

Chapter 4  
**Resource Inventory & Analysis**

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## Introduction

Greenway planning involves a comprehensive exploration of resources in the study area to assess linear features that may contribute to greenway development and open space preservation. These resources can be natural or manmade, occurring in a localized area or expanding regionally. A comprehensive inventory and analysis of existing resources will provide the framework for a Countywide greenway network.

The resources of Cumberland County were explored via available GIS, USGS, and roadway mapping, and field viewing the County from a helicopter. Linear resources were identified and analyzed for their potential as part of a Countywide network of greenways. The Land Resources Map on the following page identifies the natural and manmade resources that were mapped during the inventory and analysis of Cumberland County.

## Natural Resources

Stream valleys, rivers, and ridge tops are natural features that contribute to greenway development. The Cumberland County landscape contains each of these natural resources. The ridge tops of Blue Mountain and South Mountain, the stream corridors of the Yellow Breeches Creek and Conodoguinet Creek and the Susquehanna River along the eastern boundary create a network of linear resources that interconnect across the County. The Land Resource Map on the following page identifies the significant natural resources of Cumberland County that were identified in the resource inventory and analysis planning process.

### *Stream Corridors*

There are two main stream corridors in the County which traverse the valley from the west to east as tributaries to the Susquehanna River. The Yellow Breeches Creek is classified as High Quality Cold Water Fisheries between the source and Locust Point Road (SR 1007, near Williams Grove); between Locust Point Road and the mouth it is classified as a Cold Water Fisheries stream. Additionally, the Yellow Breeches Creek and the LeTort Spring Run are classified as Pennsylvania Scenic Rivers. This designation is intended to preserve the primitive qualities,



the natural and aesthetic values of a river, and to protect the existing character and quality of both the river and its adjacent land environment. The Conodoguinet Creek is classified as a Warm Water Fisheries stream within Cumberland County. Both are valued water resources in the County and region for their recreational opportunities. The Yellow Breeches Creek is a renowned trout-fishing stream that draws anglers from well beyond the area to fish in its limestone cooled waters. The Conodoguinet Creek is enjoyed for canoeing and fishing recreation. Other significant stream corridors in the County include:

### Tributaries to the Yellow Breeches Creek

- Mountain Creek
- Cedar Run
- Spring Run
- Trout Run

### Tributaries to the Conodoguinet Creek

- LeTort Spring Run
- Big Spring Creek
- Trindel Spring Run
- Hogestown Run
- Doubling Gap Creek
- Bore Mill Run
- Laughin Run
- Mains Run
- Burd Run
- Alexander Spring Run
- Mt. Rock Spring Run
- Middle Spring Run

The LeTort Spring Run is a small stream located in Carlisle and South Middleton Township. It is renowned as a trout stream with native brown trout. Specific areas of the stream are designated as “No Harvest Fly-Fishing Only” locations. The LeTort is designated as a Pennsylvania Scenic River. The protected scenic corridor lies in the 100-year floodplain along the stream from Route 34 to its confluence with the Conodoguinet Creek. The LeTort Regional Authority was formed to address flooding concerns and encourages recreational use of the stream.



The Authority is comprised of Cumberland County, the Borough of Carlisle, South Middleton Township, Middlesex Township, and North Middleton Township. Recently the Authority has expanded its mission to include promoting a conservation corridor along the LeTort Spring Run.

Stream corridors contain wetlands and floodplains, which are important natural areas. They provide valuable functions in the landscape. Floodplains carry floodwaters. Wetlands trap sediment and pollutants and provide critical wildlife habitat. Federal and State regulations and municipal ordinance provisions protect wetlands and floodplains associated with stream corridors. These protected open spaces contribute to greenway corridors.

# Land Resource Map

## ***Rivers***

The Susquehanna River forms the eastern boundary of Cumberland County. The river's edge has been developed over time with industry, transportation routes, and other uses. Opportunities for greenway development are limited due to the existing land use patterns but should not be dismissed as impossible. The changing character of rail transportation has reduced the utilized area of the Enola train yards, freeing space that was formally rail lines, for other uses. These areas are not abandoned, but present future possibilities to reclaim green space in the community and in doing so create greenways and linkages to the Susquehanna River.



The river provides a corridor for water transportation and recreation and is designated as a water trail along the Cumberland County border. The Susquehanna River Trail is a 24-mile portion of the river, which promotes low-impact recreation use, and stewardship of the resource.

## ***Ridge Tops***

The ridges of Blue Mountain and South Mountain form the Cumberland Valley in the study areas. The Blue Mountain ridge aligns with the northern boundary of the County and South Mountain ridge aligns with a portion of the southern boundary of the County. South Mountain is protected through State ownership of Kings Gap Environmental Center, Pine Grove Furnace State Park and Michaux State Forest. Blue Mountain, within Cumberland County, is not so protected as South Mountain as much of the Blue Mountain ridge top is in private ownership. The Tuscarora State Forest and State Game Lands No. 170 are primarily within Perry County. Only Colonel Denning State Park and State Game Land No. 230 afford public protection of the Blue Mountain ridge area.



## **Manmade Resources**

Scenic roads, canals, abandoned rail and trolley lines, and existing trails are manmade features that contribute to greenway development. Cumberland County has several of these manmade features as identified on the next page.

## ***Existing Trails and Greenways***

There are several existing trails in Cumberland County which provide opportunities for recreation, nature study, and alternative transportation. The trails were evaluated and located on the Land Resource Map as part of the greenway planning process. Cumberland County trails include:

**Appalachian Trail** - The Appalachian Trail is a continuous marked footpath extending from Maine to Georgia. The Appalachian Trail traverses Cumberland County entering the County from the northeast along the Blue Mountain ridgeline and crossing the valley to South Mountain. The Appalachian Trail corridor in Cumberland County is approximately 40 miles long on lands of the National Park Service, Pennsylvania State Game Land, Pine Grove Furnace State Park, and Michaux State Forest. The trail is a footpath. Horseback riding and bicycle use are not permitted. The trail creates a corridor of protected land that varies in width outside of the State-owned parcels. The Appalachian Trail ties to two other footpaths, the Darlington Trail and the Tuscarora Trail.

**Darlington Trail** - The Darlington Trail is a blazed footpath located along the ridge of Blue Mountain at the Perry-Cumberland County line. The trail intersects with the Appalachian Trail and from that intersection has an eastward route along the ridge.

**Tuscarora Trail** - The Tuscarora Trail is a blazed footpath located along the ridge of Blue Mountain at the Perry-Cumberland County line. The trail intersects with the Appalachian Trail and from that intersection has a westward route along the ridge.

**LeTort Spring Run Nature Trail** - The LeTort Spring Run is a 1.4-mile nature trail between LeTort Park in Carlisle and Bonny Brook Road in South Middleton Township. The trail is open to hikers, anglers, and cross-country skiers. Horseback riding, biking, and use of motorized vehicles are prohibited. The trail follows the abandoned Reading Railroad line adjacent to the LeTort Spring Run, with the exception of a portion in Carlisle which is routed to Borough streets to bypass land in private ownership. The trail offers a scenic view of the LeTort Spring Run and provides access for fishing.

**Cumberland Hiker-Biker Trail** - This 5.5-mile recreation trail runs from Pine Grove Furnace east to Mountain Creek Campgrounds on the corridor of the Reading rail line that linked Carlisle, Mount Holly Springs, and Michaux State Forest. Most users access the trail at Pine Grove Furnace State Park. The park has 300,000 visitors a year and two miles of the trail are within the park.

**Cumberland Valley Trail** - The Cumberland Valley Trail is located between Shippensburg Borough and Newville Borough in western Cumberland County. The 10.75-mile trail follows the abandoned corridor of the Conrail rail line. The corridor is owned and operated by the Cumberland Valley Rails-to-Trails Council, a private, non-profit, volunteer organization established to promote multi-use trails in south central Pennsylvania and western Maryland. The trail is in a primitive state and design plans are underway to develop a multi-use trail tread and trail amenities along the corridor. Trailheads are proposed in Shippensburg, Oakville, and Newville.



**Maurice K. Goddard Trail** - The Maurice K. Goddard Trail is a hiking and biking trail that connects a school and several parks in Camp Hill Borough. The trail provides opportunities for recreation and safe

linkages to facilities in the community. The trail connects to Seibert Park, which borders the Conodoguinet Creek, a significant stream corridor in the County.

**Big Spring Culture Station Greenway** - The Pennsylvania Fish and Boat Commission's Big Spring Fish Culture Station is located south of Newville and the Cumberland Valley Trail on Big Spring Avenue. This facility includes a fish hatchery and approximately two-and-three-quarter miles of land along Big Spring Creek. This greenway provides protection for the natural resource and recreation opportunities for fishing and picnicking. There are six vehicle pull-off areas provided along the road. A defined trail along the creek has not been developed, but fishermen typically walk along the creek or roadway.

**Fielding Belt and Wittlinger Trails** - The Fielding Belt and Wittlinger Trails are located in South Middleton Township. The Fielding Belt Trail connects two community parks: Spring Meadow Park and South Middleton Township Municipal Park. Spring Meadow Park has a planned connection to the South Middleton High School campus and South Middleton Township Park is bordered by the Yellow Breeches Creek. Wittlinger Trail is a long nature trail located in the Donald L. Wittlinger Nature Preserve, which links to the Appalachian Trail south of Boiling Springs. The Wittlinger Trail is adjacent to the Yellow Breeches creek stream corridor.



**Buck Ridge Trail** – The Buck Ridge Trail is a six-mile hiking trail that connects Kings Gap Environmental Center with Pine Grove Furnace State Park.

### ***Abandoned Rail and Trolley Lines***

There are three abandoned rail or trolley lines in Cumberland County that have been identified as potential links in a Countywide greenway network.

**Conrail Line between Newville and Carlisle** - The Cumberland Valley Trail corridor is part of a regional rail network that extends west to Chambersburg and beyond, and east to Carlisle and Harrisburg. Between Shippensburg and Newville, the corridor has been developed for recreation trail use. Conrail has abandoned the 9-mile link between Newville and Carlisle, and PP&L controls this section of the corridor. PP&L utilizes the right-of-way for utility lines, which exist on poles along the corridor. The utility use protects the corridor as a green link in the County, but PP&L has indicated its unwillingness to allow an extension of the trail for recreation purposes. There is active rail use on the line between Carlisle and Harrisburg. The Harrisburg Area Transportation Study – Bicycle/Pedestrian Transportation Plan identifies this link of the line as "...an excellent candidate for a 'rail with trail' facility, linking Harrisburg with suburban Cumberland County west to Carlisle."

**Reading Rail Line between Mount Holly Springs and Carlisle** - This abandoned rail line runs between Carlisle and Mount Holly Springs. The northern portion is developed as the LeTort Spring Run Nature Trail. The 5-mile length between the existing trail and Mount Holly Springs is in South Middleton Township. The corridor is scenic, traversing the agricultural valley land of the County. There have been encroachments of agricultural use in some areas and a detailed assessment should be undertaken to determine ownership of the corridor and potential to develop as a rail-trail.

**Trolley Line between Mechanicsburg and Dillsburg** - The trolley line between Mechanicsburg and Dillsburg linked the communities and Williams Grove in southern Cumberland County. The line has been abandoned since 1979 and most of the corridor has reverted to adjacent landowners. The corridor is 6 miles long. A study should be undertaken to determine the ownership of land that makes up the corridor and assess the best method of creating a green link along the former route of the trolley line.

## **Facilities that Contribute to Greenways**

Greenways connect community places and open spaces. Historic sites, schools, parks, and nature preserves linked together through a common greenway become the spine of our community. Green corridors developed with trails, which connect schools, parks, and residential areas promote safe transportation alternatives to traditional roadway networks. Historic sites, parks, and nature preserves offer destinations which attract visitors from beyond the immediate community. Linking community places together with greenways furthers the tourist appeal of exploring a destination.

### ***Parks, Preserves, and Recreation Land***

Cumberland County is fortunate to have significant public and private lands that create a patchwork of protected open spaces. These lands protect natural resources, and provide spaces for recreation and locations to enjoy the scenic beauty of the Cumberland Valley. Three State Parks, portions of two State Forests, and four State Game Lands are located in Cumberland County. Numerous municipally-owned parks and open space preserves are located throughout the County.

#### **State Parks:**

- Pine Grove Furnace State Park
- Colonel Denning State Park
- Kings Gap Environmental Education Center

#### **State Forests and State Game Lands:**

- Michaux State Forest
- Tuscarora State Forest
- State Game Land 169
- State Game Land 170
- State Game Land 230
- State Game Land 305

#### **State Fish and Boat Commission Lands:**

- Opossum Lake
- Children's Lake

#### **Municipal Parks and Open Space – Location\*:**

- Adams Ricci Community Park – East Pennsboro Township
- Cave Hill Nature Center – North Middleton Township
- Thornwald Park – Carlisle Borough
- North Middleton Park – North Middleton Township
- Shaffer Park – North Middleton Township



- LeTort Park – Carlisle Borough
- Soldier & Sailor Memorial Park – Mechanicsburg Borough
- Williams Grove Park – Monroe Township (private)
- Upper Allen Park – Upper Allen Township
- Lower Allen Community Park – Lower Allen Township
- Shippensburg Township Park – Shippensburg Township
- South Middleton Township Park – South Middleton Township
- Willow Mill Park – Silver Spring Township
- Seibert Park – Camp Hill Borough

\* Partial list, refer to Appendix B for a listing of municipal parks in Cumberland County

**Preserves:**

- Holly Gap Preserve
- Wittlinger Preserve
- Seven Gables
- Audubon Trout Run Wetlands
- Trails & Trees Environmental Center

**Golf Courses:**

- Silver Spring Golf Course
- West Shore Country Club
- Pen Del Golf Course
- Carlisle Barracks Golf Course
- Mayapple Country Club
- Cumberland Golf Course
- Carlisle Country Club
- Armitage Golf Course

Many of the identified parks, preserves, and recreation lands are located along the Yellow Breeches Creek and Conodoguinet Creek corridors. These protected green spaces are the beginning of regional greenways that connect along the linear resources.

***Schools, Universities, and Colleges***

There are numerous schools, universities, and colleges that own significant land parcels in the County. These lands are semi-protected through institutional use. Greenways, which link schools with other community facilities, provide corridors for travel between these locations as well as landscapes for learning. As environmental education curriculum becomes more important at all stages of a student’s academic career, access to protected open spaces will become more critical.

- Shippensburg University
- Dickinson College
- Messiah College
- U.S. Army War College
- Elementary, Middle, and High School campuses

## ***Historic Sites***

Pennsylvania is rich in history and the Cumberland Valley has its own historic story to tell. Historic, cultural, and archaeological sites can be protected, preserved, connected, and interpreted when incorporated into greenways. Iron-ore furnaces, historic buildings, routes of civil war troop movement, and camps can be incorporated into greenways creating corridors for learning, and providing opportunities to connect to our heritage and strengthen our sense of place. Historic markers are identified on the Land Resources Map. The historic markers are primarily located within the towns and villages of the County. Refer to Appendix C for a listing of historic markers located on the Land Resources Map. Appendix D lists National Register Sites of individual properties and historic districts in Cumberland County.

## **Barriers to Greenway Development**

There are several barriers to greenway development that were recognized during the inventory and analysis of the County's resources. The very resources that promote greenway potential also influenced the land use and development patterns of the County that present barriers to greenway development.

The geography of the Cumberland Valley promotes east-west corridors for transportation routes, which span the valley and make the County a hub for transportation activities. The Pennsylvania Turnpike and Interstate 81 are east-west, limited-access routes that bisect the County and create barriers to north-south movement and green connections. In addition to roadways, rail lines traverse the County. Two Conrail lines traverse the County, a northern route between the river and Carlisle and a southern route between Dauphin County and Franklin County. These transportation routes form physical barriers that limit north-south greenway corridor connections. One of the main functions of greenways, as trails for people movement, can be accomplished in spite of significant barriers through engineering solutions. Bridges can be built to connect a trail across a roadway or rail line. The natural functions of greenways are not as adaptable. Greenways as wildlife corridors and preserves for habitat protection are limited by the presence of transportation routes that bisect and interrupt the continuity of the corridor. The function of greenways as wildlife corridors was identified by the citizen survey to be important to Cumberland County residents.

Greenways are easiest to establish in areas with little development where there are large tracts of land under single ownership. Cumberland County presents a hierarchy of development. The eastern portion of the County is densely developed with residential, industrial, and commercial uses connected by a tightly woven fabric of transportation routes. The density of development diminishes across the County from east to west. The dominant land use in the western portion of the County is agriculture. The middle of the County is home to Carlisle, the County seat. Located at the confluence of major transportation routes, this historic town has grown along the transportation corridors but remains surrounded by rural, picturesque farmland.

## **Greenway Study Implications: Open Space and Farmland Protection**

The ideas, concerns, and suggestions presented by the citizens participating in the planning process along with the results of the resource analysis yielded a major finding: greenways alone may be too narrow of a focus to enable Cumberland County to preserve the natural resources, farms, and open space so treasured

by the citizens. Cumberland County is at a crossroads of development. While there are extensive areas of open space and farms, development pressure is apparent in many parts of the County. The protection of farms, habitat, open land, and the rural quality of life emerged as common themes throughout the citizen participation process.

It appears that there is a need for the County to look at the bigger picture of open space protection and farmland preservation in addition to the narrow parameters of a greenway plan. Greenways can be a major tool the County can use in resource preservation. They cannot be the only tool, however. Greenways would be one part of a County open space and farmland protection system that would help to sustain the rural agrarian way of life of Cumberland County.

When the need to address open spaces more comprehensively became apparent, the consulting team conducted research to determine how other counties had approached the study of open spaces, resource protection, and greenways. They obtained information on the programs and plans of Bucks, Montgomery, Chester, Monroe, and Lancaster counties. These counties offered examples of planning, bond issues, public education programs regarding open space, and documentation of accomplishments. Appendix E contains open space program information from other Pennsylvania counties including a map compiled by the Delaware Valley Regional Planning Commission. It presents the bond issues in southeastern Pennsylvania and sample information from Bucks, Monroe, and Montgomery Counties open space programs. Research findings include the following:

1. Citizens in areas with development pressure have approved voter referenda for bond issues for open space and farmland preservation. Bond issues have ranged from \$25 million to \$100 million at the County level and \$4 million to \$20 million in municipalities. Several jurisdictions have floated multiple bonds. County open space bonds have served as the catalyst for municipal open space programs supported by local bonds.
2. The Counties use the bond funds for County and municipal open space projects. The Counties set formulas for the allocation of funds to municipalities based upon a designated amount for each community with additional funds distributed according to criteria for population, local issues, and bonuses for regional efforts. Bond funds are used for planning, administration, and open space acquisition and alternative preservation techniques.
3. The Counties develop plans and set guidelines for local plans. Regional planning is encouraged with additional funds going to reward such efforts. County approval of local plans is required in order for the communities to receive grant funds. Matching requirements for the grants vary from 50-50 to 80-20. State funds can be used by municipalities as their matches.
4. There are examples of public education programs that promote the value of open space investment. They show that open space costs money but development costs more. Such programs have been factors in the successful passage of voter referenda.

The consulting team found that the counties and municipalities with successful open space and farmland preservation programs are eager to share their stories and help others who wish to undertake similar efforts. They can provide guidance in the successful strategies as well as the pitfalls of such programs. Most counties and municipalities conducted visits with others that have had the experience of floating open space bonds and establishing open space protection programs. This would be worthwhile for Cumberland County officials to do as well.

## Conclusions

The geography of the Cumberland Valley sets up strong east-west corridors through Cumberland County. The ridge tops of South Mountain and Blue Mountain and the Yellow Breeches Creek and Conodoguinet Creek stream corridors create natural east-west corridors of green open space. The manmade corridors of the active and abandoned rail lines and the transportation roadway network follow the valley and further reinforce the east-west linear structure of the County. The dominant east-west corridors provide both opportunities to create greenways as well as limit interconnection between the corridors.

The results of the resource analysis combined with the ideas and concerns brought forth in the citizen participation process point to the fact that greenway planning needs to be part of a bigger program addressing preservation of open spaces, farmland, and natural resources. Since the County is undertaking a comprehensive plan, the timing is appropriate for consideration of undertaking an open space plan as part of this initiative. It could serve as a component of the comprehensive plan bridging the gap between greenway and Countywide planning. Research shows that other counties in Pennsylvania have established successful open space, farmland, and natural resource preservation programs that have been supported through bond issues approved in voter referenda. These programs serve as models and offer a ready source of information to jump start such a program in Cumberland County.