Township
- Clearfield Township
- Chest Township

The Cambria County Agricultural Land Preservation Board also works to preserve farmland under the oversight of the Pennsylvania Purchase Agricultural Conservation Easements (PACE) program. Amendments to the ASA Law in 1988 authorize a statewide program to purchase agricultural conservation easements from farm landowners who have joined an ASA. This provides an option to farmers who want to continue farming but are impacted by nearby nonagricultural development. By voluntarily selling agricultural conservation easements to the Commonwealth and/or County, farmers will be paid a portion of the nonagricultural development value of the property and will not have to sell the farm for conversion to non-farm uses. The land, with a conservation easement placed upon it to prevent development, can continue to be farmed. According to the Cambria County Conservation District 12 farms (1,694 acres) have been preserved by the program as of April 2010. The following Map highlights agricultural and farm land assets in the County.



Toward a Sustainable Future
2010 - 2030



LEGEND

- COUNTY BOUNDARY
- MAJOR ROADWAYS
- STATE ROADS
- MUNICIPAL BOUNDARY
- PRIME AGRICULTURAL SOILS
- STATEWIDE IMPORTANT SOILS
- LOCAL FARMLAND
- AGRICULTURAL EASEMENTS
- TOWNSHIP with ASA ORDINANCE



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CAMBRIA COUNTY COMPREHENSIVE PLAN AGRICULTURAL MAP



MARCH 2011

Forest Lands

Forest lands have traditionally been and will continue to be a viable economic resource for Cambria County. The mountain ridges hold the largest contiguous blocks of forest in the county. The Allegheny Front and the Laurel Ridge include large tracts of interior forest, while the intervening areas are a patchwork of different land uses, with small fragments of forest mainly along stream valleys. The north central region of the county also has some extensive forested areas.

The timber industry had been quite notable in the County's early economy during the middle 1800's, but it slowly began to decline with the advent of mineral-based resource industries such as coal, timbering and forest products has been reduced, it is still an important economic resource. The northern third of Cambria County can be termed the pine country. Over 50% of the timber was originally white pine with the remainder divided between hemlock and hardwoods. The Susquehanna River was the means of transport for more than 75% of this timber. The movement of ship spars, booms, square timber, and logs was a very profitable business in the early years of the County. The central third of Cambria County, known as the hardwood hemlock district, contained five (5) stands of hardwood which were marketed before the hemlock had any commercial value. Cherry was the first and most valued timber in the early days. The southern third of Cambria County had many stands of oak and hardwoods except in the South Fork Valley. A Williamsport firm operated one of the largest sawmills in the County at Sidman, cutting hemlock and hardwoods. This section also supported lucrative maple sugar production. Early cutting diminished the maple trees and the industry moved south to Somerset County. Forest activities and industries do not account for the proportionate share of the County's economy that they once did, but the total value is certainly much greater. Lumber, pulp, paper, furniture, silvichemical, and maple sugar industries, as well as recreation areas, are now being improved through cooperative efforts. The County is still approximately 60% woodland. The size of the timber throughout the County is divided into three (3) categories as follows:

56% of Commercial Woodland - sawtimber
26% of Commercial Woodland - poletimber
18% of Commercial Woodland – saplings

The extent of forested acreage in the County and the recent increases in growth and production might possibly point to timber-related activities as a means of broadening the economic base of industry in the County. The demand for forest products should continue to grow and be established as a stable economic activity. The demand for commercial lumber and the need for raw land for developmental purposes will likely increase the potential for negative land use impacts in association with Cambria County's timber industry. Clear cutting of forest lands and the select cutting of wooded sites for development can cause stormwater runoff, erosion, and possible flooding. Existing forestry and woodland management practices at the State, County and municipal levels will need to be followed in order to keep timbering activities from creating negative land use impacts.

Minerals

The rock strata in Cambria County generally consist of alternating layers of shale, sandstone, limestone, clay, and coal. The differing characteristics and sequences of the rock types allow them to be classified into a number of geologic groups and formations. In order of increasing age, they consist of the Monongahela, Conemaugh, Allegheny, and Pottsville Groups of Pennsylvanian Age; and the Catskill Formation of Devonian Age. These rock strata contain mineral resources which include coal seams, limestone beds, clay beds, and iron ores. A brief history of the County's mineral resource extraction and reserve potential is discussed below: Cambria County's mineral resource base as a source of energy has historically been in the production of coal for steel making. In more recent times, however, coal as a natural resource is being utilized to help produce electricity at local electrical power generating plants. Cambria contains a significant amount of coal reserves with great potential as a future source of energy if demand and market place factors warrant its production. Both deep and surface (strip) mining activities are now more strictly regulated by federal, state, and local laws which limit the potential negative environmental impacts from coal mining.

Coal

Approximately eleven (11) mined horizons are located throughout the Allegheny, Conemaugh, and Pottsville Groups at which coal seams are known to occur; however, the Conemaugh and Pottsville coals are either sporadic in extent, too thin, or of poor quality to be of economic importance.

Four (4) coal seams in the Allegheny Group are thick, really extensive, and of good to excellent quality. These four (4) coal seams include the Upper Freeport, Lower Freeport, Upper Kittanning and Lower Kittanning. These coals have been extensively deep mined throughout Cambria County and in counties to the north, south, and west.

The following provides a brief description of this mining activity.

- ❑ **Upper Freeport:**
The Upper Freeport coal occurs at the top of the Freeport Formation of the Allegheny Group and is the highest coal of economic importance. It lies above major drainage over large areas and outcrops along river and stream valleys of the County. Although not as really extensive as the higher quality coals of the Kittanning Formation, the Upper Freeport was heavily mined between Ashville and Portage. It was primarily mined as a source of steam and coking coal and competed with the high quality Lower Kittanning coal in quality. The Upper Freeport was also heavily mined in the Northern Cambria-Hastings area in the northern part of the County. Smaller mines were opened north of Johnstown and Beaverdale.
- ❑ **Lower Freeport:**
The Lower Freeport coal, lying approximately 40 feet below the Upper Freeport, also lies above major drainage over most of the County. The Lower Freeport coal is not consistent in thickness or quality (higher in ash and sulfur content) over the County. It attains maximum thickness and higher quality in the northern part of the county where it

has been extensively deep mined, especially between Northern Cambria and Hastings and from Carrolltown west to the Indiana County line. Here, it makes an excellent coking coal and is low in sulfur. Several large Lower Freeport mines were also opened at Beaverdale, Portage, Nanty Glo, South Fork and Ehrenfeld.

❑ Upper Kittanning:

The Upper Kittanning coal occurs at the top of the Kittanning formation and lies approximately 35 feet below the Lower Freeport. It has been extensively deep mined in the vicinity of Johnstown where it is best developed and of the highest quality. Extensive commercial operations were operated around Johnstown and Windber. Smaller scale operations were operated along Solomon Run and the South Fork area. Large commercial mines on the Upper Kittanning also occur between Beaverdale and Portage in the eastern part of the County.

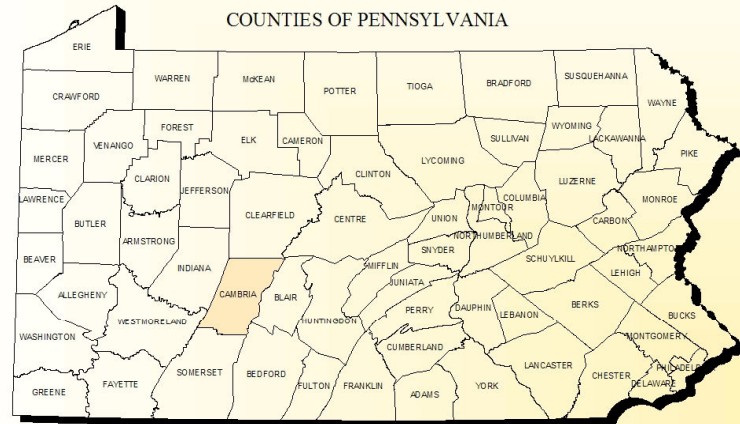
❑ Lower Kittanning:

The Lower Kittanning Coal is the lowest occurring coal in the Kittanning Formation. It lies below drainage in most areas over large areas of the County and rises to the surface only along the Allegheny Front to the east, Laurel Ridge to the west, and along stream valleys in these areas. It has been extensively deep mined at South Fork, along Blacklick Creek, and around Windber. It becomes less consistent and poorer in quality in the northern part of the County. The main area of mining occurs south from the County line to Northern Cambria. A second area runs from Beaverdale to Cresson in the eastern part of the County.

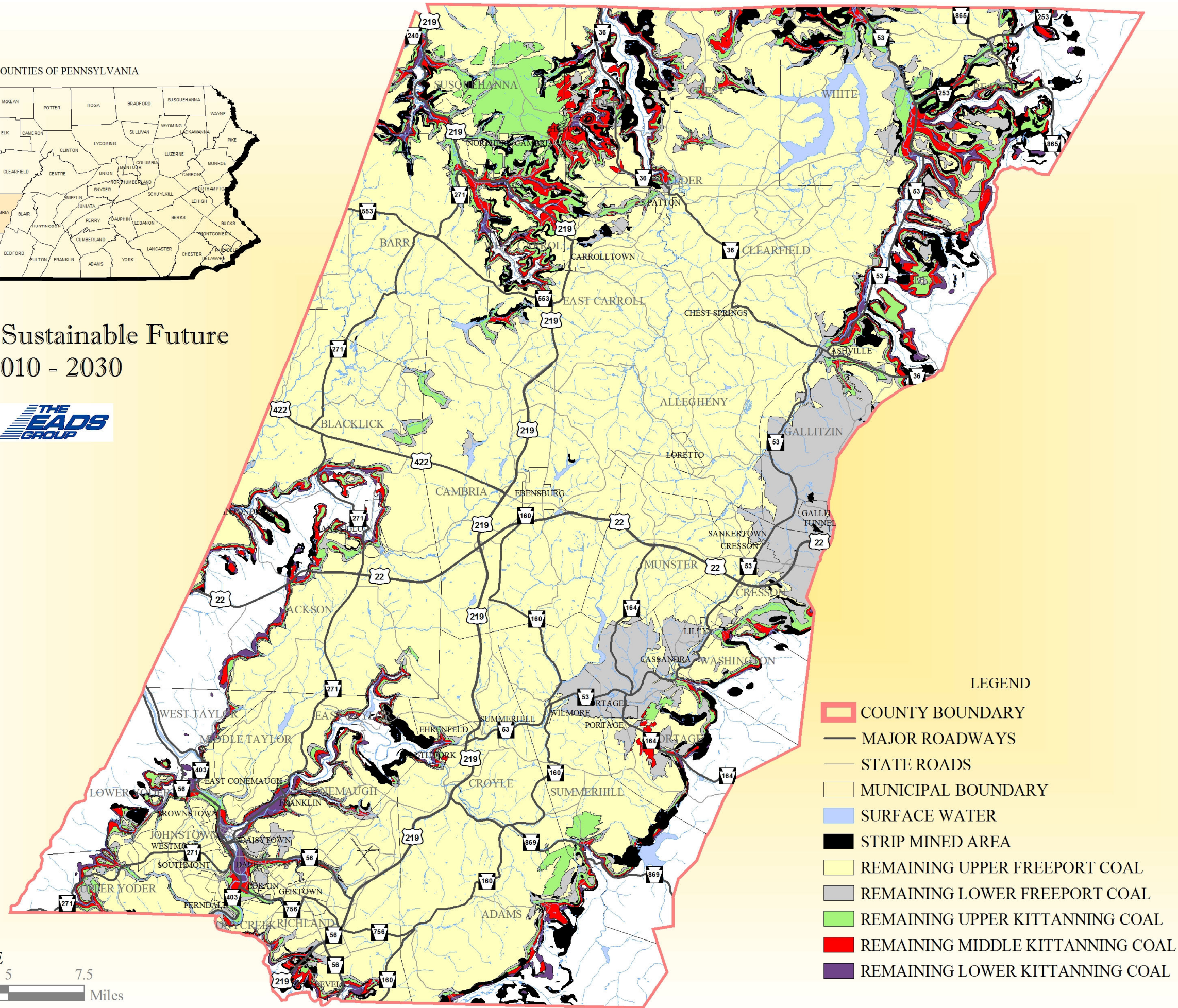
At least seven (7) other coals have been deep mined on a much more limited basis within the County. These consist of the Middle Kittanning, Bens Creek, Clarion, and Brookville coals of the Allegheny Group; the Gallitzin coal lying near the base of the Glenshaw formation; the Harlem coal lying at the base of the Casselman formation; and the Mercer coal in the Pottsville group. The following provides a brief description of these coals and the Map following highlights the locations of the remaining Freeport and Kittanning Coal Seams.

- ❑ The Middle Kittanning Coal, lying between the Upper and Lower Kittanning Coal seams, is usually always present; but it does not generally attain minable thickness in the County. Two (2) medium-sized mines operated in the Middle Kittanning at Portage and a small-scale operation mined this seam in the hill lying between Germantown and Greenwich. Also, a small mine was once opened on the Middle Kittanning Coal near Coopersdale.
- ❑ The Bens Creek Coal occurs locally above the Lower Kittanning Coal. It has been mined along Bens Creek and Bear Rock Run in Portage and Washington Townships.
- ❑ The Clarion Coal is generally thin and too poor in quality to be of economic importance. Small deep mines on a seam possibly correlating to the Clarion were once opened and operated at Blandburg in the northeastern part of the County.
- ❑ The Brookville Coal is sporadic in nature and usually of poor quality. Small mines were opened east of Dysart and Blandburg as well as at Beaverdale. Additional small mines were operated at Mineral Point and South Fork. The coal was also used as fuel at a local brick plant.

- ❑ The Gallitzin coal occurs approximately 70' to 100' above the Upper Freeport Coal in the Glenshaw formation and was mined in banks between Lilly and Cassandra.
- ❑ The Harlem coal lies approximately 400 feet above the base of the Glenshaw Formation in the Conemaugh Group. It is usually very sporadic in occurrence and of very poor quality. A "country" bank mine was previously opened and operated at St. Augustine.
- ❑ The Mercer Coal occurs between the Homewood sandstone and the Connoquenessing sandstone of the Pottsville Group. In Cambria County, it is not usually well developed and, where it occurs, is thin and of poor quality. Small mines were opened for local use at Martindale and Lloydell in the eastern part of the County.



Toward a Sustainable Future
2010 - 2030



- LEGEND
- COUNTY BOUNDARY
 - MAJOR ROADWAYS
 - STATE ROADS
 - MUNICIPAL BOUNDARY
 - SURFACE WATER
 - STRIP MINED AREA
 - REMAINING UPPER FREEPORT COAL
 - REMAINING LOWER FREEPORT COAL
 - REMAINING UPPER KITTANNING COAL
 - REMAINING MIDDLE KITTANNING COAL
 - REMAINING LOWER KITTANNING COAL



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CAMBRIA COUNTY
COMPREHENSIVE PLAN
MINERAL RESOURCES



JANUARY 2011

Clay

Plastic clays occur within the Allegheny Group strata, especially below the Upper and Lower Kittanning coals and occasionally within the Conemaugh Group. Flint clays generally occur in the Mercer Formation of the Pottsville Group. Flint and plastic clay can occur together or may grade into the other laterally.

Conemaugh Group Clay - Most of the economically important clay shales that are mined around Johnstown are found in the lower 200 feet of the Conemaugh Group. Near Patton, clay occurring in the lower part of the Conemaugh Group was quarried and used to manufacture sewer pipe, paving brick, and facing brick. South of Gallitzin, a clay occurring in the lower Conemaugh was quarried and used in making brick for the first Gallitzin tunnel. East of Cresson, at Blair Gap, a clay was dug out of the surrounding hills and used for making brick for building the old Portage Railroad. A clay occurring approximately 50 feet above the Upper Freeport Coal was also mined for brick at Johnstown.

Allegheny Group Clay - The clay beneath the Upper Freeport Coal was dug for brick used in construction of the old Portage Railroad. The clay underlying the Upper Kittanning Coal in the northern part of the County is well developed and mined. Around Johnstown, at Coopersdale and Kernville, plastic clays occurring below the Lower Kittanning Coal were used for making fire brick and sewer pipe. At Woodvale the Lower Kittanning Coal was mined for the making of fire brick. Usually the underlying clay was mined in conjunction with the coal. Near Blandburg, plastic and flint clay, occurring between 20 and 30 feet below the Brookville coal horizon were deep-mined for fire brick. Clays in the Allegheny Group are generally found beneath the Upper Freeport, Upper Kittanning, and Lower Kittanning coals.

Mercer Formation Clay - The Upper Mercer flint clay associated with the Mercer Coal horizon and occurring immediately below the coal, was deep mined near South Fork and Mineral Point and shipped to areas such as Gallitzin and Dean to be made into bricks.

Shale

Shales suitable for brick or tile making are generally found in the Conemaugh Group, Allegheny Group, and the Mercer Formation. At Johnstown, Mercer shales, lying above the Mercer coal horizon, were deep mined for red face brick. At Prospect, Conemaugh shales were quarried for good quality building brick.

Limestone

Although limestones of the Conemaugh Group were deep mined near Ashville and Eckenrode Mill, none of the groups or formations generally contains limestones that are of economic importance. In general, limestones were mined or quarried to supply agricultural lime on a local basis. The limestone lying under the Upper Kittanning Coal

to Johnstown was used in the manufacture of natural cement in the mid-nineteenth century; however, it is too high in magnesium and iron to be used in making Portland cement.

Iron Ore

In the Johnstown Basin, a low quality iron ore is found approximately 50 feet above the Upper Freeport Coal and below the horizon of the Mahoning Coal. In the 1800's, it was mined at the base of Laurel Hill and quarried on Mill Creek. By the end of the nineteenth century, it was replaced by inexpensive Great Lakes ore. This horizon of iron ore does not occur anywhere else in Cambria County.

Sandstone

Two (2) Conemaugh sandstones, locally named the Summerhill and Wilmore sandstones, have been used as building stone and as construction material. The Morgantown (Ebensburg) Sandstone was extensively quarried for dimension stone at Gallitzin.

The Kittanning and Pottsville sandstones were extensively quarried at Oldham for use in construction of bridge abutments. At Lloydell, the Clarion Sandstone was quarried and shipped to other areas while in the late 1800's and early 1900's, the Pottsville sandstone was quarried southeast of Dysart and between Dean and Dysart in the northeastern part of the County.

Marcellus Shale

Drilling for and the extraction of Marcellus Shale natural gas poses economic and environment opportunities and challenges. Counties in the north central portion of Pennsylvania have seen tremendous exploration of this resource. Within Cambria County the growth of this industry has primarily been in the land leasing and exploratory drilling phases. The Cambria County Planning Commission has been involved with workshops and forums held in the County related to impacts and opportunities of this industry. The Cambria County Conservation District has been assisting in the education of local citizens and municipalities relating to environmental issues associated with the industry.

The fast pace of gas drilling and all its related activities requires the planning must be done on a continuous and daily basis. The Cambria County Planning Commission considers natural gas development as a new and distinctive land use activity with both positive and negative community-wide impacts. While some impacts and consequences may be problematic, the Marcellus Shale development also affords opportunities for communities to positively shape their long-term development, sustainability and quality of life.

There is interest among municipal officials to use zoning and subdivision and land development ordinances to regulate gas drilling and extraction. At this point in time, the Pennsylvania Oil and Gas Act preempts local regulations of any kind except those enacted under the Pennsylvania Municipalities Planning Code (Act 247) and Floodplain Management Act. And in those cases, local regulations are preempted when they regulate the same feature of oil and gas well operations regulated by the Oil and Gas Act or accomplish the same purposes as set forth in the Oil and Gas Act.

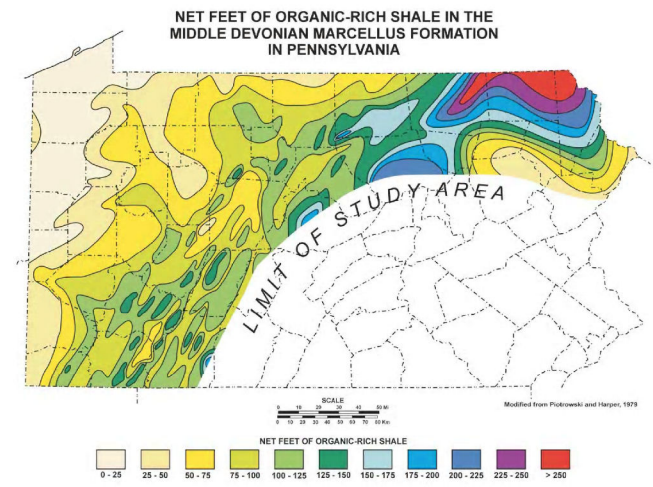
Preemption of the Oil and Gas Act only applies to gas wells and extractions. It does not apply to using zoning or subdivision and land development ordinances to guide growth and development that results from natural gas development and to protect community assets. To this extent, the Cambria County Planning Commission will utilize Acts 67 and 68 of the Pennsylvania Municipalities Planning Code to promote “Smart Growth: that is consistent with the Cambria County Comprehensive Plan and with municipal comprehensive plans and zoning ordinances.

“Smart Growth” policy directs that state agencies such as the Pennsylvania Department of Environmental Protection (PA DEP) “... shall consider and may rely upon comprehensive plans and zoning ordinances when reviewing applications for the finding or permitting of infrastructure or facilities.” To date, the following PA DEP application requirements are relevant to Marcellus Shale gas development and pertain to “Smart Growth” oversight by county and local comprehensive plans and zoning ordinances for the permitting of facilities and infrastructures:

- PA DEP Act 14 Notice of Intent (NOI) for the Erosion and Sediment Control General Permit (ESCGP-1) for Earth Disturbance Associated with Oil and Gas Exploration, Production, Processing or Treatment Operations or Transmission Facilities.

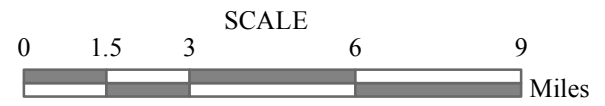
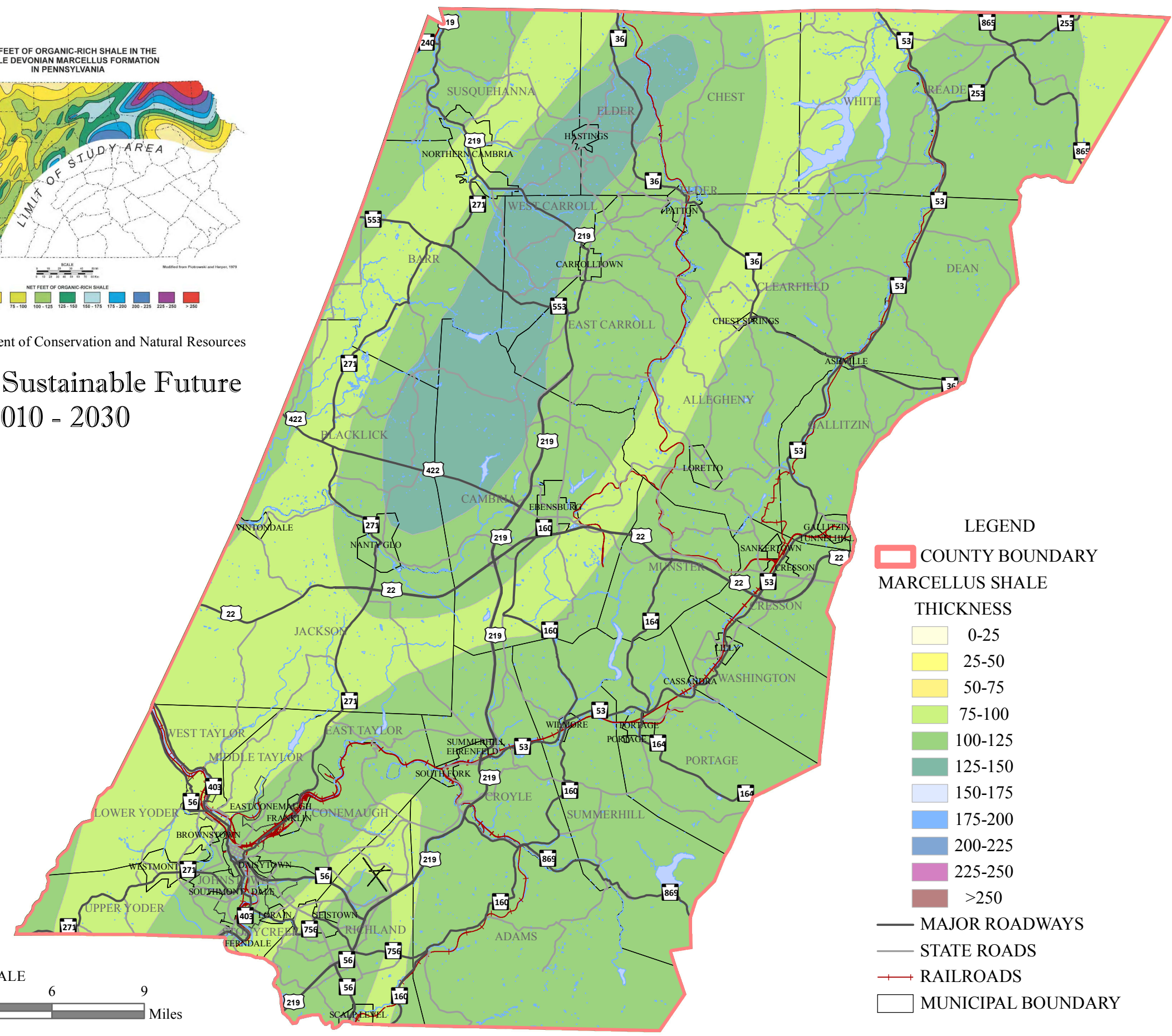
- PA DEP General Permit (GP-11) for Maintenance, Testing, Repair, Rehabilitation or Replacement of Water Obstructions and Encroachments
- PA DEP General Permit (GP-8) for Temporary Road Crossing

In summary, the Cambria County Planning Commission can review and comment on any oil and gas drilling permit application as it pertains to its location with the County and individual municipality. However, it is up to the local municipality through its local zoning ordinance to restrict the drilling for oil and gas to certain locations within the municipality. Municipality zoning regulations cannot prevent the drilling for oil and gas, but it can restrict or prevent this drilling in urbanized or residential areas. The following Map highlights the location and depth of the Marcellus Shale formation in the County.



Source: PA Department of Conservation and Natural Resources

Toward a Sustainable Future 2010 - 2030



CAMBRIA COUNTY PLANNING COMMISSION

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CAMBRIA COUNTY COMPREHENSIVE PLAN OTHER NATURAL RESOURCES



AUGUST 2010

Water Resources

There are two (2) main river systems within the County, the Conemaugh River and the West Branch Susquehanna River. A very small portion of the Juniata River drainage area is located in the north western portion of the County.

The Conemaugh River System lies in the southern portion of the County while the West Branch Susquehanna River System lies in the northern portion of the County. The following provides a listing of the main tributaries that feed these two (2) River Systems:

Conemaugh River:

- Blacklick Creek
- Brush Creek
- Little Conemaugh River
- South Fork Little Conemaugh River
- South Branch Blacklick Creek
- North Branch Blacklick Creek
- Paint Creek

- Shade Creek
- Stonycreek River
- Two Lick Creek
- Yellow Creek

West Branch Susquehanna River:

- Chest Creek
- Clearfield Creek

The Eastern Continental Divide forms the boundary between these two river systems, with the West Branch Susquehanna River System flowing into the Susquehanna River to the Chesapeake Bay and the Atlantic Ocean and Conemaugh River System flowing into the Ohio River to feed the Mississippi and the Gulf of Mexico.

Special Designated Waterways

Overall, high quality surface waters with a substantial amount of recreational uses as indicated by the Pennsylvania Fish and Boat Commission (PFBC) and the Pennsylvania Department of Environmental Protection (PADEP) do exist in the County. The County supports several special designated trout stream and river sections designated by the Pennsylvania Fish and Boat Commission that create quality recreation fishing opportunities in the Region. These include:

- ❑ Approved Trout Streams - These waters contain significant portions that are open to public fishing and are stocked with trout. There are 20 approved Trout Streams in the County.
- ❑ Naturally Producing Trout Streams - Naturally Producing Trout Streams are waterways that are capable of supporting the natural reproduction of wild trout. There are 37 Naturally Producing Trout Streams in the County.
- ❑ Class A Wild Trout Streams - Class A streams support a population of naturally produced wild trout of sufficient size and abundance to support a long-term and rewarding sport fishery. There are 4 Class A streams in the County
- ❑ Wilderness Trout Streams - This designation is made to protect and promote native brook trout fisheries, the ecological requirements necessary for natural reproduction of trout and wilderness aesthetics. There are 2 Wilderness Trout Streams in the County

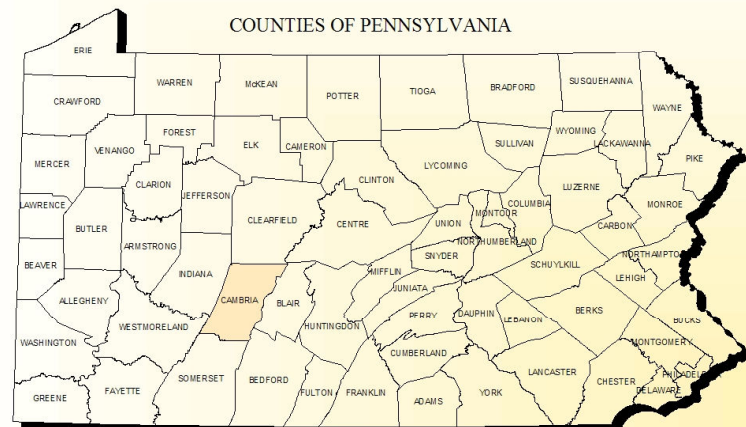
- ❑ High Quality & Exceptional Value Streams - Waterways that are classified as High Quality Cold Water Fisheries (HQ-CWF) and Exceptional Value (EV) streams are protected by the PA DEP, meaning that the water quality cannot be degraded beneath the conditions currently supported. Stream health is integrally dependent on the condition of land in its drainage watershed. Therefore, the PA DEP also extends High Quality and Exceptional Value designation and protection levels to the watersheds of High Quality and Exceptional Value streams. The following lists the HQ-CWF and EV protected streams and watersheds in the County:

- | | | |
|----------------------|-------------------------|---------------------------------|
| • Allwine Creek | • Duclos Run | • Powdermill Run |
| • Baldwin Creek | • Findley Run | • Rachel Run |
| • Bear Wallow Run | • Laurel Lick Run | • Red Run |
| • Beaverdam Run | • Laurel Run | • Risinger Run |
| • Bens Creek | • Lick Run | • Rogues Harbor Run |
| • Big Cedar Run | • Little Mill Creek | • Saltlick Run |
| • Bobs Creek | • Little Muddy Run | • Sandy Run |
| • Bottle Run | • Little Saltlick Run | • Shannon Run |
| • Chest Creek | • Loup Run | • South Fork Little Conemaugh |
| • Clark Run | • Mill Creek | • Stewart Run |
| • Clear Shade Creek | • Mill Run | • Tipton Run |
| • Cush Cushion Creek | • Moshannon Creek | • Tubmill Creek |
| • Custer Run | • Noels Creek | • Wallacks Branch |
| • Dalton Run | • North Fork Bens Creek | • West Branch Susquehanna River |
| • Diamond Run | • O'Connor Run | • Wildcat Run |

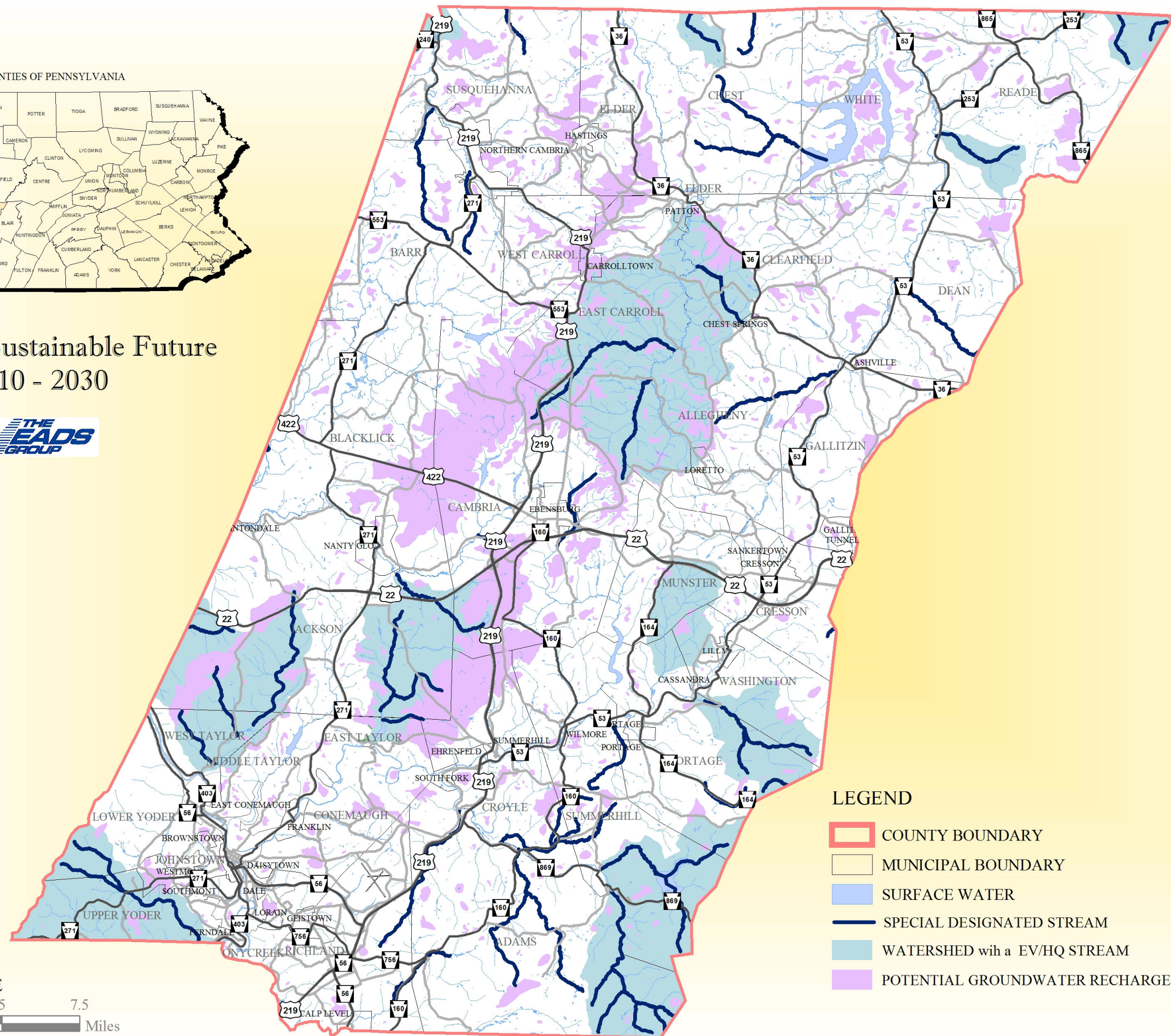
Together, these special designated waterways establish a wealth of biological diversity in the water resources in the County. More detailed information regarding these resources are provided in the Recreation Section of this Plan.

Groundwater Recharge and Discharge

The natural movement of groundwater is from upland recharge areas to lowland discharge areas. Recharge zones are areas where precipitation seeps through the soils into underlain water table. These areas predominantly occur on the upper to middle portions of mountains and ridges. Discharge zones, or points where the water table meets the land's surface and becomes surface water (i.e. springs, seeps, streams, wetlands, lakes) are typically found from the middle to lower portions of slopes. The following Map depicts the Special Designated Streams, HQ/EV watershed areas and potential groundwater recharge zones within the County.

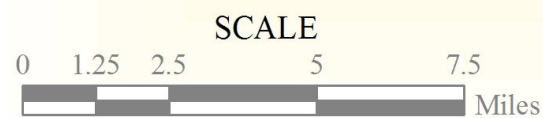


Toward a Sustainable Future
2010 - 2030



LEGEND

- COUNTY BOUNDARY
- MUNICIPAL BOUNDARY
- SURFACE WATER
- SPECIAL DESIGNATED STREAM
- WATERSHED with a EV/HQ STREAM
- POTENTIAL GROUNDWATER RECHARGE



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CAMBRIA COUNTY COMPREHENSIVE PLAN WATER RESOURCES



JANUARY 2011

Land/Water Interface Resources

A land/water interface is an area that is defined as being both aquatic and terrestrial. Examples in Cambria County include wetlands and floodplains and mining related impacts. Natural resources such as soils, minerals, and forest cover are resources that can be extracted from their natural environments and sold as commodities for profit. But the natural values of wetlands and floodplains are quite different; their value lies not in their removal and sale, but in the functions that they perform within the wetland and floodplain environment. Wetland and floodplain resources include the soils, nutrients, water quality and quantity, and diverse species of plants and animals that exist in or near a water source. These areas can be considered as the earth's natural infrastructure.

Wetlands

In Cambria County, wetlands include areas commonly known as marshes, bogs, swamps, wet meadows, and shallow ponds. There are several technical definitions of wetlands. For regulatory and legal purposes, the Commonwealth of Pennsylvania uses the following definition: "Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Wetlands are identified by a unique class of soils called hydric soils, by plants adapted to life in wet environments (hydrophytic vegetation), and by the presence of water (hydrology) during the growing season. Three (3) types of wetlands based upon their vegetation have been identified in Cambria County.

- ❑ Forested Wetlands - As the name implies, these are wet habitats where large woody trees (over 20 feet in height) such as red or silver maple, river birch, blackgum, and green ash find a home. Nearly 221,000 acres of the state's wetlands are forested wetlands.
- ❑ Scrub-shrub Wetlands - These wetlands are inhabited by spicebush, swamp honeysuckle, highbush blueberry, winterberry, alder, and willows, to name a few. This type of wetland is also dominated by small trees less than 20 feet in height. Nearly 139,000 acres of Pennsylvania's wetlands are shrub communities.
- ❑ Emergent Wetlands - Wetlands that are vegetated by grasses, sedges, rushes, and other herbaceous plants that emerge from the water or soil surface. Emergent wetlands are only one-third as abundant as forested wetlands and only one-half as common as the scrub-shrub types. About 14 percent of Pennsylvania's wetlands are emergent wetlands.

Wetlands are particularly valuable ecological systems which provide numerous benefits. They are naturally occurring filtering systems which help to regulate hydrologic functions such as maintaining baseflow in streams, stabilizing groundwater tables, groundwater recharge, and stormwater flood storage capacity. They provide water quality functions

by settling out sediments and chemically absorbing pollutants through wetland vegetation. Wetlands also have significant importance in providing critical habitat for rare and/or endangered species of wildlife and plants, which in turn creates invaluable scientific and educational opportunities. Wetlands are protected by various Federal, State, and local regulations. The U.S. Army Corps of Engineers, the Federal Environmental Protection Agency, and the Pennsylvania Department of Environmental Protection are the primary agencies that protect wetlands in the Commonwealth and Cambria County. The protection of wetlands is the responsibility of both individuals and municipal governments. The Cambria County Comprehensive Plan and municipal comprehensive plans now address the importance of wetland management practices.

Municipal governments in Cambria County need to recognize the importance of wetland protection and adopt policies, ordinances, and regulations that are designed to preserve wetlands within their borders and allow for wetland mitigation. This type of effort in conjunction with Federal and State regulations will help to protect and preserve this important natural resource.

Floodplains

In Cambria County, floodplains are defined as those level areas bordering river channels. The formation of a floodplain is directly tied to the adjacent river or stream which, over long periods of time, carves out the surface geology of the landscape and deposits sand, silt, and other material (these deposits are referred to as alluvium) that form rich soils. The river channel meanders through the landscape, carving through the terrain and depositing sediment as it goes. Sediment deposits and depressions around the water's edge may result in the formation of wetlands.

Floodplains play a significant role in Cambria County, providing ecological, aesthetic, economic, and recreational benefits. Their primary function is to accept flood waters during storm events. They absorb water, recharge aquifers, trap sediments, and stabilize stream banks. However, there are hazards related to building on floodplains. Hazards are generally due to the flood potential, soil type, and topography of the adjoining landscape. The Floodplains are frequently defined in terms of the likelihood of flooding in any given year. A "100-year" flood is the flood having a 1% chance of occurring during any given year. This area is known as a Special Flood Hazard Area (SFHA) and is identified following a detailed flood hazard study and mapping by the National Flood Insurance Program (NFIP). The level of the study depends on the extent of flood risk; however, all flood hazard identification for a given municipality is placed on a Flood Hazard Boundary Map (FHBM), a Flood Insurance Rate Map (FIRM), or a Flood Boundary and Floodway Map (FBFM). The NFIP is a Federal program enabling property owners in participating communities to purchase insurance protection against losses from flooding. This insurance is designed to provide an insurance alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods. Participation in the NFIP is based on an agreement between local communities and the federal government that states if a community will adopt and enforce a floodplain management ordinance to reduce future flood risks to

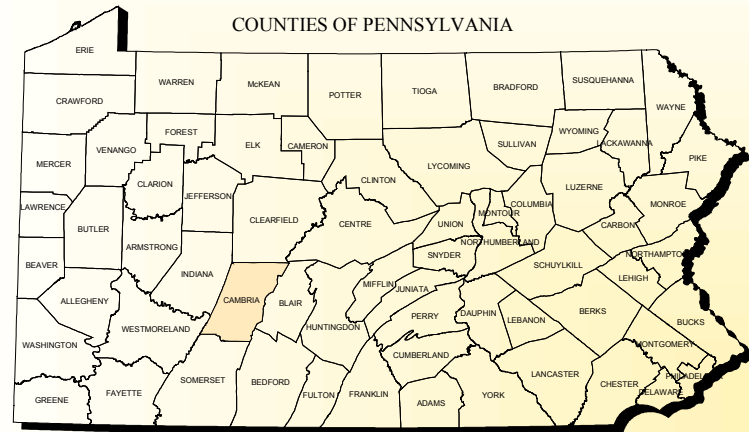
new construction in Special Flood Hazard Areas, the federal government will make flood insurance available within the community as a financial protection against flood losses.

When the community chooses to join the NFIP, it must adopt and enforce minimum floodplain management standards for participation. The Federal Emergency Management Agency (FEMA) works closely with the State Emergency Management Agency (PEMA) and local officials to identify flood hazard areas and flood risks. The floodplain management requirements within the SFHA are designed to prevent new development from increasing the flood threat and to protect new and existing buildings from anticipated flood events. When a community chooses to join the NFIP, it must require permits for all development in the SFHA and insure that construction materials and methods used will minimize future flood damage. Permit files must contain documentation to substantiate how buildings were actually constructed. In return, the federal government makes flood insurance available for almost every building and its contents within the community. Communities must insure that their adopted floodplain management ordinance and enforcement procedures meet program requirements. Local regulations must be updated when additional data are provided by FEMA or when Federal or State standards are revised.

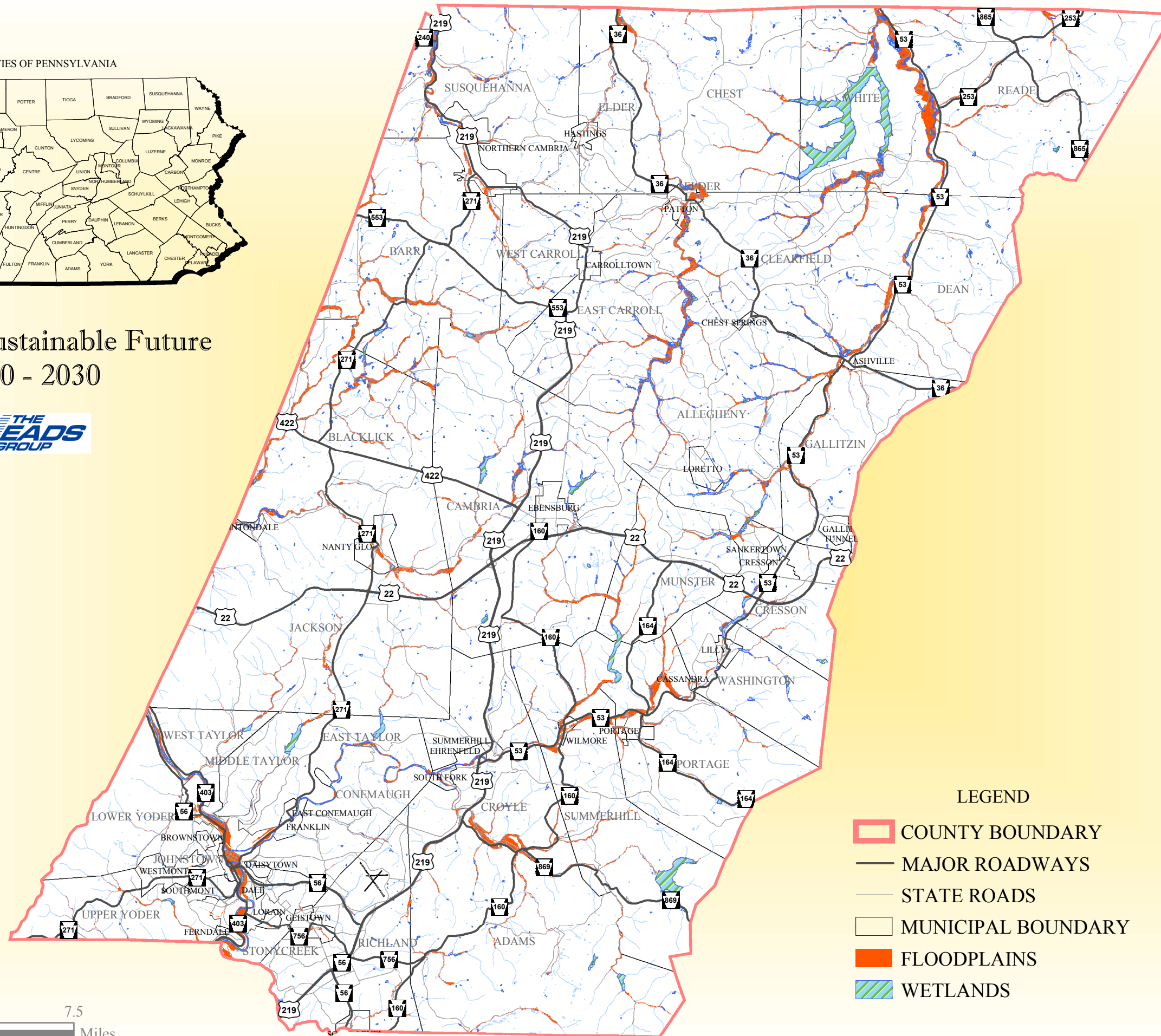
In Cambria County, 57 municipalities participate in the NFIP on a voluntary basis. Six (6) municipalities in Cambria County have been identified as not having a potential flood risk and, therefore, are not eligible to participate in the program. These municipalities contain no Special Flood Hazard areas and no flood maps are available. Floodplain development within the participating municipalities must be in compliance with municipal ordinances and with required Federal and State regulations.

Revised Floodplain Mapping

A multi-year project to re-examine flood zones and develop detailed, digital flood hazard maps through the County is on-going. The revised maps reflect current flood risks were released to the public in 2009. These revised maps will replace the existing maps that are many years old. As a result, Cambria County will have up-to-date, reliable, Internet-accessible information about your flood risk, on a property-by-property basis. These maps also allow community planners, local officials, engineers, builders and others to make determinations about where and how new structures and developments should be built. Once the appeals and protests are reviewed and once any needed map changes are incorporated, FEMA will issue a Letter of Final Determination. As of the writing of this Plan municipal ordinances approving the new Digital Flood Insurance Rate Map have not been formally adopted. When the ordinance is adopted the maps will then become effective, as will any new flood insurance requirements. The following Map highlights the Wetland and Floodplains in the County.



Toward a Sustainable Future
2010 - 2030



LEGEND

- COUNTY BOUNDARY
- MAJOR ROADWAYS
- STATE ROADS
- MUNICIPAL BOUNDARY
- FLOODPLAINS
- WETLANDS



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CAMBRIA COUNTY COMPREHENSIVE PLAN FLOODPLAINS AND WETLANDS



OCTOBER 2011

Mining Extraction Impacts

Surface and Deep Coal mining has been historically linked with much of the County, and often this type of mineral extraction activity has had impacts on water quality. Abandoned mine drainage from old and abandoned coal mining sites in Cambria County has continued to have a negative impact on the quality of public water supply sources.

Surveys conducted by the PA DEP, Stonycreek-Conemaugh River Improvement Project (SCRIP), Little Conemaugh Watershed Association, the Cambria County Conservation District and Bureau of Abandoned Mine Reclamation (BAMR) indicate there are numerous Abandoned Mine Drainage (AMD) discharges and seep areas within the County. Closer examination of the information prepared by these organizations reveals that impacts from the discharges vary greatly and in fact, a small number of discharges accounts for the majority of the pollution impacts in the County.

Super 7 Strategy

In order to address the Abandoned Mine Drainage (AMD) issues in the County in an organized and collective manner, the Cambria County Conservation District developed what they are calling a 'Super 7 Strategy' to target the worse seven (7) discharge/discharges areas impacting the Little Conemaugh River basin. The Super 7 Strategy includes these seven (7) discharges/discharge areas:

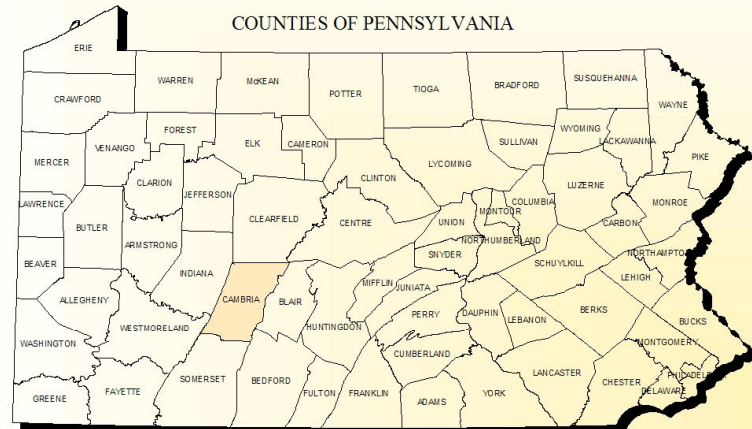
- ❑ South Fork Little Conemaugh River:
 - St. Michael Discharge (Topper Run)
 - Sulfur Creek (Dunlo area)
 - Beaverdale Discharges (3 areas)
- ❑ Little Conemaugh River - Main Stem:
 - Miller Shaft (Trout Run)
 - Ehrenfeld Discharges (3)
 - Hughes Borehole
 - Portage Sewer Plant Discharges (3)

The following provides a description of each Super 7 Discharge. The following descriptions are summarized from information prepared by the Cambria County Conservation District, WRAS-18E report and from the Stonycreek-Conemaugh River Improvement Project (SCRIP). A map depicting the highlighting the mining related impacts in the County along with the location of the Super 7 Discharge Areas are provided.

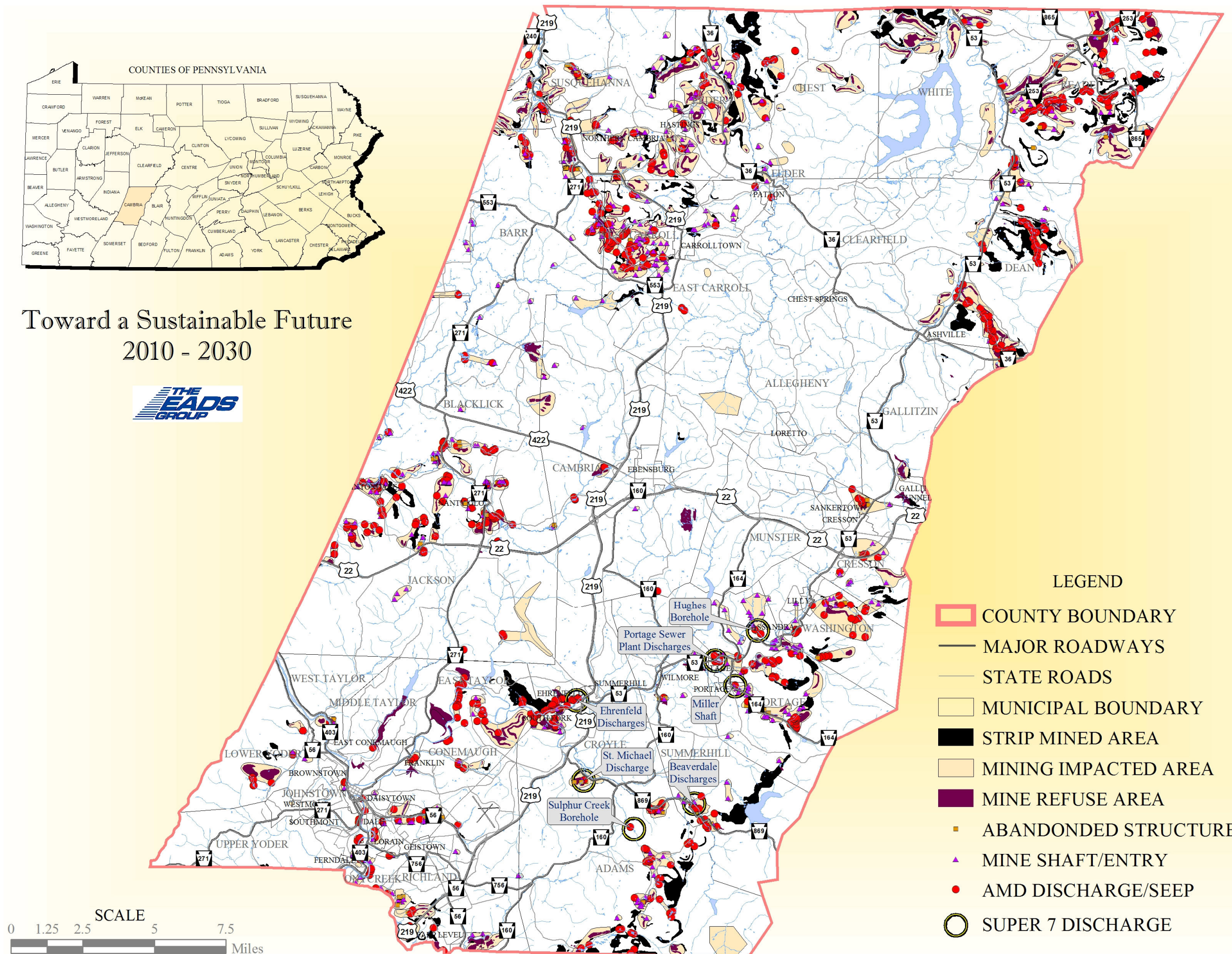
- ❑ St. Michael Discharge - South Fork Little Conemaugh River
By far the largest pollution load (29.2%) of any single mine discharge of the seven is the St. Michael Discharge. This Discharge is located on Topper Run, a tributary to the South Fork Little Conemaugh River. The St. Michael Discharge contributes on average in excess of 10 tons per day of mine drainage pollutants in the form of acidity, iron, manganese, and aluminum for a combined total of approximately 3,700 tons per year. The source of the St. Michael Discharge is a large deep mine pool, known as the

Berwind Mine Pool. This mine pool has formed in a complex of abandoned deep mines in the southern portion of the Wilmore Basin, under the South Fork River Watershed. The Berwind Deep Mine Pool inundates approximately 15,000 acres of the deep mine complex.

- ❑ Sulfur Creek in Dunlo - South Fork Little Conemaugh River
The sulfur creek borehole located below Dunlo in Adams Township is the major problem area on Sulfur Creek. The discharge from the borehole wipes out all biological life in Sulfur Creek and seriously degrades Otto Run before entering the South Fork of the Little Conemaugh River. The discharge is from deep mines abandoned many years ago.
- ❑ Beaverdale Discharges - South Fork Little Conemaugh River
Three (3) major mine discharges and refuse piles pollute the South Fork Little Conemaugh River near Beaverdale:
 1. Beaverdale Ball field: A 500 gpm discharge from a flooded mine entrance is located adjacent to the ball fields in Beaverdale.
 2. Runoff from the large refuse pile located on the south bank of a tributary to the South Fork Little Conemaugh River.
 3. Bubbler Discharge: A 200 to over 1000 gpm discharge is located on a tributary to the South Fork Little Conemaugh River
- ❑ Miller Shaft -Trout Run - The Miller Shaft is located along the banks of Trout Run on the southern border of Portage Borough. Two discharges from this site lie within 25 feet of each other. The main shaft discharges contributes over 3,300 gpm and a total pollution load of over 6000 lbs per day. A smaller discharge contributes over 400 gpm and pollution load of close to 1500 lbs per day. A third discharge has a maximum flow of 250 gpm and maximum load of 2,000 pounds per day.
- ❑ Ehrenfeld Discharges - Little Conemaugh River
Several drift mines discharge within the Borough of Ehrenfeld. An acid mine drainage treatment plant operated by Pristine Resources is also located in the Borough of Ehrenfeld.
- ❑ Hughes Borehole - Little Conemaugh River
The Hughes Borehole, with flows ranging up to 3,500 gpm, is the Little Conemaugh River main stem's most major discharge. Pollution loads have ranged up to nearly 9,000 pounds per day and include elevated aluminum and manganese. The borehole is less than 50 feet from the riverbank near the village of Jamestown. The Hughes Borehole creates a wasteland of about 6 acres adjacent to the Little Conemaugh River.
- ❑ Portage Sewage Treatment Plant discharges - Little Conemaugh River
Three discharges are located several miles downstream of the Hughes Borehole near the Portage Sewage Plant. They are located within 200 feet of each other and contribute a total load of 9,592 pounds per day of pollution.



Toward a Sustainable Future
2010 - 2030



LEGEND

- COUNTY BOUNDARY
- MAJOR ROADWAYS
- STATE ROADS
- MUNICIPAL BOUNDARY
- STRIP MINED AREA
- MINING IMPACTED AREA
- MINE REFUSE AREA
- ABANDONED STRUCTURE
- MINE SHAFT/ENTRY
- AMD DISCHARGE/SEEP
- SUPER 7 DISCHARGE



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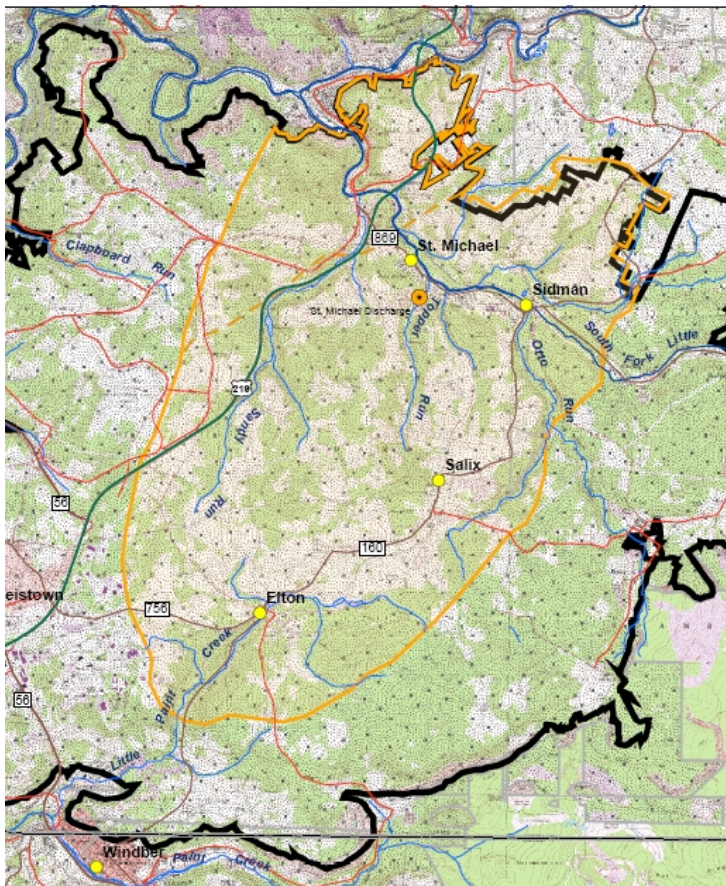
CAMBRIA COUNTY COMPREHENSIVE PLAN MINING EXTRACTION IMPACTS



JANUARY 2011

Mine Pools

Perhaps the best reminder of the deep mining activities in the County is the St. Michael Discharge which is sustained by the Berwind Mine Pool. As the name implies the Berwind Mine Pool is located within the Berwind Mine complex. This deep mine pool has a surface area (underground) of approximately 15,000 acres and is estimated to contain approximately 11.7 billion gallons of mine water. The mine pool extends from the St. Michael area all the way southward to just outside of Windber in Somerset County. The mine pool is confined by the limits of the deep mine complex and the geologic structure of the Wilmore syncline. The elevation of the mine pool is controlled by the top of the Maryland No. 1 Mine Shaft (located in St. Michael) which is at elevation 1604. The limits and surface area of the mine pool were estimated based on the limit of the Berwind mining complex, the confining geologic structure, and the measured mine pool elevations. The insert image to the right shows the general location of the Berwind Mine Pool (deep mined areas shown as black outline and mine pool limits shown as orange outline).



According to information provided by the Pennsylvania Departments of Environmental Protection's California, PA District Mining office, two deep mining projects that are in the permitting stages may have positive impacts in the County. First is the proposed mining of the flooded portions of Mine 78 by the Rosebud Mining Company. These flooded coal reserves run from around Elton all the way to St. Michael. The mining plan would start nearer to Elton and work towards St. Michael. This flooded area is essentially the Berwind Mine Pool described previously. The proposed plan would be to pump and treat all of the Berwind Mine Pool to allow mining to continue. Completion of this mining project would significantly reduce or even eliminate the impacts from the St. Michael Discharge. The second potential re-mining project would occur nearer to Cresson (Cresson Mine) and work southward into the region. This project is proposed by Amfire Mining Company. Completion of this mining project would significantly reduce impacts from the Hughes Borehole area.

Nature Heritage Resources

The importance of the County's natural features and impacts to those features cannot be understated. These natural features can serve as a source of economic development and as assets that improve the quality of life of the residents.

Natural Heritage Inventory

The Pennsylvania Natural Heritage Program (PNHP) is responsible for collecting, tracking and interpreting information regarding the Commonwealth's biological diversity. A County Natural Heritage Inventory (NHI) for Cambria County was completed by the Western Pennsylvania Conservancy for the Cambria County Conservation District in early 2007. A goal of a NHI is to present information about natural resources to those responsible for making decisions about the resources in the county, including the community at large.

Forty-three (43) areas of ecological significance including thirty-one (31) Biological Diversity Areas and twelve (12) Landscape Conservation Areas are recognized in the Cambria County Natural Heritage Inventory. Areas that support rare, threatened or endangered species as well as important natural communities are identified as Biological Diversity Areas (BDAs) and when at a broader scale are identified as Landscape Conservation Areas (LCAs) areas. LCAs identify areas of relatively intact natural landscape such as large areas of forest unbroken by roads or other fragmenting features; areas which function as a corridor connecting patches of natural landscape; and regions in which a high number of other biodiversity features are concentrated. The following provides a more detailed description of these areas.

- ❑ Landscape Conservation Area (LCA):
LCAs are delineated to include large areas of intact natural landscape, and to include areas important in large-scale ecological processes. LCAs are regional assets as they improve quality of life by providing a landscape imbued with a sense of beauty and wilderness, they provide a sustainable economic base, and their high ecological integrity offers unique capacity to support biodiversity and human health.
- ❑ Biological Diversity Areas (BDA):
A BDA area contains plants or animals of special concern at state or federal levels, exemplary natural communities or exceptional native diversity. BDAs include both the immediate habitat and surrounding land (Supporting Landscape) important in the support of these special elements.

The Biological Diversity Areas and Landscape Conservation Areas are categorized according to their significance to the protection of the biological diversity and ecological integrity of the County. Significance ranks are Exceptional, High, Notable, and County. These ranks have been used to prioritize all identified sites and suggest the relative attention that sites should receive for protection. The following defines these ranks and

the following Tables and map localize these important ecological resources within the three County Planning Regions:

- ❑ **Exceptional:** Sites that are of exceptional importance for the biological diversity and ecological integrity of the county or region. Sites in this category contain one or more occurrences of state or national species of special concern or a rare natural community type that is of a good size and extent and is in a relatively undisturbed condition. Sites of exceptional significance merit quick, strong and complete protection.
- ❑ **High:** Sites that are of high importance for the biological diversity and ecological integrity of the county or region. These sites contain species of special concern or natural communities that are highly ranked, and because of their size or extent, relatively undisturbed setting, or a combination of these factors, rate as areas with high potential for protecting ecological resources in the county. Sites of high significance merit strong protection in the future.
- ❑ **Notable:** Sites that are important for the biological diversity and ecological integrity of the county or region. Sites in this category contain occurrences of species of special concern or natural communities that are either of lower rank (G and S rank) or smaller size and extent than exceptional or high ranked areas, or are compromised in quality by activity or disturbance. Sites of notable significance merit protection within the context of their quality and degree of disturbance.
- ❑ **County:** Sites that have great potential for protecting biodiversity in the county but are not, as yet, known to contain species of special concern or state significant natural communities. Often recognized because of their size, undisturbed character, or proximity to areas of known significance, these sites invite further survey and investigation. In some cases, these sites could be revealed as high or exceptional sites.

TABLE NH-7
Natural Heritage Inventory
Cambria County Planning Region 1 – Southern Region

Area	Description	Rating
Allegheny Front #8 LCA	Exceptionally large block of contiguous forest	<i>Exceptional</i>
Laurel Ridge LCA #4	Exceptionally large block of contiguous forest	<i>Exceptional</i>
State Game Land #42 LCA	Exceptionally large block of contiguous forest	<i>Exceptional</i>
South Fork Conemaugh River BDA	Watershed of the South Fork Conemaugh River headwaters, designated as Exceptional Value by the PA-DEP; also contains a large natural wetland complex.	<i>High</i>
South Fork Conemaugh River Headwaters Wetland BDA	A large natural wetland complex.	<i>High</i>
Mill Creek/Little Mill Creek BDA	Watershed of Mill Creek and Little Mill Creek, designated as Exceptional Value streams by the PA-DEP	<i>High</i>
Ben's Creek BDA	Watershed of Bens Creek, designated as Exceptional Value by the PA-DEP	<i>High</i>
Allwine Creek BDA	Watershed of Allwine Creek, designated as Exceptional Value by the PA-DEP	<i>High</i>
Laurel Ridge LCA #1	Moderate-sized block of contiguous forest	<i>High</i>
Laurel Ridge LCA #2	Moderate-sized block of contiguous forest	<i>High</i>
Laurel Ridge LCA #3	Moderate-sized block of contiguous forest	<i>High</i>
Staple Bend BDA	A winter bat hibernation site and the disturbance-sensitive area surrounding it.	<i>Notable</i>
Sam's Run Slope BDA	A forested slope within a matrix of urban land, with a mature sugar maple-basswood forest.	<i>County</i>

Source: Cambria County Natural Heritage Inventory (2007)

TABLE NH-8
Natural Heritage Inventory
Cambria County Planning Region 2 – Central Region

Area	Description	Rating
Allegheny Front #8 LCA	Exceptionally large block of contiguous forest	<i>Exceptional</i>
Chest Creek at Eckenrode Mills BDA	A natural area along Chest Creek with a mature stand of hemlock and a wetland complex with a diverse flora.	<i>High</i>
Chest Creek Headwaters BDA	Watershed above wetland area.	<i>High</i>
South Fork Conemaugh River BDA	Watershed of the South Fork Conemaugh River headwaters, designated as Exceptional Value by the PA-DEP; also contains a large natural wetland complex.	<i>High</i>
Laurel Ridge LCA #1	Moderate-sized block of contiguous forest	<i>High</i>
Allegheny Front #7 LCA	Large contiguous forest block	<i>High</i>
Queen-of-the-Prairie BDA	An area inhabited by queen-of-the-prairie, a plant species of special concern in PA	<i>Notable</i>
Crooked Run/Elk Creek Wetlands BDA	A complex of wetlands, including forested seeps and a mosaic of shrub and graminoid communities.	<i>Notable</i>
Clearfield Creek Headwaters BDA	Forested headwaters of Clearfield Creek, inhabited by the Appalachian violet, a plant species of special concern in PA.	<i>Notable</i>
Laurel Gap Wetland BDA	A wetland with an open, sphagnum-sedge community and a hemlock-hardwood palustrine forest.	<i>Notable</i>
Clearfield Creek at Amsbry BDA	A lowland forest along Clearfield Creek inhabited by the Appalachian violet	<i>Notable</i>
Laurel Run BDA	The habitat of a plant species of special concern, and the steep forested slopes above it.	<i>Notable</i>
South Branch Blacklick Creek Slope Forest BDA	A very mature stand of hemlock and beech forest	<i>Notable</i>
Allegheny Front #5 LCA	Moderate size forest block	<i>Notable</i>
Allegheny Front #6 LCA	Moderate size forest block	<i>Notable</i>
Walker Run BDA	A ravine with a mature, relatively intact hemlock-northern hardwoods forest community	<i>County</i>
New Germany Hemlock Grove BDA	A stand of exceptionally mature hemlock forest.	<i>County</i>
Vintondale Bog BDA	A wetland with an acidic shrub swamp community.	<i>County</i>
Big Cedar Run BDA	A hemlock palustrine forest at the mouth of Big Cedar Run.	<i>County</i>

Source: Cambria County Natural Heritage Inventory (2007)

TABLE NH-9
Natural Heritage Inventory
Cambria County Planning Region 3 – Northern Region

Area	Description	Rating
Clearfield Creek Pools BDA	A series of natural vernal pools, inhabited by the federally threatened northeastern bulrush.	<i>Exceptional</i>
Bell's Gap Run BDA	A portion of the Bell's Gap Run Valley that supports a unique community on a calcareous outcrop formation, a plant species of special concern, a population of the Allegheny Woodrat, and an exceptionally mature, intact forest community.	<i>Exceptional</i>
Rogue's Harbor Run LCA	Moderate-sized block of contiguous forest.	<i>Exceptional</i>
Allegheny Front #3 LCA	Large contiguous forest block	<i>Exceptional</i>
Allegheny Front #4 LCA	Large contiguous forest block	<i>Exceptional</i>
Rogue's Harbor Run BDA	Forested Watershed of Rogue's Harbor Run and its tributaries, designated as Exceptional Value waters by the PA-DEP. Also contains a headwaters wetland complex and vernal pools.	<i>High</i>
Chest Creek at Eckenrode Mills BDA	A natural area along Chest Creek with a mature stand of hemlock and a wetland complex with a diverse flora.	<i>High</i>
Tubb Run Headwaters Wetland BDA	A headwaters wetland complex that is a mixture of shrub and herbaceous vegetation, with some beaver influence. Inhabited by rare insects.	<i>High</i>
Beaver Valley Wetlands BDA	A stream valley with a unique and diverse hardwood riparian forest community.	<i>High</i>
Gallitzin LCA	Moderate-sized block of contiguous forest	<i>High</i>
Crooked Run/Elk Creek Wetlands BDA	A complex of wetlands, including forested seeps and a mosaic of shrub and graminoid communities.	<i>Notable</i>
Slate Lick Run Wetlands BDA	A wetland complex, largely forested, with a diverse and unique bottomland hardwood forest community.	<i>County</i>
Clearfield Creek Floodplain at Fallentimber BDA	Floodplain forest communities along Clearfield Creek	<i>County</i>
West Branch Susquehanna BDA	A section of the West Branch Susquehanna River with comparatively natural, forested floodplain	<i>County</i>
Burgoon Run Tributary Wetland BDA	A palustrine forested area fed by seepages.	<i>County</i>
Clearfield Creek Floodplain BDA	Floodplain forest communities along Clearfield Creek	<i>County</i>
Killbuck Run BDA	Forest and wetland communities along Killbuck Run and Little Killbuck Run.	<i>County</i>

Source: Cambria County Natural Heritage Inventory (2007)

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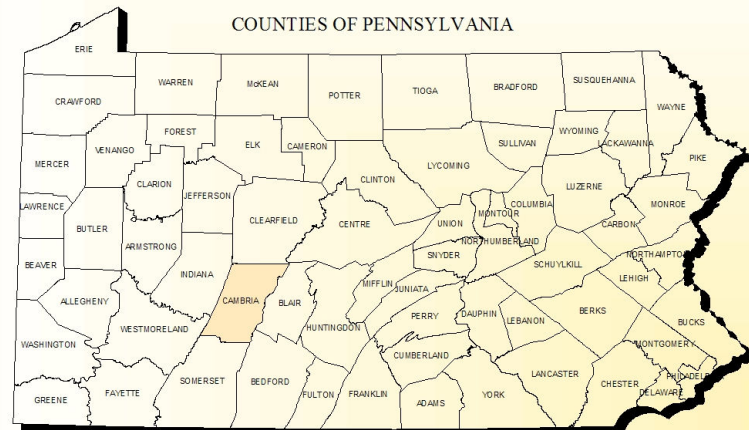
Federal/State/County Land/Other Nature Area

There are approximately 65,000 acres of County, State and Federal Land in the County. This includes the County owned Duman Lake Park, State Game Lands #26, #42, #79, #158, #267, #184, #198, #108, #279, and #120, Gallitizin State Forest, Prince Gallitizin and Laurel Ridge State Parks and the Allegheny Portage Railroad National Historic Site and the Johnstown Flood National Memorial. In addition to the natural features that are part of these resources the County is home to over 9,600 acres of open space public recreation areas. These important areas include the Rock Run Recreational Park, Highland Sewer and Water Authority (HSWA) public lands, public lands owned by the Cambria Somerset Authority (CSA), Otto Run Park located in Adams Township, the nature area on the campus of the University of Pittsburgh at Johnstown (UPJ), the Park of 1889, Stackhouse Park and the Conemaugh Gap. More detailed information regarding all these areas are provided in the Recreation section of this Plan. Together these resources provide opportunities for County and regional residents to observe, appreciate and interact with high quality natural areas.

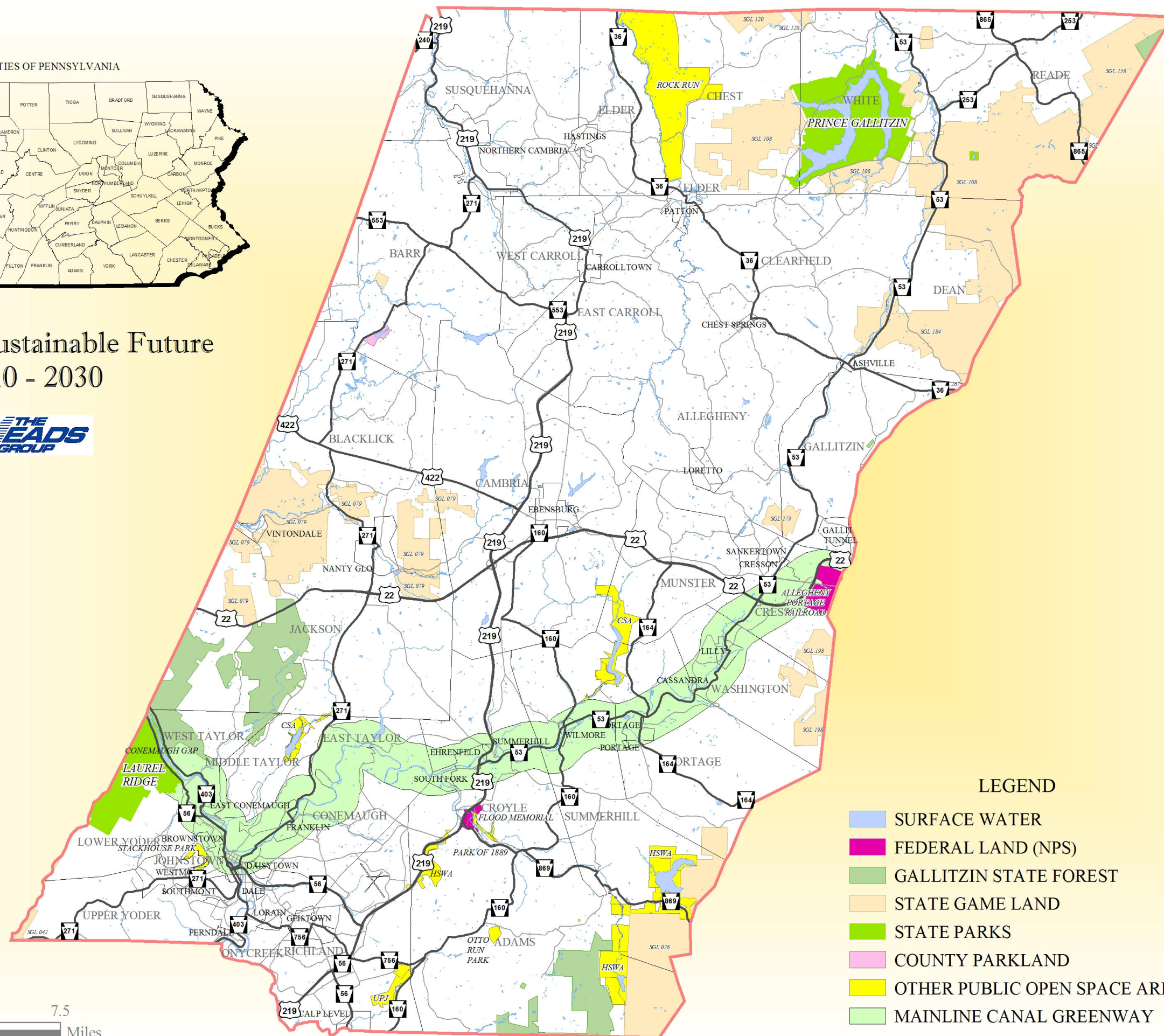
Greenways

The Pennsylvania Department of Conservation and Natural Resources (DCNR) defines greenways as linear corridors of public and private land that serve as the linkages between specifically identified natural resource based or manmade features. They can be either land or water based and serve a variety of functions and benefits including recreation, transportation, community revitalization and economic development, natural resource conservation, environmental protection, wildlife habitat and migration and education.

The Main Line Canal Greenway™ is a designated Greenway through the County. The Greenway corridor follows the historic path of the Main Line Canal System. The following Map highlights the locations of the Federal, State, County, Other Nature Areas and the Main Line Canal Greenway.



Toward a Sustainable Future
2010 - 2030



LEGEND

- SURFACE WATER
- FEDERAL LAND (NPS)
- GALLITZIN STATE FOREST
- STATE GAME LAND
- STATE PARKS
- COUNTY PARKLAND
- OTHER PUBLIC OPEN SPACE AREA
- MAINLINE CANAL GREENWAY



CAMBRIA COUNTY PLANNING COMMISSION

401 CANDLELIGHT DR.
EBENSBURG, PA 15931

CAMBRIA COUNTY COMPREHENSIVE PLAN OPEN SPACE LAND



JANUARY 2011

Historic and Heritage Resources

Cambria County's historic resources can be traced to the abundant natural resources of water, timber, iron-ore, coal, and clay that allowed the County to play a significant role in shaping its industrial history and character. The County is fortunate to still have a wide range of historic resources, in terms of both natural heritage and places/sites that are vestiges of the physical, social, and cultural heritage of the railroad, steel, manufacturing, and coal mining industries. Vestiges of these past industries are still evident in rural townships and villages as well as in the County's towns and urban centers. However, during the past five (5) decades, in the wake of difficult economic conditions, the County's historic landscape has undergone significant changes. Over the past 25 years, steel mills and coal mines have closed and the population of Cambria County has dramatically decreased. In some areas, the industrial heritage of the County's past is disappearing to make way for a new economic base anchored by high-tech, medical, and service industries.

Historic Markers

The Pennsylvania Historic and Museum Commission (PHMC) administers a Historic Marker program, whereby significant historic and architectural sites/themes are designated by the famous blue and yellow markers. Twenty Six markers are located throughout Cambria County. The Table on the following page highlights these resources.

TABLE NH-3
Historic Markers
Cambria County

Name	Location	Dedication Date	Text
Admiral Peary Park	At site on SR 1005 just N of junction with SR 2014 W of Cresson	1948	Rear Admiral Robert E. Peary was born near Cresson on May 6, 1856. This Park and monument commemorate his birth and achievements. Administered by the Pennsylvania Historical and Museum Commission.
Allegheny Portage Railroad	Intersection of Rts. 53 & 164, Portage Twp	September 11, 1994	From 1834 to 1854 this 36-mile line connected Hollidaysburg to Johnstown. The railroad portaged canal boats over the Allegheny Mountains, which formed a barrier to the Pennsylvania canal system. Horses and mules pulled the first trains. Later steam locomotives were used. At the center of the line, Plane #2 served as the railroad headquarters.
Cambria City	418 Broad St., Johnstown	September 01, 1994	Founded in 1853, this neighborhood was the first home to immigrants who came to Johnstown to find work in the coal mines and steel mills. Nationality churches and ethnic clubs exemplify the neighborhood's rich and diverse culture.
Cambria County	County Courthouse, Center St., Ebensburg	May 25, 1982	Formed March 26, 1804 out of Huntingdon and Somerset counties. Its name, dating from Roman Britain, means "Wales." County seat, Ebensburg, was incorporated 1825. Famed Portage Railroad extended west to Johnstown. Birthplace of Rear Admiral Robert E. Peary.
Charles M. Schwab	SR 1001 at Loretto	August 18, 1947	The steel king, of whom Carnegie said he "knew more about steel than any man in the world," had his estate here. The grounds and buildings are owned by St. Francis College.
Clara Barton (1821-1912)	662 Main St., Johnstown	July 1, 1994	The founder of the American Red Cross, Barton used this site as her headquarters while directing relief operations after the Johnstown Flood of 1889. The disaster was one of the first major tests for the American Red Cross.
Demetrius Gallitzin	SR 1005 (former LR 276), Loretto	August 19, 1947	Here is the tomb of the Russian prince-priest who gave up a life of ease for a frontier mission. Founder of Loretto, Catholic colony, 1799. St. Michael's is on the site of his chapel. He died here May 6, 1840
Dr. Lawrence F. Flick	U.S. 219, 1 mile S of Carrolltown	May 11, 1959	Pioneer in antitubercular campaign and among first to recognize this disease was communicable. Organized first American tuberculosis society, 1892. Founded White Haven Sanatorium, 1901. Birthplace 400 yards east of highway.
First Cambria AME Zion Church	409 Haynes Street, Johnstown	May 10, 1997	Formed 1873 in the loft of the Woodvale Tannery by workers there. Organized as Cambria Chapel A.M.E. Zion Church, 1874, at Napoleon and Dibert Sts. About 1877 it moved here. Washed from its foundation in the 1889 flood but later restored.
First Steel	Pa. 56 in Johnstown, opposite steel mill (Missing)	March 04, 1947	The first successful use of the pneumatic process in making steel in the U.S. was made at the Cambria Iron Works located opposite in 1857-58. The converter used by William Kelly is preserved at the Bethlehem Steel Co. office.

**TABLE NH-3
Historic Markers (cont.)**

Name	Location	Dedication Date	Text
First Steel Rails	Opposite steel mill (old Pa. 56), Johnstown	August 18, 1947	The first steel rails rolled on order in the U.S. were manufactured by the Cambria Iron Works across the river in 1867. These works were an industry leader in rolling mill technology. The ingots were made in Steelton by the Pennsylvania Steel Company.
Hastings UMWA - District 2 Labor Chautauquas	Brubaker Lane walking trail, Hastings (near Boro. Bldg. - 207 5th Ave.)	July 22, 2007	From 1924 to 1926 the United Mine Workers of America held innovative workers' education programs in bituminous coal towns throughout western Pa. Hastings recorded the largest attendance in 1925. With the leadership of district President John Brophy, the Chautauquas featured nationally prominent speakers and educators as well as local entertainers. They received national press attention and recognition from progressive activists.
John Brophy	Triangle Park, Route 271	November 06, 1993	The American labor leader lived here in Nanty Glo. Brophy was president of District 2, United Mine Workers of America, 1916-1926; he gained national prominence for his "Miner's Program," calling for a shorter work week, nationalization of the mines, and a labor party. An official of the Congress of Industrial Organizations (CIO), 1935-1961, Brophy was a longtime advocate for a democratic labor movement
Johnstown	William Penn Ave. (ST 3037) at N city line (Missing)	October 01, 1947	Named for Joseph Johns, the pioneer settler in 1793. Pennsylvania Canal-Portage R.R. terminal opened 1834. Birthplace of steel industry in U.S. William Kelly developed the converter type blast furnace in 1857-58. Steel rails rolled in 1867.
Johnstown Flood	North bound side of U.S. 219, at sta. 6/45, approx. one mile south of South Fork Boro.	May, 1975	Directly opposite are the remains of the earthen dam which burst, after days of rain, and released millions of tons of water on the afternoon of May 31, 1889. Within a few hours some 2000 persons perished during the ensuing flood that ravaged Johnstown.
Johnstown Flood	Johnstown Festival Park - 90 Johns St., near the Stone Bridge	May 31, 2005	On May 31, 1889, a wall of water and wreckage 35 feet high traveled 14 miles from the broken South Fork Dam, destroying more than 1,600 homes and claiming 2,209 lives. Public and private efforts from across America helped Johnstown to rebuild.
Johnstown Flood	Rager's Hill Rd. & Rt. 869, near Rt. 219, 1 mile S of South Fork	August 18, 1947	The breast of South Fork Dam which broke the night of May 31, 1889, to cause the historic flood is a short distance away. The remains of the dam can be observed.
Johnstown Local Flood Protection Project	Point Park, Johnstown	October 21, 1999	Built (1938-1943) and maintained by the U.S. Army Corps of Engineers (Pittsburgh District), the JLFPP reflects the 1930s move toward a major federal role in local flood protection. This concrete-paved channel project, extending 9.2 miles along Johnstown's three rivers, became the nation's second largest flood control of its type. In its first 50 years, the only flooding here in 1977, during the modern flood of record.

**TABLE NH-3
Historic Markers (cont.)**

Name	Location	Dedication Date	Text
Lemon House	old U.S. 22 E of Cresson at county line	November 19, 1958	Built in 1830 by Samuel Lemon. Standing at head of Plane No. 6 of Allegheny Portage Railroad, it served for many years as a station and as a resting place for travelers. House is visible 75 yards north of highway.
Loretto	Manor Rd. (SR 1005), just outside Loretto	June 29, 1948	Founded 1799 by the prince-priest Demetrius Gallitzin. Here he began in 1800 the first school in the area, a forerunner of Saint Francis College, chartered in 1858. Catholic cultural center. Charles M. Schwab, steel king, had his home here.
Loretto	US 22 and PA 276 West of Cresson	August 19, 1947	This village, 3.5 miles NW of here, was founded 1799 by Prince Gallitzin as a Catholic colony. The site of the priest-missioner's grave is here. Charles Schwab, steel king, had his home in Loretto, and is buried here.
Malcolm Cowley	U.S. 422, 2 miles W of Belsano	August 20, 1994	Born here in 1898, Cowley became an influential literary critic, editor, poet, and historian after World War I. He chronicles the "Lost Generation" in Exile's Return, his most famous work. Blue Juniata, a book of verse, celebrates this region. He was Chancellor of the American Academy of Arts & Letters, 1966-1976. He died in Sherman, Conn. in 1989.
Portage Railroad	Wm. Penn Hwy. (SR 2014 / old U.S. 22) at Portage Rd., just E of Cresson	August 19, 1947	Here was No. 5 of the ten inclined planes used to carry canal boats by rail, Hollidaysburg to Johnstown. The road to Lilly follows closely the route of the Portage Railroad over the mountain to Johnstown
Robert E. Peary	Adm. Peary / Wm. Penn Hwy. (SR 2014 / old US 22) just W of Cresson	August 19, 1947	This monument was placed in honor of the Arctic explorer, discoverer of the North Pole April 6, 1909. Peary was born in Cresson, May 6, 1856, the family moving to Maine in 1859.
Sgt. Michael Strank	125 Main St. (Pa. 271), Franklin Borough	May 17, 1986	A Marine, he was the oldest and highest ranking of the six men who took part in the famous raising of the U.S. flag on Iwo Jima, Feb. 23, 1945. This scene, photographed by Joe Rosenthal of the Associated Press, was later used in the Marine Corps War Memorial at Arlington. Born Nov. 10, 1919, in Czechoslovakia, Strank grew up in Franklin Borough. Killed in action March 1, 1945, he was reinterred 1949 in Arlington Cemetery.
Staple Bend Tunnel	Pa. 271, 5 miles N of Johnstown (Missing)	August 19, 1947	First railroad tunnel built in the U.S. and a part of the Portage Railroad. The masonry is intact and a unique engineering feat of the times. Can be visited a few miles east of here, via Mineral Point.

National Register of Historic Places

The National Register of Historic Places is the Nation's official list of cultural resources worthy of preservation. Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect our historic and archeological resources. The PHMC administers the National Register within the Commonwealth of Pennsylvania. There are 31 properties and districts listed on the National Register in the county. Two sites are further designated as National Historic Landmarks which is a site officially recognized by the United States government for its historical significance and another is designated as a National Memorial which is a designation given by the United States for a protected area that memorializes a historic person or event. The following Table describes these properties. The Map Nos. provided on the following Tables NH-4, NH-5 and NH-6 are used to provide an identification reference on a provided map.

TABLE NH-4
National Register Status – Properties/Districts
Cambria County

Municipality	Property	Location	Date Listed	Type	Map No.
Adams Twp, Croyle Twp	Johnstown Flood National Memorial	Junction. of U.S. 219 and PA 869	October 15, 1966	Structure	1
Adams Township	South Fork Fishing & Hunting Club Historic District	Roughly bounded by Fourteenth, Main, and Lake Sts	July 31, 1986	District	2
Blacklick Township, Vintondale Borough, Barr Township	Eliza Furnace (Ritter's Furnace)	S.R. 3045 Near Blacklick Creek North Branch	September 6, 1991	Structure	3
Cambria Township	Colver Historic District	9th Ave. Ebensburg, Coal Co. Power Building & Bakerville	June 3, 1994	District	4
Cambria Township	Revloc Historic District	Roughly bounded by Highland Ave., Fourth St., Penn Ave. and Eighth St	May 11, 1995	District	5
Conemaugh Township	Staple Bend Tunnel National Historic Site (Allegheny Portage Railroad Tunnel)	S.R. 3030 between Wesley Chapel and Mineral Point	April 19, 1994	Structure	6
Cresson Township	Allegheny Portage Railroad National Historic Site	US. Route 22	October 15, 1966	District	7
Cresson Township	Benjamin. F. Jones, Cottage (Braemar Cottage)	1229 3rd. Street	February 24, 1995	Building	8
Ebensburg Borough	A.W. Buck, House	615 N. Center Street	May 12, 1995	Building	9
Ebensburg Borough	Cambria County Courthouse	Center Street	June 30, 1980	Building	10
Ebensburg Borough	Cambria County Jail	N. Center & Sample Sts.	June 30, 1980	Building	11
Ebensburg Borough	Philip Noon House (YMCA Building of Ebensburg)	114 E. high Street	August 23, 1984	Building	12
Johnstown City	Bridge in Johnstown City	L.R. 525 Spur over Stonycreek River	June 22, 1988	Structure	13
Johnstown City	Cambria City Historic District	Bounded by Chestnut St., Power, St., Broad St., & the Conemaugh River	November 14, 1991	District	14
Johnstown City	Cambria Iron Company National Historic Landmark	Along Conemaugh River in the Johnstown vicinity	June 22, 1989	District	15
Johnstown City	Cambria Public Library Building (Carnegie Public Library)	304 Washington St.	June 19, 1972	Building	16
Johnstown City	Downtown Johnstown Historic District	Bounded by Washington, Clinton, Bedford, Vine, Market Locust and Walnut Sts.	August 7, 1992	District	17

TABLE NH-4
National Register Status – Properties/Districts (cont)

Municipality	Property	Location	Date Listed	Type	Map No.
Johnstown City	Grand Army of the Republic Hall	132 Park Place	April 17, 1980	Building	18
Johnstown City	Johnstown Inclined Railway	Johns St. & Edgehill Dr.	June 18, 1973	Structure	19
Johnstown City, West Taylor Twp	Minersville Historic District	Bounded along Connelly Ave., Honan Ave., Garvey Pl. and Iron St	April 27, 1995	District	20
Johnstown City	Moxham Historic District	Bounded by Dupont St., Linden, Ave., Village St, Park and Coleman Avs	March 12, 1999	District	21
Johnstown City	Nathan's Department Store	426-432 Main St.	August 10, 1979	Building	22
Johnstown City	Old Conemaugh Borough Historic District	Bounded by Railroad St., Adams, St., Steel St., and Church Ave.	November 7, 1995	District	23
Lilly Borough	Lilly Bridge	PA Route 53 over Burgoon Run	June 22, 1988	Structure	24
Multi-Municipalities	Allegheny Portage Railroad of the PA Canal National Historic Landmark	Hollidaysburg to Johnstown - Boundaries Undefined	1966	District	25
Patton Borough	Patton Historic District	Bounded by Fifth Ave., Beech Ave., Sixth Ave, Palmer Aves. and Terra Cotta St	June 28, 1996	District	26
Portage Borough, Portage Township	Portage Historic District	Bounded by N. Railroad Ave., Prospect St., Johnson Ave. and Vine St	July 21, 1995	District	27
Portage Township	Bridge in Portage Township	PA Route 53 over Bens Creek, Oil City	June 22, 1988	Structure	28
Scalp Level Borough	Benwind-White Mine 40 Historic District (Eureka Mine No. 40)	Roughly bounded by the boney pile, Eureka No. 40 mine site, Scalp Level Borough line and Berwind--White Farmstead, Scalp Level	April 28, 1992	District	29
Scalp Level Borough	Windber Historic District	Roughly bounded by the borough line, Cambria Ave., 28th St. and the Big Paint Cr.,	November 14, 1991	District	30
Westmont Borough	Westmont Historic District (Old Westmont)	Roughly bounded by Clarion St., Edgehill Dr., Blair and Wayne Sts., Diamond Blvd. and Stackhouse Park	February 24, 1995	District	31

Other Heritage Places and Facilities

The historical landscape and its intrinsic value has long been recognized in Cambria County and several organizations are directly involved in the preservation and conservation of historical sites and facilities. These efforts have kept the County's industrial heritage intact and have contributed to the growth and development of tourism. In addition to those sites and districts listed in the National Register of Historic Places, the County is home to a number of other Heritage Related places and facilities. The following table provides a listing of these resources.

TABLE NH-5
Other Important Heritage Related Places and Facilities
Cambria County

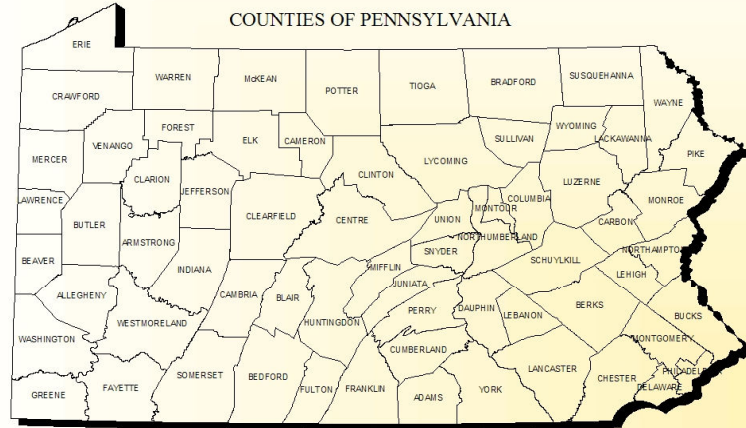
Description	Map No.
Miners Memorial Museum (Park of 1889)	32
Seldom Seen Mine	33
Portage Station Museum and Theatre	34
Eureka Mine-40	35
Gallitzin Railroad Tunnel	36
Johnstown Train Station	37
Johnstown Heritage Discovery Center/ Mystery of Steel Exhibit	38
Wagner-Ritter House and Garden	39
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Heritage Routes/Trails

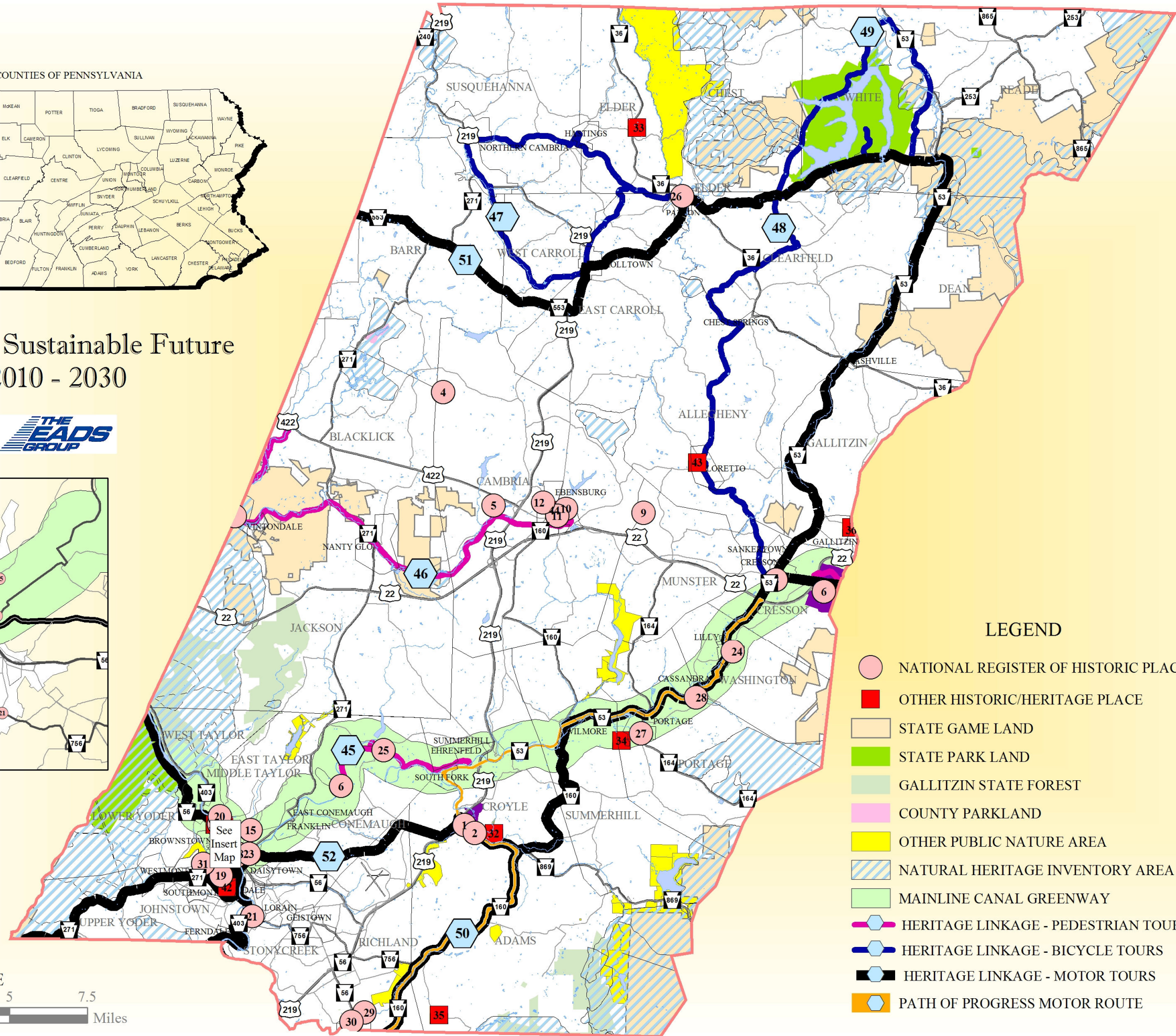
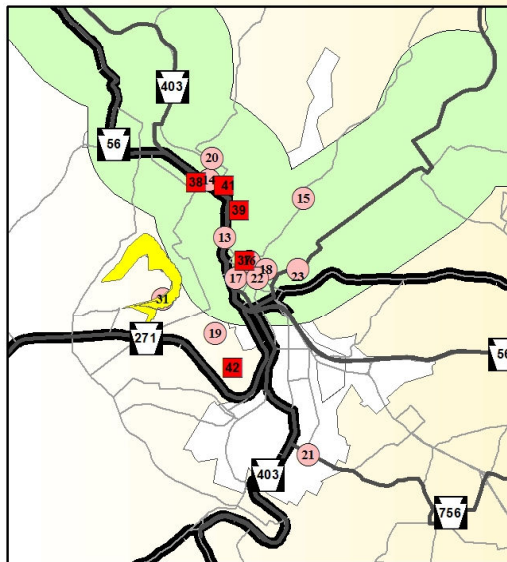
There are a number of motorized and hiking/biking trails in the region that are reflective of the County's Historic and Heritage resources. The map on the following page collectively highlights the Historic and Heritage resources and their geographic relationship to the Natural Heritage resources in the County.

TABLE NH-6
Heritage Related Routes and Tours
Cambria County

Name	Description	Category	Map No.
Path of the Flood Trail	Designated as a National Recreation Trail (NRT) within the U.S. National Trails System and generally follows the path of the great Johnstown Flood.	Heritage Linkage – Pedestrian Tours	45
Ghost Town Trail	Designated as a National Recreation Trail (NRT) and derives its name from numerous mining towns that once existed along the railroad corridor.	Heritage Linkage – Pedestrian Tours	46
Bituminous Blast On Road Bicycle Tour	A 19.9 mile route through villages, small towns and farmlands including the Gallitzin Tunnels and Seldom Seen Tourist Mine	Heritage Linkage – Bicycle Tours:	47
Castle Tower On Road Bicycle Tour	A 20.6 mile route that includes a scenic view of the Castle Tower located in Loretto, which was built by Charles Schwab for his own water supply and the St. Francis Monastery Gardens.	Heritage Linkage – Bicycle Tours	48
Marina Mania On Road Bicycle Loop	A 18.7 mile on-road bike route through the Allegheny Plateau Region of Northern Cambria County and includes a side trip to Seldom Seen Tourist Mine.	Heritage Linkage – Bicycle Tours	49
Path of Progress Driving Route	This route is a 500 mile rolling to hilly national heritage driving route that winds through Cambria County as well as eight other southwestern Pennsylvania counties. The tour route is linked to industrial and cultural heritage sites within the County.	Heritage Linkage – Motor Tours	50
Floods, Mines & Inclines Motorcycle Tour	This designated Motorcycle tour loops through Cambria, Indiana and Blair Counties and is designed to feature sites related to the areas floods, mines and inclines.	Heritage Linkage – Motor Tours	51
Allegheny Mountains Motorcycle Tour	This designated Motorcycle tour is approximately 155 miles in lengths and loops through for through gently rolling hills that dip down into farm-filled valleys of the Allegheny Mountains.	Heritage Linkage – Motor Tours	52



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LEGEND

- NATIONAL REGISTER OF HISTORIC PLACES
- OTHER HISTORIC/HERITAGE PLACE
- STATE GAME LAND
- STATE PARK LAND
- GALLITZIN STATE FOREST
- COUNTY PARKLAND
- OTHER PUBLIC NATURE AREA
- NATURAL HERITAGE INVENTORY AREA
- MAINLINE CANAL GREENWAY
- HERITAGE LINKAGE - PEDESTRIAN TOURS
- HERITAGE LINKAGE - BICYCLE TOURS
- HERITAGE LINKAGE - MOTOR TOURS
- PATH OF PROGRESS MOTOR ROUTE



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Historic and Heritage Promotion

Cambria County is located within the promotion extents of at least six (6) County/Regional/Sub Regional Tourism promotion type agencies and associations, including:

- ❑ The Allegheny Ridge Heritage Area - administered by the Allegheny Ridge Corporation (ARCorp).
- ❑ The regional *Alleghenies* tourism brand administered by the Southern Alleghenies Planning and Development Commission.
- ❑ Portions of the Region are within the regional Laurel Highlands (*The Laurels*) Conservation Landscape Initiative administered by the Pennsylvania Department of Conservation and Natural Resources.
- ❑ On a county level by the Greater Johnstown/Cambria County Convention and Visitors Bureau Tourism and Promotion Agency (TPA).
- ❑ On a sub-region level by the Johnstown Area Heritage Association (JAHA)
- ❑ On a sub-region level by the Gallitzin Area Tourist Council

The following further describes these six (6) entities.

Allegheny Ridge Heritage Region - The cities of Altoona and Johnstown mark the anchor communities of the Allegheny Ridge Heritage Area. The Heritage Region primarily focuses on the Allegheny Portage Railroad and the Johnstown Flood story. The Allegheny Ridge Heritage Area also celebrates the region's iron, steel, and coal industries.

The Alleghenies Regional Tourism Brand - The Alleghenies Region comprises six adjoining counties in south-central Pennsylvania: Cambria, Somerset, Blair, Bedford, Fulton, Huntingdon, and, in some cases, Centre County. The Alleghenies Tourism Council was established to oversee this effort in 1995. The Alleghenies brand establishes a strong identity for a region that is rich in history and long on natural beauty and that possesses a superb quality of life.

The Laurel Highlands Conservation Landscape Initiative – “*Laurels*”- Throughout the commonwealth, large regions are working together to drive strategic investment and actions around sustainability, conservation, community revitalization, and recreational projects. these collaborations are developing in landscapes where there are strong natural assets, local readiness and buy-in, and state level investment support. Based on mapping prepared by the PA DCNR, the southern portion of the County is included in the Laurel Highlands CLI.

County Tourism Agency - Cambria County is also represented by the Greater Johnstown/Cambria County & Visitors Bureau (CVB). The CVB is the official tourism promotion agency of Cambria County. The CVB operates as Tourism Promotion Agency (TPA) which is an independent, non-profit organization, that work in support of an area's visitor industry. The goal of the CVB is to generate revenues through tourism from meetings, conventions, special events, attractions, and leisure travel. The CVB encourages the public to recognize their community as a tourism destination and reap the economic benefits tourism provides.

Johnstown Area Heritage Association (JAHA) - JAHA is a non-profit organization that exists to preserve and present the region's nationally significant stories through museums, special events, cultural & educational programming, and historical collections. JAHA has developed the Johnstown Discovery Network that focuses on telling the stories of Johnstown including

immigration, the 1889 flood, the steel industry and more. The Johnstown Discovery Network brings the area heritage to life through a linked system of attractions and historic districts within about a mile of downtown Johnstown. It includes the Johnstown Flood Museum, Frank & Sylvia Pasquerilla Heritage Discovery Center, and Wagner-Ritter House & Garden, the Johnstown Children's Museum, The Downtown Johnstown and the Cambria City National Historic Districts.

The Gallitzin Area Tourist Council – The Tourist Council is a member of the Allegheny Mountain Magic. The Allegheny Mountain Magic group was formed to promote the "top" of the Allegheny Mountain - the Route 53 Corridor, where there are ideal train watching spots, historical sites, and great dining & lodging destinations. This region is an ideal vacation spot - to get away and enjoy the hospitality of small towns. The Gallitzin Tunnels Park & Museum houses the Allegheny Mountain Magic Info Center.

Historic/Heritage Preservation

In Cambria County, there is no central agency responsible for historic preservation or the management of historic resources. However there are a number of private local historical societies in Cambria County that are devoted to the preservation, enhancement, and study of historic attributes. Many of the County's historic preservation agencies or associations own or manage local historic museums, sites, or structures. Presented below is a listing of the various local agencies that are dedicated to preserving Cambria County's historical and cultural resources.

- ❑ *Cambria County Historical Society* - On February 7, 1925, six prominent citizens of Cambria County associated themselves together for the purpose of organizing the Cambria County Historical Society. Since that time, the staff, volunteers, and members of the Society have remained committed to the organization's mission. The society's goal is "To preserve and promote the history of Cambria County through its museum collections, library, and archives." The Historical Society is located in Ebensburg.
- ❑ *The Portage Area Historical Society* – The Society was formed in 1992 as a 501(c)(3) charitable foundation. The Society is dedicated to the preservation, education and exploration of the rich history of Portage and the surrounding local area. The Historical Society manages the Portage Station Museum located in the 1926 original (restored) railroad depot building in Portage. The museum contains extraordinary displays of area history and culture formed through the influences of coal mining, railroads, steel, forests, water, and recreation. Dedicated volunteers staff, manage, and operate the museum, its programs and activities.
- ❑ *Cresson Area Historical Association* - The purpose of Cresson Area Historical Association (C.A.H.A., Inc.) is to educate, collect, preserve, display, and house all historical items, pictures, artifacts, and memories of the past, present, and future of the Cresson Area, so that the citizens, tourist, and youth of today can learn and enjoy the history of the "Mainline" Area.

Development Constraints

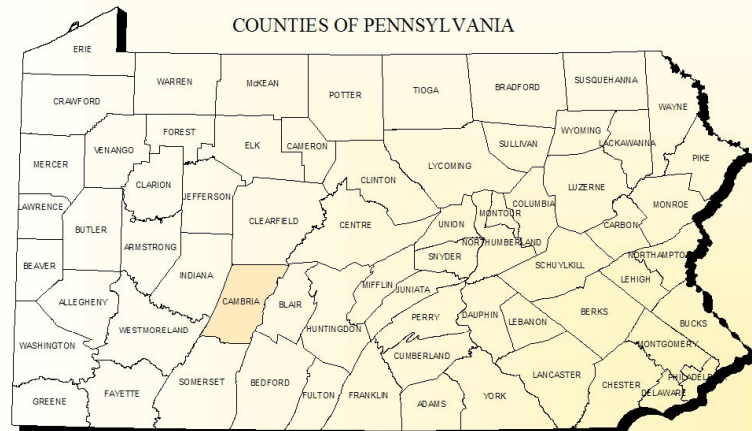
Without question, the most important and most complicated of planning recommendations are those involving the future use of land since it involves the interpretation and synthesis of *all of the factors reviewed as existing conditions*, especially the natural features analyzed in this chapter. In formulating a *future land use plan*, a number of factors must be considered. Primarily important among these are:

- ❑ location and amount of undeveloped and/or public recreation land;
- ❑ physical characteristics of the land such as soils, slope, water resources and related features;
- ❑ active agricultural land, hydric soils, wetlands and floodplains; and
- ❑ Natural Heritage Inventory designated areas.
- ❑ existing developed areas and transportation network

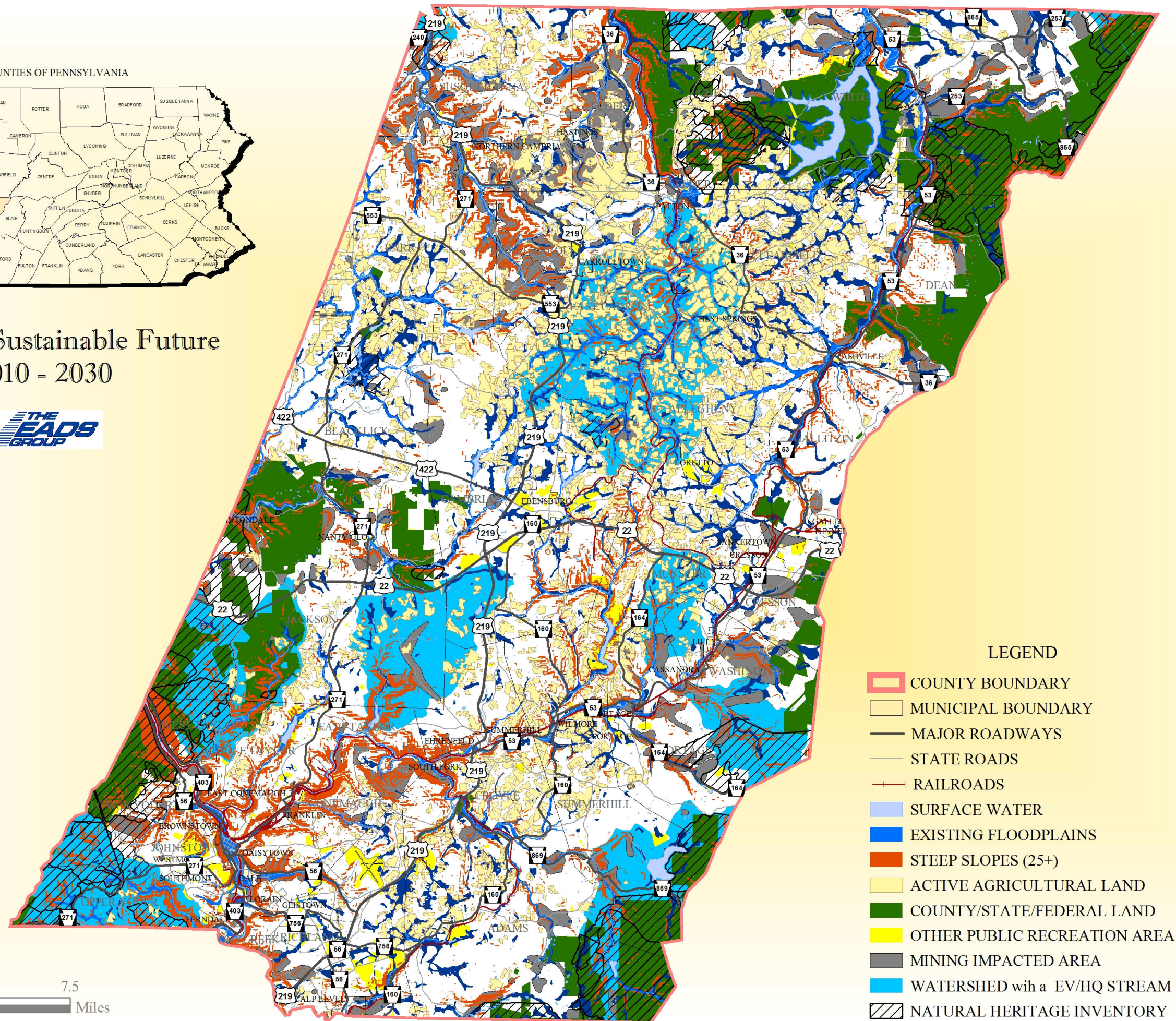
Taken together, the above frame the developmental constraints and opportunities that affect future land use planning. The real value of information on Natural Resources is to provide the planning context for future land use planning, be it in the form of new development or conservation. Furthermore, in Cambria County, the natural resources also have context in terms of economic development and quality of life for current residents.

The physical limitations are especially important and a Development Constraints Map on the following page has been prepared to provide a context for future land use planning. The map graphically depicts the location of *potentially critical* physical constraints that may affect the location and/or areas that may require special measures to accommodated development.

The following Development Constraints Map graphically depicts the possible result of guiding development away from these resources into what is identified as “the white areas” (i.e. areas having no constraints). The physical constraints need not prohibit development per se, but may raise philosophical questions over the preservation and future role of agriculture or open space and special construction activities required to sustain some form of development. In other words, future development will require careful planning to accomplish community and economic development within the physical limitations presented. This may require the use of special construction techniques.



Toward a Sustainable Future
2010 - 2030



LEGEND

- COUNTY BOUNDARY
- MUNICIPAL BOUNDARY
- MAJOR ROADWAYS
- STATE ROADS
- RAILROADS
- SURFACE WATER
- EXISTING FLOODPLAINS
- STEEP SLOPES (25+)
- ACTIVE AGRICULTURAL LAND
- COUNTY/STATE/FEDERAL LAND
- OTHER PUBLIC RECREATION AREA
- MINING IMPACTED AREA
- WATERSHED with a EV/HQ STREAM
- NATURAL HERITAGE INVENTORY



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