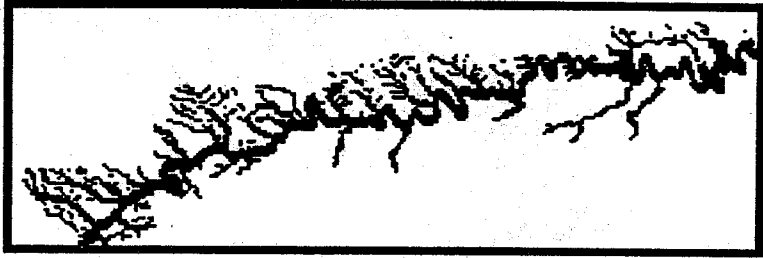
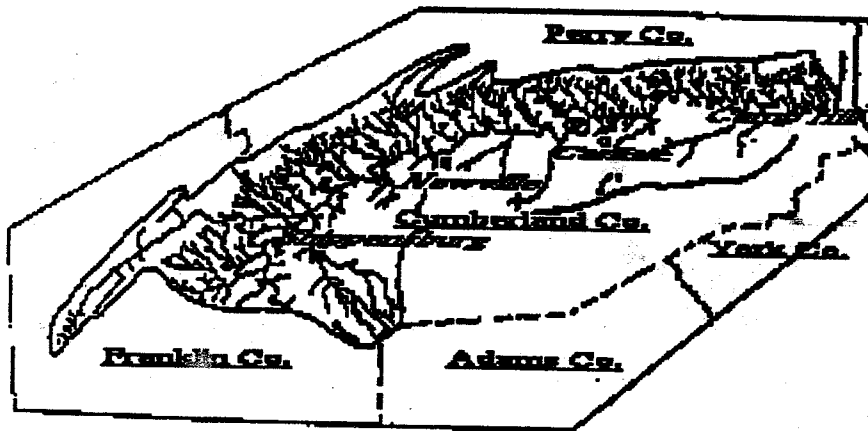


**CONODOGUINET CREEK  
WATERSHED ASSOCIATION  
PRESENTS**



**A LONG WAY  
WITH MANY BENDS**

# CONODOGUINET WATERSHED



**A Long Way with Many Bends**  
 presented by  
**The Conodoguinet Creek Watershed Association**  
 by Timothy A. Lemke

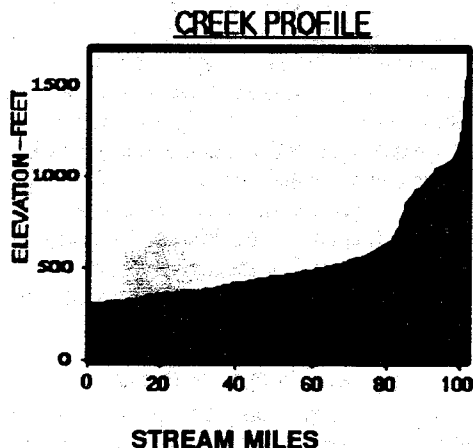
**INTRODUCTION**

The significance of the Conodoguinet Creek is often hidden from the present inhabitants of the Cumberland Valley. As it flows through the rich farmland and forest land of the valley, it is only occasionally visible from the major highways that cross it. With its sinuous curves the Conodoguinet Creek winds through the geology, ecology, and history of the Cumberland Valley. This wide, slow moving river has, and will continue to enrich the life of the valley.

It is formed by the interface of two geological formations, the Great Valley and the Valley and Ridge province of the Appalachian Mountains. From prehistoric times the creek's banks formed part of the trading path system of the Native Americans. The fur traders and settlers that came later followed this route westward. Until after the French and Indian Wars, the creek defined the frontier of Colonial Pennsylvania.

Today, the influence of the creek is not as obvious, but it is no less important. It is the most important source of water for municipalities and agriculture in the valley, as well as a means for waste disposal. It is a source of recreational activity for a great number of people who live on its banks and beyond. Most importantly it provides a diverse plant and animal habitat for the valley and is an integral part of the landscape.

**THE GEOLOGY OF THE CONODOGUINET WATERSHED**



The Conodoguinet Creek originates in the Kittatinny Mountains in the Buchanan State Forest, flows through Horse Valley and Roxbury Gap, where it emerges from the mountains. It continues its journey, at a more

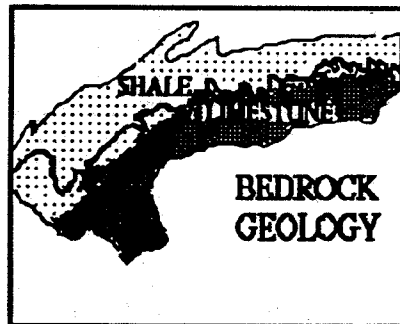
leisurely pace, through the Cumberland Valley to its confluence with the Susquehanna River. The total drop in elevation, from its origin in the mountains to the Susquehanna is almost 1400 feet. Although the creek is over 100 miles in length, it only covers a linear distance of seventy miles; hence, the origin of its Indian name "A Long Way with Many Bends." The watershed of the creek covers over 500 square miles of prime agricultural, forested and residential land in the Great Valley.

**The Great Valley**

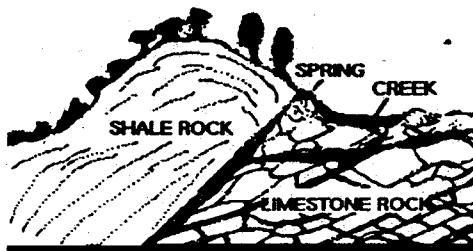
The Cumberland Valley, as it is locally called, is a 12-30 mile separation between the North Mountains, with its uniform ridges, and the South Mountain, with its deep ravines and its flat tops. The valley was formed by the erosion of the less resistant limestone and shales as compared to the quartzite (sandstone) of the mountains.

The Indian name for the valley is Kittochtinny or "Endless Mountains". The seventy mile long valley's floor is covered by fertile soils and is underlain by intensely folded limestone and shale formations. The creek drains most of the Cumberland Valley north and west of the Yellow Breeches Creek.

**Creek Formation**



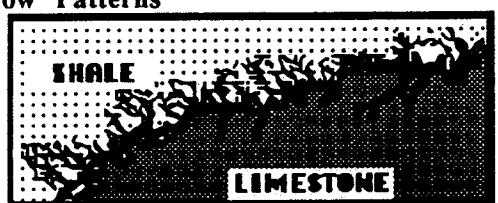
The creek flows near an interface of the underlying shale bedrock to the north of the creek, and limestone, principally calcite and dolomite, formations to the South. This interface provides the geological conditions for the formation of the creek.



The limestone region is characterized by underground channels, cracks, fissures and caverns. Rainwater filters through the surface soils into these underground channels and flows as underground streams. When these underground streams in the limestone aquifer encounter the much less permeable shale formations, these act like underground dams and the water is forced to the surface as springs.

The groundwater accounts for two thirds of the average flow of the creek, with an average groundwater flow into the creek of 202,000 gal/min. This water flows into the creek either directly from springs or fissures, or indirectly through spring-fed tributaries. The other one third is supplied by surface runoff, mainly from the shale side of the creek. The stream flow up to three days after a rainfall is a result of surface runoff, and thereafter the flow is maintained by the groundwater.

**Flow Patterns**



The effect of the geology on these flow patterns of the creek can be seen on the map. The northern side of the creek is fed by a large number of small tributaries which carry surface runoff, whereas the southern, limestone side of the creek, the tributaries are relatively rare, and are usually spring fed limestone streams. These are important cold water trout fisheries and include: Middle Spring, Green Spring, Big Spring, Alexander Spring and the Letort Spring. Big Spring is the largest of these, and is the fifth largest spring in Pennsylvania. These limestone springs that feed the creek also make the waters more resistant to the adverse affects of acid rain, since the limestone tends to "buffer" or neutralize the acidity.

**Landscape**

The effect on the landscape of the two different bedrock formations can also be seen. The northern shale deposits are more resistant to erosion and as a consequence the landscape is hilly in nature and the slope of the land toward the creek is greater than the opposing limestone side. The shale is generally covered with stony soils that have low fertility and high acidity and are associated with forest growth. On the other hand the limestone side of the creek has soils of high fertility, low acidity and present a gentler landscape, that is relatively flat, with shallow bowl like depressions caused by sinkholes and

caverns. These are caused by the underground erosion of the limestone. The fertile, well drained soils of this area account for the excellent agricultural potential of the valley.

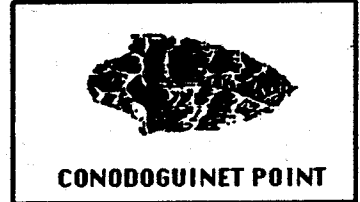
**Conodoguinet Cave**

There is a large cave in Middlesex township, just outside of Carlisle. This cave is positioned immediately along the creek and extends 270 feet, where it branches in three directions. Human bones, presumed to be remains of an American Indian have been found in the cave.

**Logan School Fossil Site**

500 million years ago, an ancient inland sea covered the eastern part of the North American continent. Carbonates, concentrated in the shells and bodies of marine organisms, that lived during that epoch, form the basis for limestone rock. Fossils from this ancient inland sea, are found in abundance in an area along the creek, in West Pennsboro township, known as the Logan School Fossil Site. The fossilized remains of shells, marine worms and other organisms are located in limestone outcroppings along the creek. This site is noted in *Outstanding Geological Features of Pennsylvania*.

**THE EARLY HISTORY OF THE CONODOGUINET CREEK**



There is considerable archaeological evidence that Native Americans have occupied the area around the Conodoguinet Creek for many thousands of years, from paleolithic times to the Colonial period. Evidence in the form of arrowheads spear heads, pots, and tools indicates that there were sizable settlements. The Indian word for the creek, as closely as can be determined, is Guiniipduckhanet. This name was interpreted by the Europeans variously as Conodogwinet, Conedogwinet, Connodoguinet, Conodogwt, Conodagwanett, and the now accepted Conodoguinet.

**Early Indians- 1000 B.C-1500 .**

Excavations of sites of the early prehistoric Native Americans that occupied the area until 1000 B.C.. After 1000 B.C. changes caused by migrations of new groups into the area began to occur. Cooking vessels, carved from soft stone began to appear, and there was a greater emphasis on using resources associated

with the creeks and rivers, such as fish and fresh water mussels. After 1000- A.D. agriculture was developed and populations began to grow.

#### **Susquehannocks**

Around the 16th century a splinter group of Iroquois from the North began to move into the area, and by the end of the 16th century (1575) the earlier group of Native Americans had been either killed off or assimilated. This new group, known as the Susquehannocks, dominated the Susquehanna River Valley for the next century. These were the Indians that met Captain John Smith at the Chesapeake Bay. The

Although the major population centers for this group were toward the Lancaster and York area, remains of pottery, cache pits and grave sites discovered in the Camp Hill-Lemoyne area locate Susquehannock settlements near the mouth of the Conodoguinet Creek.

#### **Iroquois**

After 1660 a new migration occurred by another Iroquois group - the Senecas. The Senecas defeated the Susquehannocks in the last Indian war fought in this area. By 1675 the Susquehannocks had been assimilated or exterminated.

#### **Indian Paths**

The Iroquois Confederacy held a weak authority over this area for the next century. This Confederacy was held together by a network of Indian paths that traversed the state.

One of the most important trading roads, across the state was the Frankstown path, which ran from Harrisburg or Paxtang on the Susquehanna to Kitanning on the Allegheny. This path paralleled the course of the Conodoguinet Creek over most of its length. Present day Rt 11 and 641 follows much of this old path. Indian traders were found over the length of the creek. The Indian paths were later used by the European settlers as trading or migration routes and, today many are major highways.

At the western end of the creek, there was an important canoe portage route between the Conodoguinet and Conococheague Creeks, which connected the Susquehanna and Potomac watersheds.

#### **Shawnee Settlement**

By the early 1700's many Indian tribes were under serious stress by the encroachment of European settlements. The Iroquois Confederacy encouraged some of these tribes to settle in the Susquehanna Valley. In this process it is believed that a Shawnee group settled at the mouth of the Conodoguinet Creek where it enters the Susquehanna. This settlement, that existed around 1727, took the name of the creek and was

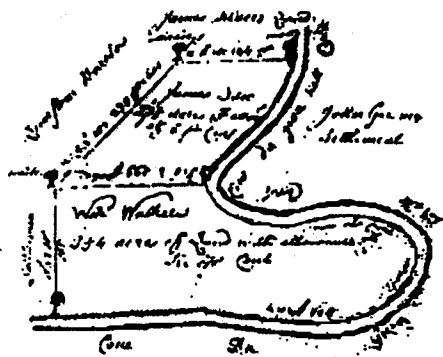
located in the area presently occupied by Lemoyne, Camp Hill and Wormleysburg. It was occupied for several years, until the Shawnee decided to move to the Ohio Valley, where they became increasingly friendly and more closely allied with the French. In 1732 this alliance, led William Penn's son, and other influential landowners to attempt to attract the Shawnee back to the southcentral part of the state by granting the Shawnee a permanent reservation. This was to be a tract of land of over 7500 acres in the area between the Yellow Breeches and the Conodoguinet known as Lowther Manor. The Indians rejected the grant and by 1744 the few remaining Shawnees returned to the unpopulated lands to the West. However, the Penns did not allow general settlement of the valley, until 1761. This area was reserved for Indian use by treaty, but, increasingly, traders and settlers began to move into the area.

#### **Early Settlers**

Between 1700 and 1760, there were a number of traders that occupied small settlements or trading posts along the Conodoguinet Creek. The trade was principally conducted between the French traders and Indians that travelled the Frankstown path. One of the earliest French traders, James LeTort, a French trader, built his cabin in the Carlisle area in 1707. The Hendericks family staked out a claim in the Camp Hill area. Peter Chartier, the son of a French trader and a Shawnee woman, had a small trading post in the New Cumberland area, across from the Harris Ferry. Andrew Montour was another colorful Indian trader who lived about three miles up the Conodoguinet. These traders were migratory, and their presence was felt throughout the Colonial frontier.

#### **James Silver and Silver Spring**

James Silver was another early settler and owned 530 acres along the Conodoguinet and Silver Spring Run around 1740. This area was to be the center for activity for the next thirty years. It was believed that Silver came to the area to engage in trading. Silver was one of the architects of the "Great Road" that was to lead from the Harris Ferry to the Potomac.



MAP OF CROGHANS PLANTATION

### The King of the Indian Traders

George Croghan (1720-1782), known as "King of the Indian Traders" or "Buck" by the Indians, was a boisterous, colorful character that dominated the landscape of the valley. Various known as a rogue, rascal and hero, he played a major part in the history of colonial Pennsylvania.

Croghan, originally from Dublin Ireland, owned a "plantation" of about 800 acres along the banks of the Conodoguinet about five miles from the Susquehanna River. This was a transfer point for furs brought down from the North on the "New Path" through Croghan's or Stephen's (now Sterretts) Gap and from the western regions, on the Frankstown and Virginia Paths through McCallister's or Roxbury Gap.

### French and Indian War

By March of 1744, hostilities had broken out, and this ended the era of peace between the Indian and white man. Many of the early settlers including Croghan and Silver were involved in the French and Indian War. During these hostilities there were a number of Indian attacks and massacres in the settlements along the creek. In 1755, Croghan and George Washington rallied a number of local inhabitants and helped lead an expedition to Fort Dusquesne to rescue General Braddock. By 1760 most of the Indians had left the area and in 1761, the Indians sold back the land to the Penns for \$400.

The land was surveyed and broken up into a number of tracts. Several hundred acres at the mouth of the Conodoguinet were reserved for the Penn family and much of the rest was distributed to various people, sometimes in payment for past services and to legitimize some of the past illegal settlements. Hundreds of immigrants moved into the area. Many of them came from the populated areas of Lancaster County to the South, and settlements were rapidly formed up the Conodoguinet Creek.

### Mills and Farms

By 1750 Cumberland County had been formed and Carlisle and Shippensburg were founded in 1749 and 1751, respectively. By 1762 the first of over ninety mills to be built on the Conodoguinet was built by John McAllister at Roxbury. Oyster Mill, a grist and lumber mill, was built in Camp Hill, on the other end of the creek, by the Kreitzer family.

These industries included grist mills, lumber mills, clover mills, distilleries, chopping mills. The Conodoguinet creek provided the energy to grind the grain from the rich Cumberland Valley, saw the lumber harvested from the mountains into boards for new homes and barns and later, railroad ties for the new railroads and eventually to generate the electricity to light the light of the towns. Willow Mill and Heishman's mill are in existence today as examples of a of industry and architecture from a past era.

### Lewis the Robber (1790-1820)

Dan Lewis was a legendary outlaw, known as the "Robin Hood of Cumberland County." He was arrested and sentenced to death during the War of 1812 for double enlistment and desertion. He escaped from a Carlisle guard-house and hid in part of the Conodoguinet Cave known as "the Devil's Dining Room". From this refuge, he put together a band of men that terrorized he valley. He and his band of "merry men" roamed Cumberland County as highwaymen and counterfeiters.

Lewis had a reputation as a gentleman, and often charmed his way out of trouble. This gentleman thief, who never "harmed his victims, and always spoke kindly to the ladies", was finally captured during a robbery, and died in a Bellefont jail of gunshot wounds.

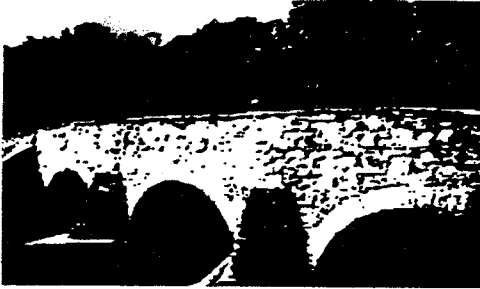
### Susquehanna-Potomac Canal

In 1771 the State Assembly declared the Susquehanna and some of its tributaries, including the Conodoguinet to be a public highways, suitable for navigation.

By 1826 the Canal Commissioners of Pa. had recommended that a canal be built connecting the Susquehanna and the Potomac. A Conococheaque-Conodoguinet canal would have resulted in an all- water route between Harrisburg and Washington. However, before this could be acted on the new technology of the railroads had made canals obsolete and by 1834 the public highway law was repealed.

With the end of the mill era and the beginning of modern technology, the creek took on a different role.

## Bridges



**Horse Valley Bridge**

The legislature authorized the building of bridges across the Conodoguinet as early as 1753. The over forty bridges that cross the Conodoguinet are representative of a variety of styles and construction techniques, from the early stone arch bridges to the modern prestressed concrete and steel designs.

Most of the early bridges exist at the western end of the system, where they have been preserved by lack of development and the absence of destructive floodwaters and ice jams.

### Stone Arch Bridges

Stone arch bridges represent the earliest type of bridge architecture to be found along the creek, although this enduring style that was continued to be built up to the twentieth century.

Three important stone arch bridges are found on or near the Conodoguinet Creek. The Welty's Mill Bridge, built in 1856, crosses over a tributary of the Conodoguinet and is listed in the National Historic Registry. This bridge is made up of two spans for a total span of 75 feet.

The McClays Twin Bridge is made up of an east section of three spans, spanning a total of 177 feet, and a west section of two spans for a total of 105 feet. These were built by Henry Silas in 1827.

The fourth bridge is the Horse Valley Bridge in Letterkenny Township. This stone rubble bridge had a total span of 55 feet and was built prior to 1860 as part of the stage route from Upper Strasburg to Fannettsburg. These three bridges are listed as bridges of historic significance in "Historic Highway Bridges in Pennsylvania".

### Covered Bridges

Two of the three remaining covered bridges in Cumberland County cross the Conodoguinet Creek. These are the Thompson Bridge and the Ramp Bridge. The Ramp Bridge was built in 1870 and is the only one still in use. It is located in Hopewell township and is a fine example of a Burr arch truss bridge, which

features great wooden reinforced arches, as its span trussing system. It has an overall length of 130 feet, and a width of 14 feet. The Ramp bridge is listed in the National Register of Historic Places. Both bridges are described in The Covered Bridges of Pennsylvania.

### Iron Bridges

Wolfe's Bridge built in 1895, is found just South of Carlisle, in Middlesex Township, and is an excellent example of the the metal truss bridge, the descendent of the wooden covered bridge.

## Animal and Plant Life on the Conodoguinet

The diverse habitat of the Conodoguinet basin, from the Hemlock forest lined banks at its cold headwaters, to the open pasture lined banks of the warmed waters of the lower bends, the creek is home to an unusually abundant variety of plant and animal species. These include a number of rare and endangered species, that give the watershed a biological uniqueness and richness not found in many other areas.

### Fishing



### Headwaters

The Conodoguinet Creek is generally classified as a warm water stream, but its middle sections are considered to be a coolwater stream, and its upper reaches and its spring-fed tributaries are cold water trout fisheries.

Although there are no self-reproducing populations of trout in the main stream, they do exist in the tributaries, The upper portion of the stream is stocked with both brown and brook trout. Natural populations of chain pickerel, blue gills, rock bass and American eels are present. May fly hatches, caddis fly and stone fly nymphs are prevalent in the area.

### Middle Section

As the creek flows through Roxbury Gap it becomes broader, wider and shallower as well as more slow moving, because of the low gradient. This causes the creek to change from a cold water to a cool and eventually a warm water habitat.

The middle and lower portions of the creek support populations of warm water fishes including small and largemouth bass, chain pickerel, crappies, sunfish, rock bass, carp, suckers, catfish and muskellunge.

Although the number of fish has declined because of silting, chemical pollution, and loss of habitat, the Conodoguinet is still associated with excellent small and largemouth bass fishing. In 1934 Ed Meadows caught the Pennsylvania State record smallmouth bass on the Conodoguinet. This bass weighed six pounds two ounces, and measured 24 1/2 inches in length and held the record until 1979.

**Lower Section**

Numerous species of minnow type fish including shiners, minnows, darters, and killifish are present as food sources. Various aquatic plants, including elodea, curly leaf pondweed and eel grass, are present in the creek in abundance in certain areas, and provide both food and cover for fish populations.

Trout also can be found in the lower reaches of the creek, at the mouths of the cold water tributaries.

Although the practice is controversial, the Tiger Muskellunge, a hybrid species, is stocked in the lower sections of the creek, from North Middleton park and to the east.

**Mammals**

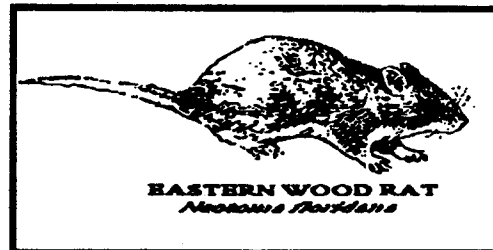
The watershed is inhabited by a number of mammals that are usually associated with pastureland, woodland and wetland habitats. Some of the more notable are the eastern cottontail rabbit, chipmunk, woodchuck, grey and red squirrels, fox squirrels, muskrats, gray and red fox, raccoon, weasels and minks, and the white tailed deer.

However, several species of rare or endangered animals have made the Conodoguinet watershed their home because of the particular combination of environments provided by the watershed.



The large, brightly colored Eastern Fox squirrel is an inhabitant of the pastures, fields and wooded areas that border the creek. This squirrel is

usually larger and more brightly colored than its more common cousin the grey squirrel. The Eastern Fox squirrels have reddish colored markings on their tails and sides. This rare subspecies of the fox squirrel was thought to be extinct, and because of its rarity it should be considered an endangered species. Its principle habitat is the Conodoguinet creek watershed.



This Eastern Woodrat inhabits the Western reaches of the creek. The shy creature lives in the rocky outcroppings along the mountains and the creek banks. It is more closely related to the western "pack rat" than the brown and black rats that invade our cities and farms. It can weigh over a pound and be over two feet in length, including its 8 inch tail. Its large eyes reveal its nocturnal habits, and its diet consists mostly of plant life.



**BIRDLIFE**

The creek, with its stretches of slow moving, shallow, open water, alternating with areas closed by thickets and woodlands, in combination with the varied and prolific fish and insect populations, is an ideal habitat for large numbers of both aquatic and terrestrial birds. They live on the creek either as full time residents, or use it as a resting and feeding stopover during migratory flights. A major flyway for doves is located in the Big Spring area and west of Newville.

If any bird could be symbolic of the creek, it would be the Great Egret. This graceful

large white bird can be seen almost anywhere along the creek, wading, fishing, soaring or roosting in the trees on the banks in great flocks. A more solitary relative, even more spectacular, the Great Blue Heron can be seen in the distance, or casting a shadow from overhead. More diminutive members of the heron family, the Green Heron and the Yellow Crested Night Heron can also be seen.

Migratory ducks and geese are frequent visitors to the waters of the creek during the Spring and Fall stopovers and large flocks of Mallard Ducks are year long inhabitants. The Canada Geese have made a strong revival in recent years. The small Belted Kingfisher competes with the magnificent Osprey for fishing rights along the creek.

#### Plant Life

In addition to the animal life on the creek the unique environment and geology of the watershed provides a habitat for a number of rare species of plants. The following is a list of rare, threatened or endangered plants found in the basin.:

Prickly Pear Cactus, *Opuntia humifusa*  
Limestone Petunia, *Ruellia strepens*  
Missouri Gooseberry, *Ribes missouriense*  
Golden Seal, *Hydrastis canadensis*  
Eastern White Crowfoot, *Ranunculus longirostre*  
Putty Root, *Aplectrum hymale*  
Tall Gramma, *Bouteloua curtipendula*  
Cliffbreak Fern



Prickly Pear Cactus

One of the more unusual is the Prickly pear cactus *Opuntia humifusa* that is found in a shale area off of Long's Gap Road, in North Middleton Township, just outside of Carlisle. The cactus grows here rather abundantly in large clumps. It has a prominent pink flower. This species is considered to be rare in Pennsylvania and only a dozen other populations exist in the State.

It has been rumored that in the early part of the century, the famous botanist, Luther Burbank, took cuttings of this plant, hoping to develop a thornless variety for cattle food.

## CONODOGUINET RECREATION

As the population of the Cumberland Valley grows and the area becomes more urbanized, the recreation potential for the creek will become increasingly important, because of the potential for immediate access to the creek.

Today's recreational activities on the creek are similar to those practiced for survival in the distant past, and include fishing, boating, hunting and swimming.

#### Fishing

As previously discussed, the creek and its watershed has potential both as a warm and cold water fishery along its length. In the early history of the creek, fish such as Shad and eels were prevalent. Big Spring and the Letort Spring. There are specially designated "fly fishing only" areas on both the Big Spring and the Letort Spring. However, problems with chemical pollution and sedimentation have prevented the creek from reaching its full potential as a prime fishery.

#### Boating

Boating, canoeing and kayaking are also popular activities on the creek. The curved open stretches of water combined with the scenic beauty and abundance of wildlife and plant life make a leisurely cruise down the creek an especially rewarding experience. There are three boat landings along the creek at North Middleton Park, Good Hope and at the mouth at West Fairview.

#### Golf

Two golf courses, Silver Springs and Armitage, are located on the banks of the creek and take advantage of the vista of the waterway.

#### Hunting

There are three State Gameland areas, 169 at Green Spring, and 76 and 230 in the Buchanan State Forest, at the headwaters, that take advantage of the varied habitats, from Hemlock forests to pastureland, that the creek and its surroundings provide.

#### Parks

North Middleton township and East Pennsboro Township have located municipal parks along the banks of the creek, with boating, picnicking, and athletic facilities at each of the parks. The Bear Run picnic area is located in the Buchanan State Forest in Franklin County.

## PROBLEMS

The creek has many problems that are related to its location of both dense population

and intensive agricultural use. The creek is showing stress as a result of these two factors.

Although, modern sewage treatment plants have lowered the rate of increase of certain pollutants, the rates of others are increasing at an alarming rate.

The pollution of the creek has taken a number of forms, including chemical pollution and sediment. Chemical pollution, particularly in the form of phosphates and nitrates, act as nutrients for the algae and other plants in the creek, sometimes causing them to grow excessively. After these plants die, they fall to the bottom and decay. The result of this is a reduction in the amount of oxygen in solution in the water. This effects fish and other life in the creek that require oxygen for life.

Sedimentation also has the effect of reducing the oxygen content of the water, as well as interfering with the life processes of various life forms, such as the egg laying of fish.

Development, in the form of office buildings, road construction, industrialization and residential housing has a number of effects on the well being of the creek. The increased water usage and waste disposal has the ultimate effect of increasing to concentrations of pollutants in the water system. The improper fertilization of lawns and golf courses can increase the concentrations of nutrients as well. The interruption of natural drainage patterns, because of the impervious nature of buildings, roads and parking lots can cause erosion resulting in sedimentation problems, as well as increasing the toxic chemical load. The impingement of buildings on the natural habitat provided by the creek and its banks for the many forms of bird and animal life has a potentially harmful effect on those organisms that live in the natural corridor that the creek defines.

Agriculture is the greatest source of pollution along the upper portion of the creek, and is most often seen in the form of increased nitrate concentrations, and sediments from agricultural runoff. The practice of intensive animal production, including dairy cattle and chickens, has increased the production of manure and the problems from this source.

### THE FUTURE

The the Conodoguinet creek faces an uncertain future. However, if the needs of the creek and its ecology are not addressed by the citizens of the valley, its future is much more foreboding. The watershed is at a critical time in its life, since the spread of development and the intensification of agriculture have already

caused severe stress of certain segments of the creek.

Decrease in wildlife diversity and quantity, "algae blooms, erosion and silting all point to a waterway in crisis. If development is unchecked and the creek is allowed to be used as a waste dump, and as a increased source of drinking water, the very values that attracted people to live along its banks will be destroyed by converting the creek from its enriched biological habitat to a lifeless urban sewer.

On the other hand, if citizens take an interest and guide the development of the watershed in a responsible way, the values provided by the creek can be enhanced, and the quality of life for all organisms can be improved. The means exist to roll back the damage that has already been done in the name of "progress" so that this resource can be sustained for future generations. As citizens, the choice is ours, and it must be made now.

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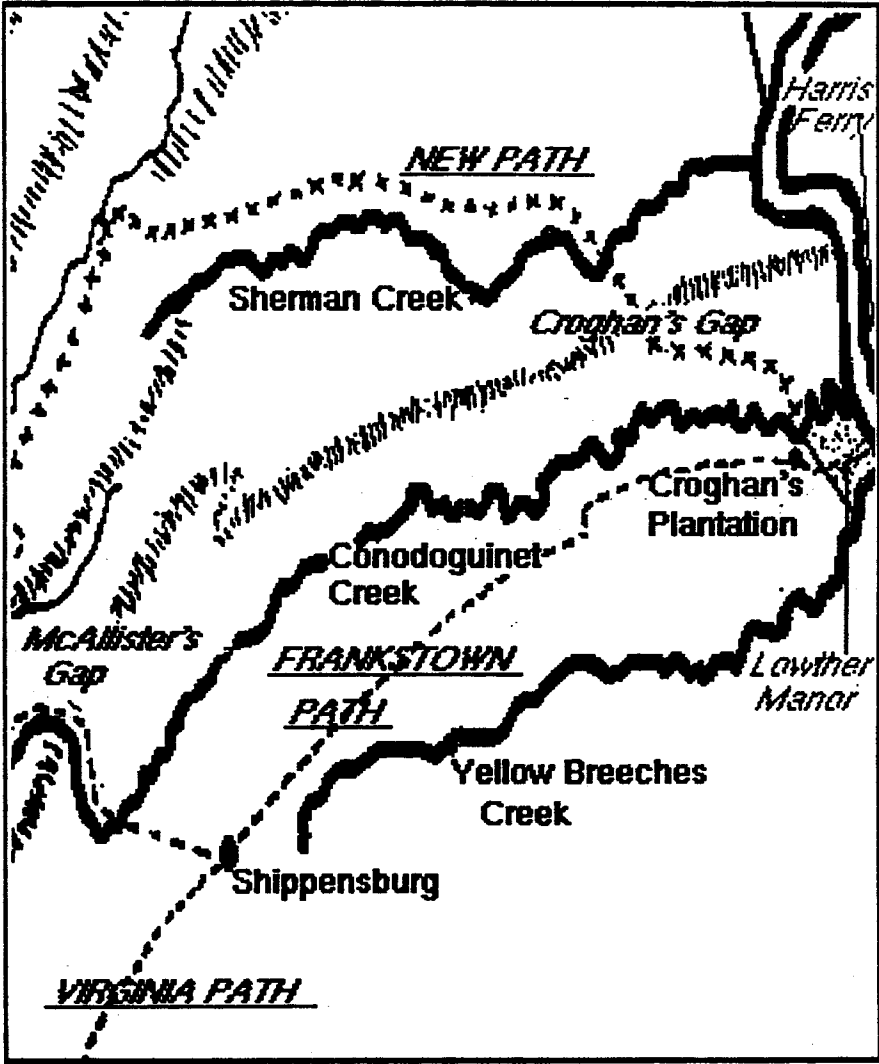
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## Indian Paths

**TRIBUTARIES AND DRAINAGE AREA  
OF THE  
CONODOGUINET CREEK**

| <u>Stream Name</u>              | <u>Drainage Area-Sq. Miles</u> | <u>Location Munic., County</u>        |
|---------------------------------|--------------------------------|---------------------------------------|
| Dothan Run                      | 1.16                           | near Fannettsburg, Franklin Co.       |
| Pine Run                        | 3.59                           | near Roxbury, Franklin Co.            |
| Trout Run                       | 8.33                           | near Roxbury, Franklin Co.            |
| <b>Muddy Run:</b>               |                                |                                       |
| Keasey Run:<br>Lehman Run       | 3.03                           | at Pleasant Hall, Franklin Co.        |
| Keasey Run                      | 11.2                           | near Pleasant Hall, Franklin Co.      |
| Rowe Run                        | 18.0                           | at Orrstown, Franklin Co.             |
| Muddy Run                       | 42.1                           | near Orrstown, Franklin Co.           |
| <b>Middle Spring Creek:</b>     |                                |                                       |
| Furnace Run:<br>Shirley Run     | 1.28                           | near Shippensburg, Franklin Co.       |
| Furnace Run                     | 11.0                           | at Shippensburg, Franklin Co.         |
| Gum Run:<br>Means Run           | 2.31                           | near Shippensburg, Franklin/Cumb. Co. |
| Gum Run                         | 7.10                           | at Shippensburg, Cumberland Co.       |
| Burd Run:<br>Thomson Creek      | 8.64                           | near Cleversburg, Cumberland Co.      |
| Reservoir Hollow                | 5.83                           | near Cleversburg, Cumberland Co.      |
| Burd Run:                       | 20.5                           | near Shippensburg, Cumberland Co.     |
| Middle Spring Creek             | 47.6                           | near Mowersburg, Franklin/Cumb. Co.   |
| Paxton Run:<br>Clippingers Run  | 4.40                           | at Mowersburg, Franklin Co.           |
| Laughlin Run                    | 5.54                           | near Mowersburg, Franklin/Cumb. Co.   |
| Paxton Run:                     | 17.3                           | near Newburg, Franklin Co.            |
| Newburg Run                     | 5.48                           | near Newburg, Cumberland Co.          |
| Peebles Run:<br>Bear Hollow     | 2.09                           | near Newburg, Cumberland Co.          |
| Koser Run                       | .80                            | near Newburg, Cumberland Co.          |
| Peebles Run                     | 7.36                           | near Newburg, Franklin Co.            |
| <b>Three Square Hollow Run:</b> |                                |                                       |

|  |       |                                  |
|--|-------|----------------------------------|
| Boring Mill Run                          | 3.99  | near Newburg, Cumberland Co.     |
| Three Square Hollow Run                  | 12.6  | near Newville, Cumberland Co.    |
| Green Spring Creek:<br>Bulls Head Branch | 23.0  | near Newville, Cumberland Co.    |
| Green Spring Creek                       | 25.8  | near Newville, Cumberland Co.    |
| Brandy Run                               | 5.84  | near Newville, Cumberland Co.    |
| Whisky Run                               | 3.83  | near Newville, Cumberland Co.    |
| Back Creek:<br>Center Creek              | 2.47  | near Newville, Cumberland Co.    |
| Back Creek                               | 6.54  | near Newville, Cumberland Co.    |
| Doubling Gap Creek                       | 16.54 | near Newville, Cumberland Co.    |
| Big Spring Creek                         | 12.9  | at Newville, Cumberland Co.      |
| Rock Run                                 | 3.35  | near Plainfield, Cumberland Co.  |
| Bloser Creek                             | 5.59  | near Bloserville, Cumberland Co. |
| Locust Creek                             | 7.63  | near Plainfield, Cumberland, Co. |
| Mount Rock Spring<br>Creek               | 24.6  | at Plainfield, Cumberland, Co.   |
| Opossum Creek                            | 5.13  | near Plainfield, Cumberland Co.  |
| Alexander Spring<br>Creek                | 19.2  | near Carlisle, Cumberland Co.    |
| Meeting House Run                        | 2.58  | near Carlisle, Cumberland Co.    |
| Wertz Run                                | 5.71  | near Carlisle, Cumberland Co.    |
| Spring Run                               | 3.98  | at Middlesex, Cumberland Co.     |
| LeTort Spring Run                        | 21.78 | at Middlesex, Cumberland Co.     |
| Simmons Creek                            | 5.13  | at Wertzville, Cumberland Co.    |
| Hogestown Run                            | 17.7  | at Hogestown, Cumberland Co.     |
| Trindle Springs Run                      | 19.6  | at Mechanicsburg, Cumberland Co. |

Total for Conodoguinet  
Creek Drainage area = 506 Square Miles

|                     |                    |
|---------------------|--------------------|
| Brown Trout         | Carp               |
| Rainbow Trout       | Shiner             |
| Chain Pickerel      | Golden Shiner      |
| Redbreast Sunfish   | Rosytail Shiner    |
| Blugills            | Spottail Shiner    |
| Pumpkinseeds        | Swallowtail Shiner |
| American Eels       | Cutlips Minnow     |
| Rockbass            | Silverjaw Minnow   |
| White Sucker        | Longnose Dace      |
| Northern Hog Sucker | Blacknose Dace     |
| Green Sunfish       | River Chub         |
| Yellow Bullhead     | Fantail Darter     |
| Brown Bullhead      | Shield Darter      |
| Smallmouth Bass     | Banded Killifish   |
| Black Crappie       | Tessilated Darter  |

Stream is categorized into five sections by the fish commission:

- 01 headwaters -from mouth of Bear run to source 9.0 miles
- 02 Letterkenny reservoir to mouth of Bear Hollow Run 7.3 miles
- 03 Rt 997 bridge to dam at Letterkenny 2.2 miles
- 04 T627 to t630
- 05 2.2 miles downstream of North Middleton Park

Insects-Caddisfly, Mayfly, sulpher, light cahill, blue quill, leadwing coachman, Ephemera, blue winged olive, stone fly nymphs, grey sedge, little black caddis, larvae of the adder fly and fish fly

Plants- Elodea, pondweed, eel grass

## BIRDS ALONG THE CONODOGUINET CREEK

|                            |                           |
|----------------------------|---------------------------|
| Great Egret                | Tree Swallow              |
| Little Blue Heron          | Purple Martin             |
| Great Blue Heron           | Common Flicker            |
| Yellow Crowned Night Heron | Red Bellied Woodpecker    |
| Black Crowned Night Heron  | White-Breasted Nuthatch   |
| White Ibis (immature)      | Yellow Warbler            |
| Herring Gull               | American Goldfinch        |
| Ring Billed Gull           | Baltimore Oriole          |
| Herring Gull (immature)    | American Robin            |
| American Widgeon           | Cardinal                  |
| Mallard                    | Purple Finch              |
| Redhead                    | House Finch               |
| Common Merganser           | Mockingbird               |
| Ring Necked Duck           | Gray Catbird              |
| Common Goldeneye           | Eastern Kingbird          |
| Hooded Merganser           | Dark Eyed Junco           |
| American Coot              | Tufted Titmouse           |
| Blue Winged Teal           | Belted Kingfisher         |
| Gadwall                    | Ruby Throated Hummingbird |
| Lesser or Greater Scaups   | House Wren                |
| Canada Goose               | House Sparrow             |
| Pied Billed Grebe          | Chipping Sparrow          |
| Spotted Sandpiper          | Starling                  |
| Lesser Yellowlegs          | Red-Winged Blackbird      |
| Killdeer                   | Brown Headed Cowbird      |
| Ring-necked pheasant       | Common Grackle            |
| Bald Eagle                 | Common Crow               |
| Osprey                     |                           |
| Turkey Vultures            |                           |
| Mourning Dove              |                           |
| Rock Dove                  |                           |
| Barn Swallow               |                           |

This list was compiled by Joe Sowa, based on his observations along the lower portion of the creek from 1985 to 1990.

# POINT SOURCE DISCHARGES CONODOGUINET CREEK WATERSHED

| <u>FACILITY</u>                 | <u>COUNTY</u> | <u>MUNICIPALITY</u>     |
|---------------------------------|---------------|-------------------------|
| Assemblies of God Conf. Center  | Cumberland    | North Middleton Twnshp. |
| Bender MHP                      | Franklin      | Letterkenny Twnshp.     |
| Brethern in Christ/Roxbury Camp | Franklin      | Letterkenny Twnshp.     |
| Carlisle Boro                   | Cumberland    | North Middleton Twnshp. |
| Carlisle Sewer Auth             | Cumberland    | Carlisle Boro           |
| Carlisle Suburban Auth          | Cumberland    | North Middleton Twnshp. |
| Community Refuse Serv           | Cumberland    | Hopewell Twnshp.        |
| Conodoguinet Mobile Estates     | Cumberland    | Lower Mifflin Twnshp.   |
| Country Manor                   | Cumberland    | Middlesex Twnshp.       |
| Country Manor MHP               | Cumberland    | Middlesex Twnshp.       |
| East Pennsboro Twnshp           | Cumberland    | East Pennsboro Twnshp.  |
| Exxon/Plainfield Turnpike       | Cumberland    | East Pennsboro Twnshp.  |
| Green Ridge Elem-Cumb Valley    | Cumberland    | Silver Spring Twnshp.   |
| Hampden Twnshp/Roth Lane        | Cumberland    | Hampden Twnshp.         |
| Hampden Twnshp/Lamp Post Ln.    | Cumberland    | Hampden Twnshp.         |
| Hill View Estates Homeowners    | Franklin      | Letterkenny Twnshp.     |
| Lurgan Twnshp Elem              | Franklin      | Lurgan Twnshp.          |
| Mechanicburg Boro.              | Cumberland    | Mechanicburg Boro.      |
| Penna Amer Water Co.            | Cumberland    | Silver Spring Twnshp.   |
| Regency Woods MHP               | Cumberland    | Middlesex Twnshp.       |

**POINT SOURCE DISCHARGES  
TRIBUTARIES OF CONODOGUINET CREEK**

| <u>FACILITY</u>                   | <u>COUNTY</u> | <u>MUNICIPALITY</u>     | <u>TRIBUTARY</u> |
|-----------------------------------|---------------|-------------------------|------------------|
| Diller Landfill                   | Cumberland    | Silver Spring Twnshp.   | Sears Run        |
| B P Oil                           | Cumberland    | Monroe Twnshp.          | Trindle Springs  |
| B&W Bonnybrook                    | Cumberland    | South Middleton Twnshp. | LeTort Spr. Run  |
| Carlisle Barracks                 | Cumberland    | North Middleton Twnshp. | LeTort Spr. Run  |
| Big Spring H.S.                   | Cumberland    | West Pennsboro Twnshp.  | Big Spring       |
| Newville Water and<br>Sewer Auth. | Cumberland    | Newville Boro           | Big Spring Cr.   |
| Pa Fish Commission                | Cumberland    | North Newton Twnshp.    | Big Spring Crk.  |
| B&W/Weaver Farm                   | Cumberland    | North Newton Twnshp.    | Green Spr. Run   |
| Exxon/Blue Mountain               | Cumberland    | Hopewell Twnshp.        | Newburg Rin      |
| Newburg-Hopewell<br>Jt Auth       | Cumberland    | Hopewell Twnshp.        | Newburg Run      |

**TOWNSHIPS AND BOROUGHS TRAVERSED OR BOUNDED BY THE  
CONODOGUINET CREEK**

| <u>Municipality</u>  | <u>County</u>       |
|----------------------|---------------------|
| Carlisle Boro.       | Cumberland          |
| Camp Hill Boro.      | Cumberland          |
| E. Pennsboro Twp.    | Cumberland          |
| Hampden Twp.         | Cumberland          |
| Hopewell Twp.        | Cumberland          |
| Letterkenny Twp.     | Franklin            |
| Lurgan Twp.          | Franklin            |
| Middlesex Twp.       | Cumberland          |
| N. Middleton Twp     | Cumberland          |
| N. Newton Twp.       | Cumberland          |
| Silver Spring Twp.   | Cumberland          |
| Southampton Twp.     | Cumberland/Franklin |
| Upper Frankford Twp. | Cumberland          |
| Upper Mifflin Twp.   | Cumberland          |
| W. Fairview          | Cumberland          |
| W. Pennsboro Twp.    | Cumberland          |
| Wormleysburg Boro    | Cumberland          |

# Points of Interest The Conodoguinet Creek

## Historical

### A. Historic Bridges

1. Covered Bridge - Thompson Bridge Built 1853, "The Covered Bridges of Pennsylvania"
2. Covered Bridge - Ramp Bridge, Built 1870, (Only functional covered bridge in Cumb. Co.) (Nat'l Historic Registry) "The Covered Bridges of Pennsylvania"
3. Stone Bridge - Horse Valley Bridge pre-1860, "Historic Highway Bridges in Pennsylvania"
4. Stone Bridge - Welty's Mill Bridge, Built 1856, (Nat'l Historic Registry) "Historic Highway Bridges in Pennsylvania"
5. Stone Bridge- McClay's Twin Bridge, Built 1827, "Historic Highway Bridges in Pennsylvania"
6. Iron Bridge - Wolfe's Bridge, Built 1895

### B. Mills

1. Big Springs Mill
2. Lambs Gap Mill
3. Heishman's Mill
4. Willow Mill

### C. Early Historical Locations

1. Indian Paths - "Indian Paths of Pennsylvania"
  - a. Frankstown Path
  - b. Conococheaque Portage
  - c. Virginia Path
  - d. New Path
2. George Croghan's House (c. 1748)
3. Silver-Coffman House (c. 1745)
4. Louthier Manor
5. Shawnee Village
6. LeTort's Trading Post
7. Lewis' Hideout - Devil's Dining Room (Conodoguinet cave)

## Geological

### A. Springs

1. Big Springs- Listed in "Outstanding Geological Features of Pennsylvania"
2. LeTort Springs- Designated scenic river

### B. Fossil Deposits

1. Logan School - Listed in "Outstanding Geological Features of Pennsylvania"

### C. Caves

1. Conodoguinet Cave

## Botanical

### A. Rare, Threatened or Endangered Plants

1. Prickly Pear Cactus, *Opuntia humifusa* (POSCIP)
2. Limestone Petunia, *Ruella strepens* (POSCIP)
3. Missouri Gooseberry, *Ribes missouriense* (POSCIP)
4. Golden Seal, *Hydrastis canadensis* (POSCIP)
5. Eastern White Crowfoot, *Ranunculus longirostre* (POSCIP)
6. Putty Root, *Aplectrum hymale* (POSCIP)
7. Tall Gramma, *Bouteloua curtipendula* (POSCIP)
6. Cliffbreak Fern

## Zoological

### A. Rare or Endangered Mammals

1. Eastern Woodrat, *Neotoma floridan magister* (PNDI) "Mammals of Pennsylvania"

2. Eastern Fox Squirrel, *Sciurus niger vulpinus* (PNDI)\* Mammals of Pennsylvania

**B. Fish - Pennsylvania State Record Smallmouth Bass 1937**

1. Brown Trout
2. Rainbow Trout
3. Smallmouth Bass
4. Largemouth Bass
5. Carp
6. Muskellunge
7. American Eel
8. Bullheads
9. Suckers

**C. Water Birds**

1. Yellow Crowned Night Heron
2. Great Blue Heron
3. Green Heron
4. Mallard Duck
5. Wood Duck
6. Canada Goose
7. Osprey
8. Belted Kingfisher
9. Great Egret

**Recreational**

**A. Parks**

1. N. Middleton
2. E. Pennsboro

**B. Golf Course**

1. Silver Springs
2. Armitage

**C. Boat Landings**

1. North Middleton Park
2. Good Hope
2. West Fairview

**D. Game Lands**

1. #76
2. #169
3. #230

**Water and Sewage Sources**

**A. Water Companies**

1. Pennsylvania American
2. Carlisle
3. Shippensburg
4. Newville

**B. Sewer Plants**

1. Carlisle
2. Mechanicsburg
3. Newville
4. Hampden Township
5. E. Pennsboro Township