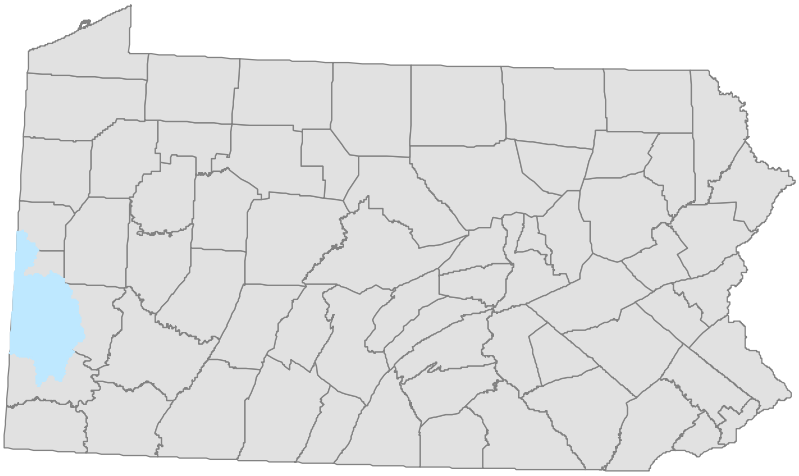


Rapid Watershed Assessment
Upper Ohio Watershed

Rapid watershed assessments provide initial estimates of where conservation investments would best address the concerns of landowners, conservation districts, and other community organizations and stakeholders. These assessments help landowners and local leaders set priorities and determine the best actions to achieve their goals.

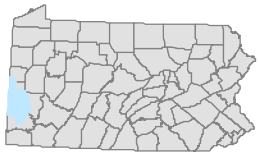
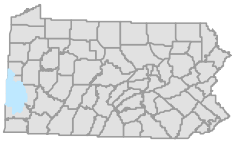


Table of Contents



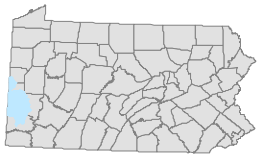
Preface

The Natural Resources Conservation Service (NRCS) is initiating rapid watershed assessments in order to increase the speed and efficiency generating resource information to guide conservation implementation, as well as the speed and efficiency of putting it into the hands of local decision makers. While these rapid assessments provide less detail and analysis than full-blown studies and plans, they do provide a foundation for watershed studies or area planning. In addition, the assessments provide the benefits of NRCS locally-led planning for resource conservation and conservation program implementation in less time and at a reduced cost than more complex studies.

Rapid watershed assessments will be valuable for Farm Bill program delivery, and provide useful information for county, watershed and regional planners. These assessments provide initial estimates of where conservation investments would best address the concerns of landowners, conservation districts, and other community organizations and stakeholders. These assessments can help landowners and local leaders set priorities and determine the best actions to achieve their goals.

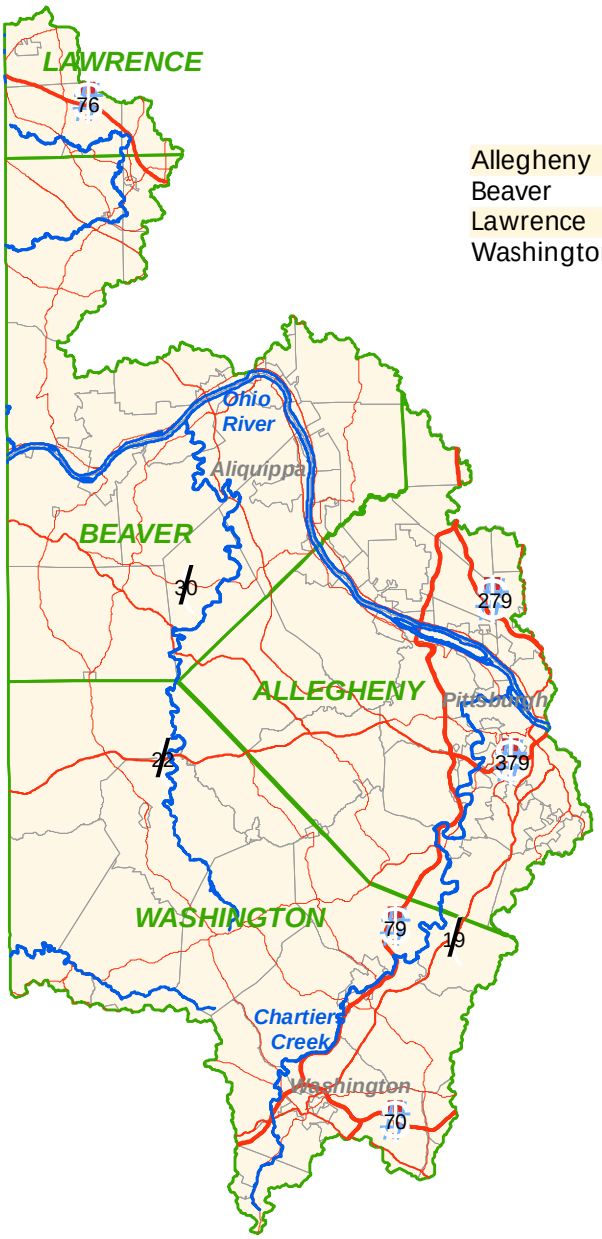
To produce the assessments, quantitative and qualitative data is collected and organized to create a watershed profile using Geographic Information System (GIS) technology. The data is analyzed to allow resource concerns and conditions to become apparent, and to generate maps and information to help people make better decisions about conservation needs and programs.

/s/ Craig R. Derickson
Pennsylvania State Conservationist

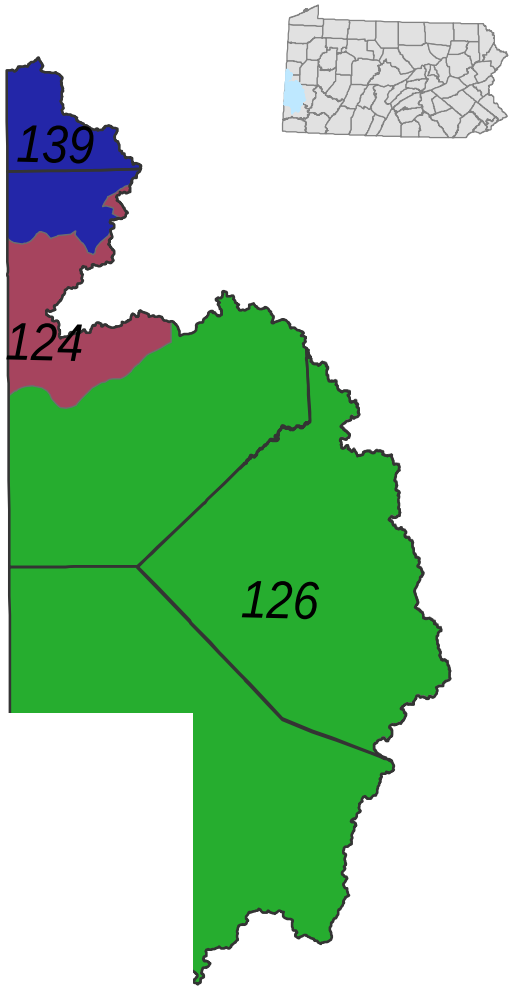


Introduction

The Upper Ohio Watershed is located in Western Pennsylvania in portions of Allegheny, Beaver, Lawrence, and Washington Counties. The Upper Ohio Watershed extends into Ohio and West Virginia. The portion of the watershed in Pennsylvania is over 627,000 acres, of which over 110,000 acres is farmland. Three Service Centers of the Natural Resources Conservation Service, four county Conservation Districts and portions of the Penn's Corner and Penn Soil Resource Conservation and Development Council provide conservation assistance in this watershed.



	Acres in HUC	% Acres of HUC
Allegheny	171,893	27.4
Beaver	202,064	32.2
Lawrence	23,205	3.7
Washington	230,431	36.7

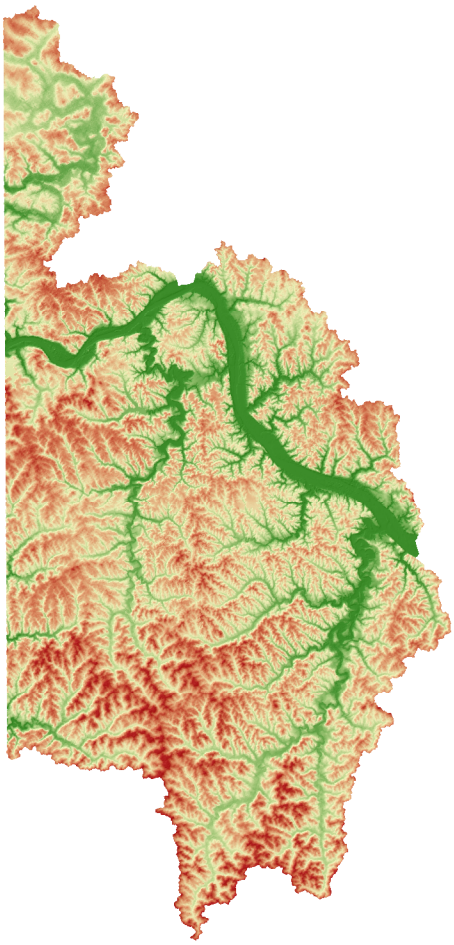


Common Resource Area (CRA)[1]

126 - Central Allegheny Plateau: This CRA is on a dissected plateau that is underlain mainly by horizontally bedded sedimentary rocks. Narrow, level valleys and narrow, sloping ridge tops are separated by long, steep and very steep side slopes. Soils are mainly shallow to very deep, excessively drained to somewhat poorly drained, and skeletal to clayey. Most farms in the CRA are beef cattle and diary farm operation.

124 - Western Allegheny Plateau: This CRA is on a dissected plateau that consists of narrow, level valley floors, rolling ridge tops, and hilly to steep ridge slopes. Soils are moderately deep to very deep, excessively drained to somewhat poorly drained, and loamy. Most farms in the area are for hay and feed grain.

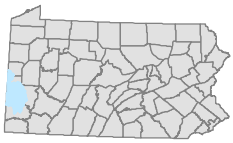
139 - Lake Erie Glaciated Plateau: This CRA is a gently rolling to strong rolling, dissected plateau. A narrow band along Lake Erie is fairly flat. Soils are very deep., well drained to poorly drained, and loamy or clayey. Feed grain and forage for diary cattle are the main crops in the area.



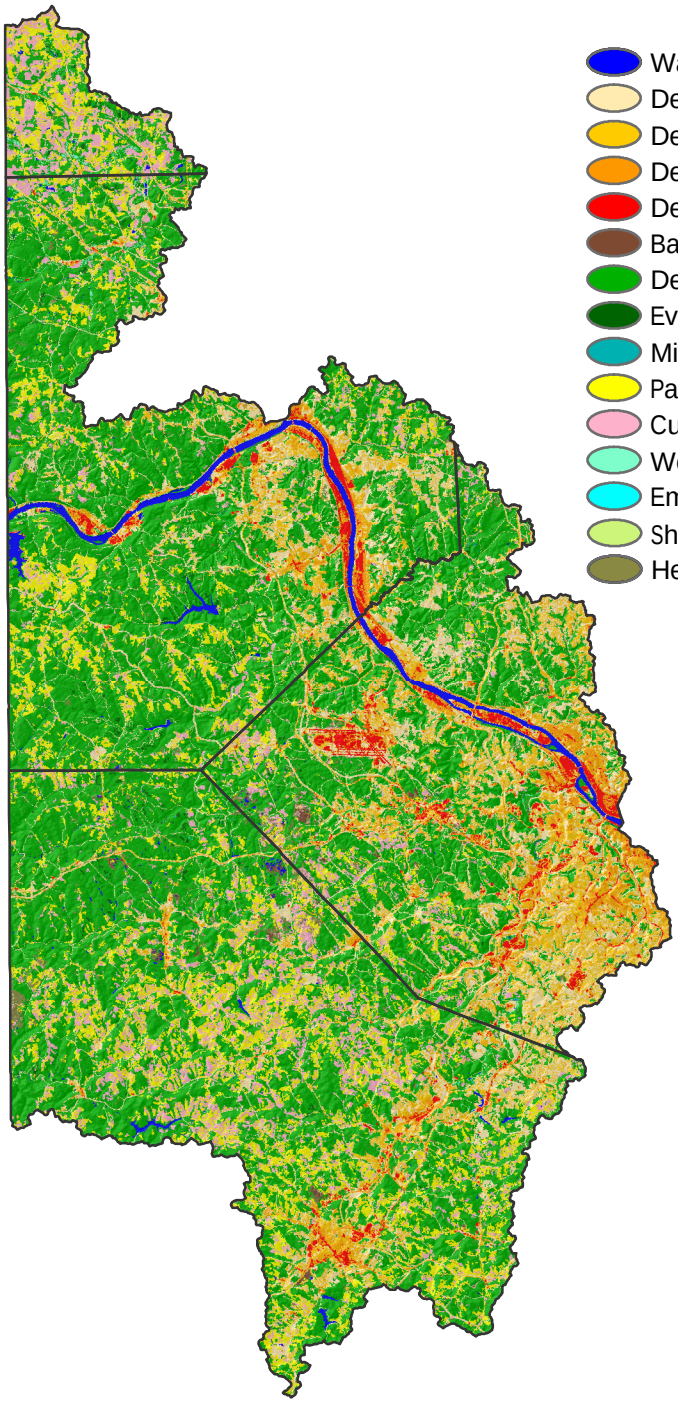
Upper Ohio Watershed
86 feet (453 meters) at
656 feet (200 meters)

1486 Feet

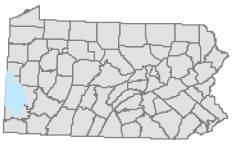
656 Feet



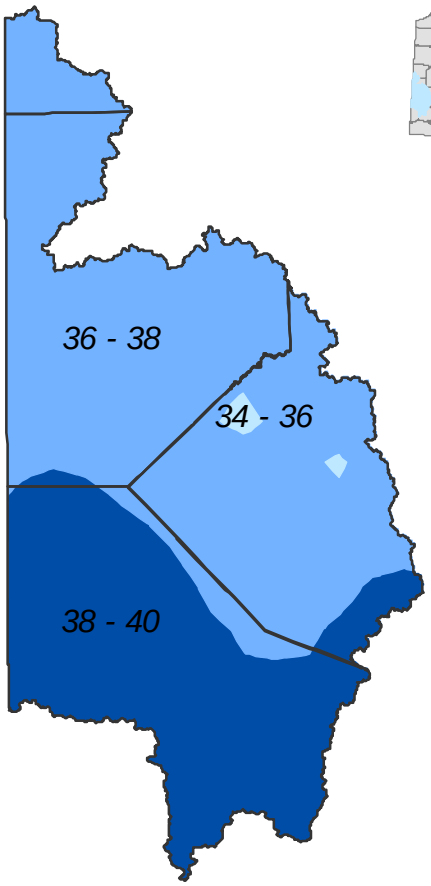
Land Use / Land Cover 2001[3]

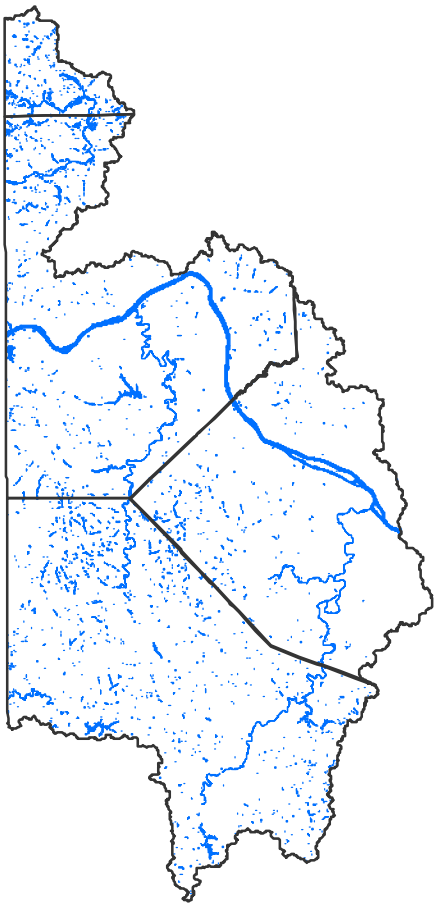


	Acres	Percent
Water	8,942.7	1.4
Developed, Open Space	87,069.1	13.9
Developed, Low Intensity	49,601.1	7.9
Developed, Medium Intensity	19,913.0	3.2
Developed, High Intensity	11,932.0	1.9
Barren Land (Rock/Sand/Clay)	984.0	.2
Deciduous Forest	325,063.4	51.8
Evergreen Forest	3,024.3	.5
Mixed Forest	272.9	-
Pasture/Hay	70,470.5	11.2
Cultivated Crops	39,886.6	6.3
Woody Wetlands	941.8	.2
Emergent Herbaceous Wetlands	80.1	-
Shrub / Scrub	65.2	-
Herbaceous / Grasslands	9,357.7	1.5



Average Annual Precipitation (Inches)[4]



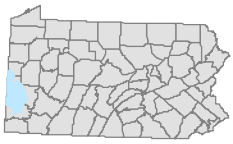


National Wetlands Inventory[5]

Wetlands are lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface.

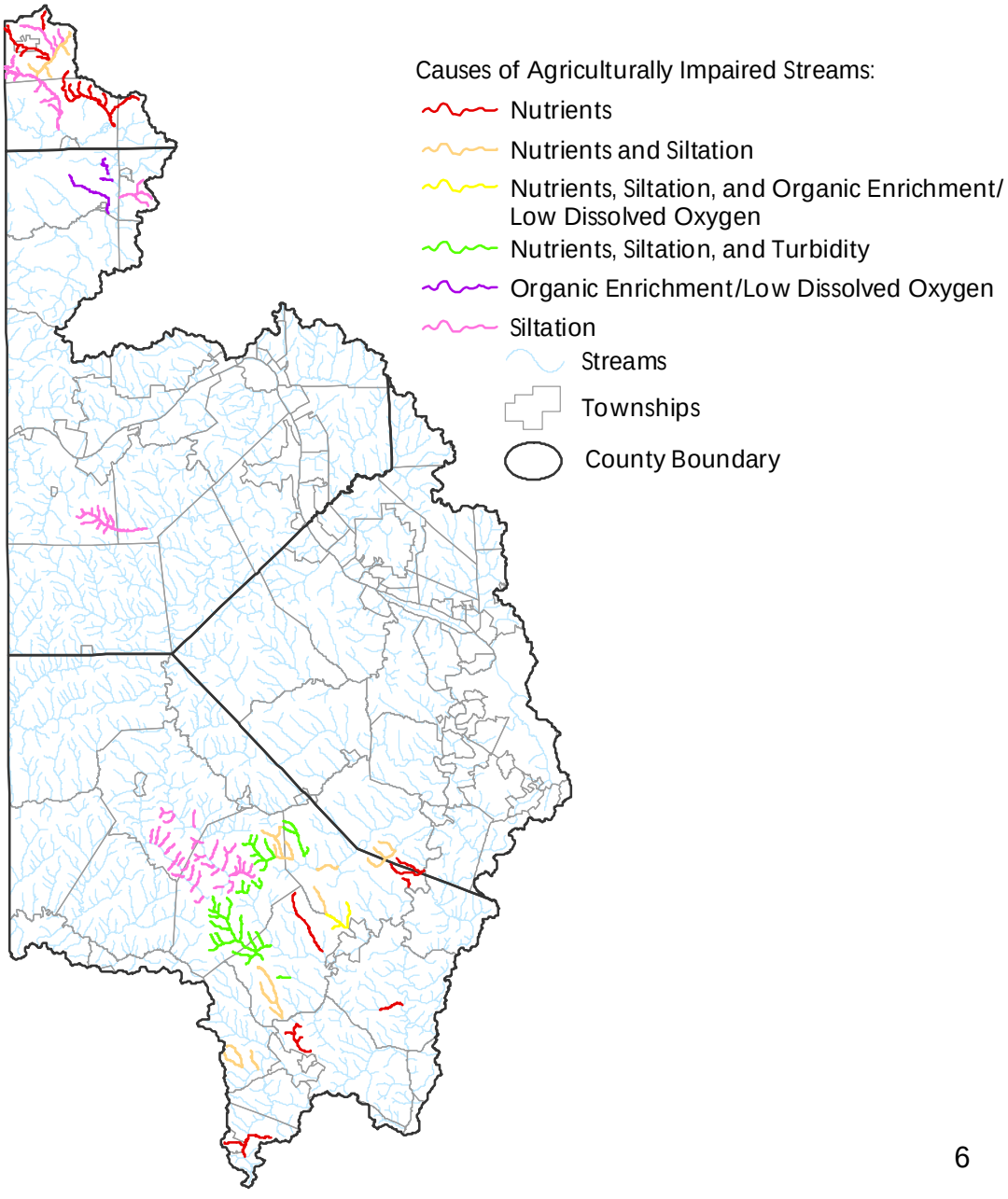
NWI digital data files are records of wetlands location and classification as developed by the U.S. Fish & Wildlife Service. The classification system was adopted as a national classification standard in 1996 by the Federal Geographic Data Committee.

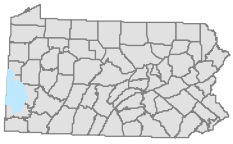
National Wetlands Inventory



Impaired Streams [6]

The Streams Integrated List (2006) represents stream assessments in an integrated format for the Clean Water Act Section 305(b) reporting and Section 303(d) listing. PA Department of Environmental Protection protects 4 stream water uses: aquatic life, fish consumption, potable water supply, and recreation. The 305(b) layers represents stream segments that have been evaluated for attainment of those uses and determine which streams are non-attaining.



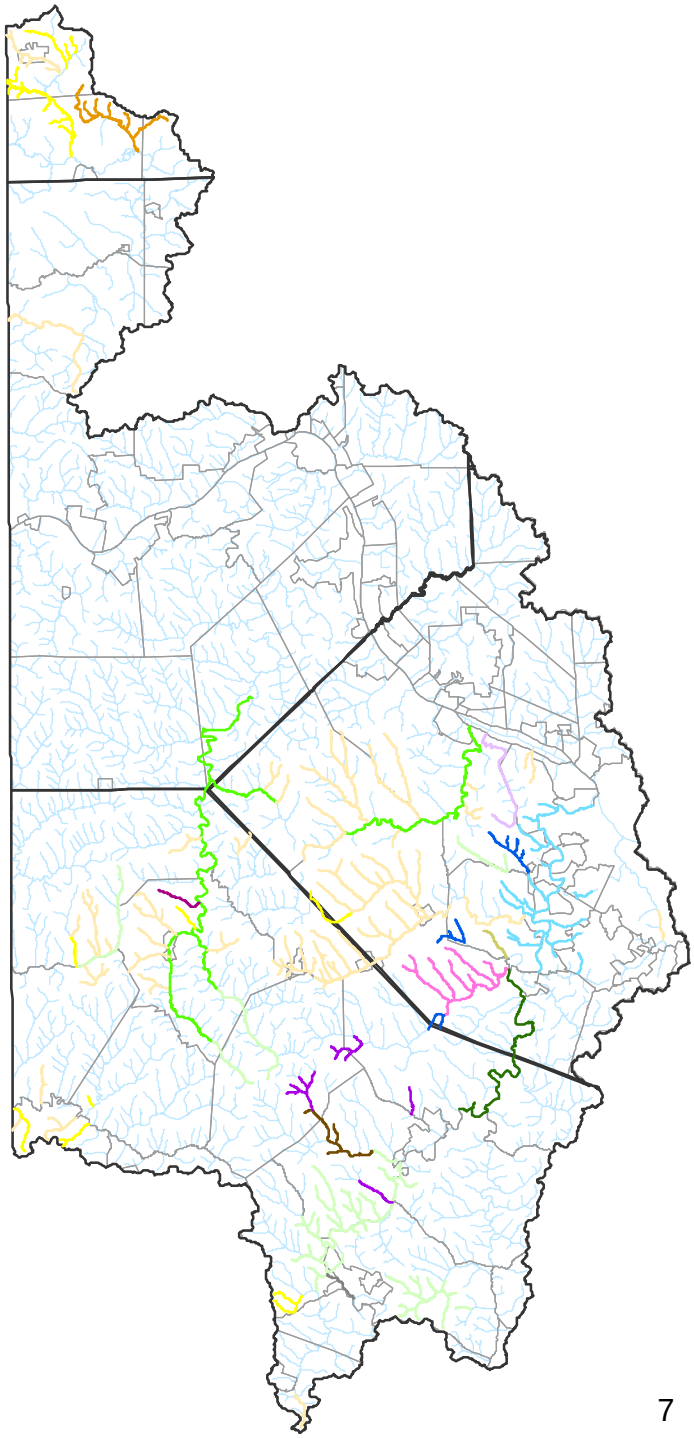


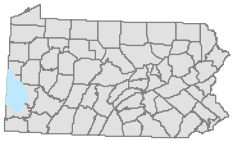
Abandoned Mine Drainage Impaired Streams

Causes of AMD Impaired Streams:

- Metals
- Metals and Nutrients
- Metals and Salinity/TDS/Chlorides
- Metals and Siltation
- Metals and Suspended Solids
- Metals and pH
- Metals, Organic Enrichment/Low Dissolved Oxygen, Salinity/TDS/Chlorides, and Turbidity
- Metals, Siltation, Salinity/TDS/Chlorides, and Suspended Solids
- Metals, Suspended Solids, and Salinity/TDS/Chlorides
- Metals, pH, and Suspended Solids
- Salinity/TDS/Chlorides
- Salinity/TDS/Chlorides and Turbidity
- Siltation
- Suspended Solids
- Turbidity

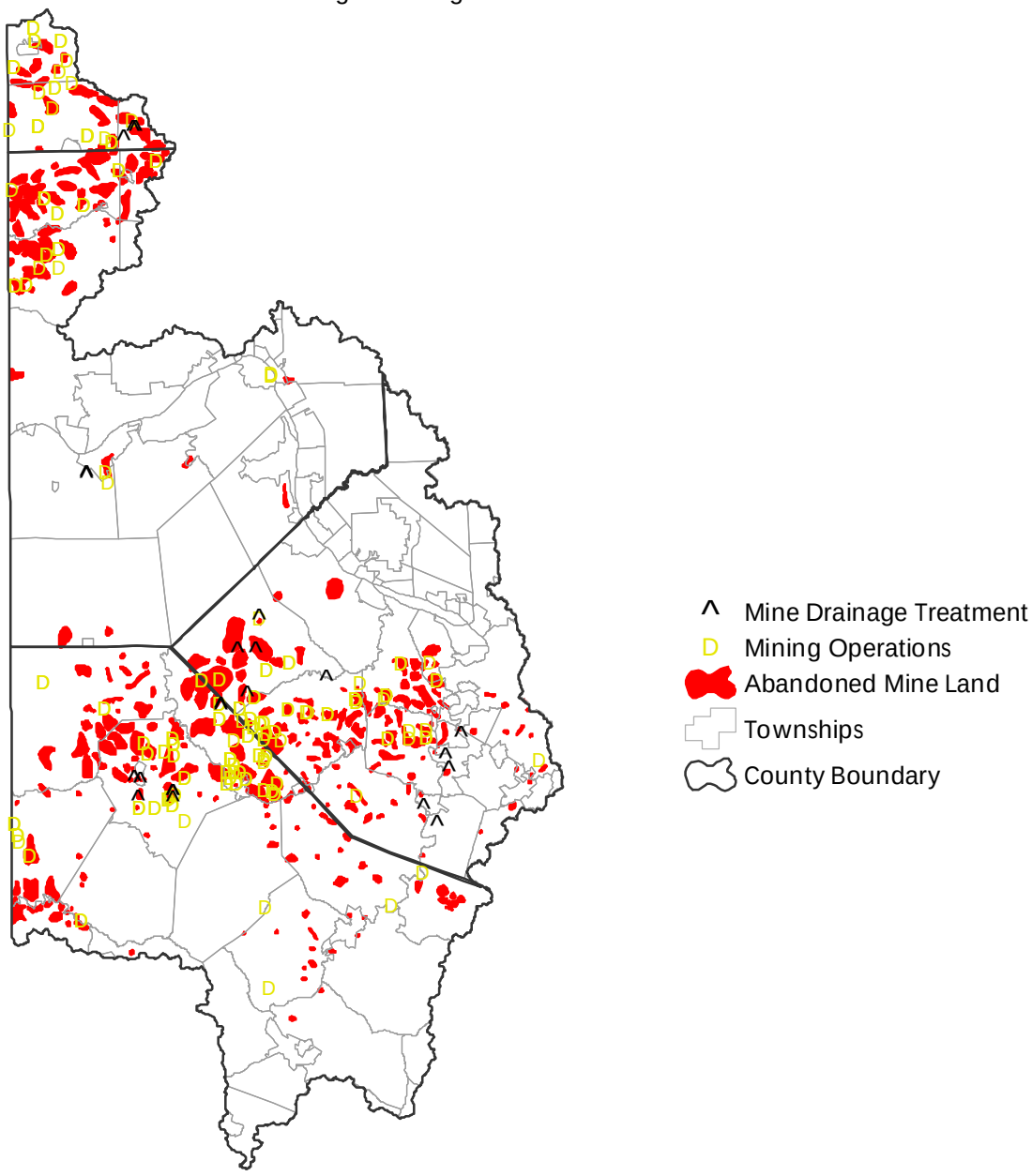
- Streams
- Townships
- County Boundary



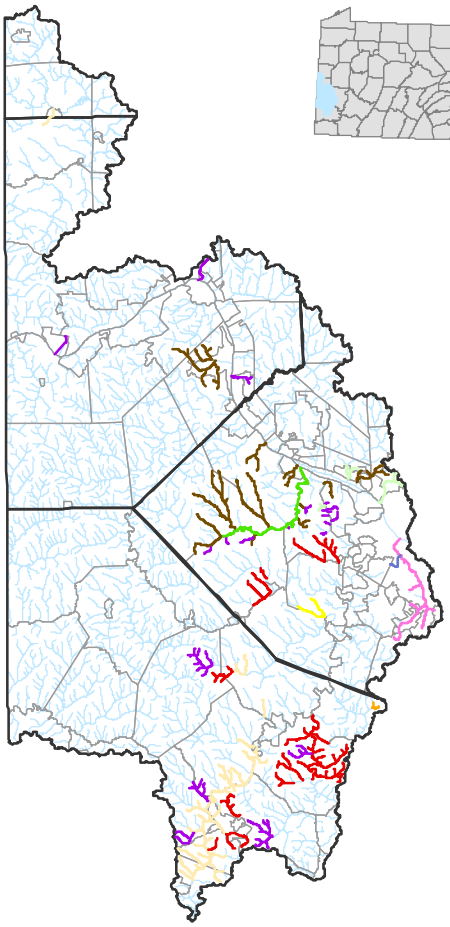


Abandoned Mine Land [7]

Coal mining in Pennsylvania began in the mid-1700's. Pennsylvania is the fourth largest coal producer in the United States, producing over 69.5 million tons in 1995 in 878 mining operations.
The environmental legacy of hundreds of years of coal mining in PA includes over 2,400 miles of PA's 84,000 miles of streams effected by acid mine drainage from old coal mining operations. Acid mine drainage in the single largest source of water pollution in the state.
Since 1967, Pennsylvania and the federal government have invested close to $500 million to correct problems from abandoned surface and deep mines. There are acid mine drainage treatment plants around the state to treat acid mine drainage discharges.

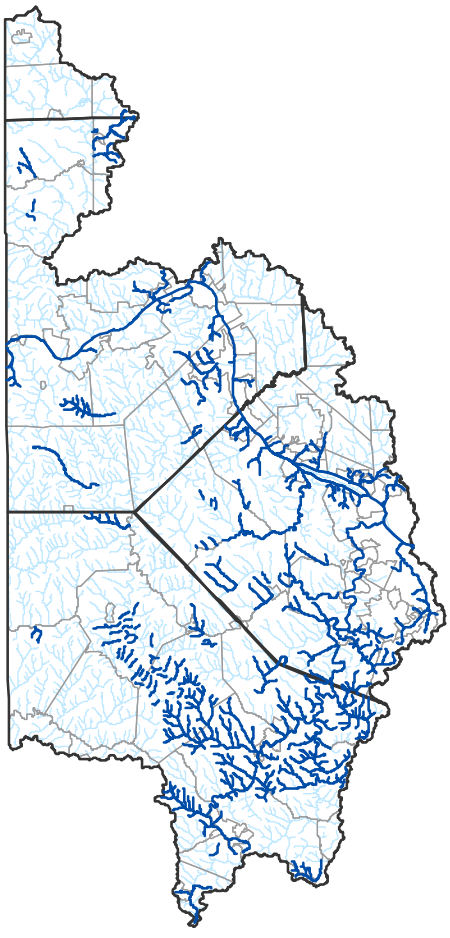


Upper Ohio Watershed



Causes of Urban Runoff/Storm Sewer Impaired Streams:

- Nutrients
- Nutrients and Siltation
- Nutrients and Suspended Solids
- Organic Enrichment/Low Dissolved Oxygen
- Organic Enrichment/Low Dissolved Oxygen and Nutrie
- Organic Enrichment/Low Dissolved Oxygen and Siltat
- Organic Enrichment/Low Dissolved Oxygen, Siltation, and Nutrients
- Siltation
- Water Flow Variability
- Water Flow Variability and Siltation
- Streams
- Townships
- County Boundary

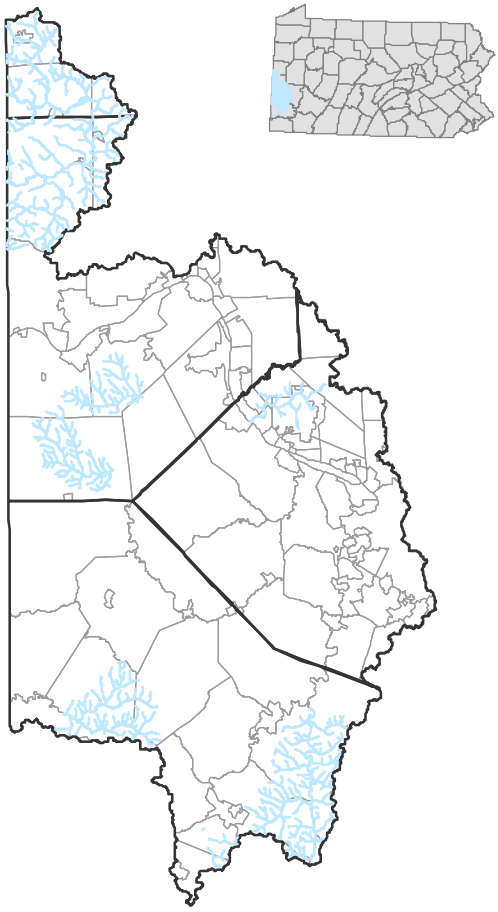


There are numerous other sources of impaired streams in the Upper Ohio Watershed. They include Attaining, Combined Sewer Overflow, Habitat Modifications, Construction, Erosion from Derelict Land, Hydromodifications, Onsite Wastewater, Surface Mining, Highway, Road, Bridge Construction, Road Runoff, Land Development, Golf Courses, Small Residential Runoff, Removal of Vegetation, Land Disposal, Municipal Point Source, Natural Source, Upstream Impoundment, Other , or is Unknown.

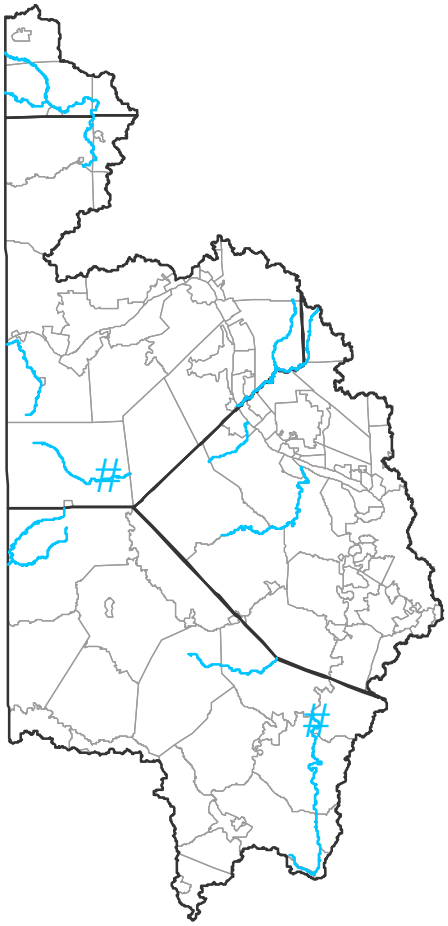
- Impaired Streams from Other Sources
- Streams
- Townships
- County Boundary

Exceptional Value and High Quality Streasm[8]

In accordance to Chapter 93 of Pennsylvania Code, streams with excellent water quality may be designated High Quality Waters (HQ) or Exceptional Value Waters (EV). The water quality in an HQ stream can be lowered only if a discharge is the result of necessary social or economic development, the water quality criteria are met, and all existing uses of the stream are protected. EV waters are to be protected at their existing quality; water quality shall not be lowered.
There are no Exceptional Value Streams in the Upper Ohio Watershed.



High Quality Streams
Townships
County Boundary



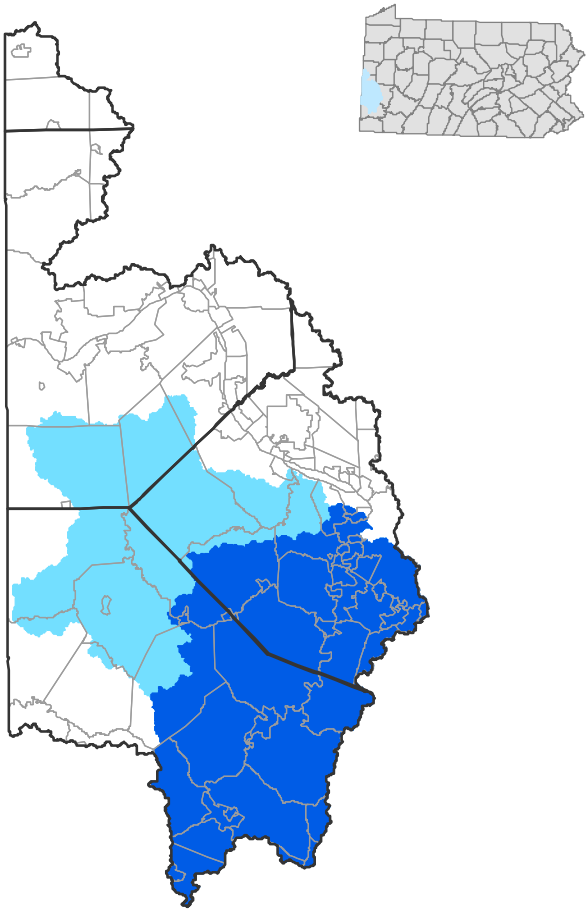
Pennsylvania Trout Waters[9]

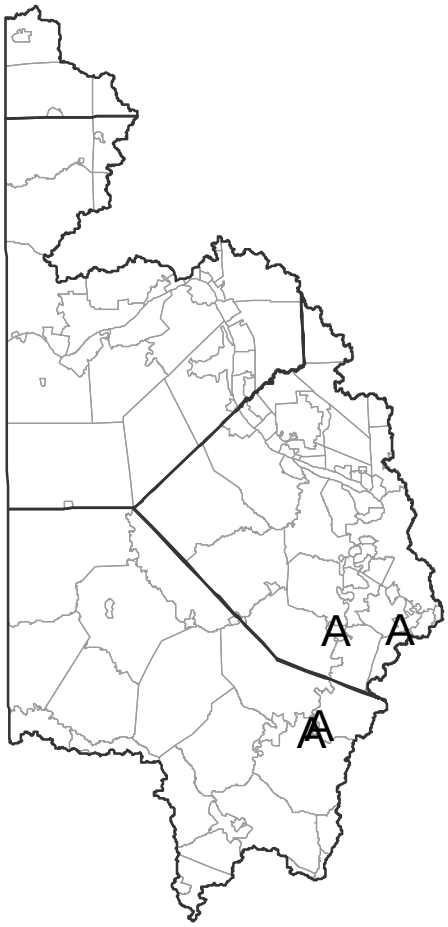
Approved Trout Waterbodies and Approved Trout Streams are waters which contain significant portions that are open to the public for fishing and are stocked with trout. Wilderness Trout Streams are designed to protect and promote native (brook trout) fisheries, the ecological requirements necessary for natural reproduction of trout and wilderness aesthetics. The superior quality of these watersheds is considered an important part of the overall angling experience on wilderness trout streams.

\# Approved Trout Waterbodies
Approved Trout Streams
Townships
County Boundary

Total Maximum Daily Load[10]

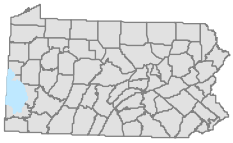
A Total Maximum Daily Load (TMDL) sets a ceiling on the pollutant loads that can enter a water body so the water body will meet water quality standards. The Clean Water Act requires states to list all waters that do not meet their water quality standards even after pollution controls required by law are in place. For these waters, the state must calculate how much of a substance can be put in the water without violating the standard and distribute that quantity to all the sources ofthe pollutant on that water body. A TMDL plan includes waste load allocations for point sources, load allocations for nonpoint sources, and a margin of safety.





Water Quality Testing Points[11]

The water quality testing points are locations at which the water quality is monitored by volunteers. A database of these points contains information on water quality from 1986 to the present from 622 testing sites throughout Pennsylvania. Information in records includes at least alkalinity and pH and includes nitrates and phosphates for some sites since 1996.



Water Resource Points [12]

A Water Resource is a DEP primary facility type related to the Water Use Planning Program. The sub-facility types related to Water Resources that are included are:

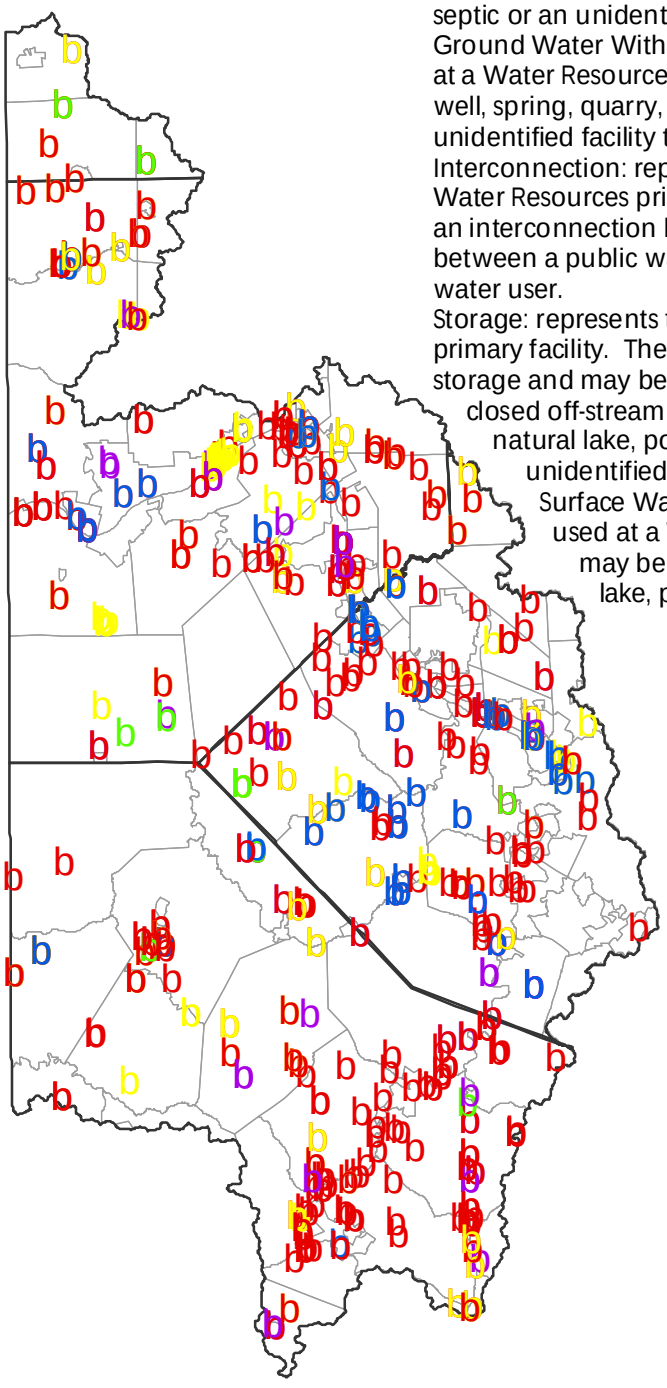
Discharge: represents the return of water used at a Water Resources primary facility. The subfacility type may be a sewage treatment plant, instream discharge, spray irrigation field, groundwater recharge, on-lot septic or an unidentified facility type.

Ground Water Withdrawal: represents the withdrawal of water used at a Water Resources primary facility. The subfacility type may be a well, spring, quarry, infiltration gallery, deep mine, surface mine or an unidentified facility type.

Interconnection: represents the point of interconnection between Water Resources primary facilities. The subfacility type may be for an interconnection between two public water supply agencies or between a public water supply agency and a commercial or industrial water user.

Storage: represents the storage of water used at a Water Resources primary facility. The subfacility type represents raw or treated water storage and may be a quarry, standpipe, open off-stream reservoir, closed off-stream reservoir, instream reservoir, hydroelectric dam, natural lake, pond,silt dam, hydroelectric pumped storage or an unidentified facility type.

Surface Water Withdrawal: represents the withdrawal of water used at a Water Resources primary facility. The subfacility type may be an instream diversion, intake from a dam, natural lake, pond, river well, or an unidentified facility type.



b Discharge
b Ground Water Withdrawal
b Interconnection
b Storage
b Surface Water Withdrawal
Townships
County Boundary

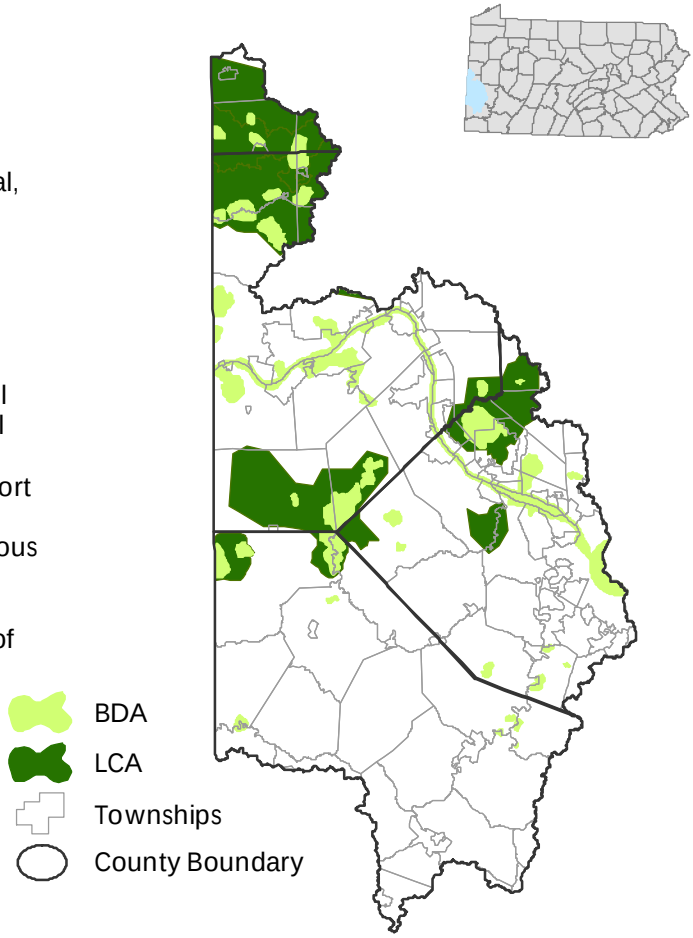
Natural Heritage Inventory Sites [13]

These areas are intended to identify outstanding floral, faunal, and geologic features, including natural communities (habitats) and locations of animal and plant species of special concern (endangered, threatened, or rare).

Area Types in this watershed include:

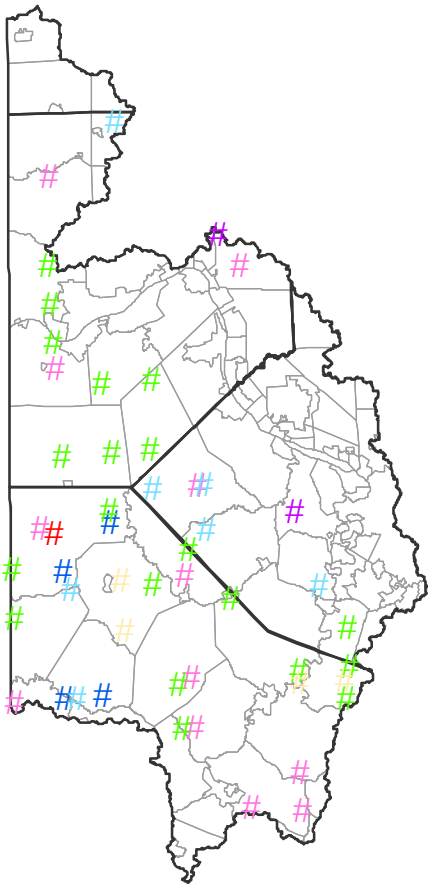
BDA - Biological Diversity Area - an area containing plants or animals of special concern at state or federal levels, exemplary natural communities, or exceptional native diversity. BDAs include both the immediate habitat and surrounding lands important in the support of these special elements.

LCA - Landscape Conservation Area - a large contiguous area that is important because of its size, open space, habitats, and/or inclusion of one or more Biological Diversity Areas. Although an LCA includes a variety of land uses, it typically has not been heavily disturbed and thus retains much of its natural character.



Pennsylvania Breeding Bird Atlas [14]

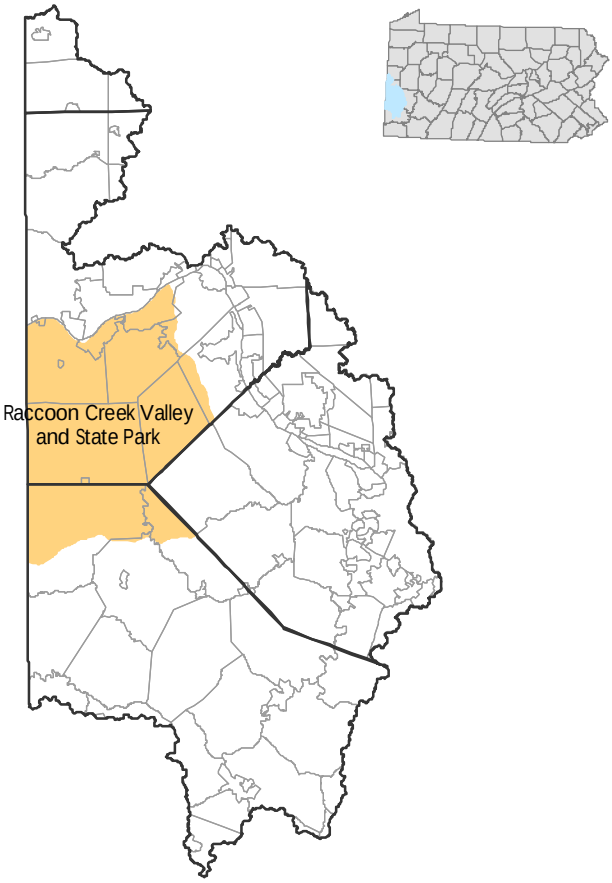
The 1st Pennsylvania Breeding Bird Atlas (1992) assesses the distribution of breeding birds across the state. The areas below are confirmed breeding areas for species. Fourteen birds species from Pennsylvania's state Wildlife Action Plan associated with agricultural landscapes were focused on in this assessment, not all have confirmed breeding area in this watershed.



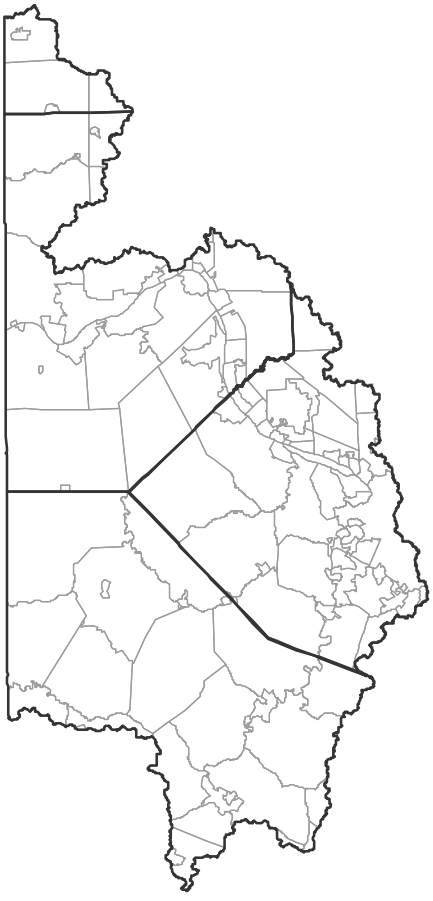
Barn Owl
Bobolink
Eastern Meadowlark
Grasshopper Sparrow
Henslows Sparrow
Northern Bobwhite
Yellow Breasted Chat
Townships
County Boundary

Important Bird Areas[15]

Important Bird Areas (IBA) are sites that provide essential habitat for one or more species of bird. IBAs include sites for breeding, wintering, and/or migrating birds. IBAs may be a few acres or thousands of acres, but usually they are discrete sites that stand out from the surrounding landscape. IBAs may include public or private lands, or both, and they may be protected or unprotected.



Important Bird Areas
Townships
County Boundary

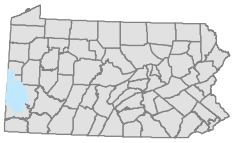


Important Mammal Areas[16]

The Important Mammal Areas Project is being carried out by a broad based alliance of sportsmen, conservation organizations, wildlife professionals, and scientists. The primary concern is to help ensure the future of Pennsylvania's wild mammals, both game and non-game species. Although particular attention is given to species of special concern, they are also interested in habitats that simply have high mammal diversity. Because a commitment to preserve natural heritage requires understanding the needs of native species, they also identify places where people can learn about mammals and enjoy them in their natural environment.
There are no designated Important Mammal Areas in the Upper Ohio Watershed at this time.

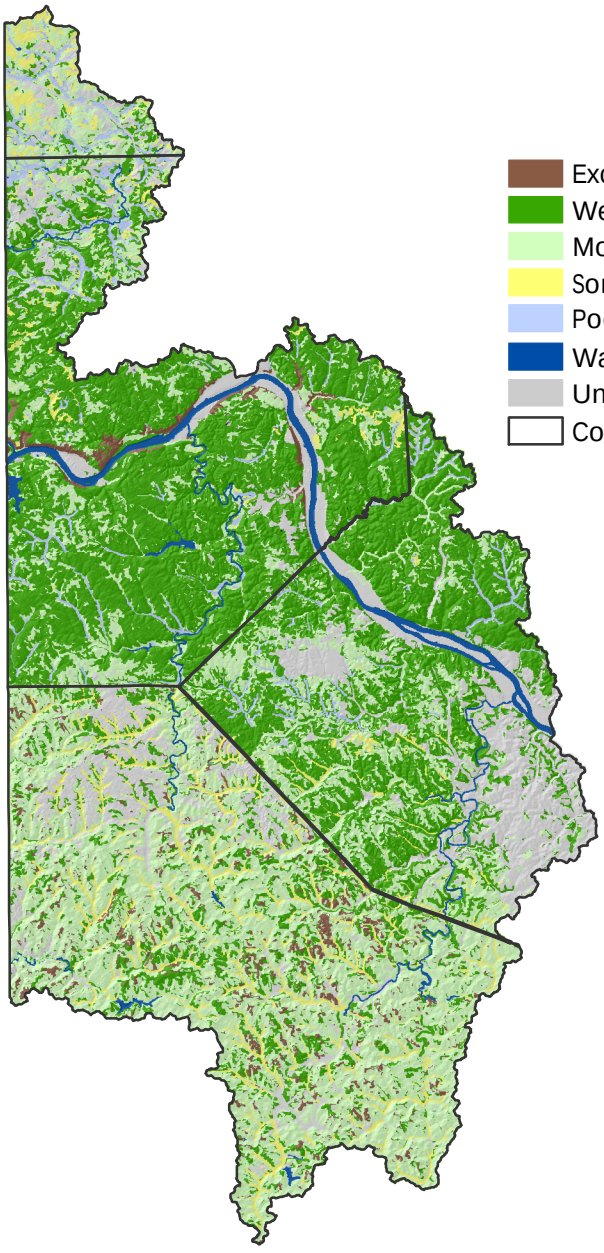
Important Mammal Areas
Townships
County Boundary

Soils [17]



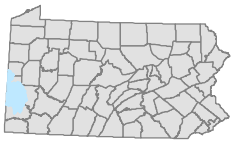
Drainage Classification

Drainage class (natural) refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized -- excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."



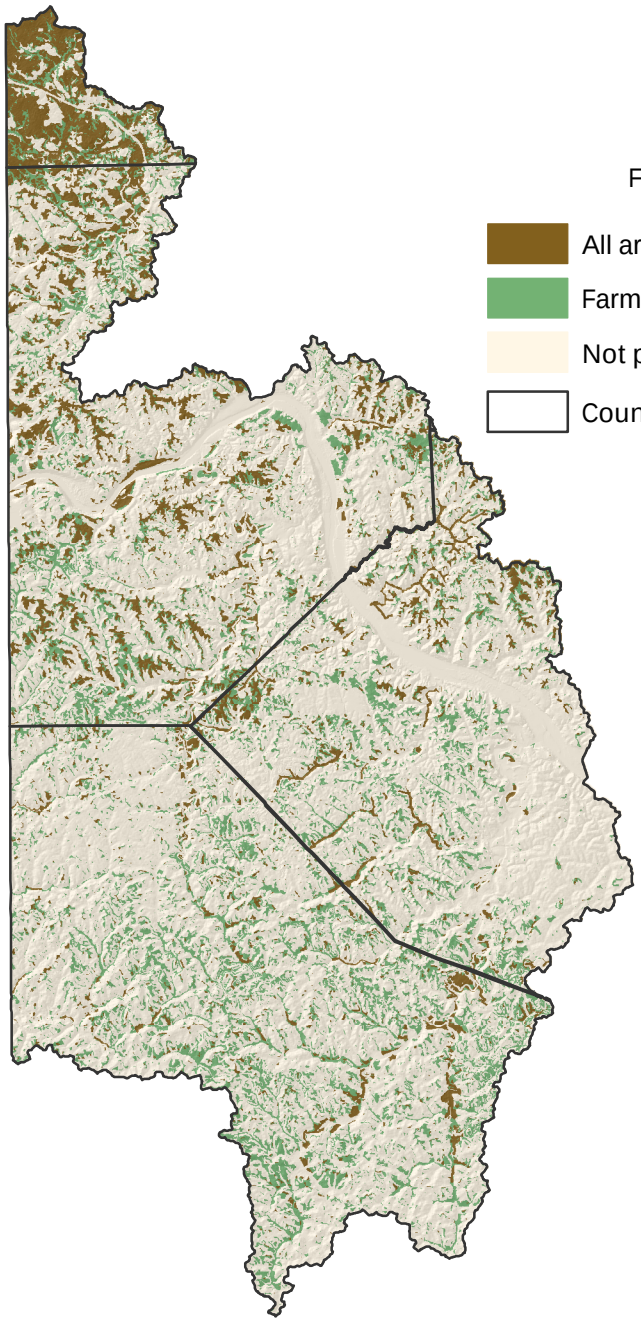
Drainage Classification

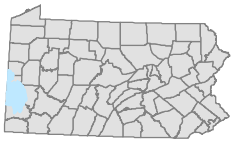
	% Area
Excessively - Somewhat excessively drained	3.2
Well drained	38.5
Moderately well drained	37.5
Somewhat poorly drained	4.3
Poorly -Very poorly drained	2.2
Water	1.6
Unclassified	12.7
County Boundary	



Farmland Classification

Farmland classification identifies soil map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. Farmland classification identifies the location and extent of the most suitable land for producing food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the Federal Register, Vol. 43, No. 21, January 31, 1978.

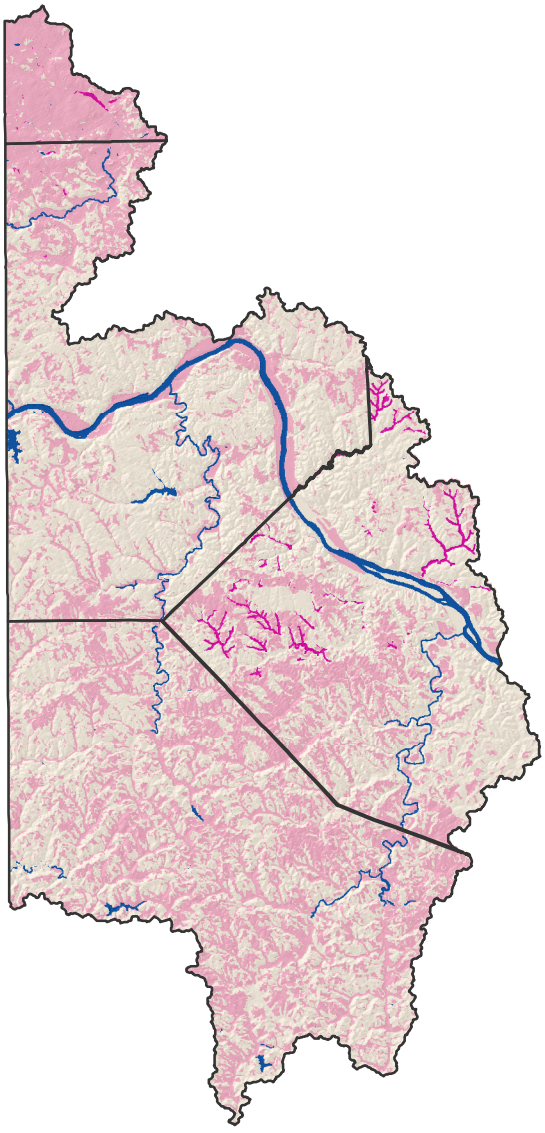


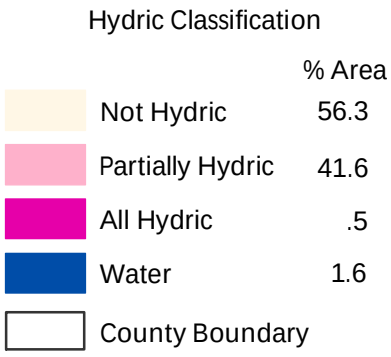


Hydric Soil Classification

This rating provides an indication of the proportion of the map unit that meets criteria for hydric soils. Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

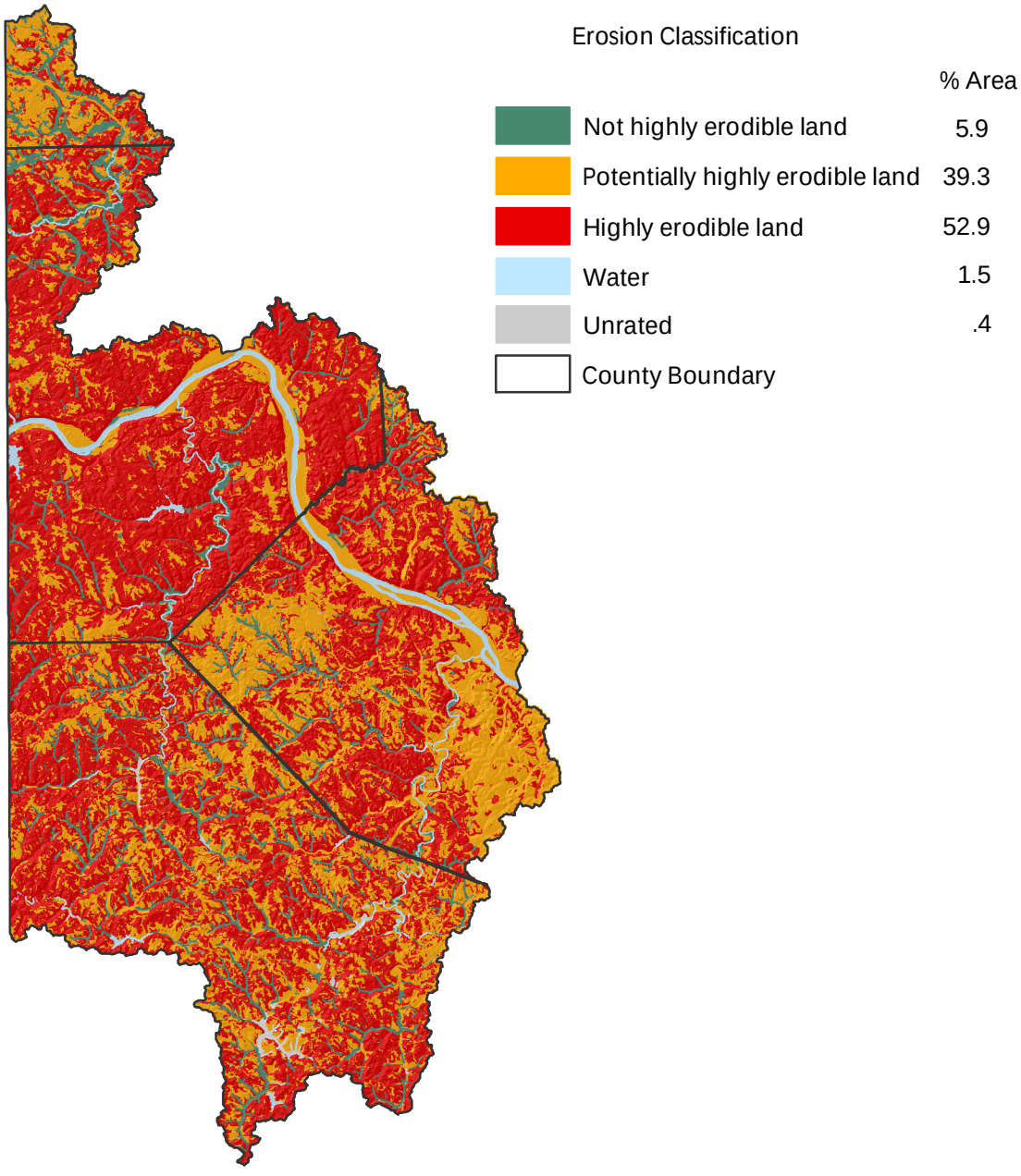
Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.





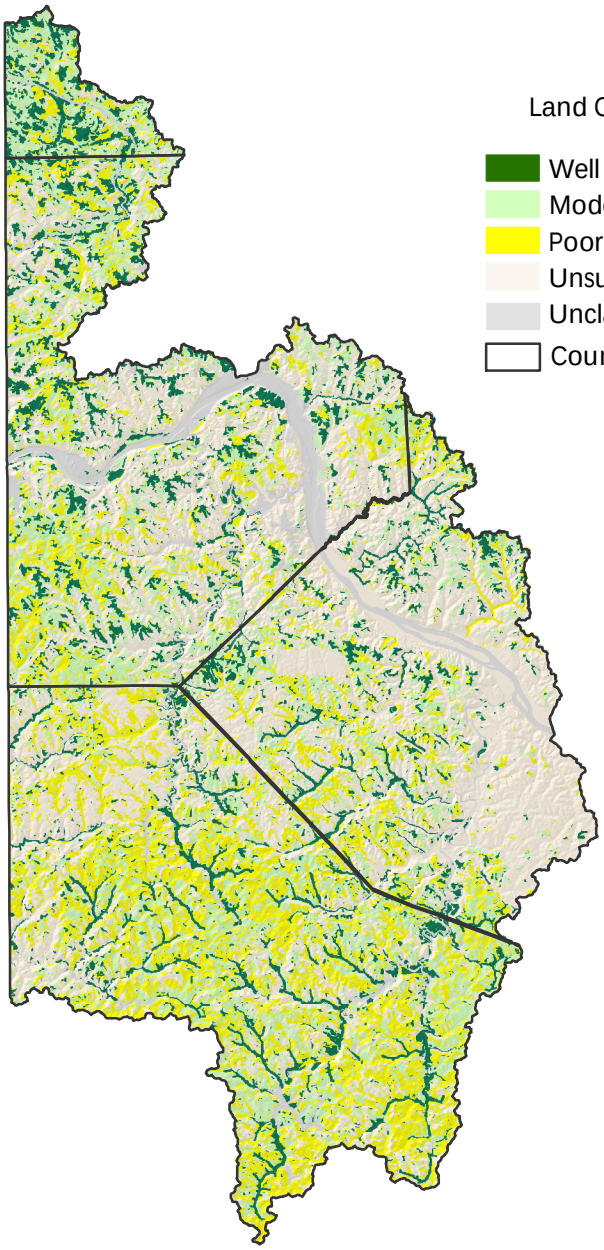
Highly Erodible Land

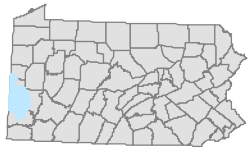
A soil map with an erodibilty index (EI) of 8 or greater is considered to be highly erodible land (HEL). The EI for a soil map unit is determined by dividing the potential erodibility for the soil map unit by the soil loss tolerance (T) value established for the soil in the FOTG as of January 1, 1990. Potential erodibility is based on default values for rainfall amount and intensity, percent and length of slope, surface texture and organic matter, permeability, and plant cover. Actual erodibility and EI for any specific map unit depends on the actual values for these properties.

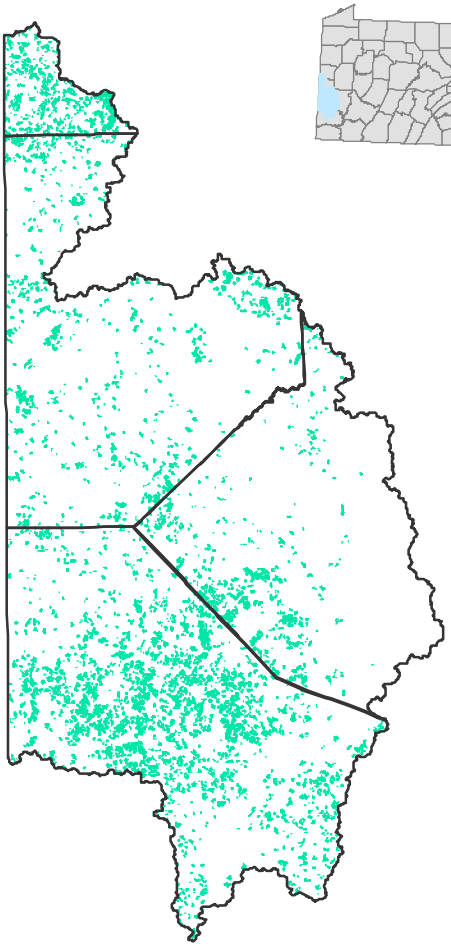


Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations that show suitability and limitations of groups of soils for rangeland, for woodland, and for engineering purposes.

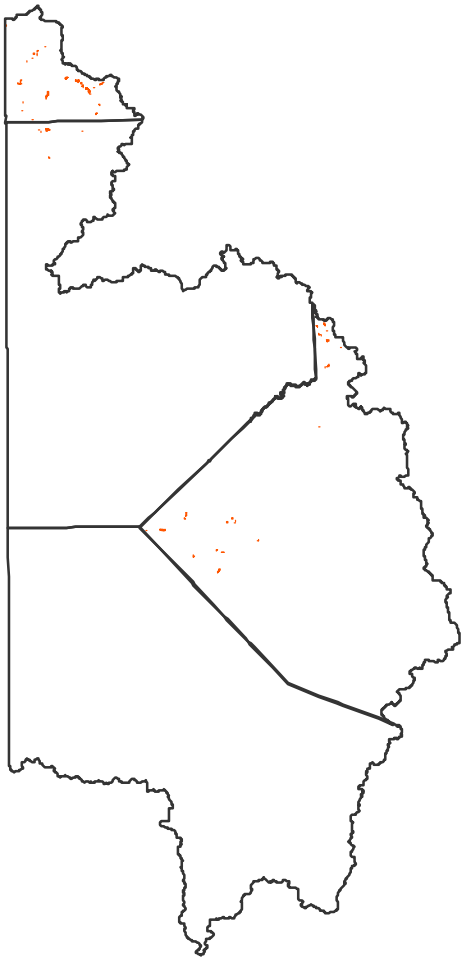






Cropland on Highly Erodible Land

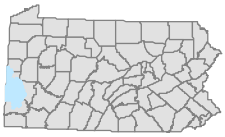
There are 15,225.0 acres on highly erodible land, which is approximately 38.2% of all the cultivated cropland in the watershed.



Cropland on Hydric Soils

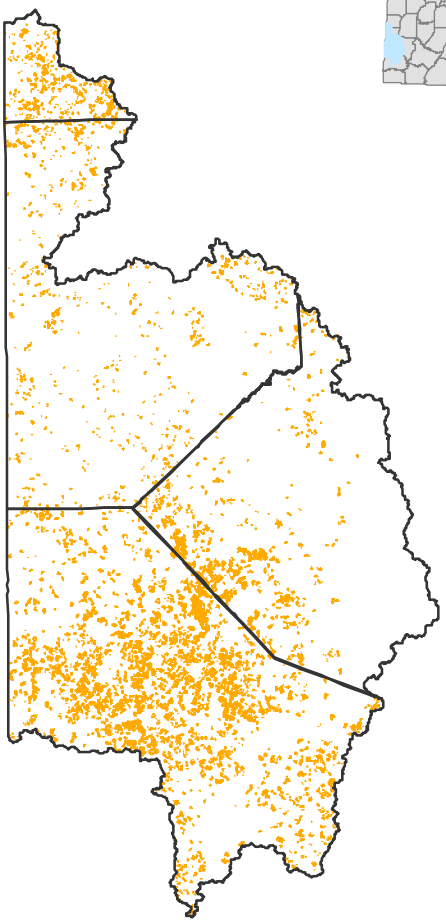
There are 109.1 acres on hydric soils, which is only .2% of all the cultivated cropland in the watershed.

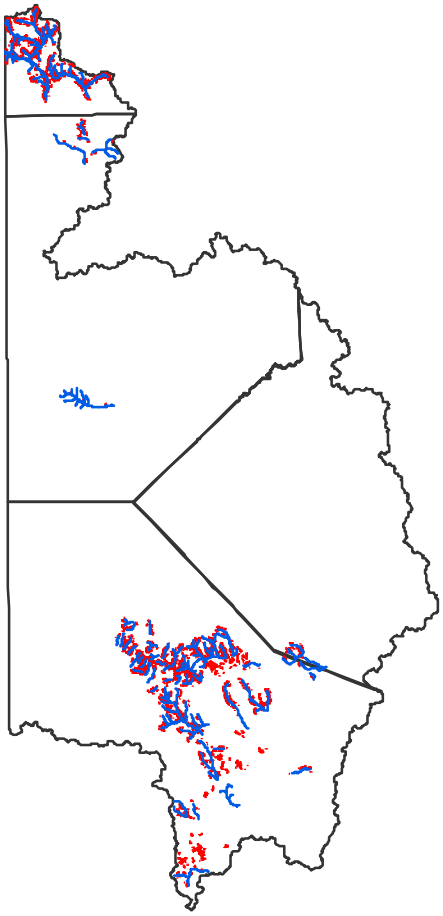
Upper Ohio Watershed



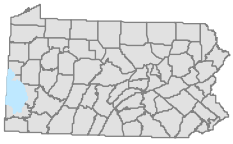
Cropland on Poor or Unsuited Soil

There are 14,307.7 acres on poor or unsuited land, which is approximately 35.9% of all the cultivated cropland in the watershed.





Cropland within 1000 feet of an Agricultural Impaired Stream



Resource Concerns

Major resource concerns in the area include:

- erosion
- reduction of organic matter on cropland
- land slippage
- acid mine drainage
- sedimentation
- gullying
- surface compaction
- productivity of soils
- management of soil moisture

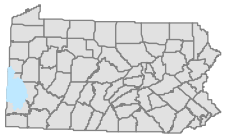
Conservation Practices

Common conservation practices for cropland:

- crop rotation
- contour farming
- conservation tillage
- buffers
- nutrient management
- cover crops
- diversions
- grassed waterways
- hayland plantings
- pest management

Common conservation practices for pastureland:

- prescribed grazing
- watering systems
- fencing
- manage livestock access to streams
- pasture planting
- nutrient management



PRS Performance Measures[18]

	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	Total
Total Conservation Systems Planned (acres)	967	3309	4741	3285	4922	NA	2173	3918	23,315
Total Conservation Systems Applied (acres)	508	1638	4467	2804	4941	NA	889	2597	17,844
Key Conservation Treatments									
Waste Storage Facility (number)	0	0	4	0	0	0	1	1	6
Riparian Forest Buffer (acres)	0	680	80	6	24	0	0	97	887
Erosion Control Total Soils Saved (tons/year)	401	825	720	2371	2461	NA	NA	NA	6,778
Nutrient Management (acres)	138	0	570	969	1648	184	62	83	3,654
Pest Management (acres)	0	0	0	0	0	0	0	0	0
Prescribed Grazing (acres)	138	102	29	271	305	33	189	188	1,255
Tree and Shrub Establishment (acres)	0	0	0	3	5	0	0	9	17
Residue Management (acres)	176	182	128	291	1034	0	189	1077	3,077
Wildlife Habitat (acres)	40	66	704	427	467	0	254	664	2,622
Wetlands Created, Restored, or Established	0	42	0	4	56	0	0	0	102
Acres in Conservation Programs									
Conservation Technical Assistance									
Planned	470	2252	3410	3134	4758	NA	1351	2645	18,020
Applied	60	1070	3512	2726	4939	NA	447	1720	14,474
Conservation Reserve Program									
Planned	140	270	200	0	0	NA	661	733	2,004
Applied	30	0	101	0	0	NA	250	567	948
Environmental Quality Incentive Program									
Planned	0	55	0	0	0	NA	0	132	187
Applied	0	55	204	0	2	NA	69	244	574
Farmland Protection Policy/Farm and Ranch Lands Protection Program									
Planned	0	53	99	0	0	NA	0	0	152
Applied	0	0	0	0	0	NA	0	0	0
Forestry Incentive Program									
Planned	0	32	5	0	0	NA	0	0	37
Applied	0	37	5	0	0	NA	0	0	42
Grasslands Reserve Program									
Planned				0	0	NA	0	0	0
Applied				0	0	NA	0	0	0
Grazing Lands Conservation Initiative									
Planned	138	698	115						951
Applied	138	554	388						1,080
Wildlife Habitat Incentive Program									
Planned	35	0	0	0	0	NA	0	0	35
Applied	0	0	0	0	0	NA	0	0	0
Wetlands Reserve Program									
Planned	0	0	0	0	0	NA	0	0	0
Applied	0	0	0	0	0	NA	0	0	0

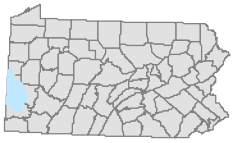
Social and Census Data [19]

	Allegheny	Beaver	Lawrence	Washington	Total
Farms (number)	167	457	70	1042	1,736
Land in farms (acres)	12,164	44,463	8,699	108,634	173,960
Total cropland (acres)	6,908	27,356	5,903	59,632	99,799
Principal operator by primary occupation - Farming (number)	78	250	41	452	821
Farms by Size					
1 to 9 acres	39	44	5	32	120
10 to 49 acres	64	135	20	396	615
50 to 179 acres	50	222	32	454	758
180 to 499 acres	12	49	11	140	212
500 to 999 acres	1	6	2	18	27
1,000 acres or more	1	1	0	2	4
Livestock and Poultry					
Cattle and calves inventory (farms)	46	222	41	505	814
Cattle and calves inventory - Beef cows (farms)	37	161	26	433	657
Cattle and calves inventory - Milk cows (farms)	4	38	13	33	88
Hogs and pigs inventory (farms)	9	28	10	57	104
Sheep and lambs inventory (farms)	13	41	6	95	155
Layers 20 weeks old and older inventory (farms)	21	39	9	64	133
Broilers and other meat-type chickens sold (farms)	1	4	2	10	17
Crops Harvested					
Corn for grain (acres)	337	2443	1233	2082	6,095
Corn for silage or greenchop (acres)	87	1380	444	1273	3,184
Wheat for grain, all (acres)	136	634	220	253	1,243
Oats for grain (acres)	147	1198	313	798	2,456
Barley for grain (acres)	6	223	19	71	319
Soybeans for beans (acres)	27	507	545	532	1,611
Forage - land used for all hay and all haylage, grass silage, and greenchop (acres)	2,786	12,454	2,027	33,477	50,744
Vegetables harvested for sale (acres)	322	176	30	248	776
Land in orchards (acres)	37	107	11	201	356
Total cropland harvested (acres)	4,380	19,141	4,708	38,931	67,160
Farm Operator by Ethnicity					
White	239	688	102	1506	2,535
Black or African American	0	0	0	5	5
Asian	0	0	0	0	0
Hispanic	1	8	1	6	16
American Indian/Alaskan Native	0	1	0	3	4
Pacific Islander	0	0	0	0	0
Women	78	223	24	476	801

Partnership Groups:

A cooperative project involving NRCS and conservation partners, including:

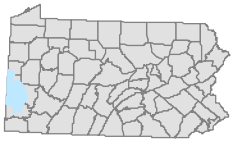
- State Conservation Commission
- Pennsylvania Department of Environmental Protection
- Pennsylvania Game Commission
- Pennsylvania Grazing/Forage Lands Conservation Coalition
- Pennsylvania Fish & Boat Commission



Footnotes/Bibliography

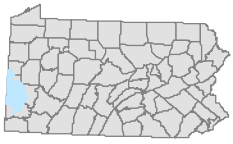
All data is provided "as is". There is no warranties, express or implied, including the warranty of fitness for a particular purpose, accompanying this document. Use for planning purpose only.

1. Common Resource Area
   Common Resource Area (CRA) delineation is defined as a geographical area where resource concerns, problems, or treatment needs are similar. More information can be found online at http://soils.usda.gov/survey/geography/cra.html
2. National Elevation Dataset (NED)
   The NED is a seamless mosaic of the best-available elevation data. The primary source data were the USGS 7.5-minute (30-meter or 10-meter resolution) DEM's. A hillshade grid was also created using the DEM and used to creare a 3-D effect. More inforamtion on NED can be found online at http://ned.usgs.gov/
3. Land Use / Land Cover 2001
   Land Use / Land Cover map was created using the National Land Cover Dataset. The National Land Cover Dataset was compiled from Landsat satellite TM imagery with a spatial resolution of 30 meters and supplemented by various ancillary data (where available). More inforamtion can be found online at http://landcover.usgs.gov/
4. Average Annual Precipitation
   The average annual precipitation data for this map layer were produced through a partnership between NRCS and the Spatial Climate Analysis Service at Oregon State University (OSU). The average annual precipitation is from 1961 through 1990. More information can be found online at http://www.ncgc.nrcs.usda.gov/products/datasets/climate/index.html
5. National Wetlands Inventory (NWI)
   The NWI maps do not show all wetlands since the maps are derived from aerial photointerpretation with varying limitations due to scale, photo quality, inventory techniques, and other factors. More information can be found online at http://www.fws.gov/nwi/
6. Impaired Streams
   Impaired Streams were derived from Pennsylavania Department of Protection Office of Water Management, 2006 list on Non-Attaining Streams. More information can be found on DEP website at http://www.depweb.state.pa.us/dep/site/default.asp
7. Abandoned Mine Land
   Abandoned Mine Land data was received from the Office of Surface Mining. The data set shows the approximate location of Abandoned Mine Land Problem Areas containing public health, safety, and public welfare problems created by past coal mining. More information can be found online at http://www.osmre.gov/osmaml.htm
8. Exceptional Value and High Quality Streams
   Exceptional Value and High Quality Streams were taken from the Chapter 93 data layer received from Pennsylvania Department of Environmental Protection. For more information on what qualifies a stream as exceptional value or high quality or any information on Chapter 93 streams go to http://www.pacode.com/secure/data/025/chapter93/chap93toc.html



Footnotes/Bibliography

9. Pennsylvania Trout Waters
   Pennsylvania Trout Water data is compiled by the Pennsylvania Fish and Boat Commission. This layer was created based on the 1:24000 National Hydropahy Dataset (NHD) water bodies layer. More information can be found online at http://www.fish.state.pa.us/fishpub/summary/troutwaters.html
10. Total Maximun Daily Load (TMDL)
    TMDL is the sum of the individual waste load allocations and load allocations which would not produce a violation of water quality standards. The data used is from 2003, the PA Department of Environmental Protection is currently working on updating the GIS data available. More information can be found on TMDL locations in PA at http://www.dep.state.pa.us/watermanagement_apps/tmdl/, and/or nationally at http://www.epa.gov/owow/tmdl/
11. Water Quality Testing Points
    Water Quality Testing Points monitor water quality with emphasis on stream acidity in Pennsylvania with an assoiciated database. The database contains more than 33,466 records on water quality from 1986 to the present from 622 testing sites throughout Pennsylvania. Information in the records includes alkalinity and Ph and includes nitrates and phosphates for some sites since 1996.
    The information is maintained by the Alliance for Aquatic Resource Monitoring. More information can be found online at http://alpha.dickinson.edu/storg/allarm/allarm%20projects/database.htm
12. Water Resource Points
    A Water Resource is a DEP primary facility type related to the Water Use Planning Program. More information can be found http://www.depweb.state.pa.us/dep/site/default.asp
13. Natural Heritage Inventory Sites
    The Natural Areas polygons were developed by the Pennsylvania Natural Heritage Program (PNHP) County Natural Heritage Inventory (CNHI) Program. Natural Areas were identified using map and air photo interpretation, aerial rconnaissance, and field surveys. More information and county reports can be found online at http://www.naturalheritage.state.pa.us/
14. Pennsylvania Breeding Bird Atlas
    Data was taken for the 1st Pennsylvania Breeding Bird Atlas (1992). For this watershed assessment, fourteen bird species were chosen to be focused on. More information about all bird species can be obtained at http://www.carnegiemnh.org/atlas/home.htm
15. Important Bird Areas
    The Important Bird Areas Program (IBA) is a global effort to identify and conserve areas that are vital to birds and other biodiversity. For more information nationally and/or on the state level go to http://www.audubon.org/bird/iba/
16. Important Mammal Areas
    Important Mammal Areas Project, IMAP, the first program of it's kind, was created by the Mammal Technical Committee of the Pennsylvania Biological Survey (PaBS). For more inforamtion go online to http://www.pawildlife.org/imap.htm



Footnotes/Bibliography

17. Soils

    Soil Survey spatial and tabular data were used for the following survey areas:

    Allegheny County (PA003)
    Beaver County (PA603)
    Lawrence County (PA603)
    Washington County (PA611)

    Spatial and tabular data an be downloaded at http://soildatamart.nrcs.usda.gov/

18. Performance Results System (PRS)

    PRS data was extracted from PRS by year, conservation system, conservation practice, and proagrams by hydrologic unit code. More information can be found online at the PRS homepage http://ias.sc.egov.usda.gov/prshome/

19. Social and Census Data

    Ag census data and ethnicity data were downloaded from the National Agricultural Statistics Service (NASS). The data was adjusted by percent of Hydrologic unit in the county. More inforamtion can be found online at http://www.nass.usda.gov/Census_of_Agriculture/index.asp