

## LAND RESOURCES

### Soil Characteristics

Soils in the hilly regions are formed from material weathered from granitic gneiss and other igneous or metamorphosed rocks. They belong to the Chester-Glenville-Brandywine association, and are deep to moderately deep and well-drained. In many places they have large stones and boulders on the surface. Soils in the Chester series are suitable for agriculture at 0 to 8% slopes, being easily tilled with slow to moderate runoff and high moisture capacity. At higher slopes, erosion is a problem. Mountainsides at slopes of 25 to 55 % typically have many stones and boulders, and rapid surface runoff. This topography is too steep and stony for pasture or for residential use, and is best retained in forest where it is suitable for recreation, wildlife habitat and protection of the watershed.

Soils in the lowlands around Lobachsville belong to the Chester and Edgemont Series, at 3 to 8% slopes, moderately eroded. These soils are weathered from hard sandstone, quartzite and granitic gneiss. Runoff is slow to medium and the hazard of further erosion is slight. Slope is the major limitation for farming use. Cultivated crops can be grown, but crop rotation and conservation practices are necessary to prevent further erosion.

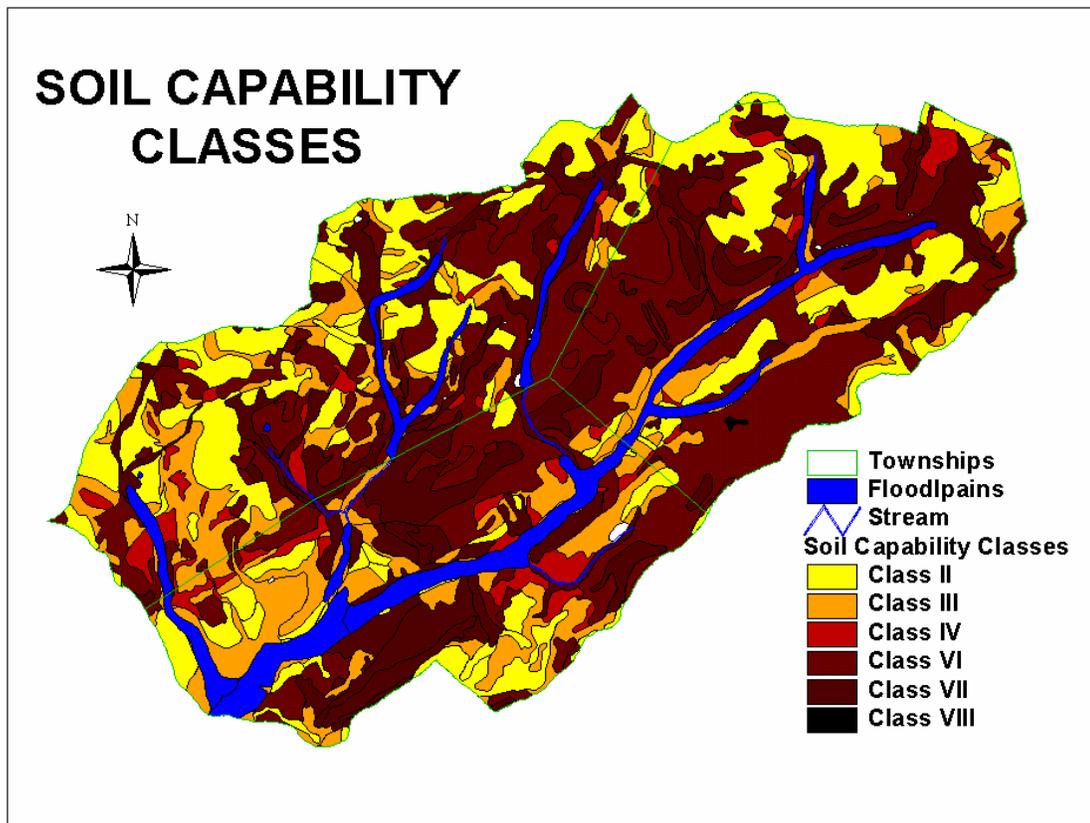
Floodplains in the lower Pine Creek valley are composed of poorly drained nearly level soils of the Atkins and Baile Series, formed from alluvial sediment derived from acid and calcareous rocks. Surface runoff is slow and the water table is high. Flooding is a hazard during periods of heavy rain. A floodplain is best left as a natural area of open space. Constructing any type of structure on a floodplain is not recommended, as it is subject to periodic flood damage and interrupts the normal processes of the stream. Floodplains can be used for some agricultural purposes, passive recreation, wildlife habitat, and as a natural stream buffer.

Class	Principal Soils	Principle Use	Other Use	Limitations
II	Chester ChB2	Farmland	Residential	Slight
	Edgemont EcB2	Farmland	Residential	Slight
	Edgemont/Dekalb EdB	Pasture	Residential	Stony
III	Glenville GlA	Pasture	Residential	Poorly Drained
	Chester ChC2	Woodland	Residential	Slope, Stones
	Edgemont EcC2	Woodland	Residential	Slope, Very Stony
	Atkins Au	Floodplain	Pasture	Poorly Drained
	Chester ChC3	Woodland	Rural	Slope, Eroded
IV	Chester CnD	Woodland	Rural	Slope, Stony
	Edgemont EcD3	Woodland	Rural	Slope, Stony
	Baile Ba	Wetlands	Drainage ways	Wetness
V	Chester ChE3	Woodland	Rural	Slope, Eroded
	Chester CnB	Woodland	Rural	Very Stony
	Chester CnD	Floodplain	Rural	Slope, Very Stony
	Edgemont EdB	Woodland	Rural	Very Stony
VI	Chester CnD	Woodland	Rural	Slope, Very Stony
	Chester ChnF	Woodland	Rural	Slope, Very Stony
	Edgemont/Dekalb EdF	Woodland	Rural	Slope, Very Stony
VII				

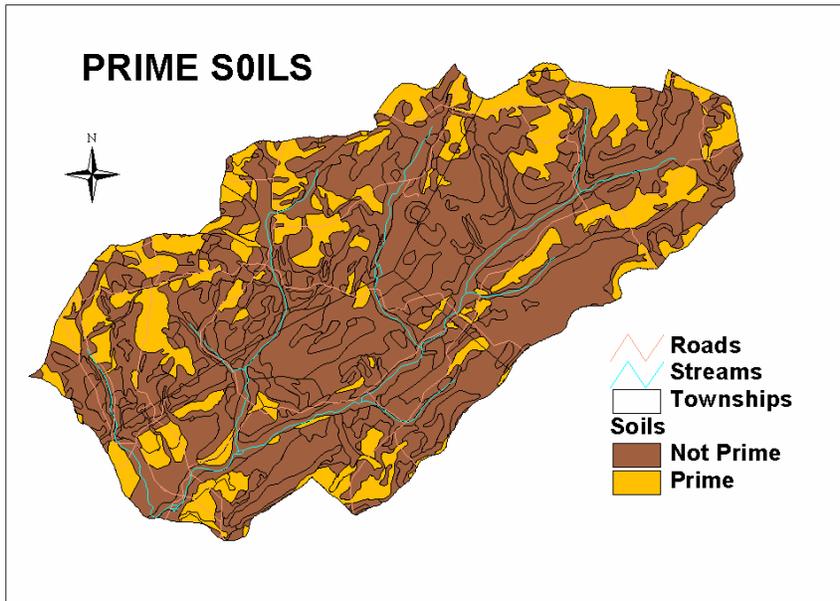
## Soil Capability Classes

Soils are grouped into eight capability classes to show their general suitability for farming and other uses. Class I soils have the fewest limitations, and Class VIII, the most. For example, Class I soils are nearly level, well drained, and high in natural fertility. Class VIII land is Rubble land, containing little or no soil material.

The following map illustrates distribution of soil classes. This map lacks Class I and Class V soil designations, as the amount in these classes is too small to map. The accompanying table identifies the principal soils, uses and limitations for each soil class. In general, the more level areas, Class II and Class III are the most suitable for farming or for residential uses. Classes IV and VI have slopes of 15% to 25%, and greater, presenting severe limitations for on-lot septic systems, building construction, landscaping, streets and parking. These steep stony soils present erosion hazards and are best suited to use as woodland. The steepest slopes, Class VII, at 25% to 70% have management constraints in the use of equipment and the susceptibility to erosion problems. These soils are suitable for forest, wildlife, and protection of the watershed.



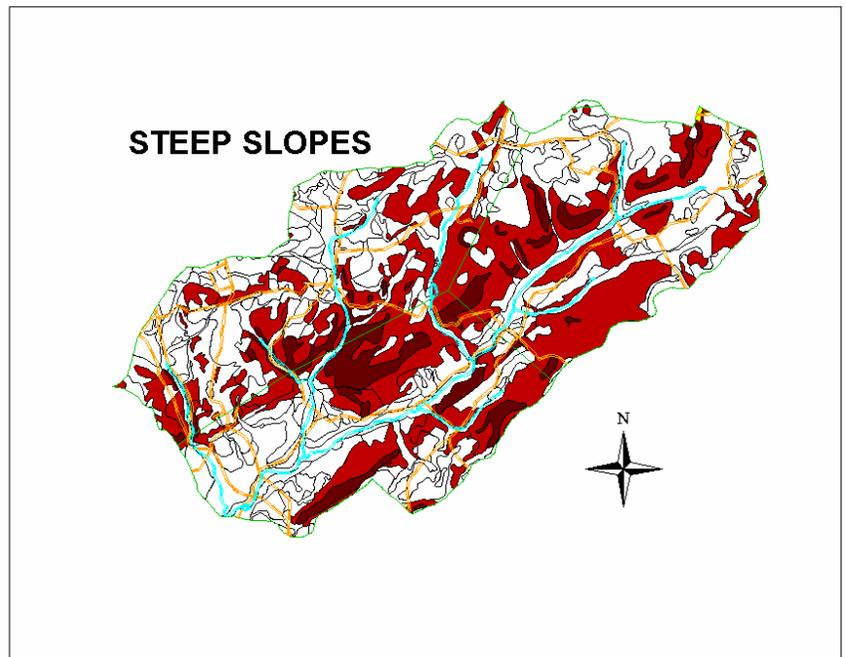
## Map of Prime Soils



A map of the Prime Soils in the watershed shows the distribution of these Class II soils in the more level areas of the valleys and uplands. Most of these areas are used for farming, with scattered residential use

## Map of Steep Slopes

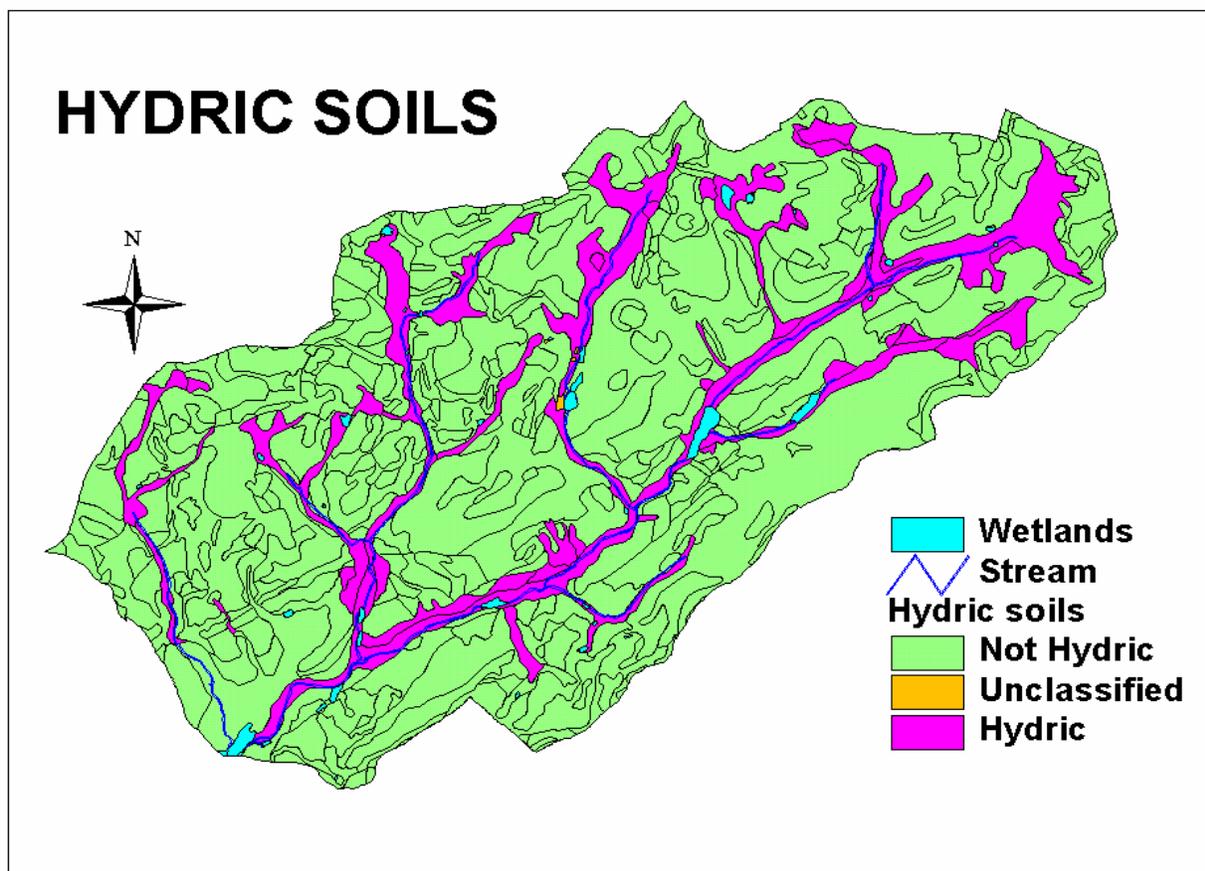
Large portions of the watershed are too steep for farming or residential use. This map shows 15-25% slopes in red and over 25% slopes in brown. Nearly all lands with steep slopes over 15% or 25% are wooded, used for timber production and wildlife habitat.



## Hydric Soils, Floodplain and Wetlands

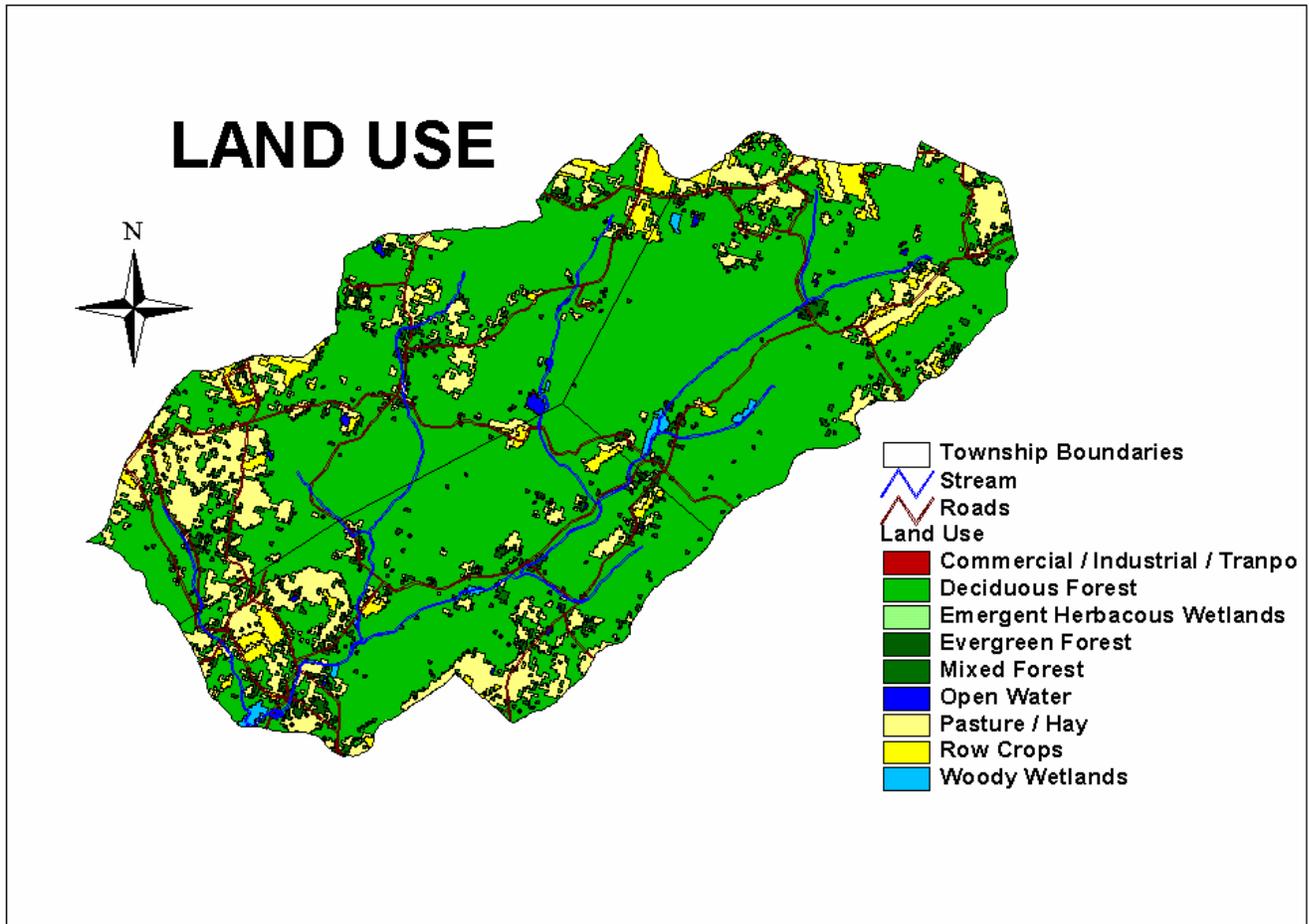
Hydric soils, wetlands and floodplains are found along Pine Creek and its tributaries. Not all hydric soils are found in the valleys, however. Many small seeps and wetlands are found along slopes and in upland areas, a characteristic of this and other Reading Prong watersheds. The areas depicted as hydric soils that extend beyond the mapped tributaries represent tiny first order streams that are not mapped on the USGS topographical maps or in arc view GIS maps. These are especially sensitive areas that present development constraints because of poor drainage qualities, and should be considered conservation priorities.

Hydric soil areas serve a valuable function in filtering and purifying water, and have ecological value in providing habitat for a rich variety of plants and animals that cannot exist in drier areas.



## Land Use and Land Cover

The following map illustrates Land Use in the Pine Creek Watershed today. The predominance



of the green color depicts the large tracts of woodland in the hills of the Reading Prong, featuring mixed deciduous woods, much as it was two centuries ago. The other major land use component is farmland, with hay and pasture shown in tan, and row crops shown in yellow. The third illustrated land use category is water, stream corridor, ponds, and wetlands. Residential use, though a prominent land use, does not show up on the map because of its scattered pattern.

### Woodland

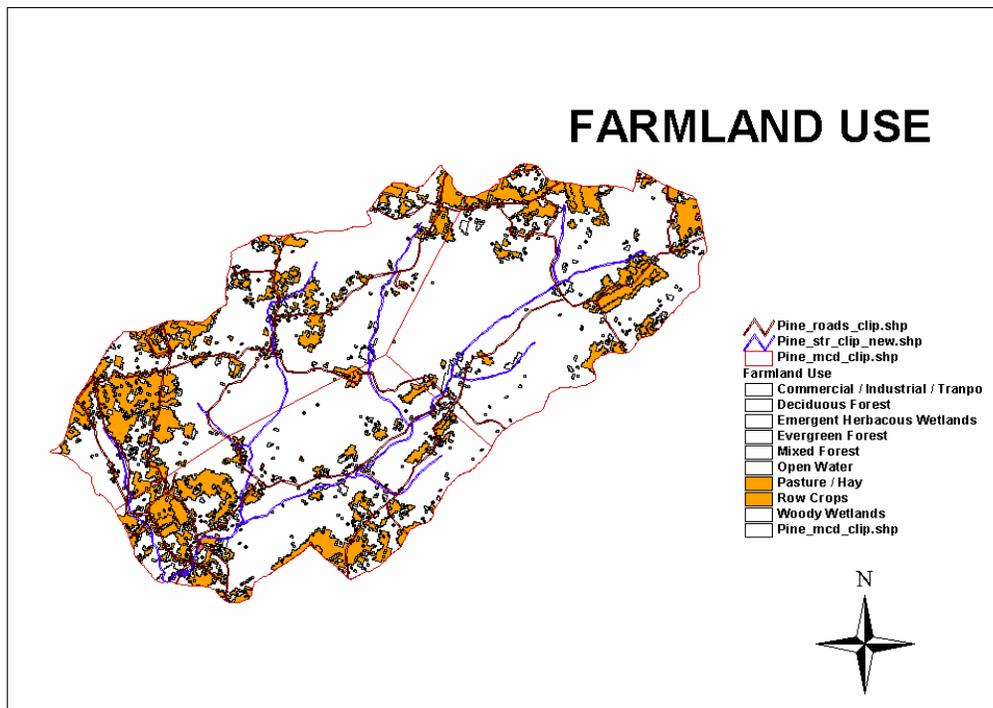
In the Pine Creek Watershed, forests are the dominant land cover. Over 75% of the land is woodland. Most of the forests have regenerated after former types of land use and development.

Throughout these hilly woodlands there is evidence that much of the land was farmed or pastured at one time. Much of the woodland was also cut over to produce charcoal for the 18<sup>th</sup> and 19<sup>th</sup> century iron furnaces and forges along Pine Creek.

Today, the large tracts of contiguous woodlands create an important wildlife resource. Such uninterrupted natural areas sustain a healthy mix of plants and animals, including species of special concern. Not only are these regions important for biodiversity, but in addition, they are important to water quality, furnishing a natural filter for rainwater, and numerous seeps, springs and small rivulets, which collect into high quality streams.

### Farmland

The Pine Creek watershed has limited farming operations because of its steep slopes and stony soils. Most farms are consequently located in valley and upland areas of moderate slope. The map below shows the locations of these farms. Hay and pasture are the most common farm land-use. Row crops consist of corn, small grains, and soybeans. The size of farms is relatively small, 100 acres or less in size. Major farming areas are Huffs Church Road and Bitting Road in District Township, Fredericksville, Schweitz, Deysher, and Lobachsville Roads in Rockland Township, and the area north and east of Lobachsville in District Township.



## Residential Uses

Residential patterns can be seen in the following maps, which show property boundaries in the Pine Creek watershed. The upper map illustrates property boundaries related to land use. Nearly all residential lots are located along roads, and are in areas of low to moderate slope. Although Fredericksville and Lobachsville are considered villages, the house lots there are of variable size.

Rockland Township has the greatest number of house lots of one acre or less, while District Township has the largest parcels. Some of the larger woodland tracts are not residential properties.

**SUBDIVISIONS IN RELATION TO LAND USE**

