

NORTHWEST PENNSYLVANIA GREENWAYS PLAN

Warren County, Pennsylvania

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NORTHWEST PENNSYLVANIA - ***Greenways Plan***

Warren County
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INTRODUCTION

WARREN COUNTY GREENWAYS PLAN - A Component of the Northwest Pennsylvania Greenways Plan

INTRODUCTION

The Warren County Greenways Plan is part of the larger Northwest Pennsylvania Greenways Planning effort undertaken by the Northwest Regional Planning and Development Commission. The Northwest Pennsylvania Greenways planning process was a multi-county effort completed for the Commission's eight counties, and individual plans for six counties, including:

- Erie County
- Clarion County
- Crawford County
- Forest County
- Venango County
- Warren County

Before the start of this plan individual plans for Lawrence and Mercer Counties were completed. Their results were synthesized into the Northwest Region Greenways Plan.

The purpose of this Chapter is to introduce the concept of Greenways to you, to present the benefits of establishing a greenway network in Warren County, and establishing the goals and objectives of creating the network. Towards that end this Introduction is organized as follows:

- Vision for Greenways in Warren County
- Benefits of Greenways to Warren County
- Goals and Objectives of the Warren County Greenways Plan

Warren County is rich in recreation, natural resources, and local history.

- Allegheny National Forest: Allegheny National Forest (ANF) is the only National Forest in Pennsylvania. The ANF covers more than 513,000 acres in McKean, Warren, Elk and Forest Counties. Within the ANF there are over 1,000 miles of hiking, biking, ATV riding, and horseback riding trails. Swimming, boating and fishing opportunities also exist in the Allegheny, Clarion, and Tionesta Rivers.

Within Allegheny National Forest are four designated natural or wilderness areas. These areas are defined by the DCNR as having unique scenic, geologic, or ecological value and are set aside for scientific observation and to protect outstanding examples of natural interest and beauty. These natural areas, in Warren County, include: Hearts Content Scenic Area, Hickory Creek Wilderness Area, Allegheny River Islands Wilderness Area, and the Tionesta Scenic Area.

Last, are the Allegheny National Recreation Areas (NRA) totaling more than 23,000 acres in three sections, two of which are completely situated in Warren County, including Cornplanter NRA, and the Allegheny Front NRA. A third, the Tracy Ridge NRA is located on the Warren / McKean County border, with the bulk of the land situated in McKean County.

- **Pennsylvania Wilds:** The PA Wilds covers more than two million (2,000,000) acres of public lands within areas such as state forests and state game lands and includes twelve northern Pennsylvania Counties. The five hundred thousand acre (500,000) Allegheny National Forest is part of the PA Wilds. The PA Wilds offers a wide range of recreational activities from hiking and biking to hunting and fishing. Warren County is completely contained within the PA Wilds.
- **Lumber Heritage Region:** The fifteen county Lumber Heritage Region strives to promote the history and heritage of the lumber industry and its importance to Pennsylvania's development. The Region boasts a wide variety of natural, cultural, and historic resources. While celebrating the past, the grassroots effort works to build the region's economy and quality of life through education, conservation, and tourism promotion.
- **U.S. Route 6 Heritage Region:** Pennsylvania's U.S. Route 6 covers over 400 miles within northern Pennsylvania. U.S. Route 6 stretches beyond Pennsylvania's borders both east and west and continues on to our country's Atlantic and Pacific coasts. U.S. Route 6 enters Warren County from the west near Scotts Crossing and Columbus. From here the scenic byway runs southeast to Pittsfield where it turns east to pass through Youngsville and on to Warren. Near the City of Warren the route again turns generally southeast to access Clarendon, Saybrook and Sheffield. U.S. Route 6 exits Warren County at the Warren/McKean County border near Roystone.
- **Longhouse Drive National Scenic Byway:** The Longhouse Drive National Scenic Byway, at twenty-nine miles in length, extends through the Allegheny National Forest adjacent to the Allegheny Reservoir. During the winter months the byway provides access for ice fishing traffic and closed to other vehicular uses. During this time the byway is groomed for snowmobiles, cross country skiing, and mushing.
- **North Country National Scenic Trail:** A recreational trail that stretches for about four thousand six hundred (4,600) miles from North Dakota to New York.
- **Allegheny River:** Totals approximately 325 miles in length from its headwaters in central Potter County to the point in Pittsburgh where it joins with the Monongahela to form the Ohio River. The portion of the river in Warren County extends from the Kinzua Dam, through the City of Warren and Tidioute Borough before exiting into Forest County. Two sections of the Allegheny River within Warren County have been designated as wild and scenic, including From Kinzua Dam downstream to the U.S. Route 6 Bridge (locally known as Glade Bridge), and, from the Buckaloons Recreation Area at Irvine downstream to the southern end of Alcorn Island at Oil City. One hundred and seven miles (107) of the Allegheny River has been officially recognized as the Middle Allegheny River Water Trail, presenting a wealth of non-motorized canoeing and kayaking opportunities.

- Allegheny Reservoir: Over twenty-four miles in length at normal pool elevation and covers more than twenty one thousand acres at its maximum capacity. Additionally, the Allegheny National Forest, in Pennsylvania, and Allegany State Park, in New York, completely surround the reservoir with undeveloped forest land.
- Six Exceptional Value and Thirty-Two High Quality Streams
- Twenty-Eight Trout Stocked Tributaries

By planning to conserve and enhance natural system greenway corridors, and build upon existing and establish new recreation and transportation greenway corridors, Warren County is taking measures that will provide benefits for current and future generations of Warren County residents to enjoy and prosper from.

WHAT IS A GREENWAY?

The term “Greenway” was first coined in the 19th century, and since that time greenways have been defined in many ways. Some people think of greenways as primarily recreational, namely trails for hiking, jogging, biking, or canoeing/kayaking (often called water trails or “blueways”). For them, greenways are places that offer opportunities to experience the outdoors. For others, the purpose of greenways is primarily for conservation of undeveloped land containing important natural resources like forests, wetlands, and stream banks, along with the plants and animals that live there. Still others see greenways in aesthetic terms, preserving the pastoral countryside setting in rural areas, protecting outstanding natural features such as stream valleys, forested ridges, and sensitive habitats.

All three of these ideas (recreation, conservation, and aesthetic) are embraced by the following all-encompassing definition, which is adapted from the Commonwealth of Pennsylvania's Greenways Plan: ***Pennsylvania Greenways - An Action Plan for Creating Connections***, and is embraced by this Greenways Plan:

A greenway is a corridor of open space, varying greatly in scale, and incorporating or linking diverse natural, cultural, and scenic resources. Some greenways are recreational corridors or scenic byways accommodating pedestrian and non-motorized vehicle traffic on both land and water; while others function almost exclusively for environmental protection and are not designed for human passage.

The movement to establish greenways was given a significant boost in 1987 when the President's Commission on American Outdoors recommended that an interconnected greenways network be established throughout the nation. Many states, including the Commonwealth of Pennsylvania, took up the task of promoting greenways. *Pennsylvania's Greenways – An Action Plan for Creating Connections* was published in 2001. This report established a strategy for creating a comprehensive, statewide greenway network by the year 2020. The Governor appointed the Department of

Conservation and Natural Resources (DCNR) to oversee the Commonwealth's greenways program. The DCNR, in partnership with county and municipal officials, supports greenways planning and implementation through education, technical assistance, and grant making programs.

Through the Northwest Pennsylvania Greenways the following definition was developed to define greenways for the northwest region's participating counties:

Greenways of Northwestern Pennsylvania

A greenway is a corridor of open space. Greenways vary greatly in scale, from narrow ribbons of green that run through urban, suburban, and rural areas to wider corridors that incorporate diverse natural, cultural and scenic features. They may follow old railways, canals, or ridge tops, or they may follow stream corridors, shorelines, or wetlands, and include water trails.

Some greenways are for human activity and may accommodate motorized and non-motorized recreation and transportation uses. Other greenways conserve natural infrastructure for the benefit of community, economy, and environment and are not designed for human passage.

WHY A GREENWAYS PLAN FOR WARREN COUNTY?

Wherever greenways are developed, they provide numerous and diverse benefits to local municipalities and their residents. This section of the plan focuses on those benefits that are especially applicable to greenways development in Warren County. Such benefits include:

- promotes environmentally-sound land development
- promotes land and water restoration
- encourages a network of non-motorized land and water transportation corridors to connect people to our resources
- explores opportunities to expand motorized off highway vehicle and snowmobile trail opportunities
- conserves natural resource infrastructure resources
- Builds capacity at the local level for implementation
- encourages economic development
- promotes healthy living
- enhances the quality of life

For example, greenway corridors established to preserve contiguous forest or open space protect habitat for wildlife, and in certain instances, habitat for threatened or endangered species. Greenways along rivers, streams, lakes, and reservoirs may have multiple advantages such as habitat protection, flood control, and drinking water protection. And corridors linking areas of farmland and open space help to preserve the rural landscape and way of life. Many of these benefits are interrelated and work together to bolster quality of life in the region. For example, providing transportation alternatives in the form of trails, shared use paths or safe routes to school, leads to better health and fitness. Similarly, conserving historic and cultural resources supports economic prosperity by attracting visitors from outside and inside the region.

Northwest Pennsylvania contains a diversity of environmental, cultural, and historic resources. Municipalities, counties, and regional partnership organizations are committed to plan for the future of the region by promoting and conserving our resources utilizing a green infrastructure planning approach. Further, these entities are also committed to connecting our residents to our resources by expanding existing and establishing new recreation and transportation greenways throughout the County to connect our residents to each other and our magnificent resources.

The process of establishing greenway network in Northwest Pennsylvania will not take away the rights of property owners, nor will it restrict development in the region. The greenway network will promote sustainable development, reduce development costs, and reduce the burden of providing public services on local, county, and state governments.

PRESERVING WARREN COUNTY'S DEFINING CHARACTERISTICS

Maintaining and conserving Warren County's open spaces and natural resources is now of greater importance than ever. Conservation of these assets can play a key role in establishing a high quality of life for ourselves and future generations. Residents enjoy the natural and recreational resources that set their community or region apart from every where else.

Warren County's defining characteristics include: the Wild and Scenic designated Allegheny River corridor, the 26 mile long Allegheny Reservoir which provides recreation and flood control benefits for the region, and the 500,000 acre Allegheny National Forest, which includes three designated National Recreation Areas and four national scenic and wilderness areas. Visitors to the area can fish along one of the County's twenty-eight trout stocked tributaries, hike through an old growth forest at the Hearts Content, hike the North Country National Scenic Trail, boat on the 12,000 plus acre scenic Allegheny Reservoir, or stroll through the City of Warren Historic District.

EXPANDING THE ECONOMY

Over the years economic growth has been limited, and in fact has declined in Warren County. However, recent emphasis on tourism based activities, such as interpreting the PA Wilds and Lumber Heritage Regions, along with the existing recreation opportunities, provides new hope. This has been confirmed at the local level where Warren County canoe liveries have seen increases in rentals.

A study conducted in 2002 indicated that over 36,000 people visited the pristine wilderness areas of the Allegheny National Forest. Additionally, other surveys indicate that between 29 and 44% of all Pennsylvania residents, 2.8M to 5M, visit a wilderness area. Thus, if we can provide the goods and services they desire there is a demand which provides the potential to attract many more visitors to the Allegheny National Forest region.

Over half, 287,000 acres, of the Allegheny National Forest is allocated to even-aged timber management for the purpose of timber production. However, timber production from the ANF only represents one and one half percent of Pennsylvania's timber, which means the bulk of Pennsylvania timber production occurs on private lands. Warren County is rich in forest cover and private timber production.

Tourism/Eco-Tourism

National surveys suggest that outdoor recreation participation continues to increase with the five fastest growing pursuits being: birding, hiking, backpacking, snowmobiling, and walking (Cordell and Herbert 2002). Ninety-seven percent of all Americans over 16 years of age participate in some sort of outdoor recreation, with 33% of Americans reporting that they go bird-watching (Cordell and Herbert 2002).

According to recent studies, fishing is the most popular water based recreation activity in Pennsylvania, with 27.9% of residents participating, for an estimated 3.2 million participants across the Commonwealth, and the average Pennsylvania angler spent \$632 in 2001 on fishing.

The average bird watcher spends more than \$350 each year on travel and paraphernalia related to bird watching, while committed birders spend \$2000 annually or more, around half of which is on travel (USDI survey, 1993).

Hunting, fishing, and trapping activities account for \$9.6 billion dollars in annual value and create 88,000 jobs within Pennsylvania (Shafer et al. 2000). The 9.6 billion dollars is more than half of the entire state budget in 1997, the year of the study. Between 25 and 50% of all hunting and fishing trips involve state-owned land and water, while up to 40% involve private non-posted lands (Shafer et al. 2000).

Many hunters and fisherman participate in non-consumptive wildlife activities. Sportsmen report spending \$93 million to observe and attract wildlife to their homes.

They spend \$860 million in wildlife-associated trips away from the home, spending on average \$33 per wildlife viewing trip.

According to the DCNR, tourism is the second largest industry in the Commonwealth and nearly one-fifth of Pennsylvania's tourists travel to enjoy its outdoor amenities. Warren County contains numerous natural and recreational resources that are important assets for providing the potential for substantial growth in the travel and tourism sector.

Greenways

The economic benefits of greenway development are well-documented by several studies completed along developed rail trails.

In 2007 the York County Rail Trail Authority published the "Heritage Rail Trail County Park 2007 User Survey and Economic Impact Analysis". This study was conducted eight years after the opening of the York County Heritage Rail Trail Park, a 21 mile rail trail located in York County, Pennsylvania. This study confirmed the results and validated three other similar surveys that were completed for the trail in 1999, 2001, and 2004.

The study concluded that trail users were having a measurable, positive impact on the York County economy. Specifically, the report stated:

- In terms of economic impact, 85% of the respondents indicated they had purchased "hard goods" in the past year in conjunction with their use of the trail. The majority of these purchases were bicycles and bike supplies that resulted in an average purchase amount of \$367.12. While these types of purchases are not annually recurring, even with the most conservative usage estimate they amount to millions of dollars in sales.

Hard Goods	1999	2001	2004	2007
Bikes	29.60%	27.34%	26.03%	27.40%
Bike Supplies	31.20%	32.31%	26.76%	25.50%
Auto Accessories	n/a	n/a	15.28%	25.50%
Running / Walking / Hiking Shoes	6.00%	7.46%	1.07%	9.50%
Clothing	13.40%	12.43%	15.45%	13.70%
Camping Gear	no data	no data	no data	10.40%
Nothing	17.20%	20.46%	14.23%	10.40%

<i>Average Hard Goods Purchase</i>	<i>\$337.14</i>	<i>\$367.12</i>	<i>\$347.11</i>	<i>\$367.77</i>
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- Even more significant is the purchase of “soft goods” (water, soda, candy, ice cream, lunches, etc.). 72% of the respondents indicated that they purchased these types of items on their most recent trip to the trail. The average purchase amount per person was \$12.66. Considering that the average user makes several trips to the trail on an annual basis, at the minimum these types of purchases are contributing several hundred thousand dollars to the York County economy. And, these types of purchases are recurring trip after trip, and year after year.

Soft Goods	1999	2001	2004	2007
Bottled Water / Soft Drinks	27.20%	29.46%	26.46%	25.80%
Candy / Snack Foods	16.20%	16.67%	12.46%	9.70%
Sandwiches	8.40%	8.91%	8.46%	9.50%
Ice Cream	8.90%	9.88%	8.46%	11.50%
Lunch at Resturant along trail	19.10%	13.76%	17.23%	17.50%
Film	2.70%	2.71%	1.23%	4.30%
Fuel	no data	no data	no data	4.30%
None of the Above	20.20%	18.60%	25.69%	20.90%

<i>Average Soft Goods Purchase</i>	<i>\$6.47</i>	<i>\$8.33</i>	<i>\$13.97</i>	<i>\$12.86</i>
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- 12% of respondents indicated their visit to the trail involved an overnight stay. On average they spent \$51 on accommodations, per night, that ranged from \$100 per night in a hotel to \$20 per night at a campground.

In 2006 the Rails to Trail Conservancy published the “Pine Creek Trail 2006 User Survey and Economic Impact Analysis”. This study utilized was conducted with the same methodology that was developed and used for the York County Heritage Rail Trail Park study. The Pine Creek Trail is a 62 mile long rail trail located in north central Pennsylvania from Ansonia in Tioga County to Jersey Shore in Lycoming County.

Warren County Greenways Plan

The study concluded that trail users were having a measurable, positive impact on the region's economy. Specifically, the report stated:

- In terms of economic impact, 85% of the respondents indicated they had purchased "hard goods" in the past year in conjunction with their use of the trail. The majority of these purchases were bicycles and bike supplies that resulted in an average purchase amount of \$354.07. While these types of purchases are not annually recurring, even with the most conservative usage estimate they amount to millions of dollars in sales.

Hard Goods	2007
Bikes	23.00%
Bike Supplies	26.00%
Auto Accessories	7.00%
Running / Walking / Hiking Shoes	9.00%
Clothing	13.00%
Camping Gear	4.00%
Nothing	18.00%

<i>Average Hard Goods Purchase</i>	<i>\$354.97</i>
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- Even more significant is the purchase of "soft goods" (water, soda, candy, ice cream, lunches, etc.). The average purchase amount per person was \$30.30. Considering that the average user makes several trips to the trail on an annual basis, at the minimum these types of purchases are contributing several hundred thousand dollars to the trail region's economy.

Soft Goods	2007
Bottled Water / Soft Drinks	24.00%
Candy / Snack Foods	14.00%
Sandwiches	11.00%
Ice Cream	16.00%
Lunch at Resturant along trail	17.00%
Horse Rental	0.30%
Other	3.00%
None of the Above	14.00%

<i>Average Soft Goods Purchase</i>	<i>\$30.30</i>
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- Given its location and the overall trail length, the Pine Creek Trail is considered a destination trail. As such 57% of survey respondents indicated their visit to the trail involved an overnight stay. On average they spent \$69.08, per night, on accommodations and the average length of stay was 3.34 nights.

The Allegheny Trail Alliance conducted a user survey of their trail system, including 100 of the 150 continuous miles of the Great Allegheny Passage, between Pittsburgh, PA and Cumberland, MD as well as the Montour Trail near Pittsburgh International Airport. Their study, the 2002 User Survey, asked collected and analyzed data on trail use, distances traveled, spending in local communities, and spending on bikes and equipment. Highlights of the survey results include:

- 59% of trail users made some type of small item purchase, such as food, clothing, and gas, at businesses in local trail-related communities.
- The average person spent \$8.84 per trip on small purchases.
- Per-trip spending varied at different trailheads surveyed, ranging from \$2.87 per person at the Montour Trail to \$15.61 at the Confluence trailhead of the Great Allegheny Passage.
- Spending varied substantially with distances traveled, ranging from \$4.03 per person per trip for those traveling less than 10 miles (one way) to a trailhead; to \$15.44 per person per trip for those traveling more than 60 miles.
- 13.3% of trail users stayed overnight during their trail visit, and the average number of nights stayed among those users was 2.4 nights.

Another study done in the Western Pennsylvania region, the Economic Impact of Ghost Town Trail in the Indiana and Cambria Counties Region (completed in October 1996), returned similar results with a trail user survey and infrared counters spaced at trail entrances. When the results of the user survey were projected to represent all trail users, the study concluded that:

- Average daily local purchases for Ghost Town Trail users was \$4.33 per day for Indiana or Cambria County residents, and \$9.28 for non-residents. Typical purchases included food, transportation, and other items.
- The total economic impact, when multiplied by the estimated 66,253 people that used the trail during 1996, was approximately \$362,000 -- \$221,000 from residents' expenditures and \$140,000 from nonresidents' expenditures. Over 77% of trail users were residents of either Indiana or Cambria County.

According to DCNR, tourism is the second largest industry in the Commonwealth and nearly one-fifth of Pennsylvania's tourists travel to enjoy its outdoor amenities. A recent Pennsylvania study noted that in 2002, recreational tourism accounted for 459,000 jobs statewide, an increase of 100,000 from 1998. In addition, the report noted that "there is also evidence to demonstrate that communities with recreational greenways have witnessed significant increases in real estate values."

Moreover, greenways can encourage new residents to settle in an area. Young people and families are attracted to places that provide opportunities for easy access to outdoor recreation. Greenway trails provide such accessibility since they connect population centers to parks and other natural amenities. Furthermore, to cater to the needs of recreational users, new service businesses such as bike shops, canoe & kayak rentals, outdoor equipment stores, restaurants,

campsites, and bed and breakfasts often spring up around recreation and transportation greenways. These new businesses bring new jobs and additional tax dollars to the host municipalities.

In *Benefits of Greenways*, DCNR noted that in 2002, recreational tourism accounted for 459,000 jobs statewide, an increase of 100,000 from 1998. Moreover, the report noted that “there is also evidence to demonstrate that communities with recreation and transportation greenways have witnessed significant increases in real estate values.”

Proximity to nature increases the desirability and value of residential property, a factor that increases the profitability of real estate development and the attractiveness of towns, cities, and regions. People have become increasingly willing to pay more to live near natural areas. For example: the Rocky Mountain Institute found that 48 percent of Denver residents were willing to pay more to live near a park or greenbelt in 1990, compared to 16 percent in 1980. In Tucson, Arizona, researchers found that a single-family house near a wildlife habitat would command a price premium of \$4,576 compared to a comparable house a mile farther from the wildlife habitat. This same study found that proximity to a golf course only resulted in a premium of \$2,215. In the city of Guelph, Ontario, a survey of residents revealed that 90 percent think the city administration should do more to encourage wildlife conservation, while 46 percent indicated a willingness to pay additional tax to fund this activity.

Beyond these direct economic benefits of greenways, other less-tangible but very important fiscal impacts may be attributed to greenway development. For example, when looking for places to relocate or expand their businesses, employers look at a variety of factors including amenities for their employees. Workers, particularly young people, are attracted to places that provide opportunities for easy access to outdoor recreation. Greenways and trails provide such accessibility since they connect employment centers to parks and other natural amenities.

Conservation Subdivision Design: Price Premiums

Conservation subdivisions have been described as “golf course communities...without the golf courses”. A conservation subdivision involves the same attention to site design and the same economic dynamics as a golf course community; a small lot with access to a shared amenity commands a premium price. In the case of a golf course community the proximity to a recreational amenity, the guarantee that the view of the golf course will not change and the exclusivity of the community contribute to desirability in the market despite the more compact arrangement of houses on smaller lots. The same factors drive the market in a conservation subdivision. However, in a conservation subdivision, the shared amenity is protected open space instead of a golf course.

"Walking and biking paths" ranked third among thirty-nine features identified by homebuyers as crucial factors in their home-purchasing decisions, according to a 1994 study by American Lives, a research firm serving the real estate industry. "Community

designs that deliver low traffic and quiet streets" were ranked first, and "lots of natural, open space" was second.

Recently published research comparing conservation subdivisions to conventional subdivisions indicates that lots in conservation subdivisions can provide higher profits to developers. The study, which was conducted in Rhode Island, concludes that lots in conservation subdivisions:

- ✓ carry a price premium - \$13,000 to \$18,000 per acre over conventional subdivision lots
- ✓ are cheaper to build - average of \$7,400 less to produce a lot
- ✓ sell more quickly - average selling time of 9.1 months, compared to 17.0 months for conventional subdivision lots

Source: The Economics of Conservation Subdivisions: Price Premiums, Improvement Costs, and Absorption Rates, by Rayman Mohamed. Published in Urban Affairs Review, January 2006

A study of values and priorities in choosing a home site conducted in Michigan concludes that "nature view from home" was by far the highest priority for residents of conservation subdivisions and conventional subdivisions. The study also concludes that conservation subdivision residents had a far higher level of satisfaction with the nearby environment than their counterparts in conventional subdivisions.

Source: Open Space Communities: Resident Perceptions, Nature Benefits, and Problems with Terminology, by Kaplan, Austin, and Kaplan. Published in the Journal of the American Planning Association, summer 2004

Economic Benefits of Being Physically Fit

Many studies have concluded there are economic benefits associated with being physically fit, such as:

- ✓ Lower medical costs, fewer insurance claims
- ✓ Increased job productivity
- ✓ Decreased absenteeism, depression, and job turnover
- ✓ Prevention of disability

Greenways and trails provide opportunities for maintaining a physically fit lifestyle.

Transportation Benefits

One quarter of all trips taken by Americans are under a mile, but seventy-five percent of those trips are done by car, and only one third of school children who live less than a mile from school now walk to school.

On-road bicycle facilities, sidewalks, and trails encourage:

- ✓ The use of non-polluting transportation alternatives to the automobile for those short trips to work, school, or the local store.
- ✓ The use of non-consumptive transportation alternatives to expending fossil fuels
- ✓ Reducing congestion
- ✓ Improving air quality
- ✓ Providing safe alternatives to residents
- ✓ Provides cost savings in car and road maintenance, and
- ✓ Enhances quality of life

According to the U.S. Bureau of Transportation Statistics:

- The average pedestrian's trip for recreation purposes is 1.9 miles
- The average pedestrian's trip for non-recreation purposes is 0.8 miles
- The average bicyclist's trip for recreation purposes is 5.6 miles
- The average bicyclist's trip for non-recreation purposes is 2.2 miles

There are many opportunities to expand choices for alternate modes of transportation, such as developing safe routes to schools and expanding the roadway network to include bicycle facilities.

Recreation Benefits

Greenways offer opportunities for recreation, health and fitness. Many studies have shown that as little as 30 minutes a day of moderate to intense exercise can improve a person's mental and physical health and prevent certain diseases. Studies also support the premise that Americans place a high priority on having trails and open space in their community for recreation purposes.

Greenways and trails:

- ✓ Support a wide variety of recreation uses
- ✓ Provide for the restoration and interpretation of historic sites
- ✓ Provide connectivity between rural areas and the main street centers
- ✓ Enhances the quality of life for residents

Warren County Greenways Plan

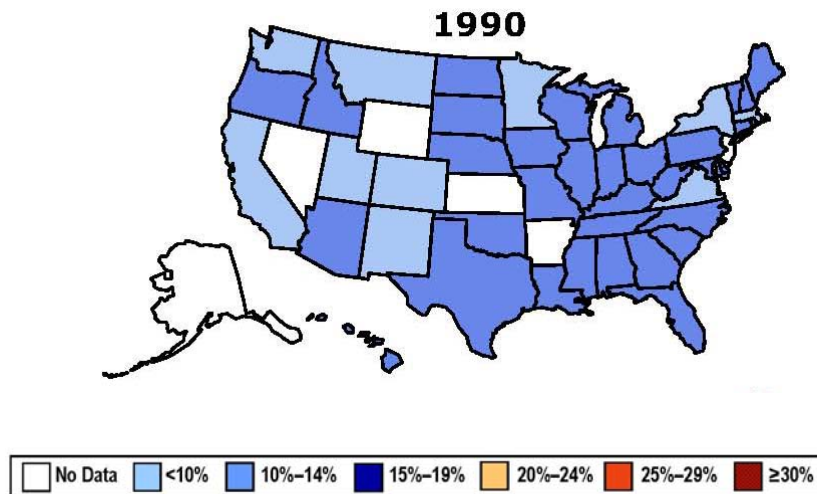
- ✓ Connects Pennsylvania with its neighboring states, Ohio to the west, and New York to the north
- ✓ Connects residents with the environment and our natural resources

Health and Wellness Benefits

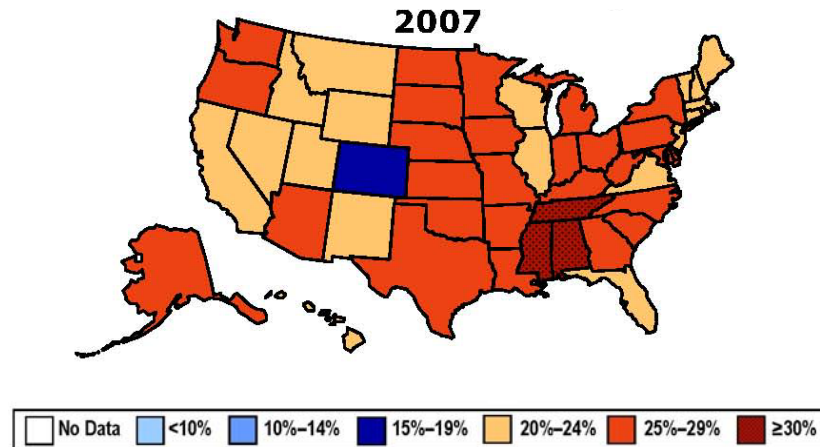
Trails and greenways create healthy recreation and transportation opportunities by providing people of all ages with attractive, safe, accessible and low- or no-cost places to cycle, walk, hike, jog or skate. Trails help people of all ages incorporate exercise into their daily routines by connecting them with places they want or need to go. Communities that encourage physical activity by making use of the linear corridors can see a significant effect on public health and wellness.

The U.S. Department of Health and Human Services' Center for Disease Control has been tracking obesity rates in the United States since 1985. Between now and then there has been a dramatic increase in obesity in the United States.

Obesity Trends* Among U.S. Adults - BRFSS



Obesity Trends* Among U.S. Adults - BRFSS, 2007



Source: U.S. Department of Health and Human Services Center for Disease Control

In 2007, only one state had a prevalence of obesity less than 20%. Thirty-two states had prevalence equal or greater than 25%; six of these states had a prevalence of obesity equal to or greater than 30%.

The Rails to Trails Conservancy's fact sheet "Health and Wellness Benefits," provides the following facts on how greenways and trails benefit health and wellness:

- ✓ In addition to helping control weight, opportunities for physical activity help to prevent heart disease, helps control cholesterol levels and diabetes, slows bone loss associated with advancing age, lowers the risk of certain cancers and helps reduce anxiety and depression. The power of physical activity to improve mood and prevent disabilities and chronic diseases is especially pronounced for older adults.
- ✓ Trails connect people with places, enabling them to walk or cycle to run errands or commute to work. A majority of the daily trips people make are short, providing an opportunity for physical activity that can be built in to the daily routine.
- ✓ Trails connect neighborhoods and schools so children can cycle or walk to their friend's homes or to school, especially in communities that lack sidewalks.
- ✓ Trails and greenways provide natural, scenic areas that cause people to actually want to be outside and physically active. The City of Pittsburgh has transformed unsightly urban decay into an inviting and popular greenway and trail with the Three Rivers Heritage Trail System. This trail attracts visitors, businesses, and residents.

Ecological Benefits

The ecological benefits of greenways are most likely some of the most important benefits provided to humankind. However, they generally are the least understood and valued. These ecological benefits are expensive to replace with artificial means to achieve their functions. Ecological benefits include:

- ✓ Preserving vital habitat corridors
- ✓ Promoting plant and animal species diversity
- ✓ Absorbing contaminants of surface runoff
- ✓ Cleansing and replenishing the air
- ✓ Buffering the negative effects of development
- ✓ Mitigating noise, water, thermal and air pollution
- ✓ Controlling property damage due to flooding

Educational Benefits

Greenways and trails provide educational benefits from a variety of perspectives including cultural and historical, and environmental interpretation.

Our best link to our future can be by examining our past. Greenways serve to promote the unique history and culture of towns, cities and villages all across Pennsylvania by providing:

- ✓ Access to buildings of historic and architectural significance in a community
- ✓ A look back at the events and people that shaped the present
- ✓ An opportunity to preserve historic assets and archeological artifacts

Natural areas that are set aside for educational purposes provide immeasurable opportunities for people of all ages to learn and interact with their natural surroundings. Greenways:

- ✓ Act as living museums, outdoor classrooms and laboratories
- ✓ Provide scenic excursions along water trails or wildlife preserves
- ✓ Assist students, both young and old, in developing concepts and skills by helping them become effective stewards and decision makers concerning our natural resources
- ✓ Promote and encourage interaction with our natural surroundings

Protecting Pennsylvania's Rural Legacy

Pennsylvania's rural landscape is an inextricable link to its history as well as a demonstration of the success that continues to be achieved by its farming community. Studies demonstrate that Pennsylvania has lost much of its agricultural land over the last 25 years to urban areas. This rate of loss has a sizeable economic impact, but it also threatens the unique characteristics that encompass Pennsylvania such as its rural legacy. Development without preservation of this rural character significantly impacts on the future course of the Commonwealth. Greenways help to preserve the rural character of a community by:

- ✓ Protecting ridge lines, river corridors, and scenic resources
- ✓ Providing visual relief by framing and distinguishing neighborhoods in the face of sprawl

- ✓ Preserving farmland, small country settlements and surrounding open space
- ✓ Maintaining the character of place

Economic Benefits – of Natural System Greenways

Probably the least understood, and least quantified aspect of greenways, is the impact of natural resource greenways to the economy. There are tourism dollars generated from County residents and visitors to the County that otherwise would not be realized if it weren't for the natural resources that support them. These tourism dollars would be non-existent if the resources which create habitat, create recreation opportunities, and create Warren County's character did not exist.

The natural resources along Warren County's waterways cleanse water, provide for the temporary storage of flood waters, and provide ground water recharge zones. Without these resources in place we would realize a significant cost in building additional infrastructure to replace these functions. Further, the single aspect of temporarily storing floodwaters provides a major financial benefit by controlling property damage that may be caused by flooding. By eliminating these storage areas and increasing impermeable surfaces, the risk of flooding is increased, and an expense is incurred during development to mitigate their negative effects.

CONSERVING PRIORITY HABITATS

Warren County contains a variety of forests, wetlands, rivers natural areas, and streams as well the Allegheny National Forest. All of these features provide habitat for a wide array of plants and animals. In Warren County Natural Heritage Inventory (NHI) the Pennsylvania Natural Heritage Program has identified numerous natural areas that serve as critical habitat for species of special concern, or that host a variety of habitats and landscape features warranting conservation. Additionally, the Pennsylvania Audubon Society has identified three (3) Important Bird Areas (IBAs), or areas essential to sustaining wild bird populations, in Warren County.

Greenway implementation strategies developed through this planning process will help to conserve these sensitive resources and promote development that respects these resources.

SOUND LAND USE AND SUSTAINABLE GROWTH

Proper planning is essential for ensuring new residential, commercial, and industrial development is implemented in a manner that respects the county's natural infrastructure, along with the aforementioned cultural, historic, and scenic resources.

An example of responsible land use is the in-fill development of land in existing areas of urban or suburban development. For example, developing land in an existing industrial park rather than previously undisturbed land provides easier access to utilities and resources, while preserving an existing area of open space.

It is important to note that a thoughtfully-developed Greenway Plan does not oppose development, but rather identifies ways to integrate it with conservation practices. Thus,

economic growth will occur in planned areas and will result in healthier communities, economically, socially, and environmentally.

HOW IS A GREENWAY PLAN DEVELOPED?

For many, the term greenway evokes visions of recreational and outdoor pursuits. For others, the term greenway evokes concern over restrictions to development and the loss of property rights. Throughout the planning process, we will take great efforts to ease concerns, educate the public to confirm the truth and dispel myths on what greenways are and are not, and build consensus by establishing defensible rationale for establishing a greenway network through the Northwest Pennsylvania Region. The resulting recommendations for greenways will promote sustainable development, reduce development costs, and reduce the burden of providing public services on local, county, and state governments.

THREE – STEP PROCESS

Our Greenway planning utilized a three-step process that answers three basic questions:

1. ***Where are we now?*** - In this phase, we gather information about the natural and cultural assets of the County that may form the building blocks of conservation or recreation and transportation corridors. For example, we obtain information about important habitat areas warranting protection as well as abandoned rail corridors that could be converted to recreation and transportation trails.
2. ***Where do we want to be?*** - In this phase, we develop the “vision.” Specifically, the plan synthesizes the information gathered during the inventory phase into a proposed network of greenways and trails linking important destinations throughout the County.
3. ***How do we get there?*** - This phase identifies and provides strategies that define how the plan can be implemented.

PUBLIC PARTICIPATION

Greenway planning also involves an intensive public participation process that solicits knowledge and expertise from local residents and officials - those who know Clarion, Crawford, Erie, Forest, Venango, and Warren County’s best. During this process, input is obtained by the following methods:

- Study Committee Meetings
- Public Meetings
- Key Person Interviews
- Field Visits

The result of this input is documented throughout this plan, and corresponds to the places in the process at which the input was obtained.

PURPOSE OF THE GREENWAYS PLAN

With the benefits and planning process in mind, this plan examines the various methods by which a greenway network can be developed for Warren County. Once developed, this network will help preserve the regions essential natural resources and, in turn, it's unique character, while enhancing the quality of life for its residents.

The purpose of this project is to develop a network of connections between the diverse natural areas, various cultural, historic, and recreational resources, and local population centers. These connections will help to conserve natural resources and open spaces while providing valuable recreational opportunities for residents in Warren County.

GOALS AND OBJECTIVES

Conserving and enhancing Warren County's character and quality of life, and guiding sound land use planning and development is a primary goal of the Warren County Greenways Plan. The following objectives will assist us in obtaining this goal:

- Conserve existing natural areas primarily for ecological health and preservation of wildlife habitat;
- Promote the conservation of agricultural land;
- Provide recreational opportunities for County residents through preservation and connection of existing open spaces;
- Promote economic growth via recreational or eco-tourism;
- Encourage counties and local municipalities to work in unison to help protect their various resources by adopting open-space and land-use tools to guide sound land development practices;
- Educate residents on the aspects and benefits of greenway planning and implementation.

THE GREENWAY AND OPEN SPACE PLAN AS A DECISION-MAKING TOOL

Once finalized and approved by the County the Greenway Plan will serve as a flexible tool for making decisions regarding the conservation of natural, cultural, historic, and scenic resources. By encompassing a variety of issues pertinent to these resources, the plan will lay the foundation for the continued success of open space conservation and increased quality of life in Warren County. Specific policy details and greenway locations may be adjusted as needed throughout the planning process and implementation.

Sound Greenway Planning includes inventory and analysis of natural features, cultural and historic sites, and open spaces such as parks or nature reserves; along with collaboration with local government agencies, private groups, and interested citizens to form policies for development and/or conservation. This multi-layered approach, involving Warren County and its decision-makers, has yielded short-, medium-, and long-term strategies for natural resource conservation and greenway development in harmony with any potential economic development.

CHAPTER ONE

HOW DO WE GET THERE?

**- Implementation Strategies
to Achieve the Vision**

CHAPTER ONE: *HOW DO WE GET THERE?*

By taking the recommendations presented herein to heart, Warren County has the opportunity to:

- ✓ Guide growth and development in a sustainable manner
- ✓ Improve the economy in Warren County by enhancing tourism opportunities and venues and by providing goods and services to meet the needs of our residents and tourists
- ✓ Provide alternate forms of transportation to improve air and water quality and to reduce traffic congestion
- ✓ Connect its residents and neighborhoods to one another, its parks, schools, and cultural and natural resources
- ✓ Conserve natural resources, which provide life sustaining functions and create the character of place, for current and future generations of Warren County residents

This chapter presents the recommendations and defines the implementation strategies that must be completed in order to work towards establishing the vision for greenways in Warren County and the Northwest Pennsylvania region.

The remaining chapters in this plan document the process that was completed to reach the conclusions and to make the recommendations presented within this chapter. The remaining chapters include:

Chapter Two: Where Are We Now

Provides background information, inventory of existing planning efforts, natural infrastructure, ecological infrastructure, cultural and historic resources, and existing conservation and recreation and transportation greenways

Chapter Three: Where Do We Want to Be?

Documents the process of developing the vision for natural systems greenways and recreation and transportation greenways

As a working document, we expect and encourage you to review the recommendations included in this plan from time to time to determine whether any adjustments need to be made to reflect and acknowledge positive changes in greenway planning efforts. Before significant changes are adopted, a careful review of the entire document should be conducted to gain a thorough understanding of the process which leads to the recommendations outlined in this Chapter. Only upon completing this review can prudent decisions be made related to the future of greenways in Warren County.

In their report “Back to Prosperity: A Competitive Agenda for Renewing Pennsylvania”, published in 2003, the Brookings Institution Center on Urban and Metropolitan Policy identified many concerns related to Pennsylvania’s growth, and lack thereof, over the past two decades. In the report they conclude those concerns, including: population migration; urban sprawl; and the consumption of land despite a stagnant population, have lead to trends that are fiscally and economically damaging to Pennsylvania’s economy. Further, the report goes on to recommend solutions to reversing these trends and rebuilding Pennsylvania. Some of the strategies recommended, include planning and collaboration at the regional level, conserving our resources, and reinvesting in our main streets and downtowns, in lieu of consuming more land.

By its very nature, greenway planning and implementation can begin to positively address the concerns raised and implement some of the strategies recommended in the Brookings Institute's report. We must realize that greenways are much more than conservation of our natural resources and trails for recreation and transportation. As discussed in the Introduction of this plan, greenways provide many benefits that are considered by many to be more significant.

CHAPTER ORGANIZATION

This chapter is organized in a logical format that follows the structure proposed for implementing the recommendations contained herein.

1. Management Structure
2. The Vision for Warren County's Greenway Corridors
3. Implementation Strategies

MANAGEMENT STRUCTURE

There are many successful management structure models that are available to facilitate the implementation and development of greenways. These include:

- Greenways and Trails Organizations
- County Parks and / or Greenways and Trail Department
- County Parks and / or Greenways and Trails Advisory Board
- Greenways and Trails Authority
- County Planning Office
- Multi-County Greenway Coordinator(s)

Each model has its strengths and weaknesses. To facilitate the discussion and decision making process, the strengths and weaknesses were summarized and presented to the study committee for consideration. That analysis is presented on the following pages.

Analysis of Potential Management Structures

Type of Organization	Strengths	Weaknesses	Examples
<i>County Parks and/or Greenways / Trails Department</i>			
The County Department is responsible for aspects of planning, development, management, and maintenance. Volunteer groups may be used to assist or support the County on specific projects.	<ul style="list-style-type: none"> • Able to apply for state grants 	<ul style="list-style-type: none"> • Relies mostly on paid staff to accomplish almost all work 	Indiana County Parks and Trails
	<ul style="list-style-type: none"> • The County sets the standards for all aspects of trail management 	<ul style="list-style-type: none"> • Volunteers usually play a limited role 	York County Parks
	<ul style="list-style-type: none"> • Paid staff are usually more reliable and are accountable to the County 	<ul style="list-style-type: none"> • The County funds all aspects of planning, development, management, and maintenance 	Westmoreland County
	<ul style="list-style-type: none"> • The County has control over priorities and how they are accomplished 	<ul style="list-style-type: none"> • Staff may have many responsibilities other than trails and greenways therefore trails may not be the primary focus of the department or staff. 	
	<ul style="list-style-type: none"> • The County manages quality control 	<ul style="list-style-type: none"> • Not able to apply for grants that are only available to non-profit organizations 	

Type of Organization	Strengths	Weaknesses	Examples
<i>County Parks and Recreation or Greenways / Trails Board</i>			
A volunteer board appointed by the County Commissioners. The Commissioners determine the purpose and responsibilities of the Board. Some Boards are permitted to hire staff through the County to assist with necessary tasks.	<ul style="list-style-type: none"> • Comprised of volunteers who have special interests in parks and recreation or trails and greenways 	<ul style="list-style-type: none"> • Rely mostly on volunteers to accomplish all work 	Somerset County Recreation Board manages the Allegheny Passage Trail within the County
	<ul style="list-style-type: none"> • Operates in conjunction with the County 	<ul style="list-style-type: none"> • Often end up with just a few people doing most of the work 	
	<ul style="list-style-type: none"> • Could provide a good balance of workers between volunteers and County paid staff 	<ul style="list-style-type: none"> • Limited interest in on-going maintenance and upkeep tasks 	
	<ul style="list-style-type: none"> • Able to apply for state grants with the County as the legal applicant 	<ul style="list-style-type: none"> • Fundraising often accounts for more of the volunteers time than trail work 	
	<ul style="list-style-type: none"> • The County sets the standards for how the Board will operate 	<ul style="list-style-type: none"> • Not able to apply for grants only available to non-profit organizations 	

Warren County Greenways Plan

Type of Organization	Strengths	Weaknesses	Examples
<i>Greenways, Trails, Recreation and/or Conservation Authority</i>			
An organization created by the County Commissioners for the expressed purpose of trail and greenway planning, development, maintenance and management.	<ul style="list-style-type: none"> • Separate from the political subdivision 	<ul style="list-style-type: none"> • Apart from County or municipal funding, an Authority has limited ability for revenue production 	Cambria County Conservation and Recreation Authority
	<ul style="list-style-type: none"> • Can operate independently of the governmental unit 	<ul style="list-style-type: none"> • Typically do not have volunteer groups associated with them 	Centre Region Park and Recreation Authority
	<ul style="list-style-type: none"> • Able to apply for state grants 	<ul style="list-style-type: none"> • Not able to apply for grants that are only available to non-profit organizations 	Clearfield County Recreation and Tourism Authority
	<ul style="list-style-type: none"> • Can borrow funds for major development projects 	<ul style="list-style-type: none"> • Relies mostly on paid staff to accomplish almost all work 	Lewisburg Area Recreation Authority
	<ul style="list-style-type: none"> • Set their own standards for quality and accountability 	<ul style="list-style-type: none"> • The trail organizations goals may not always match those of the County 	Tri-Area Recreation Authority
	<ul style="list-style-type: none"> • Typically think and plan for the long-term 	<ul style="list-style-type: none"> • The Board of Commissioners has little control over the decisions or actions of the Authority 	Montour County Recreation Authority Mountains Recreation and Conservation Authority Cameron County Recreation Authority

Warren County Greenways Plan

Type of Organization	Strengths	Weaknesses	Examples
<i>County Planning Office</i>			
The Office manages the planning and supervision of trails and greenways, coordinating with local municipalities and volunteer organizations for implementation and operation. A full-time Trail and Greenways coordinator may be needed. In the future this may also require some support staff.	<ul style="list-style-type: none"> • Able to apply for state grants 	<ul style="list-style-type: none"> • Requires a County-paid management position in the Planning Office 	Pike County
	<ul style="list-style-type: none"> • The Planning Office sets the standards for all aspects of trail management 	<ul style="list-style-type: none"> • Requires a tremendous amount of coordination by the Planning Office 	Cumberland County
	<ul style="list-style-type: none"> • Paid staff are usually more reliable and are accountable to the County 		
	<ul style="list-style-type: none"> • The County has control over priorities and how they are accomplished 		
	<ul style="list-style-type: none"> • Quality control comes from the Planning Office 		
	<ul style="list-style-type: none"> • Coordination with local municipalities and volunteer organizations spreads the workload and funding among many agencies 		
	<ul style="list-style-type: none"> • Volunteer groups can apply for funding that is only available to non-profits 		
	<ul style="list-style-type: none"> • Assures compliance with the County Trail and Greenway Plan 		
	<ul style="list-style-type: none"> • Assures greater accountability of all those working on projects 		
	<ul style="list-style-type: none"> • Allows all the benefits of both volunteer non-profit organizations and municipalities 		

Warren County Greenways Plan

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Consideration must also be given to the fact that the Warren County Greenway Plan recommendations and implementation strategies are part of the larger Northwest Region greenway effort. Therefore, thought must be given to this regional perspective.

Proposed Management Structure

Through the public participation process, consensus was focused on management structure with two components for it to be as successful as possible. Those components include a public component and a private component. This structure will be able to capitalize on the strengths of both types of organizations.

The public component can:

- Educate the public and municipal officials on the benefits of greenways
- Advocate municipalities to improve their land use tools to promote sound land development
- Provide technical assistance to municipalities and other greenway-related agencies
- Ensure consistent conservation and / or development throughout the proposed corridor
- Insure for the general liability of the corridors
- Provide routine maintenance
- Provide law enforcement, when required
- Provide access to government funding

The non-profit component can:

- Provide access to foundation and corporate giving
- Organize and conduct fund raising events
- Organize volunteers
- Assist with property acquisition
- Leverage volunteers for quarterly work days in the corridors
- Organize volunteers to be the eyes and ears of the corridors
- Promote, market, and advocate for the corridors
- Build support for the expansion of the greenway corridors

This model is being recommended because both the public and the private sector have unique characteristics that provide them with advantages in specific aspects of project service and delivery. A successful partnership arrangement draws on the strengths of both the public and private sector to establish complementary relationships.

The following describes the public and private components that are envisioned for this partnership.

Public Component

We recommend an intergovernmental cooperation agreement by the Counties who desire to participate in this intergovernmental arrangement.

In Pennsylvania, Intergovernmental Cooperation Agreements must meet the requirements of Act 177. This Act requires the agreement to be written to comply with the terms of Act 177 and include the following:

- a. The agreement must be enacted by ordinance (Section 2305)
- b. The ordinance must specify (Section 2307):
 1. The conditions of the agreement
 2. The duration of the agreement
 3. The purpose and objectives of the agreement, including the powers and scope of authority delegated in the agreement
 4. The manner and extent of financing the agreement
 5. The organizational structure necessary to implement the agreement
 6. The manner in which property, real or personal, shall be acquired, licensed, or disposed of
 7. The entity created under this section shall be empowered to enter into contracts for policies of group insurance and employee benefits, including social security, for its employees

Furthermore, we recommend the agreement address issues such as:

- Who will hold property and easements acquired for the trail
- Who is responsible for trail operations, maintenance, and security
- Whether any responsibilities will / can be delegated to outside entities, such as a non-profit organization

These items can be covered in the ordinance document itself, but usually are addressed in the agreement document and incorporated into the ordinance by reference, as an attachment to the ordinance.

An agreement enacted under the provisions of Act 177 is essentially a legal contract among two or more governmental agencies. Separate agreements, or a clearly stated multiple purpose agreement, are needed for two or more different functions. The terms of the agreement are whatever is negotiated among the participants, subject to the general requirements of the law.

The Pennsylvania Department of Conservation and Natural Resources and the Pennsylvania Department of Community and Economic Development have funded circuit rider positions for greenway and trail coordinator positions in several other counties throughout the Commonwealth. If the organization can be further expanded to cover a multi-county effort, both agencies are likely to further support an effort to a greater extent. Currently, two western Pennsylvania Counties have committed, through an intergovernmental agreement, to share a Greenways and Trails Coordinator. This is the first example of a multi-county position in the Commonwealth.

Private Component

We recommend a 501(c)3 non-profit organization be established to maximize funding opportunities and coordinate volunteer services. Additional responsibilities of this organization should include:

- Promoting greenways
- Providing physical labor for organized trail work days
- Providing “eyes and ears” on the trails and in the greenways
- Fund raising
- Producing maps, brochures, newsletters, and other information to educate users and educate and improve the greenways experience
- Coordinating the promotion of the greenways
- Advocating and building support for expansion of greenways

We recommend the study group formed for this project continue to be an advocate for greenways in the Northwest Region until a formal management structure can be put in place. Assistance may be obtained through the Pennsylvania Department of Conservation and Natural Resources Community Conservation Partnership Program Circuit Rider Program.

DCNR’s Circuit Rider Program is designed to provide initial funding for County or regional organizations to hire a professional, full-time staff person. The Circuit Rider’s purpose is to initiate new programs and services for counties, municipalities, and organizations that individually do not have the financial resources to hire a professional staff person. Circuit Rider grant applications are accepted at any time. Eligible project costs include only the Circuit Rider’s salary and DCNR-approved technical assistance and training expenses as follows:

- First Year: up to one hundred percent (100%) of gross salary
- Second Year: up to seventy-five percent (75%) of gross salary
- Third Year: up to fifty percent (50%) of gross salary
- Fourth Year: up to twenty-five percent (25%) of gross salary
- Training Expenses: up to \$2,000 available for Bureau-approved training expenses over the four years of funding.

Participating parties must provide local funds to cover the Circuit Rider’s employee benefits for all four years; the balance of the salary in years two, three, and four; and normal support services, such as office space and furnishings, training and travel expenses, clerical support, equipment, etc. Startup costs will need to be allocated in the first two years of operation to acquire office furniture and equipment.

In order to apply for funding one municipality, or the County, will need to complete and submit a PA DCNR Community Conservation Partnership Program grant application. Additional assistance may be obtained from the National Park Service’s Rivers, Trails, and Conservation Assistance Program for the same purpose.

Within the context of the County and the region, there are many organizations at the local, municipal, trail corridor, and county levels. Care must be taken to not duplicate the efforts of those organizations, but rather the proposed management structure must enhance and provide assistance to these existing organizations. Therefore, it was suggested that either a county-wide position or a multi-county management structure might be most appropriate.

While considering this analysis and the various options, the consultant recognized the need for an organization that not only provides the management capacity for a specific entity or resources, but for all greenway initiatives throughout the County. Therefore this organization should be flexible enough to address all of the greenway efforts throughout the County.

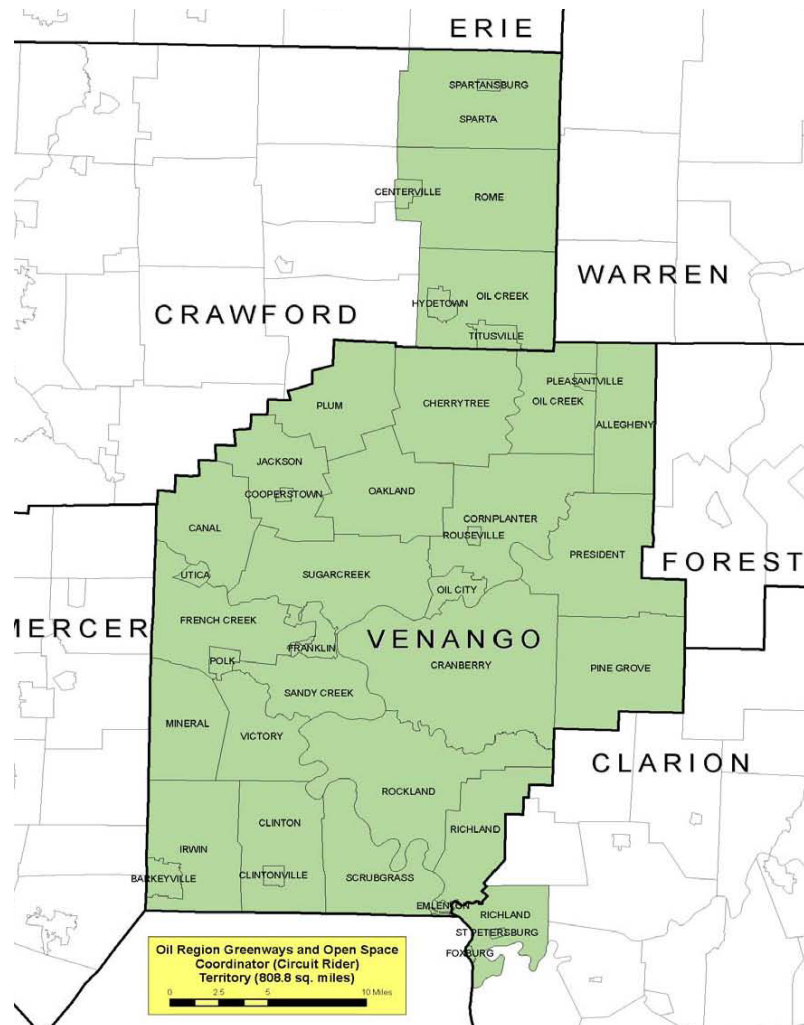
Although PA DCNR has encouraged multi-county management structures for many years, one was not established until early 2008. In February 2008, Beaver and Lawrence Counties entered into a five-year agreement to share the services provided by a newly created Joint Greenways Coordinator position. Although in its infancy, this position has already proved to be effective in advancing the implementation of greenways in Beaver and Lawrence Counties. Furthermore, this level of cooperation has provided the Counties with funding opportunities they may not have otherwise experienced. This joint coordinator position has proven to be ideal, as generally there is not a sufficient amount of work in one county or the other to justify the position. However, when the two counties began to discuss the position, it was determined there would be a sufficient workload to support a full-time position between the two counties. We believe the Beaver and Lawrence Counties' joint greenways coordinator position management structure warranted consideration for the counties of the Northwest Region.

In the process of developing the recommendations and defining the implementation strategies for each county, we have come to the conclusion that there ideally would be two joint coordinators who would oversee the implementation of greenways in the Northwest region. These positions are in addition to the Beaver / Lawrence Counties Joint Greenway Coordinator described above and the Oil Region Greenways and Open Space Coordinator described below.

Near the completion of this study, a joint coordinator position was created through an intergovernmental agreement to provide services to the Oil Region, which is located in the Northwest Region. This position was created upon completion of a peer study which examined the need, recommended the structure, and defined the position. As currently defined, this joint greenways coordinator is responsible for implementing greenway strategies in the Oil Region, which includes all of Venango County, and Oil Creek Township, Titusville Borough, and Hydetown Borough in Crawford County.

In addition to the Oil Region, the geographic area for this position also includes greenways and trails that are contiguous with and also extend beyond the Region into Clarion and Crawford Counties, including:

- Clarion County: The Allegheny River Trail from Emlenton through Foxburg to Parker Landing, including the municipalities of Richland Township, Foxburg Borough, and St. Petersburg Borough
- Crawford County: Trails in Titusville, Oil Creek Township, and heading northward, including the municipalities of Centerville, Spartansburg Boroughs, and Rome and Sparta Townships
- Parts of the proposed Erie to Pittsburgh Trail
- And potentially, the Clarion Highlands Trail



There are many opportunities in Clarion, Forest, and Warren Counties for the development of greenways and trails. Erie, Crawford, and Mercer Counties have volunteer trail organizations that have been working for some time to implement greenway corridors in their respective counties, and based on the inventory and analysis, there is a lot of work required to continue and assist these organizations in their efforts.

Given the goals and objectives of the Northwest Pennsylvania Planning and Development Commission to serve the counties of the Northwest Region, they are well-suited to house the two additional positions being recommended. Then, the positions can be focused either geographically or based on where implementation priorities direct them.

Given the regional context of this position, additional information pertaining to the implementation of these positions is contained in the Northwest Pennsylvania Greenways Summary document, including:

- Opportunities for Acquiring Funding for the Position
- Sample Greenway Coordinator Skill Set, Expectations, and Position Descriptions
- Sample Administrative Budget

Warren County Greenways Plan

The proposed joint greenway coordinator positions address the public component of the management structure.

To determine the structure for the private not-for-profit component opportunities for existing organizations to provide the services that may be required should be evaluated. Existing organizations in Warren County that can be approached for this role have been identified as follows:

County(ies) Served	Organization	Mission
Forest Venango Warren	Allegheny Valley Conservancy P.O. Box 96 Franklin, PA 16323 814-432-2187 jaholden@csonline.net	To protect the water quality of the Allegheny river and French Creek watersheds; preserve open-space, scenic beauty, valuable and productive agriculture and forest land and historically significant areas in the watersheds; to enhance the quality of life for residents of the region; to promote land stewardship through public education and technical assistance.
Clarion Crawford Erie Lawrence Mercer Venango Warren	Western Pennsylvania Conservancy 800 Waterfront Drive Pittsburgh, PA 15222 412-586-2326 info@paconserve.org www.wpconline.org	Protects, conserves and restores land and water for the diversity of the region's plants, animals and their ecosystems. Through science-based strategies, collaboration, leadership and recognition of the relationship between humankind and nature, WPC achieves tangible conservation outcomes for present and future generations.

Furthermore, a grassroots effort to create a Friends of Warren County's Greenways may provide to be desirable and successful.

The Vision for Warren County's Greenway Corridors

Chapters Two and Three provide a detailed inventory and analysis of the greenway planning process for Warren County. Through this work, a vision for greenways in Warren County was created. This vision is two-fold as it consists of the natural systems greenways and recreation and transportation greenways.

Natural System Greenways

Our analysis leads us to recommending that specific areas of Warren County's natural landscape be conserved. There are twenty Natural Resource Greenway corridors that we recommend for Warren County.

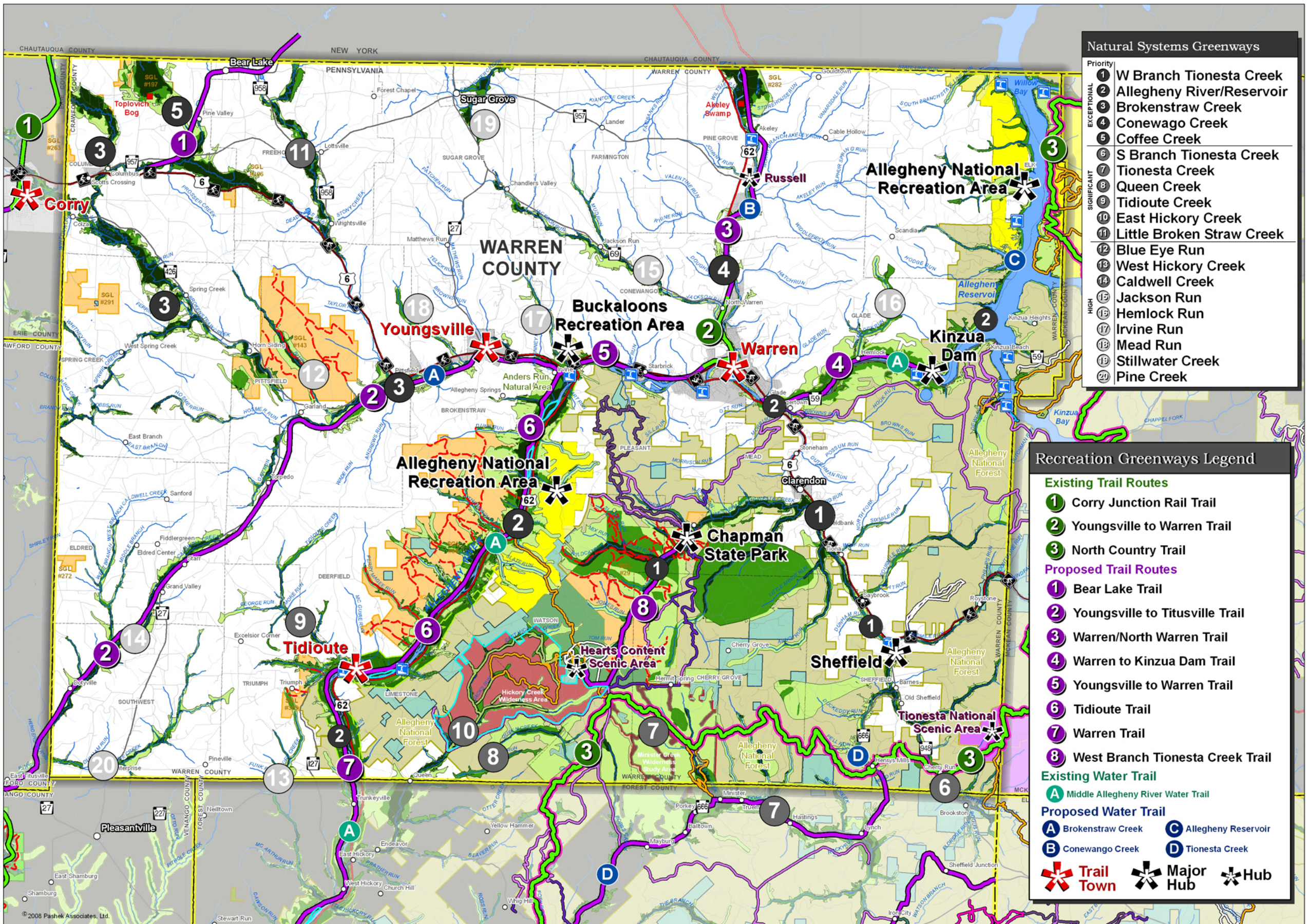
They are as follows:

Priority	Ranking	Greenway Name	Sensitivity Ranking	Total Acres	Conserved Acres	Percent Conserved
Exceptional	1	West Branch Tionesta Creek	26.2	23,965	21,272	88.8%
	2	Allegheny River/Reservoir	25.6	33,359	17,592	52.7%
	3	Brokenstraw Creek	24.1	9,031	897	9.9%
	4	Conewago Creek	23.5	2,997	510	17.0%
	5	Coffee Creek	23.5	3,820	1,878	49.2%
Significant	6	South Branch Tionesta Creek	22.1	1,282	967	75.4%
	7	Tionesta Creek	21.2	9,582	9,463	98.8%
	8	Queen Creek	20.7	2,649	2,600	98.2%
	9	Tidioute Creek	20.0	1,097	0	0.0%
	10	East Hickory Creek	19.6	2,555	2,166	84.8%
	11	Little Brokenstraw Creek	19.3	1,637	0	0.0%
High	12	Blue Eye Run	17.8	841	767	91.2%
	13	West Hickory Creek	17.5	468	87	18.6%
	14	Caldwell Creek	17.4	2,763	0	0.0%
	15	Jackson Run	16.8	1,457	0	0.0%
	16	Hemlock Run	16.4	474	0	0.0%
	17	Irvine Run	16.3	421	144	34.2%
	18	Mead Run	15.9	346	0	0.0%
	19	Stillwater Creek	15.2	585	0	0.0%
	20	Pine Creek	14.9	966	0	0.0%

These corridors are identified on the Warren County Natural Systems Greenways Map. They are further described in Chapter Three: Where Do We Want to Be? where a complete description of the prioritization process can be found.

Based on the priorities established in Chapter Three, we recommend their implementation as follows:

- Exceptional Priority Corridors: be implemented in the short-term, one to three years
 - West Branch Tionesta Creek Greenway Corridor
 - Allegheny River/Reservoir Greenway Corridor
 - Brokenstraw Creek Greenway Corridor
 - Conewago Creek Greenway Corridor
 - Coffee Creek Greenway Corridor
- Significant Priority Corridors: be implemented in the mid-term, three to five years
 - South Branch Tionesta Creek Greenway Corridor
 - Tionesta Creek Greenway Corridor
 - Queen Creek Greenway Corridor
 - Tidioute Creek Greenway Corridor
 - East Hickory Creek Greenway Corridor
 - Little Brokenstraw Creek Greenway Corridor
- High Priority Corridors: be implemented in the long-term, five to ten years
 - Blue Eye Run Creek Greenway Corridor
 - West Hickory Creek Greenway Corridor
 - Caldwell Creek Greenway Corridor
 - Jackson Run Creek Greenway Corridor
 - Hemlock Run Creek Greenway Corridor
 - Irvine Run Creek Greenway Corridor
 - Mead Run Creek Greenway Corridor
 - Stillwater Creek Greenway Corridor
 - Pine Creek Greenway Corridor



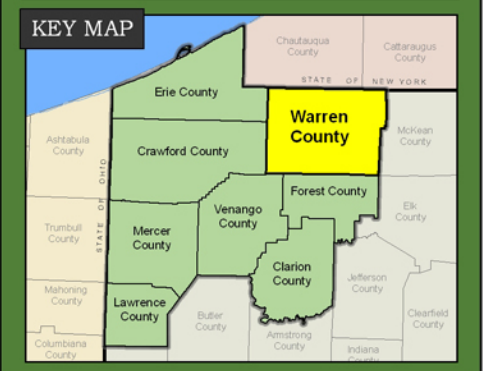
- Natural Systems Greenways**
- | Priority | Greenway Name |
|----------|---------------------------|
| 1 | W Branch Tionesta Creek |
| 2 | Allegheny River/Reservoir |
| 3 | Brokenstraw Creek |
| 4 | Conewago Creek |
| 5 | Coffee Creek |
| 6 | S Branch Tionesta Creek |
| 7 | Tionesta Creek |
| 8 | Queen Creek |
| 9 | Tidioute Creek |
| 10 | East Hickory Creek |
| 11 | Little Broken Straw Creek |
| 12 | Blue Eye Run |
| 13 | West Hickory Creek |
| 14 | Caldwell Creek |
| 15 | Jackson Run |
| 16 | Hemlock Run |
| 17 | Irvine Run |
| 18 | Mead Run |
| 19 | Stillwater Creek |
| 20 | Pine Creek |

- Recreation Greenways Legend**
- Existing Trail Routes**
- 1 Corry Junction Rail Trail
 - 2 Youngsville to Warren Trail
 - 3 North Country Trail
- Proposed Trail Routes**
- 1 Bear Lake Trail
 - 2 Youngsville to Titusville Trail
 - 3 Warren/North Warren Trail
 - 4 Warren to Kinzua Dam Trail
 - 5 Youngsville to Warren Trail
 - 6 Tidioute Trail
 - 7 Warren Trail
 - 8 West Branch Tionesta Creek Trail
- Existing Water Trail**
- A Middle Allegheny River Water Trail
- Proposed Water Trail**
- A Brokenstraw Creek
 - B Conewago Creek
 - C Allegheny Reservoir
 - D Tionesta Creek
- Trail Town** **Major Hub** **Hub**

Northwest Pennsylvania Greenways Plan

for

Clarion County	Lawrence County
Crawford County	Mercer County
Erie County	Venango County
Forest County	Warren County



LEGEND

- County Boundary
- Municipal Boundary
- Urban Areas
- Lake / Reservoir
- River
- Interstate
- PA State Route
- US Highway
- PFBC Access Points

DCNR Managed Land

- State Park
- Pennsylvania State Forest
- Wild & Scenic River Corridor
- State Game Land
- National Recreation Area
- Allegheny National Forest (ANF)
- ANF Wilderness Area
- ANF Wilderness Study Area
- ANF Scenic Area
- Other Managed Land - Private

Existing & Proposed Trails

- Existing Trail
- Proposed Trail
- Existing North Country Trail
- State Park/Game Land Trails
- Bicycle PA Route
- Existing Water Trail
- Proposed Water Trail

Allegheny National Forest Trails

- ATV Trail
- Full-time Snowmobile Trail
- Bank Fishing Trail
- Full-time ATV / Snowmobile Trail
- Hiking Trail
- Joint-use Snowmobile Trail
- Motorized Bike Trail
- Pathway
- Cross-country Skiing Trail

Natural Systems Greenways

- Exceptional
- High
- Moderate

Data Source: ESRI 2005 Data, USGS, PASDA, PennDOT

Projection: State Plane - NAD 1983, Pennsylvania North, Feet

Scale: 1 inch = 1 mile

Recreation and Transportation Greenways

Existing and potential recreation and transportation greenway corridors were inventoried, as described in Chapter Two, and analyzed in Chapter Three. Through this process, existing recreation and transportation greenways were documented, and recommendations were developed for expanding those offerings.

Land Based Trails

Proposed recreation and transportation greenway corridors in Warren County include:

- 1) Youngsville to Warren Trail – This trail extends from Warren to Youngsville, along the Allegheny River and Brokenstraw Creek, following an active Allegheny and Eastern Railroad line.

Approximate Length: 8.3 miles

Associated Municipalities: Brokenstraw and Conewango Townships

- 2) North Country Trail – The North Country Trail (NCT) is a planned footpath that extends over 4,000 miles from New York to North Dakota, passing through six additional states along its route. Although many segments of the trail currently exist, completion of the entire route is still years away. The section of the trail through Warren County begins east of Minister Creek Wilderness Area, and travels north and east within Allegheny National Forest (ANF), to Tionesta National Scenic Area where it enters McKean County. The NCT enters back into Warren County east of Allegheny Reservoir, in the Allegheny National Recreation Area, where it follows the shore of the reservoir north, before entering back into McKean County at Willow Bay.

Approximate Length: 20 miles in southern section of Warren County
5.5 miles near Allegheny Reservoir

Associated Municipalities: Watson, Cherry Grove, Sheffield, and Mead Townships

- 3) Bear Lake Trail – this trail follows the abandoned Conrail Bear Lake Line from CM Junction, near Columbus, to the New York State border.

Approximate Length: 8.2 miles

Associated Municipalities: Columbus and Freehold Townships

- 4) Youngsville to Titusville Trail

Approximate Length: 22 miles

Associated Municipalities: Southwest, Eldred, Deerfield, Pittsfield, and Brokenstraw Townships and Youngsville Borough

- 5) Warren/North Warren Trail – A portion of this trail is active and paved from downtown Warren to North Warren. The proposed section will continue north to Russell and beyond to New York State, passing through Akeley Swamp and State Game Land No. 282. This trail also parallels the Conewango Water Trail.

Approximate Length: 12 miles

Associated Municipalities: Pine Grove, Glade, and Conewango Townships as well as the City of Warren.

- 6) Warren to Kinzua Dam Trail – This trail parallels the Allegheny River, heading east out of the City of Warren, to the Kinzua Dam. It connects Warren with the Allegheny Reservoir and potentially on to the Allegheny National Recreation Area. The majority of this trail is along the Wild and Scenic designated section of the Allegheny River.

Approximate Length: 6.7 miles

Associated Municipalities: Glade Township and the City of Warren

- 7) Tidioute Trail – The Tidioute Trail runs adjacent to the Allegheny River between Tidioute and Buckaloons Recreation Area. This trail is part of the regional Warren Trail, linking the City of Warren with Oil City in Venango County. The entire length of this trail parallels the Wild and Scenic section of the Allegheny River.

Approximate Length: 14.2 miles

Associated Municipalities: Brokenstraw and Deerfield Townships as well as Tidioute Borough

- 8) Warren Trail – The Warren Trail follows the abandoned Oil City Secondary Line, from Warren County to Venango County, along the Allegheny River. The trail connects Oil City with the City of Warren and passes through Tionesta, in Forest County, as well as Tidioute, in Warren County, along the way. The Warren Trail merges with the Tidioute Trail in Tidioute, which it follows north to the Youngsville to Warren Trail, at Buckaloons Recreation Area.

This trail corridor has potential to link the Allegheny National Forest with large population centers such as the city of Pittsburgh.

Approximate Length: 4.5 miles in Warren County

Associated Municipalities: Limestone and Triumph Townships, as well as Tidioute Borough

- 9) West Branch Tionesta Creek Trail – This trail connects Hearts Content Scenic Area, in Allegheny National Forest, to Chapman State Park following Forest Route 536, an unimproved forest road that is proposed to be developed as a trail. A possible extension to this proposed trail includes extending the trail along the former Tionesta Valley Railroad grade, connecting Clarendon, Tiona, and Sheffield on its way to Tionesta.

Efforts to develop the first phase of this trail are being pursued by Warren County, PA DCNR Chapman State Park, and the Allegheny National Forest Service.

Approximate Length: 7.5 miles

Warren County Greenways Plan

Associated Municipalities: Watson, Cherry Grove, and Pleasant Townships

Utilizing an average cost range for rail trail construction of between \$50 and \$100 per lineal foot for trail construction, the following table establishes a budget for the anticipated cost of constructing the trails described above. These costs are based on the following assumptions:

- Construction projects will be publicly bid projects following PA DCNR, PA Department of Labor Industry and respective County / Municipal Code requirements
- Costs reflect the potential for completing projects with Pennsylvania Department of Transportation funding; from past experience we know this can increase the project costs by fifteen to twenty percent
- Property acquisition costs have not been incorporated into the projected costs
- Costs are based on 2008 construction figures, future year costs should costs be amortized by 4.5% per year for price escalation
- Costs do not include costs associated with major structures, >100' in length
- Cost projections should be confirmed / revised upon completion of preliminary design
- Costs do not assume in-kind, donated, or volunteer services

The projected costs may seem overwhelming at first. However, to fully understand the financial implications of implementing the projects, one must evaluate scenarios for implementation and funding to completely understand what the project will mean, and cost, to its implementation partners. Implementation costs can be significantly reduced by utilizing in-kind and donated services, grants, foundation awards, and volunteer services. Each of these aspects can further reduce the cost to the implementation partners and reduce their requirement for a cash match. As an example, the Butler Freeport Trail Association, in Butler County will be constructing 4.5 miles of rail trail on an acquired rail bed. Utilizing the multipliers identified herein, it is estimated the trail will cost between \$1,188,000 and \$1,820,000 to construct. However, through in-kind services being provided by a local municipality to construct the trail, and volunteer services clearing the corridor, they hope to reduce the costs to approximately \$400,000. This money will be used to purchase materials and then volunteer and in-kind services will be used to provide the local match.

Trail	Unbuilt Mileage	Projected Construction Cost using \$50 / LF	Projected Construction Cost using \$100 / LF
Bear Lake Trail	8.2	\$2,164,800	\$4,329,600
Tidioute Trail	14.6	\$3,854,400	\$7,708,800
Warren to Kinzua Dam Trail	22.2	\$5,860,800	\$11,721,600
Warren Trail	4.4	\$1,161,600	\$2,323,200
Warren\North Warren Trail	8.7	\$2,296,800	\$4,593,600
Youngsville to Titusville Trail	22.2	\$5,860,800	\$11,721,600
Youngsville to Warren Trail	8.5	\$2,244,000	\$4,488,000
West Branch Tionesta Creek Trail	7.5	\$1,980,000	\$3,960,000

Personnel and financial resources for the implementation of each trail is not available to meet all of the needs. Therefore, in order to focus and prioritize the resources required to implement the trail segments identified in this plan, we have established the following criteria to prioritize the corridors. This criterion allows us to rank projects based on a common set criteria, established to ensure all resources are focused towards those projects with the greatest potential for public use, public benefit, and implementation.

Land Based Trail Prioritization Criteria

1. *Trail Demand:* The degree of public support for the project and anticipated use of the trail, the greater the public support for a project and / or the greater the anticipated use of the trail, the higher the value.
 - a. Degree of public support demonstrated by political support, at public meetings, and through letters of support.
 - b. The projected use of the trail is a measurement of local use based on population in the vicinity of the proposed trail. The greater the projected use, the higher the value.
2. *Land Acquisition:* Trail concepts that require land acquisition to complete, receive a higher value because the project would not be feasible if land acquisition is not completed.
 - a. Donations / Low Cost: Significant Value
 - b. Associated with Regional Trail: High Value
 - c. Medium Cost: Medium Value
 - d. High Cost / Not Available: Valuable
3. *Connectivity:* The degree to which the trail connects to existing greenways or destination points or to on-road or pedestrian facilities, the greater the connectivity, the higher the value.
 - a. Regional Trail: Significant Value –a part of a regional trail system recognized by PA DCNR
 - b. Direct Extension: High Value - of existing trail and/or a spur directly into a destination center
 - c. Real Potential: Medium Value - to connect to existing opportunities
 - d. Stand Alone Trail: Valuable
4. *Environmental or Historical Impacts:* Measured by the degree to which the project will have anticipated, direct, adverse impacts to protected natural or historical resources, the greater the degree of impact, the lower the value.
5. *Benefits to the Public:* The total number of recreation, transportation, education, and other benefits that can be derived by the public from the project, the greater the number of benefits, the higher the value.
6. *Funding Opportunity / Partnering:* Considering the factors affecting the project's funding status and the degree to which the project may be allocated funds from a variety of agencies, the greater the funding opportunities, the higher the value.
7. *Economic Development Potential:* Trails that connect to proposed trail towns will have the greatest potential to impact the local economy.

Prioritization Levels

- *Exceptional Priority:* most significant priority, focus planning, acquisition, design and construction, and funding resources to implement project.

Warren County Greenways Plan

- *Significant Priority:* second most significant priority, focus planning, acquisition, design and construction resources to provide locals with opportunity to secure funding to implement project.
- *High Priority:* third most significant priority, focus planning, and acquisition resources to plan for future of project.

Trail Corridor	Trail Demand	Land Acquisition	Connectivity	Environmental / Historical Impacts	Benefits to the Public	Funding Opportunities / Partners	Economic Development Potential	Total	Ranking	Priority
Warren\North Warren Trail	4	3	4	3	4	3	2	23	1	Exceptional
Youngsville to Warren Trail	4	1	4	3	4	2	4	22	2	
West Branch Tionesta Creek Trail	3	4	2	4	3	4	1	21	3	
Tidioute Trail	3	1	4	3	4	1	4	20	4	Significant
Youngsville to Titusville Trail	3	1	4	3	4	1	3	19	5	
Warren to Kinzua Dam Trail	3	1	2	3	2	1	2	14	6	High
Warren Trail	2	1	3	3	3	1	1	14	7	
Bear Lake Trail	2	1	1	3	2	1	1	11	8	

Based on this prioritization, we recommend the following:

- Exceptional Priority Corridors: be advanced in the short-term, one to three years
 - Warren\North Warren Trail
 - Youngsville to Warren Trail
 - West Branch Tionesta Creek Trail
- Significant Priority Corridors: be advanced in the mid-term, three to five years
 - Tidioute Trail
 - Youngsville to Titusville Trail
- High Priority Corridors: be advanced in the long-term, five to ten years
 - Warren to Kinzua Dam Trail
 - Warren Trail
 - Bear Lake Trail

Trail Implementation Steps

Taking a trail from concept through implementation can be a daunting task to a trail volunteer who may be responsible for its implementation. Towards that end, the following is a step-by-step process that helps define the tasks required to advance the implementation of a trail:

1. Identify the potential corridor and any alternate routes.
2. Estimate the demand for the proposed trail. Will it connect local or regional population centers? Will the demographics of the area support the use of the trail?
3. Conduct research at the County Courthouse to gain an understanding of who owns the property.
 - a. If it is currently held by a railroad, contact the railroad to determine if it is likely to be abandoned in the near future – if currently owned by the railroad, then there is the potential to rail bank the corridor. Railbanking must in accordance with Pennsylvania Act 1990-188, the Rails to Trails Act.
 - b. If the property is owned by various individuals, it is likely the corridor has reverted back to private ownership. To confirm this title, research must be completed so a legal opinion to the ownership status can be rendered. If ownership is unclear, one must assume the property has reverted to the adjacent property owners until proven otherwise.
4. Document the benefits of the proposed trail, including: economic, transportation, recreation, health and wellness, establishing partnerships, and quality of life improvements.
5. Meet with municipal and county officials to discuss your proposal, review the potential alignment, and discuss the benefits the proposed trail can provide to the area.
6. Meet with property owners and the general public to solicit input and determine whether property owners support or oppose the proposed trail. For this initial meeting, it is important to listen and identify concerns, issues, and false understanding of what the trail will mean and how it may impact their property. With this information, you can tailor the concept for the trail to respond to the issues, concerns, and needs of the property owners. Also, by understanding any false pretenses they may have, you can prepare to respond to demonstrate what a trail is / will do, and what a trail isn't / won't do at a second meeting with the property owners. Ask for permission to go onto their property so you can get a better understanding of their concerns. Document this request in writing by having them complete a form at the public meeting.
7. Evaluate the corridor to determine the likelihood of physically establishing a trail on the corridor. Do not go onto the corridor without the permission of the current property owner(s) as you will be trespassing. For portions of the trail you do not have permission to access, utilize aerial photography and other geographic information resources to complete a thorough desktop analysis. Meet with willing property owners, as required, to allay fears and discuss particular concerns and alignments.
8. Prepare a concept plan for the trail to identify the trail's potential alignment, respond to land owner issues and concerns where possible, and develop an estimate of probable construction costs from this concept plan.

9. Develop management, operation, and security strategies for the continued operation of the trail. Many agencies will be leery of your proposal unless you can demonstrate that there is a long-term commitment and that long-term care can be provided for the proposed trail.
10. Complete a financial analysis to project the capital and operating costs for the proposed trail, and prepare a plan to show how those costs will be covered. Also, project the estimated economic impact of the proposed trail utilizing data collected from existing trails that are similar in nature to the trail being proposed.
11. Meet with the property owners and the general public a second time to present the proposed concept plan, and review the proposed recommendations for property acquisition; trail alignment; trail development; and trail management, operations, and security. Collect input of proposed recommendations, and determine where you have support and where you do not have support for the development of the proposed trail. Determine if logical portions of the trail can be advanced to demonstrate the impacts of the trail and to build support for extensions to the trail.
12. Based on the input received, determine whether there is a feasible demonstration project that can be implemented.
13. Secure rights for public access to the demonstration segment of the proposed trail.
14. Complete final design, prepare construction documents, and obtain required permits for the construction of the proposed demonstration segment.

The old adage that “it is better to ask forgiveness than it is to ask for permission” is a common approach taken by those who do not have experience in advancing trail projects. When this approach is taken to the extreme, and trails are developed and / or publicly advertised without the property owners’ involvement and consent, litigation can result, and property owners who otherwise may have been supportive, are likely to be alienated.

Ideally, you will want to retain a professional experienced in trail planning and design to assist you throughout the process. The money invested up front will be beneficial throughout the course of implementing the trail. Furthermore, an experienced professional brings experience from other projects, allowing them to avoid pitfalls and recommend successful solutions used on previous projects.

There is nothing more satisfying than having a property owner who was vocally opposed to the proposed trail at the first meeting come to you after the second meeting and thank you for understanding and responding to their concerns. Experience tells us that some property owners are willing to share concerns, be open-minded, and re-evaluate their initial decision over the course of the project, while there are others who will not.

Recognizing many of the proposed trail routes in Warren County should begin with the completion of a trail feasibility study for their respective corridor, the following table provides an educated estimate of the costs associated with completing those studies. The budgets proposed here are based on 2008 dollars, and should be increased by 4.5% for each year beyond 2008.

Trail	Unbuilt Mileage	Feasibility Study Cost				Priority
		Title Search	Legal Opinion	Feasibility Study	Total	
Warren\North Warren Trail	<i>not required</i>					Exceptional
Youngsville to Warren Trail	8.5	\$7,083	\$2,833	\$35,000	\$44,917	
West Branch Tionesta Creek Trail	<i>not required</i>			\$20,000	\$20,000	
Tidioute Trail	14.6	\$12,167	\$4,867	\$25,000	\$42,033	Significant
Youngsville to Titusville Trail	22.2	\$18,500	\$7,400	\$35,000	\$60,900	
Warren to Kinzua Dam Trail	22.2	\$18,500	\$7,400	\$50,000	\$75,900	High
Warren Trail	8.5	\$7,083	\$2,833	\$30,000	\$39,917	
Bear Lake Trail	8.2	\$6,833	\$2,733	\$30,000	\$39,567	

These costs may be reduced if there is a well-organized trail constituency group. That group may be able to complete title research and develop the management, operation, and security components of the feasibility study, thereby reducing the overall cost of the plan. Furthermore, the value of their in-kind services can potentially be used to fulfill a portion of the local match requirement when required by grant funding sources.

This step is of the utmost importance. The number one issue facing local trail organizations is that most do not have the capacity to do the work required to determine a particular corridor's viability. Providing these organizations with a completed feasibility study will go a long way towards giving them the information and direction required to move their plan forward. Furthermore, a significant component, both from a cost perspective, and from a needs perspective, is that of completing the legal feasibility portion of the studies. This component includes completing title research and receiving a legal opinion regarding the ownership status of the corridor in question. Without completing this component, the local trail organizations are not able to move forward with their work.

Water Trails

The Pennsylvania Water Trails Partnership brings together the Pennsylvania Department of Conservation, Pennsylvania Fish and Boat Commission and the Pennsylvania Environmental Council to encourage the development and enhancement of Pennsylvania water trails.

The Pennsylvania Fish & Boat Commission provides the following guidelines, as presented in the Commission's Water Trails Fact Sheet, for planning, designating, and developing water trails:

- ✓ **Public Planning Process:** In order to designate a water trail, there must be a public process. This includes multiple public meetings that are publicly advertised. The purpose of the meetings is to collect information about the water trail (access points, amenities, etc.) and to gain support for the water trail. A steering committee is also recommended, which is made up of targeted stakeholders.
- ✓ **PFBC Water Trail Logo:** All designated water trails must use the water trail logo as developed by the PFBC. The top portion of the logo is a standard Pennsylvania Water Trail image. Local groups can customize the bottom portion of the logo within the bordered format.
- ✓ **Mapping and Signage:** Any maps provided in partnership with the PFBC as part of the PFBC technical assistance must be distributed at no cost. Key access points should have trailhead signs. Other signage like interpretive signage and trail markers are desirable.
- ✓ **Local Government Notification:** As part of the public process it is highly recommended that water trail organizers work with the local governments that are traversed by the trail.

The purpose is both to notify and involve them in the development of the water trail-local support is critical. Water trails benefit local governments so it is only logical that they should be involved. Also, if the local government is not involved at the outset of the project there may be unforeseen conflicts as the trail goes into development.

- ✓ Access Points: For ease of use, water trails should have at least one access point every ten miles. These points must be able to accommodate boats appropriate for the water trail.
- ✓ Management & Stewardship Commitment: There must be a local group who is willing to sign a Water Trail Partnership Agreement with the PFBC. The agreement is for a length of five years and includes specific agreements about signage, mapping, roles of the local group and the PFBC, stewardship goals, etc.
- ✓ Safety Information: Managers of water trails have a responsibility to provide safety information and to warn of hazards. No waterway is completely safe. However, by providing pertinent information about the waterway and good safety tips, hazardous conditions can be addressed appropriately. For example, users may be asked to portage around a particularly hazardous area.

There are several opportunities in Warren County to establish designated water trails. We recommend the County and its partners identify and work with local entities, and the Pennsylvania Watershed Partnership, to further evaluate and pursue the following opportunities.

Conewango Creek

We recommend the existing water trail along the Conewango Creek be formalized and officially acknowledged by the Pennsylvania Fish and Boat Commission, as The Conewango Creek Water Trail has been formally recognized as part of the Marden E. Cobb Waterway Trail in Chautauqua County, New York. It originates near Kennedy, New York and extends twenty-five miles to the Pennsylvania border, just south of Frewsburg, New York. The Pennsylvania portion of Conewango Creek is locally known as a canoeing resource, but has not formally been identified as such. From the Pennsylvania line, the Conewango Creek extends approximately ten miles until its confluence with the Allegheny River in the City of Warren. A Water Trail Guide should be developed, and a wayfinding signage system should be implemented to direct visitors to put in / take out locations, and to direct water trail users to find goods and services they desire along the water trail.

Allegheny Reservoir

During the public input session in Warren County attendees noted that the Allegheny Reservoir also provides canoeing and kayaking opportunities.

There is no horsepower restriction on the reservoir, however, the Pennsylvania Fish and Boat Commission has adopted special boating regulations for a number of locations on the reservoir. These areas are better suited to non-motorized boating opportunities than other portions of the reservoir. They include:

Boats are limited to a maximum of 8 miles per hour and waterskiing is prohibited in the following areas:

- Willow Bay
- Sugar Bay

Boats are limited to slow, no wake in the following areas:

- In the vicinity of camping areas and boat launch areas
- Dew Drop Bay
- Wolf Run Bay
- Hodge Bay, North and South Branch
- Cornplanter Bay
- Billies Bay

The Pennsylvania Fish and Boat Commission, in conjunction with the U.S. Forest Service's Allegheny National Forest should evaluate opportunities to develop formal water trails on the Allegheny Reservoir.

Tionesta Creek

Based on the inventory and analysis, we recommend the feasibility of establishing a water trail along Tionesta Creek be explored by the Pennsylvania Fish and Boat Commission.

Water Trail Promotion and Economic Development

In addition to the water trails recommended earlier in this Chapter, it is important for Warren County to market and promote the existing Middle Allegheny River Water Trail. Due to the success of this trail in recent years the local economy is beginning to see economic impacts of this trail, on the towns located along the trail, that provide the goods and services provided by the local business districts. Much of this success can be attributed to recent purchases of the Indian Waters Canoe and Kayak Livery, in Tideoute, and the Allegheny Outfitters, in the City of Warren, by the Lindell Family.

As natives of Warren County, husband and wife, Josh and Piper Lindell, returned to Warren County and began acquiring the liveries and promoting the Allegheny River as canoeing and kayaking opportunities to an extent never realized in the past. Furthermore, they recognize those who wish to canoe and / or kayak the Allegheny River are generally not experienced and not familiar with the Allegheny River environs. Therefore, they offer guided trips, and have developed an "Allegheny River Paddling Guide" for those who want to venture out on their own. The guide not only provides practical information on the river including: landmarks, water characteristics, identification of hazards, and guides to aquatic and plant life in the corridor; but also directs those canoeing and kayaking along the river to opportunities to obtain goods and services in the communities that pass through and by. The entrepreneurialism of the Lindells has not only provided them with a very successful and rewarding business venture, but also has increased canoe and kayaking activity along the Allegheny River. It has also contributed to the local economies of the communities located along the river.

To date, there has not been a study completed to document the economic impacts of a water trail on the communities along its path. Therefore, we recommend an economic impact study be completed along the Middle Allegheny River Water Trail. This study could utilize the format established by the Rails to Trails Conservancy in their "Trail Users Survey Workbook". Furthermore, we recommend data be collected from canoe and kayak liveries, and known providers of goods and services within the corridor, to assist in providing the most accurate estimate of economic impact that can be achieved. The results of this study can then be utilized to promote the establishment of other water trails throughout the Commonwealth. Like the surveys completed for rail trails, we suspect the economic impact of water trails are far greater than realized by the county and local decision makers in Warren County.

Last, we recommend the Pennsylvania Watershed Partnership work with the Lindell's to develop a "how-to manual" that can be shared with others who desire to develop businesses around providing goods and

services desired by those who visit water trails. By sharing Lindell's successes and failures, the background they can provide can jumpstart the process for others who desire to explore such opportunities. Often, a good idea requires resources and know how to implement them. By providing resources and answering questions such as: where do you go to get liability insurance; how much will liability insurance cost; what training do I need to have; what training do I need to be able to provide; and where do I go when I've reached a barrier; the chance of success is greatly increased.

The manual will not only be valuable to those who desire to provide other canoe and kayak livery services, but also to those interested in catering the needs by providing other goods and services along water and land-based trails.

Bicycle Routes

As noted in Chapter Two, Warren County has one formally-established Bicycle PA Route in Route "Y". This is the second longest route in PA, at over 400 miles. This route enters Warren County, from the City of Corry, in Erie County, on US Highway 6 west Columbus. This route follows US Highway 6 southeast to Youngsville, and then continues west into the City of Warren. From Warren, the route continues along US Highway 6 south through Clarendon and Sheffield, before the highway heads east again into McKean County. PennDOT should evaluate the existing designated PennDOT Bike Route with representatives of the Warren County cycling community to determine how the existing routes can be improved.

We recommend that the Warren County Planning and Zoning Department work local cyclists to prepare a Bicycle Suitability Map of Warren County. This requires existing bicycling opportunities to be evaluated to determine the respective cycling opportunity's level of comfort for the average bicyclist. The Bike Pittsburgh recently completed this analysis and a corresponding map. The map documents those routes which are considered to be comfortable bicycling routes, those which are cautionary routes, and where existing bicycle lanes and shared use paths are present.

Motorized Trails

Warren County has a well-established network of snowmobile trails. With recent budget cuts, the Allegheny National Forest is considering closing some of these trails, as well as other recreation opportunities located within the forest. Legal motorized trail riding opportunities are very limited in the Commonwealth, with a majority of the opportunities located within the Allegheny National Forest and in State Forests. Therefore, we recommend any potential reduction in motorized trail opportunities carefully consider the existing use, as to not negatively impact those desiring motorized trail opportunities.

Trail Town Opportunities

It should be the goal of Warren County's recreation and transportation greenways to attract every trail user to the main street districts, where they can find the goods and services they need, while spending money in our towns. Therefore, we recommend the Warren County Planning and Zoning Department educate and coordinate the planning and development of trail towns with applicable municipalities. Several Warren County municipalities are ideally situated to capitalize on a trail town concept to maximize the economic benefits that can come with trail development.

In 2005, the Allegheny Trail Alliance published "Trail Towns – Capturing Trail Based Tourism, a Guide for Pennsylvania Communities". The development of this guide was funded by the Regional Trail Alliance and the Pennsylvania Department of Conservation and Natural Resources. The guide provides step by step guidance in preparing a blueprint to provide goods and services required by trail users and promoting trail friendly towns.

Trail Towns

- Entice trail users to get off the trail and into your town
- Welcome trail users to your town by making information about the community readily available at the trail
- Make a strong and safe connection between your town and the trail
- Educate local businesses on the economic benefits of meeting the needs of trail tourists
- Recruit new businesses or expands existing ones to fill gaps in the goods or services that trail users need
- Promote the “trail friendly” character of the town
- Work with neighboring communities to promote the entire trail corridor as a tourist designation

Towards that end the following communities have been identified as potential Trail Towns because of the proximity to existing or proposed trail corridors as have established main street districts and provide food, lodging, and fuel, basic services desired by trail users.

Potential Trail Towns

- City of Warren
- Tidioute Borough
- Youngsville Borough

Trail Towns provides goods and services desired by trail users. These goods and services may include bicycle sales and service, casual restaurants, bed and breakfasts, ice cream shops, convenience stores, restrooms, outfitters, and guide services, to name a few. It is important that goods and services can be procured in trail-friendly environments, meaning that they encourage, not discourage, clientele that may have just come off the trail. Provide ample opportunities to secure their bicycles in bike friendly bike racks. Provide a shoe brush outside your doorway to allow them to clean the mud off their shoes before entering your establishment. Provide a restroom with ample space and necessities, such as towels and wash clothes, to allow them to clean-up so they can feel comfortable while at your location. Finally, sell items that trail users need while out on the trail.

To create a Trail Town involves organizing, educating, promoting, and economic restructuring of your town and results in the preparation of a Trail Town Master Plan. This Master Plan should pull it all together by: providing a gateway moment, creating a sense of place, developing a welcoming atmosphere, establishing the right mix of services, and promoting trail oriented events.

This process should be lead by the local Chamber of Commerces and /or Merchants Associations in cooperation with their respective municipalities. The development of Trail Towns will require new partnerships to be developed by stakeholders in each community. Developing a trail town master plan will require monthly meetings of the stakeholders and should involve quarterly meetings of trail town catalysts to prepare a coordinated approach.

We recommend, as a first step, that each community understand their customers. What do trail users want when they come to my town, what do they need, does someone in town have the ability to meet that need? How much money will they spend, what are their dining and shopping preferences, how many trips do they make during the course of the year, etc.?

Next, complete an inventory of your community and its business community to determine if you have the ability to meet the needs of the trail users, or if you need to encourage the development of a business to

meet an unmet need. With this information, you'll be able to develop a trail town marketing guide, which can be provided to trail users. This guide should accomplish several tasks. First, it should provide the trail user with information regarding the trail, provide maps of the trail segments, and locate those who offer the goods and services that the trail users desire. The guide should focus on the qualities of your community that make it unique. It can provide an overview of the history of the community and a history of features located along and adjacent to the trail corridor. Next, you can sell advertisements to those who offer goods and services of interest to trail users.

Upon completing the self assessment recommended in the Trail Town guide, you will be able to identify those businesses that cater to trail users. Then, a way finding signage program can be developed to assist trail users in finding the goods and services they need and to allow those in the community to find the trail and trail access opportunities. At this time, you should also be aware of the goods and services that are desired but not being provided in your community. With this information, you can focus community development efforts to attract and expand businesses that can fill those voids. For further details in preparing a detailed trail town master plan, refer to "Trail Towns – Capturing Trail Based Tourism, a Guide for Pennsylvania Communities" published by the Allegheny Trail Alliance.

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Potential Trail Town Advocates

The following agencies should be approached to determine their interest in implementing and promoting their respective communities as trail towns in Warren County:

Agency	Address	Telephone
Lumber Heritage Region of Pennsylvania, Inc.	Cameron Co. Court House 20 East Fifth St. Emporium, PA 15834 www.lumberheritage.org	814-486-0213
PA Wilds Planning Team	Warren County Planning & Zoning Commission Warren County Courthouse Warren, PA 16365	814-728-3513
Allegheny National Forest	222 Liberty Street Warren, PA 16365	814-723-5180
Warren County Visitors Bureau	22045 State Route 6 Warren, PA 16365 www.wcvb.net	814-726-1222
Allegheny National Forest Vacation Bureau	Allegheny National Forest Vacation Bureau PO Box 371 Bradford, PA 16701 www.visitANF.com	800-473-9370
Warren County Chamber of Business and Industry	308 Market Street Warren, PA 16365 www.warrenpachamber.com	814-723-3050
Tidioute Area Development Association	P.O. Box 86 Tidioute, PA 16351	814-484-7424
Youngsville Area Business Association	40 Railroad Street Youngsville, PA 16371 www.youngsvillepa.org	814-563-4604
Warren Pennsylvania Main Street Program	310 Second Ave Warren, PA 16365 www.warrenpamainstreet.org	814-723-1360
Warren -Forest Counties Economic Opportunity Council Regional Main Street Program	1209 Pennsylvania Avenue, W Warren, PA 16365 www.wfcaa.org	814-726-2400

Land Use Tools

Proposed natural and recreation and transportation greenway corridors will pass through public land, such as national and state forests, state game lands, and other public lands. In these areas, the corridors are generally conserved for the intended use. However, many natural and recreation and transportation greenway corridors will pass through privately owned land. Few municipalities in Warren County have very basic provisions to promote the conservation of the natural system resources.

We recommend the Warren County Planning and Zoning Department work with local municipalities and their elected officials to educate them on the value of strengthening their ordinances to be proactive in conserving natural systems greenways corridors by encouraging the conservation of riparian buffers (streamside setbacks), steep slope margins, interior forest habitat, woodlands, seasonal high water table soils, heritage trees, and habitat of rare threatened or endangered species.

The adoption of such ordinances are highly recommended to protect the health, safety, and welfare of Warren County residents to reduce flooding and other stormwater management problems currently being experienced by the County's municipalities; to reduce the costs of providing public services to maintain and operate the County's and municipalities build infrastructure; and to achieve the vision for retaining Warren County's rural character.

With the majority of Warren County's municipalities covered by the Warren County Subdivision and Land Development Ordinance, and a fair number of municipalities covered by the Warren County Zoning Ordinance, we recommend an audit be conducted of the County's ordinances to determine how they can be strengthened. This audit will accomplish the recommendations contained herein for the conservation of natural system greenway corridors and implementation of recreation and transportation greenways.

Specifically:

- Steep slope conservation provisions should not only include provisions for those slopes over 25%, but also for those slopes which are between 15 and 25%.
- Require conservation of streamside buffers consistent with the Pennsylvania Department of Environmental Protection's NPDES process. This process recommends that three zones be considered:
 - Zone A: 0 - 25' of center
 - Zone B: 25' - 100' of center
 - Zone C: 100' - 125' of center

We recommend no disturbance be permitted in Zone A, disturbance be limited to 15% in Zone B, and disturbance be limited to 30% in Zone C.

- Conservation of other natural system elements, as included in the Pocopson Ordinance, as discussed herein.
- Improve pedestrian and bicycling opportunities by requiring sidewalks in all development.
- Requiring interfaces between transit and pedestrian and bicycling facilities, such as secure bike lockers, bike racks, and on-board bike racks on buses.

- Requiring commuter bicycle support facilities in all commercial, industrial, and mixed use development, such as providing shower and locker room facilities; secure bike racks; and bicycle lockers.
- Requiring the establishment of bicycle lanes in residential and commercial subdivisions.

Furthermore, we recommend the County begin a process of educating elected officials and residents of municipalities who have not completed and adopted a Comprehensive Plan or the County Zoning Ordinance. The educational process must focus on the benefits provided by good planning and the downfalls associated with poor planning or reactive planning efforts.

We recommend these educational efforts be conducted based on the priorities established for the natural system greenway corridors. Therefore, the educational process should begin in those municipalities with Exceptional Priority natural system greenway corridors.

As the educational process progresses, and municipalities become comfortable with the concepts, then we recommend the County work with the municipalities to encourage the completion of comprehensive plans and the adoption of the County Zoning Ordinance.

Why Plan?

Many communities choose not to plan for their future. Rather their community's future is planned for them by those developers whose goal is their own financial best interest and not necessarily the best interest of the community. Every community has resources, features, and qualities about their community that they would like to retain. Without pro-active planning, it is nearly impossible to retain those features. Planning for a community begins with asking, how do you want to improve your municipality?

Lack of pro-active planning efforts creates costs for the community and their residents:

On Quality of Life

- Failing and abandoned businesses reflects poorly on community image
- Poor design impacts aesthetics and community pride
- Isolation for older and younger residents, due to the need to reliance on the automobile to access goods and services
- Lack of access to open spaces and places to recreate

On Rural Lands and Natural Resources

- Loss of wildlife habitat and pollution of aquatic resources diminishes bio diversity and recreational hunting and fishing opportunities
- Removal of vegetation increases stormwater runoff, causes flooding, creating a public safety concern
- Removal of vegetation results in increased air pollution

On Transportation

- Limits choices – no alternatives to the automobile
- Increases transportation costs – more miles traveled

On Redevelopment / Development

- Incompatible adjacent land uses
- Increased redevelopment / development costs
- Overgrading leads to unstable slopes which create a public safety concern
- Impervious surfaces increase runoff, stormwater flow, and flooding; creating a public safety concern
- Stream water quality can be degraded by erosion

By proactively planning for our community's future we help to:

- ✓ Retain and attract people and jobs
- ✓ Keep existing cities and towns vital
- ✓ Enhance natural resources and quality of life amenities
- ✓ Conserve tax dollars

Successful communities have the following characteristics:

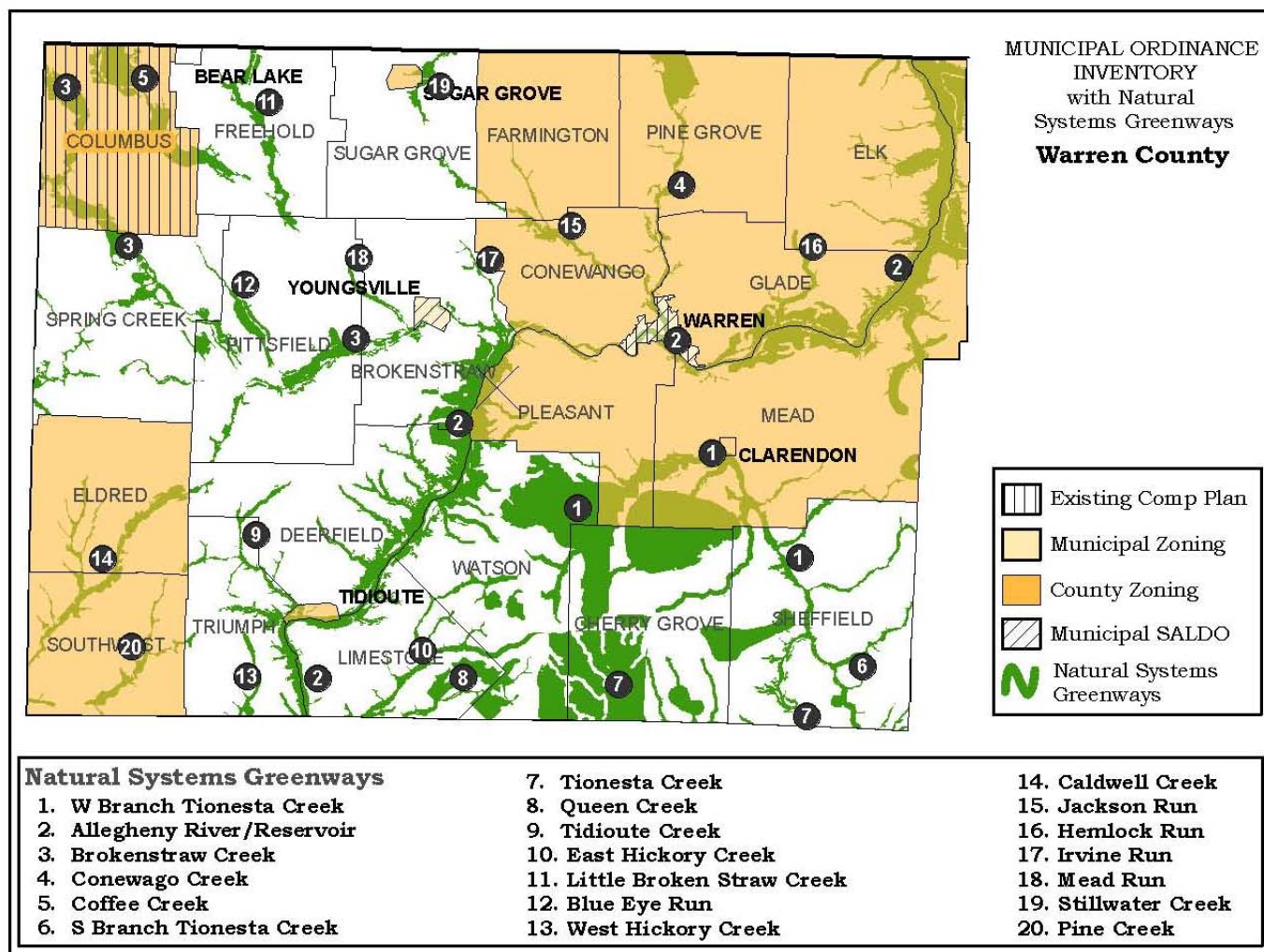
- A pro-active, action-oriented mindset and a strong private-public partnership
- A diverse community leadership system with extensive citizen involvement

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- A strong implementation plan with specific benchmarks and measurements of success

Traditionally, land use tools, such as comprehensive planning, zoning, and land development and subdivision ordinances have been used to guide a community in achieving its vision for the future. However, in many areas of Pennsylvania, zoning is a contentious word, setting off concerns of taking away property rights and one's ability to do as they wish with their land.

However, municipal leaders must recognize that local government is the backbone of Pennsylvania's governmental structure, and local government has the responsibility to plan and take charge rather than doing nothing. To do nothing puts planning in the hands of others who may not care about the future of our community. Good planning, and the implementation of land use tools that often follow, are not designed to take away property rights from the property owner, but rather are designed to guide the community in achieving its vision for the future. Good planning cannot occur in a vacuum. It must include residents of the community and be a pro-active effort which thoughtfully considers all aspects of each issue and builds consensus on the vision being established for the community's future.



Note: Warren County administers a Subdivision and Land Development Ordinance (SALDO) applicable to those municipalities that do not have a SALDO of their own.

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Priorities for Municipal Planning Educational Efforts

Utilizing the above philosophy, the County should focus municipal planning education efforts as indicated in the following table. Municipal planning educational efforts should be conducted in the short-term, one to three years, in those municipalities which contain exceptional priority natural system greenway corridors. It should be conducted in the mid-term, three to five years, for those municipalities containing significant priority natural system greenway corridors. Finally, in the municipalities which contain high priority greenway corridors, educational efforts should take place in the long-term, in five to ten years.

Municipality	Comprehensive Plan	Municipal Zoning Ordinance	SALDO	Natural System Greenway Priorities		
Cities				Exceptional	Significant	High
Warren	✓	✓	✓	1		6
Boroughs						
Bear Lake Borough	-	-	by County			
Clarendon Borough	-	by County	by County			
Sugar Grove Borough	-	by County	by County	1		
Tidioute Borough	-	by County	by County		4	7
Youngsville Borough	-	-	✓		5	
Townships						
Brokenstraw Township	-	-	by County	2	4, 5	
Cherry Grove Township	-	-	by County	3		8
Columbus Township	✓	by County	by County			
Conewango Township	-	by County	by County	1, 2		
Deerfield Township	-	-	by County		4, 5	
Eldred Township	-	by County	by County		5	
Elk Township	-	by County	by County			
Farmington Township	-	by County	by County			
Freehold Township	-	-	by County			8
Glade Township	-	by County	by County	1		6
Limestone Township	-	-	by County			7
Mead Township	-	by County	by County			
Pine Grove Township	-	by County	by County	1		
Pittsfield Township	-	-	by County		5	
Pleasant Township	-	by County	by County			
Sheffield Township	-	-	by County	3		
Southwest Township	-	by County	by County		5	
Spring Creek Township	-	-	by County			
Sugar Grove Township	-	-	by County			
Triumph Township	-	-	by County			7
Watson Township	-	-	by County	3		

Warren County administers a Subdivision and Land Development Ordinance (SALDO) applicable to those municipalities that do not have a SALDO of their own.

An amendment to the County Subdivision and Land Development Ordinance would address twenty-five of the County's twenty-seven municipalities, with the City of Warren and Youngville Borough as the only two that have their own SALDO ordinances.

An amendment to the County's Zoning Ordinance would address the County's participating municipalities including:

- Clarendon Borough
- Sugar Grove Borough
- Tidioute Borough
- Youngsville Borough
- Columbus Township
- Conewango Township
- Eldred Township
- Elk Township
- Farmington Township
- Glade Township
- Mead Township
- Pine Grove Township
- Pleasant Township
- Southwest Township

Existing Municipal Land Use Controls

The City of Warren is the only municipality in Warren County that has adopted their own Zoning and Subdivision and Land Development ordinances. We recommend an audit be completed of their ordinances, in the short-term (one to three years) to determine how they can be strengthened to achieve the natural system and recreation and transportation greenway recommendations contained herein.

Model Ordinance Recommendations

Pocopson Township, in Chester County, has adopted a Natural Resource Protection Ordinance that was developed to conserve natural system greenway corridors, within their Township, in the context of addressing the goals noted above. The following table provides a summary of their conservation requirements:

Pocopson Township

Resource Element	Pocopson Township
	<i>Maximum Disturbance</i>
Floodplain Conservation District	0%
Very Steep Slopes	10%
Steep Slopes	25%
Steep Slope Margins	25%
Wetlands	0%
Inner Riparian Buffer	0%
Outer Riparian Buffer	15%
Seasonal High Water Table Soils	20%
Heritage Trees	0%
Rare Species Sites	0%
Exceptional Natural Areas	10%
Forest Interior Habitat	10%
Woodlands	5-25%, depending on classification

To assist Warren County and its municipal partners, we have included in the appendix of this plan models of several useful acquisition and land use tools. These models were taken from reliable sources and have been successfully used in the Commonwealth. If used, these models should be a guide and should be tailored to meet each municipality's unique circumstances. Most importantly, they should be reviewed by the municipality's solicitor before adoption.

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In addition, the following models should be consulted as land use tools are being modified:

Title	Source	For Additional Information
Pennsylvania Standards for Residential Site Development	Penn State University, Pennsylvania Housing Research / Resource Center	www.engr.psu.edu/phrc/Land%20Development%20Standards.htm
Better Development Models for Pennsylvania	The Conservation Fund and Pennsylvania Department of Conservation and Natural Resources	www.pagreenways.org/brc/grants/2005/BetterModels.pdf
Resource Protection Ordinance	Resource Protection Ordinance	Pocopson Township PO Box 1 Pocopson, PA 19366
Model Conservation Ordinance	Pennsylvania Land Trust Association	http://conserveland.org
Model Riparian Forest Buffer Protection Ordinance	Pennsylvania Land Trust Association	http://conserveland.org
Model Stream Corridor Buffer Easement	Pennsylvania Land Trust Association	http://conserveland.org
Model Trail Easement Agreement	Pennsylvania Land Trust Association	http://conserveland.org
Model Fishing Access Agreement	Pennsylvania Land Trust Association	http://conserveland.org
Water Quality Improvement Easement	Pennsylvania Land Trust Association	http://conserveland.org
Stream Corridor Protection Ordinance - Upper Salford Township	Delaware Valley Regional Planning Commission	www.dvrpc.org/planning/community/protectiontools/ordinances.htm
Forestry Management Model Regulations	Penn State University School of Forestry	pus.cas.psu.edu/freepubs/pdfs/uh171.pdf

Stormwater Management and Water Quality

Proper stormwater management and water quality management are two important issues that impact many facets of daily life in Warren County.

From an analysis of The National Climatic Data Center, we know that the Northwestern Pennsylvania Counties are ranked as follows when it comes to total number of flood events between 1950 and 2000. Warren County is ranked fiftieth, out of a total of sixty-seven counties, when it comes to frequency of flood events over the past ten years.

County	Total No. Flood Events	County Ranking (67 Total)	Annual Avg. Frequency
Crawford	68	12th	1.36
Erie	50	25th	1.00
Venango	42	36th	0.84
Clarion	35	41st	0.70
Mercer	35	43rd	0.70
Warren	30	50th	0.60
Lawrence	25	55th	0.50
Forest	14	64th	0.28

Source: http://pasc.met.psu.edu/PA_Climatologist/extreme/Floods/PEMA_fl

We recommend local municipalities work with Pennsylvania Department of Environmental Protection to educate them on the benefits of stormwater management practices, including the Pennsylvania Stormwater Best Management Practices Manual.

The philosophy of managing stormwater has changed over the years. Initially, stormwater management began with ensuring water was diverted around development. This had negative consequences, as we have learned, that increases in stormwater runoff volumes caused downstream flooding. The remedy was to introduce requirements to maintain the rate of stormwater runoff from a site to pre-development conditions despite an increase in impervious area. The consequence of this was that stormwater was being held and released at the pre-development rate, reducing downstream flooding impacts. However, this also created its own set of problems. First, we have learned that water quality was being negatively impacted, as sediment and chemicals were not being filtered from the stormwater. Therefore, our streams which received the stormwater were being polluted, and the water quality was being impaired. Second, we realized that due to an increase in impervious areas, and development of stormwater ponds that released water directly to streams, our water tables were not being adequately recharged. Therefore, current stormwater practices not only take into consideration the management of stormwater runoff rates; but also they also take into consideration volume, infiltration, and water quality.

Therefore, goal of current stormwater management practices is to retain the rates and volumes of stormwater runoff to pre-development levels; infiltrate stormwater into the site when possible; and maintain and / or improve water quality of the receiving stream by filtering chemicals and sediment from the water before it reaches its receiving stream and / or water body.

The purpose of the Pennsylvania Stormwater Best Management Practices (BMP) Manual is to provide guidance, options, and tools that can be used to protect water quality; enhance water availability; and reduce flooding potential through effective stormwater management. The manual presents design standards and planning concepts for use by local authorities, planners, land developers, engineers,

contractors, and others involved with planning, designing, reviewing, approving, and constructing land development projects.

The manual describes a stormwater management approach to the land development process that strives to prevent or minimize stormwater problems through comprehensive planning and development techniques, and to mitigate any remaining potential problems by employing structural and non-structural best management practices. Manual users are strongly encouraged to follow the progression of prevention first and mitigation second. Throughout the chapters of the manual, the concept of an integrated stormwater management program, based on a broad understanding of the natural land and water systems, is a key and recurring theme. Such a thorough understanding of the natural systems demands an integrated approach to stormwater management so critical to “doing it better, doing it smarter.”

The manual provides guidance on managing all aspects of stormwater: rate, volume, quality, and groundwater recharge. Controlling the peak rate of flow during extreme rainfall events is important, but it is not sufficient to protect the quality and integrity of Pennsylvania streams. Reducing the overall volume of runoff during large and small rainfall events, improving water quality, and maintaining groundwater recharge for wells and stream flow are all vital elements of protecting and improving the quality of Pennsylvania’s streams and waterways.

We recommend Warren County Planning and Zoning Department, and the local municipalities work with the Pennsylvania Department of Environmental Protection to identify opportunities within the natural system greenway corridors in which demonstration projects can be implemented to illustrate this current philosophy in stormwater best management practices.

We recommend efforts initially be focused on those areas that have known flooding issues; those areas where it is of health and economic importance to ensure the health of Warren County residents; economic viability of existing resources, such as the County’s trout stocked fisheries and native trout streams, in order to maintain existing high quality and exceptional value water resources; and in headwater areas, as their conservation will assist in regulating downstream flooding.

The Flood Control Acts of 1936 and 1938 provided authorization for the construction of the Kinzua Dam and the resulting Allegheny Reservoir. The project, which was completed in 1965, provides complete protection for the City of Warren from Allegheny River flooding, and in conjunction with other projects in the U.S. Army Corps of Engineers Pittsburgh District, substantially reduced flooding in the Allegheny and upper Ohio River Valleys. The project’s flood control capabilities were dramatically demonstrated during the June 1972 floods resulting from Tropical Storm Agnes, when an estimated \$247 million in flood damages were prevented. Since its completion in 1965, Kinzua has prevented flood damages estimated to be in excess of \$1 billion.

The reservoir also provides water to be released during dry periods. These releases have the effect of reducing pollution and improving the quality and quantity of water for domestic, industrial, and recreation uses. Flow regulation also helps to maintain navigable depths for commercial traffic on the Allegheny and upper Ohio Rivers.

Other than extreme flooding events caused by unusual rainfalls, an area of concern in Warren County continues to be the Sheffield Township. In 2004, flooding damaged over twenty properties, including four structures.

Therefore, we recommend stormwater efforts be focused in the following areas:

- Exceptional Priority Greenway Corridors Water Resource Components
West Branch Tionesta Creek Greenway West Branch Tionesta Creek

Fossil Fuel Extraction and Renewable Energy Sources

Given the recent rise in oil costs, efforts to identify new sources of fossil fuel and renewable energy opportunities have increased.

In the past few years, research has determined that it may be financially feasible to extract natural gas from the marcellus shale field located in the Appalachian region. The Marcellus Shale, also referred to as the Marcellus Formation, is a Middle Devonian-age black, low density, carbonaceous shale that occurs in the subsurface beneath much of Ohio, West Virginia, Pennsylvania, and New York. Small areas of Maryland, Kentucky, Tennessee, and Virginia are also underlain by the Marcellus Shale.

In early 2008, Terry Englander, a geosciences professor at Pennsylvania State University, and Gary Lash, a geology professor at the State University of New York at Fredonia, surprised everyone with estimates that the Marcellus Shale might contain more than 500 trillion cubic feet of natural gas. Using some of the same horizontal drilling and hydraulic fracturing methods that had previously been applied in the Barnett Shale of Texas, perhaps ten percent of that gas might be recoverable. That volume of natural gas would be enough to supply the entire United States for about two years and have a wellhead value of about one trillion dollars.

Extracting the natural gas from the Marcellus Shale requires deep vertical and horizontal wells and associated support facilities. Care must be taken in locating these facilities in a manner which will not negatively impact the natural resources of the Northwestern Pennsylvania Region.

The harnessing of wind energy in Pennsylvania is another rapidly growing industry. Although it is a renewable resource, it is not without controversy. Many are concerned about a commercial wind farm's impact on migratory birds and their visual intrusion into the landscape. Others see it as an opportunity to reduce our dependency on fossil fuels.

With the passage of Pennsylvania's Growing Greener II initiative, \$80 million over four years will be provided to expand the grant program earmarked for wind energy in the state. A public dialogue and input process is paramount in ensuring commercial wind farms are located on sites where the turbines will not have a significant negative impact on wildlife, migratory birds, residential areas, and scenic views.

Warren County's ridges estimated to provide poor or marginal harnessing opportunities, and the marginal opportunities are very limited. Therefore, we do not anticipate the construction wind farms in the County to any great extent.

Natural gas extraction from the Marcellus Shale and the harnessing of wind energy may be important factors to the region's economy in the future. Therefore, efforts should be taken to ensure they can occur in harmony with the natural system greenways proposed herein.

The GIS data assembled for this project is an important resource that can aid in identifying where natural gas extraction and the harnessing of wind energy can occur in harmony with the natural system resources of the Northwest Region.

Partners in the Implementation of Warren County's Greenways

The implementation of natural systems greenways will rely on a proactive approach from the public and private sectors. From the public side, the implementation of natural systems greenway corridors should begin with the Warren County Planning and Zoning Department who must educate, advocate, encourage, and implement the recommendations set forth herein. As recommended in this plan, this will occur through a joint greenways coordinator at the regional level, or it may occur at the County level through the planning department. Regardless, the greenways coordinator must work closely with the Warren County Planning and Zoning Department. The greenways coordinator and the County Planning and Zoning Department must provide Warren County's municipalities with their guidance and expertise to guide the municipalities in implementing those strategies recommended to occur at the municipal level. Furthermore, they will also need to provide similar guidance and expertise to local conservancies, land trust, and trail organizations. Other important public partners in this endeavor will include:

- Local Municipalities
- Warren County Visitors Bureau
- Warren County Recreation Department
- Warren County Conservation District
- Warren County Agricultural Preservation Board
- Pennsylvania Wilds Corporation
- Pennsylvania Lumber Heritage Region
- PA Route 6 Heritage Corporation
- U.S. Forest Service, Allegheny National Forest
- U.S. Fish and Wildlife Service
- Penn State Cooperative Extension
- Pennsylvania Department of Conservation and Natural Resources, Chapman Dam State Park
- Pennsylvania Department of Conservation and Natural Resources PA DCNR Bureau of Forestry
- Pennsylvania Fish and Boat Commission
- Pennsylvania Game Commission
- Pennsylvania Department of Transportation

From the private sector, involvement must come from many avenues such as education, health care, main streets, economic development, and non-profit sectors and should include:

- Western Pennsylvania Conservancy
- Trout Unlimited
- North Country Trail Association
- Warren YMCA
- Warren Main Street
- Warren County Chamber of Business and Industry
- Allegheny Outdoor Club
- Northern Allegheny Conservation Association
- Warren General Hospital
- Pennsylvania Advocates for Nutrition and Activity
- Pennsylvania Sustainable Forestry Initiative
- Pennsylvania Hardwood Development Council
- Private Timber Harvesters
- Presque Isle Audubon Society
- Jamestown Audubon Society
- Brokenstraw Creek and Conewango Creek Watershed Associations
- Tionesta Valley Snowmobile Club, Inc. and Warren County Snowmobile Club
- Warren County Council of Sportsmen's Clubs
- Kalbfus Road and Gun Club

Implementation Strategies

This portion of Chapter One offers step-by-step recommendations outlining the process of implementing the proposed Warren County greenways network, as defined through this study process.

The first step involves formally adopting a vision for Greenways in Warren County. The implementation strategies are outlined in the following tables. These tables document the sequence of events required to carry the greenways plan from the Vision, described earlier in this plan, to the implementation of natural system and recreation and transportation greenway corridors.

Implementation strategies are organized into Adopting a Vision for Greenways in Warren County and Advancing Greenways at the Local Level.

Each implementation strategy: includes a brief description of the task, identifies possible responsible parties, sets a priority for completing the task, provides an estimate of costs associated with completing the task, and provides planners with the opportunity to track the process of implementing the plan.

The following priorities have been defined through the planning process:

Short Term Priorities (S): should be accomplished within one to three years after official adoption of the Greenways Plan. These strategies will lay the foundation for successful implementation of the greenways plan recommendations.

Mid Term Priorities (M): should be undertaken in three to five years.

Long Term Priorities (L): are expected to be completed in five to ten years.

Many of the strategies have little or no cost beyond the administrative costs incurred by the responsible parties. However, other strategies may require substantial funding. When costs are provided, the estimates are “ball park” figures in 2008 dollars. These costs were established based on our experience with other projects or initiatives. For each year beyond 2008, the costs should be multiplied by a factor of 4.5% to account for escalation of the costs associated to perform the task. Detailed feasibility studies and other pre-design and / implementation work will refine these costs.

We recommend Warren County and the responsible parties identified herein review these tables on an annual basis, at a minimum, to determine which tasks have been accomplished, which should be undertaken next, and where adjustments need to be made. We recommend that the status column of the tables be used to record the beginning and completion dates for each task, as it is implemented. This will allow Warren County and other responsible parties to track their progress towards the implementation of each strategy.

The following tables outline the plan of action to implement the greenways vision for Warren County. Actual implementation will depend on fiscal and political climate in any give year or municipality, making it essential that the tables be reviewed and updated often.

Following these tables, we discuss various Implementation Resources that are available to assist in the implementation of the recommendations contained herein.

Adopting the Vision for Greenways in Warren County

Task	Responsible Parties	Priority	Cost	Potential Funding Sources	Status	
					Begin	Completed
Adopting the Vision for Greenways in Warren County						
Officially adopt the Warren County Greenways Plan as an amendment to the Warren County Comprehensive Plan.	Warren County Commissioners	S	Admin. Time	n/a		
Conduct Peer to Peer study to determine willingness of Erie, Crawford, Mercer, Warren, Forest, and Clarion Counties establishing Regional Joint Greenways Coordinator positions.	Northwest Pennsylvania Commission, participating counties	S	\$20,000	PA DCNR PA DCED Participating Counties		
If regional joint greenway coordinator positions are deemed feasible:						
Develop position description	Northwest Pennsylvania Commission, participating counties	S	Admin. Time	n/a		
Draft intergovernmental cooperation agreement	Northwest Pennsylvania Commission, participating counties	S	Admin. Time	n/a		
Execute Intergovernmental Agreement	Northwest Pennsylvania Commission, participating counties	S	Admin. Time	n/a		
Secure funding for position for minimum five years	Northwest Pennsylvania Commission, participating counties	S	\$250,000	PA DCNR PA DCED Foundations Participating Counties		
Advertise position	Northwest Pennsylvania Commission, participating counties	S	\$200	Counties		
Hire regional coordinator	Northwest Pennsylvania Commission, participating counties	S	\$40,000 annually, to be paid from funds secured in item c. above	PA DCNR PA DCED Foundations Participating Counties		

Adopting the Vision for Greenways in Warren County (continued)

Task	Responsible Parties	Priority	Cost	Potential Funding Sources	Status	
					Begin	Completed
If regional joint greenway coordinator positions are deemed not feasible:						
Implement greenways recommendations through existing agencies, by hiring a county greenway coordinator or with existing staff.	Joint Greenways Corridinator, WCPZD, municipalities	S	\$40,000, annually	PA DCNR, if at the County Level		
Marketing / Education / Promotion						
Spread the Word - celebrate the vision adopted for Warren County Greenways through regional and local television, newspaper, radio, and internet news agencies	Stakeholders, partner organizations	S	Volunteer / In-Kind	n/a		
Develop detailed public marketing, education and promotion campaign to inform county residents and elected officials about the benefits of greenways implementation and promote the many attractions of the greenway network.	Warren Visitors Bureau, WCPZD, Warren County Conservation District, Warren County Agricultural Preservation Board, Western Pennsylvania Conservancy, PA DCNR, PA DEP, PA Game Commission, and Allegheny National Forest	S	\$25,000	PA DCNR PA DEP PA DCED Foundations		
Explore opportunities to partner with Erie County Health community to advance greenways implementation	Joint Greenways Coordinator, WCPZD, Warren General Hospital, local physician organizations	S	Admin. Time	Pennsylvania Advocates for Nutrition and Activity		

Warren County Greenways Plan

Advancing the Greenways Plan at the Local Level

Task	Responsible Parties	Priority	Cost	Potential Funding Sources	Status	
					Begin	Completed
Coordinate County Greenway Planning Efforts with Surrounding States						
Meet with adjacent planning agencies to discuss and coordinate common greenway planning efforts.	Warren County Planning and Zoning Department (WCPZD)	S	Admin. Time	n/a		
Explore opportunities to partner on joint implementation projects.	WCPZD	S	Admin. Time	n/a		
Educate Municipal Officials and Residents						
Identify potential pilot municipalities	Joint Greenway Coordinator,WCPZD, Warren County Conservation District (WCCD), Municipal Officials and Planning Commissions	On-Going	Admin. Time	n/a		
Meet with elected officials to educate them on the benefits of greenway planning and implementation.	PA DEP, Joint Greenway Coordinator, WCPZD, WCCD, Municipal Officials and Planning Commissions	On-Going	Admin. Time	In-Kind Services		
Hold a public meeting to educate the residents of the municipality on the benefits of greenway planning and implementation.	PA DEP, Joint Greenway Coordinator, WCPZD, WCCD, Municipal Officials and Planning Commissions	On-Going	Admin. Time	In-Kind Services		
Meet with potential pilot municipalities to discuss the goals of the greenways plan and the means of advancing greenways through local planning efforts.	WCPZD, WCCD, Municipal Officials and Planning Commissions	On-Going	Admin. Time	In-Kind Services		

Warren County Greenways Plan

Advancing the Greenways Plan at the Local Level (continued)

Task	Responsible Parties	Priority	Cost	Potential Funding Sources	Status	
					Begin	Completed
Implement Land Use Tools at the County Level to assist in Achieving the Vision for Greenways in Warren County						
Update County Land Development and Subdivision Ordinance to strengthen conservation of natural system greenway components.	WCPZD	S	In-Kind Services	n/a		
Update the County Land Development and Subdivision Ordinance review process to include the submission of a site analysis which documents the locations of those natural resources, which are to be conserved, on the site.	WCPZD	S	In-Kind Services	n/a		
Update the County Land Development and Subdivision Ordinance review process to categorize those sites with such features as major subdivisions, which require a more thorough review.	WCPZD	S	In-Kind Services	n/a		
Identify Opportunities for Additional Comprehensive Planning, Greenway Planning, Zoning Implementation, and / or Subdivision and Land Development Ordinance Implementation at the Municipal Level						
Educate potential municipalities on the benefits of planning, and implementation of land use tools	DCED, WCPZD	On-Going	Admin. Time	In-Kind Services		
Assist municipalities, when requested, with comprehensive planning, and, zoning and subdivision and land development efforts.	WCPZD	On-Going	\$40-60K Comp Plan \$20K Zoning \$10K SALDO per municipality	DCED		
Create package of incentives, including provision of matching funds, grant writing and other technical assistance to encourage municipalities to implement greenway recommendations at the municipal level.	Joint Greenway Coordinator, WCPZD	S	\$20,000 annually	DCED		

Warren County Greenways Plan

Advancing the Greenways Plan at the Local Level (Continued)

Task	Responsible Parties	Priority	Cost	Potential Funding Sources	Status	
					Begin	Completed
Utilize GIS Data Assembled for Greenways Planning Effort as a Pro-Active Tool to Guide Land Development in Warren County						
Purchase hardware and software to implement County GIS system	WCPZD	S	\$15,000	FEMA, PEMA, U.S. Dept. of HHS		
Train staff person in GIS operations	WCPZD	On-Going	\$2,500 annually	FEMA, PEMA, U.S. Dept. of HHS		
Educate municipal officials on what resources are available to them early in the planning process	Joint Greenway Coordinator, WCPZD	S	Admin. Time	In-Kind Services		
Institute process at the municipal level where municipality / potential developer requests query of GIS data to identify natural system greenway corridors, and their resources, on a particular site before planning / design effort for development begins.	Joint Greenway Coordinator, WCPZD	S	Admin. Time	In-Kind Services		

Warren County Greenways Plan

Advancing Natural Systems Greenways at the Local Level

Task	Responsible Parties	Priority	Cost	Potential Funding Sources	Status	
					Begin	Completed
Conduct Zoning and Subdivision and Land Development Audits of Existing Ordinances						
Identify potential pilot municipalities	PA DEP, Joint Greenway Coordinator, WCPZD, WCCD, Municipal Officials and Planning Commissions	On-Going	Admin. Time	n/a		
Meet with potential pilot municipalities to discuss the goals of the greenways plan and the means of advancing greenways through local planning efforts.	PA DEP, Joint Greenway Coordinator, WCPZD, WCCD, Municipal Officials and Planning Commissions	On-Going	Admin. Time	n/a		
Request pilot municipalities to adopt the Warren County Greenway Plan as the guiding document for greenway efforts in their municipality.	PA DEP, Joint Greenway Coordinator, WCPZD, WCCD, Municipal Officials and Planning Commissions	On-Going	Admin. Time	n/a		
Complete audit of the City of Warren, and Youngsville Borough's zoning and subdivision and land development ordinances, and provide municipality with options for achieving the strategies documented in the Warren County Greenway Plan.	Joint Greenway Coordinator, WCPZD	S	Admin. Time	n/a		

Warren County Greenways Plan

Advancing Natural Systems Greenways at the Local Level (continued)

Advancing Natural Systems Greenways at the Local Level (continued)						
Task	Responsible Parties	Priority	Cost	Potential Funding Sources	Status	
					Begin	Completed
Identify and Secure Funding for Demonstration Projects to Advance the Proposed Natural System Greenway Corridors (continued)						
Identify key players that will help carry out pilot projects, explore possibility of public / private partnerships with possible public and private partners	Northwest Commission, Joint Greenway Coordinator (JGC) and / or County Planning Department	On-Going	In-Kind Services	n/a		
Identify pilot projects in the exceptional priority greenway corridors which will achieve the goals of: Conserving natural system greenway resources through acquisition of easements and property. Improving water quality. Improving access to water Reducing flooding Improving stormwater management. Reducing nonpoint source pollution & improving water quality. Establishing stream side buffers.	Northwest Commission, Joint Greenway Coordinator (JGC) and / or County Planning Department, Pennsylvania Department of Environmental Protection, County Conservation District, local municipalities	S	\$300,000	PA DCNR PA DEP PA DCED PennDOT PA Fish & Boat Commission Coastal Management Zone		
Identify pilot projects in the significant priority greenway corridors which will achieve the goals of: Conserving natural system greenway resources through acquisition of easements and property. Improving water quality. Improving access to water features. Reducing flooding Improving stormwater management. Reducing nonpoint source pollution & improving water quality. Establishing stream side buffers.	Northwest Commission, Joint Greenway Coordinator (JGC) and / or County Planning Department, Pennsylvania Department of Environmental Protection, County Conservation District, local municipalities	M	\$600,000	PA DCNR PA DEP PA DCED PennDOT PA Fish & Boat Commission Coastal Management Zone		

Warren County Greenways Plan

Advancing Natural Systems Greenways at the Local Level (cotinued)

Task	Responsible Parties	Priority	Cost	Potential Funding Sources	Status	
					Begin	Completed
Identify and Secure Funding for Demonstration Projects to Advance the Proposed Natural System Greenway Corridors (cotinued)						
Identify pilot projects in the high priority greenway corridors which will achieve the goals of: Conserving natural system greenway resources through acquisition of easements and property. Improving water quality. Improving access to water features. Reducing flooding Improving stormwater management. Reducing nonpoint source pollution & improving water quality. Establishing stream side buffers.	Northwest Commission, Joint Greenway Coordinator (JGC) and / or County Planning Department, Pennsylvania Department of Environmental Protection, County Conservation District, local municipalities	L	\$300,000	PA DCNR PA DEP PA DCED PennDOT PA Fish & Boat Commission		
Explore opportunities to enhance ecotoursim opportunities in Warren County	Joint Greenway Coordinator, Northwest Commission, WCPZD	S	In-Kind Services	n/a		
Establish Natural Systems Greenway Network						
Secure grants and matching funds Negotiate with land owners to conserve natural infrastructure resources Secure easements and property from land owners Enact muncipal land use tools that conserve specific resources and create incentives for conservation of natural system greenway corridors Develop a signing system to promote and indicate locations of natural systems greenways	Municipal Officials, Planning Commissions, PA DCNR, Conservation Clubs, with guidance from Joint Greenway Coordinator and WCPZD	On-Going	Varies greatly, site / project specific	PA DEP PA DCNR PA DCED PA Fish & Boat Commission Foundations		

Advancing Natural Systems Greenways at the Local Level (continued)

Task	Responsible Parties	Priority	Cost	Potential Funding Sources	Status	
					Begin	Completed
Establish Natural Systems Greenway Network						
Secure grants and matching funds Negotiate with land owners to conserve natural infrastructure resources Secure easements and property from land owners Enact municipal land use tools that conserve specific resources and create incentives for conservation of natural system greenway corridors Develop a signing system to promote and indicate locations of natural systems greenways	Municipal Officials, Planning Commissions, PA DCNR, Conservation Clubs, with guidance from Joint Greenway Coordinator and WCPZD	On-going	Varies greatly, site / project specific	PA DEP PA DCNR PA DCED PA Fish & Boat Commission Foundations		
Ensuring Success Marketing / Promotion						
Implement marketing strategies formed in the early stages of greenways planning, with emphasis on economic development potential	Joint Greenway Coordinator, Northwest Commission, WCPZD	S	\$10,000 annually	Warren County Visitors Bureau		
Celebrate successes, actively solicit support and coverage from local television, newspaper, radio, and internet news agencies.	Joint Greenway Coordinator, Northwest Commission, WCPZD	on-going	In-Kind Services	n/a		

Warren County Greenways Plan

Advancing the Greenways Plan at the Local Level - Recreation & Transportation Greenways

Task	Responsible Parties	Priority	Cost	Potential Funding Sources	Status	
					Begin	Completed
Coordination with Local Trail Organizations / Municipalities and Other Stakeholders						
Meet with local trail organizations to review recommendations for recreation greenways that resulted from county greenway planning process	Joint Greenway Coordinator, WCPZD	S	Admin. Time	n/a		
Review process for planning and developing recreation greenways with trail organizations	Joint Greenway Coordinator, WCPZD	S	Admin. Time	n/a		
PA Wilds and Lumber Heritage Regions						
Develop interpretive programs which focus on telling the stories of the hertiage regions in Warren County	Joint Greenway Coordinator, respective Heritage Regions	M	unknown	DCNR, DCED		
Utilize heritage region wayfinding systems to guide visitors to and from Warren County greenway opportunities	Joint Greenway Coordinator, respective Heritage Regions	S, M	unknown	DCNR, DCED		
Incorporate pedestrian and bicycling facility strategies in developing the City of Warren Gateway into the PA Wilds Region	Joint Greenway Coordinator, respective Heritage Regions	S, M	unknown	DCNR, DCED		

Warren County Greenways Plan

Advancing the Greenways Plan at the Local Level - Recreation & Transportation Greenways (continued)

Task	Responsible Parties	Priority	Cost	Potential Funding Sources	Status	
					Begin	Completed
Shared Use Trail Implementation Strategies						
Complete title search and obtain legal opinion for North Warren trail corridor between Russell and New York State Line	WCPZD	S	\$15,000	DCED		
Acquire easements as necessary for the Russell to New York extension of the North Warren Trail	WCPZD	S	unknown	Warren County		
Construct, in phases, Russell to New York extension to the North Warren Trail	WCPZD	M-L	\$2.5M	DCNR, DCED, Local Foundations, Warren County		
Conduct feasibility study for the Youngsville to Warren Trail	WCPZD, Youngsville Borough, City of Warren, Conewango and Brokenstraw Townships	S	\$45,000	DCNR, DCED		
Construct, in phases, Youngsville to Warren Trail	WCPZD, Youngsville Borough, City of Warren, Conewango and Brokenstraw Townships	M-L	\$3M	DCNR, DCED, Local Foundations		
Conduct feasibility study for the proposed West Branch Tionesta Creek Trail	WCPZD	M	\$30,000	DCNR, ANF		
Construct, in phases, West Branch Tionesta Creek Trail	WCPZD DCNR PA Game Commission Allegheny National Forest	L	\$5M	DCNR, ANF, PA DEP, Local Foundations		
Conduct feasibility study for the Tidioute Trail	WCPZD, ANF, PA Game Commission	S	\$45,000	DCNR, DCED, ANF, PA Game Commission		
Construct, in phases, Tidioute Trail	ANF, PA Game Commission, WCPZD	L	\$3M	DCNR, DCED, ANF, PA Game Commission, Local Foundations		

Warren County Greenways Plan

Advancing the Greenways Plan at the Local Level - Recreation & Transportation Greenways (continued)

Task	Responsible Parties	Priority	Cost	Potential Funding Sources	Status	
					Begin	Completed
Pedestrian and Bicycle Implementation Strategies						
Prepare a bicycle suitability map for Warren County	Joint Greenway Coordinator, WCPZD, local bicycle advocates	S	In-Kind	n/a		
Encourage the City of Warren to conduct and adopt a pedestrian and bicycle feasibility study	Joint Greenway Coordinator, Northwest Commission, WCPZD, City of Warren	S	\$50,000	PennDOT DCNR DCED Health Care Providers, Local Foundations		
Water Trail Implementation Strategies						
Meet with local municipalities and Water Trail Partnership to discuss feasibility of establishing a PA Fish & Boat Commission designated Water Trail on Conewango Creek	Joint Greenway Coordinator, Northwest Commission, WCPZD	S	PA Fish & Boat In-Kind Services	PA Fish & Boat Commission		
If feasible, locate put in / take out opportunities, confirm property ownership, secure public access to locations	Joint Greenway Coordinator, Northwest Commission, WCPZD, PA Fish and Boat Commission	S	Unknown	PA Fish & Boat Commission PA DCNR		
Establish Conewango Creek Water Trail and access points	Joint Greenway Coordinator, Northwest Commission, WCPZD	M	Unknown	PA Fish & Boat Commission PA DCNR		
Meet with Water Trail Partnership, U.S. Forest Service ANF, and local municipalities to discuss feasibility of establishing a PA Fish & Boat Commission designated Water Trail on the Allegheny Reservoir	Joint Greenway Coordinator, Northwest Commission, WCPZD	S	PA Fish & Boat In-Kind Services	PA Fish & Boat Commission		
If feasible, locate put in / take out opportunities, confirm property ownership, secure public access to locations	Joint Greenway Coordinator, Northwest Commission, WCPZD, PA Fish and Boat Commission	M	Unknown	PA Fish & Boat Commission, PA DCNR		

Warren County Greenways Plan

Advancing the Greenways Plan at the Local Level - Recreation & Transportation Greenways (continued)

Advancing the Greenways Plan at the Local Level: Recreation & Transportation Greenways (continued)						
Task	Responsible Parties	Priority	Cost	Potential Funding Sources	Status	
					Begin	Completed
Water Trail Implementation Strategies - Continued						
Meet with local municipalities and Water Trail Partnership to discuss feasibility of establishing a PA Fish & Boat Commission designated Water Trail on Conewango Creek	Joint Greenway Coordinator, Northwest Commission, WCPZD	S	PA Fish & Boat In-Kind Services	PA Fish & Boat Commission		
If feasible, locate put in / take out opportunities, confirm property ownership, secure public access to locations	Joint Greenway Coordinator, Northwest Commission, WCPZD, PA Fish and Boat Commission	S	Unknown	PA Fish & Boat Commission PA DCNR		
Establish Conewango Creek Water Trail and access points	Joint Greenway Coordinator, Northwest Commission, WCPZD	M	Unknown	PA Fish & Boat Commission PA DCNR		
Meet with Water Trail Partnership, U.S. Forest Service ANF, and local municipalities to discuss feasibility of establishing a PA Fish & Boat Commission designated Water Trail on the Allegheny Reservoir	Joint Greenway Coordinator, Northwest Commission, WCPZD	S	PA Fish & Boat In-Kind Services	PA Fish & Boat Commission		
If feasible, locate put in / take out opportunities, confirm property ownership, secure public access to locations	Joint Greenway Coordinator, Northwest Commission, WCPZD, PA Fish and Boat Commission	M	Unknown	PA Fish & Boat Commission, PA DCNR		
Meet with Water Trail Partnership, and local municipalities to discuss feasibility of establishing a PA Fish & Boat Commission designated Water Trail Brokenstraw Creek	Joint Greenway Coordinator, Northwest Commission, WCPZD	M	PA Fish & Boat In-Kind Services	PA Fish & Boat Commission		
Meet with Water Trail Partnership, and local municipalities to discuss feasibility of establishing a PA Fish & Boat Commission designated Water Trail Tionesta Creek	Joint Greenway Coordinator, Northwest Commission, WCPZD	M	PA Fish & Boat In-Kind Services	PA Fish & Boat Commission		
Establish Allegheny Reservoir Trail and access points.	Joint Greenway Coordinator, Northwest Commission, WCPZD	L	Unknown	PA Fish & Boat Commission PA DCNR		

Warren County Greenways Plan

Advancing the Greenways Plan at the Local Level - Recreation & Transportation Greenways (continued)

Task	Responsible Parties	Priority	Cost	Potential Funding Sources	Status	
					Begin	Completed
Ensuring Success Marketing / Promotion						
Conduct Allegheny River Water Trail Economic Impact Analysis Study	Joint Greenway Coordinator, Northwest Commission, WCPZD	S	\$25,000	PA DCNR		
Develop Water Trail How-To Manual	Joint Greenway Coordinator, Northwest Commission, WCPZD	S	\$20,000	PA DCNR & PA Fish & Boat Commission		
Conduct Motorized Trail User Economic Impact Analysis Study	Joint Greenway Coordinator, Northwest Commission, WCPZD	S	\$25,000	PA DCNR		
Meet with U.S. Forest Service ANF to discuss status of motorized trail riding opportunities in ANF. Advocate for retaining and expanding existing trail system where appropriate	Joint Greenway Coordinator, Northwest Commission, WCPZD	S, M	In-Kind Services			
Implement marketing strategies formed in the early stages of greenways implementation, with emphasis on economic development potential	Joint Greenway Coordinator, Northwest Commission, WCPZD	on-going	\$10,000 annually	Warren County Visitors Bureau		
Work with business community and health providers to encourage bike to work programs	Joint Greenway Coordinator, Northwest Commission, WCPZD	M	In-Kind Services	Pennsylvania Advocates for Nutrition and Activity (PANA), Health Care Providers		
Work with business community and health providers to encourage bike to school programs	Joint Greenway Coordinator, Northwest Commission, WCPZD	M	In-Kind Services	Pennsylvania Advocates for Nutrition and Activity (PANA), Health Care Providers		

Demonstration Project Opportunities

Quick successes are important to show residents of the County that implementation of greenway projects in Warren County can provide many benefits, as documented in Introduction to this plan, and that further implementation of the recommendations is warranted.

Opportunities were identified in each of the greenway feature categories to allow the County and partner organizations to advance greenways at all levels. Demonstration project opportunities were selected in Warren County based on the following criteria:

1. Was prioritized as a critical or exceptional priority at the regional level
2. Has a local partner / advocate
3. Can be realistically achieved
4. Provides opportunity for economic develop (recreation and transportation greenway corridors)

For conservation corridors, the criteria was developed to conserve those areas of the County that have the most significant natural infrastructure components that we desire to maintain because they provide essential functions.

Utilizing these sets of criteria, the Steering Committee recommended the following demonstration project opportunities in Warren County:

Land Based Trails

- ✓ Warren / North Warren Trail: Builds upon prior phases and includes the opportunity to extend the trail to the New York State line to connect with trails of the Chautauqua Rails to Trails Association in New York.
- ✓ Warren to Youngsville Trail: Will assist Youngsville Area Business Association and Revitalization of Youngsville with the implementation of their vision to connect Youngsville Borough with the Allegheny National Forest's Buckaloons Recreation Area, following the Brokenstraw Creek Natural Systems Greenway corridor. Further, with the recommendation of Youngsville Borough also being a Trail Town Demonstration project, these opportunities provide the potential for expanded economic development activities in the Youngsville area.

Developing land based trails requires proper planning and due diligence on the part of the trail sponsor to build consensus and support for the proposed trail. Building trails first, and asking forgiveness after, is a sure fire method of: creating legal challenges; further alienating those who oppose the trail; and positioning the trail sponsor to defend future lawsuits which can be filed. The proper steps in pursuing a trail include:

1. Conduct research and obtain a legal opinion to identify the legal owner of the property in question.
2. Where property is not owned or under the control of the trail sponsor, explore the feasibility of obtaining the right for public access to the corridor, and / or explore opportunities for alternative alignments under more favorable ownership.

3. Meet with adjacent property owners to determine the level of support and level of opposition to the proposed trail.
4. Project demand for the proposed trail.
5. Where opposition is present, be a good listener and record concerns.
6. Begin developing concept and draft master plan for the proposed trail, taking into consideration the concerns of adjacent property owners and how those concerns may be addressed in the alignment, design, and features proposed in association with the trail.
7. Meet with adjacent property owners to discuss the proposed master plan, how their concerns have been addressed, and anticipate and be prepared to address liability concerns of adjacent property owners.
8. Determine if there is sufficient support, and the potential location(s) for development of a demonstration segment of the trail.
9. Estimate the capital costs of developing the trail and identify sources of funding and revenue to support trail development.
10. Estimate the costs associated with management, operations, and maintenance of the trail, and identify sources of revenue to support those costs.
11. Determine if it is feasible to begin implementation of demonstration trail segment(s).

The extension of the North Warren Trail is recommended as it has the support of the County and local municipalities, a feasibility study was conducted and deemed the trail feasible, and existing segments of the North Warren Trail that have been constructed are well used and have been well received.

The Warren to Youngsville Trail is in its infancy, as not trail has been constructed to date. However, the proposed trail has support at both the grass roots and municipal level, and local business leaders are enticed by the economic development potential associated with the proposed trail. The demonstration segment is located primarily on land controlled by the Borough and / or School District, and has the opportunity to be extended in the future. Youngsville Borough has received funding to design and construct the first phase of this trail. Further development of the trail will require a feasibility study to be completed. The estimated cost to complete this feasibility study is \$45,000.

Water Trails

✓ Conewango Creek Water Trail:

The proposed Conewango Creek Water Trail would extend the existing 25 mile Conewango Creek Water Trail in New York State, between Clarks Corners and Frewsburg, to the City of Warren. In New York, Conewango Creek has been formally recognized as part of the Marden E. Cobb Waterway Trail. This trail contains sections of the Cassadaga and Conewango Creeks and together provides 52 miles of generally flat-water canoeing.

Along the Marden E. Cobb Waterway Trail Adirondack lean-tos, latrines, firepits and tables are at campsites along the waterways. Parking is available near or adjoining the waterways at various road crossings.

Upon entering Pennsylvania, Conewango Creek is known to locals as a paddling resource, but has not officially recognized under the Pennsylvania Fish and Boat Commission's Water Trail program.

Costs associated with developing this water trail include:

- Identification and acquisition of put in / take out points: Unknown
 - Construction of put in / take out points: \$200,000
 - Development of water trail brochure..... \$15,000
- ✓ Allegheny Reservoir Water Trail: The 26,000 acre Allegheny Reservoir provides opportunities for canoeing and kayaking, in addition to the motorized boating activities that currently take place on the water. The reservoir is a U.S. Army Corps of Engineers flood control facility, and the Pennsylvania Fish and Boat Commission has adopted special boating regulations for a number of locations on the reservoir that restrict the unlimited horsepower status of the remaining portions of water.
- Identification and acquisition of put in / take out points: \$0
 - Construction of put in / take out points: \$50,000
 - Development of water trail brochure..... \$5,000

We recommend local partner organizations work with the Pennsylvania Fish and Boat Commission to begin the process of conducting feasibility studies and to begin planning for these water trails.

In her thesis completed in 2002, "Case Studies of Water Trail Impacts on Rural Communities", Lindsay Johnson, MCRP provides the following recommendation for developing a successful water trail.

Communities interested in water trail development should be aware of impacts on local culture, the environment and businesses. Negative impacts can be mitigated if the community is supportive of water trail development and there is dedicated management. The following recommendations should help project leaders plan, organize and create facilities for water trails while minimizing impacts on rural communities.

Planning and Organizational Needs

1. A shared vision for a water trail is a goal that community members believe in and are willing to work towards. Dedicated local support for a goal-oriented project will sustain local water trail benefits. A dedicated group of volunteers is key to water trail success. A water trail must be advocated and maintained locally if the community will reap economic and social benefits.
2. Address landowner and citizen concerns through outreach to the community early in the project. A designated contact person should respond quickly and accurately to suggestions, concerns and other comments. A pre-opening/pre-construction trail paddle will allow community members to see the proposed water trail for themselves.

3. Solidify funding, planning and overall water trail management with clear leadership and goals. These factors should be considered before marketing a water trail.
4. Investigate local goals, norms and land use patterns that are inconsistent with the water trail vision or threaten the integrity of a paddling experience should be evaluated. Tourism development in rural areas will have social implications including increased land values.
5. Explore partnership opportunities and apply for grants and offers of assistance. Local officials, government agencies, businesses and the community should commit to water trail project goals. Successful water trails are the result of a cooperative effort between an active citizen group, a responsive public agency, and a supportive community all of whom share a vision for the trail. Partner with lodging, eating and drinking, retail sales, and recreational services businesses.
6. Host events to advertise the trail, build support and draw new volunteers. noteworthy events such as water trail grand openings and annual paddling festivals provide excellent opportunity to make contact with the community, present accurate information and generate positive media attention.

Infrastructure Needs

7. Identify and secure rights to access put in and take out locations. Designate and clearly sign legal access points and public land at reasonable intervals to minimize landowner concerns.
8. Promote 'leave no trace' ethics or provide adequately maintained facilities to mitigate for environmental impacts from improperly disposed human waste, large groups and littering.
9. Improve access to parking at river put-ins. Information and access are two big issues to improve trail system usage.
10. Manage a river experience, the quality of the natural environment and uncrowded river conditions are important to paddlers. These aspects of the river experience are vital for all management actions.
11. Explore the history of the waterway and interpret these stories to paddlers in creative ways. Trail users often have an interest in the history and environment of the community, and can help to support museums, nature centers and other cultural assets. The interpretation of history and linkages with the past is a marketable concept.
12. Offer a variety of accessible activities. Paddlers are often interested in easy access to downtown, restaurants, campgrounds and bed and breakfasts, in other outdoor recreation experiences and learning about local history and culture. Successful paddle destinations offer diverse activities with a wide variety of opportunities.

Additional guidance on water trail development can be found in the Chesapeake Bay Gateways Network, "Water Trails Toolbox", www.baygateways.net/watertrailtools.cfm.

Trail Towns

Marketing, promoting, and developing a trail town business mentality can assist main street communities in promoting economic development activities, and expanding the economy of those communities. A trail town is a main street community that can provide the goods and services that are desired by land based and water based trail users. To function as a trail town, the following goods and services must be provided:

- Main Street Business District
- Food
- Lodging
- Fuel

It is also beneficial, but not essential, in a trail town can also provide:

- Entertainment
- Recreation
- Historic Site(s)
- Other Attraction(s)

Of the trail towns being proposed for Warren County, we recommend focus be placed on developing and implementing a trail town philosophy in the following communities:

- ✓ Tidioute
- ✓ Warren
- ✓ Youngsville

“Trail Towns: Capturing Trail Based Tourism – A Guide for Pennsylvania Communities”, prepared by the Allegheny Trail Alliance, provides step by step guidance in organizing a community to create a trail town.

Natural Systems Greenway Corridors

The following Warren County Natural System Greenway Corridors have been identified at the regional level as priority corridors:

- ✓ Conewango Creek Greenway Corridor: Also associated with the proposed Conewango Creek Water Trail, and the Warren and North Warren Rail Trail, and the City of Warren, a proposed demonstration trail town
- ✓ Brokenstaw Creek Greenway Corridor: Also associated with the Youngsville to Warren Trail, and Youngsville Borough, a proposed demonstration trail town
- ✓ Tionesta Creek Greenway Corridor
- ✓ Allegheny River / Reservoir Greenway Corridor: Also associated with the existing Middle Allegheny River Water Trail, the proposed Tidioute Trail, and the City of Warren and Tidioute Borough, proposed demonstration trail towns

Opportunities to implement enhancement and restoration projects along these corridors can be completed to achieve the following goals:

- Conserving natural system greenway resources through acquisition of easements and property
- Improving water quality
- Improving access to water features
- Reducing flooding
- Improving stormwater management
- Reducing nonpoint source pollution & improving water quality
- Establishing stream side buffers

We recommend an annual pool of funding be allocated for implementation of strategies to address the above at a level of approximately \$50,000 per year.

In the Northwest Pennsylvania region, emphasis must be placed on education and advocacy efforts to inform residents, and elected officials on the benefits of natural system greenway corridors. For residents of the region will only become an advocate for natural systems greenways only if they understand the functions and benefits these corridors will provide to the region. We recommend a budget of \$15,000 be set aside on an annual basis to fund education and outreach activities in Warren County.

As noted earlier, we recommend Warren County adopt a Natural Resource Conservation Ordinance as an amendment to the County Subdivision and Land Development Ordinance. Such as ordinance would go a long way in addressing the conservation of Natural System Greenway Corridors in twenty-five of the County's twenty-seven municipalities. Further, we recommend a similar ordinance be adopted by the City of Warren and Youngsville Borough, as they are the only two Warren County municipalities with their own Subdivision and Land Development Ordinances. Costs associated with these tasks include:

- Prepare amendment to Warren County SALDO: \$25,000
- Prepare amendment to City of Warren SALDO: \$10,000
- Prepare amendment to Youngsville Borough SALDO:..... \$7,500

Implementation Resources

Acquisition Tools

These mechanisms generally provide permanent protection of land and are preferred when establishing greenways.

Fee Simple Purchase

- **Description:** Direct purchase of land, at a price agreeable to the landowner, is done by a governmental or public agency or non-profit land trust organization. Land acquisition can be made at every level of government.
- **Benefits:** Acquiring fee simple title provides more permanent protection than other methods, such as zoning or subdivision requirements. Acquisition by non-profit groups partnering with communities imposes little or no cost and little administrative burden on local governments.
- **Implementation:** DCNR and DEP's Growing Greener Program has sources of funding to help communities and non-profit groups implement acquisition of land for inclusion in greenways.

Option / First Right of Refusal

- **Description:** A municipality enters into an agreement with a landowner that, should the landowner decide to sell, gives the government entity the right to bid on the land before anyone else.
- **Benefits:** This technique gives the municipality time to assemble funds needed to purchase the property or to reach an agreement with the landowner through other means.
- **Implementation:** The option is negotiated and memorialized in a legal agreement. If the property is sold, the municipality may, but is not obligated to, submit a bid to the landowner.

Conservation Easements

- **Description:** A landowner voluntarily agrees to sell the right to develop his land in certain ways by granting an easement to another entity such as a land trust. The landowner retains title to the land and continues to pay taxes on it. The easement may or may not allow the grantee access to the land for certain purposes.
- **Benefits:** Establishment of conservation easements provides long-term protection, but is less costly than fee simple acquisition because the buyer receives less than full title to the land. Where the easement is held by a non-profit group, cost and burden on local government are minimized. Moreover, the landowners pay reduced real estate taxes, subject to terms of the conservation easement.
- **Implementation:** Generally, the buyer pays the landowner the difference between the value of the land that can be fully developed and the value of the land without development potential. The easement is recorded with the property deed and remains if the land is sold.

Through both state-wide and local chapter efforts, Audubon Pennsylvania (AP) promotes conservation through a variety of education programs. Among these programs are workshops aimed at promoting the establishment of conservation easements. One such seminar was held at Jennings Environmental Center near Moraine State Park in late April 2007. Another workshop is planned at the same location in the near future.

Although AP does not hold conservation easements, it promotes establishment of easements through other qualified land trust organizations (local examples are described later in this section). AP's efforts are important to Warren County because three Important Bird Areas (IBAs) are located partially within the County's borders. IBAs contain areas of essential and sometimes vulnerable bird habitat. These areas are known as Important Bird Areas, or IBAs. They include the Swamp (State Game Land No. 282) IBA, the Tionesta Scenic and Research Natural Area IBA, and the Hickory Creek/Hearts Content Natural Area IBA. These are further described in Chapter Two.

The protection of these areas is of great interest to AP, and conservation efforts in these areas may attract the support of the organization in the form of landowner education. More information is available through the AP website, <http://pa.audubon.org>, or through the local chapter: the Presque Isle Audubon Society, Tom Ridge Environmental Center, 301 Peninsula Drive, Suite 8, Erie, PA 16505, www.presqueisle.org/audubon/. In addition, the Audubon New York State Chapter may provide similar programs through its local Jamestown Chapter, www.jamestownaudubon.org.

Agricultural Conservation Easements

- **Description:** A subset of conservation easements described above, these easements protect farms from development. Landowners voluntarily sell the rights to develop the farm to a government entity or land trust. The agency or organization usually pays them the difference between the value of the land for agricultural use and the value of the land for its "highest and best" use, which is generally residential or commercial development.
- **Benefits:** Conservation easements preserve land for agricultural use. They provide a financial benefit to farmers while conserving farmland that often provides wildlife habitat. Also, owners of land subject to conservation easements pay reduced real estate taxes.
- **Implementation:** County Agricultural Land Preservation Boards have primary responsibility for developing application procedures. They also establish priority for easement purchases based on a numerical ranking system. The ranking system is modeled on Pennsylvania Dept. of Agriculture (PDA) regulations that require consideration of soil quality, conservation practices, development pressure, and proximity to other preserved farmland and open space.

Forest Land Conservation Easements

- **Description:** These easements are a market driven tool used to preserve working forests, in the same way agricultural conservation easements protect working farmland.
- **Benefits:** Easements can be used to protect forests for present and future economic benefit, simultaneously preserving wildlife habitat; protecting watersheds; providing outdoor recreation opportunities; and promoting soil conservation. In addition, benefits to landowners include reduced property taxes. These easements are of great importance to the Commonwealth of Pennsylvania, as timber is one of the top sectors of the state's economy.

- **Implementation:** Some non-profit groups such as conservancies and land trusts provide financial support for purchasing easements from landowners. They also accept tax-deductible donations of easements.

The U.S. Forest Service's Forest Legacy Plan (FLP) aids in the identification and protection of environmentally-important forest lands threatened by conversion to non-forest uses. The FLP provides funding to state governments to help purchase easements on private forestland. Eligible forest lands must be located in a designated Forest Legacy Area and must meet other specific eligibility requirements. The DCNR Bureau of Forestry, in cooperation with the State Forest Stewardship Committee (SFSC), is responsible for implementation of this program in Pennsylvania. For more information, visit www.dcnr.state.pa.us/forestry.

Transfer / Purchase of Development Rights

- **Description:** Transfer of Development Rights (TDR) is a tool that allows conservation and development to co-exist within a municipality or group of municipalities with joint zoning. TDR permits landowners in conservation target areas to transfer some or all of the development rights to their land (sending areas) to areas where growth is desired at higher densities than zoning allows (receiving areas). The landowners keep title to the land and the right to use it, but give up the right to develop it for other purposes. The buyer of development rights uses them to develop another parcel at greater density than would otherwise be permitted. With TDR, transfer of rights occurs at the time of development.
- **Purchase of Development Rights (PDR)** operates in a similar manner. However, with PDR, an entity buys the rights to develop land from the landowner. The landowner retains title and use of the land, and receives tax benefits. A municipality can pass a bond issue to buy the rights and "bank" them. A developer may then purchase the development rights from the municipality when ready to develop an area with high density. The municipal bond financing is paid off over time by the purchase of development rights as development occurs.
- **Benefits:** The value of each development right is controlled by the open market, not the municipality. TDR is an equitable option for preserving open space and agricultural land, compensating the owner of the preserved land while guiding the growth of development by allowing increased density where existing infrastructure can support it.
- **PDR** provides an immediate return to the landowner, as he/she is compensated for the reduction in development potential of their land. At the same time, PDR supports the development district concept. PDR also streamlines the development process, since private sales and negotiations for development rights are eliminated. It allows a municipality to guide growth to places where it is desired.
- **Implementation:** In Pennsylvania, TDR can only be used to transfer development rights within a single municipality or among municipalities with a joint zoning ordinance. It is up to each municipality implementing TDR to set up a mechanism to accomplish the transfer.

Regulatory Tools

Regulatory techniques can also be used to establish greenways. However, because they can always be amended or even abolished by local officials, they cannot be relied on for permanent protection of land. Nevertheless, they should not be overlooked when discussing long-term strategies for assembling a greenway network.

Open Space Zoning

- **Description:** This preserves a large amount of land for conservation uses while still allowing full-density development. In contrast to cluster zoning, where the emphasis is more often placed on providing active recreation areas, open space zoning is more suited for protecting farmland; forests; historic sites; or scenic views. Subdivisions are required to dedicate a significant portion of their unconstrained land to permanent open space uses. The open space is typically owned and managed (according to an approved management plan) by a homeowners' association. Other possible owners include land trusts or the municipality.
- **Benefits:** While a regulatory tool, open space zoning provides a means of permanent protection of undeveloped land while allowing full-density development. Ideally, the open space in each new subdivision will be planned to abut one another, forming an interconnected system of conservation land.
- **Implementation:** This technique is implemented through a municipal zoning ordinance. The number of dwellings permitted is based on the net acreage of buildable land and the allowable density in the property's zoning district. Easements are then placed in the open space to ensure that it will not be further subdivided or developed.

Growing Greener: Conservation by Design

Growing Greener: Conservation by Design is a collaborative program between the Natural Lands Trust, a non-profit conservancy located in Media, PA; the Pennsylvania Department of Conservation and Natural Resources; the Governor's Center for Local Government Services; DCED; and an advisory committee comprised of officials from state, local, and non-profit agencies and the private sector. The Governor's 1999 state-wide funding initiative shares the same *Growing Greener* name, but is a separate program funding natural resource protection and land preservation efforts across the Commonwealth.

In order to implement conservation, subdivision design; zoning; and subdivision ordinances are revised to focus not only on the development related issues (such as lot dimensions, street geometry, stormwater management, etc.) but to place equal emphasis on conserving a variety of environmental, cultural, historic, and scenic features. It is precisely those features that typically give a community its special character and are often destroyed by conventional development practices.

When local land use regulations require developers to design around special natural and cultural features, developers can become the municipality's greatest conservationists, at no cost to the community. To achieve this, several revisions must usually be made to the subdivision and zoning ordinances.

Subdivision ordinances must contain, at a minimum:

- Procedures that strongly encourage dialogue between the applicant and the municipality before detailed plans are engineered
- Standards for configuration and location of conservation lands

- A requirement for a context sensitive map, showing all natural and man-made features surrounding the site
- A requirement that a detailed site inventory for existing features, upon which to base decisions regarding the area, to be protected.
- Required site visit by planning commission members accompanied by the developer, with the site inventory in hand
- A four step design process in which conservation areas are determined first, before houses, streets, and lot lines are established

Revisions to the zoning ordinance create a menu of options for developers to choose from, relating to density to the provision of open space. The options offer density increases when greater open space is proposed and reduced density when less open space is proposed. In addition, the zoning ordinance needs to be made flexible to accommodate development in patterns that preserve natural resources.

Zoning ordinances must contain, at a minimum:

- The ability for the applicant to obtain full density, through a “by-right” (versus conditional use) approval process, but only when the conservation option is selected
- A requirement that protected lands in conservation subdivisions are comprised of at least 50% of the buildable ground, whenever the underlying density is one unit per acre or lower
- Strong disincentives to discourage “conventional” development, usually reducing the density by half
- Restrictive covenants that ensure the conservation lands are perpetually restricted from further development
- Open space location design standards

Successful communities employ a wide array of conservation planning techniques simultaneously over an extended period of time. Complementary tools, which a community should consider adding to its “toolbox” of techniques, include the purchase of development rights; donations of sales to conservancies; the transfer of development rights; and “land owner compacts” involving density shifts between contiguous parcels. Other techniques can be effective, but their potential for influencing the big picture is limited. The *Growing Greener: Conservation by Design* approach offers the greatest potential because it:

- Does not require public expenditure,
- Does not depend on land owner charity,
- Does not involve complicated regulations for shifting rights to other parcels, and
- Does not depend on the cooperation of two or more adjoining landowners to make it work.

Additional informational material describing *Growing Greener: Conservation by Design* concepts is available from the Natural Lands Trust, Hildacy Farm, 1031 Palmers Mill Road, Media, PA 19063, 610-353-5587, www.natlands.org.

Overlay Zoning Districts

- Description: An overlay zoning district applies additional regulations to an underlying zoning district or districts. The restrictions of the overlay district supplement and supersede (where there is a conflict) the provisions of the underlying district. Overlay districts have been used to conserve floodplains and other sensitive natural features.

- Benefits: Overlay zoning allows regulations to be tailored to specific conditions. Administration is similar to any other zoning district.
- Implementation: Provisions of a zoning district must apply uniformly to each class of uses or structures within the district. However, Section 605 (2) of the Municipal Planning Code authorizes additional classifications, potentially through overlay zoning, for "regulating, restricting, or prohibiting uses and structures at, along, or near...."
 - (ii) Natural and artificial bodies of water.....
 - (iii) Places of relatively steep slope or grade, or areas of hazardous geological or topographic features.....
 - (vi) Places having unique historical, architectural, or patriotic interest or value.
 - (vii) Floodplain areas,.....sanitary landfills, and other places having a special character or use affecting and affected by their surroundings."

Buffer Zones

- Description: Municipalities enact regulations requiring buffers of a prescribed width between incompatible uses, such as residential and commercial areas, or adjacent to sensitive resources, such as streams or drinking water supplies. This tool allows the municipality to limit or prohibit development within the buffer area.
- Benefits: Buffers can be used to protect large, linear corridors of valuable resources like stream and river banks, which are often included in greenways. They allow municipalities to protect areas of sensitive land without having to shoulder the expense of acquisition.
- Implementation: Requirements for buffers are enacted as part of a zoning ordinance or subdivision and land development ordinance. Buffer restrictions should be wide enough to protect the resource or shelter the less intensive use. However, care must be taken not to create buffers that are so wide that they will disproportionately reduce the value of land in the municipality. An amazingly successful example of a buffer zone is Falling Spring Greenway in Guilford Township, Franklin County. Successful implementation of a buffer zone around the Falling Spring Branch, a popular fishery, coupled with several stream restoration projects, saved a threatened natural resource. This ordinance, as well as an illustrated article detailing its success, are available in the appendices of this report.

Agricultural Protection Zoning

- Description: This zoning designates areas where farming is the primary land use and discourages other land uses in those areas.
- Benefits: Agricultural Protection Zoning stabilizes the agricultural land base by keeping large tracts of land relatively free of non-farm development. This reduces the likelihood of conflicts between farmers and non-farming neighbors. Maintaining unbroken masses of farmland ensures continued support for local agricultural service businesses.
- Implementation: Agricultural Protection Zoning is economically viable when coupled with tools such as Transfer of Development Rights or Purchase of Development Rights.

Mandatory Dedication Ordinance

- **Description:** Township officials require developers to dedicate a portion of the undeveloped land on a development parcel for open space preservation purposes. The amount of open space dedication is often reflective of the type, amount, and intensity of development to occur on the site.

Fees in-lieu-of dedication are required of the owner or developer as a substitute for dedication of land. Fees are usually calculated in dollars per lot, and referred to as "in-lieu fees." The municipality then uses these funds to purchase new park or conservation land.

- **Benefits:** Mandatory dedication ensures that open space will be preserved as a municipality develops. With careful planning by municipal officials, these areas of open space can be aligned to create greenway corridors. However, many municipalities prefer payment of in-lieu fees because they allow the municipality to combine funds from several developments and purchase large tracts of recreation or conservation land.

It is important to note that mandatory dedication ordinances can include specific clauses requiring the dedication of land that includes environmentally-sensitive features such as wetlands, floodplains, etc. Ordinances can also require negotiation with municipal officials so that other lands desired by the municipality can be identified for dedication.

- **Implementation:** Provisions requiring mandatory dedication or in-lieu fees can be added to municipal zoning ordinances by amendment. The Municipal Planning Code requires that "the land to be dedicated or the fees to be paid shall bear a reasonable relationship to the use of the park or recreational facilities [developed on that land] by future inhabitants of the development....". The municipality is also required to expend any fees collected within three years of payment by the owner / developer.

The Official Map

- ❖ **Description:** A municipality creates an "official map" that designates public or private land that has been identified as a current or future public need. This can be land for roads or other infrastructure, as well as open space for conservation or recreation. Making this map available to the public notifies landowners and developers about land that the municipality is planning to use for public purposes.
- ❖ **Benefits:** The Official Map is a very powerful tool for municipalities planning for conservation and recreation. It gives municipalities time to assemble funds to purchase identified lands through First Right of Refusal (described earlier in this section). Of importance in Warren County is the fact that a municipality is not required to enact ordinances to create and adopt an Official Map.
- ❖ **Implementation:** The Official Map does NOT result in taking of land, but simply gives the municipality right of first refusal to purchase the land or obtain an easement. The municipality has one year to make an offer to the landowner, should the property be made available for sale. After one year, the landowner can sell the property to any other interested buyer.

Municipalities wanting to establish a desired feature should only do so after they have identified lands needed for conservation or recreation through a comprehensive planning process. Such lands must be identified on a parcel-by-parcel basis, with greater detail than is given in this

greenways plan. If lands are to be reserved on an official map, the municipality should have a reasonable prospect of obtaining the funds necessary to purchase the property of interest.

The Official Map is a tool of great importance in Warren County because a municipality can implement an official map with or without a zoning ordinance.

Other Tools

The action plan also includes several other conservation and recreation based recommendations essential to maintaining the quality of life that defines Warren County. The following mechanisms are methods of land conservation or resource protection that do not involve acquisition of land or enactment of ordinances by a municipality, but are no less effective.

Agricultural Security Areas

- Description: A landowner or group of landowners whose parcels together comprise at least 250 acres, may apply to their local government for designation as an Agricultural Security Area.

Although ASAs do not offer conservation-based protection, they help ensure continuation of agricultural practices, which are a large part of the quality of life in Warren County. This plan recommends that the County continue to accept applications for agricultural security areas and couple that effort with a strong conservation-based education program, showing farmers in ASAs the benefits of best agricultural best management practices and natural resource conservation.

Agricultural Tax Incentives

- Description: Differential assessment laws direct local governments to assess agricultural land at its value for agriculture, rather than its full market value, which is usually higher. Differential assessment laws are enacted at the state level, but implemented locally.
- Benefits: The programs allow farmers to continue operating an agricultural operation in the face of development, thus helping ensure the economic viability of agriculture. These tax laws align agricultural property taxes with what it actually costs local governments to provide services to the land.
- Implementation: Landowners must apply to the County Assessment Office.

Clean and Green Program

- Description: Pennsylvania ACT 319 (also known as Clean and Green) provides real estate tax benefit to owners of agricultural or forest land by taxing that land on the basis of its "use value", rather than its true market value. This act provides preferential assessment to any individuals who agree to maintain their land solely devoted to one of the three following uses:
 - Agricultural Use: Land used for producing an agricultural commodity or devoted to (and qualifying for) payments or other compensation under a soil conservation program, under an agreement with a Federal government agency.
 - Agricultural Reserve: A non-commercial open space used for outdoor recreation or enjoyment of scenic or natural beauty, offering public use without fee or charge. Agricultural

reserve land is the only use under the Clean and Green program that requires landowners to permit nondiscriminatory public access. This use is generally requested by landowners that wish to maintain their land in a natural state – free of farming, timbering, or any other activities.

- Forest Reserve: A 10+ acre parcel of land stocked by forest trees that are capable of producing timber or other wood products. Forest reserve lands include any farmstead land on the same property parcel as the timber trees.
- Benefits: Clean and Green reduces property taxes for owners of farm, timber, or conservation land.
- Implementation: Landowners applying for the Clean and Green Program must have 10 or more acres of active agricultural or forest land, unless they gross at least \$2,000 annual income from the land.

Partnership with a Land Trust Organization

- Description: The regular acquisition of property rights (using several of the conservation tools mentioned previously in this section) for conservation defines an organization as a land trust. Land trusts are non-profit organizations focused on working cooperatively with landowners and organizing land acquisition projects that benefit both landowner and community. Nearly 100 land trusts operate in Pennsylvania.

Land trusts can be private charitable organizations, or in some cases governmental agencies, that vary greatly in size and conservation priorities. They may be staffed entirely by volunteers, concentrating efforts in a small area or municipality, or may be large, regional entities staffed by many professionals (i.e. the Western Pennsylvania Conservancy). Among the various possible focuses of land trusts are:

- Operating public recreation areas or nature preserves;
- Owning no property, but holding conservation easements for the protection of natural resources;
- Acquiring land that is to be turned over to governments for public parks or other recreation, such as State Game Lands;
- Focusing on protection of water resources, such as lakes, rivers, and streams;
- Preserving scenic views, wildlife habitat, or open space for public recreation;
- Promoting the preservation of productive farmland, forested areas, or hunting grounds; or
- Promoting smart land-use planning, environmental education, or trail development for transportation.
- Benefits: Conservation of open space in Pennsylvania is essential not only to the environment, but to the State's economy. Agriculture, timber production, eco-tourism, hunting, fishing, wildlife observation, and other outdoor recreation are all dependent on preservation and management of Pennsylvania's natural resources, upon which the State's economic success depends.

Because they are devoted to working directly with landowners, land trusts can dispel any fears about government "taking" of land. Their efforts can comply with community conservation interests, while spelling out benefits to the landowner, thus creating a "win-win" situation.

In addition, land trusts may have considerably more success than municipalities in attracting funding for acquisition projects. They sometimes qualify for Federal, State, and local government funds available for conservation projects. Pennsylvania DCNR supports land trust acquisitions with Keystone Fund and Environmental Stewardship Fund (Growing Greener) grants, which support 50% of the costs of priority acquisitions. Land acquisition projects were a main focus of the Growing Greener grant funding in 2006. Of further interest, the Pennsylvania Land Trust Association (PALTA) also offers a similar program with a newly-increased maximum \$6,000 reimbursement grant for conservation easements on natural areas and also for trail easements. (see www.conserveland.org/ceap).

- **Implementation:** To meet Warren County's conservation needs, County officials should consider expanding the mission or interests of an existing land trust.

Many of Pennsylvania's land conservation organizations are members of the *Pennsylvania Land Trust Association* (PALTA), whose mission is to increase the quality and pace of land conservation state-wide, by strengthening conservation efforts; improving related government policy; and raising public awareness, while building positive relationships between land conservation organizations and other partners. The WPC is a current member of PALTA, and at the time of this report, the WPC was in the progress of gaining land trust accreditation through PALTA. Information on these and other land trusts is available at www.conserveland.org.

Continue to Promote Agricultural Best Management Practices

Pashek Associates recommends that the County Conservation District continue its work with farmers to promote and implement best management practices, thus protecting water quality in the County's streams. Agricultural runoff may cause siltation and may alter nutrient content of streams, adversely effecting aquatic ecosystems. Best management practices, such as stabilized cattle stream crossings, streambank fencing to limit livestock access to streams, and planting vegetative stream buffers may help to prevent excessive runoff from agricultural fields.

The Warren County Conservation District currently offers landowner education on agricultural best management practices and has helped landowners implement such practices throughout the County. In addition, the Western Pennsylvania Conservancy (WPC) provides outreach and implementation services for best management practices via the Pennsylvania Conservation Reserve Enhancement Program (CREP). CREP rewards agricultural producers and landowners for agreeing to install conservation practices on their land. More information is available at www.creppa.org and through the Warren County Conservation District (814-563-3117).

Caution must also be taken to preserve farm-related infrastructure, such as farm supply stores, etc. A regional example of preservation without proper planning is Montgomery County, Maryland. Agricultural preservation areas were concentrated in one area of the county only, while other areas were left open to development. Once land was developed in other portions of the county, farm-related infrastructure like supply businesses moved out of the county towards larger customer bases. The farms that remained protected in the county then experienced financial hardship due to lack of nearby support businesses like supply stores, machinery dealers, etc.

Pennsylvania Game Commission Cooperative Programs

Hunting is a part of life in Warren County. Both of these facts are apparent during any drive through the County's countryside, and in the County's abundance of State Game Lands. It is recommended that the County encourage its landowners in rural areas to make land available for public hunting via the *Cooperative Farm-Game Program* and *Cooperative Safety Zone Program*, administered by the Pennsylvania Game Commission (PAGC).

These programs benefit both sportsmen and farmers. They provide more accessible hunting grounds, support the implementation of sound land use practices associated with game species habitat, and foster a mutual respect between hunters and landowners. Landowners may also receive the following:

- increased law enforcement patrol during regular hunting seasons;
- food and cover seedlings attractive to game species;
- special preference in the commission's pheasant stocking program;
- informational and warning signage for property borders and for safety zones, which are located within 150 yards of occupied dwellings or other buildings;
- free advice on soil conservation and other farm-related land use practices; and
- cutting of tree roots and limbs from crop field borders to increase sunlight on crops and provide cover for small game species and other wildlife.

Cooperating property owners enrolled in the Safety Zone Program execute an agreement with the PAGC that may be terminated at any time with 60-days advanced written notice. Landowners in the Farm-Game Program execute an agreement giving the commission hunting rights to the property for a minimum of 5 years. As of 2003, over 21,000 such agreements were in place, spanning 59 Pennsylvania Counties and keeping almost 2.5 million acres open to public hunting. Further information is available from PAGC field officers, any of the 6 regional PAGC offices, through the Bureau of Land Management at the PAGC Harrisburg headquarters, or through the PAGC website: www.pgc.state.pa.us.

Land Trust Organizations

There are two existing land trust organizations whose geographical area includes Warren County. They include the Allegheny Valley Conservancy and the Western Pennsylvania Conservancy. The Allegheny Valley Conservancy's efforts are primarily focused in Venango County, and the Western Pennsylvania Conservancy's efforts focus primarily on those sites of regional and statewide significance. Warren County should begin a dialogue with these organizations to determine their level of interest and commitment to providing their capabilities to Warren County at a more local level. If the discussions lead to a determination that the natural system greenway corridors recommended herein are outside of the respective agency's missions, then we recommend efforts be re-focused on determining if there is interest in the County to establish a Warren County Conservancy, whose primary focus would be focused on greenway corridors within Warren County.

County(ies) Served	Organization	Mission
Forest Venango Warren	Allegheny Valley Conservancy P.O. Box 96 Franklin, PA 16323 814-432-2187 jaholden@csonline.net	To protect the water quality of the Allegheny river and French Creek watersheds; preserve open-space, scenic beauty, valuable and productive agriculture and forest land and historically significant areas in the watersheds; to enhance the quality of life for residents of the region; to promote land stewardship through public education and technical assistance.
Clarion Crawford Erie Lawrence Mercer Venango Warren	Western Pennsylvania Conservancy 800 Waterfront Drive Pittsburgh, PA 15222 412-586-2326 info@paconserve.org www.wpconline.org	Protects, conserves and restores land and water for the diversity of the region's plants, animals and their ecosystems. Through science-based strategies, collaboration, leadership and recognition of the relationship between humankind and nature, WPC achieves tangible conservation outcomes for present and future generations.

Potential Funding Sources

Development of a greenways network can be costly and requires a long term strategy to access a variety of federal, state, and private sector funding opportunities. Funding programs designed to conserve natural resources, develop recreational trails, and create transportation improvements are all potential sources of grants for implementation of the recommendations contained herein. Most require some form of local match, and sometimes one grant opportunity can be utilized as the ‘local match’ for another grant opportunity.

The following tables list many current funding sources that are available to assist in funding greenway efforts in the Northwest Region. Because these programs are constantly changing, these tables are a starting point. When seeking grant programs, applicants should check web sites of the funding organizations for an updated listing of grant programs and eligibility requirements.

Moreover, any funding strategy should leverage local resources as well. Private and non-profit foundations in the communities and region are important sources of funding that should not be overlooked when assembling funding strategies. In addition, efforts should be made to create public-private partnerships and to seek in-kind contributions from local businesses in the communities and the region.

Federal Public Agency Grant and Funding Opportunities

Program	Agency	Purpose	Website
Acres for America	National Fish & Wildlife Foundation	acquisition of property	www.nfwf.org/programs.cfm
Brownfields Redevelopment Intiative	General Services Administration	includes trails	http://bri/gda/gov/brownfields/home
Community Development Block Grant	U.S. Department of Housing	can include greenways	www.hud.gov/offices/cpd/communitydevelopment/programs/index.cfm
Congestion Mitigation & Air Quality Program	Federal Highway & Transportation Adminstration	includes trails	www.fwha.dot.gov/environment/cmaqpgs/index.htm
Conservation Reserve Program	U.S. Department of Agriculture	resource conservation	www.fsa.usda.gov/dafp/cepd/crp.htm
Economic Development Grants for Public Works	Economic Development Administration	trail development	www.cfda.gov/public/viewprog/asp?progid=167
Environmental Education Grants Program	U.S. Environmental Protection Agency	Environmental Education Projects	www.epa.gov/enviroed/grants.html
Federal Public Lands Highway Discretionary Grants	Federal Highway Adminstration	includes trails	www.fwha.dot.gov/tea21/factsheets/fedland.htm
General Matching Funds	National Fish & Wildlife Foundation	fish & wildlife conservation	www.nfwf.org/programs.cfm
Healthy People 2010 Community Grants Program	Federal Department of Health & Human Services	health and wellness	www.health.gov/healthypeople/impleneetation/
Keystone Initiative Grants	National Fish & Wildlife Foundation	habitat enhancement	www.nfwf.org/am/templateccfm?Section-Grants
Land & Water Conservation Fund Grants	National Park Service	trails and greenways	www.nps.gov/nrcr/programs/lwcf/
National Scenic Byway Program	Federal Highway Adminstration	bicycle and pedestrian facilities	www.byways.org/grants/index.html
North America Wetland Conservation Grants	U.S. Department of the Interior	wetland conservation	www.fws.gov/birdhabitat/grants/nawca/index.shtm
Recreational Trails Program	Federal Highway Adminstration	trails	www.fhwa.dot.gov/environment/rectrails/index.htm
Rivers, Trails, & Conservation Assistance Program	National Park Service	conservation of resources	www.nrcr.nps.gov/programs/rtca/ContactUs/cu_apply.html
Safe Schools / Healthy Students Initiative	Office of Juvenile Justice, Department of Education	promote heathly childhood development	www.ojjdp.ncjrs.org/grants/safeschool/content.html
Safe, Accountable, Flexible, Efficent, Transportation Act	Federal Highway Adminstration	bicycle & pedestrian improvements	www.fhwa.dot.gov/safetealu/index.htm
Save America's Treasures Historic Preservation Fund	National Park Service & Arts	preservation / conservation	www.saveamericastreasures.org/funding.htm
Sustainable Development Challenge Grants	U.S. Environmental Protection Agency	sustainable community projects	www.epa.gov/ecocommunity/sdcg/
Targeted Watersheds Program	U.S. Environmental Protection Agency	sustainable community projects	www.epa.gov/ecocommunity/owow/watershed/initiative/regions.html

Federal Public Agency Grant and Funding Opportunities

Program	Agency	Purpose	Website
Transportation & Community & System Pilot Program	Federal Highway Adminstration	planning & implementation of trails	www.fwha.dot.gov/tcsp/
Transportation Enhancements	Federal Highway Adminstration	trails & bike / ped facilities	www.enhancements.org/
Urban Park and Recovery Program	National Park Service	parks	www.ncrc.nps.gov/uparr/
Value Added Producers Grants	USDA Rural Development	market value added ag products	www.rurdev.usda.gov/GA/vadg.htm
Water Quality Research Grants	U.S. Department of Agriculture	water quality impairment	www.epa.gov/smarthgrowth/topics/water_quality_funding.htm
Watershed Protection and Flood Prevention Grants	Natural Resource Conservation Service	watershed improvements	www.nrcs.usda.gov/programs/watershed/index
Wetlands Reserve Program	Natural Resource Conservation Service	restore & protect wetlands	www.nrcs.usda.gov/programs/WRP/
Wildlife Habitat Incentives Program	Natural Resource Conservation Service	develop & improve wildlife habitat	www.nrcs.usda.gov/programs/whip/

State Public Agency Grant and Funding Opportunities

Program	Agency	Purpose	Website
Act 167 Enactment and Implementation	Pennsylvania Department of Environmental Protection	watershed restoration	www.dep.state.pa.us/dep/deputate/
Boating Facilities Grants	Pennsylvania Fish & Boat Commission	boating facilities	www.fish.state.pa.us/promo/grants/boat_fac/00boatfac.htm
Certified Local Government Grants	Pennsylvania Historic and Muesum Commission	cultural surveys / interpretation	www.artsnet.org/phmc/pdf/clg_app.pdf
Coldwater Heritage Conservation Grant	Pennsylvania Trout Unlimited, PA DCNR, PA Fish & Boat Commission	conservation of coldwater streams	www.coldwaterheritage.org
Community Conservation Partnership Program	Department of Conservation and Natural Resources	greenways, trails, & parks, acquistion, planning, development, circuit rider	http://www.dcnr.state.pa.us/brc/grants/general02.aspx
Community Development Block Grant	Pennsylvania Department of Community Development	infrastructure / community facilities	www.newpa.com/programDetail.aspx?id=71
Community Revitalization Program	Pennsylvania Department of Community Development	quality of life	www.newpa.com/programDetail.aspx?id=72
Dirt and Gravel Road Program	Pennsylvania Department of Environmental Protection	reduction of non-point source pollution	www.dep.state.pa.us/dep/deputate/
Environmental Education Grants	Pennsylvania Department of Environmental Protection	Environmental Education	www.depweb.state.pa.us/enved/cwp/
Flood Protection Grants	Pennsylvania Department of Environmental Protection	flood prevention	www.dep.state.pa.us/dep/deputate/
Growing Greener Grants	Pennsylvania Department of Environmental Protection	conservation of resources	www.depweb.state.pa.us/growinggreener
Heritage Area Grants	Department of Conservation and Natural Resources	specific to designated heritage areas	http://www.dcnr.state.pa.us/brc/grants/general02.aspx
Hometown Streets & Safe Routes to Schools	Pennsylvania Department of Transportation	bicycle and pedestrian improvements	http://www.dot.state.pa.us/penndot/Bureaus/CPDM/Prod/Saferoute.nsf
Keystone Historic Preservation Grants	Pennsylvania Historic and Muesum Commission	preservation / restoration	www.artsnet.org/phmc/pdf/kph_app.pdf
Land Recycling Grants Program	Pennsylvania Department of Environmental Protection	remediation	www.depweb.state.pa.us/dep/site/detail.aspx?id=71
Land Use Planning & Technical Assistance Grants	Pennsylvania Department of Community Development	community planning	www.depweb.state.pa.us/dep/site/detail.aspx?id=72
Main Street Program	Pennsylvania Department of Community Development	economic growth / community	www.depweb.state.pa.us/dep/site/detail.aspx?id=79
Non-Point Source Management Section 319	Pennsylvania Department of Environmental Protection	watershed restoration	www.dep.state.pa.us/dep/deputate/
Pennsylvania Infrastructure Bank	Pennsylvania Department of Transportation	transportation projects	www.dot.state.pa.us/bureaus/PIB.nsf/homepagePIB?OpenForm
Pennsylvania Recreational Trails Program	Department of Conservation and Natural Resources	greenways, trails, & parks, acquistion, planning, development, circuit rider	http://www.dcnr.state.pa.us/brc/grants/general02.aspx
Pennsylvania Redevelopment Assistance Capital Improvements	Pennsylvania Department of Community Development	see program guidelines	www.budget.state.pa.us/budget/lib/budget/racp/appmat/applicationhandbook.pdf
Single Application Grants	Pennsylvania Department of Community Development	see program guidelines	https://www.esa.dced.state.pa.us/ESAW/
Treevitalize	Pennsylvania Department of Conservation & Natural Resources	planting of trees	www.treevitalize.net
Urban & Community Forestry Grants	Pennsylvania Department of Conservation & Natural Resources	planting of trees	www.dcnr.state.pa.us/forestry/pucfc/

National Foundation Grant and Funding Opportunities

Program	Purpose	Website
American Conservation Association	conservation, river protection & wildlife	1200 New York Avenue, N.W., Suite 400, Washington, D.C. 20005
American Express Philanthropic Program	historic & natural assets	http://home3.americanexpress.com/corp/csr.asp/
AmeriCorp's National Civilian Community Conservation Corps	community improvements / trail building	www.americorps.org/about/programs/nccc.asp/
Andrew W. Mellon Foundation	conservation	www.mellon.org/
Art & Community Landscapes	community landscapes	www.nefa.org/grantprog/acl/acl_grant_app.html/
Bankamerica Foundation	conservation,, parks, fisheries, education	www.bankofamerica.com/foundation/
Bikes Belong Grant Program	bike improvements	www.bikesbelong.org/grants/
Caterpillar Foundation	history & environment	www.cat.com/cda/layout?m=39201&x=7
Chrysler Corporation Foundation	health & community affairs	www.thechryslerfoundation.com/
Coca-Cola Foundation	community development	www.thecoca-colacompany.com/citizenship/foundation_coke.html/
Compton Foundation	conservation	www.comptonfoundation.org/
Davis and Lucille Packard Foundation		www.packard.org/
Exxon Mobil Foundation	environment & education	http://hoe.exxonmobil.com/Corporate/community.aspx
Fish America Foundation	fish & water resources enhancement	www.asafishing.org/content/conservation/fishamerica/
Ford Motor Company Foundation	community development	www.ford.com/our-values/ford-fund-community-service/
Gannett Foundation		www.gannettfoundation.org/
General Mills Corporation	history & environment	www.generalmills.com.corporate.committment/foundation.aspx/
General Motors Foundation		www.gm.com/corporate/responsibility/community/
Harry C. Trexler Trust		33 South Seventh Street, Room 205, Allentown, PA 18101
J.C.Penny		www.jcpenny.net/company/commrel/index.htm/
John D. and Catherine MacArthur Foundation		www.macfound.org/
John S. and James L. Knight Foundation		www.knightfoundation.org/

National Foundation Grant and Funding Opportunities

Program	Purpose	Website
Kodak American Greenways Awards Program	greenways	www.grants.conservationfund.org/tcf/public/viewAwards.action/
Kresge Foundation	challenge grants	www.kresge.org/
L.L. Bean, Inc.		www.llbean.com/customerservice/aboutLLBean/charitable_giving.html/
National Fish and Wildlife Foundation		www.nfwf.org/
New-Land Foundation	environment	114 Avenue of the Americas, 46th Floor, New York, New York, 10036
Norcross Wildlife Foundation	land & habitat conservation	www.norcrossws.org/
Oracle Corporate Giving Program	can include greenways	www.oracle.com/corporate/giving/community/index.html?giving.html
Pepsico Foundation		www.pepsico.com/PEP_citizenship/Contributions/GrantGuidelines/index.cfm/
Polaris 'T.R.A.I.L.S.' Grant Program	motorized trails	www.pi54.com/ATV/PDFs/TRAILSGrantAppForm.pdf
Private Foundation	National	www.tourismcaresfortomorrow.org/
Proctor Gamble Foundation		www.pg.com/company/our_committment/community/jhtml/
Recreational Equipment Company		www.rei.com/reigives/
Robert Woods Johnson Foundation	health & physical activity	www.rwjf.org/
Rockefeller Family Fund	environment	www.rffund.org/
Sony Corporation of America Foundation		www.sony.com/SCA/philanthropy/guidelines.shtml/
Surdna Foundation		www.surdna.org/
Texaco Foundation	environment	www.chveron.com/globalissues/economiccommunitydevelopment/
The Global Relief Heritage Forest Program	tree seedlings on public lands	www.americanforests.org/global_refief/grants/
The Nathan Cummings Foundation	conservation	www.nathancummings.org/
Turner Foundation	wateshed protection	www.turnerfoundation.org/
W.K. Kellogg Foundation	community development	www.wkkf.org/
Wallace Reader's Digest Funds	education	www.wallacefoundation.org/

National Foundation Grant and Funding Opportunities

Program	Purpose	Website
Walmart Foundation		www.walmartstores.com/community/
William Penn Foundation	environment	www.wpennfdn.org/
Yamaha OHV G.R.A.N.T. Initiative	motorized trails	www.yamaha-motor.com/outdoor/OHV_Grants/OHVGRANTS_%20Guidlines_Application.pdf

State Foundation Grant and Funding Opportunities

Program	Purpose	Website
Alcoa Foundation	economic development & quality of life	www.alcoa.com/global/en/community/foundation/overview.asp/
Asland Oil Foundation		www.ashland.com/commitments/contributions.asp/
Bayer Foundation		www.bayer.com/en/bayer-foundations.aspx/
Bozzone Family Foundation	quality of life	311 Hillcrest Drive, New Kensington, PA 15068-2318
Bridge Builders Foundation		www.bridgebuildersfoundation.org/aboutus/index.htm/
Deluxe Corporation		www.deluxe.com/dlxab/deluxe-foundation.jsp/
Dominion Foundation	economic development & environment	www.dom.com/about/community/foundation/index.jsp/
Ganassi Foundation		100 RIDC PLZ, Pittsburgh, PA 15238
Giant Eagle Foundation		101 Kappa Drive, Pittsburgh, PA 15238
H.J. Heinz Foundation		www.heinz.com/foundation.aspx/
Heinz Endowments	Environment	www.heinz.org/
Highmark Foundation		www.highmark.com/hmk2/community/hmfoundation/index.shtml/
Hillman Foundation	quality of life	www.hillmanfdn.org/
Hunt Foundation	focus on good of the region	www.rahuntfdn.org/
Juliet Lea Hillman Simonds Foundation		330 Grant Street, Suite 200, Pittsburgh, PA 15219
Katherine Mabis McKenna Foundation	environment	P.O. Box 186, Latrobe, PA 15650
Massey Charitable Trust		1370 Washington Pike, Suite 306, Bridgeville, PA 15017-2839
McCune Foundation	community development	www.mccune.org/
Millstein Charitable Foundation		P.O. Box K, Youngwood, PA 15697

State Foundation Grant and Funding Opportunities

Program	Purpose	Website
Milton G. Hulme Charitable Trust		1146 Old Freeport Road, Pittsburgh, PA 15238
Mine Safety Appliances Company Charitable Trust		www.msanorthamerica.com/communityrelations.html/
National City Bank Foundation		www.nationalcity.com/about-us/community/community-relations/pages/charitable-giving.asp
Pennsylvania Snowmobile Association Mini-grant Program	motorized trails	www.pasnow.org/PSSA%20Trail%20Grant%20Package.prn.pdf
Pew Charitable Trusts	environment & community development	www.pewtrusts.org/
Pittsburgh Foundation		www.pittsburghfoundation.org/
PNC Bank Foundation		https://www.pnc.com/webapp/unsec/ProductsAndService.do?siteArea=/PNC/Home/About+PNC/Our+Organization/Community+Involvement/PNC+Foundation/PNC+Foundation+Grant+Program
PPG Industries Foundation		http://corporateportal.ppg.com/PPG/PPGIndustriesFoundation/
Richard King Mellon Foundation	environment	http://foundationcenter.org/grantmaker/rkmellon/
Rockwell International Corporation Trust Fund		www.rockwellautomation.com/about_us/neighbor/giving.html/
Snee-Reinhardt Charitable Foundation	education & environment	www.snee-reinhardt.org/
Stackpole Hall Foundation		44 St. Marys Street, St. Mary's, PA 15857
The Bank of New York Mellon		One Mellon Center, Room 1830, Pittsburgh, PA 15258
United States Steel Foundation		www.uss.com/corp/ussfoundation/
W. Dale Brougher Foundation	conservation, ecology, history, & arts	1200 Country Club Road, York, PA 17403
Washington Federal Charitable Trust		www.washfed.com/charity.htm/
Westinghouse Foundation	quality of life	www.westinghouse.com/charitablegiving/giving.htm/

CHAPTER TWO

WHERE ARE WE NOW? - Warren County's Resources

CHAPTER TWO: WHERE ARE WE NOW?

WARREN COUNTY'S RESOURCES

GATHERING THE DATA

Most of the background information needed to support the Warren County section of the Northwest Pennsylvania (NWP) Greenways Plan was gathered through project-specific independent research. With the help of the Northwest Pennsylvania Regional Planning and Development Commission and the Warren County Planning and Zoning Department, Pashek Associates obtained and reviewed several studies and reports, including county and municipal planning documents, trail feasibility studies, watershed and water management plans, and other natural resource-related materials. Additional information was gathered through the public participation process described in the Introduction section of this report, as well as through field observation.

In this section, the plan will describe Warren County's resources and the sources of information we consulted, referring to relevant sections of the various existing planning documents, where appropriate.

EXISTING PLANNING EFFORTS

Thoughtful Greenway Planning will allow Warren County to address issues and follow recommendations set forth in existing planning efforts, such as the County's Comprehensive Plan.

Warren County Comprehensive Plan (2005)

The Warren County Comp Plan was updated in 2005. Some of the specific recommendations that may be fulfilled in the NWP Greenways Plan include:

- Extend the Route 62 Warren/North Warren Bike/Hike Trail north to the New York State line. This would entail a project some eight and a half miles in length and should be aligned to join with the Chautauqua Rails-to-Trails facility. The minimum goal is to reach the Village of Russell. Through the North Warren Feasibility Trail, consultants have identified three possible alignments. The public selected one to be based upon cost, safety, acquisition issues, and public acceptance. Most acquisition problems appear to be focused in the northern section. Total costs for this entire project is estimated at \$4.5 million. It is expected to be a multi-stage endeavor.
- Youngsville/Brokenstraw Area: Create a bikeway along Rouse Road or along abandoned railroad right-of-way. Both Youngsville Borough and Brokenstraw Township are willing sponsors of this initiative.
- Develop a management/development team for the bike trail from true user enthusiasts.
- Continue trail development to the New York line in reasonable increments.

This plan defines development constraints as that which is generally unsuitable for development. Examples of constrained land in the plan are Allegheny National Forest holdings, State Game Lands, and

Chapman Dam State Park. Additionally, steep slopes (greater than twenty-five percent), wetlands, and floodplains are all defined as poor choices for development.

In addition to the aforementioned Comprehensive Plans, Pashek Associates studied and considered several other related planning efforts during the Greenway Planning process. Some of these documents are described in this section.

Pennsylvania Statewide Greenway Plan (2001)

Pennsylvania Greenways: An Action Plan for Creating Connections identifies many needs and recommends complex actions that will enable the gradual implementation of a statewide Greenways Plan. This project fits into the Pennsylvania Greenways Plan, in which the needs to map county / municipal greenways, to build GIS base mapping on a regional scale, and to facilitate regional coordination and cooperation among municipalities were identified as building blocks toward a successful statewide greenways network.

Other needs identified in detail by the Pennsylvania Greenways Plan include:

- More public education about greenways and their benefits;
- Greater effort to conserve land and protect ecological systems;
- Dedication of funding sources for long-term support of greenways and coordination of funding programs;
- A lead state agency for greenway initiatives; and
- State agencies' revision of their guidance documents, policies, and practices and to work cooperatively better to support greenways.

Using a "Bottom up" approach, only greenways recognized at the local or county level will be considered as a part of the statewide network. The goal of the state's greenways program is to identify and encourage linkages between and among local and regional greenways, placing them in a wider context. Each county is encouraged to use greenways as a land use strategy and show existing and proposed greenways and open space in their plans. The information from each county would then be shared in a statewide Geographic Information System (GIS). Thus, the NWPA Greenways Plan is building toward not only its own goals, but a greater statewide objective.

Another part of Pennsylvania's greenway objectives, as established by DCNR, is the development of *Major Greenway Corridors*. These are regional greenways greater than 50 miles in length, passing through two or more counties, and are each recognized in at least one official planning document. Major greenways are among the top greenway priorities in the state, and will serve as the backbone of the statewide greenways network. Each county's greenway plan is required to discuss major greenway corridors. The only major greenway corridors that pass through the Northwest PA Greenways planning region are the North Country National Scenic Trail and the Middle Allegheny River Water Trail Corridor.

TRAIL FEASIBILITY STUDIES

North Warren Trail Feasibility Study

This study was done to determine the feasibility of extending the North Warren Trail northward to the New York State border, where it will join the Chautauqua Rails-to-Trails. The proposed extension is approximately eight and one-half miles in length.

The recommendations of this plan determined that extending the trail to the New York State line, along the existing rail corridor, is the most desirable alignment. The physical inventory, legal feasibility, and

financial analysis indicated that use of this corridor would be possible to the intersection of State Route 62 and Warren Jamestown Road. From this point, north to the village of Russell, the trail is proposed to leave the rail corridor if the property issues related to the northern section are not resolved amicably. Further extension of the trail north from the village of Russell also depends on the resolution of property owner issues.

WATERSHED MANAGEMENT PLANS/WATER QUALITY STUDIES

Allegheny National Wild and Scenic River

The River Management Plan, for the Allegheny National Wild and Scenic River, covers sections of the Allegheny River in Warren, Forest and Venango Counties. The purpose of this plan is to provide direction for the three sections of the Allegheny River designated as components of the National Wild and Scenic River System. The U.S. Forest Service has been designated as the managing agency for the river.

The Wild and Scenic Rivers Act was adopted in 1968. Its purpose is that “certain selected rivers of the Nation which, with their immediate environments possess outstandingly-remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values, shall be preserved in free-flowing condition for the benefit and enjoyment of present and future generations.

Section 10(a) of this Act directs that each component of the system should be administered so that the values which caused that segment of a river to be designated will be protected and enhanced. The primary emphasis of river management is on protecting its aesthetic, scenic, historic, archaeological, recreation, and scientific features.

MISCELANEOUS PLANS

Blueprint for Action – Shaping a Sustainable Pennsylvania (2004)

The NWPAGreenways Plan addresses many goals set forth in the DCNR’s Blueprint for Action Plan. Some of these goals specifically include the following:

- Improve Stewardship and Management of State Parks and Forests
- Promote Statewide Land Conservation
- Build and Maintain Sustainable and Attractive Communities
- Create Outdoor Connections for Citizens and Visitors

A Recreation Plan for the State Parks & State Forests in the PA Wilds

The PA Wilds initiative was created to facilitate growth in outdoor recreation and heritage tourism across north central Pennsylvania. Within the Wilds, outdoor recreation opportunities can be found in 27 state parks and 1.3 million acres of state forests. The DCNR established a process to develop a system-wide outdoor recreation plan for the state parks and forests in the PA Wilds.

There are three counties within the NWPAGreenways planning region that are also a part of what has been designated the PA Wilds. These counties are Clarion, Forest, and Warren. Within these three counties are two State Parks: Chapman, in Warren County and Cooks Forest, in Clarion County, as well as two State Forests: Cornplanter, in Forest and Warren Counties, and Clear Creek in Forest and Clarion Counties.

This plan promotes trails as critical connections between recreation and resources. It is recommended that recreational trails receive a priority for investment and that they be strategically examined to identify opportunities for additional links to communities throughout the region.

Within this plan, recommendations were made for significant infrastructure investments for some of the state parks and forests in the PA Wilds. The proposed facilities and enhancements are intended to expand DCNR service to reach both its traditional customer base, as well as the expected growing visitation of urban visitors. These facilities and enhancements will also ensure that those who experience the PA wilds leave with a clear understanding of the conservation and resource management challenges in the region. The recommendations within the NWPA Greenways Planning area include:

- Cooks Forest State Park and the Clarion River - This plan labels the Longfellow Trail in Cooks Forest State park as the primary attraction in the park. The condition of the trail has become degraded and this plan recommends that DCNR rehabilitate the trail to provide a quality hiking experience and protect the precious trees on the site. In addition, the plan recommends the development of interpretive signage, which portrays the history of the forest and the value of these ancient trees to today's visitors.
- It is also recommended that a scenic byway be established along the Clarion River, from Cooks Forest State Park to Ridgeway.

MUNICIPAL COMPREHENSIVE PLANS AND OTHER LAND USE TOOLS

Few municipalities in Warren County have adopted their own Comprehensive Plans, within which they outline various community objectives related to current and future land use, natural resource preservation, recreation, and community growth.

The following table indicates which municipalities have a comprehensive plan, zoning ordinance, and / or subdivision and land development ordinance:

Municipality	Comprehensive Plan	Municipal Zoning Ordinance	Municipal Subdivision and Land Development Ordinance
Cities			
Warren	✓	✓	✓
Boroughs			
Bear Lake Borough	-	-	by County
Clarendon Borough	-	by County	by County
Sugar Grove Borough	-	by County	by County
Tidioute Borough	-	by County	by County
Youngsville Borough	-	-	✓
Townships			
Brokenstraw Township	-	-	by County
Cherry Grove Township	-	-	by County
Columbus Township	✓	by County	by County
Conewango Township	-	by County	by County
Deerfield Township	-	-	by County
Eldred Township	-	by County	by County
Elk Township	-	by County	by County
Farmington Township	-	by County	by County
Freehold Township	-	-	by County
Glade Township	-	by County	by County
Limestone Township	-	-	by County
Mead Township	-	by County	by County
Pine Grove Township	-	by County	by County
Pittsfield Township	-	-	by County
Pleasant Township	-	by County	by County
Sheffield Township	-	-	by County
Southwest Township	-	by County	by County
Spring Creek Township	-	-	by County
Sugar Grove Township	-	-	by County
Triumph Township	-	-	by County
Watson Township	-	-	by County

Warren County administers a Subdivision and Land Development Ordinance (SALDO) applicable to those municipalities that do not have a SALDO of their own.

STATEWIDE RECREATIONAL PLANNING: KEYSTONE ACTIVE ZONE (KAZ)

A statewide planning effort that helps to make residents aware of all the recreation resources around them is the Keystone Active Zone (KAZ) program headed by Pennsylvania Advocates for Nutrition and Activity (PANA) - www.panaonline.org. This program presents a valuable opportunity to Warren County. The KAZ encourages Pennsylvanians to have fun and stay fit by engaging in outdoor recreation at a local park, trail, or other outdoor open space. To advance this mission, PANA creates a directory and a website for each county's parks and recreation sites (some of which are described in this section) through the KAZ program.

Warren County's recreation opportunities have not been documented in the Keystone Active Zone database, which is available at: www.keystoneactivezone.org.

NATURAL INFRASTRUCTURE INVENTORY

A complete understanding of the natural infrastructure of Warren County is essential to developing a greenways plan. For example, sensitive riparian zones or steep slope habitats are candidates for natural systems corridors, while rivers and canoeable streams may provide opportunities for water trail development. Unique natural features may also become important greenway destinations.

The following natural infrastructure resources were inventoried and analyzed as part of the Natural Infrastructure Inventory section of this plan:

Water Resources

The most dominant water features in Warren County are the Allegheny River and Allegheny Reservoir. The Allegheny River enters Warren County from Cattaraugus County, New York in the northeast corner of Elk Township. At this point, the river forms the Allegheny Reservoir, which extends south into Glade Township and also into parts of McKean County.

The Allegheny Reservoir was formed in 1965 with the construction of the Kinzua Dam. The reservoir has been estimated to have prevented flood damages in excess of one billion dollars since its completion. In addition to providing flood protection, the reservoir also provides water to be released during dry periods. These water releases have the ability to reduce pollution and provide the quality and quantity of water for domestic, industrial, and recreation uses. Another benefit of the Kinzua Dam is the hydroelectric power it generates.

The reservoir is over twenty-four miles in length, at normal pool elevation, and covers more than twenty-one thousand acres at its maximum capacity. Additionally, the Allegheny National Forest, in Pennsylvania, and Allegany State Park, in New York, completely surround the reservoir with undeveloped forest land.

The Allegheny River totals approximately 325 miles in length from its headwaters in central Potter County, to the point in Pittsburgh where it joins with the Monongahela to form the Ohio River. The portion of the river in Warren County extends from the Kinzua Dam, through the City of Warren and Tidioute Borough, before exiting into Forest County.

Two sections of the Allegheny River, within Warren County, have been designated as wild and scenic. These sections are:

- From Kinzua Dam, downstream to the U.S. Route 6 / Glade Bridge
- From Buckaloons Recreation Area at Irvine, downstream to the southern end of Alcorn Island, at Oil City in Venango County

The location of Warren County's water resources is shown on:

Map: Natural Infrastructure Inventory

Wetlands

Warren County contains more than 22,000 acres of wetlands. These are divided among three classifications: Lake Edge (6,606 acres), Marsh Edge (12,424 acres) and River Edge (3,084 acres). Notable wetland areas can be found in numerous locations throughout the County including:

- Brokenstraw Creek in the northwest corner of Warren County has wetlands on either side, nearly its entire length from where it enters the County, to its mouth at the Allegheny River, most notably near the border of Erie County and around the village of Spring Creek.
- Toplovich Bog, adjacent to State Game Land No. 197, in northwest Warren County.
- Little Brokenstraw Creek
- Coffee Creek
- Brokenstraw Creek
- West Branch Tionesta Creek
- Conewango Creek, near the New York State Border

These wetlands are home to thousands of wetland plants and animals, as well as a source of food and nesting to an estimated 50% of North America's bird population. More than 46% of U.S. endangered and threatened species need wetlands to live. In addition to sustaining habitat, wetlands are a necessary resource for the environment. Wetland soils absorb water from precipitation, and their plants slow the water's flow. These benefits enable wetland areas to hold and release the water slowly into streams. Natural wetlands also filter out chemicals and fertilizer that people have put on their farms, lawns, or discharged from their businesses.

Warren County's wetlands are shown on:

Map: Natural Infrastructure Inventory



Northwest Pennsylvania Greenways Plan

for

- Clarion County
- Crawford County
- Erie County
- Forest County
- Lawrence County
- Mercer County
- Venango County
- Warren County

KEY MAP



LEGEND

- County Boundary
- Municipal Boundary
- Lake
- River
- Streams
- Interstate
- PA State Route
- US Highway

Sensitive Environmental Features

- Floodplain
FEMA - 100 Year Floodplain
- Wetland
National Wetland Inventory
- Hydric Soils
NRCS Soils - County Hydric List
- Interior Forest Patches
Pennsylvania Natural Heritage Program
- Forest Blocks
Pennsylvania Natural Heritage Program
- Slope > 25%
USGS Digital Elevation Model
- Impaired Streams - DEP Streams 305(b)
- Topographic Position Index
- Upper Slope
- Ridge

Jenness, J. 2006. Topographic Position Index (tpi_jen.avx) extension for ArcView 3.x, v. 1.3a. Jenness Enterprises. Available at: <http://www.jennessent.com/arcviewtpi.htm>

Data Source:
ESRI 2005 Street Map USA Data
US Geologic Survey (USGS)
Pennsylvania Spatial Data Access (PASDA)
Pennsylvania Department of Transportation (PennDOT)
Department of Conservation and Natural Resources (DCNR)
Western Pennsylvania Conservancy (WPC)
Federal Emergency Management Agency (FEMA)
US Army Corps of Engineers - National Wetland Inventory (NWI)
Natural Resources Conservation Service (NRCS) - Soil Data Mart
Pennsylvania Department of Environmental Protection (DEP)

Pashek Associates
makes no claims to
the accuracy of
this data.



100 Year Floodplain

Warren County's rivers and streams are bordered by many miles of floodplains. The Federal Emergency Management Agency (FEMA) delineates floodplains for the nation through its floodplain management program. In Pennsylvania, the PA Code has regulations designed to encourage planning and development in floodplains, which are consistent with sound land use practices. Protecting the people and properties within floodplains from floodwaters is essential. In addition, preserving and restoring the efficiency and carrying capacity of streams in Pennsylvania is a vital component to maintaining a sound ecological system.

Major floodplain areas in Warren County exist in the following locations:

Adjacent to the Conewango Creek; Allegheny River around Warren; and the mouth of Brokenstraw Creek, Brokenstraw Creek, West Branch Tionesta Creek. Numerous smaller floodplains line the banks of meandering stream valleys throughout the County.

Pashek Associates utilized FEMA floodplain mapping to locate sensitive natural infrastructure areas within Warren County. This information can be used to further promote the preservation and restoration of these streams.

The location of Warren County's floodplains is shown on:

Map: Natural Infrastructure Inventory.

Special Protection Waters

Warren County is traversed by over seventeen hundred (1,700) miles of streams in 268 small watersheds. All of these tributaries wind through the terrain and empty into to the Allegheny River. The Pennsylvania Code Chapter 93 on Water Quality Standards designates streams with special protection water uses. One of these designated uses is Cold Water Fishery (CWF). A CWF supports fish, plants, and animals that best live and reproduce in colder temperatures. Many times, this classification is based on the presence of trout. High Quality (HQ) waters are defined as having long-term water quality which exceeds the levels necessary to support the propagation of fish, shellfish, and wildlife and recreation in and on the water. Of Pennsylvania's 83,000 miles of streams, only about 25% is designated as High Quality Coldwater Fisheries.

Warren County Greenways Plan

Warren County has thirty-four (34) named streams that qualify as High Quality Cold Water Fisheries (HQCWF) as defined by Pennsylvania Code Chapter 93. The Protected Use HQCWF streams within Warren County are:

- Willow Creek
- Cornplanter Run
- Hodge Run
- Sugar Run
- Dew Drop Run
- Campbell Run
- Wolf Run
- Jackson Run
- Bent Run
- Hemlock Run
- Varnsdale Run
- Mill Run
- Morse Run
- Spring Creek
- Hedgehog Run
- Slater Run
- Tidioute Creek
- Middle Hickory Creek
- West Branch Tionesta Creek
- Toms Run
- Jones Run
- Shaw Run
- Adams Run
- Elkhorn Run
- Mead Run
- Farnsworth Run
- Sixmile Run
- Fourmile Run
- Twomile Run
- South Branch Tionesta Creek
- Cherry Run
- Martin Run
- East Branch Tionesta Creek
- Caldwell Creek

Warren County also has six (6) named streams with an Exceptional Value (EV) designation. These streams are described briefly here:

- Browns Run is situated in northeastern Warren County, in Mead Township, just south of the Allegheny Reservoir. The section with an EV rating begins at the source and ends at the mouth of Dutchman Run. Browns Run flows drains into the Allegheny River approximately two river miles east of the City of Warren.
- Dutchman Run is situated in northeastern Warren County, in Mead Township, just south of the Allegheny Reservoir. Dutchman outlets into Browns Run, just east of its mouth at the Allegheny River.
- Morrison Run is located in northeastern Warren County, in Mead and Pleasant Townships, just south of the Allegheny Reservoir. Morrison Run empties into Browns Run, just east of its mouth at the Allegheny River.
- Wildcat Run is located in south central Warren County, in Watson Township. Wildcat Run drains into the West Branch of Tionesta Creek, south of Buchers Mills. Wildcat Run has also been designated as a Wilderness Trout Stream by the Pennsylvania Fish and Boat Commission.
- Arnot Run is located in southeast Warren County, in Cherry Grove, Sheffield, and Watson Townships. Arnot Run flows east from Cherry Grove and empties into the West Branch of Tionesta Creek between Tiona and Weldbank. Arnot Run has also been designated as a Wilderness Trout Stream by the Pennsylvania Fish and Boat Commission.

- Messenger Run is located in southeast Warren County, in Sheffield Township. Messenger Run drains into Tionesta Creek, near Henrys Mills.

Having a High Quality Cold Water Fishery or an Exceptional Value stream in a community will not stop a development from being constructed, but rather it insists that new or enlarging activities do not degrade the existing water quality. This usually entails a more rigorous permit review by the Department of Environmental Protection before any new development is allowed to proceed, and usually means that any individual permits will need to be acquired rather than a general permit.

Additionally, being categorized as High Quality Waters or Exceptional Value may also have positive influences on a surrounding community. The presence of an HQ or EV improves a community's odds of attaining funding for upgrading local infrastructure, such as sewage treatment facilities and road maintenance.

Warren County's special protection waters are shown on:

Map: Ecological Infrastructure Inventory

Steep Slopes > 25%

The United States Geological Survey (USGS) created maps detailing the topography of the entire United States. From this mapping, a Digital elevation Model (DEM) was created, which has been utilized to do a surface analysis of Warren County. Utilizing this analysis, areas with slopes greater than twenty-five percent have been delineated as steep slopes. These areas are typically considered environmentally sensitive and in need of protection.

Soils in areas with steep slopes are generally unstable which can result in landslides, causing safety concerns for communities. When disturbed, these unstable soils also create erosion and sedimentation problems, which can lead to the increased degradation of water quality downstream.

Steep slopes are features that are essential to the natural system because they contribute to open space networks, they typically connect forested areas to water resources (which protect the quality of the water), they provide habitat for wildlife and vegetation, and they provide travel corridors for animal and avian species.

Notable steep slope areas in Warren County can be found along the Allegheny River. These slopes are adjacent to many of the smaller tributaries that outlet into the Allegheny Reservoir, along Brokenstraw Creek and Conewango Creek.

The location of Warren County's steep slopes is shown on:

Map: Natural Infrastructure Inventory.

Soils and Geologic Features

Key soil types for the purposes of greenway planning include hydric soils. The Natural Resource Conservation Service (NRCS) has a hydric soils section which presents information on hydric soils. Hydric soils are soils that are sufficiently wet enough during the growing season to support the growth of wetland vegetation. Hydric soils are designated by individual County soils surveys. The Warren County conservation district was contacted to obtain a list of hydric soils for the County. Once this list was obtained, these soils were mapped and analyzed as part of the Natural Infrastructure Inventory. It is generally recommended that development in or around hydric soils be done sensitively, so as to preserve the potential benefits that these soils provide.

Hydric soils are depicted on ***Map: Natural Infrastructure Inventory***

Warren County has numerous unique geologic features designated in a study published by the Pennsylvania Geological Survey titled *Outstanding Scenic Geological Features of Pennsylvania (1979-1987)*. These Outstanding geologic features are described briefly here:

- Gardeners Rocks, located in Glade Township, northeast of Warren, is a solid ledge rock outcrop also known as North Rocks.
- Hearts Content Scenic Area is located in Watson Township, approximately 14 miles west of the City of Warren. At an elevation of 1,925 feet, this site is one of the highest points in the County, offering exceptional views of High Plateau topography from its viewing tower. Hearts Content Scenic area is within the Allegheny National Forest and is a registered National Natural Landmark.
- Jakes Rocks is located in Mead Township, on the Allegheny River section of the Allegheny Reservoir near Cornplanter Bridge, within the Allegheny National Forest.

This site overlooks the Allegheny Reservoir and Kinzua Dam, approximately 600 feet above the water level. The spectacular views from here are comprised of huge blocks and cliff conglomerate.

- The Pass is located in Elk Township, along Scandia Road, northeast of Warren. This “rock city” is a conglomerate with joint fractures that have been enlarged due to weathering to form so-called “streets” of the rock city. This feature is also known as Warren Rocks and Singular Rocks.
- Pikes Rocks is located in Sugar Grove Township, near the village of Wrightsville. This site is another “rock city” on the ridge between Brokenstraw and Stillwater Creeks. The rocks rise to an elevation of 1,980 feet above sea level, and the walls of the conglomerate are approximately 30 feet in height.

Other “rock cities,” Lottsville Rock City, Nuttles Rocks, Brooks Rocks, and Baker Rocks, are also found nearby, but Pikes Rocks is the largest and most spectacular.

- Rimrock Overlook, in Mead Township, is found on the Kinzua Creek section of the Allegheny Reservoir along the east rim, in the Allegheny National Forest. This site offers spectacular views of Kinzua Bay. It is also known as Sams Rocks.
- Tamarack Swamp is located in Columbus Township, within State Game Land No. 197, along the Pennsylvania-New York border. This site was formed when “a wide, deeply cut channel of Brokenstraw Creek was dammed during the Great Ice Age in Pennsylvania by a kame moraine during the retreat of the ice. This moraine caused a reversal in drainage direction and the eventual abandonment of the channel. Impervious clays and silts in this ancient channelway underlie Tamarack Swamp and are part of its origin. Poor drainage and great accumulations of organic matter have produced the bog, which is the finest example of a northern bog in Pennsylvania.” Tamarack swamp is a registered National Natural Landmark.
- Tidioute Overlook, in Limestone Township, is found south of Tidioute, along the south rim of the Allegheny River. This site offers outstanding views of the High Plateau topography and the Allegheny River Valley. Tidioute Overlook is within the Allegheny National Forest.

Forests and Woodland Areas

According to the Penn State Cooperative Extension, approximately fifty percent (50%), or 430,000 acres, of Warren County is covered by forested land. While large areas of forest are currently protected throughout State Game Lands (Allegheny National Forest, Chapman State Park, and Allegheny National Recreation Area) and within the local parks, much of the woodlands of Warren County remain in danger of being developed. It’s estimated that 56% of the forested land in the County is privately owned.

The Pennsylvania Natural Heritage Program has provided mapping of large tracts of contiguous forest blocks throughout the state of Pennsylvania. Contiguous forest blocks offer enhanced habitat value over forested areas that may be fragmented by roads or other land uses. These forest blocks should be maintained as best possible to preserve habitat, protect water quality, and sustain flyways. For this study, forest blocks were reduced to include only interior forest areas.

This was done by creating an interior buffer measuring three hundred feet from the forest edge and removing it from each forest block.

Interior forest is important because it provides a home for plant and animal species that require the type of habitat that is isolated from other, non-forested areas. Interior forest is defined as forested land cover that is at least three hundred (300) feet from non-forested land cover or primary, secondary, and local roads. Roads that are not wide enough to break the canopy of the forest are not excluded from these areas.

Presently, more than half the state of Pennsylvania (12 million acres) is covered in forest. These forests help to clean our air and water, while providing habitat for wildlife. They also provide areas for recreation and enhance the beauty of the state. Economically, Pennsylvania's hardwood forests are some of the most valuable and productive in North America. "Each year, the timber industry processes 1.2 billion board feet of lumber, employs nearly 100,000 people, and produces annual shipments valued at more than \$5 billion. The state's forests also support a vast repository of biodiversity, including more than 3,500 species of plants and animals." *Penn State College of Agricultural Sciences, 2007*

The location of Warren County's woodlands and interior forests is shown on:

Map: Natural Infrastructure Inventory.

Important Bird Areas

Selected by the Audubon Society, Important Bird Areas (IBAs) have been designated in over 80 locations across the state and include more than 1 million acres. All combined, IBAs encompass over 3.5% of the state of Pennsylvania.

According to the Pennsylvania Chapter of the Audubon Society (Audubon Pennsylvania), "to qualify as an IBA, a site must meet at least one of four criteria, each associated with a different type of vulnerability. It must support endangered or threatened species; species that are not widely distributed; species that are restricted to a single extensive habitat or biome; or high densities of congregating species, such as waterfowl or shorebirds." Sites that are important flyways for migrating birds in spring and fall may also qualify as IBAs. Further information on IBAs, including interactive mapping, is available at www.pa.audubon.org.iba.

Audubon Pennsylvania has designated three Important Bird Areas (IBAs) that are at least partially located within Warren County. These areas are described briefly here:

- The Akeley Swamp (State Game Land No. 282) IBA is located in northern Warren County and the state of New York. The size of this IBA is approximately 500 acres consisting of swampy wetlands and a hiking trail along an abandoned railroad grade.

Representative birds of this IBA include:

- Least Bittern
- Northern Harrier
- Pied-billed Grebe
- American Coot
- Ruddy Duck
- Northern Shoveler
- Gadwall

- American Wigeon
- Great Blue Heron

Currently, there is a conservation plan in place for the Akeley Swamp IBA. The following are conservation actions that are currently part of ongoing efforts to preserve this IBA:

Pennsylvania Game Commission (PGC) Efforts:

- Management of the Penn-Central grade to provide protein forage base directly for grazing species;
- Promote the need for continued conservation of this wetland habitat and the benefits to wildlife and people;
- Work with Ducks Unlimited in developing the design and construction of water control structures; and
- Support a Growing Greener Project that will allow for the construction of three water control devices by the Audubon Society.

The following is a list of proposed recommendations for consideration by the Game Commission or other interested organizations, agencies, or groups for the maintenance, improvement, and enhancement of habitat for bird species at this IBA:

- Install interpretive signage about IBA's and why Akeley Swamp is an IBA;
 - Install interpretive signage that describes the functions and purpose of water control structures;
 - Monitor and manage water levels to support the wetland wildlife year round; and
 - Establish or adopt a standard for monitoring controls for the different communities of birds.
- The Tionesta Scenic and Research Natural Area IBA is located within a section of the Allegheny National Forest, in south central Warren County. This IBA contains the largest tract of old growth forest in Pennsylvania, as well as between the Adirondacks and Great Smoky Mountains. With more than 4,100 acres, this site is dominated by Eastern Hemlock and American Beech, some of which are more than 400 years old.

Old growth species are abundant here, creating the following unique habitats:

- Supports the states largest breeding population of Swainson's Thrush;
- One of few confirmed breeding locations in Pennsylvania for the Yellow-bellied Flycatcher;
- Blackburnian Warbler breeding density is 40 times greater here than in a second growth forest; and
- Exceptionally high overall diversity with more than 30 species of regularly breeding forest birds.

The Scenic and Natural areas are protected by the Allegheny National Forest, but risk of disease and lack of forest regeneration could place long-term health of this forest at risk.

Currently, there is a conservation plan in place for the Tionesta Scenic and Research Area IBA. The following are conservation actions that are currently part of ongoing efforts to preserve this IBA:

Pennsylvania Game Commission (PGC) Efforts:

- Continue to work on mineral rights owners in the Scenic Natural Area to help limit extraction within the site;
- Continue current forest health monitoring and pest management programs; and
- Continue to estimate the impact of deer densities on the herbaceous and woody regeneration communities.

The following is a list of proposed recommendations for consideration by the Game Commission or other interested organizations, agencies, or groups for the maintenance, improvement, and enhancement of habitat for bird species at this IBA:

- Establish new avian transects in different areas of Tionesta; and
 - Designating Scenic Natural Area as a Wilderness Area would aid in protecting the integrity of the habitat.
- The Hickory Creek/Hearts Content Natural Area IBA is located in southeastern Warren County and southwestern McKean County. This site is the only congressionally designated wilderness in the state. The IBA is characterized by old growth Eastern Hemlock and American Beech.

Some of the representative birds of this IBA include:

- Swainson's Thrush
- Warblers
- Vireos
- Thrushes
- Common Raven
- 6 species of flycatchers
- Tufted Titmouse

There is a conservation plan in place for the Hickory Creek/Hearts Content Natural Area IBA. The following are conservation actions that are currently part of ongoing efforts by the Pennsylvania Game Commission:

- Continue to conduct the existing bird point-counts to establish long-term data sets;
- Continue to collect deer population and impact information; and
- Continue current forest health and pest management practices.

The following is a list of proposed recommendations for consideration by the U.S. Fish and Wildlife Service or other interested organizations, agencies, or groups for the maintenance, improvement, and enhancement of habitat for bird species at this IBA:

- Within Hearts Content Natural Area, promote public field trips and offer education presentations to school, clubs, and other organizations.
- Establish adoption programs, as seen along highways, for parking area and trails.
- Establish bird monitoring transects to represent the full diversity of habitats.

- Alter the schedule of transect monitoring to include spring and fall migration, winter resident habitats, and breeding-season evening hour activity.
- Reduce the deer populations.

Warren County's Important Bird Areas are shown on:

Map: Ecological Infrastructure Inventory

Important Mammal Areas

Important Mammal Areas are designated around habitats that support rare mammals; diverse mammal communities; unique populations of mammals; and large aggregations of certain mammal species, as well as sites that are important for educating the public about natural history of resident mammals.

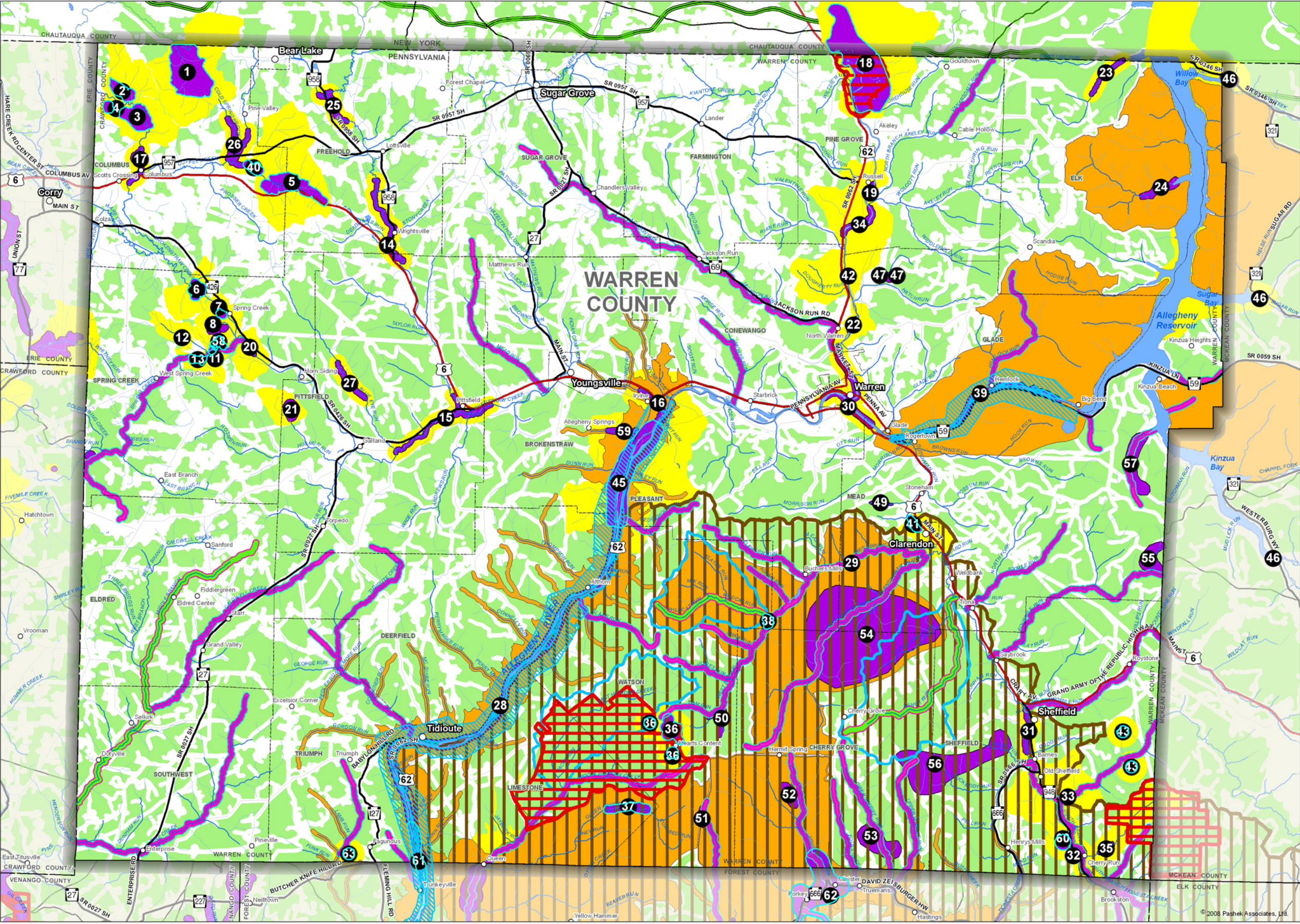
Due to the rapid development of land that previously served as habitat for mammals in the state of Pennsylvania, in 2002 a program was started to preserve these habitats using financial support from the Wildlife Conservation and Restoration Account. An offshoot of the Important Bird Area concept, the Important Mammal Areas Program has set out to identify areas that provide a critical habitat for mammals whose success rate has been strained by the disturbance or loss of habitat. The goal is to then have these areas be taken on by private conservation agencies and government organizations as territories to be protected.

The Important Mammal Areas Program has designated one (1) Important Mammal Areas (IMAs) that is located at least within Warren County.

- Hickory Creek and Tionesta Creek Drainages IMA

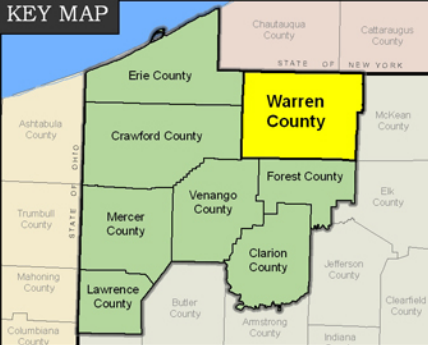
Warren County's Important Mammal Areas are shown on:

Map: Ecological Infrastructure Inventory



Northwest Pennsylvania Greenways Plan

for
Clarion County Lawrence County
Crawford County Mercer County
Erie County Venango County
Forest County Warren County



LEGEND

- County Boundary
- Municipal Boundary
- Lake
- River
- Streams
- Interstate
- PA State Route
- US Highway

Pennsylvania Natural Heritage Program

- Biological Diversity Area
- Landscape Conservation Area
- Supporting Natural Landscape
- Interior Forest Patches
- Important Bird Area (IBA)
- Important Mammal Area (IMA)
- Wild and Scenic River
- Exceptional Value Watershed
- Exceptional Value Stream
- High Quality Cold Water Fishery

Data Source:
ESRI 2005 Street Map USA Data
US Geological Survey (USGS)
Pennsylvania Spatial Data Access (PASDA)
Pennsylvania Department of Transportation (PennDOT)
Department of Conservation and Natural Resources (DCNR)
Western Pennsylvania Conservancy (WPC)
Federal Emergency Management Agency (FEMA)
US Army Corps of Engineers - National Wetland Inventory (NWI)
Natural Resources Conservation Service (NRCS) - Soil Data Mart
Pennsylvania Department of Environmental Protection (DEP)



Natural Heritage Areas: The Pennsylvania Natural Heritage Program

Another essential source of information about important habitat areas is the Warren County Natural Heritage Inventory (NHI). This document will provide mapping and background information on the known outstanding floral, faunal, geologic, and scenic features in Warren County. During the research and analysis phase of this project, the Natural Heritage Program has been working to update the NHI mapping for use in the NWPA Greenways Plan. The report has not yet been written for Warren County; however, the updated data is described below.

The NHI classifies natural areas within the County as either Biodiversity Areas Core Habitat (BDAs), Supporting Natural Landscapes of the BDA (SNL), or Landscape Conservation Area (LCA). The definitions of these classifications, as given in the Venango County NHI report, are as follows:

A BDA is an area containing: 1) one or more locations of plants, animals, or natural communities recognized as a state or federal species (or natural community) of concern; or 2) high quality examples of natural communities or areas supporting exceptional native diversity. The two levels of a BDA consist of the Core Habitat and its Supporting Natural Landscape and are defined as:

- The Core Habitat areas are the essential habitat that cannot absorb significant levels of activity without substantial impact to the plants, animals, or unique natural communities of special concern contained within them. Core Habitats include those that house species of special concern, areas found to possess a high diversity of plants and animals native to the County, or rare or exemplary natural community (assemblage of plants and animals), including the highest quality and least disturbed examples of relatively common types of communities.
- The Supporting Natural Landscape is area surrounding the core habitat that is necessary to maintain vital ecological processes or secondary habitat that may be able to accommodate some types of lower level impacts. Activities within the Supporting Natural Landscape should be conducted with the needs of the Core Habitats in mind.

An LCA is a large contiguous area that is important because of its size, open space and habitats, and / or the inclusion of one or more BDAs. Although including many different land uses, it typically has not been heavily disturbed and thus retains much of its natural character.

Natural areas or “areas of significance” as they are deemed by the NHI, are ranked according to their significance to the protection of biodiversity and ecological integrity of the region. These significance rankings were given a rating of 0 to 3, with 0 being of the highest significance and designated for no use; 1 being ok for nature observation without trails; 2 being ok for passive recreation/pedestrian trail development; and 3 being okay for active recreation.

Within Warren County, seventy-six (76) Areas of Significance were identified in the NHI: sixty-eight (68) are BDAs and eight (8) are LCAs. Additionally, there are twenty-nine (29) Supporting Natural Landscapes for the BDAs.

There is one (1) LCA and twenty-three (23) BDAs given a rating of “1” and seen as highly significant and designated as suitable for nature observation, but not for trails. These sites are of high importance for the ecological diversity and ecological integrity of the County or region. They are:

- Minister LCA
- Akeley Swamp BDA
- Allegheny River-2 BDA
- Brokenstraw Creek BDA
- Brokenstraw Creel -2 BDA
- Carlisle Farm BDA
- Carlisle Farm-2 BDA
- Carlisle Farm-3 BDA
- Clarendon Wetland
- Confluence of Wildcat Creek & Tionesta Creek BDA
- County Line BDA
- Hansen Tract BDA
- Hearts Content Scenic Area BDA
- Minister Creek BDA
- Queen Creek BDA
- State Game Land No. 197/Brokenstraw Valley Seepage Flats
- State Game Land No. 197/Tamarack Swamp BDA
- State Game Land No. 306/Benson Swamp BDA
- Shayne's Fen BDA
- Smith Tract/Brokenstraw Creek Impoundment Marsh BDA
- South Branch Tionesta BDA
- South Branch Tionesta-2 BDA
- West Hickory Creek BDA

There are nine (9) LCAs and thirty-eight (38) BDAs given a rating of "2". These sites are seen as notable and designated as suitable for passive recreation such as: hiking, cross-country skiing, and nature observation. They are:

- Allegheny National Recreation Area LCA
- Allegheny Reservoir LCA
- Allegheny River LCA
- Fools Knob LCA
- Kinzua Dam LCA
- Kinzua Heights LCA
- Minister Creek LCA
- Tionesta Creek LCA
- West Branch Tionesta Creek LCA
- Allegheny Reservoir BDA
- Allegheny River BDA
- Allegheny River above Warren BDA
- Anders Run BDA
- Blue Eye Run BDA
- Bobbs Creek BDA
- Buckaloons Recreation Area BDA
- Cherry Run BDA
- Clarendon Heights BDA
- Coffee Creek BDA

- Conewango Creek BDA
- Conewango Creeek-2 BDA
- Confluence of Brokenstraw Creek & Allegheny River BDA
- Confluence of Coffee and Brokenstraw Creeks BDA
- Confluence of Little Brokenstraw and Brokenstraw Creeks BDA
- Cornplanter Run BDA
- Dewdrop Run BDA
- East Branch Tionesta Creek BDA
- Farnsworth Branch BDA
- Fourmile Run BDA
- Hyer Road Floodplain BDA
- Little Brokenstraw Creek South BDA
- Little Brokenstraw Creek North BDA
- Lower Sheriff Run BDA
- Minister Creek Upland BDA
- Rensma Property BDA
- Rensma Property (adjacent to) BDA
- Russell Floodplain BDA
- State Game Land No. 143 Seep BDA
- South Branch State Line Run BDA
- South Branch Tionesta Creek BDA
- Tionesta Creek BDA
- Tionesta Creek Tributary Uplands BDA
- Turner Hill Seeps BDA
- Warren State Hospital-2 BDA
- Warren State Hospital Floodplain BDA
- West Branch Tionesta Creek BDA
- West Branch Tionesta Creek-2 BDA

The Greenways Plan incorporates all NHI designated sites into the final Natural Systems Greenways Plan. The sensitivity ranking, given in the 2008 Warren County NHI, was used in the corridor criteria ranking for proposed Natural Systems corridors.

Warren County's Natural Heritage Inventory data is shown on:

Map: Ecological Infrastructure Inventory

Warren County Natural Heritage Inventory Sites

Data Source: Pennsylvania Natural Heritage Partnership Program

NHI #	NHI Name	Description
1	SGL #197/Tamarack Swamp	Forested wetland with sulphur springs & topovich bogs supporting 23 plant & 7 animal species of special concern
2	SGL #197/Brokenstraw Valley Seepage Flats	Seepage flats that support 4 plant species of special concern
3	Shayne's Fen	Emergent wetland and golden saxifrage - sedge rich seep supporting 3 animal and 5 plant species of special concern
4	Hansen Tract	Seeps that support 6 plants species of special concern
5	SGL#306/Benson Swamp	Forested wetland and hemlock -mixed hardwood palustrine forest that support 8 plant species of special concern
6	Brokenstraw Creek	Floodplain wetlands on Brokenstraw Creek that supports 2 plant species of special concern
7	Smith Tract/ Brokenstraw Creek Impoundment Marsh	Impoundment marsh on Brokenstraw Creek that supports 2 plant species of special concern
8	Rensma Property (adj to)	Forested wetland that supports 2 plant species of special concern
9	Rensma Property	No information
10	Carlisle Farm	Scrub/shrub wetland that supports an animal species of special concern
11	Carlisle Farm - 2	Emergent wetland habitat that supports a plant species of special concern
12	Turner Hill Seeps	Seep adjacent to Ferrin Run that supports a plant species of special concern
13	Carlisle Farm - 3	Spring Creek aquatic habitat and adjacent forested floodplain that supports 2 plants and 1 animal species of special concern
14	Little Brokenstraw Creek - South	Stream habitat that supports 2 animals of special concern
15	Confluence of Little Brokenstraw and Brokenstraw Creeks	Stream habitat that supports an animal of special concern
16	Confluence of Brokenstraw Creek and Allegheny River	Stream habitat that supports an animal of special concern
17	Confluence of Coffee and Brokenstraw Creeks	Stream habitat that supports an animal of special concern
18	Akeley Swamp	Mixed wetland habitat that supports 5 animal species and 3 plant species of special concern
19	Russell Floodplain	Floodplain habitat adjacent to Conewango Creek that supports 2 plant species of special concern
20	Hyer Road Floodplain	Floodplain habitat adjacent to Brokenstraw Creek that supports a plant species of special concern
21	SGL # 143 Seep	Seep adjacent to Hosmer Run that supports a plant species of special concern
22	Warren State Hospital Floodplain	Floodplain habitat adjacent to Conewango Creek that supports a plant species of special concern
23	South Branch State Line Run	Stream habitat that supports an animal species of special concern
24	Cornplanter Run	Stream habitat that supports an animal species of special concern

Warren County Greenways Plan

Warren County Natural Heritage Inventory Sites (continued)

Data Source: Pennsylvania Natural Heritage Partnership Program

NHI #	NHI Name	Description
25	Little Brokenstraw Creek - North	Stream habitat that supports an animal species of special concern
26	Coffee Creek	Stream habitat that supports 2 animal species of special concern
27	Blue Eye Run	Stream habitat that supports an animal species of special concern
28	Allegheny River	River habitat that supports 12 animal and 1 plant species of special concern
29	West Branch Tionesta Creek	Stream habitat that supports an animal species of special concern
30	Confluence of Conewango Creek and Allegheny River	Aquatic habitat that supports 11 animal species of special concern
31	Tionesta Creek	Aquatic habitat that supports an animal species of special concern
32	South Branch Tionesta Creek	South Branch Tionesta Creek and adjacent wetland habitat that supports 8 animal species of special concern
33	East Branch Tionesta Creek	Stream habitat that supports 7 animal species of special concern
34	Conewango Creek	Stream habitat that supports 7 animal species of special concern
35	Cherry Run	Stream habitat that supports an animal species of special concern
36	Hearts Content Scenic Area	Forested habitat with some old growth hemlock/white pine forest that supports an animal species of special concern
37	Queen Creek	Wetland habitat along Queen Creek that supports an animal and plant species of special concern
38	Confluence of Wildcat Creek and Tionesta Creek	Wetland habitat on Tionesta Creek that supports a plant species of special concern
39	Allegheny River above Warren	Aquatic habitat that supports an animal and plant species of special concern
40	Brokenstraw Creek - 2	Forested wetland habitat on Brokenstraw Creek that supports a plant species of special concern
41	Clarendon Wetland	Forested, scrub/shrub wetland that supports a plant species of special concern
42	Conewango Creek - 2	Forested wetland habitat along Conewango Creek that supports a plant species of special concern
43	South Branch Tionesta - 2	Forest habitat that supports an animal species of special concern
44	West Hickory Creek	Forest habitat that supports an animal species of special concern
45	Allegheny River - 2	Alluvial island and river floodplain that supports 2 rare community types and 6 animal and 4 plant species of special concern

Warren County Natural Heritage Inventory Sites (continued)

Data Source: Pennsylvania Natural Heritage Partnership Program

NHI #	NHI Name	Description
47	Warren State Hospital - 2	Grassland habitat that supports 2 animal species of special concern
48	Buckaloons Recreation Area	Patchy wooded park area that supports an animal species of special concern
49	Clarendon Heights	Forested stream riparian corridor that supports an animal species of special concern
50	West Branch Tionesta Creek - 2	Forested stream riparian corridor that supports an animal species of special concern
51	Bobbs Creek	Forested stream riparian corridor that supports an animal species of special concern
52	Minister Creek Upland	Forested upland habitat between streams that supports an animal of special concern
53	Lower Sheriff Run	Forested stream riparian corridor and upland habitat - high diversity mistnet site
54	Farnsworth Branch	High diversity mistnet site
55	Fourmile Run	Forested stream riparian corridor and upland habitat - high diversity mistnet site
56	Tionesta Creek Tributary Uplands	High diversity mistnet site
57	Dewdrop Run	Forested stream riparian corridor and upland habitat - high diversity mistnet site
58	Spring Creek North/Carlisle Farm	No information
59	Anders Run	Old growth eastern hemlock/white pine forest community
60	South Branch Tionesta Creek - 2	Forest habitat that supports an animal species of special concern
61	County Line	Section of the Wild and Scenic designated Allegheny River that provides habitat for six freshwater mussel species and one vertebrate species of conservation concern.
62	Minister Creek	Stream and forest habitat that supports five odonate species and one fish species of special concern.
63	West Hickory Creek	Forested habitat supporting a breeding pair of Swainson's Thrush, a bird species of conservation concern in Pennsylvania.

Public and Other Protected Open Space

Chapman State Park, in Pleasant Township, is the only State Park located with Warren County. This 805-acre park includes a 68-acre manmade lake. This park is known as a recreation oasis within the wilderness area of Allegheny National Forest. Park amenities offered here include camp sites; picnic areas; swimming areas; canoe, paddle boat, and kayak rental; accessible fishing piers; boat launch; mooring spaces; boat rental; and three camping cottages. In addition, outdoor recreation opportunities include boating, swimming, hiking, fishing, and hunting in over 400 designated acres. Winter activities include snowmobiling, ice fishing, cross-country skiing, sledding, and tobogganing.

Allegheny National Forest (ANF) is the only National Forest in Pennsylvania. The ANF covers more than 513,000 acres in McKean, Warren, Elk, and Forest Counties. Within the ANF, there are over 1,000 miles of hiking, biking, and horseback riding trails. Swimming, boating, and fishing opportunities also exist on the Allegheny, Clarion, and Tionesta Rivers.

Within the Allegheny National Forest there are three designated natural or wilderness areas. These areas are defined by the DCNR as having unique scenic, geologic, or ecological value and are set aside for scientific observation and to protect outstanding examples of natural interest and beauty.

These natural areas are described briefly below:

- Hearts Content Scenic Area is located in Watson Township, west of Tidioute Borough. This 120-acre site is a National Natural Landmark featuring stands of towering white pines that are around 400 years old and hemlocks around 350 years old. The National Natural Landmarks Program recognizes and encourages the conservation of outstanding examples of our Country's natural history.
- Hickory Creek Wilderness Area was designated as wilderness by the U.S. Congress in 1984. Today, this wilderness area encompasses more than 8,600 acres managed by the Forest Service. National Forest wilderness is managed primarily to protect wilderness attributes for future generations, to preserve natural ecosystems, and to provide a wilderness experience.
- Allegheny River Islands Wilderness Area includes seven islands in the Allegheny River, stretching from the Buckaloons Recreation Area in West Hickory, to Tionesta. These islands total approximately 368 acres of river bottom forest trees such as willows, sycamore, and silver maples. Primitive camping is available on all islands within the ANF.
 - Crull's Island is a 96-acre island featuring large, old river bottom trees.
 - Thompson's Island totals 67 acres with exceptional riverine forest.
 - R. Thompson's Island is 30 acres and also has exceptional riverine forest.
 - King Island is a 36-acre island with good riverine forest and many trees 35-50 inches in diameter.
 - Baker Island is 67 acres and was mostly destroyed by the tornado of 1985.
 - No Name Island is approximately 10 acres and is half river-bottom trees and half dense undergrowth.
- Tionesta Scenic Area is a tract of land over 2,000 acres containing large stands of hemlock and beech trees that are more than 300 years old. Situated in the southeast section of the County, Tionesta Scenic Area (along with the adjacent Tionesta Research Natural Area in McKean County) was added to the National Registry of Natural Landmarks as the "largest virgin forest in the hemlock-white pine/northern hardwoods forest region of North America."

Allegheny National Recreation Area (NRA) totals more than 23,000 acres in three sections, two of which are completely situated in Warren County:

- Cornplanter – is the area of land west of the Allegheny Reservoir from the New York/Pennsylvania state line to the north shore of Branch Run Bay. This portion of the NRA has two boat launches at Webbs Ferry and Roper Hollow, and a developed campground at Hooks Brook. There are no developed trails within this section.

- Tracy Ridge – is situated on the east side of the Allegheny Reservoir from Willow Bay to Sugar Bay, with State Highway 321 on its eastern edge. The majority of this parcel is in McKean County.
- Allegheny Front – is found on the east side of the Allegheny River, generally from Charlie Run to South Slater Run, with State Road 337 on its eastern edge. This is the most primitive parcel of the NRA, containing only a 3-mile segment of the Tanbark trail.

The Allegheny National Recreation Area was designated as a national recreation area by Congress in 1984, under the Pennsylvania Wilderness Act. The NRA is to be managed for the purposes of:

- Outdoor recreation including hunting, fishing, hiking, backpacking, camping, nature study areas, and the use of motorized and non-motorized boats on the Allegheny Reservoir.
- The conservation of fish and wildlife populations and habitat.
- The protection of watersheds and the maintenance of free flowing streams and the quality of ground and surface waters.
- The conservation of scenic, cultural, and other natural values of the area.

Anders Run Natural Area is a 96-acre site containing many large old growth white pines. This site is situated south of Irvine, on the west side of the Allegheny River, along Anders Run.

Akeley Swamp, also known as the Thomas J. Mahaffey Wetlands Conservation Area, is a 65-acre tract adjacent to State game Land No. 282, near Russell in north central Warren County. This swamp is home to beaver, muskrats, wood ducks, minks, and other wildlife.

Toplovich Bog is an 83-acre glaciated bog bordering State Game Land No. 197, in northwestern Warren County, Columbus Township. The site supports many unique and/or rare plant communities and is home to a species of special concern, as noted in the County Natural Heritage Inventory.

Over 37,000 acres are designated as State Game Lands in Warren County. These lands are managed by the PA Game Commission for wildlife conservation, hunting, and trapping. In addition to hunting, these lands offer other recreational opportunities, such as hiking, bird watching, and fishing. Table 2-1 lists the nine (9) State Game Lands that are located at least partially in Warren County, their location, and their total acreage.

Natural Infrastructure Inventory Resources:

(NWI) National Wetland Inventory: <http://www.fws.gov/nwi/>
(FEMA) Federal Emergency Management Agency: <http://www.fema.gov/>
(USGS) United States Geological Survey: <http://www.usgs.gov/>
(NRCS) Natural Resources Conservation Service: <http://soils.usda.gov/>
(DEP) PA Department of Environmental Protection – Chapter 93:
<http://www.pacode.com/secure/data/025/chapter93/chap93toc.html>
<http://www.coldwaterheritage.org/Effectsofspecialprotection.pdf>
(WPC) Western Pennsylvania Conservancy
(PNHP) Pennsylvania Natural Heritage Program

Warren County's Public and Other Protected Lands are shown on:

Map: Recreation Opportunities Inventory

GRAY INFRASTRUCTURE INVENTORY

Greenways also take advantage of elements of the human-made environment, or Gray Infrastructure. An often used example is that of abandoned rail lines being reborn as recreation and transportation trails. In addition to abandoned rail lines, sound greenway planning requires an understanding of a diversity of built resources. There are those that facilitate a greenway corridor, like old canal beds or utility corridors. Others present challenges to greenway development, such as major highways or active industrial sites. There are also some built features that provide interesting stops along the greenway, like historic and cultural sites.

Transportation and Utility Corridors

- Inactive Rail Lines - Warren County has several stretches of inactive or discontinued rail lines. In reviewing GIS data for inactive railroads and historic railroad maps, it was discovered that five (5) inactive rail lines with trail potential exist in Warren County. These segments are described briefly here:
 - (1) The former Bear Lake Line corridor, from CM Junction near the village of Columbus in the northwest corner of the County, to the New York state line just outside Bear Lake Borough. The portion of this rail bed in Warren County is approximately 7 miles in length.
 - (2) The former Oil City Secondary Line corridor runs from Oil City, in Venango County, to Irvineton, west of Warren. Sections of this former rail line have been proposed as the Warren Trail and Tidioute Trail. The Penn Soil RC & D owns some of this rail and is now proposing a rail trail project along it. Approximately 25 miles of this former rail line is located within Warren County.
 - (3) The former Allegheny Railroad corridor runs from the City of Warren, to the New York state line, through Russell. Approximately 3-4 miles of this former rail line is currently active as the Youngsville to Warren Trail. The remaining 10 or so miles is proposed as the North Warren Trail.
 - (4) The former Salamanca Secondary Line corridor runs from the City of Warren to Big Bend, near the Kinzua Dam. This former rail line covers approximately 6-7 miles along the north bank of the Allegheny River and is proposed as the Warren to Kinzua Dam trail.
 - (5) The former Valley Branch of the New York Central Railroad corridor runs from Titusville in Venango County to Youngsville. Approximately 25 miles of this former rail line is within Warren County.
- Pedestrian Walkways – Some urban areas in and around the population centers of Warren County, including places such as Warren, Youngsville, and Tidioute, have paved sidewalks. Most of the County's Townships do not require sidewalks with new development, thus none exist except in villages or other small population centers where housing units are in close proximity to the roadway and each other.

- Highway Bike Lanes

PennDOT has established a series of bicycle routes that are marked and publicized. These routes are known as BicyclePA routes. BicyclePA routes were designed by experienced bicyclists to provide bicycling members of the traveling public who wish to traverse the state with a guide to some of the Commonwealth's highways and rail-trails. Few of these routes contain bike lanes or other facilities designed specifically for bicyclists. The Pennsylvania Department of Transportation does not guarantee the safety of bicyclists as they access those roads and rail-trails. Every bicyclist is responsible for his or her personal safety and welfare and for remaining alert and mindful of conditions on the roads or trails. BicyclePA users are expected to be licensed drivers or persons at least sixteen years of age who have several years of road bicycling experience and who are comfortable in bicycling in a vehicular environment.

Warren County has one Bicycle PA route designated by the Pennsylvania Department of Transportation. Bicycle PA Route "Y" is the second longest route in PA at over 400 miles. This route enters Warren County, from the City of Corry in Erie County, on US Highway 6 west Columbus. This route follows US Highway 6 southeast to Youngsville and then continues west into the City of Warren. From Warren, the route continues along US Highway 6 south, through Clarendon and Sheffield, before the highway heads east again into McKean County.

The relevant transportation and utility corridors in Warren County are shown on:

Map: Recreation Resources

Recreation Opportunities Inventory

Various recreation facilities, including the community parks in municipalities throughout the County, are depicted on *Map: Recreation Opportunities Inventory*. Though the recreation facilities in Warren County are too numerous to describe in detail here, this section briefly describes regionally significant recreational assets that are relevant to the NWPA Greenways Plan.

○ Public Recreation Facilities

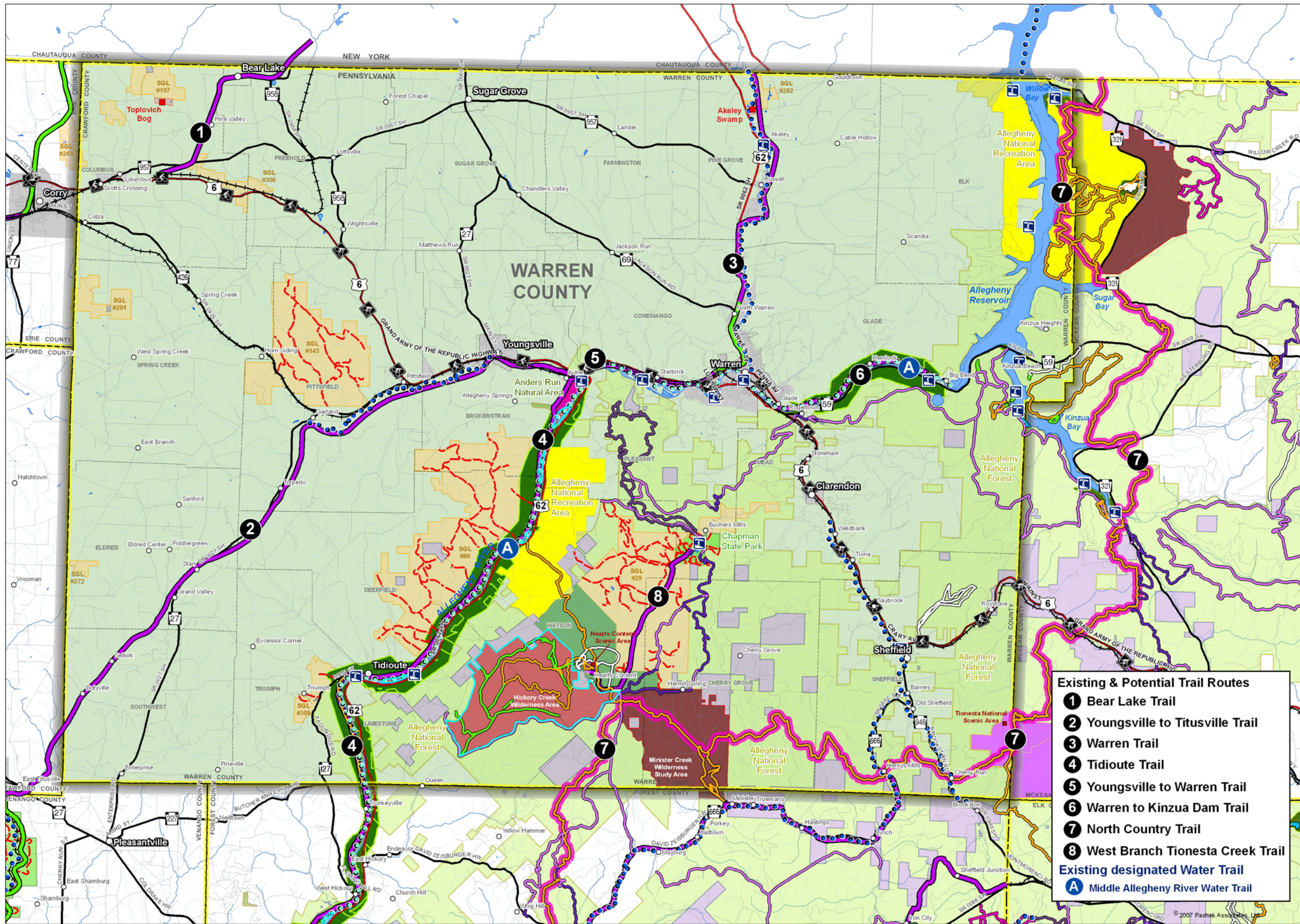
- (1) Allegheny National Recreation Area totals more than 23,000 acres, in three sections, two of which are completely situated in Warren County:
 - Cornplanter – is the area of land west of the Allegheny Reservoir, from the New York/Pennsylvania state line, to the north shore of Branch Run Bay. This portion of the NRA has two boat launches at Webbs Ferry and Roper Hollow, and a developed campground at Hooks Brook. There are no developed trails within this section.
 - Tracy Ridge – is situated on the east side of the Allegheny Reservoir from Willow Bay to Sugar Bay, with State Highway 321 on its eastern edge. The majority of this parcel is in McKean County.
 - Allegheny Front – is found on the east side of the Allegheny River, generally from Charlie Run to South Slater Run, with State Road 337 on its eastern edge. This is the most primitive parcel of the NRA, containing only a 3-mile segment of the Tanbark trail.

Many recreational opportunities exist within the NRA, including: swimming, hiking, camping, fishing, motorized and non-motorized boating, wild life viewing, bird watching, hunting, horseback riding, and cross-country skiing.

- (2) The Allegheny National Forest (ANF) offers many of the same recreation opportunities as the NRA, including: swimming, hiking, camping, fishing, motorized and non-motorized boating, wild life viewing, bird watching, hunting, horseback riding, and cross-country skiing. In addition, many trails through the ANF exist for ATV use, snowmobiles, and mountain biking.

There are two designated recreation areas within the ANF:

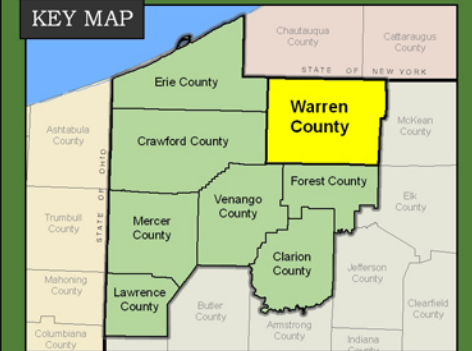
- Hearts Content Recreation Area is east of Tidioute in Watson Township. This site offers camping, restroom and water, and a small playground. Additional recreation opportunities exist with the 1-mile Hearts Content Scenic Interpretive trail and the 11-mile loop trail through the adjacent Hickory Creek Wilderness Area.
- Buckaloons Recreation Area is located on the site of a former Indian village, west of Warren, on the west bank of the Allegheny River. This site offers campgrounds with restroom and shower facilities, as well as a mile-long trail known as the Buckaloons Seneca Trail.



Northwest Pennsylvania Greenways Plan

for

Clarion County	Lawrence County
Crawford County	Mercer County
Erie County	Venango County
Forest County	Warren County



LEGEND

- County Boundary
- Municipal Boundary
- Urban Areas
- Lake / Reservoir
- River
- Interstate
- PA State Route
- US Highway
- Active Railroad
- PAFBC Access Points

DCNR Managed Land

- State Park
- Pennsylvania State Forest
- Wild & Scenic River Corridor
- State Game Land
- National Recreation Area
- Allegheny National Forest (ANF)
- ANF Wilderness Area
- ANF Wilderness Study Area
- ANF Scenic Area
- Other Managed Land - Private

Existing & Proposed Trails

- Existing Trail
- Potential Trail
- Existing North Country Trail
- State Park / State Game Land Trails
- Bicycle PA Route
- PA Fish & Boat designated Water Trail
- PA Canoeable Streams
- Allegheny National Forest Trails
 - ATV Trail
 - Full-time Snowmobile Trail
 - Bank Fishing Trail
 - Full-time ATV / Snowmobile Trail
 - Hiking Trail
 - Joint-use Snowmobile Trail
 - Motorized Bike Trail
 - Pathway
 - Cross-country Skiing Trail

- #### Existing & Potential Trail Routes
- 1 Bear Lake Trail
 - 2 Youngsville to Titusville Trail
 - 3 Warren Trail
 - 4 Tidioute Trail
 - 5 Youngsville to Warren Trail
 - 6 Warren to Kinzua Dam Trail
 - 7 North Country Trail
 - 8 West Branch Tionesta Creek Trail
- #### Existing designated Water Trail
- A Middle Allegheny River Water Trail

- (3) Chapman State Park, in Pleasant Township, is the only State Park located within Warren County. This 805-acre park includes a 68-acre manmade lake. This park is known as a recreation oasis within the wilderness area of Allegheny National Forest. Park amenities offered here include camp sites; picnic areas; swimming areas; canoe, paddle boat, and kayak rental; accessible fishing piers; boat launch; mooring spaces; boat rental; and three camping cottages. In addition, outdoor recreation opportunities include boating, swimming, and hiking; as well as fishing and hunting in over 400 designated acres. Winter activities include snowmobiling, ice fishing, cross-country skiing, and sledding and tobogganing.
- (4) Over 37,000 acres are designated as State Game Lands in Warren County. These lands are managed by the PA Game Commission for wildlife conservation, hunting, and trapping. In addition to hunting, these lands offer other recreational opportunities, such as hiking, bird watching, and fishing. Table 1-1 lists the nine (9) State Game Lands that are located at least partially in Warren County, their location, and their total acreage.

Table 2-1. Warren County State Game Lands (Acreage)

State Game Land	Town	Acres
29	Warren	9,363
86	Cobham	14,227
143	Garland	8,177
197	Columbus	1,556
272	Newton Station	189
282	Akeley	434
291	2 Miles South of Corry	1,193
306	Corry	892
309	Tidioute	975
Warren County Total:		37, 006
* Source www.HuntingPA.com/SGL		

○ Private Recreation Facilities

- (1) The YMCA offers a branch in downtown Warren, in Warren County.
- Regionally Significant Community Parks: The City of Warren is home to the only regionally significant community park in Warren County. Clifford R. Betts Memorial Park is situated on the bank of the Allegheny River. The park has hosted the Pennsylvania Canoe and Kayak Championships, and the USCA Canoe and Kayak Championships, its ballfields are home to a number of softball tournaments, it hosts the practices of the Warren County Youth Football League, and Betts Landing was constructed in Fall 2007 and provides easy boat access to the Allegheny River.

- Campgrounds – There are twelve campground facilities in Warren County, including:
 - (1) Buckaloons, Irvine
 - (2) Brokenstraw Valley Camping, Pittsfield
 - (3) Chapman State Park, Clarendon
 - (4) Park Edge Campground, Ckarendon
 - (5) Penn Highlands Campground, Russell
 - (6) Dewdrop, Mead Township
 - (7) Hearts Content, Watson Township
 - (8) Hickory Creek Wilderness Ranch, Tidioute
 - (9) Red Oak Campground, Russell
 - (10) Whispering Winds Campground, Sheffield
 - (11) Riverside Camp, Warren
 - (12) White Bear Camp, Tidioute
- Trails and Bikeways –
 - (1) Within Allegheny National Forest, there are more than 60 miles of hiking trails, 10 miles of mountain bike trails, 360 miles of snowmobile trails, 28 miles of cross-country ski trails, and nearly 75 miles of ATV trails. Many of these trails are found in Warren County.
 - (2) The Youngsville to Warren trail is the only existing trail outside of the Allegheny National Forest. This trail is approximately 3-4 miles in length, from Warren to North Warren.
- Pedestrian Paths – Urban areas in and around small and large population centers of Warren County have paved sidewalks.
- Water Trail and Waterfront Access Areas –
 - (1) The Middle Allegheny River Water Trail, Wilderness Islands (Northern) Segment, begins at the boat access near the base of Kinzua Dam and ends at the boat access in the borough of Tionesta, Forest County. This section of the water trail is characterized by rural landscapes of many islands. There are a total of twenty-four public islands that are part of the Allegheny National Forest, in addition to 60 islands under other ownership. Seven of the public islands are federally designated as Wilderness Islands. All of the public islands are open for camping and recreation.

Allegheny River launches include:

 - Corps of Engineers ramp at the Kinzua Dam
 - Crescent Park launch near Warren General Hospital
 - Buckaloons (ANF) campground at Irvine
 - Bonnie Brae, Fish Commission (mile 28)
 - Fish Commission launch at Tidioute (mile 30)
 - West Hickory launch
- The Pennsylvania Fish and Boat Commission (PFBC) lists fourteen water access areas throughout Warren County. These water access points are as follows:

1. 204 - Allegheny River - Tidioute Borough Access (PFBC)
2. 205 - Allegheny River - Bonnie Brae Access (PFBC)
3. 206 - Allegheny River - Buckaloons Recreation Area (USFS)
4. 207 - Allegheny River - Starbrick Access (PFBC)
5. 208 - Allegheny River - Kinzua Tailwaters (COE)
6. 209 - Allegheny Reservoir - Roper Hollow (USFS)
7. 210 - Allegheny Reservoir - Webbs Ferry (USFS)
8. 211 - Allegheny Reservoir - Willow Bay (USFS)
9. 212 - Allegheny Reservoir - Kinzua - Wolf Run (USFS)
10. 213 - Allegheny Reservoir - Dew Drop (USFS)
11. 214 - Allegheny Reservoir (Kinzua) - Elijah Run (USFS)
12. 215 - Chapman Lake (State Parks) - Chapman Lake Access
13. 216 - Tionesta Creek West Branch - Tionesta Creek West Branch Access (Local gov't)
14. 265 - Conewango Creek - Conewango Creek (Private)

- Additionally, the PFBC owns four properties in the County. These properties are :

Property Name	Water Body	Acres
Columbus Access	Brokenstraw Creek	7.54
Starbrick Access	Allegheny River	3.97
Tidioute Access	Allegheny River	5.21
Tidioute Access	Allegheny River	5.21

- There are six streams in Warren County that are listed as canoeable, at least part of the year, in the canoeing guide to western Pennsylvania. These streams are: Brokenstraw Creek, Conewango Creek, West Branch Tionesta Creek, South Branch Tionesta Creek, and Tionesta Creek.
- Fishing is a very popular outdoor recreation activity among Warren County residents. The waterways of Warren County offer many opportunities for a range of different fish species.

In 2007, twenty-eight (28) of Warren County's streams were on the Pennsylvania Fish & Boat Commission's (PFBC's) list of approved trout waterways. This means that these waters contain significant portions that are open to public fishing and are stocked with trout. Approved Trout Waters within the County include:

- (1) Akeley Run
- (2) Blue Eye Run
- (3) Brokenstraw Creek
- (4) Browns Run
- (5) Caldwell Creek
- (6) Chapman Lake
- (7) Coffee Creek
- (8) East Branch Spring Creek
- (9) East Branch Tionesta Creek
- (10) East Hickory Creek
- (11) Farnsworth Branch
- (12) Fourmile Run

- (13) Hemlock Run
- (14) Jackson Run
- (15) Little Brokenstraw Creek
- (16) Perry Magee Run
- (17) Pine Creek
- (18) Queen Creek
- (19) Sixmile Run
- (20) South Branch Tionesta Creek
- (21) Spring Creek
- (22) Thompson Run
- (23) Tidioute Creek
- (24) Tionesta Creek
- (25) Twomile Run
- (26) West Branch Caldwell Creek
- (27) West Branch Tionesta Creek
- (28) West Hickory Creek

In addition, Little Arnot, and Big Arnot in Cherry Grove Township contain native trout populations.

Cultural Resource Inventory

Historic Sites

The following discussion highlights the variety of historically significant sites and districts in Warren County. These historic features fall into two major categories: sites or districts identified on the National Register of Historic Places (NRHP) and sites featuring Pennsylvania Historical and Museum Commission (PHMC) Historic Markers.

The National Register of Historic Places

The NRHP is a list of structures, sites, and districts worthy of preservation due to their historic significance. The list was established by the 1966 National Historic Preservation Act (NHPA), which also establishes the process for adding properties to the list. The NRHP is administered by the National Parks Service (NPS) with the goal of helping identify and protect historic sites.

Warren County currently features one (1) historic district and nine (9) individual sites/structures on the NRHP. The Warren Historic District covers the downtown area of the City of Warren. There are also seven (7) historically significant sites/structures within the City, including the County Courthouse and the Warren Armory. Warren County's two remaining NRHP sites include the Irvine United Presbyterian Church, in Brokenstraw Township, and the Guy C. Irvine House, in Pine Grove Township. The Cultural and Historic Resources Inventory Map depicts the locations of the NRHP properties described above. More detailed discussions of each of these districts, sites, and structures are provided below.

The PHMC maintains an inventory of properties that are not on the NRHP, but are eligible for inclusion on this list. Currently, there are approximately fourteen (14) properties included within the PHMC's inventory of eligible properties. These properties are scattered throughout the County and include the Warren State Hospital, in Conewango Township, and the Tidioute Historic District, in Tidioute Borough. The PHMC's inventory of NRHP eligible properties and a list of those on the NRHP are provided in Appendix.

Warren Historic District

Nearly ninety-six percent (96%) of Warren's Historic Downtown is comprised of buildings originally built within the historically significant periods between 1820 and 1945. Much of the Warren Historic

District is made up of residential neighborhoods. Because of the well-preserved nature of buildings in Warren, many of the City's streetscapes still reflect their nineteenth to early twentieth century character. Additionally, six of Warren's NRHP sites are included within the Warren Historic District.

Irvine United Presbyterian Church, Brokenstraw Township

The church is named after Dr. Irvine who commissioned the stone mason that constructed the church in 1837. The Irvine United Presbyterian Church displays a Greek revival architectural style.

Irvine, Guy C. House, Pine Grove Township

Guy Irvine was a prominent businessman who ran a successful lumber business in the area. This house was originally built as a two-family structure to be occupied by Irvine and Rufus Weatherby, who was married to Irvine's wife's sister. The house was constructed in 1835.

Hazeltine, A.J. House, Warren, PA

This house was named for the late A.J. Hazeltine, a prominent banker in Warren, who inhabited the home after its construction in 1907. The structure has served many purposes over its lifetime including housing the American Legion and a county museum operated by the Warren County Historical Society.

Jefferson, J.P., House, Warren, PA

Jefferson House is named for local businessman and philanthropist J.P. Jefferson, who lived in the house for several years after its construction in 1890. The house exhibits a blending of several architectural styles but overall reflects the character of an English country manor.

Struthers Library Building, Warren, PA

This multi-purpose building, commissioned for construction by Thomas Struthers in 1883, was once a cultural center in Warren. It was home to an opera house, library, Masonic hall, retail space, and a post office. The building remains in active use today by a variety of tenants, including: a theater, retail businesses, and the Warren County Library Association.

Warren Armory, Warren, PA

The Armory was built in 1909 to house a battalion of the Pennsylvania National Guard. The structure was designed by Corry resident A.P. Mount.

Warren County Courthouse, Warren, PA

The Victorian Courthouse in Warren was constructed in 1877. The courthouse was originally located in a business area within Warren. However, over the years this area has transitioned into a primarily residential neighborhood.

Wetmore House, Warren, PA

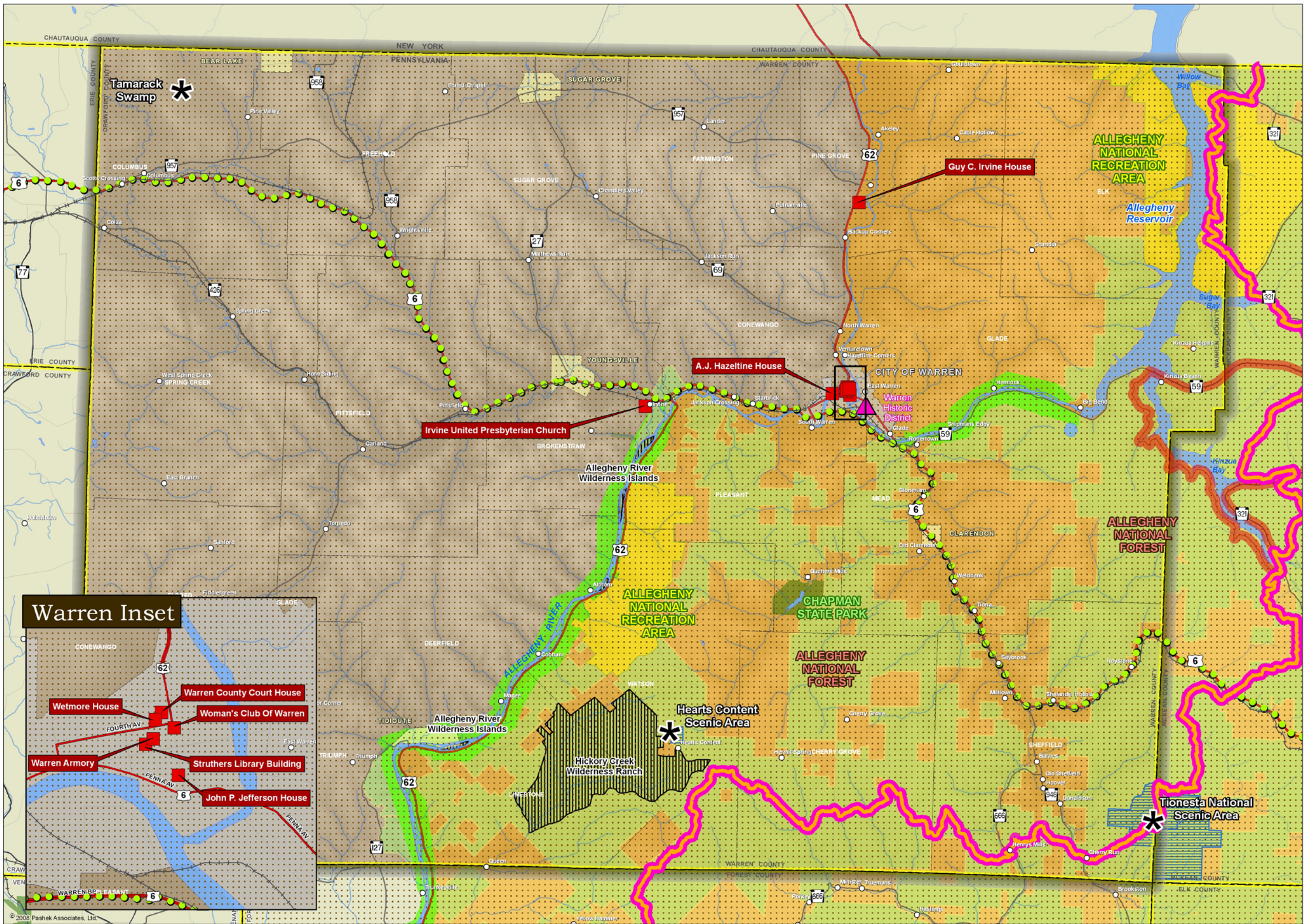
This historic house was built in 1873 for Anna Wetmore, daughter of local businessman and politician Thomas Struthers, as a wedding gift. The house is now the home of the Warren County Historical Society.

Women's Club of Warren, Warren, PA

This structure was originally built in 1872 as the home of Myron Waters, a local businessman. The structure was purchased by the Woman's Club of Warren in 1922. The club has been a leader in local efforts to promote social and cultural advancement within Warren.

Warren County's NRHP districts and sites are shown on:

Map: Cultural and Historic Resources Inventory

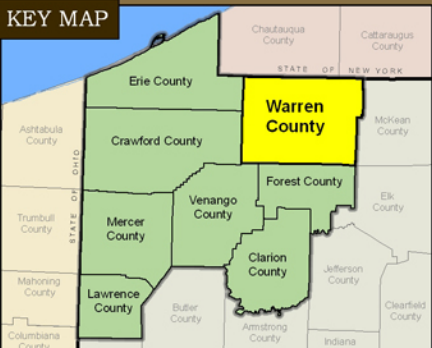


Northwest Pennsylvania Greenways Plan

for

Clarion County Lawrence County
Crawford County Mercer County
Erie County Venango County
Forest County Warren County

KEY MAP



LEGEND

- County Boundary
- Borough
- City
- Lake / Reservoir
- Major Stream or River
- Interstate
- PA State Route
- US Highway
- Active Rail Lines
- Cultural & Historic Resources**
- US Route 6 - Scenic Highway
- National Recreational Trail
- Wild and Scenic River
- Longhouse Scenic Byway
- North Country National Scenic Trail
- Lumber Heritage Region
- Allegheny National Forest
- Pennsylvania Wilds
- State Park Land
- National Park Service Land
- National Natural Landmarks
- Other Areas of Interest
- National Register of Historic Places**
- Historic District
- Historic Site

Data Source:
 ESRI 2005 Street Map USA Data
 US Geologic Survey (USGS)
 Pennsylvania Spatial Data Access (PASDA)
 Pennsylvania Department of Transportation (PennDOT)
 Department of Conservation and Natural Resources (DCNR)
 Western Pennsylvania Conservancy (WPC)
 Federal Emergency Management Agency (FEMA)
 US Army Corps of Engineers - National Wetland Inventory (NWI)
 Natural Resources Conservation Service (NRCS) - Soil Data Mart
 Pennsylvania Department of Environmental Protection (DEP)

Pashek Associates
makes no claims to
the accuracy of
this data.



Pennsylvania Historical and Museum Commission Historic Markers

The PHMC has created and maintains a network of over 2,000 historic markers throughout the Commonwealth to promote knowledge and recollection of historically significant people, places, and events. These markers exhibit a common design featuring gold text on a blue metal pole and sign. The text provides a brief description of the location, person, or event. Currently, the PHMC has placed approximately twelve (12) of these markers in Warren County. The PHMC's list of historic markers is provided in Appendix.

Other Historic Sites of Significance

Chief Cornplanter's Grave Site: A monument to Chief Cornplanter, located on his grave site reads "Chief of the Seneca Tribe, and a principal Chief of the Six Nations, from the period of the Revolutionary War to the time of his death. Distinguished for talents, courage, eloquence and sobriety, and love of his tribe and race, to whose welfare he devoted his time, his energies and his means, during a long and eventful life." Chief Cornplanter, (c. 1750 – 1836), received a land grant from the U.S. Government for his service in the Revolutionary War. Subsequently the Kinzua Reservoir was constructed on this property. The grave site is located in the Corydon Riverview / Cornplanter Cemetery in Mead Township, on the eastern shore of the Kinzua Reservoir just south of the Pennsylvania / New York state line.

Cultural Areas

Wild and Scenic River

Approximately 86.6 miles of the Allegheny River has been designated as a Wild and Scenic River. The National Parks Service assists in conservation projects, such as the Wild and Scenic River program. Warren County includes two portions of the Wild and Scenic Allegheny River. One segment stretches from the Kinzua Dam to the eastern border of the City of Warren. The second segment flows from near Irvine to the Warren/Forest County border.

The Wild and Scenic River in Warren County is shown on:

Map: Cultural and Historic Resources Inventory

U.S. Route 6 – Scenic Highway

Pennsylvania's Route 6 covers over 400 miles within northern Pennsylvania. Route 6 stretches beyond Pennsylvania's borders, both east and west, and continues on to our country's Atlantic and Pacific coasts. Route 6 enters Warren County from the west near Scotts Crossing and Columbus. From here the scenic byway runs southeast to Pittsfield, where it turns east to pass through Youngsville and on to Warren. Near the City of Warren, the route again turns generally southeast to access Clarendon, Saybrook and Shelandier Hollow. Route 6 exits Warren County at the Warren/McKean County border near Roystone.

U.S. Route 6 in Warren County is shown on:

Map: Cultural and Historic Resources Inventory

Proposed Allegheny Forest Trail (Byway)

This proposed byway is an 87 mile route to extend the existing Longhouse National Forest Scenic Byway located around the Kinzua Branch of the Allegheny Reservoir to include PA 59 from just east of the City of Warren to Smethport Borough in McKean County. This route will also include an additional section in McKean County along PA 321 from Kane to PA 346 near Willow Bay. This new byway is designated to enhance connections between Allegheny National Forest and the surrounding communities such as the City of Warren, Smethport, and Kane.

PA Wilds

The PA Wilds covers more than two million (2,000,000) acres of public lands, within areas such as state forests and state game lands, and includes twelve (12) northern Pennsylvania counties. The five hundred thousand (500,000) acre Allegheny National Forest is part of the PA Wilds. The PA Wilds offers a wide range of recreational activities from hiking and biking to hunting and fishing. Warren County is completely contained within the PA Wilds.

The PA Wilds in Warren County is shown on:

Map: Cultural and Historic Resources Inventory

Allegheny National Forest

The Allegheny National Forest is one (1) of one hundred fifty-five (155) National Forests managed by the U.S. Department of Agriculture's Forest Service and is the only one in Pennsylvania. The Allegheny National Forest covers large portions, approximately five hundred thousand (500,000) acres in total, of Warren, Forest, Elk, and McKean Counties. Warren County includes large portions of the National Forest in the southeastern corner of the County. Most of this area is included east of the Allegheny River and Allegheny Reservoir. Areas that exhibit specific opportunities for outdoor recreation within the Allegheny National Forest include those areas designated as Allegheny National Recreation Area.

The Allegheny National Forest in Warren County is shown on:

Map: Cultural and Historic Resources Inventory

North Country National Scenic Trail

The North Country National Scenic Trail is a recreational trail that stretches for about four thousand six hundred (4,600) miles, from North Dakota to New York. Pennsylvania includes approximately one hundred (100) miles of the North Country National Scenic Trail. The trail includes nearly two thousand (2,000) miles of off-road trails, as well as many miles of shared paths and road paths. Upon completion, the trail boasts becoming the longest off-road hiking trail in the country.

The North Country National Scenic Trail in Warren County is shown on:

Map: Cultural and Historic Resources Inventory

Lumber Heritage Region

The fifteen (15) counties within the Lumber Heritage Region strive to promote the history and heritage of the lumber industry and its importance to Pennsylvania's development. The Region boasts a wide variety of natural, cultural, and historic resources. While celebrating the past, the grassroots effort works to build the region's economy and quality of life through education, conservation, and tourism promotion.

The Lumber Heritage Region in Warren County is shown on:

Map: Cultural and Historic Resources Inventory

National Natural Landmarks

Administered by the National Parks Service (NPS), the National Natural Landmarks (NNL) Program promotes conservation of natural features that significantly contribute to the country's history. Throughout the country, less than six hundred (600) NNLs have been designated. NNLs can be publicly or privately owned. The NPS supports private and public owners with management and conservation of the sites. Warren County's NNLs include: Tamarack Swamp, Tionesta Scenic and Research Natural Areas, and Hearts Content Scenic Area.

Warren County's National Natural Landmarks are shown on:

Map: Cultural and Historic Resources Inventory

Longhouse Scenic Byway

Longhouse Drive National Scenic Byway: The Longhouse Drive National Scenic Byway, at twenty-nine miles in length, extends through the Allegheny National Forest adjacent to the Allegheny Reservoir. During the winter months the byway provides access for ice fishing traffic and closed to other vehicular uses. During this time the byway is groomed for snowmobiles, cross country skiing, and mushing.

The Longhouse Scenic Byway in Warren County is shown on:

Map: Cultural and Historic Resources Inventory

Population Centers and Destinations

Warren County has twenty-seven (27) incorporated municipalities: one (1) city, five (5) boroughs, and twenty-one (21) townships. Table 2-2 lists the ten largest municipalities, in terms of population, based on 2006 population estimates from the U.S. Census Bureau.

**Table 2-2. Ten Largest Municipalities
(Population 2006)**

Municipality	Total Population (2006)*
Warren City	9,605
Conewango Township	3,678
Pine Grove Township	2,572
Pleasant Township	2,401
Sheffield Township	2,246
Glade Township	2,201
Brokenstraw Township	2,013
Sugar Grove Township	1,831
Youngsville Borough	1,706
Columbus Township	1,658

**Source: U.S. Census Bureau 2006 Population Estimates*

The City of Warren was the largest municipality, in terms of population, in 2006. Warren contributes approximately 23% of the County's total population. Eight of the nine remaining communities in the top ten per population (see Table 2-2) were townships. While many reside in these townships, the population is spread over a large geographic area. Several distinct population centers are overlooked by the analysis of total population simply due to the smaller geographic size of these communities. In order to determine where the highest concentrations of Warren County residents are located, the population density of each municipality was examined. The impact of population density on greenways is significant. Creating greenways that serve densely populated areas generally requires a smaller area to serve a large segment of potential users. Greenways will generally require longer segments to serve the same population in a less densely populated portion of a community. Table 2-3 lists the municipalities with the highest population density, in 2006, based on U.S. Census Bureau population estimates.

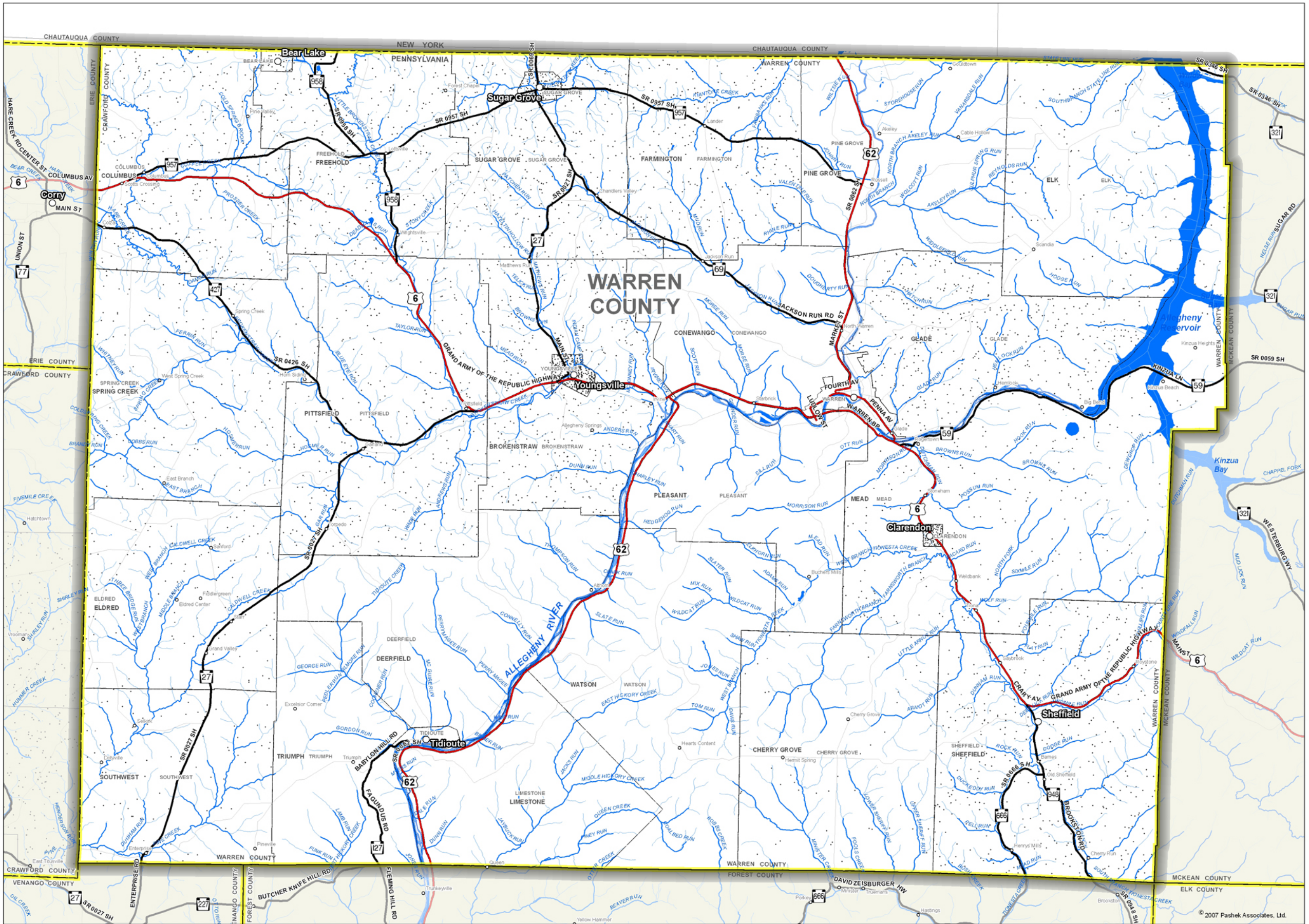
The most densely populated municipalities in Warren County are the City of Warren and the boroughs. The top ten municipalities in terms of population density are described in Table 1-3. Warren, the County's most densely populated and largest in terms of population, is situated in the east central portion

of the County, at the crossroads formed by U.S. Routes 6 and 62. Warren is also situated along the Allegheny River. Youngsville and Clarendon, the second and third most densely populated municipalities respectively, are both located along U.S. Route 6 as well. Tidioute, the fourth ranking municipality, in terms of population density, is situated along U.S. Route 62 and the Allegheny River, south of the City of Warren. Sugar Grove and Bear Lake Boroughs are located in the northernmost portion of the County.

Table 2-3. Ten Most-Densely Populated Municipalities

Municipality	Total Population (2006)*	Population per Square Mile (2006)
Warren City	9,605	3,098
Youngsville Borough	1,706	1,270
Clarendon Borough	525	1,241
Tidioute Borough	739	662
Sugar Grove Borough	571	512
Bear Lake Borough	180	263
Conewango Township	3,678	119
Pleasant Township	2,401	70
Pine Grove Township	2,572	65
Glade Township	2,201	60

**Source: U.S. Census Bureau 2006 Population Estimates*

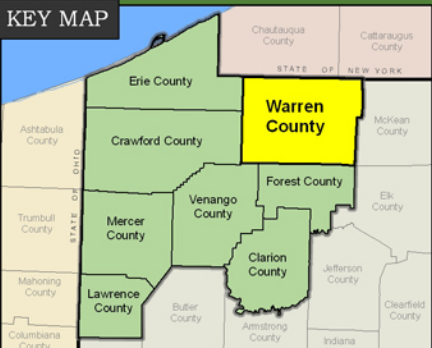


Northwest Pennsylvania Greenways Plan

for

Clarion County Lawrence County
Crawford County Mercer County
Erie County Venango County
Forest County Warren County

KEY MAP



LEGEND

- State Boundary
- County Boundary
- Lake / Reservoir
- River
- Stream
- Interstate
- PA State Route
- US Highway

Population Density

1 dot = 5 people

Based on 2006 Population Estimates
from the U.S. Census Bureau
www.census.gov

Data Source:
ESRI 2005 Street Map USA Data
US Geologic Survey (USGS)
Pennsylvania Spatial Data Access (PASDA)
Pennsylvania Department of Transportation (PennDOT)
Department of Conservation and Natural Resources (DCNR)
Western Pennsylvania Conservancy (WPC)
Federal Emergency Management Agency (FEMA)
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Natural Resources Conservation Service (NRCS) - Soil Data Mart
Pennsylvania Department of Environmental Protection (DEP)

Pashek Associates
makes no claims to
the accuracy of
this data.



Population Density

PASHEK
ASSOCIATES
a pennsylvania corporation

Warren County

Population Trends

Warren County's population decreased approximately 7.3% between 1990 and 2006. According to the U.S. Census Bureau there were approximately 41,742 residents within the County in 2006. Although seventeen of the County's municipalities lost population between 1990 and 2006, the most significant population losses occurred in the City of Warren and Conewango Township. These two municipalities saw approximately 2,300 residents leave over the 16-year period. Several other communities also witnessed significant population losses including Pine Grove, Pleasant, Sheffield, Glade, and Columbus Townships and Clarendon Borough. Ten of the County's municipalities experienced a gain in population during the same time period. However, these gains were not great enough to offset the population lost in other areas of the County. Detailed figures highlighting the population of Warren County municipalities between 1990 and 2006 are included within Table 2-4.

Table 2-4. Population Trends of Warren County Municipalities

Warren County	Population			% change		
	1990	2000	2006*	1990-2000	2000-2006	1990-2006
	45,050	43,863	41,742	-2.63%	-4.84%	-7.34%
Warren City	11,122	10,259	9,605	-7.76%	-6.37%	-13.64%
Conewango Township	4,475	3,915	3,678	0	0	-17.81%
Pine Grove Township	2,756	2,712	2,572	-1.60%	-5.16%	-6.68%
Pleasant Township	2,663	2,528	2,401	0	0	-9.84%
Sheffield Township	2,382	2,346	2,246	-1.51%	-4.26%	-5.71%
Glade Township	2,372	2,319	2,201	0	0	-7.21%
Brokenstraw Township	1,962	2,068	2,013	5.40%	-2.66%	2.60%
Sugar Grove Township	1,745	1,870	1,831	0	0	4.93%
Youngsville Borough	1,775	1,834	1,706	3.32%	-6.98%	-3.89%
Columbus Township	1,776	1,741	1,658	0	0	-6.64%
Pittsfield Township	1,543	1,519	1,497	-1.56%	-1.45%	-2.98%
Mead Township	1,579	1,555	1,491	0	0	-5.57%
Freehold Township	1,318	1,402	1,372	6.37%	-2.14%	4.10%
Farmington Township	1,287	1,353	1,294	0	0	0.54%
Spring Creek Township	843	872	872	3.44%	0.00%	3.44%
Tidioute Borough	791	792	739	0	0	-6.57%
Eldred Township	669	709	680	5.98%	-4.09%	1.64%
Sugar Grove Borough	604	613	571	0	0	-5.46%
Southwest Township	626	561	540	-10.38%	-3.74%	-13.74%
Elk Township	541	551	534	0	0	-1.29%
Clarendon Borough	650	564	525	-13.23%	-6.91%	-19.23%
Limestone Township	359	418	403	0	0	12.26%
Deerfield Township	274	333	321	21.53%	-3.60%	17.15%
Watson Township	276	322	311	0	0	12.68%
Triumph Township	314	286	279	-8.92%	-2.45%	-11.15%
Cherry Grove Township	155	228	222	0	0	43.23%
Bear Lake Borough	193	193	180	0.00%	-6.74%	-6.74%

*Source: U.S. Census Bureau 2006 Population Estimates

CHAPTER THREE

WHERE DO WE WANT TO BE?

- The Vision for Greenways in Warren County

CHAPTER THREE: *WHERE DO WE WANT TO BE?*

CREATING A VISION FOR GREENWAYS

Greenways can serve many functions with regional and local impact. When determining the guiding principles used to designate greenways for Warren County, we considered the objectives established in the early part of the planning process. The following goals and objectives offer insight into the function of the greenways to be developed in the County:

Preserving and enhancing Warren County's character and quality of life is the main goal of the Greenways Plan, and these specific objectives support this main goal:

- Protect existing natural areas primarily for ecological health and preservation of wildlife habitat;
- Provide recreation and transportation opportunities for County residents through preservation and connection of existing open spaces;
- Promote economic growth via recreational or eco-tourism;
- Encourage local municipalities to work in unison to help protect their various resources by adopting open-space and land-use regulations;
- Educate County residents on the aspects and benefits of Greenways Planning, including the benefits of implementation of the goals listed above.

These goals and objectives support the two general functions that define proposed Greenways in Warren County:

- 1) Natural Systems Greenways are corridors whose primary function is preservation of unique Natural Infrastructure, including habitats such as wetlands, steep slopes, floodplains, and exceptional value water-quality streams; high-value natural areas identified by the County Natural Heritage Inventory; Interior Forests; Important Bird Areas; and Important Mammal Areas. They are linear tracts of essentially undeveloped open space. Some low impact activity, like hiking or wildlife observation, is acceptable in these corridors, but intense development and motorized vehicle use are not recommended.
- 2) Recreation and Transportation Greenways are corridors in which trail development is recommended, or trails already exist. These greenways connect population centers and points of interest. They bring people in contact with the outdoors and engender an appreciation of the natural world. These trails also provide alternative, environmentally-friendly transportation opportunities for commuters and visitors. In some cases, trails overlay areas where conservation of natural assets is also an objective. To avoid conflicts, recreational uses should be planned to minimize impacts. For example, a biking trail along a river or stream corridor should be designed to preserve steep slopes, wetlands, and other sensitive areas.

THE STRUCTURE OF THE NETWORK

Building the framework of the greenway network began with laying out the Natural Systems Greenways. These corridors follow the existing natural features within the County, such as forests, ridgelines, significant stream corridors, and wildlife habitats. Overlaying this Natural Systems backdrop, the plan adopts a “hubs and spokes” structure for its recreation and transportation greenways. Pennsylvania’s Plan entitled *Pennsylvania Greenways: An Action Plan for Creating Connections* describes the product of this overlay method as follows:

Pennsylvania’s greenways network will ultimately take the form of “hubs and spokes.” The “hubs” of this network will be the state’s parks, forests, game lands, lakes, and other destinations areas, including our towns. The “spokes” of the network will be greenways – connecting our natural areas and recreational and cultural destinations with the places where we live. The landscape connections that will result throughout Pennsylvania will create a “green infrastructure” of open space vital to the health of Pennsylvania’s ecological systems and human communities.

The “hubs,” sometimes called nodes, are the significant destination points – trail towns and important recreation areas. The spokes or corridors will provide the links between them. In some areas, natural systems corridors are distinct from recreation and transportation greenways, in other cases, they coincide. Finally, because streams, mountain ridges, wildlife habitats, state parks, and some trails do not terminate at the County’s boundaries, the greenways network proposes that recreation and transportation corridors continue outward and form connections to natural and recreational assets in neighboring Counties and states.

It should also be noted that any plan to develop greenways will encounter some obstacles, such as incompatible land uses, environmental constraints, and unwilling private and public land owners. These issues should not prevent the County from creating its vision of a greenway network. Conflicts can be addressed at a later time, when segments of the plan proceed to design and implementation at the local level.

Natural Systems Greenways

The process of developing Natural Systems Greenways network utilized a green infrastructure approach in identifying the building blocks. This helped contribute to region’s well-being and identified strategies to assure these resources are available to provide their valuable functions for future generations of Warren County residents. The process of establishing this network in Warren County will not take away the rights of property owners, nor will it restrict development in the region. Instead, Natural Systems Greenways will promote sustainable development; lower development costs; and reduce the burden of providing public services on local, county, and state governments.

Green infrastructure can be defined as an interconnected network of natural areas and other open space that helps preserve natural ecosystem values and functions, sustains clean air and water, and provides a variety of benefits to people and wildlife. Many people see open space as areas that are not yet developed and green space as land preserved for parks or natural areas. This plan promotes the development of Natural Systems Greenways within existing open space and green space networks.

The way that this plan will differ from conventional approaches to land conservation and natural resource protection is that it will look at conservation in harmony with development. This approach will help communities develop with minimal stress on the sensitive environmental resources in their area.


Warren County Greenways Plan

The inventory of natural and ecological infrastructure enables planners to generate the *building blocks* of the proposed *Natural Systems Greenway*. Understanding the natural resources of Warren County is fundamental to developing a Greenways Plan.

Natural Systems Greenway Criteria

The Natural Systems Greenway network was established using a system of weighted values, given to the building blocks, that are identified in the natural and ecological infrastructure inventories. The project study committee, with the help of Pashek Associates, assigned values to these building blocks based on their county-wide significance. Each building block was then mapped individually, and all natural resources were overlaid onto each other and depicted on the Natural Systems Building Blocks map. When more than one building block overlapped, their respective values were added together creating a cumulative value. Areas with the highest total values included the most building blocks, and thus merited inclusion in the conservation greenways network.

Weighted values given to the county's various building blocks are shown in the table below:

Ranking Criteria										
	1	2	3	4	5	6	7	8	9	10
Biological Diversity Area - No Activity										
Biological Diversity Area - Nature Observation										
Biological Diversity Area - Passive Recreation										
Wetland										
Slopes > 25%										
Biological Diversity Area - Active Recreation										
Floodplain										
Exceptional Value Stream										
Landscape Conservation Area - No Activity										
National Wildlife Refuge										
Landscape Conservation Area - Nature Observation										
High Quality Cold Water Fishery										
National Forest										
State Forest										
State Game Land										
Landscape Conservation Area - Passive Recreation										
Landscape Conservation Area - Active Recreation										
State Park										
Supporting Natural Landscape										
Interior Forest										
Exceptional Value Watershed										
Hydric Soils										
Important Bird Area										
Important Mammal Area										
Other Managed Land										
County Park										

The project study committee determined that areas with a cumulative value of 7 or higher were to be included in the Natural Systems Greenways network for Warren County, to the greatest possible extent. The most important building blocks received values of 7 to insure their inclusion in the network. Other areas achieving the minimum cumulative value contain at least two overlapping building blocks.

Although every effort was made to include all areas achieving the minimum weighted value, not every piece of land containing important resources could be encompassed. The Natural Systems Greenways network includes most contiguous areas, while striving to preserve linear tracts of open space. It is recommended that small, isolated patches with high weighted cumulative values be addressed at the municipal level, rather than in the county-wide greenways plan.

The above method describes the scientific side of identifying the important natural systems corridors. To develop feasible Natural Systems Greenways, common sense must also be applied. In some instances, areas receiving a cumulative value less than the stated minimum were included in the network. These areas are necessary for creating logical connections between natural systems corridors, in close proximity to one another, to ensure continuity of proposed Natural Systems Greenways.

Natural Systems Greenways Priorities, and Sensitivity Level

Using the green infrastructure approach, the project study committee, with the help of Pashek Associates, identified twenty (20) Natural Systems Greenway corridors throughout Warren County.

To establish a priority level for these proposed Natural Systems Greenways, the cumulative values calculated as part of the corridor selection method above were utilized to determine the most sensitive greenways. This priority selection process was accomplished through separating each value assigned to lands within the corridor into its own class. These classes were then totaled and divided by the number of classes, resulting in a weighted value for each greenway corridor. This weighted value was then used to rank greenways based on the amount and importance of the sensitive resources within each corridor.

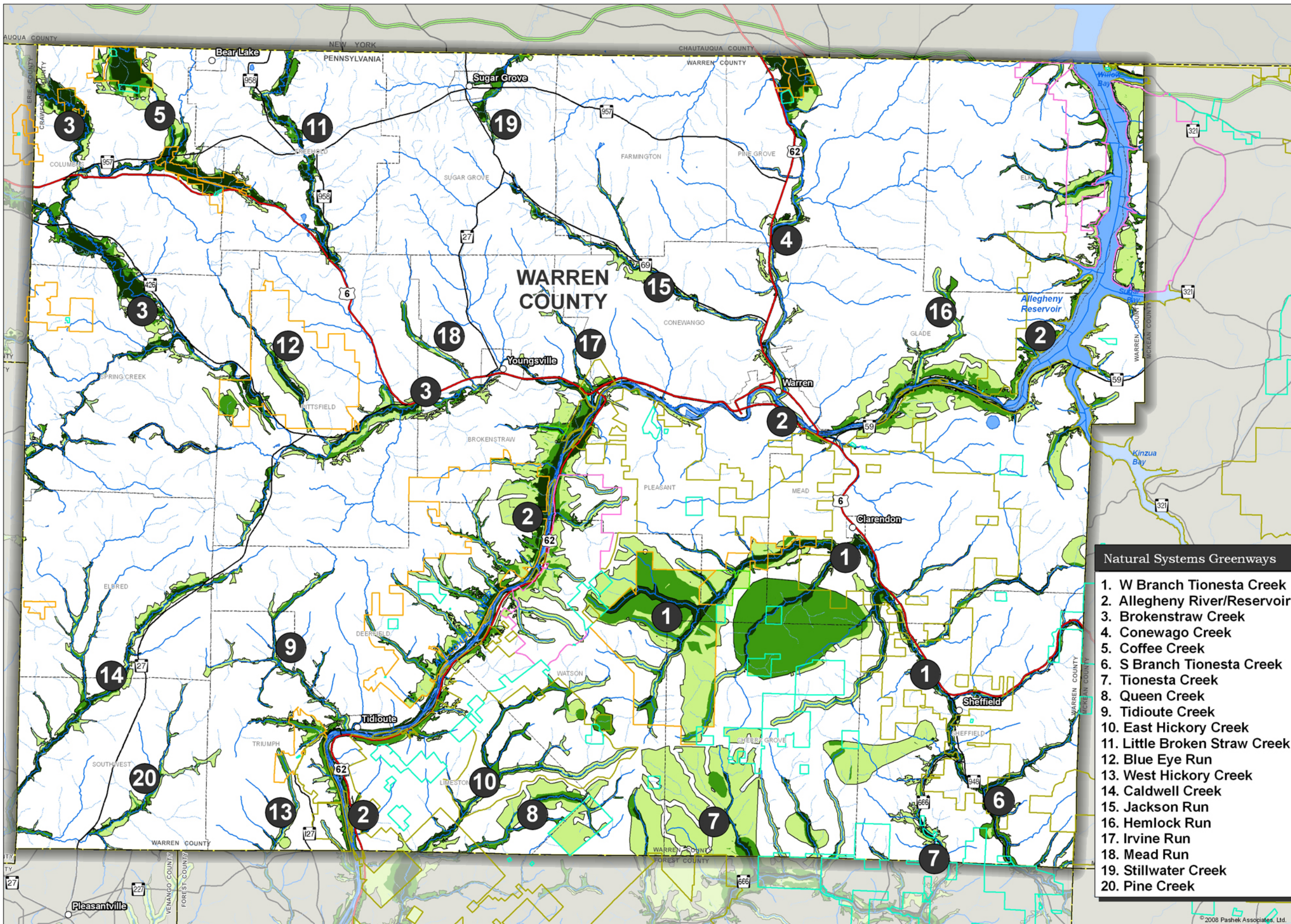
The greenway corridors were also analyzed for their inclusion of existing development, or urban areas, and for existing protected lands. Protected lands included any state parks, forests, or game lands; county parks; and other lands managed for conservation purposes. The table below describes the total acreage of each greenway, the acreage of developed or urban land, the protected acreage, and the remaining acreage susceptible to future development.

Warren County Greenways Plan

Priority	Ranking	Greenway Name	Sensitivity Ranking	Total Acres	Total Conserved Acres	Total Percent Conserved	Developed Acres	Percent Developed
Exceptional	1	West Branch Tionesta Creek	26.2	23,965	21,272	88.8%	2,296	9.6%
	2	Allegheny River/Reservoir	25.6	33,359	17,592	52.7%	725	2.2%
	3	Brokenstraw Creek	24.1	9,031	897	9.9%	337	3.7%
	4	Conewango Creek	23.5	2,997	510	17.0%	372	12.4%
	5	Coffee Creek	23.5	3,820	1,878	49.2%	89	2.3%
Significant	6	South Branch Tionesta Creek	22.1	1,282	967	75.4%	13	1.0%
	7	Tionesta Creek	21.2	9,582	9,463	98.8%	24	0.3%
	8	Queen Creek	20.7	2,649	2,600	98.2%	0	0.0%
	9	Tidioute Creek	20.0	1,097	0	0.0%	15	1.4%
	10	East Hickory Creek	19.6	2,555	2,166	84.8%	150	5.9%
	11	Little Brokenstraw Creek	19.3	1,637	0	0.0%	79	4.8%
High	12	Blue Eye Run	17.8	841	767	91.2%	1	0.1%
	13	West Hickory Creek	17.5	468	87	18.6%	6	1.3%
	14	Caldwell Creek	17.4	2,763	0	0.0%	20	0.7%
	15	Jackson Run	16.8	1,457	0	0.0%	106	7.3%
	16	Hemlock Run	16.4	474	0	0.0%	1	0.2%
	17	Irvine Run	16.3	421	144	34.2%	34	8.1%
	18	Mead Run	15.9	346	0	0.0%	10	2.9%
	19	Stillwater Creek	15.2	585	0	0.0%	11	1.9%
	20	Pine Creek	14.9	966	0	0.0%	2	0.2%

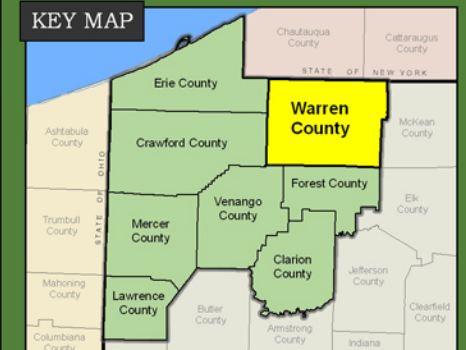
Each of these greenway corridors are also broken down by their sensitivity level and designated as having exceptional, significant, or high value. Exceptional value natural system corridors are those areas receiving a cumulative value greater than twenty-three (23). These corridors contain the most sensitive green infrastructure in Warren County. Significant value corridors received a cumulative value between eighteen (18) and twenty-three (23), whereas moderate value corridors received a cumulative value between fifteen (15) and nineteen (19). While all Natural Systems Greenways are important, the sensitivity level ranking allows planners to determine the highest priority areas within each greenway, based on the amount and importance of natural resources contained in the proposed corridor.

These greenway corridors, as well as the location of exceptional, significant, and high value areas within them, are depicted on the Natural Systems Greenways map. Descriptions of each greenway can be found on the pages thereafter.



Northwest Pennsylvania Greenways Plan

for
 Clarion County Lawrence County
 Crawford County Mercer County
 Erie County Venango County
 Forest County Warren County



LEGEND

- County Boundary
- Municipal Boundary
- Lake
- River / Major Stream
- Tributary

TRANSPORTATION

- Interstate
- PA State Route
- US Highway

Managed Land (DCNR Data)

- Allegheny National Forest
- National Recreation Area
- State Park
- County Park
- State Game Land
- Other Managed

NATURAL SYSTEMS SENSITIVITY

- Exceptional
- High
- Moderate

Data Source:
 ESRI 2005 Data
 USGS
 PASDA
 PennDOT

Projection: State Plane - NAD 1983
 Pennsylvania North Feet



Pashek Associates makes
 no claims to the accuracy
 of this data.

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Natural Systems Greenways

1. W Branch Tionesta Creek
2. Allegheny River/Reservoir
3. Brokenstraw Creek
4. Conewago Creek
5. Coffee Creek
6. S Branch Tionesta Creek
7. Tionesta Creek
8. Queen Creek
9. Tidioute Creek
10. East Hickory Creek
11. Little Broken Straw Creek
12. Blue Eye Run
13. West Hickory Creek
14. Caldwell Creek
15. Jackson Run
16. Hemlock Run
17. Irvine Run
18. Mead Run
19. Stillwater Creek
20. Pine Creek

Warren County - *Natural Systems Greenways Priorities Chart*

Priority	Ranking	Greenway Name	Sensitivity Ranking	Total Acres	Total Conserved Acres	Total Percent Conserved	Developed Acres	Percent Developed	Developed & Conserved	Net Not Conserved & Not Developed	Net Percent Conserved	Net Percent Not Conserved & Not Developed	Managed Lands
Exceptional	1	West Branch Tionesta Creek	26.2	23,965	21,272	88.8%	2,296	9.6%	73	397	98.3%	1.7%	Allegheny National Forest, Chapman State Park, State Game Land No. 29, and privately managed land
	2	Allegheny River/Reservoir	25.6	33,359	17,592	52.7%	725	2.2%	144	15,042	54.9%	45.1%	
	3	Brokenstraw Creek	24.1	9,031	897	9.9%	337	3.7%	20	7,797	13.7%	86.3%	State Game Land No.'s 197 & 143, Allegheny National Forest, and provately managed land
	4	Conewango Creek	23.5	2,997	510	17.0%	372	12.4%	1	2,115	29.4%	70.6%	Aekely Swamp and State Game Land No. 282
	5	Coffee Creek	23.5	3,820	1,878	49.2%	89	2.3%	16	1,853	51.5%	48.5%	Topolovich Bog, State Game Land No.'s 306 & 197, and privately managed land
Significant	6	South Branch Tionesta Creek	22.1	1,282	967	75.4%	13	1.0%	26	302	76.4%	23.6%	Allegheny National Forest and privately managed land
	7	Tionesta Creek	21.2	9,582	9,463	98.8%	24	0.3%	0	95	99.0%	1.0%	
	8	Queen Creek	20.7	2,649	2,600	98.2%	0	0.0%	0	49	98.2%	1.8%	Allegheny National Forest and privately mananged land
	9	Tidioute Creek	20.0	1,097	0	0.0%	15	1.4%	0	1,082	1.4%	98.6%	
	10	East Hickory Creek	19.6	2,555	2,166	84.8%	150	5.9%	144	239	90.6%	9.4%	Allegheny National Forest, Hickory Creek Wildernass Area, and privately managed land
	11	Little Brokenstraw Creek	19.3	1,637	0	0.0%	79	4.8%	0	1,558	4.8%	95.2%	
High	12	Blue Eye Run	17.8	841	767	91.2%	1	0.1%	1	73	91.3%	8.7%	State Game Land No. 143
	13	West Hickory Creek	17.5	468	87	18.6%	6	1.3%	0	375	19.9%	80.1%	State Game Land No. 309
	14	Caldwell Creek	17.4	2,763	0	0.0%	20	0.7%	0	2,743	0.7%	99.3%	
	15	Jackson Run	16.8	1,457	0	0.0%	106	7.3%	0	1,351	7.3%	92.7%	
	16	Hemlock Run	16.4	474	0	0.0%	1	0.2%	0	473	0.2%	99.8%	
	17	Irvine Run	16.3	421	144	34.2%	34	8.1%	28	243	42.3%	57.7%	Allegheny National Forest
	18	Mead Run	15.9	346	0	0.0%	10	2.9%	0	336	2.9%	97.1%	
	19	Stillwater Creek	15.2	585	0	0.0%	11	1.9%	0	574	1.9%	98.1%	
	20	Pine Creek	14.9	966	0	0.0%	2	0.2%	0	964	0.2%	99.8%	
Totals				100,295	58,343	58.2%	4,291		453	37,661	62.4%	37.6%	

Natural Systems Greenway Corridor Descriptions

- 1) West Branch Tionesta Creek – This corridor is situated in southeastern Warren County, adjacent to West Branch Tionesta Creek, Tom Run, Davis Run, Shaw Run, Wildcat Run, Mix Run, Slater Run, Adams Run, Elkhorn Run, Mead Run, Farnsworth Branch, Little Arnot Run, Arnot Run, Sixmile Run, and Twomile Run. Also within this greenway, is a portion of Allegheny National Forest, Chapman State Park, State Game Land No. 29, privately managed land, and six BDA's:

- West Branch Tionesta Creek – 2 BDA is a forested stream riparian corridor that supports an animal species of special concern.
- Confluence of Conewango Creek & Allegheny River BDA is an aquatic habitat that supports eleven animal species of special concern.
- West Branch Tionesta Creek BDA is a stream habitat that supports an animal species of special concern.
- Clarendon Wetland BDA surrounds a forested scrub/shrub wetland that supports a plant species of special concern.
- Farnsworth Branch BDA is a high diversity mist net site.

In addition to protecting the BDA described above, this greenway will also be of benefit in preserving the Exceptional Value rating on Arnot Run and Wildcat Run, as well as the High Quality Cold Water Fishery designation on Fourmile Run, Sixmile Run, Farnsworth Branch, Elkhorn Run, Adams Run, Shaw Run, Jones Run, Tom Run, and the upper section of West Branch Tionesta Creek.

Approximate Size: The total acreage of this greenway is estimated to be nearly 24,000 acres, of which 88.8% is protected within the national forest, state park, state game land, and privately managed land. Approximately 9.6% of this greenway is designated as developed or urban land.

Associated Municipalities: Watson, Cherry Grove, Pleasant, Mead, and Sheffield Townships, as well as Clarendon Borough

- 2) Allegheny River/Reservoir Greenway – This greenway is situated around Allegheny River and Reservoir and adjacent to several tributaries. It includes portions of Allegheny National Forest (ANF), Allegheny National Recreation Area, State Game Lands No.86 and 309, ANF Wilderness Areas, privately managed land, and Important Mammal Area (IMA) and ten BDA's:

- Allegheny Reservoir BDA is a river impoundment habitat that supports an animal species of special concern.
- South Branch State Line Run BDA encompasses a stream habitat that supports an animal species of special concern.
- Cornplanter Run BDA encompasses a stream habitat that supports an animal species of special concern.

- Allegheny River above Warren is an aquatic habitat that supports an animal and plant species of special concern.
- Confluence of Conewango Creek and Allegheny River BDA is an aquatic habitat that supports eleven animal species of special concern.
- Anders Run BDA is an old growth eastern hemlock and white pine forest community.
- Allegheny River 2 BDA includes an alluvial island and river floodplain that supports two rare community types and six animal and four plant species of special concern.
- Dewdrop Run BDA includes the forested stream riparian corridor and upland habitat, which is a high diversity mist net site.
- Allegheny River BDA includes river habitat that supports twelve animal and one plant species of special concern.
- County Line BDA encompasses a section of the Wild and Scenic River designated Allegheny River that provides habitat for six freshwater mussel species and one vertebrate species of special concern.

In addition to protecting the BDA described above, this greenway will also be of benefit in preserving the High Quality Cold Water Fishery designation on Dewdrop Run, Slater Run, Campbell Run, Hedgehog Run, and Tidioute Creek.

Approximate Size: The total length of this greenway is more than 45 miles. The width varies from less than 1,500 feet in some sections to nearly 2.5 miles near the mouth of Hedgehog Run.

The total acreage of Allegheny River/Reservoir greenway is more than 33,000 acres, of which 52.7% is protected within the national forest, state game lands, national recreation area and privately managed land. Approximately 2.2% of this greenway is designated as developed or urban land.

Associated Municipalities: Elk, Mead, Glade, Pleasant, Conewango, Brokenstraw, Deerfield, Watson, Triumph, and Limestone Townships, as well as the City of Warren

- 3) Brokenstraw Creek Greenway – Situated in the extreme northwest corner of Warren County, this greenway is found adjacent to Brokenstraw Creek, Coffee Creek, Hare Creek, Spring Creek, and Gar Run. Additionally, this greenway includes State Game Lands No. 197 and 143, Allegheny National Forest, and privately managed land, as well as fifteen BDA's :
- State Game Land No. 197/Brokenstraw Valley Seepage Flats BDA encompasses the seepage flats that support four plant species of special concern.
 - Shayne's Fen BDA is an emergent wetland and sedge rich seep that supports three animal and five plant species of special concern.
 - Hansen Tract BDA encompasses seeps that support six plant species of special concern.

- Confluence of Coffee and Brokenstraw Creeks BDA includes a stream habitat that supports an animal of special concern.
- Brokenstraw Creek BDA includes the floodplain wetlands on Brokenstraw Creek that supports two plant species of special concern.
- Smith Tract/Brokenstraw Creek Impoundment Marsh BDA includes the impoundment marsh on Brokenstraw Creek that supports two plant species of special concern.
- Rensma Property BDA There is no info on this BDA.
- Rensma Property (adjacent to) BDA is a forested wetland that supports two plant species of special concern.
- Carlisle Farm BDA is a scrub/shrub wetland that supports an animal species of special concern.
- Carlisle Farm 2 BDA is an emergent wetland habitat that supports a plant species of special concern.
- Carlisle Farm 3 BDA surrounds part of Spring Creek and includes an aquatic habitat, as well as adjacent forested floodplain that support two plant and one animal species of special concern.
- Hyer Road Floodplain BDA includes a floodplain habitat adjacent to Conewango Creek that supports a plant species of special concern.
- Spring Creek North/Carlisle Farm There is no information on this BDA.
- State Game Land No. 143 Seep BDA is a seep adjacent to Hosmer Run that supports a plant species of special concern.
- Confluence of Little Brokenstraw and Brokenstraw Creek BDA surrounds the stream habitat that supports an animal species of special concern.
- Confluence of Conewango Creek and Allegheny River BDA is an aquatic habitat that supports eleven animal species of special concern.

In addition to protecting the BDA described above, this greenway will also be of benefit in preserving High Quality Cold Water Fishery designation Spring Creek.

Approximate Size: The total length of the Brokenstraw Creek Greenway is roughly 26 miles, as well as an additional 6 miles along Spring Creek. The width varies from nearly 1 mile near the mouth of Damon Run to less than 1,000 feet in some sections.

The total acreage of this greenway is estimated to be around 9,000 acres, of which 9.9% is protected within the national forest, state game lands, and privately managed land. Approximately 3.7% of this greenway is designated as developed or urban land.

Associated Municipalities: Tionesta, Green, Kingsley, and Howe Townships, as well as Tionesta Borough

- 4) Conewango Creek Greenway – This greenway is located north of the City of Warren, adjacent to Conewango Creek. It includes Akeley Swamp and State Game Land No. 282, as well as Akeley Swamp IBA and six BDA's:
- Akeley Swamp BDA is a mixed wetland habitat that supports five animal species and three plant species of special concern.
 - Russell Floodplain BDA encompasses a floodplain habitat adjacent to Conewango Creek that supports two plant species of special concern.
 - Conewango Creek BDA is a stream habitat that supports seven animal species of special concern.
 - Conewango Creek 2 BDA includes a forested wetland habitat along Conewango Creek that supports a plant species of special concern.
 - Warren State Hospital BDA is a floodplain habitat adjacent to Conewango Creek that supports a plant species of special concern.
 - Confluence of Conewango Creek BDA is an aquatic habitat that supports eleven animal species of special concern.

Approximate Size: The total length of the Allegheny River Greenway is roughly 10 miles, within Warren County. The width varies from less than 500 feet to more than 1 mile surrounding the state game land.

The total acreage of this greenway is estimated to be nearly 3,000 acres, of which 17% is protected within the state game land and Akeley Swamp. Approximately 12.4% of this greenway is designated as developed or urban land.

Associated Municipalities: Glade, Conewango, and Pine Grove Townships, as well as the City of Warren

- 5) Coffee Creek Greenway – Situated in northwestern Warren County, adjacent to Coffee Creek, Cold Spring Brook, and Pine Valley Creek. This greenway also includes Toplovich Bog, State Game Land No. 197, and four BDA's:
- State Game Land No. 197/Tamarack Swamp BDA is a forested wetland with sulphur springs and Toplovich Bogs which supports twenty-three plant and seven animal species of special concern.
 - Coffee Creek BDA is a stream habitat that supports two animal species of special concern.
 - Brokenstraw Creek 2 includes a forested wetland habitat near Brokenstraw Creek that supports a plant species of special concern.

- State Game Land NO. 306/Benson Swamp is a forested wetland and hemlock mixed hardwood forest that supports eight plant species of special concern.

Approximate Size: The total length of the Coffee Creek Greenway is roughly 6.8 miles, with an additional 4.3 miles along Cold Spring Brook. The width varies from nearly 2 miles surrounding the state game land to less than 500 feet in several locations.

The total acreage of this greenway is estimated to be more than 3,800 acres, of which 49.2% is currently protected in the state game land and Toplovich Bog. Approximately 2.3% of this greenway is designated as developed or urban land.

Associated Municipalities: Columbus and Freehold Townships

- 6) South Branch Tionesta Creek Greenway – This corridor is located in southeastern section of the County, extending into Forest County. The portion of this greenway in Warren County includes South Branch Tionesta Creek and East Branch Tionesta Creek, as well as portions of Rock Run, Cherry Run, Martin Run, West Fork Run, and East Fork Run. Additionally, found within this greenway is a small section of Tionesta Scenic and Research Natural Area IBA, an Important Mammal Area, Tionesta National Scenic Area, part of the Allegheny National Forest, and five BDA's:
- East Branch Tionesta Creek BDA includes the stream habitat that supports seven animal species of special concern.
 - South Branch Tionesta Creek includes a section of the creek and adjacent wetland habitat that supports eight animal species of special concern.
 - Cherry Run BDA includes the stream habitat that supports an animal species of special concern.
 - South Branch Tionesta 2 BDA is a forest habitat that supports an animal species of special concern.
 - South Branch Tionesta Creek 2 BDA encompasses a forest habitat that supports an animal species of special concern.

In addition to protecting the BDA described above, this greenway will also be of benefit in preserving the High Quality Cold Water Fishery designation on South Branch Tionesta Creek, East Branch Tionesta Creek, and Rock Run.

Approximate Size: The total length of the South Branch Tionesta Creek Greenway is roughly 4.3 miles in Warren County, with an additional 3.7 miles along East Branch Tionesta Creek. The width varies from roughly half a mile to less than 1,000 feet in some sections.

The total acreage is estimated to be more than 1,200 acres, of which 75.4% is currently protected in the national forest. Approximately 1% of this greenway is designated as developed or urban land.

Associated Municipalities: Sheffield Township

- 7) Tionesta Creek Greenway – This greenway is situated in southern Warren County, along Bobbs Creek, Porcupine Run, Minister Creek, Fools Creek, Lower Sherriff Run, and Upper Sherriff Run, which are all tributaries to Tionesta Creek that extend into Forest County. The extent of this greenway in Warren County encompasses the Minister Creek Wilderness Area, which is part of the Allegheny National Forest, and includes five BDA's:
- Bobbs Creek BDA encompasses a forested stream riparian corridor that supports an animal species of special concern.
 - Minister Creek Upland BDA is a forest upland habitat between streams that support an animal species of special concern.
 - Lower Sheriff Run is a forested stream riparian corridor and upland habitat, as well as a high diversity mist net site.
 - Tionesta Creek Tributary Uplands BDA is a high diversity mist net site.
 - Minister Creek BDA includes a stream and forest habitat that supports five odonate species and one fish species of special concern.

This greenway will also be of benefit in preserving the High Quality Cold Water Fishery designation on Bobbs Creek, Minister Creek, Fools Creek, Lower Sherriff Run, and Upper Sherriff Run.

Approximate Size: The total acreage of the Tionesta Creek Greenway is estimated to be more than 9,500 acres, of which 98.8% is currently protected within the national forest. Approximately .3% of this greenway is designated as developed or urban land.

Associated Municipalities: Cherry Grove, Sheffield and Watson Townships

- 8) Queen Creek Greenway – Located in southern Warren County and extending into Forest County, this greenway is found adjacent to Queen Creek, Coalbed Run, and Piney Run. Also included within this greenway is part of the Allegheny National Forest, some privately managed land, an Important Mammal Area, and one BDA:
- Queen Creek BDA is a wetland habitat along Queen Creek that supports an animal and plant species of special concern.

Approximate Size: The total length of this greenway is approximately 6 miles. The width varies from roughly a mile to less than 1,000 feet. The total acreage of this greenway is estimated to be more than 2,600 acres, of which 98.2% is currently protected in the national forest and private land.

Associated Municipalities: Watson and Limestone Townships

- 9) Tidioute Creek Greenway – Situated in southwest Warren County, adjacent to Tidioute Creek, Cochener Run, Pedler Run, Gilmore Run, and George Run.

This greenway will be of benefit in preserving the High Quality Cold Water Fishery designation on Tidioute Creek.

Approximate Size: The total length of this greenway is roughly 7 miles. The width varies from approximately 2,000 feet, near the mouth at Tidioute Creek at the Allegheny River, to less than 1,000 feet in some places.

The total acreage of Tidioute Creek Greenway is estimated to be more than 1,000 acres, none of which is currently protected. Approximately 1.4% of this greenway is designated as developed or urban land.

Associated Municipalities: Triumph, Deerfield, and Eldred Townships

- 10) East Hickory Creek Greenway – Situated in southwest Warren County, this greenway is found adjacent to East Hickory Creek, Camp Run, Jaybuck Run, Jacks Run, Middle Hickory Creek, and Coon Run. A portion of this greenway includes Hickory Creek Wilderness Area and Hearts Content Scenic Area, which are both part of the Allegheny National Forest, some privately managed land, Hickory Creek / Hearts Content Natural Area IBA, and one BDA's:

- Hearts Content Scenic Area BDA includes a forest habitat with some old growth hemlock/white pine forest that supports an animal species of special concern.

Approximate Size: The total length of this greenway corridor is over 9 miles, with an additional 4 miles along Middle Hickory Creek. The width varies from approximately half a mile at the confluence of East Hickory and Middle Hickory Creeks to less than 1,000 feet in various sections.

The total acreage of this greenway is estimated to be more than 2,500 acres, of which 84.8% is currently protected within the national forest. Approximately 5.9% of this greenway is designated as developed or urban land.

Associated Municipalities: Watson and Limestone Townships

- 11) Little Brokenstraw Creek Greenway – Situated in the northwest Warren County, adjacent to Little Brokenstraw Creek, this greenway includes two BDA's:

- Little Brokenstraw Creek North BDA is a stream habitat that supports an animal species of special concern.
- Little Brokenstraw Creek South BDA is a stream habitat that supports two animals of special concern.

Approximate Size: The total length of this greenway is roughly 8 miles. The width varies from less than 500 feet to nearly 2,500 feet.

The total acreage of this greenway is estimated to be more than 1,600 acres, none of which is currently protected. Approximately 4.8% of this greenway is designated as developed or urban land.

Associated Municipalities: Freehold and Pittsfield Townships

- 12) Blue Eye Run Greenway – This greenway is situated in the western section of the County, adjacent to Blue Eye Run, a tributary of Brokenstraw Creek. It includes part of State Game Land No. 143 as well as one BDA:

- Blue Eye Run BDA is a stream habitat that supports an animal of special concern.

Approximate Size: The total length of this Blue Eye Run Greenway is roughly 5 miles. The width varies from less than 500 feet, near the headwaters, to nearly 3,500 feet within the state game land.

The total acreage of this greenway is estimated to be roughly 840 acres, of which 91.2% is currently protected within the state game land. Approximately .1% of this greenway is designated as developed or urban land.

Associated Municipalities: Spring Creek and Pittsfield Townships

- 13) West Hickory Creek Greenway – The majority of this greenway is situated in Forest County. The section within Warren County is found adjacent to West Hickory Creek and portions of Lamb Run, Funk Run, and Martin Run. Additionally, this greenway includes part of the Allegheny National Forest, State Game Land No. 309, and one BDA:

- West Hickory Creek BDA is a forest habitat that supports an animal species of special concern.

This greenway will also be of benefit in preserving the High Quality Cold Water Fishery designation on West Hickory Creek.

Approximate Size: The length of this greenway is roughly 3.5 miles and the width varies from less than 500 feet to roughly 2,500 feet. The total acreage of the West Hickory Creek greenway, within Warren County, is estimated to be 468 acres, of which 18.6% is currently protected in the national forest and state game land. Approximately 1.3% of this greenway is designated as developed or urban land.

Associated Municipalities: Triumph Township

- 14) Caldwell Creek Greenway – This greenway is located in southwest Warren County, adjacent to Caldwell Creek, West Branch Caldwell Creek, Middle Branch Caldwell Creek, and Three Bridge Run. There are no BDA's associated with this greenway. However, Caldwell Creek greenway will be of benefit in preserving the High Quality Cold Water Fishery designation on Caldwell Creek, as well as the Exceptional Value rating on the Middle Branch.

Approximate Size: The total length of this greenway is just over 10 miles, with an additional 6 miles along the Middle Branch and Three Bridge Run. The width varies from less than 500 feet to more than 3,700 feet. The total acreage of the Caldwell Creek greenway is estimated to be over 2,700 acres, none of which is currently protected. Approximately .7% of this greenway is designated as developed or urban land.

Associated Municipalities: Deerfield, Eldred, and Southwest Townships

- 15) Jackson Run Greenway – This greenway is found in northern Warren County, adjacent to Jackson Run, which is a tributary of Conewango Creek and Mud Run. Although there are no BDA's associated with this greenway, it will be of benefit in preserving the High Quality Cold Water Fishery designation on Jackson Run.

Approximate Size: The length of Jackson Run Greenway is estimated to be roughly 10 miles. The width varies from less than 500 feet to nearly 4,000 feet near the mouth of Mud Run.

The total acreage of this greenway is around 1,400 acres, none of which is currently protected. Approximately 7.3% of this greenway is designated as developed or urban land.

Associated Municipalities: Conewango, Farmington, and Sugar Grove Townships

- 16) Hemlock Run Greenway – is situated east of the city of Warren, near the Kinzua Dam. This greenway is found adjacent to Hemlock Run, a High Quality Cold Water Fishery.

Approximate Size: The total length of this greenway is approximately 4.5 miles. The total acreage is estimated to be roughly 475 acres, none of which is currently protected. Approximately .2% of this greenway is designated as developed or urban land.

Associated Municipalities: Elk and Glade Townships

- 17) Irvine Run Greenway – This small greenway is found along Irvine Run, which enters the Allegheny River at the mouth of Brokenstraw Creek.

Approximate Size: The total length of this greenway is estimated to be 4 miles. The acreage is roughly 420 acres, of which 34.2% is currently protected in the Allegheny National Forest. Approximately 8.1% of this greenway is designated as developed or urban land.

Associated Municipalities: Brokenstraw Township

- 18) Mead Run Greenway – This greenway is found in central Warren County, adjacent to Mead Run, a High Quality Cold water Fishery, which is a tributary to Brokenstraw Creek.

Approximate Size: The total length of this greenway is roughly 3.5 miles, and the width is around 1,000 feet throughout. The total acreage is estimated to be approximately 345 acres, none of which is currently protected. Approximately 2.9% of this greenway is designated as developed or urban land.

Associated Municipalities: Brokenstraw and Pittsfield Townships

- 19) Stillwater Creek Greenway – Found in northern Warren County, this greenway is adjacent to Stillwater Creek and one of its tributaries. Stillwater Creek extends into New York State.

Approximate Size: The total length of this greenway is roughly 3.2 miles. The width varies from nearly 3,000 feet to less than 1,000 feet. The total acreage is estimated to be approximately 585 acres, within Warren County, none of which is currently protected. Approximately 1.9% of this greenway is designated as developed or urban land.

Associated Municipalities: Sugar Grove Township and Sugar Grove Borough

- 20) Pine Creek Greenway – This greenway is found in southeastern Warren County, adjacent to Pine Creek, which is a High Quality Cold Water Fishery.

Approximate Size: The total length of this greenway is roughly 5.8 miles, and the width varies from nearly 2,800 feet to less than 1,000 feet. The total acreage is estimated to be approximately 965 acres, none of which is currently protected. Approximately .2% of this greenway is designated as developed or urban land.

Associated Municipalities: Southwest Township

Level of Recommended Conservation

Many of the greenways in Warren County have large or small areas that are protected in places such as state parks, state game lands, or privately managed as mentioned above. However, the majority of the land located within the greenway is privately owned and unprotected. Acquisition of all the land within the aforementioned greenways is not feasible or necessary. The municipalities associated with the proposed Natural Systems Greenways corridors should strive to educate and work with landowners to promote conservation.

While regulatory tools may protect some areas from development, they ignore other threats, such as logging or mining, and can also be a heavy hand to deal with when attempting to form friendly relationships with landowners. Easements and other agreements with educated, conservation-minded landowners can be customized to meet the needs of both parties and may protect some targeted natural resources. Acquisition of small tracts near very vulnerable resources, such as exceptional value water quality stream and wetlands should be considered, but only when feasible and directly beneficial.

Specific tools for conservation, along with specific recommendations, are described in detail in Chapter One of this document.

Recreation and Transportation Greenways

Recreation and transportation greenways were identified by first reviewing existing and potential trail corridors within Warren County. After determining existing trails, what potential trail connections exist, and which connections are feasible; a Recreation and Transportation Greenway network was laid out for the County. After this trail network was mapped, key destinations and points of interest along this network were analyzed.

Recreation and Transportation Greenways – Land Based Trails

- 1) Youngsville to Warren Trail – This trail extends from Warren to Youngsville, along the Allegheny River and Brokenstraw Creek, following an active Allegheny and Eastern Railroad line.

Approximate Length: 8.3 miles

Associated Municipalities: Brokenstraw and Conewango Townships

- 2) North Country Trail – The North Country Trail (NCT) is a planned footpath that extends over 4,000 miles from New York to North Dakota, passing through six additional states along its route. Although many segments of the trail currently exist, completion of the entire route is still years away. The section of the trail through Warren County begins east of Minister Creek Wilderness Area and travels north and east, within Allegheny National Forest (ANF) to Tionesta National Scenic Area, where it enters McKean County. The NCT enters back into Warren County, east of Allegheny Reservoir in the Allegheny National Recreation Area, where it follows the shore of the reservoir north before entering back into McKean County at Willow Bay.

Approximate Length: 20 miles in southern section of Warren County
5.5 miles near Allegheny Reservoir

Associated Municipalities: Watson, Cherry Grove, Sheffield, and Mead Townships

- 3) Bear Lake Trail – this trail follows the abandoned Conrail Bear Lake Line from CM Junction, near Columbus, to the New York State border.

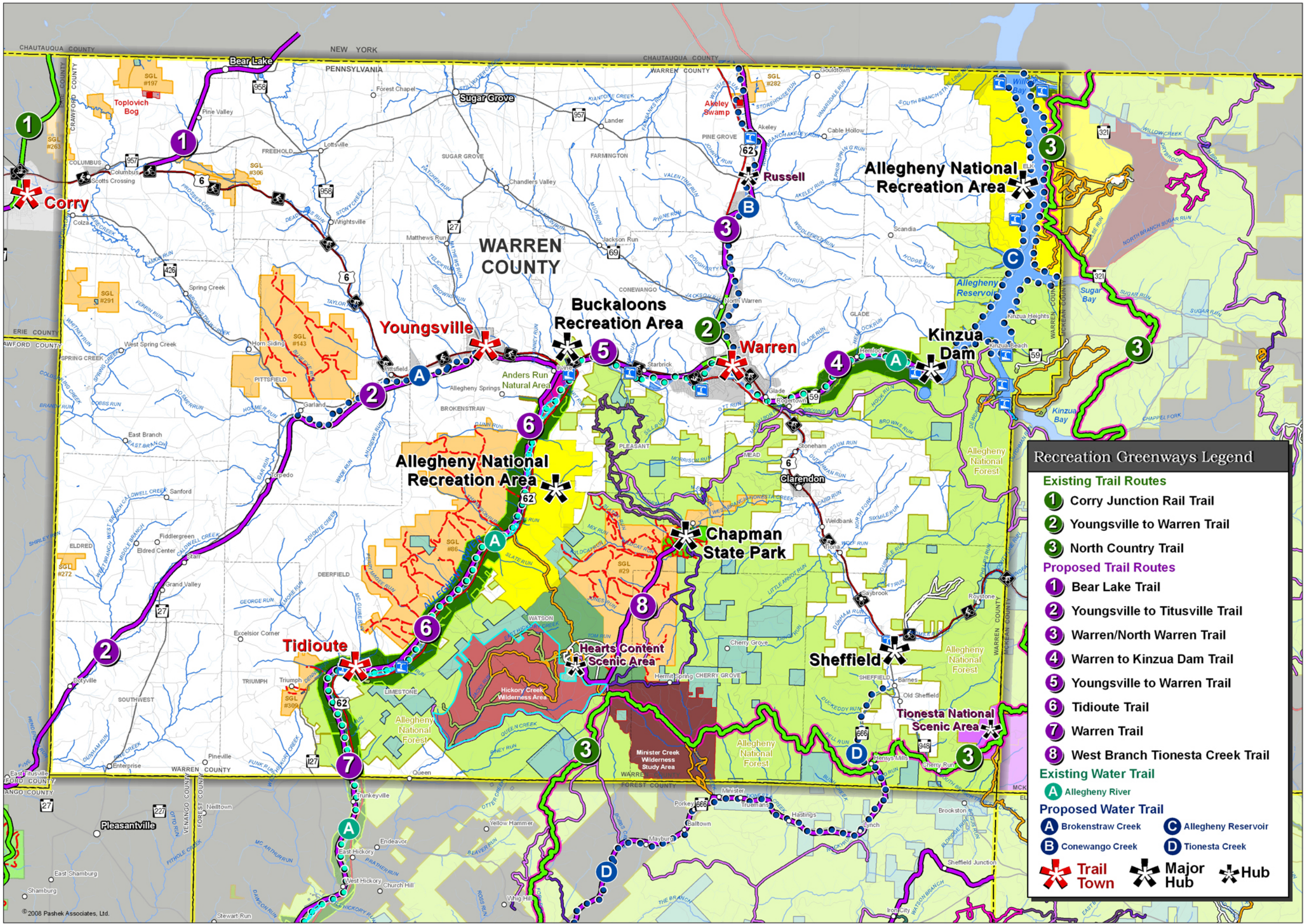
Approximate Length: 8.2 miles

Associated Municipalities: Columbus and Freehold Townships

- 4) Youngsville to Titusville Trail –

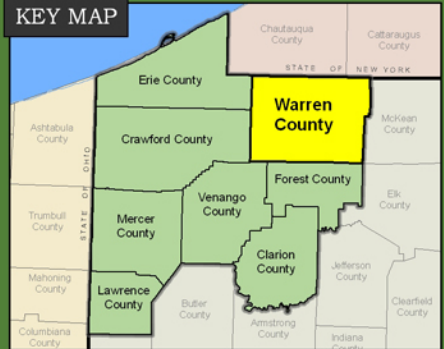
Approximate Length: 22 miles

Associated Municipalities: Southwest, Eldred, Deerfield, Pittsfield, and Brokenstraw Townships, and Youngsville Borough



Northwest Pennsylvania Greenways Plan

for
Clarion County Lawrence County
Crawford County Mercer County
Erie County Venango County
Forest County Warren County



LEGEND

- County Boundary
- Municipal Boundary
- Urban Areas
- Lake / Reservoir
- River
- Interstate
- PA State Route
- US Highway
- PFBC Access Points

Recreation Greenways Legend

- Existing Trail Routes**
- 1 Corry Junction Rail Trail
 - 2 Youngsville to Warren Trail
 - 3 North Country Trail
- Proposed Trail Routes**
- 1 Bear Lake Trail
 - 2 Youngsville to Titusville Trail
 - 3 Warren/North Warren Trail
 - 4 Warren to Kinzua Dam Trail
 - 5 Youngsville to Warren Trail
 - 6 Tidioute Trail
 - 7 Warren Trail
 - 8 West Branch Tionesta Creek Trail
- Existing Water Trail**
- A Allegheny River
- Proposed Water Trail**
- A Brokenstraw Creek
 - B Conewango Creek
 - C Allegheny Reservoir
 - D Tionesta Creek
- Trail Town** **Major Hub** **Hub**

- DCNR Managed Land**
- State Park
 - Pennsylvania State Forest
 - Wild & Scenic River Corridor
 - State Game Land
 - National Recreation Area
 - Allegheny National Forest (ANF)
 - ANF Wilderness Area
 - ANF Wilderness Study Area
 - ANF Scenic Area
 - Other Managed Land - Private

- Existing & Proposed Trails**
- Existing Trail
 - Proposed Trail
 - Existing North Country Trail
 - State Park / State Game Land Trails
 - Bicycle PA Route
 - Existing Water Trail
 - Proposed Water Trail

- Allegheny National Forest Trails**
- ATV Trail
 - Full-time Snowmobile Trail
 - Bank Fishing Trail
 - Full-time ATV / Snowmobile Trail
 - Hiking Trail
 - Joint-use Snowmobile Trail
 - Motorized Bike Trail
 - Pathway
 - Cross-country Skiing Trail

Data Source:
ESRI 2005 Data
USGS
PASHEK
PennDOT

Projection: State Plane - NAD 1983
Pennsylvania North - Feet

1 0 1 Miles

- 5) Warren/North Warren Trail – A portion of this trail is active and paved from downtown Warren to North Warren. The proposed section will continue north to Russell and beyond to New York State, passing through Akeley Swamp and State Game Land No. 282. This trail also parallels the Conewango Water Trail.

Approximate Length: 12 miles

Associated Municipalities: Pine Grove, Glade, and Conewango Townships as well as the City of Warren,

- 6) Warren to Kinzua Dam Trail – This trail parallels the Allegheny River heading east out of the City of Warren, to the Kinzua Dam. It connects the Warren with the Allegheny Reservoir and potentially on to the Allegheny National Recreation Area. The majority of this trail is along the Wild and Scenic designated section of the Allegheny River.

Approximate Length: 6.7 miles

Associated Municipalities: Glade Township and the City of Warren

- 7) Tidioute Trail – The Tidioute Trail runs adjacent to the Allegheny River, between Tidioute and Buckaloons Recreation Area. This trail is part of the regional Warren Trail, linking the City of Warren with Oil City in Venango County. The entire length of this trail parallels the Wild and Scenic section of the Allegheny River.

Approximate Length: 14.2 miles

Associated Municipalities: Brokenstraw and Deerfield Townships as well as Tidioute Borough

- 8) Warren Trail – The Warren Trail follows the abandoned Oil City Secondary Line from Warren County to Venango County along the Allegheny River. The trail will connect Oil City with the City of Warren and passes through Tionesta, in Forest County, as well as Tidioute, in Warren County, along the way. The Warren Trail merges with the Tidioute Trail, in Tidioute, which it follows north to the Youngsville to Warren Trail at Buckaloons Recreation Area.

This trail corridor has potential to link the Allegheny National Forest with large population centers, such as the city of Pittsburgh.

Approximate Length: 4.5 miles in Warren County

Associated Municipalities:

- 9) West Branch Tionesta Creek Trail – This trail connects Hearts Content Scenic Area, in Allegheny National Forest, to Chapman State Park following Forest Route 536, an unimproved forest road that is proposed to be developed as a trail.

Efforts to develop this trail are being pursued by Warren County.

Approximate Length: 7.5 miles

Associated Municipalities: Watson, Cherry Grove, and Pleasant Townships

Allegheny National Forest (ANF) Trails

There is an extensive trail system existing within ANF. These trails serve a range of recreational trail uses including:

- Hiking
- ATV Riding
- Snowmobiling
- Horseback Riding
- Cross-Country Skiing

The ANF trails have the ability to create links between the regional trails that have been proposed as a part of this plan and should be considered for future connections.

Recreation and Transportation Greenways – Water Trails

Water trails are boat routes suitable for canoes, kayaks, and small motorized watercraft. Like conventional trails, water trails are recreational corridors between specific locations. Water trails are comprised of access points, boat launches, day use sites, and in some cases overnight camping areas.

When discussing greenways and trails, it is important to consider opportunities for blueways (water trails). Blueways provide another recreation alternative and venue for residents to get outdoors, enjoy, and explore Warren County. In this section, we inventory the potential opportunities that exist for blueways in Warren County.

The Pennsylvania Fish and Boat Commission has a process of evaluating and designating potential water trails. The Commission is the sole agency to designate official Pennsylvania Water Trails. However, individual water trails and trail corridors are conceived and maintained by a network of volunteers, property owners, civic groups and associations. Upon designation of a water trail, the Pennsylvania Fish and Boat Commission will provide local counties, municipalities, and community organizations with support and guidance in developing and marketing the designated water trail.

The Middle River Allegheny Water Trail is the only officially designated water trail in Warren County. In addition to this designated trail, several other water trail opportunities exist in the County.

Middle Allegheny River Water Trail

The Middle Allegheny River Water Trail, beginning in Warren County below the Kinzua Dam, extends one hundred and seven miles down stream to the Emlenton Access in Venango County. This is one of two official water trails in the Northwest Pennsylvania Planning and Development Commission region. The second is the Clarion River Water Trail. The Middle Allegheny River Water Trail has been officially sanctioned by the Pennsylvania Fish and Boat Commission through their water trails program.

In their “Middle Allegheny River Water Trail Guide,” the Pennsylvania Fish and Boat Commission describes the shuttle points and opportunities along the Middle Allegheny River Water Trail as follows. Printed copies of the guide, which also contain a map and boating safety information, are available from the Pennsylvania Fish and Boat Commission.

Wilderness Islands (Northern) Segment - Kinzua Dam to Tionesta - 45 Miles

This water trail segment begins at the developed boat access, at the base of Kinzua Dam, and ends at the boat access, in the borough of Tionesta. It is characterized by pastoral/rural landscapes and a large number of islands. It contains 24 public islands that are part of the Allegheny National Forest (including seven federally-designated Wilderness Islands), in addition to 60 islands under other ownership. All of the public islands are open for camping and recreation. The Oil Heritage trail segment begins at the boat access site, in the borough of Tionesta, and ends at the community of Emlenton.

Shuttle Points and Points of Interest:

Kinzua Dam and Visitor Center: Operated by the U.S. Army Corps of Engineers, Kinzua Dam was constructed for flood control and river-flow augmentation. Operations and hydroelectric production began in 1966. The visitor center offers exhibits and slide shows about operation of the dam, hydroelectricity, regional attractions, and area ecology. Group tours can be scheduled ahead of time. Canoes can be portaged around the dam if you wish to start on the Allegheny Reservoir, but this must be coordinated with the Army Corps of Engineers. Call ahead to arrange a portage or to verify tour availability at (814) 726-0661. The top of the dam offers scenic views of the Allegheny Reservoir and the impressive dam outflows. Two easy, short, interpretive trails are also available at the dam. Restrooms and telephones are available. Ample free parking is available in the visitor center parking lot.

Allegheny National Fish Hatchery: Across the river and slightly upriver from the boat launch lies the Allegheny National Fish Hatchery and visitor center, operated by the U.S. Fish and Wildlife Service. This state-of-the-art coldwater hatchery is dedicated to the restoration of lake trout in the lower Great Lakes. However, there is no river access to this site.

United Refining Company: The United Refining Company was built in 1902 to process crude oil and has played a key role in Warren's history. About halfway down along the refinery, there are standing waves and riffles created by shallow water and rocks. If your boat is heavily loaded, scout this area out ahead of time. Immediately below the riffles, there is a small island with a burning flare. This is part of the refinery operation. Do not trespass on the island with the flare.

Point Park: A public park, operated by the city of Warren, is located where Conewango Creek enters the Allegheny River, along the right side of the river. "Conewango" is an Iroquois word meaning "below the riffles." You'll find an undeveloped boat access site here, along with picnic tables, grills, and a day-use pavilion.

Downtown Warren/Soldiers and Sailors Park: As the trail passes through downtown Warren, just above the Hickory Street Bridge, on the right side of the approach, lies Soldiers and Sailors Park. This is a small municipal park operated by the city of Warren. The natural center of the region's lumber economy, Warren was used as an early river port for rafts and boats of all descriptions. Steamboats made the difficult trip upriver from Pittsburgh, starting as early as 1830, followed by railroads in the late 1800s. Warren has Victorian homes that are on the National Register of Historic Places, a professional summer theatre, and a number of municipal parks. It is the seat of government for Warren County. Warren is a full-service community with restaurants, lodging, and telephones available in town.

Crescent Park: This small park is located on the left bank and offers a tree-lined path along the riverbank and a picnic shelter at the south end of the park. Warren County General Hospital is located next to the park.

Clifford Betts Park: Undeveloped boat access, picnicking and sporting facilities, pavilions, and a short walking trail are available at this public park, operated by the city of Warren, along the right riverbank. Seasonal restrooms; a pay phone; and ample, free parking are available.

Buckaloons Recreation Area: Buckaloons lies on the site of a former Native American village, at the confluence of the Allegheny River and Brokenstraw Creek, on the right riverbank. It is operated by the Allegheny National Forest and has direct river access. The name "Buckaloons" means "broken straw" in the Seneca language, named for the tall grasses that used to prevail on fields around the village. Developed campsites, picnic areas, restrooms, an interpretive trail, pay phone, and a boat launch are available at this developed boat access site. The Buckaloons area and historic Newbold Estate to the south are rich in Native American and European settlement heritage, dating back some 12,000 years. Note: Digging for or removing artifacts from the Allegheny National Forest or state lands is prohibited by law. Fee and site availability information is available by contacting the Allegheny National Forest.

Anders Run Natural Area: This 96-acre old-growth white pine forest offers a 1.8-mile hiking trail. The area is administered by the Pennsylvania Bureau of Forestry. You can access the area by hiking approximately a quarter-mile up Anders Run, found along the right riverbank and also from Allegheny Spring Road, P-345.

Thompsons Island: This 67-acre Wilderness Island was the site of the only Revolutionary War battle fought in northwestern Pennsylvania.

Tidioute Borough Access: This is a developed boat access site, operated cooperatively by the PA Fish & Boat Commission and the borough of Tidioute. It is located on the right bank. A dock is available. Parking and seasonal restroom facilities are also available. Telephones and restaurants are available nearby. Restock on ice and supplies in Tidioute, a full-service community.

Tidioute Riverside Rec Trek Trail: This 4.5-mile gravel and natural-surface trail follows the west bank of the Allegheny River, south from the town of Tidioute.

West Hickory Bridge: This impressive bridge is on the National Register of Historic Places. It was originally constructed in the late 1800s. The original piers and abutments continue to support the bridge to this day.

Baker Island: This 67-acre Wilderness Island stood in the path of two tornadoes that crossed the Allegheny National Forest on May 31, 1985. Most of the larger trees blew over in the storm, with younger saplings and shrubs now filling in the island.

Tionesta Access: This is a formal, developed boat access site, operated by the PA Fish & Boat Commission, and is located on the left riverbank. Sufficient free parking is available, but restroom facilities are not. During the 1860s, Tionesta was a main assembly point for both rough-cut timber rafts, some as long as 300 feet, and loads of semi-finished lumber. This lumber was shipped downriver on shallow-draft flatboats. Eventually, Tionesta became the seat of government for Forest County.

The Tionesta Access is the end of this trail segment and also serves as the starting point for the southern segment of the water trail. Telephones, restaurants, camping, and hotels are available in Tionesta. Private camping is also located between Tionesta and the Hunter Bridge.

Oil Heritage (Southern) Segment - Tionesta to Emlenton - 62 Miles

This segment of the trail is rich in history associated with the oil and lumber booms and settlement along the river. Remnants of the iron, oil, and railroad industries are visible along the way. This trail segment contains four public islands owned by Venango County, in addition to 64 islands under other ownership. The public islands are open for camping and recreation. Access is available, but more limited compared to the northern segment upriver from Tionesta.

Tionesta Fish Culture Station: Located across State Route 62 from the boat access site, this hatchery offers a visitor center that is open year-round from 7:30 a.m. to 4 p.m. M-F, and until 3:30 p.m. on weekends. The hatchery is operated by the PA Fish & Boat Commission and raises steelhead trout, for stocking in Lake Erie, and walleye and muskellunge, for stocking throughout the state.

Tionesta Borough: This is the home and the burial place of Howard Zahniser, who wrote the text of the precedent-setting Wilderness Act of 1964, which established a wilderness preservation system for the nation. Since the signing of this Act, over 105 million acres nationally have been added to the system - four percent of the entire U.S. land area! He would be proud to know that some of the very same islands he camped and picnicked on in the Allegheny River are now included in this Wilderness Preservation System, as the Allegheny Islands Wilderness. "To know the wilderness is to know a profound humility, to recognize one's littleness, to sense dependence and interdependence, indebtedness and responsibility." - Howard Zahniser, February 25, 1906 - May 5, 1964.

Tionesta Access: This is a formal, developed boat access site, operated by the PA Fish & Boat Commission. It serves as the starting point for this segment of the river trail. Ample free parking is available, but restroom facilities are not. Tionesta is a full-service community, a short walk from the boat access site. Camping and hotels are available in Tionesta.

President: This is an informal boat access site on the left bank, which is owned by the village of President. Some parking is available. Lodging is available just upriver of President. Private camping is available just past President.

Oil City: Oil City first was established in 1791. Fourteen miles north of here, along Oil Creek, lies the birthplace of the world's oil industry, where Pennsylvania crude oil was discovered in 1859. The first successful oil well in the world struck on August 27, 1859, sending this rural, sparsely settled region into an exciting new era of frenzied growth and prosperity. This valley has been aptly referred to as "the valley that changed the world." Throughout the 1860s, Oil City was the staging area where much of the oil gathered in the Oil Region was shipped to the rest of the world. During 1865, approximately half of the oil shipped in the world was shipped through Oil City, often on rafts, packet boats, and steamboats down the Allegheny River to Franklin or Pittsburgh. Later, railroads expedited transportation through the area.

Oil City today is a full-service community and a short walk from the boat launch. Located at the confluence of Oil Creek and the Allegheny River, Oil City offers much to visitors. Attractions include Hasson Municipal Park, the National Transit Building and art gallery, and the Venango Museum of Art, Science & Industry. Several districts of Oil City are listed on the National Register of Historic Places. Telephones, restaurants, and lodging are available in Oil City.

Oil City Rapids: The Oil City Rapids, considered class II rapids, are the most technical/difficult section of the river trail. This section is located just below the Veterans Bridge at the Holiday

Inn, where Oil Creek enters the Allegheny River in Oil City. Novice or inexperienced canoeists should portage around this area, around the shallower river bank. Experienced canoeists should wear their life jackets if they attempt to canoe these rapids.

Oil City Access: This formal, developed boat access site is located a half mile downriver of the rapids, along the left bank, and is operated by the PA Fish & Boat Commission. Free parking is available, along with seasonal restroom facilities.

Samuel Justus Recreational Trail: This 5.8-mile paved bike/hike trail follows the left side of the river to Franklin, where it becomes the Allegheny River Trail. It is maintained by the Allegheny Valley Trails Association (AVTA). Picnic facilities, owned by Cranberry Township, are located along this trail one mile south of Oil City. Camping is permitted here, but restrooms and water are not available.

Franklin: This County seat is located where French Creek enters the Allegheny River. Both the French and the English occupied forts in Franklin. It is the only city in Pennsylvania to have had four different forts within its borders. After the French and Indian War and the War of Independence, Franklin began to prosper as a commercial center. Its downtown area is on the National Register of Historic Places. Riverfront Park is a public park located at the mouth of French Creek. Telephones, restaurants, and lodging are available in Franklin. The Franklin area offers much to the visitor interested in history, including museums; Victorian architecture; Pioneer Cemetery, one of the earliest marked grave sites in northwestern Pennsylvania; the county courthouse; iron furnaces from the early 1800s; and an orchard planted by the famed Johnny Appleseed. John Wilkes Booth was part owner of an unsuccessful 1864 oil well one mile south of Franklin, very near the river trail.

Allegheny River Trail/Cranberry Township Hike/Bike Trailhead: On the left bank, just below the Route 322 bridge, lies the trailhead for the Allegheny River Trail. This bike/hike trail starts where the Samuel Justus Trail ends. It is maintained by the Allegheny Valley Trails Association, and follows the Allegheny River past the remote village of Brandon. This bike/hike trail intersects the Sandy Creek Trail 5 miles south of Franklin at Belmar Bridge. A canoe ramp, seasonal restrooms, picnic and camping facilities, and an information kiosk are available on site.

Franklin Access: This is a developed boat access site on the right bank, at Third Street, that is operated by the PA Fish & Boat Commission. Free parking is available, along with seasonal restroom facilities.

Cranberry Township Primitive Camping/Lower Two-Mile Run: Primitive camping and picnicking facilities, with seasonal restrooms, are available just upriver from the confluence of lower Two-Mile Run, on the left riverbank. Drinking water is not available here.

Cranberry Township Primitive Camping: About three miles down the river from Franklin, a small primitive campsite is available on the left riverbank. No restrooms or water is available.

Belmar Bridge: The spectacular Belmar Bridge over the Allegheny River was constructed in 1907 as part of a railroad built by local oilman Charles Miller, intended to connect New York with Chicago. Ultimately, it transported much of the coal from Clarion County to Ashtabula, on Lake Erie. Belmar Bridge is now decked for safe, convenient pedestrian and bicycle crossings.

Indian God Rock: Approximately 9 miles south of Franklin is a reminder of use of the river by Native Americans. More than 50 carvings dating between 1200 and 1750 A.D. were made on a

large rock at the river's edge, known as Indian God Rock. The rock, listed on the National Register of Historic Places, can be easily accessed from the water trail. An observation deck marks the location along the left riverbank.

Danner's Rest/Clear Creek State Forest, Allegheny River Tract: This state forest is administered by the Pennsylvania Bureau of Forestry. This forest offers primitive, overnight camping at Danner's Rest for float trips, as well as hiking trails, restrooms, spring water, and day-use areas. Danner's Rest is on the right bank, about 400 yards past a gas line right of way and a sign that says "Don't Anchor."

Kennerdell: A private boat launch exists on the left bank of the river in Kennerdell. A fee is required to use this launch area. The Kennerdell monument (the obelisk seen on the left bank) is dedicated to men who lost their lives to nitroglycerine blasts during the oil boom years. Private camping is available a quarter-mile below the bridge, on the right. Established camping sites are not available below Kennerdell.

Kennerdell Tunnel: The Kennerdell Tunnel is a nearly mile-long cut through a mountain that allowed historic railroads to pass around the village of Kennerdell. The hiking trail is not complete to the tunnel, so travel at your own risk (and bring a light, because the curved tunnel is very dark).

Rockland Furnace: The year 1825 ushered in the birth of the industrial age in the Franklin region, as iron ore was discovered. During the next 20 years, more than two dozen stone blast furnaces shot up throughout the County, including this one still standing at Rockland (which is located on the National Register of Historic Places). This is the best representative furnace remaining of more than 30 furnaces that once existed in Venango County.

Emlenton: This community marks the end of the river trail. Established in 1834, Emlenton became a junction for a narrow-gauge railroad that traveled east to present-day Clarion, and the Allegheny Valley Railroad that traveled south to Pittsburgh. This community's mills, foundries, and machine shops produced tools and well equipment that sustained the region's oil production. It became home to many wealthy industrialists and entrepreneurs during that time, and the steps that climbed the hillsides to their homes became known as "the millionaires' stairs." The Emlenton Historic District is listed on the National Register of Historic Places. There is an undeveloped boat access site at the first bridge in town. Parking is limited. Lodging and telephones are available in town.

A second guide for the Allegheny River is also available. This guide goes into further detail than does the Pennsylvania Fish and Boat Commission's "Middle Allegheny River Water Trail Guide". The "Allegheny River Paddling Guide – from Kinzua Dam to Tionesta" was published in 2007 by Josh and Piper Lindell, and Tataboline Brant, owners of the Indian Waters Canoe and Kayak Rentals in Tidioute, and Allegheny Outfitters in Warren. The guide was designed to accompany kayakers and canoeists along their journey, with: water resistant pages; detailed river maps; GPS coordinates; and information on local history, common trees and wildlife, places to stop for camping, hiking, eating, supplies and more.

The thirty-four page "Allegheny River Paddling Guide – from Kinzua Dam to Tionesta" is exceptionally well done, and should be used as a model for others to inform, educate, promote, and market their water and land-based trails. Shuttle points are noted in the guide as put in and take out locations. The ownership status of these locations is unknown.

The “Canoeing Guide to Western Pennsylvania and Northern Western Virginia”, published in 1991 by Weil and Shaw, documents the following canoeable streams in Warren County. The following canoeing opportunities are documented in this resource.

Brokenstraw Creek – Garland to Youngsville – 12.0 miles

Canoeable during the high water season (December through May). There is a pipeline crossing the creek in Youngsville. Runnable from as far upstream as the old State Route 6 bridge, near Columbus, but watch for low hanging cables that cross the river between Columbus and Garland. One can also continue 2 miles further south to the Buckaloons Recreation area, at the confluence with the Allegheny River.

Shuttle Points:

- State Routes 27 and 6 along entire length, from Columbus to Youngsville.
- Buckaloons National Recreation Area

Tionesta Creek

Canoeable during the high water season (January through April).

Sheffield to Lynch – 9.0 Miles

Shuttle Points:

- Near junction of State Route 666 and State Route 948
- Lynch Gauge

Lynch to Kellettsville – 15.0 miles

Kellettsville to Nebraska Bridge – 11.4 miles

Tionesta Reservoir Below Nebraska Bridge – 5.5 miles

Conewango Creek

The Conewango Creek is not documented in the “Canoeing Guide to Western Pennsylvania and Northern Western Virginia”. The Conewango Creek Water Trail has been formally recognized as part of the Marden E. Cobb Waterway Trail, in Chautauqua County, New York. It originates near Kennedy, New York and extends twenty-five miles to the Pennsylvania border, just south of Frewsburg, New York. The Pennsylvania portion of Conewango Creek is locally known as a canoeing resource, but has not formally been identified as such. From the Pennsylvania line, the Conewango Creek extends approximately ten miles until its confluence with the Allegheny River in the City of Warren.

Conewango Creek – Kennedy, New York to Pennsylvania State Line – 25 miles

Shuttle Points:

Route 42, just south of the Southern Tier Expressway. The site is of the stair type and is found just upstream of the bridge.

The distance to the next site is approximately 11 miles. The first Frewsburg site is located on the east bank, down stream of the Route 55 bridge. The remains of an old concrete bridge pier will

alert you to this first of two pull-outs at Frewsburg. Look for a negotiable, but steep bank on your left as you pass under bridge. There is parking for about four cars at this site.

If you proceed downstream 2 miles from the first Frewsburg site, there is a beautiful site on the east bank. Look for a 50-yard wide, gently sloping, and grass covered bank on your left as you approach the Route 60 bridge at Frewsburg. Here you will have room for ten vehicles. From this point it is 4 miles to the County-owned island where you will find a dock and two lean-to's.

The end of this Chautauqua County Waterway Trail is located on the west bank about ½ mile below the island. There you will find a multi-level dock and parking for 10 cars.

Beyond this point, the Conewango enters the State of Pennsylvania where canoes and kayaks must be registered if they are used at state maintained launch facilities.

Conewango Creek - Ackley to Warren – 9.6 miles

During the Warren County Public Input Session, attendees indicated there is a launch located off of State Route 62, in Ackley, and one can take out before the dam in the City of Warren.

Shuttle Points:

- Launch off of State Route 62, Ackley PA
- Warren School before the dam at East Third Avenue Bridge (second bridge in City)

Allegheny Reservoir

During the public input session in Warren County, attendees noted that the Allegheny Reservoir also provides canoeing and kayaking opportunities.

There is no horsepower restriction on the reservoir, however, the Pennsylvania Fish and Boat Commission has adopted special boating regulations for a number of locations on the reservoir. These areas are better suited to non-motorized boating opportunities than other portions of the reservoir. They include:

Boats are limited to a maximum of 8 miles per hour, and waterskiing is prohibited in the following areas:

- Willow Bay
- Sugar Bay

Boats are limited to slow, no wake in the following areas:

- In the vicinity of camping areas and boat launch areas
- Dew Drop Bay
- Wolf Run Bay
- Hodge Bay, North and South Branch
- Cornplanter Bay
- Billies Bay

Trail Towns and Hubs

The steering committee, with the assistance of Pashek Associates, developed a criteria system for determining key destinations and points of interest for designation as Trail Towns, Major Hubs, and/or Hubs along the Recreation and Transportation Greenways network. This criteria system involved assessing towns or sites based on the facilities and amenities they offer.

Trail Towns were determined based on their presence of the following elements: a Main Street; food; lodging; and fuel. In order to meet the criteria and be designated as a trail town, the town had to have at least three of the four elements. Optional elements used to determine Major Hubs and Hubs included the presence of: entertainment; recreation opportunities; and historic and other attractions. The table below details the matrix for determining Trail Towns, Major Hubs, and Hubs in Warren County.

Potential Hub and Trail Town Opportunities	Must have Three of Four for Trail Town Status				Optional				Status		
<i>Warren County</i>	Main Street	Food	Lodging	Fuel	Entertainment	Recreation	Historic Site(s)	Other Attraction(s)	Potential Trail Town	Major Hub	Hub
Warren	X	X	X	X	X	X	X		X		
Youngsville	X	X		X		X			X		
Russell						X					X
Tidioute	X	X	X	X					X		
Sheffield		X		X		X				X	
Allegheny National Forest Recreation Areas			X			X				X	
Hearts Content Scenic Area			X			X					X
Buckaloons Recreation Area											
Chapman State Park			X			X				X	
Tionesta National Scenic Area						X					X
Kinzua Dam		X	X			X				X	

Trail Towns

- 1) Warren
- 2) Youngsville
- 3) Tidioute

Major Hubs

- 1) Allegheny National Recreation Area (Allegheny River)
- 2) Allegheny National Recreation Area (Allegheny Reservoir)
- 3) Kinzua Dam
- 4) Chapman State Park
- 5) Sheffield

Hubs

- 1) Hearts Content Scenic Area
- 2) Russell