

Chapter 2. WESTMORELAND COUNTY



Photos by Stephen Simpson

Above - Jacobs Creek, Right - Flooded horse farm near Indian Creek

Westmoreland County is rich in water. It has approximately 2,037 miles of streams (according to PA DEP) with 131 named streams, 8.5 square miles of water, and about 2,200 acres of wetlands. With a population of over 350,000 people, personal interaction with water resources is a very common benefit of living here. Whether it's paddleboating on a lake in a county park, fishing along one of our many streams, or turning on a tap for a drink, our citizens enjoy frequent contact with water. On the other hand, our county has 4,713 miles of road, about half of which are in close proximity to a stream, leading to erosion of road shoulders, damage to bridges and culverts, flooding, and pollution. Countywide, the 2010 census data showed that 9,188 people lived in the 100 year floodplain, putting them at physical risk as well as increasing their risk of economic and property damage. Flooding issues however are not restricted to floodplains, as almost everyone knows someone who has had water in their basement or garage, with accompanying damage, even if they are not in a Federal Emergency Management Agency (FEMA) designated floodplain. So although our county residents benefit from our water resources, they also are faced with several water related concerns.

HISTORY

Our county's earliest inhabitants, the Native Americans, had an intimate familiarity with our county's creeks and rivers. The Native Americans used the numerous streams for both food supply and travel. In a heavily-forested wilderness, the routes of the creeks and rivers made natural paths for the Delaware, the Lenape, and other tribes. The names which these native peoples gave the streams continue to this day.

Native American Stream Name	Meaning
Sewickley	<i>sweet water</i>
Kiskiminetas	<i>plenty of walnuts</i>
Conemaugh	<i>otter stream</i>
Loyalhanna	<i>middle stream (between the Juniata and the Ohio)</i>
Monongahela	<i>stream with falling (unstable) banks</i>
Allegheny	<i>best flowing river of the hills</i>
Youghiogheny	<i>stream flowing in a contrary direction</i>



Photo by Mark Jackson

Fly fishing on Loyalhanna Creek near Ligonier.

Our county's first European settlers arrived in the mid 1750s, about the time of the French and Indian War (1754-1763) and were both English- and German-speaking. The expedition of 1758 by General John Forbes to capture the site of Pittsburgh from the French led to the construction of Fort Ligonier along the Loyalhanna Creek. In 1768 the town of Hannastown was settled; it consisted of 30 log homes, two taverns, and a timber fort.

Westmoreland County was established on February 26, 1773, through an approved Act of Assembly by Governor Richard Penn. It was the



Photo by Mark Jackson

Historic Fort Hannastown, Greensburg, PA



Photo by Kathy Hamilton

Tavern and kitchen at historic Hannastown, Greensburg, PA

first county in Pennsylvania located entirely west of the Allegheny Mountains. Hannastown was the county's first seat, and was home to the first English court of law west of the Allegheny Mountains from 1773 to 1787.

As early settlers pushed westward, they followed the native paths and the streams. Traveling to the 'Northwest Territory' (now called Ohio) in 1788, a group of New Englanders led by General Rufus Putnam followed the historical Glades Pike (now Route 31) to the Youghiogheny River. At the location we now know as West Newton, they built boats and traveled down the Youghiogheny, the Monongahela, and the Ohio Rivers to get to their new homes – the first of many frontier excursions launched at West Newton.

Westward expansion, the growing need to export agricultural products, and the advent of the coal and iron industries in Western Pennsylvania led to important water-based transportation improvements. During springtime high water, it was relatively easy to float down many of Westmoreland County's streams. Summertime, however, was a different story. The 1830s saw the construction of some rudimentary low-head dams on area rivers to create higher water for boats, and in 1831 the first canal boats were able to travel from Johnstown to Pittsburgh by the state-authorized route of the Main Line of Public Works, as the canal was called, which followed the Conemaugh, Kiskiminetas, and Allegheny Rivers. The Johnstown Flood of May 31, 1889, which killed over 2,200 people, was caused by the collapse of a large earthen dam



Photo by Kathy Hamilton

Canal boat model from the C&O Canal Museum

which had originally been built to help supply water to the Pennsylvania canal system. At the time it was built, the South Fork Dam was the largest in the country.

As the railroads pushed west, they also followed the rivers, because water routes have relatively gentle slopes for trains to ascend. By 1854, the Pennsylvania Railroad had built its (then) two-track main line through Westmoreland County, following the Conemaugh River in the east and, the Brush Creek valley in the west all the way to Turtle Creek and the Monongahela River. The demand for water by Pennsylvania's locomotives led to the construction of various reservoirs along its routes, including the Indian Creek water system comprised of a large masonry dam in Fayette County and a large-diameter water main running from there all the way to the Main Line in Westmoreland County.

The industrialization of Westmoreland County placed serious demands on water resources. In order to mine coal, water had to be pumped out of active mines, and this water was simply discharged into the nearest stream. Water was also used for washing and sorting coal



The Pennsylvania Railroad built bridges and tunnels, moved mountains and relocated streams, bending nature to their will for many years as the economic powerhouse in the state. Today many of the civil works of the railroad remain in daily use, well over a century after their construction.

Photo by CJ Bolish

and to quench coke ovens – in all, estimates are that the coal mining process used between 800 and 3,000 gallons of water per ton of coal produced. Coal was first mined near Fort Pitt in 1761. By 1910, 44,252 of the 55,166 coke ovens in Pennsylvania were located in the Connellsville Coke Region, stretching from Latrobe in Westmoreland County to the middle of Fayette County. In 1918, Pennsylvania's peak coal-production year, 330,000 miners produced 277,000,000 tons of coal – much of it in Westmoreland County. Our county's steel (Monesen and Latrobe), glass (Jeannette), and aluminum (New Kensington) industries active up until the late 1970s, also used water for various processes. Before the passage of the Federal Water Pollution Control Act in 1948, any wastewater was simply dumped in the rivers. In fact, one of the reasons for construction of the Youghiogheny Dam in 1943 was to dilute pollution in the Monongahela, so as to provide a source of clean water during times of low flow.



Source - Westmoreland County Parks

Coke ovens at Mammoth County Park c. 1990; the ovens have since collapsed and were removed.

In 1913, the automobile was still in its infancy. Those that had cars found road conditions were often unsuitable for driving. City streets were paved, but rural roads were primarily dirt tracks connecting farmlands. Automotive executive Carl Fisher's idea of a cross-country highway took shape in the Lincoln Highway (Route 30). In Pennsylvania, much of the Lincoln Highway was constructed by improving and linking up pre-existing roads, like portions of Forbes Road in Westmoreland County. By 1926, the federal government had established the major cross-country routes such as US 22 (the William Penn Highway) and US 30. The construction of the PA Turnpike in 1940 (its western terminus was at Irwin on Route 30) and Interstate 70 westward from New



Photo by Kathy Hamilton

The Lincoln Highway Experience roadside attraction at Kingston Dam, which is between Latrobe and Ligonier

Stanton sealed our county's destiny as a transportation hub. Today there are over 8.9 million daily vehicle miles of travel in our county!

Westmoreland County's development spread naturally along the rivers and creeks, and with limited flat land available, encroachment on the



Photo by Mark Jackson

The Pittsburgh Model A Ford Club participates in the annual Fort Ligonier Days Parade in downtown Ligonier, PA. Ligonier is a Lincoln Highway Community.

floodplain became inevitable. Before the advent of large earthmoving equipment, floodplains were the only flat land to be found, and industry and towns built there. Buildings in a floodplain are vulnerable to damage or destruction, and placing fill to elevate them out of the floodwater merely shifts the damage elsewhere as natural flood storage areas are lost. The Saint Patrick's Day Flood of 1936, Hurricane Agnes in 1972, the 1977 Johnstown flood, and the Election Day flood of 1985 are milestones in our county history. Floods have always been Westmoreland County's number one natural disaster, yet for many years the lure of developing cheap flat land in the flood plain prevailed.



Photo - Pittsburgh Post-Gazette

Saint Patrick's Day Flood of 1936, at the confluence of the Allegheny and Monongahela Rivers, Pittsburgh, PA

People need water. Our earliest settlers located near water; many of our oldest farmhouses have a springhouse nearby. As the towns grew into cities, the need for water supplies continued to expand. Studies show that one hundred years ago, the average household used five gallons per person per day. Of course this was to be expected when one would have to pump and carry all the water by hand. Today, an average residential user will need 65 gallons per day. There are ten water-providing authorities in Westmoreland County serving over 170,000 customers with more than 100 million gallons daily. Some residents have a private water supplier, but the more rural population relies on individual drinking water wells.



Source - Google

Morning glory intake structure at Beaver Run Reservoir

Westmoreland County also has 41 sewage treatment authorities serving over 180,000 customers and treating more than 65 million gallons daily. Other residents rely on small privately-operated sewage treatment plants, and the more rural populations rely on either individual septic systems to treat their wastewater or 'wildcat' sewers discharging to streams or mines. Combined sewers – (a single pipe under the

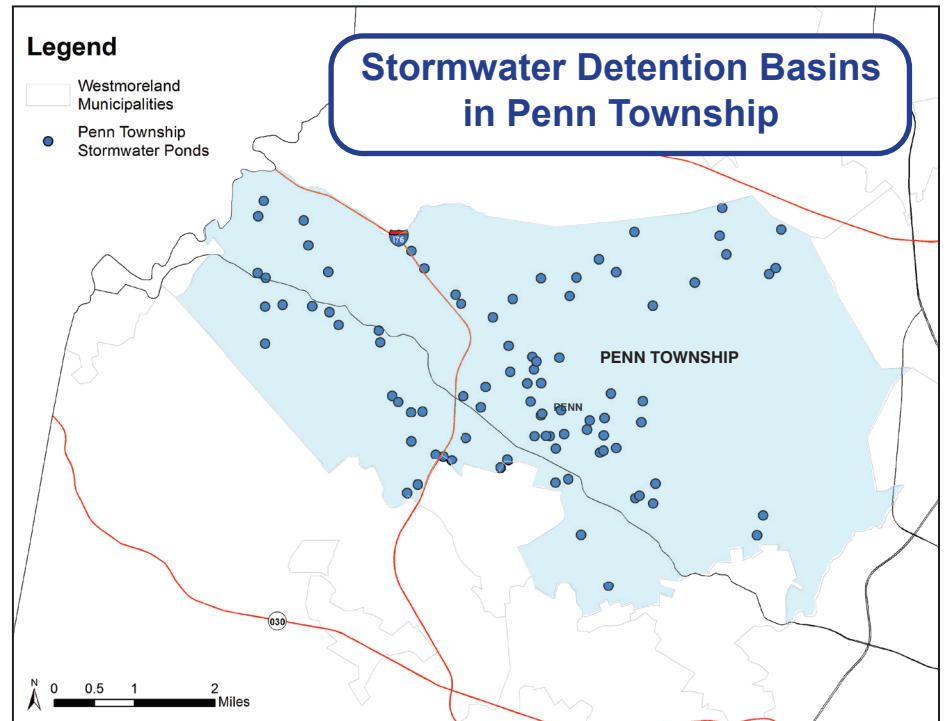


Source - Google

Aerial view of FTMSA sewage treatment facility in Murrysville PA

street that carries both sewage and stormwater) are common in our older communities and are a major source of stream and river pollution in the Pittsburgh area. Combined sewer overflows (CSOs) occur when storms overload the systems and discharge into our waterways.

Aside from requiring drinking water, and generating wastewater, our population growth (and population sprawl) generates more stormwater than ever before. Each rooftop, driveway, and parking space (no matter how infrequently someone parks there), generates stormwater runoff and stormwater pollution. A single residential rooftop in a one inch rain will generate over 600 gallons of runoff. This is not much, but in a developed township with several thousand houses, it adds up to millions of gallons of stormwater.



Data from Penn Township

The number of detention ponds in Penn Township indicates the degree of development there.

OHIO RIVER BASIN

“Despite the state’s overall abundance of water, it is a finite resource and not always sufficiently available in areas where it may be needed. Through wise planning and proper management, water resources can be a renewable resource. Water conservation and sound water management strategies are essential to ensure that adequate water supplies will be available to protect public health, sustain economic development and protect agricultural and natural resources of the commonwealth.”
- from the *Pennsylvania State Water Plan*

In 2002, Pennsylvania passed the Water Resources Planning Act (Act 220) to provide guidelines for future water resource planning that will influence the future allocation of groundwater and surface water. It mandated the development of a State Water Plan by 2008, and required that it be updated every five years. The State Water Plan is a non-regulatory guidance document that shows how much water we have, how much we use, and how much we will need in the future with the intent to minimize future conflicts over water. Act 220 established a statewide water withdrawal and use registration and reporting program, whereby large scale water users (greater than 10,000 gallons per day) should register their use. Users of less than 10,000 gallons per day are encouraged to register as well. The Act called for the identification of critical water planning areas (those areas where existing or future demand will exceed the water available), the creation of critical area resource plans for each of the designated critical areas, and general regional plans and priorities. It also established a voluntary water conservation program.

Last updated in 2009, Pennsylvania’s State Water Plan is a roadmap for the future of our water resources. The Pennsylvania State Water Plan divides the state into six major watershed regions. Westmoreland County is in the westernmost region – the Ohio River Basin, which drains to the Mississippi River. The 981 miles of the Ohio River from Pittsburgh, PA, to Cairo, Illinois, drain over 200,000 square miles in 15 states. The Ohio Region is the second largest basin in Pennsylvania covering 15,614 square miles, which only accounts for less than one tenth of the entire Ohio River basin. Westmoreland County contributes just over 1,000 square miles to the Ohio River Basin, draining to four of its seven major tributaries: Allegheny River, Kiskiminetas and Conemaugh Rivers, Youghiogheny River, and the Monongahela River.

Westmoreland County - USA Watershed View



Source - Sewickley Creek Watershed

The Water Resources Planning Act created regional water resource committees to ensure individual regional priorities were developed and highlighted in the State Water Plan. The following goals identified by the Ohio Regional Water Resources Committee reflect specific concerns regarding water quality and quantity in the region:

- Reclaim water resources impaired by abandoned mines
- Identify water resources needed to promote and facilitate economic development
- Reduce and avoid impacts that may lead to contamination
- Control stormwater runoff and promote groundwater infiltration
- Resolve problems associated with aging infrastructure
- Develop plans for water resources during shortage emergencies
- Protect and restore water resources
- Develop and encourage use of appropriate applied technology
- Identify water resources needed for economic development; and
- Distinguish the Ohio River Basin.

– Summarized from the PA State Water Plan

NATURAL FEATURES

GEOLOGY

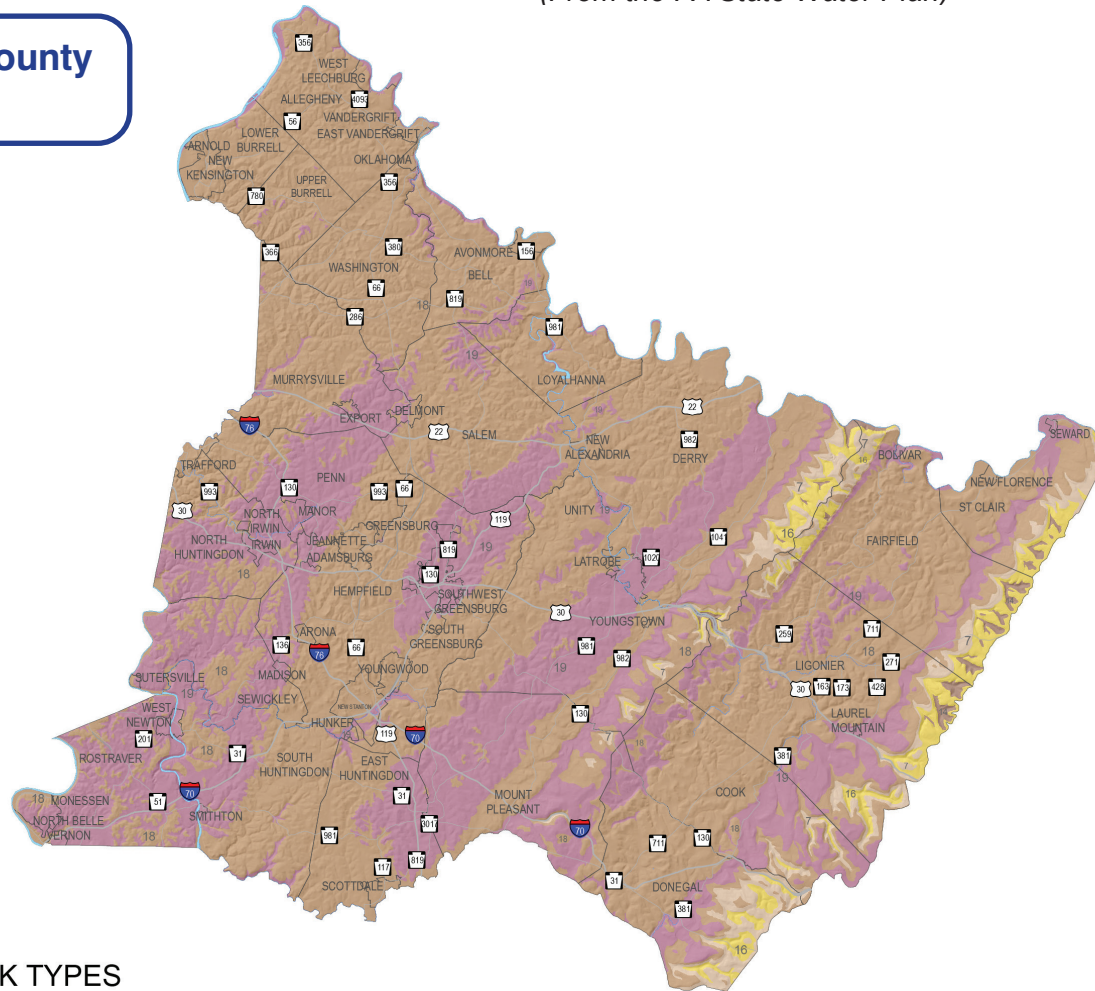
Westmoreland County lies in the Appalachian Plateau Province of Pennsylvania and is divided by the Pittsburgh Low Plateau Section in the west and the Allegheny Mountain Section along the eastern ridges (Chestnut and Laurel Hill), with the extreme southwestern part of the county in the Waynesburg Hills Section. The county includes an array

of geologic features with wide ridges, flat uplands, and valleys filled with alluvial deposits.

Bedrock in the county consists mostly of shale, sandstone, and siltstone, with widespread coal deposits. The variety of geologic formations creates a varied drainage pattern of surface water. Often groundwater travels to the nearest stream valley instead of moving deeper into the groundwater system. The concentration of cracks and fractures in the bedrock, however, increases infiltration rates and contributes to groundwater recharge.

(From the PA State Water Plan)

Westmoreland County Geology



ROCK TYPES

- 7. Red sedimentary rocks*
- 14. Sandstone*
- 16. Sandstone, conglomerate
- 18. Mixture of rock types*
- 19. Mixture of rock types*

SOILS

Pennsylvania's diverse geological formations have allowed for the development of a variety of soils. Most of our county's soils are a mix of silt and clay particles. Such soils are relatively easily molded when wet, can be compacted tightly, and have a slow rate of water movement. This allows someone to make a pond on their property – and indeed there are many ponds in Westmoreland County.

One water quality benefit of clay soils is that the clay particles, which have a slight negative charge, may capture and immobilize certain types of pollutants found in stormwater runoff, whereas in a sandy soil those pollutants might pass right through. The downside of the silt and clay soils is that these soils will have a higher rate of water runoff than a more sandy or gravelly soil. Land disturbance in a clay or silt soil will often compact a site's soils to the point where they are practically impervious, resulting in high runoff during storms. There are many soils in the Allegheny Plateau that have fragipans from 1-2 feet in depth composed of dense silt loams and loams which limit permeability.

There are approximately 125 soil types identified across Westmoreland County which can be grouped into eight main soil associations shown on the following map:

- (1) Laidig Hazelton Dekalb Association – Deep and moderately deep, well-drained to somewhat poorly drained soils on ridges; underlain by acid, gray shale and sandstone. This association occurs mainly on the Chestnut Ridge and Laurel Hill in the eastern part of the county at elevations below the Freeport coal seam.
- (2) Leck Kill Klinsville Calvin Association – Moderately deep, well-drained, red soils on ridges. This association occurs in the eastern part of the county on the upper most parts of Chestnut Ridge and Laurel Hill.
- (3) Philo Monongahela Atkins Association – Deep, moderately well drained to poorly drained soils on terraces and floodplains. This association occurs along the larger streams in the county.
- (4) Wharton Rayne Gilpin Association – Deep and moderately deep, well drained to somewhat poorly drained soils over acid, gray shale and siltstone. This association is steep, hilly and is generally found at elevations below the Pittsburgh coal seam.

(5) Dormont Culleoka Clarksburg Association – Deep and moderately deep, well drained to somewhat poorly drained soils over interbedded sandstone, shale, and limestone. This association consists chiefly of rounded hills that have long smooth, convex slopes, and of nearly level to gently sloping benches and fans. This association is mainly found in the west-central part of the county and is found at elevations above the Pittsburgh coal seam.

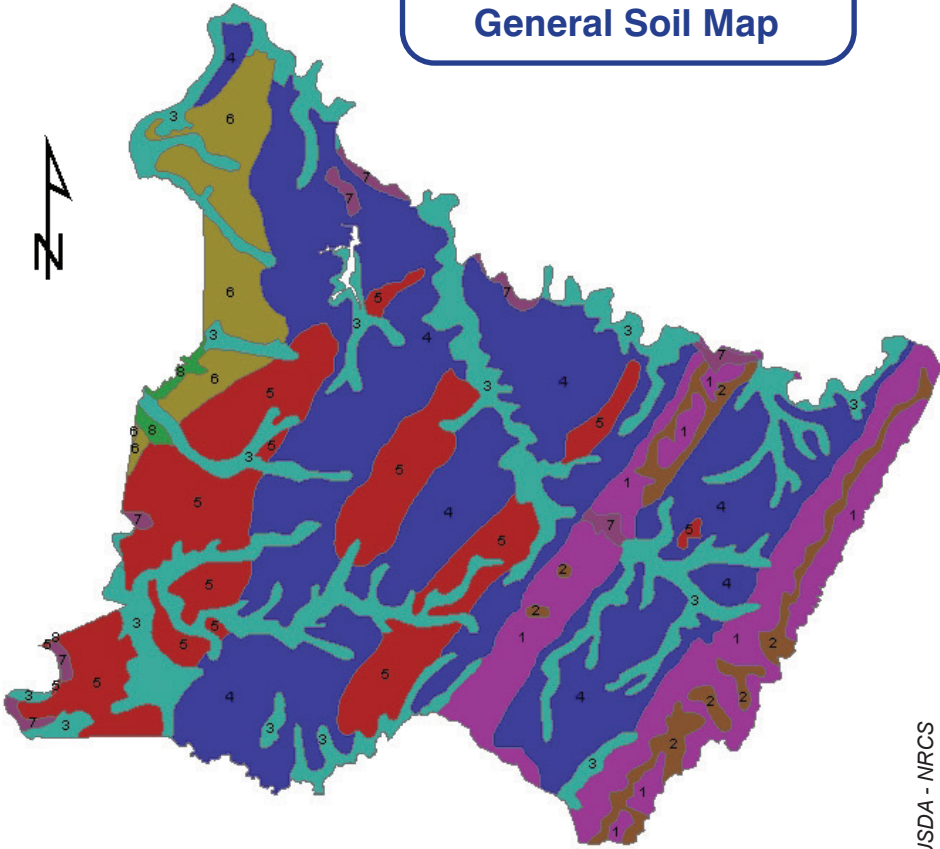
(6) Wharton Weikert Gilpin Association – Deep and moderately deep, well drained and moderately well drained soils over red and brown clay shale, siltstone, and sandstone. This association is gently sloping to steep and occurs in the northwestern part of the county. The steeper and more dissected slopes are nearer to the larger streams.

(7) Weikert Gilpin Ernest Association – Shallow, well drained, rocky soils on escarpments along streams. This association occurs as escarpments cut by Loyalhanna Creek and the Kiskiminetas, Conemaugh, Allegheny, Youghiogheny and Monongahela Rivers. The largest areas occur where the streams have cut across Chestnut Ridge and Laurel Hill. Most of the geologic formations in the county are exposed to these cuts. The rocks include sandstone, shale, siltstone and limestone.

(8) Newark Dormont Association – This association occurs along portions of the Turtle Creek corridor on the western edge of the county.









One particular type of soil found in Westmoreland County is more susceptible to landslides than others. The Gilpin-Upshur soils are found primarily in the northwest part of the county, although pockets exist elsewhere. These soils, sometimes called the "Pittsburgh Red Beds" are indeed a deep reddish or maroon color and have a high clay content. When wet, they can slip and slide, causing property damage. Many other soils in our county may slide if certain factors are present. Factors leading to landslides include overloading the top of a slope, excavating away the bottom of the slope, introducing extra water into slope soils, and dumping incompetent fill materials on a slope. Control of water in the soil is the principal way to prevent landslides. The use of subsurface drains, often called tile drains or French drains, can carry away excess groundwater and help stabilize a soil. Proper placement and compaction of soils on a slope will also help prevent landslides.

**Westmoreland County
General Soil Map**



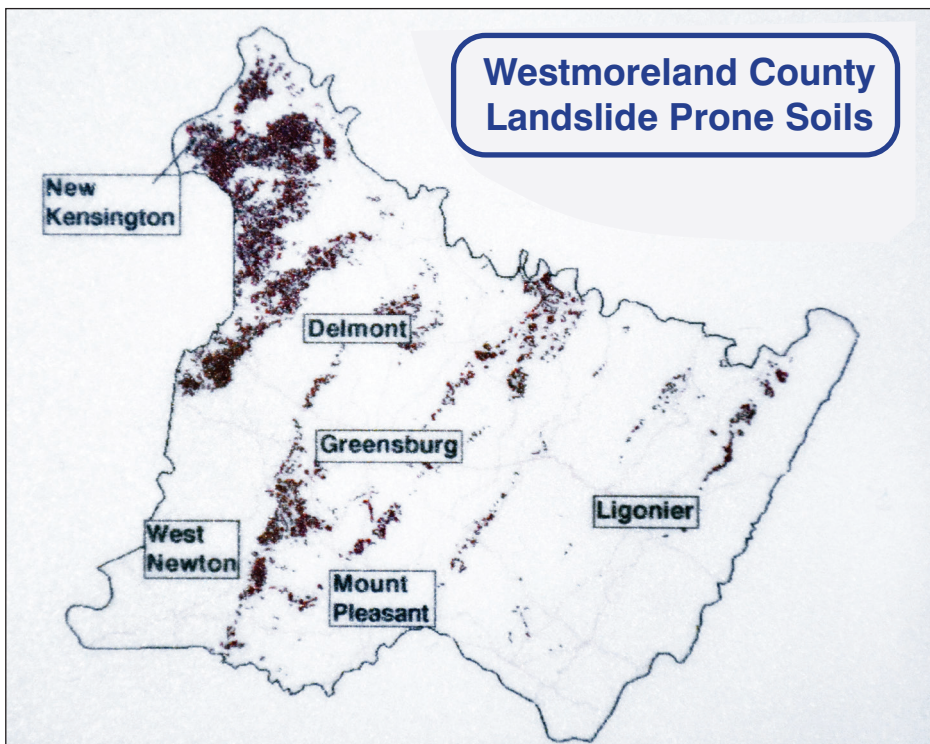
General Soils Map

GSM

- | | |
|--|---|
|  1 Laidig Hazleton Dekalb |  5 Dormont Culleoka Clarksburg |
|  2 Leck kill Klinesville Calvin |  6 Wharton Weikert Gilpin |
|  3 Philo Monongahela Atkins |  7 Weikert Gilpin Ernest |
|  4 Wharton Rayne Gilpin |  8 Newark Dormont |

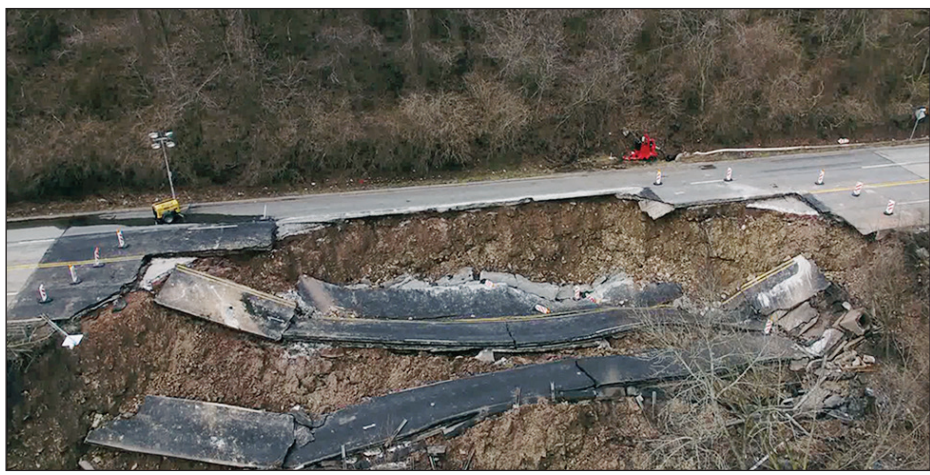
Source - USDA - NRCS

**Westmoreland County
Landslide Prone Soils**



Upshur-Gilpin soil map

Source - WCD John Millen Soil Display



Recent landslide on Route 30, East Pittsburgh

Photo by KDKA-TV

VEGETATION

Pennsylvania is home to a variety of native species from club mosses, grasses, sedges, rushes and wildflowers to woody shrubs, deciduous trees, and evergreens. The PA Department of Conservation and Natural Resources (DCNR) reports over 2,100 native species adapted specifically to our local climate and conditions like rainfall and soils. In addition to native plants, there are over 1,300 non-natives which have been introduced to the local environment since Europeans settled in the area starting in the 1700s. Both native and non-native plants provide habitat and food for insects, birds, animals, and more. They help



Photo by Kathy Hamilton

Mountain Laurel

stabilize soil and streambanks and provide the necessary evapotranspiration to complete the natural water cycle by capturing rainfall, pulling it out of the soil, and transpiring it back into the air. Plants also perform many functions for people like filtering water, storing carbon, providing food, medicine, and raw materials for construction as well as contributing aesthetics to our environment and opportunities for recreation.

Visit www.dcnr.pa.us for more information on native plants and invasive species.

Vegetation can also be used for phytoremediation to clean up contaminated environments. Plants can help clean up many types of contaminants including metals, pesticides, explosives, and oil. Certain plants are able to remove or break down harmful chemicals from the ground when their roots take in water and nutrients from the contaminated

soil, sediment, or groundwater. Plants also help prevent wind, rain, and groundwater flow from carrying contaminants away from the site to surrounding areas or deeper underground.

Phytoremediation can be beneficial for many reasons. It takes advantage of natural plant processes and requires less equipment and labor than other methods since plants do most of the work. Also, the site can be cleaned without digging up and hauling soil or pumping groundwater, which saves energy. Trees and smaller plants used in phytoremediation help control soil erosion, make a site more attractive, reduce noise, and improve surrounding air quality.

For more information visit <https://www.epa.gov>



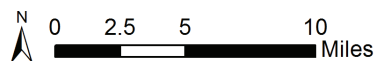
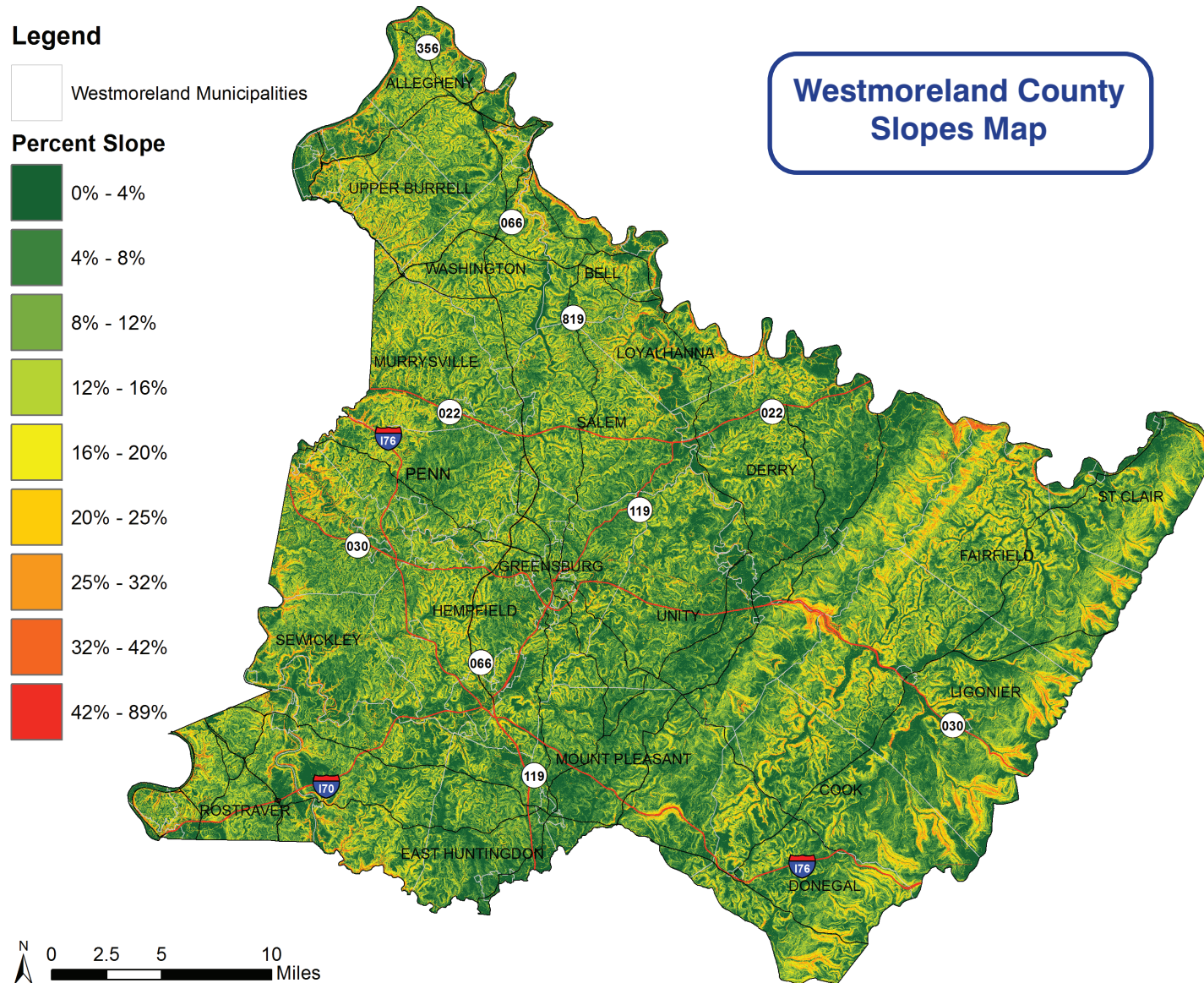
Photo by Chris Droste

Phytoremediation on industrial site in New Stanton, PA

SLOPES

From the higher elevation Laurel Ridge and Chestnut Ridge in the east, to the steep-sided creek valleys on our county's western side, there is not much natural flat land in Westmoreland County. Steep

slopes cause increased stormwater runoff, and what runs off will have a higher velocity, leading to erosion of soils and channels.



ELEVATION

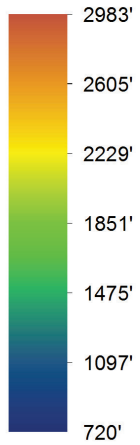
Much of the elevation change in our county is concentrated in the east, where the two ridges rise abruptly from the surrounding land. The high ridges limit most development activity to the western two-thirds of our

county. At the higher elevations, the steepness of the slopes and the rocky thin soils make it difficult to drill for clean water and to dispose of waste water.

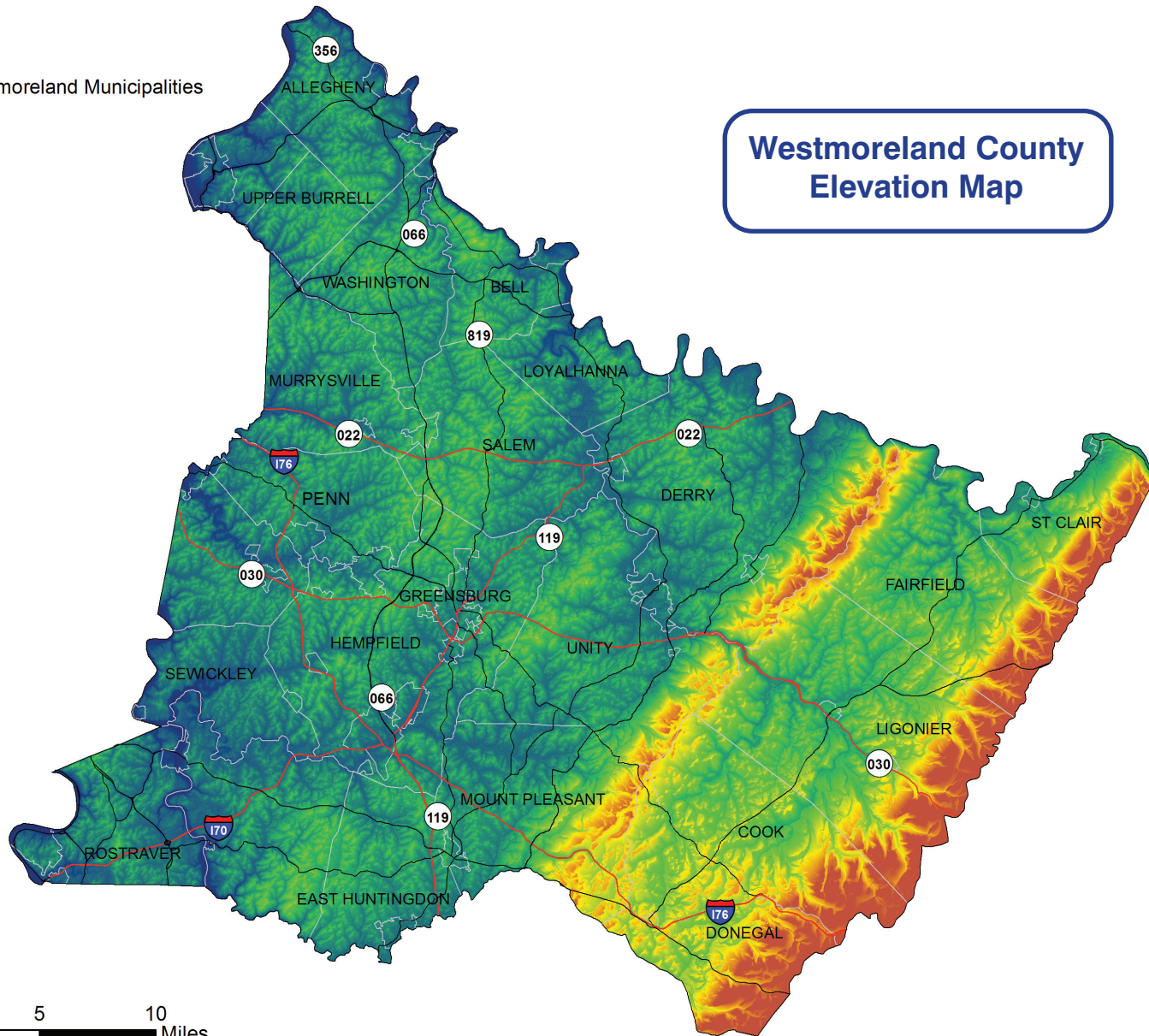
Legend

 Westmoreland Municipalities

Elevation



Westmoreland County Elevation Map



Source - PASDA

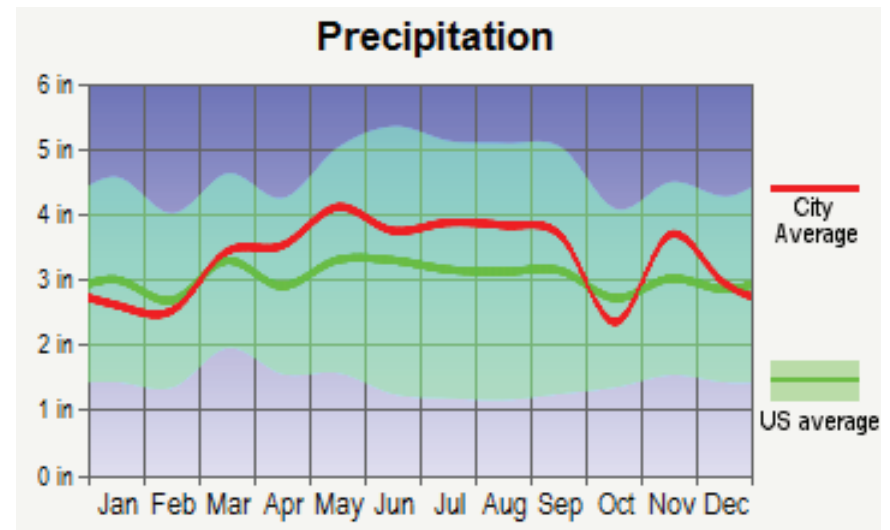
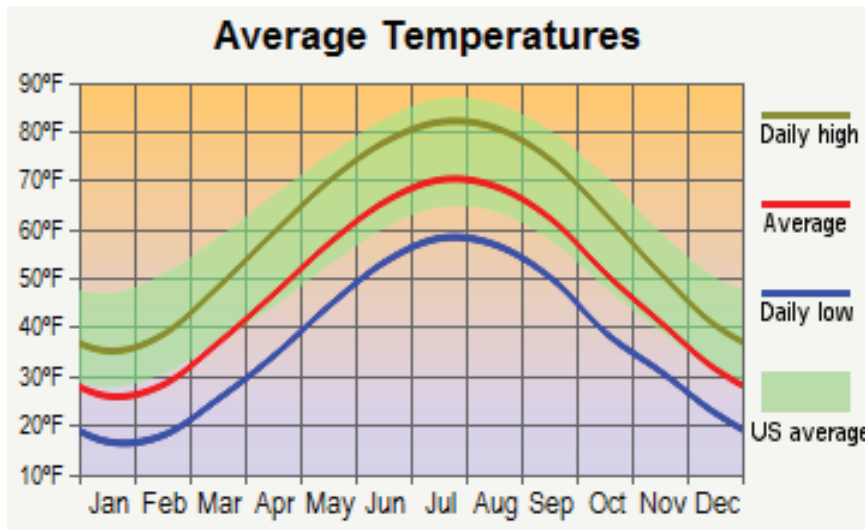
CLIMATE

Residents and visitors to Westmoreland County enjoy comfortable weather nine months out of the year – and all twelve, for those who enjoy snow! Westmoreland County has a temperate climate pattern with mean temperatures that range from 19 to 84 degrees Fahrenheit, and average annual precipitation of 40 inches, increasing five inches from the west to east. The City of Greensburg is located in the center of the county and www.city-data.com shows that the average temperature ranges from the mid-20s to 70 degrees Fahrenheit throughout the year,

with the hottest months being July and August. Precipitation averages approximately three inches per month with the most, over four inches, occurring in May and the least, just over two inches, in October. City-data also reports only 20% of days throughout the year are clear of clouds, with 30% being partly cloudy, and the remaining 50% cloudy, with humidity ranging between 50 and 80% throughout the year.

Learn more: <http://www.city-data.com/city/Greensburg-Pennsylvania>.

Average climate in Greensburg, Pennsylvania based on data reported by over 4,000 weather stations

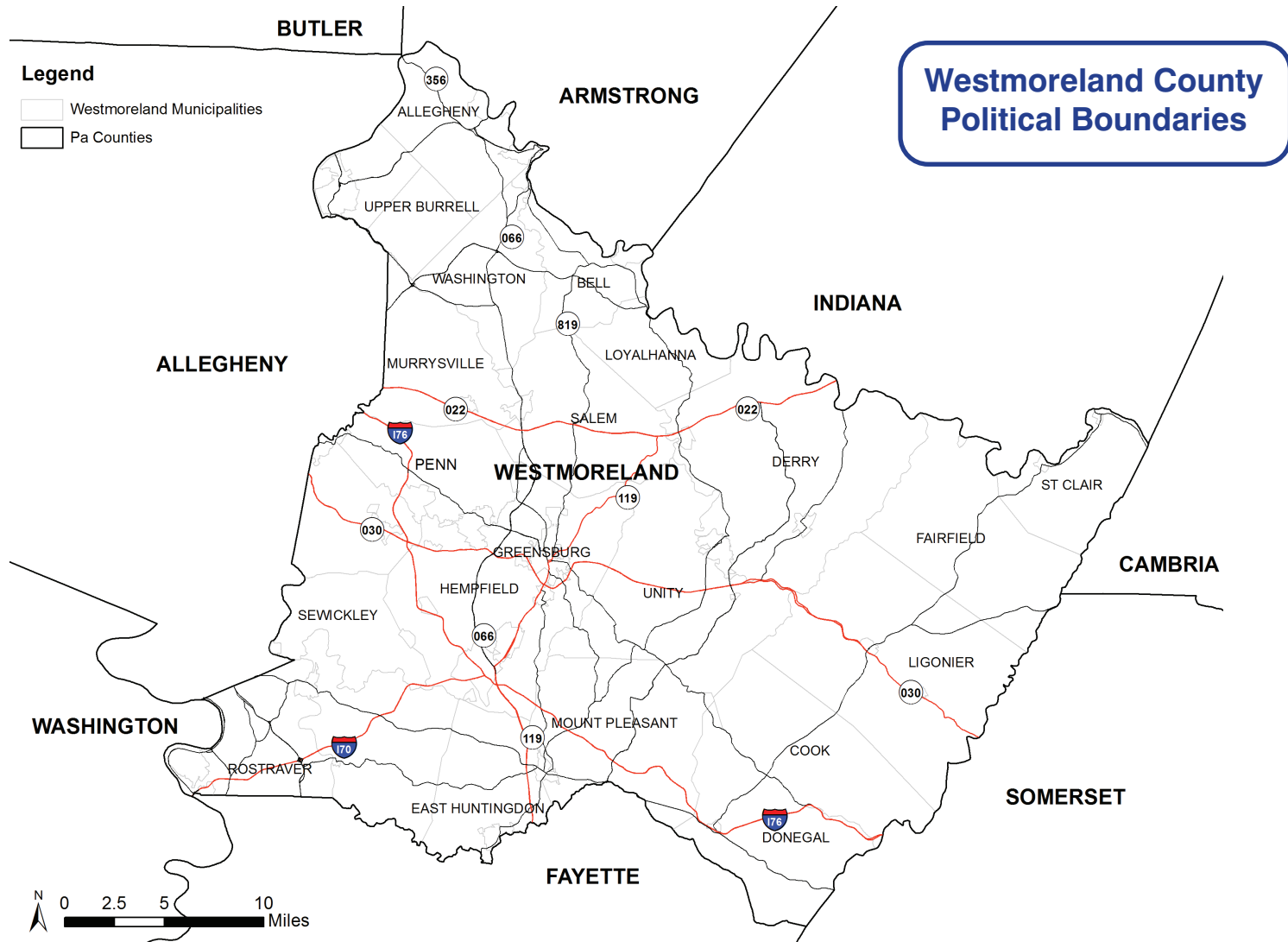


POPULATION AND POLITICAL BOUNDARIES

Westmoreland County is a mix of urban and rural neighborhoods with seven cities, 37 boroughs, and 21 townships, with a total of 65 incorporated municipalities in all. The county's population in 2016 was 355,458 (75% urban, 25% rural), slightly less than it was in 2000 at 369,993,

with a population density of 347 people per square mile, which is higher than Pennsylvania's average of 286. The county's land area is 1,025 square miles and the water area is 8.5 square miles.

Read more: http://www.city-data.com/county/Westmoreland_County-PA.



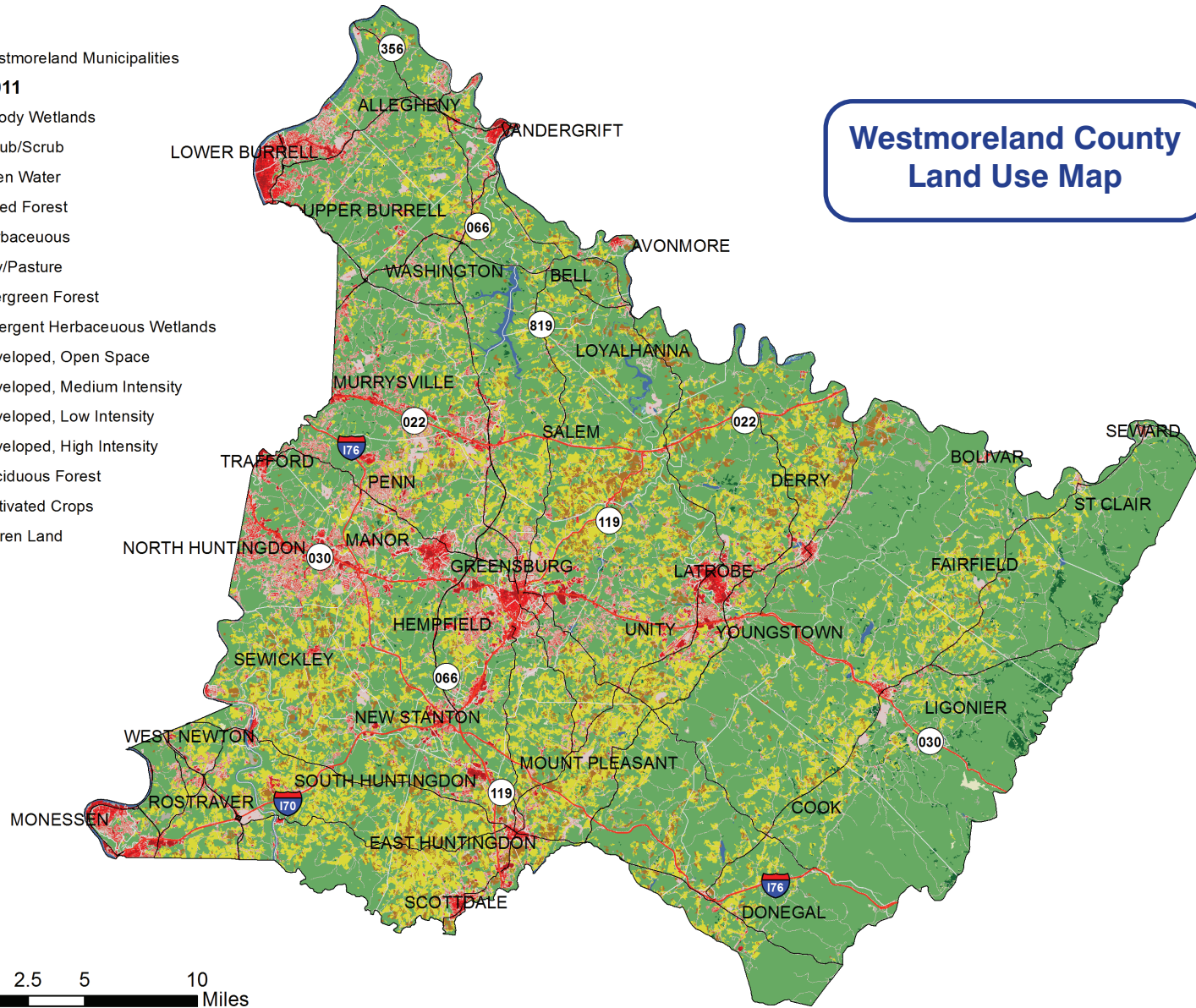
LAND USE

Approximately 50% of Westmoreland County is natural area with another approximately 25% in agriculture and open space. Westmoreland is a very green county, which is a benefit to our water resources, as it protects source water and headwaters of high quality and

exceptional value streams. Agriculture combined with urbanization however can be a liability as agricultural practices and development have encroached on low lying areas and floodplains. Older communities with aging or limited infrastructure can also reduce sustainability of our water resources. – *Reimagining Our Westmoreland*

Legend

- Westmoreland Municipalities
- NLCD 2011**
- Woody Wetlands
- Shrub/Scrub
- Open Water
- Mixed Forest
- Herbaceous
- Hay/Pasture
- Evergreen Forest
- Emergent Herbaceous Wetlands
- Developed, Open Space
- Developed, Medium Intensity
- Developed, Low Intensity
- Developed, High Intensity
- Deciduous Forest
- Cultivated Crops
- Barren Land



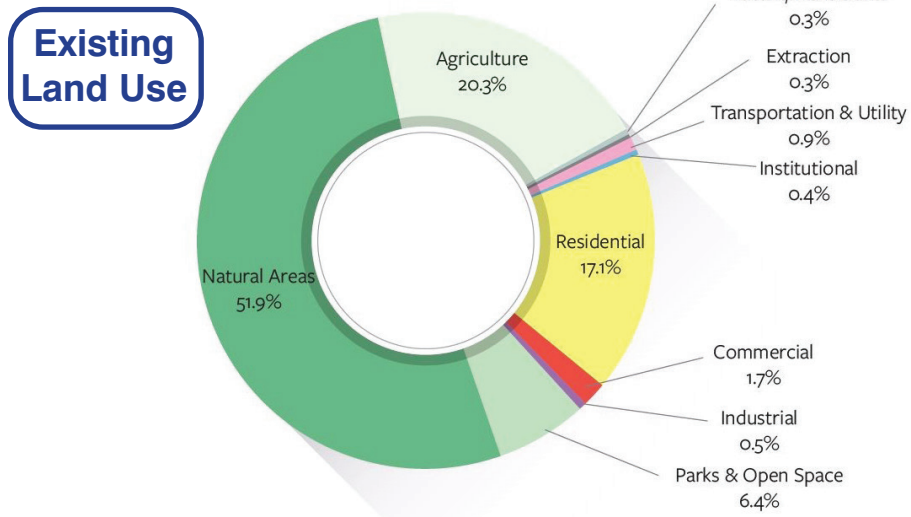
Source - SPC / NL CD (2011)

EXISTING LAND USE

The Existing Land Use map's land use categories are based on the Southwestern Pennsylvania Commission Land Use/Land Cover (LULC) classifications and Westmoreland County's 2010 assessment of existing land use.

For the purposes of this analysis, land designations have been grouped and consolidated into ten land use categories:

- Agriculture - areas used for raising crops and livestock
- Residential - all housing types including, but not limited to single-family and multi-family dwellings
- Commercial - retail, service, and office uses
- Industrial - manufacturing, production, and distribution
- Institutional - schools, churches, and government facilities
- Parks and Open Space - municipal parks
- Natural Areas - undeveloped areas with heavy tree cover, including state parks and conservation areas
- Transportation and Utility - rail, airport, and roadway and utility rights-of-way
- Extraction - mining operations
- Vacant/Transition - vacant land or land that may be suitable for redevelopment



Source - Reimagining Our Westmoreland

COUNTY COMPREHENSIVE PLAN

In 2016, Westmoreland County began updating the county comprehensive plan. The new plan, Reimagining Our Westmoreland, creates a blueprint for our future to help the county become more livable and prosperous. Reimagining Our Westmoreland serves as the county's official guide for land use and development over the next 10-20 years. It is Westmoreland's "road map," detailing a long-term vision and policy agenda for important quality of life issues like land use, housing, parks, infrastructure, transportation, and more. The county comprehensive plan investigates and answers: "What should Westmoreland County look like in 10-20 years and how do we get there?"

The IWRP is part of Reimagining Our Westmoreland and will provide a one-stop shop for information concerning various water resources such as drinking water, waste water, stormwater, streams, wetlands, and water bodies. Providing technical assistance to the public, municipalities, and design professionals, the IWRP will help guide growth and development while conserving our valuable water resources for future generations. The creators of the IWRP hope people will ask this question: "What should Westmoreland County's water resources be like in 10-20 years, and how do we get there?"

To find out what Reimagining Our Westmoreland has to say about population, business, housing, transportation, public safety, utilities, land use and development as it relates to our water resources, visit <https://www.co.westmoreland.pa.us/>

POPULATION

Westmoreland County's population is a prominent concern for three reasons: it has been decreasing, aging, and lacking diversity. The projection based on births, deaths, and net migration estimates that Westmoreland County's population will decline by 1.2% by 2030. Current census estimates place Westmoreland's population at 2.7% below its 2010 level. Westmoreland's population decline is expected to continue.

This means fewer workers in the future, which correlates to a declining economy and decreased tax revenue. An aging and shrinking population means land use and transportation patterns will need to be adjusted. Optimistically, we will say that our county's abundant water resources, which supply clean affordable water for industry and people, sustain our agriculture, forests, and wildlife, and give access to diverse

recreational opportunities will help to attract visitors and new residents to our pleasant county.

BUSINESS

Historically, Westmoreland County prospered through a large industrial base that included coal and steel mills. Many of the factories and mills may have shut down in the 1980s, but the county continues to boast several large manufacturers and employers, and a great diversity of highly-skilled “small employers” scattered here and there in the county. Today, retail, healthcare, and manufacturing provide the largest number of jobs in the county.

This means the healthcare sector is currently the largest employment industry in Westmoreland County and is one of the county's largest opportunities for economic growth, which should continue to expand. Manufacturing has been declining for over a decade and the trend may continue, but it still provides nearly 9% of the county's jobs and 17% of all earnings. Access to abundant and sustainable water resources will continue to be a selling point for attracting industries to our county. A



Photo by Mark Jackson

Residential street in Southwest Greensburg, PA.

business hoping to locate here need not worry about a lack of water supply, and the protections our county affords to streams, wetlands, and floodplains will ensure that the business which chooses to locate here will be uninterrupted by water-related problems.

HOUSING

The county includes 168,250 residential housing units, 80% of which are single family, and 60% of which are more than 45 years old. Of the older homes, most are located in cities, boroughs, or villages, giving a prime opportunity for people seeking walkable and sustainable communities. Many newer homes are suburban in location.

This means that much solid housing stock in good livable communities is available at a reasonable cost to people relocating to our county. Most of our homes have affordable public water and sewage, a coverage which is constantly increasing as our water and sewer authorities expand their service areas year by year. Many of our prime residential areas are quite close to water-based recreation activities such as boating, fishing, and swimming, thanks to our county park system, our state parks, and our rivers and streams. Properly planned new development, beyond the limits of our floodplains and designed in harmony with our natural resources, will encourage further in-migration to the county.

TRANSPORTATION

Westmoreland has the second largest road system in the 10-county Southwest Planning Commission (SPC) region with 3,675 linear miles of roadway. The Pennsylvania Department of Transportation (PennDOT) maintains 1,185 miles, local municipalities maintain 2,409 miles, and the Pennsylvania Turnpike Commission is responsible for the remainder.

Aside from the interstates that traverse the county, US Route 30, PA Route 66, and US Route 22 are the county's busiest roadways, carrying up to 31,000 cars per day in some parts. Under PennDOT, the county currently has 80 roadway projects under the Transportation Improvement Program. New PennDOT projects are required to address stormwater management impacts.

This means PennDOT has protocols for managing stormwater during construction and improvement projects (there are four levels of projects, ranging from repaving to new construction) and projects must meet PA's National Pollution Discharge Elimination System (NPDES)

and Post Construction Stormwater Management (PCSM) requirements for water quality, stormwater management and erosion and sedimentation control during and after construction. The PA Turnpike also follows stormwater management requirements on new construction projects.

PUBLIC SAFETY

The county adopted a Hazard Mitigation Plan in 2014 that coordinates safety and security projects among the Westmoreland County Departments of Public Safety, Planning, Public Works, GIS, and with Local Emergency Management, local municipalities, Pennsylvania Emergency Management Agency (PEMA), Westmoreland Conservation District, and Municipal Water Authority.

Over 9,000 county residents' homes lie within flood hazard areas within the county. New development and redevelopment are encouraged outside of flood hazard areas to reduce loss of life and property damage.

UTILITIES

The county has multiple entities providing services for each of the utilities, including water, waste water management, electric, gas, phone,

and internet. Water and sewer services are publicly provided in some areas of the county and operated by over 50 separate providers.

Utility line construction does not typically involve stormwater management because the ground's surface is returned to the original condition – there's no new impervious surface. However, utility line construction can impact groundwater flow. It is to be expected that groundwater may be intercepted by a buried utility line; the groundwater flows along the outside of the line as if the line were a French drain. If utility lines are constructed in an area where groundwater may become a problem, it is important that their design include trench plugs to stop the migration of water, and drainage systems to relieve the water flow to a safe location.

Approximately 25% of property owners in the county rely on private water and waste water management systems. PA does not have regulations regarding the development of domestic systems, but protocols are available through PA DEP, PA DCNR, and other agencies.



A view of an eastbound off-ramp at the improved Interstate 70 near New Stanton, PA

Photo by Chris Droste