

NORTHWEST PENNSYLVANIA GREENWAYS PLAN

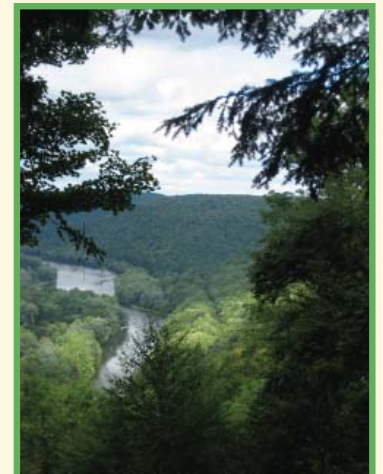
Clarion County
Lawrence County

Crawford County
Mercer County

Erle County
Venango County

Forest County
Warren County

DCNR Project No. BRC-12.5.2



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NORTHWEST PENNSYLVANIA REGION
Greenways Plan

including

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

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INTRODUCTION

The Northwest Pennsylvania Greenways Plan, undertaken by the Northwest Regional Planning and Development Commission, is a multi-county planning effort for the Northwest Commission's eight counties, including:

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

In 2006, Mercer County adopted the "Mercer County Comprehensive Plan Update". This comprehensive plan update included a greenways, open space, and outdoor recreation plan component. In 2008, Lawrence County adopted "Connections – Linking Lawrence County's Resources Through Greenways". Therefore, the Northwest Pennsylvania Greenways effort included the preparation of individual county greenway plans for the Commission's six remaining counties, Erie, Clarion, Crawford, Forest, Venango, and Warren Counties. The results of each of these plans and the two prior plans, were synthesized into the Northwest Pennsylvania Greenways Plan.

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

- Vision for Greenways in Northwest Pennsylvania
- Benefits of Greenways to Northwest Pennsylvania
- Goals and Objectives of the Northwest Pennsylvania Greenways Plan

Northwest Pennsylvania is rich in recreation opportunities and natural resources. Many of these resources are unique and special to the northwest Pennsylvania region and beyond. They include:

- *Allegheny National Forest:* The 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, as well as the Allegheny Reservoir.
- *Allegheny Reservoir:* The Allegheny Reservoir is over 24 miles in length at normal pool elevation and covers more than 21,000 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.
- *Allegheny River:* 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 Northwest Region is found in Warren, Forest, Venango, and Clarion Counties. One hundred and seven miles 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.

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Additionally, more than 86 miles of the Allegheny River has been designated as a Wild and Scenic River.

- *French Creek*: French Creek is world renowned for its biodiversity. French Creek houses many species of fish, over 80, and freshwater mussels, 26 species. This is more than any other stream in the Northeast United States. This includes over fifteen species that are endangered or threatened. It has been said that French Creek is "undeniably one of Pennsylvania's foremost aquatic treasures." It has been designated by the Nature Conservancy as one of its original "Last Great Places."
- *Wild and Scenic Clarion River*: Approximately 52 miles of the Clarion River has been designated as a Wild and Scenic River.
- *Lumber Heritage Region*: The 15 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. Clarion, Forest, and Warren Counties are located within this region.
- *Pennsylvania Wilds*: The PA Wilds covers more than two million acres of public lands within areas such as state forests and state game lands and includes twelve northern Pennsylvania Counties. The 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. Clarion, Forest, and Warren Counties are located within this region.
- *The Oil Heritage Region*: This region includes outstanding artifacts, scenic views, area museums, and cultural traditions; and the communities themselves continue to depict the Oil Region's legacy as the birthplace of the petroleum industry.

The Oil Region was designated by the Commonwealth of Pennsylvania as an official Pennsylvania Heritage Area in 1994 and by the National Park Service as an official National Heritage Area in 2004. The state and federal designations use the same boundaries, comprising 34 municipalities in 708 square miles. Included are, the City of Titusville, Hydetown Borough, and Oil Creek Township in eastern Crawford County, plus all of the municipalities located within Venango County.

- The Pennsylvania Department of Conservation and Natural Resource Bureau of State Parks provides eight state parks within the northwest Pennsylvania region. They include:
 - 1) *Oil Creek State Park*: It consists of approximately 6,250 acres in northern Venango County along Oil Creek. The Oil Creek Valley is home to the site of the world's first successful commercial oil well. The park tells the story of the early petroleum industry by interpreting oil boomtowns, oil wells, and early transportation.
 - 2) *Chapman State Park*: It is a 804-acre park located in Warren County which includes a 68 acre man-made lake. This park is known as a recreation oasis within the wilderness area of the Allegheny National Forest. It hosts the Kinzua Country Tango Adventure Race.

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- 3) *Cook Forest State Park*: This park is approximately 8,500 acres in northeast Clarion County, in an area once called the Black Forest due to its stands of old growth forest.
 - 4) *Pymatuning State Park*: It is located in Crawford County and is the second most visited state park in the Pennsylvania. It is also one of the largest at over 17,000 acres.
 - 5) *Presque Isle State Park*: It is located in Erie County along the Lake Erie shore. It is the most visited state park in Pennsylvania and one of the best locations for birds in the state.
 - 6) *Erie Bluffs State Park*: It is one of Pennsylvania's most recent new state parks, situated along Lake Erie in Erie County. It contains old growth forest, rare flora, exceptional value wetlands, and significant archeological sites.
 - 7) *McConnell's Mill State Park*: This 2,546-acre park found in Lawrence County contains Slippery Rock Creek Gorge and an historic 19th-century grist mill and wooden covered bridge.
 - 8) *Maurice K. Goddard State Park*: This nearly 3,000-acre state park features the 1,860-acre Lake Wilhelm, which is a popular destination for anglers.
- *World Class Steelhead Fishing Streams*: These streams are located in Erie County and include Twelvemile, Sixteenmile, and Twentymile Creeks; Crooked Creek; Elk Creek; and Walnut Creek.
 - *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 crosses through Crawford, Erie, Warren Counties, in the Northwest Pennsylvania Region.
 - *North Country National Scenic Trail*: It is a recreational trail that stretches for about four thousand six hundred (4,600) miles from North Dakota to New York. The route for this trail runs through Lawrence, Clarion, Venango, Forest, and Warren Counties within the region.
 - *Washington's Trail*: This trail is an historic and scenic driving route commemorating George Washington's first military and diplomatic journey in 1753 and 1754. The portion of this trail within the northwest region runs through Venango, Crawford, and Erie Counties.
 - *Erie National Wildlife Refuge*: Located in Crawford County, it is the only refuge in the nation protecting endangered northern riffleshell and clubshell mussels. It is also designated as an Important Bird Area and a globally-significant watershed. Three distinct habitats of forest, fields, and water's edge support 47 species of mammals, and 37 species of amphibians and reptiles.

By planning to conserve and enhance natural system greenway corridors, and build upon existing and establish new recreation and transportation greenway corridors, the counties within the northwest region are taking measures that will provide benefits for current and future generations of Northwest Pennsylvania residents.

Existing Planning Efforts

In order to understand the context in which this planning effort is taking place, the following past planning studies were reviewed as part of this planning process:

County Comprehensive Plans

- Clarion County (2004)
- Crawford County (2000)
- Erie County Comprehensive Plan (2003)
- Forest County Comprehensive Plan (1998)
- Lawrence County Comprehensive Plan (2004)
- Mercer County Comprehensive Plan Update, Volume 4 - Mercer County Greenways, Open Space & Outdoor Recreation Plan (2006)
- Venango County Comprehensive Plan (2005)
- Warren County (2005)

Multi-Municipal Comprehensive Planning Efforts

- Southern Venango County – Regional Comprehensive Plan (2007)
- Oil Creek Region Comprehensive Plan (2007)

Greenway Plans

- 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 to better 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

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Northwest Pennsylvania 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 major greenway corridors that pass through the Northwest PA Greenways planning region are the Middle Allegheny River Water Trail, the Clarion River Water Trail, the North Country National Scenic Trail, and the Erie to Pittsburgh Greenway.

In addition to the state-wide greenway plan, the following county plans were reviewed:

- Erie County Greenways and Trails Plan (2000)
- Clarion River Greenway Plan (2005)
- French Creek Greenway Master Plan (2004)
- Mercer County Comprehensive Plan Update, Volume 4 - Mercer County Greenways, Open Space & Outdoor Recreation Plan (2006)
- Connections: Linking Lawrence County's Resources Through Greenways (2008)

Trail Feasibility Studies

- North Warren Trail Feasibility Study (2002)
- Erie County Rail Trail Feasibility Study (2001)
- Erie to Pittsburgh – Developing a Trail Network (2007)
- Corry Junction Greenway Trail Master Plan (2006)
- Allegheny Valley Rail-Trails: Feasibility Study and Development Plan (1993)
- McClintock Trail - Phase No. 1: Rynd Farm to McClintock Well No. (2007)
- Trail Utilization Study: Analysis of the Trail Systems within the Oil Heritage Region (2006)
- Rail to Trail Feasibility Study – Piney Branch Trail and Brookville to Brockway Trail
- Pymatuning Trails Vision Plan (2006)
- Feasibility Study and Master Plan for the Ernst Trail (2003)

Watershed Management Plans and Water Quality Studies

- Allegheny National Wild and Scenic River
- Walnut Creek Watershed Protection and Restoration Plan (2008)
- Walnut Creek Watershed Assessment Environmental Quality Report (2007)
- Executive Summary: Health & Management of the Edinboro Lake Ecosystem (2000)
- French Creek Watershed Conservation Plan (2002)
- Lake Erie Watershed Conservation Plan (Draft 2008)
- Justus Lake Assessment (2005)
- Redbank Creek Watershed Conservation Plan (2004)

Heritage Area Plans

- A Recreation Plan for the State Parks and State Forests in the Pennsylvania Wilds (2006)

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- Outdoor Recreation in the 21st Century: The Pennsylvania Wilds (2005)
- Lumber Heritage Region's Interpretive Plan (2005)
- Lumber Heritage Region of Pennsylvania: Management Action Plan (2001)
- Oil Heritage Region Management Plan Augmentation Technical Report (2006)

Miscellaneous Plans

- Draft Master Plan for Erie Bluffs State Park (2005)
- Development Plan for Overlook Park, Erie County (2002)
- Corridor Management Plan for Pennsylvania's Section of the Seaway Trail (2005)
- Study of the Flora of the Glacial Lakes of Western Pennsylvania (2005)
- Lake Pleasant Conservation Area Master Plan (2004)
- Clarion River Recreation Assessment (2006)
- A Recreation Plan for the State Parks & State Forests in the PA Wilds (2004)
- Blueprint for Action – Shaping a Sustainable Pennsylvania (2004)
- Bicycle Pennsylvania Routes

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 and protecting outstanding natural features such as, stream valleys, forested ridges, and sensitive habitats.

Each of these ideas 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, accepted 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 planning process, 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 NORTHWEST PENNSYLVANIA?

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 the northwest region. 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. Corridors link 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 greenways throughout the northwest region.

The process of establishing a 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 NORTHWEST PENNSYLVANIA'S DEFINING CHARACTERISTICS

Maintaining and conserving Northwest Pennsylvania's open spaces and natural resources are 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 everywhere else. The counties of the northwest region are almost entirely situated in the Allegheny Plateaus section of the Allegheny Mountains, except for the Central Lowland landforms along the Lake Erie coastline. The region's terrain within the Allegheny Plateau is rugged and heavily dissected by streams that have carved deep valleys and steep hillsides. The Wild and Scenic Allegheny and Clarion Rivers; the biologically diverse French Creek corridor; the bluffs and Presque Isle Bay along the Lake Erie shore; the Oil Heritage Region; Pennsylvania Wilds; Lumber Heritage Region; and Allegheny National Forest are all part of defining the region's character.

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The northwest region has many recreational assets, including eight State Parks, numerous state game lands, and many existing trail opportunities including the nationally significant North Country National Scenic Trail. These resources provide a variety of opportunities for biking, hiking, fishing, hunting, boating, snowmobiling, wildlife viewing, and other pastimes.

In addition to its abundant natural and recreational assets, the region also has a rich history that is well-preserved. The region is comprised of many significant sites and structures, some of which are within the Oil Heritage Region. The region boasts 22 historic districts. Greenways linking historic resources with the region's recreational amenities will increase their accessibility and attract more tourists.

EXPANDING THE ECONOMY

The northwest region contains numerous natural and recreational resources that are important assets for providing the potential for substantial growth in the travel and tourism sector. This fact, in conjunction with the region's proximity to major population centers, such as Cleveland, Buffalo, and Pittsburgh, as well as its situation along major transportation routes like U.S. Interstate 80, Interstate 79, and Interstate 90 make it a logical place for development in one of the fastest-growing sectors in Pennsylvania's economy: Recreational and Eco-Tourism. 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.

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). 97% of all Americans over the age of 16 participate in some sort of outdoor recreation, with 33% of Americans reporting that they go bird-watching (Cordell and Herbert 2002).

Hunting & Fishing

Hunting, fishing, and trapping activities account for \$9.6 billion in annual value and create 88,000 jobs within Pennsylvania (Shafer et al. 2000). The \$9.6 billion was 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).

The counties of the northwest region provide excellent hunting opportunities within any of their 56 state game lands. State wide, hunters spent over \$1.33 billion on hunting trips in 1996. According to recent studies, fishing is the most popular water-based recreation activity in Pennsylvania, with 28% of residents participating, for an estimated 3.2 million participants across the Commonwealth.

Fishing is a great economic asset in the region. Pennsylvania residents sixteen years and older spent \$800 million on fishing in the state and elsewhere in 2001. The average angler spent approximately \$632 on fishing in 2001. Within the northwest region there were 71,768 anglers in 2006. Based on the numbers from this study, these anglers contributed more than \$45 million to the local economy.

For 2009, there are 140 trout-stocked streams within the eight counties of the northwest region listed by the PA Fish and Boat Commission. The PA Fish and Boat Commission report on *Angler Use, Harvest and Economic Assessment on Trout-Stocked Streams in Pennsylvania* found that angling on trout stocked streams contributed over \$65.7 million dollars to Pennsylvania's economy during the first eight weeks of the regular trout season in 2005. Additionally, angling on trout-stocked streams also supported 1,119 jobs in the state.

Boating

The PA Fish and Boat Commission's boating facts found that Pennsylvania residents spend \$1.7 billion on boating annually, including boat fishing. The average expenditure per recreational boater is \$274. The average recreational boater spends \$113 a year in direct boating expenses, including purchasing or renting of boats, fuel, boating supplies, maintenance and repairs, storage, and registration.

The PA Fish and Boat Commission lists seventeen Boating Special Regulation Lakes as well as two designated water trails within the eight counties of the northwest region.

Wildlife Watching

The average bird watcher spends more than \$350 each year on travel and paraphernalia related to bird watching, while committed birdwatchers spend \$2,000 or more annually, around half of which is on travel (USDI survey, 1993).

The total economic effect of non-consumptive bird and waterfowl recreation alone is estimated to be more than \$450 million per year in the state of Pennsylvania. Like other forms of outdoor recreation, non-consumptive wildlife recreation creates significant benefits for communities surrounding the recreation site.

2001 Economic Benefits of Watchable Wildlife Recreation in Pennsylvania, Southwick Associates, Inc.

- In 2001, watchable wildlife recreation generated twice the value produced by Pennsylvania's farms and three times the total spent to see 2001's top-grossing film, "Harry Potter".
- Watchable wildlife generated \$70 million in state sales and federal taxes and \$962 million in retail sales, including food, travel, and lodging.
- Watchable wildlife recreation supports almost 19,000 employees with wages totaling more than \$509 million.
- Wildlife viewing expenditures in Pennsylvania exceeded all of the money spent nationally on skiing and snow-boarding.
- Watchable wildlife recreation overwhelmingly benefits at times of the year when other income sources are low.

Many hunters and fishermen participate in non-consumptive wildlife activities. Sportsmen have reported spending approximately \$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.

The National Audubon Society has designated approximately twenty Important Bird Areas that are at least partially located within the eight counties of the northwest region.

ECONOMIC BENEFITS OF GREENWAYS

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

In 2007, the Oil Region Alliance and Allegheny Valley Trails Association published a study of the trail system within the Oil Heritage Region, in Venango and Crawford Counties. The study, *Trail Utilization Study: Analysis of the Trail Systems within the Oil Heritage Region 2006* concluded that trail users were having a measurable, positive impact on the Oil Region's economy. Specifically, the report stated:

- It is estimated that 160,792 trail users frequented the trail system within the Oil Heritage Region in 2006 creating an overall estimated economic impact of roughly \$4.31 million.
- Approximately 75% of surveyed trail users cited the trails as their main reason for visiting the region. The majority of the trail users visit the trails a few times a year. 77% of the users are day trip users who prefer to visit in the autumn and summer seasons. The users who do stay overnight tend to stay for two nights on average and often in campgrounds.
- Trail users surveyed were predominantly from Pennsylvania. Only 23% of in state users were categorized as living in the Oil Heritage Region.
- Trail users typically access the trails with at least one other person and travel, on average, a distance of 33.25 miles to get to the trail system.
- Non-local trail users spent an average of \$32.93 per person per day, while those users categorized as living in the Oil Heritage region spent an average of \$3.71 per person per day.
- During the time period of this study, between July and October of 2006, trail users created an economic benefit of \$2.22 million within the Oil Heritage Region.

This study, along with other similar studies, including: the Heritage Rail Trail County Park 2007 User Survey and Economic Impact Analysis; the Pine Creek Trail 2006 User Survey and Economic Impact Analysis; and the 2002 User Survey for the Allegheny Trail Alliance, confirm there are positive economic impacts associated with the development of these trails.

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 into 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 recreational greenways. These new businesses bring new jobs and additional tax dollars to the host municipalities.

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% 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.

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 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 Michigan study of values and priorities in choosing a home site concluded 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 that there are economic benefits associated with being physically fit, such as:

- ✓ Lower medical costs and 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
- ✓ Reduction in congestion
- ✓ Improvement of air quality
- ✓ Additional alternatives for residents
- ✓ Additional cost savings in car and road maintenance
- ✓ Enhances the 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

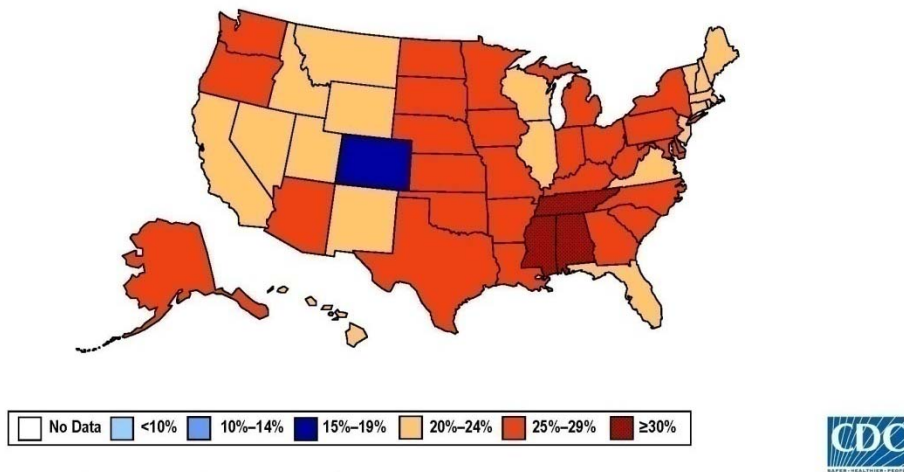
There are many opportunities to expand choices for alternate modes of transportation, such as developing safe routes to schools and expanding the roadway network to include bicycle facilities.

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.

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

(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



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 into 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 be 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, 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 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 residents and visitors to the region 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 northwest Pennsylvania's character did not exist.

The natural resources along northwest Pennsylvania'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

Northwest Pennsylvania contains a variety of forests, wetlands, rivers, natural areas, and streams, as well numerous conservation holdings. All of these features provide habitat for a wide array of plants and animals. Natural Heritage Inventory (NHI) data for each of the eight counties within the region was provided for use in developing this plan. The Pennsylvania Natural Heritage Program identifies 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 at least twenty Important Bird Areas (IBAs), or areas essential to sustaining wild bird populations, in the northwest region.

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 region'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 have taken great efforts to ease concerns; educate the public to confirm the truth; dispel myths; and build consensus by establishing defensible rationale for establishing a greenway network through the Northwest Pennsylvania Region.

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

THREE – STEP PROCESS

The greenway planning process for the Northwest Pennsylvania Region utilized a three-step process that answered three basic questions:

- 1. *Where are we now?*** - This is the inventory phase. In this phase, we gather information about the natural and cultural assets of the region that may form the building blocks of conservation or recreation corridors. For example, we obtain information about important habitat areas warranting protection as well as abandoned rail corridors that could be converted to recreational 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 region.
- 3. *How do we get there?*** - This step provides information about how the plan can be implemented. It includes concrete tools, such as a recommended management structure, prioritized trail and greenway segments, and potential funding sources.

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 (*Mercer and Lawrence Counties planning processes included individual public participation processes as their respective plans were being prepared*). During this process, input is obtained by the following methods:

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

PURPOSE OF THE GREENWAYS PLAN

With the aforementioned benefits and planning process in mind, this plan examines the various methods by which a greenway network can be developed for northwest Pennsylvania. Once developed, this network will help preserve the region's essential natural resources and, in turn, its 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 preserve natural resources and open spaces while providing valuable recreational opportunities for residents in the region.

GOALS AND OBJECTIVES

Greenways can serve many functions with regional and local impact. When determining the guiding principles used to designate greenways for Northwest Pennsylvania, consideration was given to 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 region.

Preserving and enhancing northwest Pennsylvania's character and quality of life is the main goal of the Greenway Plan, and these specific objectives support this main goal:

- Protect existing natural areas primarily for ecological health and preservation of wildlife habitat;
- Promote the preservation of agricultural land;
- Provide recreational opportunities for 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 regulations; and
- Educate 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 Northwest Pennsylvania:

1. Natural Systems Greenways are corridors whose primary function is preservation of unique Natural Infrastructure, including: habitats such, as wetlands, steep slopes, and floodplains; 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 opportunity for commuters and visitors. In some cases, recreation and transportation trails overlay areas where conservation of natural assets is also an objective. To avoid conflicts, recreation and transportation 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 GREENWAY AND OPEN SPACE PLAN AS A DECISION-MAKING TOOL

The Greenway Plan will serve as a flexible tool for making decisions regarding the protection 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 Northwest Pennsylvania. 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 the counties of the Northwest Planning region and their decision-makers, yields short, medium, and long-term strategies for natural resource conservation and greenway development, in harmony with any potential economic development.

HOW DO WE GET THERE?

THE NORTHWEST PENNSYLVANIA GREENWAYS PLAN

By taking the recommendations presented herein to heart, the Northwest Pennsylvania Region has the opportunity to:

- ✓ Guide growth and development in a sustainable manner
- ✓ Improve the economy in Northwest Pennsylvania 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 Northwest Pennsylvania residents

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

As a working document, it is expected and encouraged that recommendations included in this plan be reviewed from time to time to determine whether any adjustments need to be made to reflect and acknowledge changes in greenway planning efforts in the region. 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 plan. Only upon completing this review, can prudent decisions be made related to the future of greenways in Northwest Pennsylvania.

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. These issues include population migration; urban sprawl; and the consumption of land despite a stagnant population. They are concerned these trends are 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. It is important to realize that greenways are much more than conservation of our natural resources and trails for recreation. As discussed in the Introduction of this plan, greenways provide many benefits that are considered by many to be more significant.

PLAN ORGANIZATION

The Northwest Pennsylvania Greenways Plan is organized in a logical format that follows the structure proposed for implementing the recommendations contained herein.

1. Management Structure
2. The Vision for Northwest Pennsylvania’s Greenway Corridors
3. Implementation Strategies

MANAGEMENT STRUCTURE

In order to successfully implement the recommendations of this greenways plan, there must be adequate capacity in place to lead the advancement and implementation of greenway efforts in the Northwest Pennsylvania Region. Towards that end, this process included an analysis of existing professional staff and the potential need for additional professional staff.

Existing Professional Staff – the Oil Region Greenways and Open Space Coordinator

As the Northwest Greenways planning effort was beginning, a peer study to determine the potential need and management structure for an Oil Region Greenways and Open Space professional staff employee was concluding. This peer study was being conducted in conjunction with a circuit rider application to the Pennsylvania Department of Conservation and Natural Resources to fund an Oil Region Greenways and Open Space Coordinator position.

As a result of the study, an Oil Region Greenways and Open Space Steering Committee was established to hire and manage the new Coordinator. The study can be viewed at the office of the Committee. PA DCNR concurred and funded the Oil Region Greenways and Open Space Coordinator position through a Circuit Rider grant awarded to Crawford County, a governmental agency, and one of the Steering Committee members. In the summer of 2008, a coordinator was hired. The Committee consists of representatives from the following public and private agencies:

- Allegheny Valley Conservancy
- Allegheny Valley Trails Association
- City of Franklin
- City of Oil City
- City of Titusville
- Clear Lake Authority
- Cornplanter Township
- Cranberry Township
- Crawford County
- Emlenton Borough
- Foxburg Borough
- Franklin Industrial & Commercial Development Authority
- Friends of Oil Creek State Park
- Oil Creek State Park
- Oil Region Alliance of Business, Industry & Tourism
- Venango County

The purpose of the Oil Region Greenways and Open Space Coordinator is to coordinate greenways and open space projects in the areas of design, development, and maintenance for the Oil Region.

DCNR's Circuit Rider Program is designed to provide initial funding for County or regional organizations to hire a professional, full-time staff person – in this case the Oil Region Greenways and Open Space Coordinator. 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 of gross salary
- Second Year: up to seventy-five percent of gross salary
- Third Year: up to fifty percent of gross salary
- Fourth Year: up to twenty-five percent of gross salary

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- Training Expenses: up to \$2,000 available for Bureau-approved training expenses over the four years of funding

The participating parties, which are the members of the Oil Region Greenways and Open Space Steering Committee, 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.

The fiduciary responsibility of the Regional Greenways Coordinator is performed by the Franklin Industrial & Commercial Development Authority (FICDA), under the direction of the Oil Region Greenway and Open Space Steering Committee, as per the terms of the contract between the Pennsylvania Department of Conservation and Natural Resources and the County of Crawford, the Memorandum of Understanding between the County of Crawford and FIDCA, and the Memorandum of Understanding between the FICDA and the Greenway and Open Space Committee.

The Oil Region Greenway and Open Space Coordinator's essential position functions, as documented by the Oil Region Greenway and Open Space Committee, includes the following tasks:

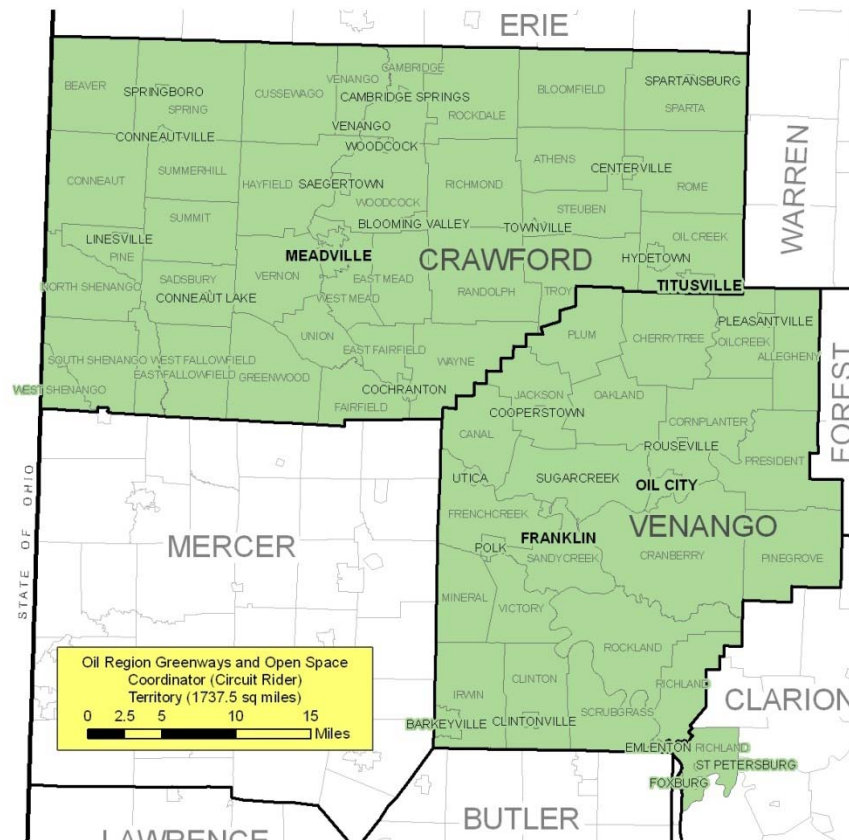
- ✓ Develop appropriate administrative procedures that are consistent with the objectives of the Northwest Pennsylvania Greenways and Trails Plan, the Venango County Comprehensive Recreation and Open Space Plan, and other plans that provide direction for greenways and open space in the Oil Region
- ✓ Serve as a first point of contact
- ✓ Increase awareness of greenways and open space and their benefits
- ✓ Assist with the coordination of events and volunteer activities
- ✓ Provide technical and planning assistance to municipalities and organizations
- ✓ Coordinate specific greenways acquisition and development projects
- ✓ Make recommendations to municipal boards and councils regarding updates and amendments to local ordinances as they relate to greenways (both recreation and conservation) and open space programs
- ✓ Educate elected officials on the value of conservation planning, and encourage municipalities to adopt a conservation-based approach to land development
- ✓ Serve as an advocate for the Oil Region and contiguous trails with the Erie to Pittsburgh Trail Alliance
- ✓ Prepare and/or assist in the preparation of maps and other GIS-related information

The Oil Region Greenways and Open Space Coordinator's geographic region has been defined by the committee as the Oil Region, which includes all of Venango County; and Oil Creek Township, City of Titusville, and Hydetown Borough in Crawford County. In addition, the region may also include greenways and trails that are contiguous with and extend beyond the Oil 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 and Foxburg Borough
- Crawford County: Trails in the City of Titusville, Oil Creek Township, and heading northward, including the municipalities of Hydetown, Centerville, Spartansburg Boroughs, and Rome and Sparta Townships
- Parts of the proposed Erie to Pittsburgh Trail

The Northwest Pennsylvania Greenways Plan

In the beginning of 2009, the geographic region was expanded to include all of the municipalities in Crawford County.



Members of the Oil Region Greenway and Open Space Steering Committee have committed to participate on the committee for a period of five years. However, they do have the option to re-evaluate their participation on the committee, due to budgetary constraints, on an annual basis. PA DCNR's circuit rider funding is committed to this position for a period of four years, with the expectation that the position will be self-sustaining in year five.

With the Oil Region Greenways and Open Space Coordinator in place, the Region Greenway and Open Space Steering Committee partners are well-positioned to implement the recommendations and implementation strategies contained in this plan.

Potential Need for Additional Professional Staff in the Northwest Region

The Oil Region Greenways and Open Space Coordinator position filled a much needed void for Venango County and a number of additional Oil Region communities including six of thirty-two municipalities in Crawford County and three of thirty-five municipalities in Clarion County. Furthermore, efforts between Beaver and Butler Counties have lead to the establishment of the Beaver County and Lawrence County Shared Greenways and Environmental Planner position. This person is responsible for implementing greenway related projects in Beaver and Lawrence Counties.

The Northwest Pennsylvania Greenways Plan

With the Oil Region Greenways and Open Space Coordinator and the Beaver County and Lawrence County Shared Greenways and Environmental Planner there is still a need to provide professional capacity in the following Northwest Region Counties: Erie, Mercer, Warren, and Forest Counties, as well as twenty-six municipalities in Crawford County and thirty-two municipalities in Clarion County.

To determine how this need may be met, a number of successful management structure models to facilitate the implementation and development of greenways were evaluated. The models which were evaluated included:

- County Parks and / or Greenways and Trails Department
- County Parks and / or Greenways and Trails Advisory Board
- Greenways and Trails Authority
- County Planning Office
- Greenways and Trails Organization
- Regional Multi-County Greenway Coordinator

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.

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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 	

The Northwest Pennsylvania 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

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Type of Organization	Strengths	Weaknesses	Examples
<i>County Planning Office</i>			
<p>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.</p>	<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 			

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Type of Organization	Strengths	Weaknesses	Examples
<i>Greenways and Trails Organization</i>			
A non-profit organization usually created for the specific purpose of developing and managing trails and/or greenways. Such organizations are not directly affiliated with a municipal government but serve to support and enhance trail and greenway plans of one or more municipal bodies.	<ul style="list-style-type: none"> • Able to apply for state grants 	<ul style="list-style-type: none"> • Relies solely on volunteers 	Allegheny Trails Association
	<ul style="list-style-type: none"> • Able to apply for grants that are only available to non-profits 	<ul style="list-style-type: none"> • Often ends up with just a few people doing most of the work 	ATA is responsible for planning, development, and maintenance of the trails. Individual municipalities are responsible for development and maintenance of trailheads within their municipalities.
	<ul style="list-style-type: none"> • Volunteers have a special interest in trails and greenways 	<ul style="list-style-type: none"> • Volunteers have a limited interest in on-going maintenance and upkeep tasks 	Wildwater Conservancy, Lawrence County
	<ul style="list-style-type: none"> • Easier recruitment of volunteers for special activities and projects 	<ul style="list-style-type: none"> • Fundraising often accounts for more of the volunteers time that trail work 	Allegheny Land Trust
	<ul style="list-style-type: none"> • Strong interest in trail development 	<ul style="list-style-type: none"> • Some trail groups become singularly focused on just one trail 	Independence Marsh Foundation - Beaver County
	<ul style="list-style-type: none"> • Limits County funding of trails and greenways 	<ul style="list-style-type: none"> • The trail organizations goals may not always match those of the County 	Friends of the Riverfront - City of Pittsburgh
	<ul style="list-style-type: none"> • Able to recruit and utilize volunteer experts for a variety of services such as engineering, design, construction, etc. 	<ul style="list-style-type: none"> • There is limited accountability for volunteers 	

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Type of Organization	Strengths	Weaknesses	Examples
<i>Regional / Multi-County Joint Greenway Coordinator</i>			
Two or more Counties and or agencies enter into a Agreement to create and fund a Greenway Coordinator position. The person filling this position will be responsible for implementing the recommendations of the participating Counties' adopted Greenways and Trails Plans.	<ul style="list-style-type: none"> • Cost to fund position shared with others 	<ul style="list-style-type: none"> • May not be available, or available on a limited basis only when needed 	Oil Region Greenways & Open Space Coordinator
	<ul style="list-style-type: none"> • Able to apply for state grants 	<ul style="list-style-type: none"> • Requires a paid professional position housed in the offices of the responsible entity 	Beaver / Lawrence Counties Joint Greenways Coordinator
	<ul style="list-style-type: none"> • Responsible entity sets the standards for all aspects of trail management 	<ul style="list-style-type: none"> • Requires a tremendous amount of coordination by the responsible entity 	Cumberland County
	<ul style="list-style-type: none"> • Paid staff are usually more reliable and are accountable to the responsible entity 		Pike County
	<ul style="list-style-type: none"> • The responsible entity has control over priorities and how they are accomplished 		
	<ul style="list-style-type: none"> • Quality control comes from the responsible entity 		
	<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 			

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.

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The public component may:

- 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 may:

- Provide access to foundation and corporate giving
- Organize and conduct fund-raising events
- Organize volunteers
- Assist with property acquisition
- Leverage volunteers for periodic 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

The final decision on the roles and responsibilities will be an outcome of the development of the management structure and negotiations between the entities that may establish the position.

This public-private partnership model was selected 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

It is recommended that counties who desire to collaborate in partnership arrangement enter into an intergovernmental cooperation agreement.

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

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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, it is recommended 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, Beaver and Lawrence Counties, two western Pennsylvania Counties, are sharing a Greenways and Trails Coordinator through an intergovernmental agreement. This was one of the first examples of a multi-county position in the Commonwealth.

Private Component

It is recommended that a 501(c)(3) non-profit organization be established or an existing 501(c)(3) be utilized to maximize funding opportunities and coordinate volunteer services. Additional responsibilities of this organization should include:

- Coordinating and 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 improve the greenways experience
- Advocating and building support for expansion of greenways

The study group formed for this project should 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.

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In order to apply for funding an authorized governmental agency 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 participating counties 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 is 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 region. Therefore this organization should be flexible enough to address all of the greenway efforts throughout the region.

Based on an analysis that considered the recommendations contained in this plan, and the required level of effort to implement those recommendations, consideration should be given to establishing two additional greenway coordinator positions in the region. Several suggestions for how these positions might be focused were made during the public participation process. Suggestions included:

- Consideration be given to establishing the positions based on an association with the three major watersheds of the region: the Lake Erie watershed, French Creek watershed, and the Allegheny River watershed.
- Consideration be given to expanding the role of the Beaver County and Lawrence County Shared Greenways and Environmental Planner, to include Mercer County.
- Consideration be given to expanding the role of the Oil Region Greenways and Open Space Planner, to include all of Crawford County.
- Consideration be given to dedicating a position to advance and implement greenway efforts in Erie County.
- Consideration be given to placing two coordinator positions in the Northwest Pennsylvania Planning and Development Commission Office and directing their resources to implement the priorities of the region and specific counties.

The structure and make-up of these positions should be the result of additional dialogue and discussion between the participating agencies, which should include: Erie, Crawford, Mercer, Warren, Forest, Venango, and Clarion Counties; the Northwest Planning and Development Commission; Pennsylvania Department of Conservation and Natural Resources; the Pennsylvania Department of Community and Economic Development, and other participating public, private, and non-profit organizations in the region.

If necessary, the Pennsylvania Department of Conservation and Natural Resources may be approached to assist in conducting a Circuit Rider study to evaluate and provide further recommendations for this management structure.

THE VISION FOR NORTHWESTERN PENNSYLVANIA'S GREENWAYS

A detailed inventory and analysis of the greenway planning process was completed for Northwest Pennsylvania Region. Through this work, greenway corridors were identified and prioritized. The proposed greenway corridors for the Northwest Pennsylvania region consists of the natural systems greenways and recreation and transportation greenways.

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 counties 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, 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 recreation and transportation trails do not terminate at the counties’ 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.

PROPOSED NATURAL SYSTEM GREENWAY CORRIDORS

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

Natural infrastructure is 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. This plan differs from conventional approaches to natural resource conservation, as it looks at conservation in harmony with development. This approach will help communities develop, with minimal stress and negative impact on the sensitive environmental resources, which may be present.

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Opportunities to implement conservation, enhancement, and restoration projects along these corridors can be completed by:

Immediate Priorities:

- Develop an education and outreach plan about the benefits and tools of establishing natural systems greenways
- Establish designated waterway access points
- Develop and adopt stream buffer standards at the county and municipal level
- Prioritize needed easements

Short-Term Priorities:

- Obtain easements, and develop stewardship plans
- Implement stormwater plans at the county and municipal level
- Enhance zoning and subdivision and land development ordinances

Ongoing Priorities:

- Promote sustainable practices
- Implement practices to manage invasive species
- Implement practices to reduce non-point source pollution
- Prepare management plans that address species of special concern and natural communities
- Promote sustainable timber practices
- Enhance existing Zoning and Subdivision and Land Development Tools by strengthening them for the conservation of natural greenways corridors

These recommendations are further described later in Implementation Strategies.

An annual pool of funding should be allocated at the regional level to implement the above recommendations. Discussions are on-going between the Northwest Regional Pennsylvania Commission and the Pennsylvania Department of Conservation and Natural Resources on establishing a local grant program that would be administered by the Commission. It is recommended this regional funding pool be funded to an amount between \$400,000 and \$600,000 per year. Funding for these efforts may be available through the Pennsylvania Department of Environmental Protection, the Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Fish and Boat Commission, and local foundations.

THE CRITERIA

To begin the process of identifying these corridors, natural and ecological infrastructure resource inventories were conducted to enable the identification of the proposed Natural Systems Greenway building blocks.

Natural Infrastructure Building Blocks

A complete understanding of the natural infrastructure of the Northwest Region 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. These natural infrastructure building blocks may also become important greenway destinations.

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The following natural infrastructure resources were inventoried and analyzed as part of the Northwest Pennsylvania Greenway planning process:

Water Resources

The most dominant water features in Northwest Pennsylvania are:

- Allegheny River
- Allegheny Reservoir
- Lake Erie
- French Creek
- Clarion River

Wetlands

Northwest Pennsylvania contains twenty percent of the state's wetlands. These are divided among three classifications: Lake Edge (29,399 acres), Marsh Edge (98,718 acres) and River Edge (18,319.04 acres). Notable wetland areas can be found in numerous locations throughout the northwest region, especially within Crawford, Erie, Mercer, and Warren Counties.

Acres of Wetland by County					
Source: NWI data & Wetlands Center Data base, Penn State University					
County Name	Lake Edge Acres	Marsh Edge Acres	River Edge Acres	Total Acres	% Statewide
Clarion	198.15	976.53	4,219.26	5,393.94	0.74%
Crawford	14,734.05	35,194.07	1,031.24	50,959.36	6.99%
Erie	1,365.50	22,837.64	534.41	24,737.55	3.39%
Forest	432.78	1,944.39	2,166.34	4,543.51	0.62%
Lawrence	378.74	5,198.01	1,450.01	7,026.76	0.96%
Mercer	5,395.06	16,524.32	431.89	22,351.27	3.06%
Venango	289.34	3,078.60	5,401.73	8,769.67	1.20%
Warren	6,605.99	12,424.48	3,084.16	22,114.63	3.03%
Regional Total	29,399.61	98,178.04	18,319.04	145,896.69	20.00%

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 forty-six percent 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.

100 Year Floodplain

Northwest Pennsylvania'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.

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Major floodplain areas in the Northwest exist in the following locations:

- French Creek, Erie and Crawford County
- Muddy Creek, Crawford County
- Conneaut Outlet, Crawford County
- Headwaters of the Beaver River, Lawrence County
- Brokenstraw Creek west of Youngsville, Warren County
- Shenango River north of Shenango Reservoir, Mercer County
- Oil Creek north of Titusville, Crawford County
- Cussewago Creek, Crawford County
- LeBoeuf Creek north of Waterford Borough, Erie County

Numerous smaller floodplains line the banks of meandering stream valleys throughout the region.

Special Protection Waters

The counties within the Northwest Region are traversed by over 11,000 miles of streams in 1,058 small watersheds. All of these tributaries wind through the terrain and empty into either: Lake Erie, the Ohio River, or the Allegheny River.

Miles of Stream by County		
Source: DCNR		
County Name	Miles of Stream	% in State
Clarion	1,202.28	1.45%
Crawford	2,506.52	3.01%
Erie	1,908.22	2.29%
Forest	766.22	0.92%
Lawrence	684.93	0.82%
Mercer	1,347.21	1.62%
Venango	1,305.34	1.57%
Warren	1,687.54	2.03%
Regional Total	11,408.26	13.71%
PA Total	83,184.00	

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% are designated as High Quality Coldwater Fisheries. Within the eight counties of the Northwest Region, there are 15 designated Exceptional Value (EV) streams and 84 High Quality Cold Water Fisheries.

Special Protection Waters by County		
Source: PA Code Chapter 93 - DEP		
County Name	High Quality Cold Water Fishery	Exceptional Value Stream
Clarion	9	2
Crawford	7	1
Erie	6	1
Forest	26	2
Lawrence	0	1
Mercer	0	0
Venango	2	2
Warren	34	6
Regional Total	84	15

Clarion County has two named streams with an Exceptional Value designation. These streams are described briefly here:

- McCanna Run (Pendleton Run) is located in eastern Clarion County, Mill Creek Township, where it is a tributary of Mill Creek. The lower section of this stream is located within State Game Land No. 74.
- Blyson Run is located in eastern Clarion County, Mill Creek Township, where it is a tributary of the Clarion River. The lower section of this stream is located within State Game Land No. 283.

Crawford County has one named stream with an Exceptional Value designation. This stream is described briefly here:

- Caldwell Creek is located in southeastern Crawford County and southwestern Warren County. The section with an EV rating begins where West Branch Caldwell Creek drains into Caldwell Creek in Southwest Township, Warren County. From the mouth of West Branch Caldwell Creek, it flows southwest into Oil Creek Township, Crawford County where it drains into Pine Creek.

Erie County has one named stream with an Exceptional Value designation. This stream is described briefly here:

- Beaver Run is located west of the City of Erie, where it flows through Amity Township, Wayne Township, and Elgin Borough before out-letting into French Creek in Concord.

Forest County has two named streams with an Exceptional Value designation. These streams are described briefly here:

- Hemlock Creek is situated in western Forest County and eastern Venango County. The headwaters of this creek are in Tionesta Township, Forest County. From Tionesta, it flows into President Township, Venango County where it drains into the Allegheny River.

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- Four Mile Run is located in central Forest County. It originates in southwestern Howe Township and flows through Jenks and Kingsley Townships, before out-letting into Salmon Creek. Additionally, the Fourmile Run Watershed has an Exceptional Value rating.

Lawrence County has one named stream with an Exceptional Value designation. This stream is described briefly here:

- Hell Run is situated in southeast Lawrence County within Slippery Rock Township where it flows west to east into Slippery Rock Creek.

Venango County has two (2) named streams with an Exceptional Value designation. These streams are described briefly here:

- Hemlock Creek is situated in western Forest County and eastern Venango County. The headwaters of this creek are in Tionesta Township, Forest County. From Tionesta, it flows into President Township, Venango County where it drains into the Allegheny River.
- Dennison Run is located in southwest Venango County where it flows through Victory and Clinton Townships before out-letting into the Allegheny River in Clear Creek State Forest north of Kennerdell. Additionally, Dennison Run Watershed has an Exceptional Value rating.

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 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.

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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.

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 the counties in the northwest region. 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 the northwest can be found along the Allegheny River, along Slippery Rock Creek in Lawrence County, along Tionesta Creek in Forest County, along Oil Creek in Venango County and southeast Crawford County, along Mahoning Creek in Lawrence County, and along the Clarion River in Clarion County.

Hydric Soils

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 County conservation districts were contacted to obtain a list of hydric soils for each 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.

Forests and Woodland Areas

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 300 feet from the forest edge and removing it from each forest block.

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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*

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 three and one half percent 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 18 Important Bird Areas (IBAs) that are at least partially located within the counties of the northwest region.

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 6 Important Mammal Areas (IMAs) that are at least partially located within the counties of the northwest region.

Natural Areas: The Natural Heritage Program

Another essential source of information about important habitat areas in the northwest is the individual county Natural Heritage Inventories (NHI). These documents provide mapping and background information on the known outstanding floral, faunal, geologic, and scenic features of the region.

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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 County NHI reports, 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 region, 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.

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

At the time of this study, the Pennsylvania Natural Heritage Program provided NHI data in accordance with the level of study they have completed at that time. This includes completed County Natural Heritage Inventory reports and data for:

- Crawford County
- Erie County
- Forest County
- Lawrence County
- Mercer County

THE RESULTS

This analysis leads to recommending the establishment of ninety-three Natural Systems Greenway Corridors within eight counties in the northwest Pennsylvania region. Detailed descriptions of the proposed corridors can be found in the corresponding County Greenway Plans. These corridors are of regional and county significance. Local corridors, which contribute to conserving natural infrastructure at a municipal level, may further expand the proposed corridors. The ninety-three corridors recommended herein are summarized as follows, according to their corresponding priority at the regional level. Recommendations for implementing the proposed natural systems greenways corridors follow later in this chapter.

Proposed Vital Priority Natural Systems Greenway Corridors

The proposed vital priority natural systems greenway corridors are those corridors that serve as the spines of the natural systems greenway corridors within the region. Further, they generally contain a high concentration of natural infrastructure elements, and pass through several counties and many municipalities. There are three proposed vital priority greenways being recommended in the northwest region. They include:

- 1) **Allegheny River Greenway – Clarion County**: This proposed greenway contains the Allegheny River Corridor along the western border of Clarion County. Along this corridor are three BDA's, their supporting Natural landscape, the US Steel Mine Important Mammal Area, Allegheny River Trail and Allegheny River Water Trail, and a section of the North Country National Scenic Trail.

Approximate Size: The total length of this proposed greenway is over 25 miles from where it enters Clarion County from Venango County at Emlenton, to where it exits into Armstrong County at the mouth of Redbank Creek. The width varies from nearly half a mile north of East Brady to less than 1,000 feet in various sections along the river. The Allegheny River Greenway encompasses nearly 3,000 acres in Clarion County. None of this greenway is presently protected, and just of 1% of it is developed or developed land.

Associated Municipalities: Richland, Perry, Toby, Madison, and Brady Townships as well as Foxburg and East Brady Boroughs. This greenway also connects into Venango and Armstrong Counties.

Allegheny River Greenway – Forest County: This greenway is located in eastern Forest County, entering from Warren County in the north and exiting into Venango County to the east. It includes a portion of Allegheny National Forest, as well as six conservation areas. In addition this greenway supports the Wild and Scenic section of the Allegheny River.

Approximate Size: The total length of the Allegheny River Greenway is roughly 14 miles, within Forest County. The width varies from less than 1,500 feet to more than 1 mile in some sections.

The total acreage of this greenway is estimated to be nearly 6,000 acres, of which 40.2% is protected within the national forest. Approximately 3.4% of this greenway is designated as developed land.

Associated Municipalities: Tionesta, Hickory, and Harmony Townships, as well as Tionesta Borough.

Allegheny River Greenway – Venango County: This greenway contains the Allegheny River Corridor, which enters Venango County from Forest County east of President and flows through Oil City and Franklin before exiting into Clarion County at Emlenton. Along this corridor there may be two biological diversity areas, St. George, State Game Land No. 47, Clear Creek State Forest, Fisherman’s Cove, Justus Trail, the Allegheny River Trail and Allegheny River Water Trail, and a section of the North Country National Scenic Trail.

This proposed greenway corridor is beneficial, as it can conserve the resources along the Wild and Scenic designated portion of the Allegheny River, from Forest County to Oil City and from just south of Franklin to Emlenton.

Approximate Size: The total acreage of this greenway is estimated to be over 23,000 acres, of which 5.4% is protected within the State Game Land, State Forest, Crawford Reserve, and Fisherman’s Cove. Approximately 4.4% of this greenway is designated as developed land.

Associated Municipalities: Cornplanter, President, Cranberry, Sandy Creek, Victory, Rockland, Richland, Scrubgrass, and Clinton Townships, as well as, Emlenton and Sugarcreek Boroughs, and the cities of Franklin and Oil City.

Allegheny River/Reservoir Greenway – Warren County – This greenway is situated around Allegheny River and Reservoir and adjacent to several tributaries. It includes portions of the Allegheny National Forest (ANF), Allegheny National Recreation Area, State Game Lands No.86 and 309, ANF Wilderness Areas, privately managed land, an Important Mammal Area (IMA), and ten biological diversity areas (BDAs).

In addition to protecting the BDAs, this greenway will also be of benefit in conserving 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 land.

- 2) **French Creek Greenway – Crawford County:** This greenway is located in central Crawford County. It enters from Erie County in the north and exits into Mercer County in the southeast. It includes Venango Bridge, a portion of Erie National Wildlife Refuge, State Game Lands No. 85 and 277, as well as eight BDA’s.

Approximate Size: The total length of the French Creek Greenway is roughly 34 miles. The width varies from around 2 miles near the mouth of Muddy Creek to less than 200 feet in some sections. The total acreage of this greenway is estimated to be more than 17,000 acres, of which 6% is protected within the state game lands, Venango Bridge, and the wildlife refuge. Approximately 11.8% of this greenway is designated as developed land.

Associated Municipalities: Rockdale, Venango, Cambridge, Hayfield, Woodcock, West Mead, Vernon, Union, East Fairfield, and Fairfield Townships; as well as Woodcock, Cochranon, Cambridge Springs, and Saegertown Boroughs; and the City of Meadville.

French Creek Greenway – Erie County: Situated in south eastern Erie County, this greenway corridor extends along French Creek, encompassing State Game Land No.'s 167, 162, & 190, Union City Lake, and the French Creek BDA, which contains 49 natural communities of global and/or state significance, plus numerous plant and animal species of special concern.

In addition to the unique natural features mentioned above, French Creek Greenway also contains part of Lake Pleasant outlet, which is a High Quality Cold Water Fishery that drains into French Creek.

Approximate Size: The total length of the French Creek Greenway corridor is approximately 21 miles. The width varies from just under 1,500 feet near the New York Stateline, to over a mile and a half near the mouth of Lake Pleasant Outlet. The total acreage of this greenway is estimated to be just over 8,400 acres, of which 7.2% is protected within State Game Land No.'s 167, 162, and 190. Nearly 6% of this greenway is designated as developed land.

Associated Municipalities: Venango, Amity, Waterford, and LeBoeuf Townships, as well as Mill Village and Wattsburg Boroughs. This greenway also has the potential to connect to Crawford County and to Chautauqua County in the State of New York.

French Creek Greenway – Venango County: This corridor is located in western Venango County along French Creek and sections of Mill Creek, as well as a few additional tributaries of French Creek. There are seven conservation holdings along this greenway including: Stanley Goodblood Bird Sanctuary, Buttermilk Bluffs, Sugar Creek Landing, and Utica Island. Additionally, there also may be seven biological diversity areas along this corridor.

Approximate Size: The total acreage of the French Creek Greenway is estimated to be nearly 5,000 acres, of which 3.8% is currently being protected in the conservation holdings mentioned above. Approximately 8.4% of this greenway is designated as developed land.

Associated Municipalities: Frenchcreek and Canal Townships, as well as Sugarcreek and Utica Boroughs, and the City of Franklin.

- 3) **Clarion River Greenway – Clarion County:** This proposed corridor encompasses the Clarion River, including the section designated as Wild and Scenic between Piney Dam and the Forest County line, and the Clarion River Water Trail. Seven BDA's and their Supporting Natural Landscapes exist at least partially within the Clarion River Greenway. The proposed Clarion River Greenway corridor also contains two Important Bird Areas - Mount Zion (Piney Tract) IBA, and Cook Forest State Park IBA.

Approximate Size: The total length of the Clarion River within Clarion County is approximately forty-three miles. The width of this greenway varies from over a mile in the northeastern section of the county near Cook Forest State Park, to under 1,000 feet in some places where it winds down to the mouth at the Allegheny River. The total acreage of this proposed greenway corridor is approximately 9,786 acres, of which 65.1% is unprotected as of completion of this plan. Conserved sections of this greenway are found within Cook Forest State Park, State Game Lands No. 330 & 283, and privately managed land. Less than 1% of this proposed greenway is designated as developed land.

Associated Municipalities: Richland, Perry, Licking, Beaver, Piney, Paint, Monroe, Highland, Clarion, Millcreek, and Farmington Townships; as well as Clarion Borough. This greenway also connects into Forest County.

Clarion River Greenway – Forest County: This corridor is situated in southern Forest County, along the border with Elk County. This greenway corridor includes Cook Forest State Park, the Wild and Scenic section of the Clarion River, and five conservation areas.

Approximate Size: The total acreage of this greenway is estimated to be nearly 1,700 acres, of which 40.2% is protected within the state game land and privately-managed land. Approximately 4.5% of this greenway is designated as developed land.

Associated Municipalities: Barnett Township.

Proposed Exceptional Priority Natural Systems Greenway Corridors

Proposed exceptional priority natural systems greenway corridors are those corridors that generally contain a high concentration of natural infrastructure elements. Many are located on the fringes of the vital priority corridors, and they also occur in locations which support conservation of vital priority corridors. Exceptional priority corridors generally are located within several municipalities, and sometimes in multiple counties. There are 28 proposed exceptional priority greenways being recommended in the northwest region. They include:

- 4) **Conneaut Creek Greenway – Crawford County:** This greenway is situated in the extreme northwest corner of Crawford County along sections of Conneaut Creek, West Branch Conneaut Creek, East Branch of West Branch Conneaut Creek, Middle Branch Conneaut Creek, East Branch Conneaut Creek, Mud Run, and Stone Run. It also includes part of State Game Land No. 101 and two BDA's.

Approximate Size: The total acreage of the Conneaut Creek Greenway is estimated to be nearly 9,200 acres, of which 24.4% is currently protected in the state game land. Approximately 1.1% of this greenway is designated as developed land.

Associated Municipalities: Beaver Township.

Conneaut Creek Greenway – Erie County: Located in western Erie County, this greenway corridor is found adjacent to Conneaut Creek and the West Branch of Conneaut Creek and also contains State Game Land No. 101, as well as three BDA's.

Approximate Size: The total acreage of this greenway is estimated to be just over 10,000 acres, of which 27% is protected within State Game Land No.101, as well as within some privately managed lands. Approximately 2.5% of this greenway is designated as developed land.

Associated Municipalities: Conneaut and Springfield Townships, as well as Albion Borough. This greenway also has the potential to connect to Crawford County and to Ashtabula County in the state of Ohio.

- 5) **Sandy Creek Greenway – Crawford County:** Situated in the southern section of Crawford County, adjacent to Sandy Creek, the majority of this greenway is found in Mercer and Venango Counties. The small portion within Crawford County includes part of the Maurice K. Goddard State Park IBA and IMA, as well as one BDA.

Approximate Size: The total acreage of this greenway within Crawford County is estimated to be more than 6,000 acres. Approximately 1.7% of this greenway is designated as developed land.

Associated Municipalities: East Fallowfield, Fairfield, and Greenwood Townships.

Sandy Creek Greenway – Venango County: This corridor is situated in western Venango County adjacent to South Sandy Creek, Sandy Creek, and Little Sandy Creek. This greenway corridor includes State Game Land No. 39, Fisherman’s Cove, and some privately managed land within the state game lands. There may also be two biological diversity areas in this greenway. This proposed greenway corridor is beneficial, as it can conserve resources along Little Sandy Creek, which carries the designation of a High Quality Cold Water Fishery.

Approximate Size: The total length of the Sandy Creek Greenway corridor is approximately 12.5 miles along Sandy Creek, 6.25 miles along Little Sandy Creek, and 10 miles along South Sandy Creek. The width varies from nearly a mile along Little Sandy Creek near its headwaters at the Mercer County border, to less than 1,000 feet in numerous locations along all three creeks. The total acreage of this greenway is estimated to be more than 7,000 acres, of which 39.9% is protected within the State Game Land, Fisherman’s Cove, and the privately managed land. Approximately 3.6% of this greenway is designated as developed land.

Associated Municipalities: Frenchcreek, Sandycreek, Mineral, and Victory Townships, and Polk Borough.

- 6) **Tionesta Creek Greenway – Forest County:** This greenway is found adjacent to Tionesta Creek, which enters Forest County in the northeast from Warren County to the mouth of the creek at the Allegheny River, in the southwest section of the county. This greenway includes portions of the Allegheny National Forest, as well as some privately managed land. There are also six conservation areas associated with this greenway.

In addition to the unique natural features mentioned above, Tionesta Creek greenway also encompasses a large area in the northern section of the County, where six High Quality Cold Water Fisheries (HQ-CWF) enter Tionesta Creek. The streams with the HQ-CWF designation are Bobbs Creek, Blood Run, Porcupine Run, Minister Creek, Fools Creek, Lower Sherriff Run, and Upper Sherriff Creek.

Approximate Size: The total length of the Tionesta Creek Greenway is roughly 32 miles, within Forest County. The width varies from more than two miles near the six HQ-CWF mentioned above to less than 1,000 feet in some sections. The total acreage of this greenway is estimated to be around 12,500 acres, of which 49.7% is protected within the national forest and privately managed land. Approximately 0.5% of this greenway is designated as developed land.

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

Tionesta Creek Greenway – Warren County: This greenway is located 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 BDAs.

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

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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 0.3% of this greenway is designated as developed land.

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

- 7) **Shenango River Greenway – Mercer County:** Refer to the Mercer County Greenways, Open Space and Rural Recreation Plan for a description of this corridor.
- 8) **Hemlock Creek Greenway – Clarion County:** This proposed greenway is found in the northern section of Clarion County. It originates in Venango County and also extends into Forest County. The corridor contains the Hemlock Creek BDA and its Supporting Natural Landscape. Hemlock Creek is an exceptional value stream with potential for rare plants and animals. The supporting landscape encompasses the immediate watershed area.

Approximate Size: This proposed greenway exists adjacent to Hemlock Creek and its tributaries, encompassing nearly 3,000 acres within Clarion County, none which are protected. Approximately 3% of this proposed greenway has been developed.

Associated Municipalities: Washington Township. The Hemlock Creek Greenway also has potential to connect to Venango and Forest Counties.

Hemlock Creek Greenway – Forest County: This greenway is situated in the western section of Forest County and extends into Venango and Clarion Counties. The portion within Forest County includes one conservation area.

This greenway will also be of benefit in conserving the Exceptional Value Stream designation on Hemlock Creek.

Approximate Size: The total acreage of this greenway is estimated to be just over 3,000 acres, none of which is currently protected. Approximately .9% of this greenway is designated as developed land.

Associated Municipalities: Tionesta Township.

Hemlock Creek Greenway – Venango County: This greenway is found in the eastern section of Venango County and also extends into Forest and Clarion Counties. This corridor may contain one biological diversity area as well as Crawford Reserve. Hemlock Creek is an exceptional value stream with potential for rare plants and animals.

Approximate Size: The total acreage of this greenway is estimated to be more than 8,000 acres, of which 8% is protected within State Game Land No. 47 as well as within Crawford Reserve. Approximately 1.8% of this greenway is designated as developed land.

Associated Municipalities: President and Pine Grove Townships.

- 9) **Neshannock Creek Greenway – Lawrence County:** Refer to the Lawrence County Greenways Plan for a description of this corridor.

- 10) **Cussewago Creek Greenway – Crawford County**: This corridor is situated in north central Crawford County adjacent to Cussewago Creek, and West Branch Cussewago Creek. This greenway includes State Game Lands No. 152 and 269, Cussewago Bottom IBA, and six BDAs.

Approximate Size: The total length of the Cussewago Greenway is roughly 16 miles. The width varies from 2 miles to less than 100 feet. The total acreage of this greenway is estimated to be more than 14,000 acres, of which 3% is currently protected in the state game lands. Approximately 5.2% of this greenway is designated as developed land.

Associated Municipalities: Spring, Cussewago, Hayfield, and Vernon Townships, as well as the City of Meadville.

Cussewago Creek Greenway – Erie County: The majority of the corridor is found in Crawford County. A small portion of the upper reaches of this greenway is found in southern Erie County along portions of Cussewago Creek and West Branch Cussewago Creek. The portion of the Cussewago Creek Greenway, within Erie County, contains the supporting natural landscape for Pont Road Wetland BDA as well as Cussewago Bottom IBA.

Approximate Size: The total acreage of this greenway, within Erie County, is estimated to be around 472 acres, none of which is currently protected. Approximately 2.8% of this greenway is designated as developed land.

Associated Municipalities: Elk Creek Township.

- 11) **Conneaut Lake/Outlet Greenway – Crawford County**: This corridor is situated in southwest Crawford County, along Conneaut Outlet and surrounding Conneaut Lake and Clearwater Lake. Included within this greenway, are State Game Land No. 213, some privately managed land, Conneaut Marsh-Geneva Marsh IBA, and ten BDAs.

Approximate Size: The total acreage of this greenway is estimated to be nearly 30,000 acres, of which 17.8% is protected within the state game land and privately managed land. Approximately 6.2% of this greenway is designated as developed land.

Associated Municipalities: Summerhill, Conneaut, Summit, Pine, Vernon, Sadsbury, Union, Greenwood, East Fallowfield, and Fairfield Townships, as well as Conneaut Lake Borough.

- 12) **Slippery Rock Creek Greenway – Lawrence County**: Refer to the Lawrence County Greenways Plan for a description of this corridor.

- 13) **Walnut Creek Greenway - Erie County**: This corridor surrounds Walnut Creek, a tributary to Lake Erie. This corridor contains Asbury Woods Nature Center, as well as two BDA's and their supporting landscape. Walnut Creek is a Pennsylvania Fish and Boat Commission Trout Stocked Fishery and a steelhead fishery.

Approximate Size: The total acreage of this greenway is estimated to be nearly 2,900 acres. Approximately 2.5% of this greenway is designated as developed land.

Associated Municipalities: Fairview, Millcreek, and Summit Townships.

- 14) **Muddy Creek Greenway - Crawford County**: Situated in northern Crawford County, this BDA encompasses all sections of Dead Creek, Mackey Run, Federal Run, Little Federal Run,

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Potash Run, East Branch Muddy Creek, and Muddy Creek. This greenway also includes Erie National Wildlife Refuge - Sugar Lake Division, Erie National Wildlife Refuge IBA; Hemlock Hill Research Area IBA; State Game Lands No. 85, 146, and 122; and six BDAs.

In addition to protecting the BDAs, this greenway will also be of benefit in conserving the High Quality Cold Water Fishery designation on Kelly Run, Federal Run, Mackey Run, East Branch Muddy Creek, and Muddy Creek.

Approximate Size: The total length of the Muddy Creek greenway is roughly 12.5 miles. The width varies from 2.3 miles near the mouth of the creek, at French Creek, to less than 1,500 feet in some sections. The total acreage of this greenway is nearly 15,000 acres, of which 41.6% is protected within the state game lands and the wildlife refuge. Approximately 2.7% of this greenway is designated as developed land.

Associated Municipalities: Steuben, Athens, Bloomfield, Richmond, and Rockdale Townships, as well as Townville Borough.

- 15) **Pymatuning Reservoir Greenway - Crawford County:** Situated in western Crawford County, this greenway corridor surrounds Pymatuning Reservoir and includes portions or all of Pymatuning State Park, State Game Land No. 214, Black Jack Swamp and Clark Island Natural Areas, and some privately managed land. There are also eleven BDA's associated with this greenway.

In addition to the unique natural features contained in the BDAs, Pymatuning Reservoir Greenway also contains part of the Pymatuning Hartstown Complex Important Bird Area, which supports one of the largest concentrations of bald eagle nests in the state.

Approximate Size: The total acreage of this greenway is estimated to be over 42,000 acres, of which 18.3% is protected within the state park, state game lands, and privately managed land. Approximately 4.4% of this greenway is designated as developed land.

Associated Municipalities: West Shenango, East Shenango, North Shenango, West Fallowfield, East Fallowfield, Sadsbury, Summit, and Conneaut Townships.

- 16) **Crooked Creek Greenway - Erie County:** This corridor is situated along the Lake Erie Shore, in western Erie County, encompassing a portion of Erie Bluffs State Park and parallels Crooked Creek. There is one BDA included within this greenway. This greenway will also be of benefit in conserving the High Quality Cold Water Fishery status designated along Crooked Creek and is also a steelhead fishery.

Approximate Size: The total length of the Crooked Creek Greenway corridor is approximately 10 miles. The width varies from just under 1,500 feet near Platea, to over a mile within Erie Bluffs State Park. The total acreage of this greenway is estimated to be just over 7,700 acres, of which 7.4% is protected within Erie Bluffs State Park. Over 10% of this greenway is designated as developed land.

Associated Municipalities: Springfield and Girard Townships, and Lake City Borough.

- 17) **Conneauttee Creek/Edinboro Lake Greenway – Crawford County:** Located in north central Crawford County and south central Erie County, this greenway is found adjacent to Conneauttee Creek and surrounding Edinboro Lake. Within Crawford County, it includes one BDA.

Approximate Size: The total acreage of this greenway is estimated to be nearly 2,000 acres, none of which is currently protected. Approximately 3.3% of this greenway is designated as developed land.

Associated Municipalities: Venango and Cambridge Townships.

Conneauttee Creek/Edinboro Lake Greenway – Erie County: This greenway is situated in south central Erie County around Edinboro Lake and adjacent to Conneauttee Creek. The lake is a PFBC Trout Stocked Waterway. Additionally, the entire corridor contains part of the French Creek BDA.

Approximate Size: The total length of the Conneauttee Creek/Edinboro Lake Greenway corridor is over 8 miles. The width varies from less than 500 feet along Conneauttee Creek in Edinboro, to over a mile in some places surrounding Edinboro Lake. The total acreage of this greenway is estimated to be more than 4,000 acres, none of which is currently protected. Nearly 15% of this greenway is designated as developed land.

Associated Municipalities: Washington Township and Edinboro Borough. This greenway also has potential to connect into Crawford County.

- 18) **South Branch Tionesta Creek Greenway – Forest County:** This greenway is found in the extreme northeast corner of Forest County, where it extends into Warren County and is adjacent to South Branch Tionesta Creek, Rock Run, Fork Run, East Fork Run, West Fork Run, Iron Run, Eldridge Run, and Bogus Run. It is within an Important Mammal Area and includes portions of the Allegheny National Forest, as well as some privately managed land and one Conservation Area associated with a wetland habitat that supports eight animal species of special concern.

This greenway will also be of benefit in conserving the High Quality Cold Water Fishery designation on Bogus Run, Iron Run, Fork Run, Rock Run, and South Branch Tionesta Creek.

Approximate Size: The total acreage of this greenway is estimated to be roughly 572 acres within Forest County, of which 94.8% is currently protected in the national forest and private land.

Associated Municipalities: Howe Township.

South Branch Tionesta Creek Greenway – Warren County: This corridor is located in the 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 BDAs. This greenway will also be of benefit in conserving 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 land.

Associated Municipalities: Sheffield Township.

- 19) **West Branch Tionesta Creek - Warren County:** 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, Six Mile Run, and Two Mile 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 BDAs.

This greenway will also be of benefit in conserving the Exceptional Value rating on Arnot Run and Wildcat Run, as well as the High Quality Cold Water Fishery designation on Four Mile Run, Six Mile 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 land.

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

- 20) **Woodcock/Lake Creeks Greenway - Crawford County:** This corridor is located in eastern Crawford County, along Woodcock and Lake Creeks, stretching from Saegertown to Venango County. This greenway includes the Erie National Wildlife Refuge IBA, Colonel Crawford Park, and Crawford County Farm, as well as five BDAs. This greenway will also be of benefit in conserving the High Quality Cold Water Fishery designation on Woodcock Creek.

Approximate Size: The total length of the Woodcock/Lake Creeks Greenway is roughly 22 miles. The width varies from less than 1,000 feet in some sections to nearly 1.25 miles within the wildlife refuge. The total acreage is estimated to be more than 8,700 acres, of which 45.7% is currently protected in the wildlife refuge and parks. Approximately 4% of this greenway is designated as developed land.

Associated Municipalities: Richmond, Randolph, Wayne, and Woodcock Townships; as well as Blooming Valley and Saegertown Boroughs.

- 21) **Brokenstraw Creek Greenway – Erie County:** Located in the extreme western section of Erie County, this greenway is found adjacent to Brokenstraw Creek and includes the mouth of Bear Creek in Corry.

Approximate Size: The total length of the Brokenstraw Creek Greenway corridor is roughly 5.5 miles. The width varies from less than 1,000 feet near the headwaters of the creek to nearly 4,000 miles near the mouth of Bear Creek. The total acreage of this greenway is estimated to be nearly 1,100 acres, none of which is currently protected. Approximately 8.4% of this greenway is designated as developed land.

Associated Municipalities: Wayne Township and the City of Corry. This greenway also has potential to connect to Warren County.

Brokenstraw Creek Greenway – Warren County: 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 BDAs. This greenway will also be of benefit in conserving 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 land.

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

- 22) **Little Beaver Creek Greenway – Lawrence County:** Refer to the Lawrence County Greenways Plan for a description of this corridor.
- 23) **Raccoon/Turkey Creeks Greenway - Erie County:** This greenway corridor is situated along the Lake Erie shore, in western Erie County, bordering Ohio. Included within this greenway are State Game Land No. 101, several privately managed lands, Roderick Wildlife Conserve Important Bird Area, and three BDAs.

Approximate Size: The total acreage of this greenway is estimated to be approximately 7,300 acres, of which 41.3 % is protected within State Game Land No. 101 and through privately managed land. Approximately 5.5% of this greenway is designated as developed land.

Associated Municipalities: Springfield Township.

- 24) **East Hickory Creek Greenway – Forest County:** East Hickory Creek is a tributary of the Clarion River, situated to the east of the river in northern Forest County. Other streams within this greenway include Otter Creek, Prather Run, and Queen Creek. Additionally, this greenway includes portions of the Allegheny National Forest, an Important Mammal Area, and two Conservation Areas supporting seven species of special concern.

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

Approximate Size: The total acreage of this greenway is nearly 3,000 acres, of which 48.6% is protected within the national forest and privately managed land. Approximately 3.5% of this greenway is designated as developed land.

Associated Municipalities: Hickory Township.

East Hickory Creek Greenway – Warren County: This corridor is 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.

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 land.

Associated Municipalities: Watson, and Limestone Townships.

- 25) **Twentymile Creek Greenway - Erie County:** Located in the extreme north western section of Erie County along the border with the State of New York, this greenway is adjacent to Twentymile Creek and encompasses two BDAs. Twentymile Creek is also a steelhead fishery.

Approximate Size: The total length of the Twentymile Creek Greenway corridor is nearly 3 miles. The width varies from less than 1,000 feet near where the stream passes under Interstate 90, to over a mile near the border of New York. The total acreage of this greenway is estimated to be just under 500 acres, none of which is currently protected. Over 22% of this greenway is designated as developed land.

Associated Municipalities: North East Township. This greenway also has potential to connect into the state of New York.

- 26) **Elk Creek Greenway - Erie County:** This greenway is located in west central Erie County, Elk Creek Greenway runs adjacent to parts of Elk Creek, Little Elk Creek, Brandy Run, and Falk Run. This greenway contains one BDA, which is uncommon federally and includes rare habitats as well as a high quality stream community. Elk Creek is also a steelhead fishery.

Approximate Size: The total length of the Elk Creek Greenway corridor is approximately 9 miles. The width varies from less than 500 feet near the mouth of Brandy Run at Elk Creek, to around 7,000 feet surrounding portions of Falk Run and Little Elk Creek. The total acreage of this greenway is estimated to be over 4,800 acres, none of which is currently protected. Approximately 8.3% of this greenway is designated as developed land.

Associated Municipalities: Fairview, McKean, Waterford, and Girard Townships, as well as Girard, McKean, and Lake City Boroughs.

- 27) **Coffee Creek Greenway - Warren County:** This corridor is 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 BDAs.

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 land.

Associated Municipalities: Columbus and Freehold Townships

- 28) **Conewango Creek Greenway - Warren County:** 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 Important Bird Area, and six BDAs.

Approximate Size: The total length of this 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 land.

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

- 29) **Wolf Creek Greenway – Mercer County:** Refer to the Mercer County Greenways, Open Space and Rural Recreation Plan for a description of this corridor.

- 30) **Salmon Creek Greenway - Forest County:** This greenway is situated in central Forest County adjacent to Salmon Creek, Little Salmon Creek, and Four Mile Run. This greenway also includes portions of the Allegheny National Forest and some privately managed land, as well as an Important Mammal Area (IMA) and two Conservation Areas.

In addition to the unique natural features mentioned above, Salmon Creek greenway also protects the High Quality Cold Water Fishery designation on Salmon Creek and Little Salmon Creek, as well as the Exceptional Value rating on Four Mile Run.

Approximate Size: The total length of the Salmon Creek Greenway is roughly 15 miles, with an additional 3.5 miles along Little Salmon Creek and another 3 miles along Four Mile Run. The width varies from nearly 1 mile to less than 500 feet. The total acreage of this greenway is estimated to be more than 3,300 acres, of which 93.8% is currently protected in the national forest and privately managed land. Approximately 0.2% of this greenway is designated as developed land.

Associated Municipalities: Kingsley, Howe, and Jenks Townships.

- 31) **Oil Creek Greenway – Crawford County:** This greenway is situated in the north east section of Crawford County and extends through Titusville into Venango County. It includes Oil Creek, East Branch Oil Creek, Two Mile Run, Britton Run, Bloomfield Run, McLaughlin Creek, Clear Lake, and Canadohta Lake. Additionally, included are portions of State Game Lands No. 122, 144, 202, Crawford County Forest, and five BDAs.

Approximate Size: The total acreage of the Oil Creek Greenway is estimated to be more than 11,500 acres, of which 14.9% is currently protected in the state game lands and Crawford County forest. Approximately 4.1% of this greenway is designated as developed land.

Associated Municipalities: Bloomfield, Sparta, Troy, Athens, Rome, Steuben, and Oil Creek Townships; as well as Centerville, Hydetown, and Spartansburg Boroughs; and the City of Titusville.

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Oil Creek Greenway – Venango County: Situated in northern Venango County, this greenway corridor runs adjacent to Oil Creek mostly within Oil Creek State Park. There may be one biological diversity area associated with this greenway. The corridor is considered an important bird area because of its high diversity and substantial concentration of breeding forest birds.

Approximate Size: The total length of the Oil Creek Greenway corridor is nearly 17 miles. The width varies from just nearly a mile and a half in the northern section of the park to under 1,500 feet in Oil City. The total acreage of this greenway is estimated to be over 6,000 acres, of which 57.5 % is protected within Oil Creek State Park. Nearly 6.4% of this greenway is designated as developed land.

Associated Municipalities: Oilcreek, Cherrytree, and Cornplanter Townships, as well as Rouseville Borough, and the City of Oil City.

Proposed Significant Priority Natural Systems Greenway Corridors

The proposed significant priority natural systems greenway corridors are those corridors that generally contain several natural infrastructure elements. Many are situated in locations that support the conservation of exceptional priority corridors. Significant priority corridors generally encompass several municipalities. There are 29 proposed exceptional priority greenways being recommended in the northwest region. They include:

- 32) **Lake Pleasant Greenway - Erie County:** This corridor is located in eastern Erie County surrounding Lake Pleasant, its source, and the Lake Pleasant Outlet. Lake Pleasant Outlet is a designated High Quality Cold Water Fishery. Additionally, the entire greenway encompasses part of the French Creek BDA.

Approximate Size: The total length of the Lake Pleasant Greenway corridor is nearly eight miles. The width varies from just under 2,000 feet near the mouth of Lake Pleasant Outlet at French Creek, to over two miles surrounding Lake Pleasant. The total acreage of this greenway is estimated to be nearly 7,000 acres, of which 28.7% is protected within State Game Land No.'s 155, 161, & 218, as well as through privately managed land around Lake Pleasant. Approximately 5.5% of this greenway is designated as developed land.

Associated Municipalities: Venango, Amity, Waterford, and Greene Townships.

- 33) **Sixteenmile Creek Greenway - Erie County:** Situated in northwestern Erie County near the border with New York, this greenway runs adjacent to Sixteenmile Creek and encompasses five BDAs. Sixteenmile Creek is also a steelhead fishery.

Approximate Size: The total length of the Sixteenmile Creek Greenway corridor is nearly seven miles. The width varies from less than 500 feet in some places, to approximately two miles along Lake Erie shoreline and just south of Interstate 90. The total acreage of this greenway is estimated to be over 3,700 acres, none of which is currently protected. Approximately 23% of this greenway is designated as developed land.

Associated Municipalities: North East Borough and North East Township.

- 34) **Little Sugar Creek Greenway - Crawford County:** This corridor is located in south central Crawford County. It is adjacent to Little Sugar Creek and includes three BDAs.

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Approximate Size: The total length of the Little Sugar Creek Greenway corridor is nearly 14 miles. The width varies from 1 mile, to less than 1,000 feet in various sections. The total acreage of this greenway is estimated to be nearly 4,800 acres, none of which is currently protected. Approximately 3.3% of this greenway is designated as developed land.

Associated Municipalities: East Fairfield, Wayne, and East Mead Townships; as well as Blooming Valley and Cochranon Boroughs.

- 35) **Bluejay Creek Greenway - Forest County:** This corridor is located in northeastern Forest County along Bluejay Creek, a tributary to Tionesta Creek, its main tributary West Branch Bluejay Creek. This greenway also includes sections of Watsonstown and Bald Hill Run's, as well as part of the Allegheny National Forest, and one Conservation Area. This greenway will benefit in conserving the High Quality Cold Water Fishery designation on Bluejay Creek.

Approximate Size: The total length of the Bluejay Creek Greenway is roughly 6.5 miles, with an additional 3.5 miles along West Branch Bluejay Creek. The width varies from roughly a mile and a half surrounding the CA, to less than 1,000 feet in some sections. The total acreage is estimated to be more than 2,200 acres, of which 100% is currently protected in the national forest. Approximately 4% of this greenway is designated as developed land.

Associated Municipalities: Howe and Jenks Townships.

- 36) **Cook Forest Greenway - Clarion County:** This proposed greenway contains Cook Forest State Park, including the 555-acre Forest Cathedral Natural Area and Swamp Forest Natural Area, the Cook Forest Important Bird Area, as well as four BDA's and their Supporting Natural Landscape.

Approximate Size: The total length of this proposed greenway is over twenty-five miles along the border of Clarion and Forest Counties north of the Clarion River. The width varies and is more than two miles wide in some locations. The proposed Cook Forest Greenway encompasses more than 6,500 acres within Clarion County. Nearly 3,400 acres of this greenway is presently protected in Cook Forest State park, Swamp Forest Natural Area, Forest Cathedral Natural Area, State Game Land No. 24, and other privately managed land. Less than 1% of this greenway is developed or developed land.

Associated Municipalities: Farmington Township. This greenway also connects into Forest County.

Cook Forest Greenway – Forest County: The majority of this greenway is found in Clarion County, surrounding Cook Forest State Park. The small portion in Forest County includes one Conservation Area.

Approximate Size: The total acreage of this greenway is estimated to be roughly 1,000 acres within Forest County, of which 55.8% is currently protected in the state park.

Associated Municipalities: Barnett Township.

- 37) **LeBoeuf Creek Greenway - Erie County:** This corridor is located in central Erie County along LeBoeuf Creek. It contains State Game Lands 109.

Approximate Size: The total length of the main stem of the LeBoeuf Creek Greenway corridor is over 8 miles. The width varies from less than 2,000 feet near the stream's mouth at French

Creek, to over two and a half miles near the confluence of LeBoeuf Creek and East Branch LeBoeuf Creek. The total acreage of this greenway is estimated to be more than 7,000 acres, of which 23.3% is currently protected in State Game Land No. 109. Approximately 7.5% of this greenway is designated as developed land.

Associated Municipalities: Summit, Greene, LeBoeuf, and Waterford Townships, and Waterford Borough.

- 38) **Sugar Creek Greenway – Crawford County:** This greenway is located in eastern Crawford County at the headwaters of Sugar Creek, Little Sugar Creek, West Branch Sugar Creek, and Woodcock Creek. It includes almost all of State Game Land No. 69 and privately managed land. This greenway will also be of benefit in conserving the High Quality Cold Water Fishery designation on Woodcock Creek.

Approximate Size: The total acreage of this greenway is estimated to be more than 5,200 acres, of which 73% is currently protected within the state game land. Approximately .2% of this greenway is designated as developed land.

Associated Municipalities: Randolph and Troy Townships.

Sugar Creek Greenway – Venango County: Situated in northwestern Venango County, this greenway contains parts of State Game Land No. 96 and is found adjacent to Beatty Run, East Branch Sugar Creek, Foster Run, Lake Creek, Little Sugar Creek, Prather Creek, and Sugar Creek. There is also may be one biological diversity area associated with this greenway.

Approximate Size: The total acreage of the Sugar Creek Greenway is estimated to be nearly 8,300 acres, of which 6.6% is currently protected in the state game lands. Approximately 6.2% of this greenway is designated as developed land.

Associated Municipalities: Plum, Jackson, Oakland, Canal, and Cherrytree Townships, as well as Cooperstown, and Sugarcreek Boroughs.

- 39) **East Sandy Creek Greenway – Venango County:** This greenway is situated in eastern Venango County, encompassing sections of Burford Run, Halls Run, Pine Run, Pryor Run, Bear Run and East Sandy Creek. It also includes part of State Game Land No. 45, and there may be one biological diversity area associated with this corridor.

Approximate Size: The total length of the East Sandy Creek Greenway corridor is over 11 miles along east Sandy Creek and an additional 3.5 miles along Pine and Bear Run. Its width varies from around 1,000 feet by the mouth of Sandy Creek at the Allegheny River and to nearly 4,000 feet at the confluence of East Sandy Creek and Pine Run. The total acreage of this greenway is estimated to be more than 5,300 acres, of which 22.5% is currently protected in the state game land. Approximately 1.7% of this greenway is designated as developed land.

Associated Municipalities: Cranberry, Rockland, and Richland Townships.

- 40) **Tubbs Run Greenway - Forest County:** This greenway is situated in eastern Forest County along Tubbs Run, a tributary of the Allegheny River. This greenway is also adjacent to Pigeon Run and includes part of the Allegheny National Forest. This greenway will benefit in conserving the High Quality Cold Water Fishery designation on Tubbs Run.

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Approximate Size: The total length of this greenway is approximately 4.5 miles along Tubbs Run and an additional 1.5 miles along Pigeon Run. The width varies from less than 1,000 feet, to more than half a mile near the mouth of Tubbs Run at the Allegheny River. The total acreage of the Tubbs Run Greenway is estimated to be nearly 700 acres, of which 42.8% is currently protected in the national forest. Approximately 1.6% of this greenway is designated as developed land.

Associated Municipalities: Tionesta and Green Townships.

- 41) **South Branch French Creek Greenway - Erie County:** Paralleling the South Branch French Creek, this greenway corridor encompasses parts of the French Creek BDA, as well as one other BDA.

Approximate Size: The total length of the South Branch French Creek Greenway corridor is nearly 24 miles. The width varies from less than 1,000 feet in some places through Union City, to nearly a mile near the City of Corry. The total acreage of this greenway is estimated to be nearly 7,500 acres, none of which is currently protected. Over 8% of this greenway is designated as developed land.

Associated Municipalities: LeBoeuf, Union, Concord, and Wayne Townships, as well as Elgin and Union City Boroughs, and a small portion of the City of Corry. This greenway also has potential to connect into Crawford and Warren Counties.

- 42) **Spring Creek/Wolf Run Greenway - Forest County:** This greenway is located in Eastern Forest County, adjacent to Spring Creek, Wolf Run, and East Branch Spring Creek. This greenway is completely within the Allegheny National Forest and contains one Conservation Area.

Approximate Size: The total length of this greenway is approximately 11 miles. The width varies from more than half a mile to less than 1,000 feet. The total acreage of this greenway is estimated to be nearly 3,000 acres, of which 100% is currently protected in the national forest.

- 43) **Pithole Creek Greenway – Venango County:** This corridor is located in the north eastern section of Venango County along Schoolhouse Run, Otto Run, Neilltown Run, West Pithole Creek, and Pithole Creek. This greenway encompasses part of State Game Land No. 253, and there may be one biological diversity area associated with this corridor.

Approximate Size: The total length of the Pithole Creek Greenway corridor is approximately 13.25 miles along Pithole Creek and another 5 miles along West Pithole Creek. The total acreage of this greenway is estimated to be nearly 6,500 acres, of which approximately 0.2% is currently protected in the state game land. Less than 1% of this greenway is designated as developed land.

Associated Municipalities: Cornplanter, Allegheny, President, and Oilcreek Townships, as well as a small portion of Pleasantville Borough.

- 44) **The Branch Greenway - Forest County:** Situated in central Forest County, this greenway is found adjacent to The Branch, which flows into Salmon Creek approximately 1,500 feet before it enters the Allegheny River. This greenway is in an Important Mammal Area and includes part of the Allegheny National Forest, as well as some privately managed land and one Conservation Area. This greenway will benefit in conserving the High Quality Cold Water Fishery designation on The Branch.

Approximate Size: The total length of this greenway is nearly 9 miles. The width varies from approximately half a mile near the mouth at Salmon Creek, to less than 500 feet in some places. The total acreage of The Branch Greenway is estimated to be more than 1,500 acres, of which 95.5% is currently protected in the national forest and within privately managed land. Approximately 0.1% of this greenway is designated as developed land.

Associated Municipalities: Kingsley and Howe Townships.

- 45) **Mill Creek Greenway – Venango County:** Situated in the southeastern portion of Venango County, north of Emlenton, this greenway includes Mill Creek and all of Kahle Lake, extending into Clarion County. There may be two biological diversity area associated with this corridor.

Approximate Size: The total length of the Mill Creek/Kahle Lake Greenway corridor is approximately 5.5 miles. The width varies from less than 2,000 feet near the bend in Mill Creek to 1.25 miles surrounding Kahle Lake. The total acreage of this greenway is estimated to be over 1,800 acres, none of which is currently protected. Approximately 1.1% of this greenway is designated as developed land.

- 46) **Hubbel Run Greenway - Erie County:** This corridor is located in south western Erie County, near the New York border, adjacent to Hubbel Run. The upper segment of Hubbel Run is designated as a High Quality Cold Water Fishery. Additionally, this greenway contains Titus Bog and Wattsburg Fen Natural Area and portions of State Game Land No. 167. There is also one BDA associated with this greenway.

Approximate Size: The total length of the Hubbel Run Greenway corridor is over 5 miles. The width varies from less than 500 feet near the mouth of the creek at French Creek, to nearly two miles surrounding the Natural Areas. The total acreage of this greenway is estimated to be over 4,000 acres, of which approximately 13% is currently protected. Approximately 3% of this greenway is designated as developed land.

Associated Municipalities: Amity, and Wayne Townships.

- 47) **Queen Creek Greenway - Warren County:** 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.

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.

- 48) **Erie/Presque Isle/Mill Creek Greenway - Erie County:** This greenway is situated adjacent to Mill Creek, Cascade Creek, and West Branch Cascade Creek. This corridor includes the Erie Bayfront, Presque Isle State Park, Presque Isle State Park IBA, and Presque Isle Bay. The Presque Isle BDA has inter-related natural communities, such as lake littoral zone, embayment, and shoreline habitats that are of special concern within the state and at the federal level. These

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communities provide habitat for an estimated sixty-three species of special concern, as well as other significant species.

Approximate Size: The total acreage of this greenway is estimated to be nearly 5,300 acres, of which nearly 25% is currently protected within Presque Isle State Park. Approximately 53% of this greenway is designated as developed land.

Associated Municipalities: City of Erie and Millcreek Township.

- 49) **Beaver / Mahoning Rivers Greenway – Lawrence County:** Refer to the Lawrence County Greenways Plan for a description of this corridor.

- 50) **Sevenmile/Eightmile Creeks Greenway - Erie County:** Situated in north western Erie County, this greenway corridor is found adjacent to the lower reaches of Sevenmile and Eightmile Creeks, as well as Scott and Elliot Runs. This corridor also contains Shades Beach Park, as well as one BDA.

Approximate Size: The total acreage of this greenway is estimated to be just over 1,100 acres, none of which is currently protected. Approximately 15% of this greenway is designated as developed land.

Associated Municipalities: Harborcreek Township.

- 51) **Tidioute Creek Greenway - Warren County:** This corridor is 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 conserving 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 land.

Associated Municipalities: Triumph, Deerfield, and Eldred Townships.

- 52) **West Branch Millstone Greenway - Forest County:** This greenway is situated in the eastern section of the county, adjacent to West Branch Millstone Creek, as well as sections of Scotts Run and Brush Creek. This greenway includes part of the Allegheny National Forest and also one Conservation Area that supports three rare aquatic species and a dragonfly species of special concern.

Approximate Size: The total length of the West Branch Millstone Greenway is roughly 11.5 miles. The width varies from less than 500 feet to nearly 1,000 feet. The total acreage of this greenway is estimated to be nearly 1,200 acres, of which 76.5% is currently protected within the national forest. Approximately 0.7% of this greenway is designated as developed land.

Associated Municipalities: Barnett and Jenks Townships.

- 53) **Union City Reservoir Greenway - Erie County:** This greenway is located in south western Erie County surrounding the Union City Reservoir and containing all of State Game Land No.

102. Additionally, this greenway contains parts of Alder and Bentley Runs, as well as one BDA that contains a highly diverse area that contains natural communities of global or state significance.

Approximate Size: The total acreage of this greenway is estimated to be nearly 3,500 acres, of which 11.3% is currently protected within State Game Land No. 102. Approximately 4% of this greenway is designated as developed land.

Associated Municipalities: Amity and Union Townships.

- 54) **West Hickory Creek Greenway – Forest County:** This greenway is situated in northwest Forest County. This greenway is adjacent to West Hickory Creek, a tributary to the Allegheny River. A portion of this greenway includes part of the Allegheny National Forest.

Approximate Size: The total length of the greenway corridor is nearly 5 miles. The width varies from approximately half a mile near the mouth of the creek at the Allegheny River to less than 500 feet in various sections. The total acreage of this greenway is estimated to be nearly 650 acres, of which 18.8% is currently protected in the national forest. Approximately .3% of the greenway is designated as developed land.

Associated Municipalities: Harmony Township.

West Hickory Creek Greenway – Warren County: 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. This greenway will benefit in conserving 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 land.

Associated Municipalities: Triumph Township.

- 55) **Sixmile/Fourmile Creeks Greenway - Erie County:** Located east of the City of Erie, this greenway is adjacent to most of Sixmile and Fourmile Creeks. Also found within this greenway is Sixmile Creek Park and three BDAs.

Approximate Size: The total length of the Sixmile/Fourmile Creeks Greenway corridor is estimated to be nearly 7,000 acres, of which 7% is currently protected within Sixmile Creek Park. Approximately 14% of this greenway is designated as developed land.

Associated Municipalities: Harborcreek, Greene, Greenfield, and Millcreek Townships.

- 56) **Little Brokenstraw Creek Greenway - Warren County:** Situated in the northwest Warren County, adjacent to Little Brokenstraw Creek, this greenway includes two BDAs.

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

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more than 1,600 acres, none of which is currently protected. Approximately 4.8% of this greenway is designated as developed land.

Associated Municipalities: Freehold and Pittsfield Townships.

- 57) **Trout Run Greenway - Erie County:** Situated in central Erie County, Trout Run Greenway encompasses Trout Run, the headwaters of Elk Creek, Lake LeBoeuf, and a portion of the French Creek BDA.

Approximate Size: The total length of the Trout Run Greenway corridor is approximately 5 miles. The width varies from a mile to a mile and a half throughout the entire corridor. The total acreage of this greenway is estimated to be over 3,800 acres, none of which is currently protected. Approximately 10% of this greenway is designated as developed land.

Associated Municipalities: McKean and Waterford Townships, as well as Waterford Borough.

- 58) **Tippery Greenway - Venango County:** Situated southeast of Oil City, in Venango County, this greenway covers the area known as Tippery Meadows and encompasses sections of Halls Run, Wolf Branch, Tarklin Run, and Horse Creek. There may be one biological diversity area associated with this corridor.

Approximate Size: The total length the Tippery Meadows Greenway is over 7 miles. The width varies from nearly 3 miles crossing Hall and Tarklin Runs to approximately 3,700 feet near the mid-point of the greenway. The total acreage of this greenway is estimated to be more than 8,700 acres, of which 14.8% is currently protected in State Game Land No. 47. Approximately 3% of this greenway is designated as developed land.

Associated Municipalities: Cranberry, Pine Grove, and President Townships.

- 59) **Two Mile Run Greenway - Venango County:** Situated in central Venango County, this greenway includes all of Justus Lake, Read Run, West Branch Two Mile Run, and Two Mile Run, and there may be one biological diversity area associated with this corridor.

Approximate Size: The total length of the Two Mile Run Greenway corridor is approximately 7.5 miles. The width varies from nearly 3,000 feet across Justus Lake to less than 1,000 feet in various sections. The total acreage of this greenway is estimated to be nearly 2,800 acres, of which 28.5% is currently protected within Two Mile Run County Park. Approximately 2.5% of this greenway is designated as developed land.

Associated Municipalities: Oakland and Sugarcreek Townships.

- 60) **Blyson Run Greenway - Clarion County:** This proposed Clarion County greenway corridor is situated in the eastern section of the county between the Clarion River and the town of Fisher. Blyson Run is an exceptional value stream with potential for rare plants and animals.

Approximate Size: The total length of this proposed greenway is approximately 4 miles from where Blyson Run originates near Fisher to its mouth at the Clarion River. The width varies from 1,300 feet near the headwaters to nearly a mile and a half along the Clarion River. The Blyson Run Greenway encompasses more than 900 acres, of which only 61 are protected in State Game Land No. 283. Nearly 2% of this greenway is designated as developed land.

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Associated Municipalities: Millcreek Township.

Proposed High Priority Natural Systems Greenway Corridors

The proposed high priority natural systems greenway corridors are those corridors that generally contain several natural infrastructure elements. Many are located in locations that support the conservation of significant priority corridors. There are 33 proposed exceptional priority greenways being recommended in the northwest region. They include:

- 61) **Redbank Creek Greenway - Clarion County:** This proposed corridor spans the length of the southern border of Clarion County from the Allegheny River to the Jefferson County line adjacent to Redbank Creek. The Redbank Creek BDA is found within this greenway. There are several historic occurrences of rare plants along the creek which indicate potential for rare plant occurrences in the floodplain.

Approximate Size: The total length of this proposed greenway is approximately 30 miles from the Jefferson County line to the mouth of Redbank Creek at the Allegheny River, approximately 5 miles east of East Brady. The width varies from less than 1,000 feet to over 2,000 feet in some locations. The Redbank Creek Greenway encompasses more than 2,200 acres, none which are protected. Approximately 5.5 percent of this greenway is designated as developed land.

Associated Municipalities: Madison, Porter, and Redbank Townships, as well as New Bethlehem and Hawthorn Boroughs. The Redbank Creek Greenway also has potential to connect to Jefferson County.

- 62) **Little Shenango Creek Greenway – Mercer County:** Refer to the Mercer County Greenways, Open Space and Rural Recreation Plan for a description of this corridor.

- 63) **West Branch French Creek Greenway - Erie County:** This corridor is found adjacent to West Branch French Creek and some sections of Alder Brook, Townley Run, Bailey Brook, and Darrow Brook. Additionally, a portion of the French Creek BDA is found within this greenway.

Approximate Size: The total length of the West Branch French Creek Greenway corridor is roughly 15 miles. The width varies from around 1,500 feet within Wattsburg, to nearly a mile near the mouth of Alder Brook. The total acreage of this greenway is estimated to be over 6,300 acres, none of which is currently protected. Approximately 7.3% of this greenway is designated as developed land.

Associated Municipalities: Venango and Greenfield Townships, as well as Wattsburg Borough. This greenway also has potential to connect to Chautauqua County, New York.

- 64) **Mill Creek/Kahle Lake Greenway - Clarion County:** This proposed greenway is found surrounding Kahle Lake northeast of Emlenton. The majority of this greenway is located within Venango County. Forested ravines around Kahle Lake support a plant species of special concern.

Approximate Size: Around 570 acres of this proposed greenway are within Clarion County, none of which are protected. Nearly 3% of the land is designated as developed land.

Associated Municipalities: Salem Township.

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Mill Creek/Kahle Lake Greenway – Venango County: Situated in the southeastern portion of Venango County, north of Emlenton, this greenway includes Mill Creek and all of Kahle Lake, extending into Clarion County. There may be two biological diversity area associated with this corridor.

Approximate Size: The total length of the Mill Creek/Kahle Lake Greenway corridor is approximately 5.5 miles. The width varies from less than 2,000 feet near the bend in Mill Creek to 1.25 miles surrounding Kahle Lake. The total acreage of this greenway is estimated to be over 1,800 acres, none of which is currently protected. Approximately 1.1% of this greenway is designated as developed land.

Associated Municipalities: Rockland and Richland Townships.

65) **Crooked Creek Greenway – Mercer County:** Refer to the Mercer County Greenways, Open Space and Rural Recreation Plan for a description of this corridor.

66) **Ross Run Greenway - Forest County:** This greenway is situated in the central section of Forest County. Ross Run Greenway is found adjacent to Ross Run and part of Reck Branch and East Branch. It also includes part of the Allegheny National Forest and an Important Mammal Area. This greenway will benefit in conserving the High Quality Cold Water Fishery designation on Ross Run.

Approximate Size: The length of this greenway is just over 4 miles, while the width varies from less than 500 feet to roughly 2,000 feet. The total acreage of the Ross Run greenway is estimated to be 560 acres, of which 43% is currently protected in the national forest. Approximately 0.7% of this greenway is designated as developed land.

Associated Municipalities: Kingsley and Hickory Townships.

67) **Otter Creek Greenway – Mercer County:** Refer to the Mercer County Greenways, Open Space and Rural Recreation Plan for a description of this corridor.

68) **Coon Creek Greenway - Forest County:** This greenway is situated in the south central section of the County. This greenway is found adjacent to Coon Creek and includes part of the Allegheny National Forest, State Game Land No. 24, and privately-managed land.

Approximate Size: The total length of this greenway is just over 12 miles, while the width varies from less than 500 feet to roughly 2,000 feet. The total acreage of the Coon Creek Greenway is estimated to be 925 acres, of which 45.9% is currently protected in the national forest, state game lands, and private land.

Associated Municipalities: Jenks and Green Townships.

69) **Ashtabula Creek Greenway - Erie County:** Situated in western Erie County, near the Ohio line, this greenway encompasses sections of Ashtabula Creek, and Marsh Run, part of State Game Land No. 101, as well as one BDA.

Approximate Size: The total acreage of the Ashtabula Creek Greenway is estimated to be over 2,500 acres, of which approximately 1.4% is currently protected within State Game Land No. 101. Approximately 4.3% of this greenway is designated as developed land.

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Associated Municipalities: Conneaut Township. This greenway also has potential to connect to Ashtabula County, Ohio.

- 70) **Falls Run Greenway - Erie County:** Located in western Erie County, Falls Run is a tributary to Elk Creek and encompasses part of the Devils Backbone BDA.

Approximate Size: The total acreage of the Fall Run Greenway is estimated to be over 2,800 acres, none of which is protected or developed.

Associated Municipalities: Franklin and Fairview Townships.

- 71) **McKee Run Greenway – Lawrence County:** Refer to the Lawrence County Greenways Plan for a description of this corridor.

- 72) **Scrubgrass Creek Greenway - Venango County:** This greenway is situated in south western Venango County and includes all of, or sections of, Trout Run, Gilmore Run, and Scrubgrass Creek. There may be one biological diversity area associated with this corridor.

Approximate Size: The total acreage of this greenway is estimated to be nearly 9,000 acres, of which only 1% is currently protected within a small section of Clear Creek State Forest. Approximately 5.4% of this greenway is designated as developed land.

Associated Municipalities: Irwin, Clinton, and Scrubgrass Townships, as well as Clintonville Borough.

- 73) **Blue Eye Run Greenway - Warren County:** 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.

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 0.1% of this greenway is designated as developed land.

Associated Municipalities: Spring Creek and Pittsfield Townships.

- 74) **Caldwell Creek Greenway - Warren County:** 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 conserving 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 0.7% of this greenway is designated as developed land.

Associated Municipalities: Deerfield, Eldred, and Southwest Townships.

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75) **Big Run Greenway – Lawrence County:** Refer to the Mercer County Greenways, Open Space and Rural Recreation Plan for a description of this corridor.

76) **Dennison Run Greenway - Venango County:** This corridor is located in southern Venango County adjacent to Dennison Run. The Dennison Run watershed is designated as Exceptional Value, and the entire greenway is part of the Allegheny River BDA. Additionally, this greenway is part of the Kennerdell Tract of Clear Creek State Forest and portions of State Game Land No. 39.

Approximate Size: The total length of the Dennison Run Greenway corridor is approximately 3.25 miles. The width varies from nearly a mile and a half in the lower section near the Allegheny River to less than 500 feet at the headwaters of the stream. The total acreage of this greenway is estimated to be around 1,300 acres, of which 85.2% is currently protected within the state game land and state forest. Less than 1% of this greenway is designated as developed land.

Associated Municipalities: Victory and Clinton Townships.

77) **Little Hickory Run Greenway - Forest County:** This small greenway is found along Little Hickory Run, a tributary to the Clarion River, in southern Forest County.

Approximate Size: The total acreage of this greenway is estimated to be roughly 486 acres, of which 48.1% is currently protected in the state park.

Associated Municipalities: Barnett Township.

78) **Toby Creek Greenway - Clarion County:** The proposed Toby Creek Greenway is found adjacent to Toby Creek north of Clarion Borough. Steep slopes and floodplains make this corridor a unique natural area worthy of protection. The greenway includes part of State Game Land No. 72.

Approximate Size: The total length of this proposed greenway is approximately 3.5 miles from just outside the northern border of the State Game Land to the mouth of Toby Creek at the Clarion River, approximately 5 miles west of Clarion Borough. The width varies from 500 feet to around 1,500 feet in some locations. The Toby Creek Greenway encompasses just over 200 acres, of which approximately 130 are protected in the State Game Land. Approximately 2% of this greenway is designated as developed land.

Associated Municipalities: Highland and Paint Townships.

79) **Jackson Run Greenway - Warren County:** 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 conserving 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 land.

Associated Municipalities: Conewango, Farmington, and Sugar Grove Townships.

- 80) **Twelvemile Creek Greenway - Erie County**: Located in the north eastern Erie County, this greenway is found adjacent to Twelvemile Creek. This greenway will also be of benefit in conserving the High Quality Cold Water Fishery status designated along Twelvemile Creek. Twelvemile Creek is also a steelhead fishery.

Approximate Size: The total length of the Twelvemile Creek Greenway corridor is nearly 4 miles. The width is less than 500 feet from the Creek's headwaters to its mouth at Lake Erie. The total acreage of this greenway is estimated to be over 400 acres, none of which is currently protected or developed.

Associated Municipalities: Harborcreek, North East, and Greenfield Townships.

- 81) **Hickory Run Greenway - Lawrence County**: Refer to the Lawrence County Greenways Plan for a description of this corridor.

- 82) **Hemlock Run Greenway - Warren County**: The corridor 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 0.2% of this greenway is designated as developed land.

Associated Municipalities: Elk and Glade Townships.

- 83) **Patchel Run Greenway - Venango County**: This greenway is situated in central Venango County, adjacent to Patchel Run and its eastern tributaries. There may be one biological diversity area associated with this corridor.

Approximate Size: The total acreage of this greenway is estimated to be nearly 3,200 acres, none of which is currently protected. Approximately 2.3% of this greenway is designated as developed land.

Associated Municipalities: Sugarcreek Borough.

- 84) **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 land.

Associated Municipalities: Brokenstraw Township.

- 85) **Canoe Creek Greenway - Clarion County**: This proposed greenway corridor is found along Canoe Creek, a High Quality Cold Water Fishery in central Clarion County.

Approximate Size: The total length of this greenway is approximately 7 miles from just north of Knox to the mouth of Canoe Creek at the Clarion River. The width is plus or minus 500 feet

throughout its length. The Canoe Creek Greenway encompasses just over 330 acres, none of which are protected. Only 1% of this greenway is designated as developed land.

Associated Municipalities: Elk, Ashland, and Beaver Townships.

- 86) **Mead Run Greenway - Warren County:** 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 land.

Associated Municipalities: Brokenstraw and Pittsfield Townships.

- 87) **Piney Tract Greenway - Venango County:** This proposed greenway is situated along the south bank of the Clarion River east of Callensburg. It includes Piney Tract Grasslands BDA and portions of State Game Land No. 330. Piney Tract Grasslands BDA is a restored mine lands site that provides habitat for several species of special concern.

Piney Tract is an area of grasslands and scattered woods that is recognized as an important habitat for wildlife, by the game commission. The site has mined for coal several times, resulting in a diversity of topographic features. The most recent activity was reclamation and revegetation work sometime around 1979. The majority of the site was reclaimed into gently rolling hills planted with various grasses.

Approximate Size: The proposed Piney Tract Greenway encompasses nearly 7,000 acres, of which just over 1,600 are protected in State Game Land No. 330. Nearly 10% of this greenway is designated as developed land.

Associated Municipalities: Licking, Piney, and Toby Townships, as well as Sligo and Callensburg Boroughs.

- 88) **Stillwater Creek Greenway - Warren County:** 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 land.

Associated Municipalities: Sugar Grove Township and Sugar Grove Borough.

- 89) **Little Coon Creek Greenway - Forest County:** This small greenway is found in central Forest County, adjacent to Little Coon Creek, a High Quality Cold Water Fishery.

Approximate Size: The total length of this greenway is roughly 5.3 miles. The width varies from around 1,000 feet to less than 500 feet. The total acreage is estimated to be approximately 418

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acres, of which 18.2% is currently protected in the Allegheny National Forest and State Game Land No. 24.

Associated Municipalities: Green Township.

- 90) **Pine Creek Greenway - Warren County:** 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 land.

Associated Municipalities: Southwest Township.

- 91) **Beaver Creek Greenway - Clarion County:** This proposed greenway corridor follows Beaver Creek, a High Quality Cold Water Fishery, from where it originates east of Kahle Lake to its mouth at the Clarion River in Licking Township. It includes part of Beaver Creek County Park.

Approximate Size: The total length of this proposed greenway is nearly 7.5 miles. The width is plus or minus 500 feet throughout its length. The proposed Beaver Creek Greenway encompasses more than 430 acres, of which 257 acres are conserved in Beaver Creek Nature Area. An estimated 1.6 percent of this greenway is developed or developed land.

Associated Municipalities: Ashland, Salem, Beaver, and Licking Townships.

- 92) **Turkey Run Greenway - Clarion County:** This proposed greenway corridor follows Turkey Run, a High Quality Cold Water Fishery, from where it originates east of Kahle Lake to its mouth at the Clarion River east of St. Petersburg.

Approximate Size: The total length of this proposed greenway is nearly 7.5 miles. The width is plus or minus 500 feet throughout its length. The proposed Turkey Run Greenway encompasses more than 400 acres, none of which are conserved. An estimated 3.3 percent of this greenway is designated as developed land.

Associated Municipalities: Salem and Richland Townships.

- 93) **Deer Creek Greenway - Clarion County:** This proposed greenway is located west of Shippenville adjacent to Judith Run, Little Deer Creek, and Deer Creek. It includes part of State Game Land No. 63. The Clarion Highlands Trail also runs through the proposed Deer Creek Greenway.

Approximate Size: The total length of this proposed greenway is approximately 6 miles. The width is plus or minus 500 feet throughout its length. The proposed Deer Creek Greenway encompasses approximately 370 acres, of which 87 acres are protected in the state game land and within other privately managed land. An estimated 2.7 percent of this greenway is designated as developed land.

Associated Municipalities: Elk Township.

DISCUSSION REGARDING FOREST RESOURCES

Property owners, municipal and County officials, and others are often concerned that conservation of Natural Systems Greenways means limitations on timbering in the County. The Pennsylvania Municipalities Planning Code, Act of 1968, P.L. 805, No. 247, as reenacted and amended, ensures the right to timber by stating:

- Article VI, Section 603(f) states: “Zoning ordinances may not unreasonably restrict forestry activities.”
- Section 107(a) of the MPC defines forestry as follows: The management of forests and timberlands when practiced in accordance with accepted silvicultural principles, through developing, cultivating, harvesting, transporting, and selling trees for commercial purposes, which does not involve any land development.
- Municipal ordinances must allow forestry activities as a use by right in all zoning districts.
- Restrictions on forestry activities are reasonable if contained in the ordinance, but no additional requirements may be added at the time of issuance of a permit.
- Ordinances that prohibit forestry activities in any zoning district or permit forestry activities only by special exception, conditional use, or variance are not valid. Such ordinances are effectively repealed by the provisions of Act 68.
- Restrictions on forestry activities that appear only in special exception or conditional use provisions of an ordinance may not be enforced.
- Many municipal ordinances require the issuance of a zoning permit to proceed with forestry-related activities. If a permit application is denied, an appeal may be filed with the zoning hearing board in accordance with the provisions of the MPC.
- Timber harvesting activities that are part of a land development and subdivision plan do not fall within the definition of forestry activities and are not a permitted use by right under the MPC.
- Municipalities are not authorized to assume whether an applicant intends to develop the land subsequently.

The timber industry is following in the footsteps of many other industries and looking at ways their profession can be carried out in an environmentally-friendly and sustainable manner. Local Forest Stewardship Council Certification: The Forest Stewardship Council (FSC) is an independent, nonprofit, non-governmental organization with diverse representation, including environmental institutions, timber and trade organizations, forestry professionals, indigenous peoples’ organizations, community forestry groups, and forest product certification organizations from 25 countries. The Council accredits certification bodies and promotes voluntary, third party certification. The FSC logo on a product provides consumers with an assurance that the wood they use comes from forests managed in an environmentally- and socially-responsible manner.

The following organizations can be partners in the Northwest Region in educating timber producers and land managers in managing their forests in an environmentally- and socially-responsible manner.

- Woodland Owners of Clarion – Allegheny Valley
- Pennsylvania Sustainable Forestry Initiative
- Pennsylvania Hardwood Development Council
- Allegheny Hardwood Utilization Group (AHUG)
- Wood and Lumber Industry Partnership

FOSSIL FUEL EXTRACTION AND RENEWABLE ENERGY SOURCES

Given the recent spikes in oil and gas 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 The Pennsylvania State University, and Gary Lash, a geology professor at The State University of New York at Fredonia, estimated 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 10% 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, while 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.

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, oil extraction, and the harnessing of wind energy can occur in harmony with the natural system resources of the Northwest Region.

NATURAL SYSTEMS GREENWAY CORRIDORS AND COUNTY NATURAL HERITAGE INVENTORY PLANNING INTERRELATION

A recent draft of the recommendations section for the Warren County Natural Heritage Inventory provides excellent recommendations for implementing conservation measures for Natural Heritage Areas. It is recommended that these principles also be applied towards the implementation of natural systems greenway corridors throughout the northwest region. These recommendations include:

1. *Consider conservation initiatives for Natural Heritage Areas on private land.* Conservation easements protect land while leaving it in private ownership. An easement is a legal agreement between a landowner and a conservation or government agency that permanently limits a property's use in order to protect its conservation values. It can be tailored to the needs of both landowner and conservation organization and will not be extinguished with new ownership. Tax incentives may apply to conservation easements donated for conservation purposes.

Lease and management agreements also allow the landowner to retain ownership and temporarily ensure protection of land. There are no tax incentives for these conservation methods. A lease to a land trust or government agency can protect land temporarily and ensure that its conservation values will be maintained. This can be a first step to help a landowner decide if they want to pursue more permanent protection methods. Management agreements require landowner and land trust to work together to develop a plan for managing resources such as plant or animal habitat, protection of a watershed, forest or agricultural land with land trust offering technical expertise.

Land acquisition by a conservation organization can be at fair market value or as a bargain sale in which a sale is negotiated for a purchase price below fair market value with tax benefits that reduce or eliminate the disparity. Identify areas that may be excellent locations for new county or township parks. Sites that can serve more than one purpose such as wildlife habitat, flood and sediment control, water supply, recreation, and environmental education would be particularly ideal. Private lands adjacent to public lands should be examined for acquisition when a NHA is present on either property and there is a need of additional land to complete protection of the associated natural features.

Fee simple acquisition is when a buyer purchases land outright and has maximum control over the use and management of the property and its resources. This conservation initiative is appropriate when the property's resources are highly sensitive and protection cannot be guaranteed using other conservation approaches.

Unrestricted donations of land are welcomed by land trusts. The donation of land entitles the donor to a charitable deduction for the full market value, as well as a release from the responsibility of managing the land. If the land is donated because of its conservation value, the land will be permanently protected. A donation of land that is not of high biological significance may be sold, with or without restrictions, to a conservation buyer and the funds used to further the land trust's conservation mission.

Local zoning ordinances are one of the best-known regulatory tools available to municipalities. Examples of zoning ordinances a municipality can adopt include: overlay districts where the boundary is tied to a specific resource or interest such as riverfront protection and floodplains, and zoning to protect stream corridors and other drainage areas using buffer zones.

2. *Prepare management plans that address species of special concern and natural communities.*

Many of the already-protected Natural Heritage Areas are in need of additional management recommendations to ensure the continued existence of the associated natural elements. Incorporate site-specific recommendations into existing management plans or prepare new plans. Recommendations may include: removal of exotic plant species; leaving the area alone to mature and recover from previous disturbance; creating natural areas within existing parks; limiting land-use practices such as mineral extraction, residential or industrial development, and agriculture; and implementing sustainable forestry practices. For example, some species simply require continued availability of a natural community while others may need specific management practices such as canopy thinning, mowing, or burning to maintain their habitat requirements.

Existing parks and conservation lands provide important habitat for plants and animals at both the county level and on a regional scale. For example, these lands may serve as nesting or wintering areas for birds or as stopover areas during migration. Management plans for these areas should emphasize a reduction in activities that fragment habitat. Adjoining landowners should be educated about the importance of their land as it relates to habitat value, especially for species of special concern, and agreements should be worked out to minimize activities that may threaten native flora and fauna.

3. *Protect bodies of water.*

Conservation of creeks, rivers, wetlands and reservoirs is vital for ensuring the health of human communities and natural ecosystems, especially those that protect biodiversity, supply drinking water, and are attractive recreational resources. Many rare species, unique natural communities or locally significant habitats occur in wetlands and water bodies and are directly dependent on natural hydrological patterns and water quality for their continued existence. Ecosystem processes also provide clean water supplies for human communities and do so at significant cost savings in comparison to water treatment facilities. Hence, protection of high quality watersheds is the only way to ensure the viability of natural habitats and water quality. Scrutinize development proposals for their impact on entire watersheds, not just the immediate project area. Cooperative efforts in land use planning among municipal, county, state, and federal agencies, developers, and residents can lessen the impact of development on watersheds.

4. *Provide for buffers around Natural Heritage Areas.*

Development plans should provide for natural buffers between disturbances and Natural Heritage Areas. Disturbances may include construction of new roads and utility corridors, non-sustainable timber harvesting, and fragmentation of large pieces of land. Storm runoff from these activities results in the transport of nutrients and sediments into aquatic ecosystems (Trombulak and Frissell 2000). County and township officials can encourage landowners to maintain vegetated buffers within riparian zones. Vegetated buffers (preferably of PA-native plant species) help reduce erosion and sedimentation and shade/cool the water. This benefits aquatic animal life, provides habitat for other wildlife species, and creates a diversity of habitats along the creek or stream. Staff at the Pennsylvania Natural Heritage Program (PNHP) or natural resources agencies can provide further guidance regarding buffer considerations appropriate for various kinds of natural resources within Natural Heritage Areas, e.g., barren community, wetland, water body, or forest.

Watersheds or subwatersheds where natural communities and species of special concern occur (outlined on the township maps in this report) should be viewed as areas of sensitivity, although all portions of the watershed may not be zones of potential impact. As an example, conserving natural areas around municipal water supply watersheds provides an additional protective buffer around the water supply, habitat for wildlife, and may also provide low-impact recreation opportunities.

5. *Reduce fragmentation of the landscape surrounding natural heritage areas. Encourage development in sites that have already seen past disturbances.*

The reclamation of previously disturbed areas, or brownfields development, for commercial and industrial projects presents one way to encourage economic growth while allowing ecologically sensitive areas to remain undisturbed. For example, reclaimed surface mines can be used for wind and other development when feasible. Cluster development can be used to allow the same amount of development on much less land and leave much of the remaining land intact for wildlife and native plants. By compressing development into already disturbed areas with existing infrastructure (villages, roads, existing ROW's), large pieces of the landscape can be maintained intact. If possible, networks or corridors of woodlands or greenspace should be Conserved linking sensitive natural areas to each other.

Care should be taken to ensure that protected natural areas do not become "islands" surrounded by development. In these situations, the site is effectively isolated and its value for wildlife is reduced. Careful planning can maintain natural environments and plants and animals associated with them. A balance between growth and the conservation of natural and scenic resources can be achieved by guiding development away from the most environmentally-sensitive areas.

6. *Encourage the formation of grassroots organizations.*

County and municipal governments can do much of the work necessary to plan for the protection and management of natural areas identified in this report. However, grassroots organizations are needed to assist with obtaining funding, identifying landowners who wish to protect their land, and providing information about easements, land acquisition, and management and stewardship of protected sites. Increasingly, local watershed organizations and land trusts are taking proactive steps to accomplish conservation at the local level. When activities threaten to impact ecological features, the responsible agency should be contacted. If no agency exists, private groups such as conservancies, land trusts and watershed associations should be sought for ecological consultation and specific protection recommendations.

7. *Manage for invasive species.*

Invasive species threaten native diversity by dominating habitat used by native species and disrupting the integrity of the ecosystems they occupy. Management for invasive depends upon the extent of establishment of the species. Small infestations may be easily controlled or eliminated, but more well established populations might present difficult management challenges. Below is a list of sources for invasive species information.

- The *Mid-Atlantic Exotic Plant Pest Council* (MA-EPPC) is a non-profit (501c3) organization dedicated to addressing the problem of invasive exotic plants and their threat to the Mid-Atlantic region's economy, environment, and human health by: providing leadership; representing the Mid-Atlantic region at national meetings and conferences; monitoring and disseminating research on impacts and controls; facilitating information development and exchange; and coordinating on-the-ground removal and training. A membership brochure is available as a PDF file at <http://www.ma-eppc.org>.
- Several excellent Web sites exist to provide information about invasive exotic species. The following sources provide individual species profiles for the most troublesome invaders, with information such as the species' country of origin, ecological impact, geographic distribution, as well as an evaluation of possible control techniques.
 - The Nature Conservancy's Weeds on the Web at <http://tncweeds.ucdavis.edu/>
 - The Virginia Natural Heritage Program's invasive plant page at <http://www.dcr.state.va.us/dnh/invinfo.htm>

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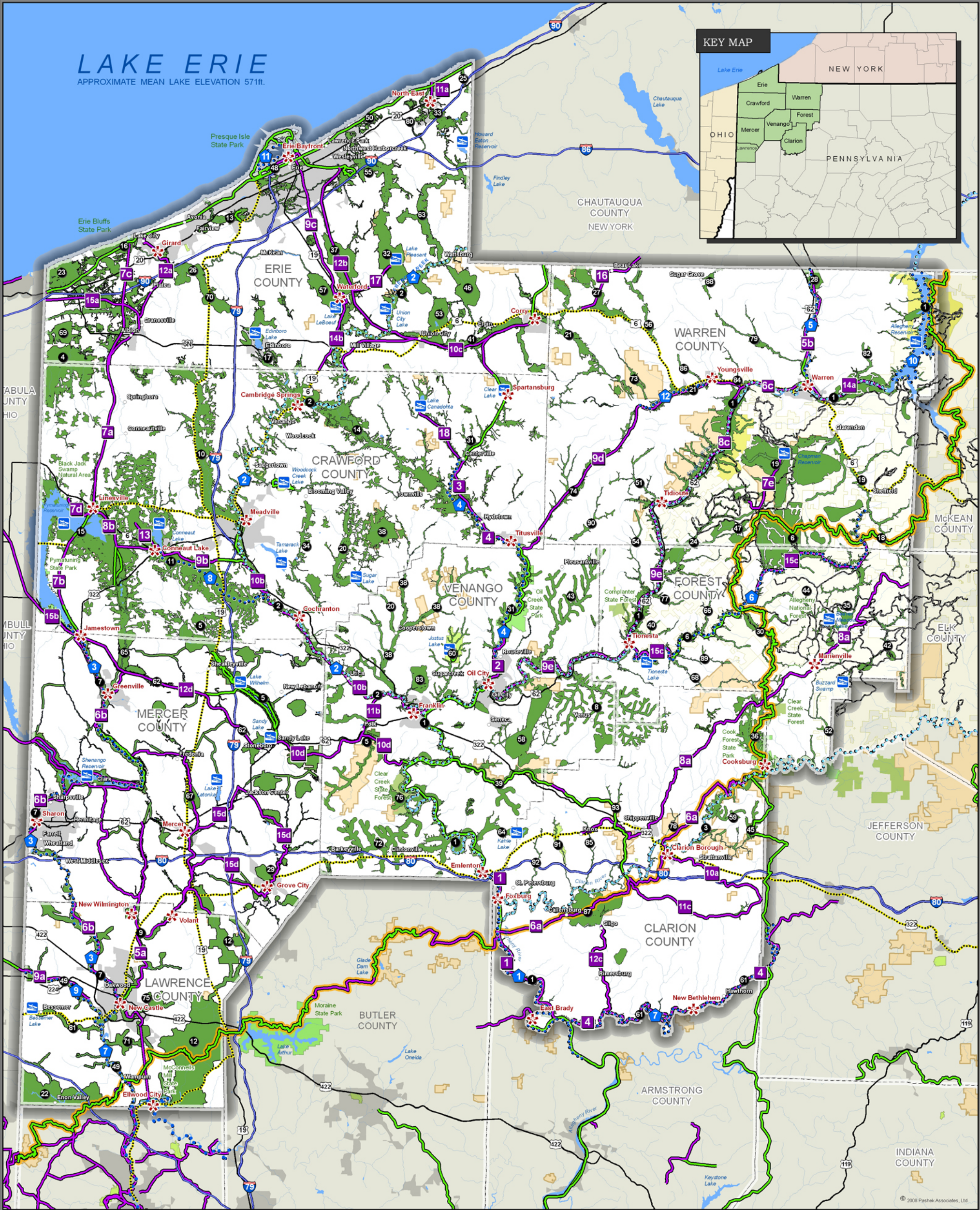
- The Missouri Department of Conservation's Missouri Vegetation Management Manual at <http://www.conservation.state.mo.us/nathis/exotic/vegman/>
- U.S. Department of the Interior, National Park Service invasive species monitoring resources at <http://science.nature.nps.gov/im/monitor/invasives.htm>
- The following site is a national invasive species information clearinghouse listing numerous other resources on a variety of related topics: <http://www.invasivespecies.gov/>

8. *Incorporate County Natural Heritage Inventory information into planning efforts.*

Through internal planning, decision-making related to land-use development, and participation in regional planning initiatives, counties and municipalities could profoundly shape the land and landscapes of Pennsylvania. Natural Heritage Areas can be readily included in comprehensive plans, greenway and open space plans, parks and recreation plans, and regional planning initiatives. DCNR-funded greenway and open space plans, Heritage Region plans, and River Conservation Plans are good examples of planning efforts that reach beyond county boundaries. Municipal subdivision and land development ordinances should be updated to incorporate findings presented within this Natural Heritage Inventory.

Northwest Pennsylvania Greenways Plan

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



LAKE ERIE
APPROXIMATE MEAN LAKE ELEVATION 571ft.



LEGEND	Base Features	DCNR Managed Land	Trails	Natural Systems Greenways	Data Source: ESRI 2005 Street Map USA Data US Geologic Survey (USGS) Pennsylvania Spatial Data Access (PASDA) Pennsylvania Department of Transportation (PennDOT)	Projection: State Plane - NAD 1983 Pennsylvania North: Feet 2 0 2 4 6 Miles	
	County Boundary	State Park	Proposed Trail	12 Natural Systems Greenways			
	Urban Areas	Pennsylvania State Forest	Existing Trail	Trail Towns			
	Lake / Reservoir	National Park Service Land	Proposed Water Trail	Boating Lakes			
River	County & Local Parks	Existing Water Trail	PennDOT Bike Route				
Interstate	State Game Land	Allegheny National Forest Trail	Allegheny National Forest Trail				
US Highway	Allegheny National Forest	North Country Scenic Trail Route	North Country Scenic Trail Route				

Northwest Pennsylvania Greenways Summary Tables

No.	Proposed Recreation and Transportation Trail Corridor Name	Clarion County	Crawford County	Erie County	Forest County	Lawrence County	Mercer County	Venango County	Warren County	Priority
1	Allegheny River Trail	X						X		Vital
2	McClintock Trail							X		
3	East Branch Trail		X	X						
4	Titusville Queen City Trail		X							
4	Redbank Creek Trail	X								
5-a	Neshannock Rail Trail				X					Exceptional
5-b	Warren\North Warren Trail								X	
6-a	North Country Scenic Trail	X		X	X		X	X	X	
6-b	Shenango River Rail Trail				X	X				
6-c	Youngsville to Warren Trail								X	
7-a	Lake to Lake Trail (Linesville to Girard)	X	X							
7-b	Spillway Trail	X								
7-c	Thornton Junction Trail			X						
7-d	End of the Road Trail	X								
7-e	West Branch Tionesta Creek Trail								X	
8-a	Knox to Kane Trail	X		X						
8-b	Linesville to Conneaut Lake Trail	X								
8-c	Tidioute Trail								X	
9-a	Stavich Bike Trail				X					
9-b	Ernst Trail	X								
9-c	French Portage Trail			X						
9-d	Titusville to Youngsville Trail	X							X	
9-e	Warren Trail			X					X	
10-a	Clarion to Jefferson Trail	X								
10-b	French Creek Trail	X						X		
10-c	Mill Village to Corry Trail			X						
10-d	Sandy Creek Trail							X		
11-a	Freeport Trail			X						Significant
11-b	Polk/Franklin Loop Trail							X		
11-c	Venango Frankstown Path Trail	X								
12-a	Albion to Girard Trail			X						
12-b	Allegheny & Eastern Railroad Corridor Trail			X						
12-c	Lawsonham to Sligo Trail	X								
12-d	Little Shenango Creek Greenway Trail					X				
13	Conneaut Lake Trail	X								
14-a	Warren to Kinzua Dam Trail								X	
14-b	Washington Trail			X						
15-a	Albion to Conneaut Harbor Trail			X						
15-b	Pymatuning Valley Trail	X								
15-c	Tionesta Creek Trail			X						
15-d	Otter - Wolf Loop Trail					X				
16	Bear Lake Trail								X	
17	Lake Pleasant Connector Trail			X						
18	Canadohta Lake Trail	X								

No.	Proposed Water Trail Corridor Name	Clarion County	Crawford County	Erie County	Forest County	Lawrence County	Mercer County	Venango County	Warren County	Priority
1	Lower Allegheny River Water Trail	X								Vital
2	French Creek Water Trail		X	X			X	X		
3	Shenango River Water Trail		X			X	X			
4	Oil Creek Water Trail		X					X		Exceptional
5	Conewango Creek Water Trail								X	
6	Tionesta Creek Water Trail				X				X	
7	Redbank Creek Water Trail	X								Significant
7	Beaver River Water Trail					X				
8	Conneaut Outlet Water Trail		X							
9	Mahoning River Water Trail					X				High
10	Allegheny Reservoir Water Trail								X	
11	Presque Isle Bay Water Trail			X						
12	Brokenstraw Creek Water Trail								X	

No.	Proposed Trail Towns	Clarion County	Crawford County	Erie County	Forest County	Lawrence County	Mercer County	Venango County	Warren County	Priority
1	Oil City						X			Vital
2	Foxburg	X								
2	Titusville		X							
2	Erie / Erie Bayfront			X						
2	Franklin						X			
3	Emlenton						X			Exceptional
3	Meadville		X							
4	Clarion Borough	X								
4	New Bethlehem	X								
5	Tidioute							X		
5	Sharon					X				
6	Warren							X		
7	East Brady	X								
8	New Wilmington				X					
8	Cambridge Springs	X								
8	Conneaut Lake	X	X							
8	New Castle				X					
9	Cochranon		X							
9	Corry			X						
9	Tionesta			X						
9	Cooksburg			X						
10	Grove City					X				
10	Ellwood City				X					
11	Greenville					X				
11	Jamestown					X				
11	Youngsville							X		
11	Spartansburg		X							
11	Volant				X					
12	Waterford			X						High
12	Mercer					X				
13	Linesville		X							
14	North East			X						
15	Girard			X						
15	Marienville			X						

Northwest Pennsylvania Greenways Summary Tables

No.	Natural Systems Greenway Corridor Name	Total Acres	Clarion County	Crawford County	Erie County	Forest County	Lawrence County	Mercer County	Venango County	Warren County	Priority
1	Allegheny River/Reservoir Greenway	65,373	X			X			X	X	Vital
2	French Creek Greenway	30,629		X	X				X		
3	Clarion River Greenway	11,484	X			X					
4	Conneaut Creek Greenway	19,275		X	X						Exceptional
5	Sandy Creek Greenway	13,160		X				X	X		
6	Tionesta Creek Greenway	22,082				X				X	
7	Shenango River Greenway*						X	X			
8	Hemlock Creek Greenway	14,104	X			X			X		
9	Neshannock Creek Greenway*						X				
10	Cussewago Creek Greenway	15,221		X	X						
11	Conneaut Outlet Greenway	30,987		X							
12	Slippery Rock Creek Greenway*						X				
13	Walnut Creek Greenway	2,837			X						
14	Muddy Creek Greenway	14,971		X							
15	Pymatuning Reservoir Greenway	42,816		X							
16	Crooked Creek Greenway	7,713			X						
17	Conneauttee Creek/Edinboro Lake Greenway	6,025		X	X						
18	South Branch Tionesta Creek Greenway	1,854				X				X	
19	West Branch Tionesta Creek Greenway	23,965								X	
20	Woodcock/Lake Creeks Greenway	8,762		X							
21	Brokenstraw Creek Greenway	10,308			X					X	
22	Little Beaver Creek Greenway*						X				
23	Raccoon/Turkey Creeks Greenway	7,256			X						
24	East Hickory Creek Greenway	5,527				X				X	
25	Twentymile Creek Greenway	497			X						
26	Elk Creek Greenway	4,859			X						
27	Coffee Creek Greenway	3,820								X	
28	Conewago Creek Greenway	2,997								X	
29	Wolf Creek Greenway*							X			
30	Salmon Creek Greenway	3,377				X					
31	Oil Creek Greenway	17,605		X					X		
32	Lake Pleasant Greenway	6,947			X						
33	Sixteenmile Creek Greenway	3,751			X						
34	Little Sugar Creek Greenway	4,726		X							
35	Bluejay Creek Greenway	2,238				X					
36	Cook Forest Greenway	7,599		X		X					
37	LeBoeuf Creek Greenway	7,038			X						
38	Sugar Creek Greenway	8,293		X					X		
39	East Sandy Creek Greenway	5,347							X		
40	Tubbs Run Greenway	687				X					
41	South Branch French Creek Greenway	7,448			X						
42	Spring Creek/Wolf Run Greenway	2,814				X					
43	Pithole Creek Greenway	6,453							X		
44	The Branch Greenway	1,568				X					
45	Mill Creek Greenway (Clarion)	1,887		X							
46	Hubbel Run Greenway	4,095			X						
47	Queen Creek Greenway	2,649								X	
48	Erie/Presque Isle/Mill Creek Greenway	5,297			X						
49	Beaver / Mahoning Rivers Greenway*						X				
50	Sevenmile/Eightmile Creeks Greenway	1,108			X						
51	Tidioute Creek Greenway	1,097								X	
52	West Branch Millstone Creek Greenway	1,181				X					
53	Union City Reservoir Greenway	3,425			X						
54	West Hickory Creek Greenway	1,113				X				X	
55	Sixmile/Fourmile Creeks Greenway	6,793			X						
56	Little Brokenstraw Creek Greenway	1,637								X	
57	Trout Run Greenway	3,820			X						
58	Tippery Greenway	8,717							X		
59	Blyson Run Greenway	931		X							
60	Twomile Run Greenway	2,747							X		

No.	Natural Systems Greenway Corridor Name (Continued)	Total Acres	Clarion County	Crawford County	Erie County	Forest County	Lawrence County	Mercer County	Venango County	Warren County	Priority
61	Redbank Creek Greenway	2,228	X								High
62	Little Shenango Greenway*							X			
63	West Branch French Creek Greenway	6,379			X						
64	Mill Creek/Kahle Lake Greenway	2,394	X						X		
65	Crooked Creek Greenway* (Mercer)							X			
66	Ross Run Greenway	560				X					
67	Otter Creek Greenway* (Mercer)							X			
68	Coon Creek Greenway	925				X					
69	Ashtabula Creek Greenway	2,592			X						
70	Falls Run Greenway	2,825			X						
71	McKee Run Greenway*						X				
72	Scrubgrass Creek Greenway	8,893							X		
73	Blue Eye Run Greenway	841								X	
74	Caldwell Creek Greenway	2,763								X	
75	Big Run Greenway*						X				
76	Dennison Run Greenway	1,349							X		
77	Little Hickory Run Greenway	486				X					
78	Toby Creek Greenway	202	X								
79	Jackson Run Greenway	1,457								X	
80	Twelvemile Creek Greenway	431				X					
81	Hickory Run Greenway*						X				
82	Hemlock Run Greenway	474								X	
83	Patchel Run Greenway	3,190							X		
84	Irvine Run Greenway	421								X	
85	Canoe Creek Greenway	335	X								
86	Mead Run Greenway	346								X	
87	Piney Tract Greenway	6,929	X								
88	Stillwater Creek Greenway	585								X	
89	Little Coon Creek Greenway	418				X					
90	Pine Creek Greenway	966								X	
91	Beaver Creek Greenway	431	X								
92	Turkey Run Greenway	418	X								
93	Deer Creek Greenway	373	X								

* Information unavailable from respective County Greenway Plan.

RECREATION AND TRANSPORTATION GREENWAYS

Existing and potential recreation and transportation greenway corridors were inventoried and analyzed. Through this process, existing recreation and transportation greenways were documented, and recommendations were developed for expanding those offerings and prioritizing their implementation.

The Process

The steering committee established the following criteria by which each corridor was rated. The cumulative value of all criteria was utilized to determine the priority for a particular trail corridor. This criteria included:

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 is demonstrated by political support, 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 allocate 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

- *Vital Priority*: completes critical gaps in regional trail network; focuses planning, acquisition, design, and construction, and funding resources to implement project.
- *Exceptional Priority*: focus planning, acquisition, design and construction, and funding resources to implement project.
- *Significant Priority*: focus planning, acquisition, design and construction resources to provide locals with opportunity to secure funding to implement project.
- *High Priority*: focus planning and acquisition resources to plan for future of project.

The Results

This analysis leads to recommending the establishment of forty-four recreation and transportation greenway corridors within the eight-county Northwest Pennsylvania Region. Detailed descriptions of the proposed corridors can be found in the corresponding County Greenway Plans. These corridors are of regional and county significance. Local corridors, which contribute to conserving natural infrastructure at a municipal level, may further expand the proposed corridors. The forty-four corridors recommended herein are summarized as follows according to their corresponding priority at the regional level. Recommendations for implementing the proposed and transportation greenway corridors follow later in this chapter.

Land Based Trails

Existing and proposed recreation and transportation greenway corridor segments required to achieve the vision for Recreation and Transportation Greenways in the Northwest Pennsylvania Region and their corresponding priorities are as follows:

Proposed Vital Priority Recreation and Transportation Corridors

1) **Allegheny River and Justus Trails**

Allegheny River Trail: This existing shared use path, developed by the Allegheny Valley Trails Association, extends approximately twenty-eight miles on flat, smooth, eight-foot wide asphalt surface from Franklin to Emlenton following the former Oil City Secondary Line. A dirt access road parallels portions of the trail and is suitable for horseback riding.

The Allegheny Valley Trails Association is currently in the process of securing the right for public access between Emlenton and Foxburg, in Clarion County. Once this access is secured, the Allegheny Valley Trails Association will begin securing funds and improving the trail. Currently the three miles from Emlenton to Foxburg can be ridden on mountain bike, but are unimproved.

The Northwest Pennsylvania Greenways Plan

Approximate Length: 28 miles.

Associated Municipalities: Richland, Rockland, and Cranberry Townships, the City of Franklin, and Emlenton Borough.

Justus Trail: Extends for a distance of approximately six miles between Franklin and Oil City. This section of trail is constructed on the old Pennsylvania Railroad corridor which extended from Pittsburgh to Buffalo. It was developed by Cranberry Township and was extended by Oil City through town. The northern end of the trail is at the intersection of Seneca Street and State Route 8, while the southern terminus is at the Franklin Trailhead, where it connects to the Allegheny River Trail, which extends to Emlenton.

The Justus Trail effort is being furthered by the City of Oil City, Cranberry Township and the Allegheny Valley Trails Association.

Approximate Length: 6 miles

Associated Municipalities: Cranberry Township, City of Franklin, and the City of Oil City.

Allegheny River Trail – Clarion County: The Clarion County segment of this trail has been inactive since 1984 and is approximately twenty miles long. This trail enters Clarion County from Emlenton, Venango County and follows the Allegheny River, passing through Foxburg and extending to the Brady Tunnel, at which point it connects to the Armstrong Trail.

This corridor plays a significant role in the proposed Erie to Pittsburgh Greenway and has the potential to generate tourism-related economic development activities in the trail towns which it passes through. Therefore, we recommend the completion of this trail continue to be one of the top priorities for the county and the northwest region.

The Allegheny Valley Land Trust is currently in the process of securing the right for public access between Emlenton and Foxburg. A shared use path has been constructed between Foxburg Borough and the City of Parker. The corridor between Parker and the Brady Tunnel is currently unimproved. Further, the Allegheny Valley Land Trust has submitted an application to the PA DCNR for the design of approximately five miles of the Parker to Brady Tunnel corridor and for the rehabilitation of the Brady Tunnel.

The Allegheny Valley Land Trust has had difficulty in securing the required local matches for grant programs such as the PA DCNR Community Conservation Partnership Program and the PA DCNR Recreational Trails Program.

If the Clarion County and the other counties of the northwest region desire this trail and the others described herein, and want these trails to be successful and have an economic impact in the towns they pass through, then the counties in the northwest region should assist and partner with their corresponding trail organizations to help secure the local match funds. As an investment in economic development opportunities, it is recommended the counties consider an allocation from their county's General Fund for trail implementation and development.

Approximate Length: 19.9 miles, with approximately 3.2 miles currently improved.

Associated Municipalities: Brady, Madison, Perry, Richland, and Toby Townships, as well as Foxburg Borough.

2) **McClintock Trail and Oil Creek State Park Trails:**

McClintock Trail

The Oil Region Alliance of Business, Industry, and Tourism (ORA) is assisting Cornplanter Township in extending the Justus Trail from its current ending point at the White Bridge in Oil City to the Rynd Farm in Oil Creek State Park Cornplanter Township. The first section of this trail has been constructed; it follows Waitz Road from McClintock Well No. 1, at the southern intersection with State Route 8, to the northern intersection with State Route 8 at Rynd Farm. The second phase of this trail from White Bridge in Oil City to Waitz Road is in the planning stage.

Approximate Length: 4 miles

Associated Municipalities: Cornplanter Townships, and the City of Oil City.

Oil Creek State Park Trail

This existing trail features a 9.7-mile asphalt path built on an historic railroad grade that runs parallel to Oil Creek between Petroleum Center and downtown Titusville.

The southern section between Petroleum Center and Rynd Farm is currently undeveloped. A feasibility study was completed for this segment in 2003. The Oil Region Alliance and the Allegheny Valley Trails Association are assisting Oil Creek State Park in developing implementation strategies for this trail segment based on the recommendations of the feasibility study.

Approximate Length: 9.7 miles existing, 3 miles proposed.

Associated Municipalities: Cornplanter and Oilcreek Townships.

3) **East Branch Trail – Crawford County:** Currently, the East Branch Trail, owned and managed by the Clear Lake Authority in Spartansburg, is open from just south of the Erie County line on Route 89, to Spartansburg. Potential existins to develop the trail from Spartansburg to Centerville, then south to Hydetown. Although the entire length is undeveloped, most sections are passable.

Phase I of construction will begin in 2010 on the northern terminus (south of the Erie County line on Route 89) to Route 89 approximately 2 miles south of Spartansburg. The entire length of Phase I will be paved. Small trailheads will be located at the northern and southern termini with the major trailhead located in the Borough of Spartansburg on Main Street (Route 77) next to the Clear Lake dam and trestle. Funding for this project has been secured from PennDOT and the Pennsylvania DCNR.

Approximate Length: 16.5 miles

Associated Municipalities: Spartansburg Borough, Spartan Township, Rome Township, Centerville Borough, Steuben Township, Troy Township, and Hydetown Borough.

East Branch Trail – Erie County: This proposed trail connects the City of Corry, via the Mill Village to Corry Junction Greenway Trail, with Clear Lake in Crawford County. Following along an abandoned railroad corridor, this trail segment is part of the proposed eastern route of the Erie to Pittsburgh Trail system. The section of this trail within Erie County runs from the Erie County line, northwest of Spartansburg in Crawford County, to the Mill Village to Corry Junction Greenway Trail, passing State Game Land No. 144.

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Approximate Length: 4 miles

Associated Municipalities: Concord Township and the City of Corry.

- 4) **Titusville Queen City Trail – Crawford County:** This trail runs for approximately two miles from the Jersey Bridge Parking Lot in Oil Creek State Park to South Martin Street. There is an approved DCNR grant for engineering of the completion of this trail from South Martin Street to the Perry Street Station, a trailhead, and continuing along the former Oil Creek and Titusville rail bed to the western city limits and continuing on thru Oil Creek Township to Hydetown, connecting with the East Branch Trail.

Approximate Length: 6 miles

Associated Municipalities: City of Titusville and Cherrytree Township.

Redbank Creek Trail – Clarion County: This proposed trail runs along the north bank of Redbank Creek following the route of the former Mt. Laurel Railroad, also known as the Redbank Junction Railroad. This former rail line extends from the mouth of Redbank Creek at the Allegheny River to Summerville, Jefferson County passing through Lawsonham, New Bethlehem, and Hawthorne along the way. The section between the mouth of Redbank Creek and Lawsonham has been secured by the Allegheny Valley Land Trust and is open to trail use, but unimproved. The Allegheny Valley Land Trust is in the process of securing the corridor for trail use from Lawsonham, through New Bethlehem, to Brookville in Jefferson County.

The Allegheny Valley Land Trust has submitted an application to PA DCNR for the design and engineering of approximately eleven miles of this corridor.

Approximate Length: 27.9 miles

Associated Municipalities: Madison, Porter, and Redbank Townships, as well as Hawthorn and New Bethlehem Borough.

Corry Junction Greenway Trail: is located along the spine of the proposed, and regionally significant, Erie to Pittsburgh Greenway. With the corridor being held by the Northwest Pennsylvania Trails Association, a trail access point already developed north of the City of Corry, and funding in place to improve the trail from the trail access point to the New York State line, the implementation of this trail is well under way.

It is recommended that assistance be provided to the Northwest Pennsylvania Trails Association to assist in managing the final design, engineering and construction of the proposed trail improvements.

Further, it is recommended that a feasibility study be completed to determine how the trail can be extended south, into the City of Corry, so trail users can reach town and obtain the goods and services they desire. This feasibility study could be incorporated into a trail town master plan for the city as described in the following trail town demonstration project recommendations.

Last, there currently is a gap in the trail corridor between the present terminus of the trail, just north of the city, and the beginning of the East Branch Trail. The “Erie County Greenway and Trails Plan”; completed in 2000, considered a rail with trail as the rail line was being operated by the Northwest Pennsylvania Rail Authority and subsequently the Western New York and Pennsylvania Railroad

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(WNY&P Railroad). At that time, discussions with the WNY&P Railroad were such that the railroad was not willing to entertain the possibility of a rail with trail along this corridor due to liability concerns. Given the prominence of this corridor as it is associated with the Erie to Pittsburgh Greenway, it is recommended that a feasibility study be completed to determine an alternate alignment until the desired alignment may be achieved.

Proposed Exceptional Priority Recreation and Transportation Corridors

- 5) **Neshannock Creek Rail Trail**: This previously planned trail follows an inactive rail corridor from New Castle to Volant, with a spur connection to New Wilmington. Approximately seventy-five percent of the corridor is open or maintained in some way.

Approximate Length: 12.5 miles

Associated Municipalities: City of New Castle, Hickory, Neshannock, and Wilmington Townships, and New Wilmington and Volant Boroughs.

Warren/North Warren Trail – Warren County: 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) **North Country National Scenic Trail – Clarion County**: The North Country Trail is a hiking trail that will extend over 4,000 miles from New York to North Dakota, passing through six additional states along its route. Currently, over 1,800 miles of the North Country Scenic Trail have been developed off-road. Although many segments of the trail currently exist, completion of the entire route is still years away.

The section of the trail through Clarion County begins at the southern end of the Allegheny National Forest and extends through Cook Forest State Park and State Game Land No. 283. This section of trail exists through the State Park and Game Land. At this point, the established trail currently ends and does not begin again until it reaches the Butler County line, west of Parker.

Between State Game Land No. 283 and the Butler County line, the proposed trail route is undetermined. Potential routes through Clarion County include one proposed through Clarion and Callensburg Borough, crossing the Allegheny River at Parker. A temporary route connects with the Clarion Highlands Trail passing through Shippenville and utilizing the existing Sandy Creek and Allegheny River Trails to connect to Parker.

The North Country Scenic Trail is of national significance and upon being entirely established, will follow in the footsteps of the Appalachian Trail, a 2,175-mile trail connecting Maine to Georgia. It is recommended that Clarion County, and the regional greenway coordinator, partner with the North Country Trail Association to complete a feasibility study to determine a recommended route for this trail through Clarion County.

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Further, once the corridor is defined, it is recommended that the county work with their municipalities to implement land use tools to ensure compatible land use development and provide appropriate buffers to maintain the desired atmosphere of the corridor.

Approximate Length: 45 miles

Associated Municipalities: Clarion, Farmington, Highland, Licking, Monroe, Perry, and Piney Townships, as well as Callensburg and Clarion Boroughs.

North Country National Scenic Trail – Lawrence County: One of the North Country Trail Association's most active chapters is located in Wampum, and is responsible for the construction, promotion, and main tranche of the trail in Lawrence and Beaver Counties.

Approximate Length: 20 miles

Associated Municipalities: Shenango, Slippery Rock, and Wayne Townships, as well as Wampum and New Beaver Boroughs.

North Country National Scenic Trail – Forest, Venango, and Warren Counties: The North Country National Scenic Trail is a dedicated hiking trail in Forest and Warren Counties through the Allegheny National Forest, and utilizes the Sandy Creek and Allegheny River Trails through Venango County.

Shenango River Trail – Lawrence and Mercer Counties: Concurrent with this study a feasibility study is being conducted on the Shenango River to determine the potential of establishing a water trail along the Shenango River corridor.

Youngsville to Warren Trail – Warren County: 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.

- 7) **Lake to Lake Trail (Girard to Linesville) - Crawford County:** This proposed trail follows the former Pittsburgh, Bessemer, and Lake Erie Railroad line, which runs from Jamestown to Erie County. The Lake to Lake section of this rail corridor runs from Linesville to Erie County, where it has potential to link up with the Seaway Trail near Girard.

This trail has potential to connect to the Spillway Trail, the end of the Road Trail, and the Linesville to Conneaut Lake Trail, making it an asset to regional trail development.

Approximate Length: 13.7 miles in Crawford County

Associated Municipalities: Pine, Conneaut, and Spring Townships, as well as Linesville Borough.

Pymatuning State Park - Spillway Trail – Crawford County: There are two sections of existing trail in this corridor. The first segment is located on the northern end and is a shared-use gravel section running approximately 2.8 miles along an inactive rail line from Fries Road to Linesville Road, near the fish hatchery, with access at either end of the spillway. The second existing segment

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begins at the southern end of the corridor in Jamestown and extends northward approximately 2.7 miles.

Extensions of the Spillway Trail will connect the northern and southern ends, from Linesville to the north and Jamestown to the south. The proposed section of this trail is approximately 6.8 miles. This trail has the potential to connect into Greenville, in Mercer County, and become part of a regional trail system.

The Spillway Trail effort is being furthered by Envision Linesville and Pymatuning State Park.

Approximate Length: 12.3 miles

Associated Municipalities: South Shenango, North Shenango, and Pine Townships, as well as Linesville Borough.

Thornton Junction Trail - Erie County: This proposed trail follows the abandoned Bessemer & Lake Erie Railroad corridor from the Crawford County line at Pennside to Girard Junction at Erie Bluffs State Park. This trail is part of the western route of the Erie to Pittsburgh Greenway eventually connecting the Seaway Trail and Erie Bluffs State Park to Crawford County and Pymatuning State Park. This trail intersects with the Crooked Creek Trail.

Approximate Length: 12.5 miles

Associated Municipalities: Conneaut and Girard Townships.

End of the Road Trail - Crawford County : This proposed trail is a connection between the Spillway Trail and Linesville Beach area. It extends approximately 1.5 miles along the northern shore of Pymatuning Reservoir. The End of the Road trail would also link up with the Spillway Trail to provide a connection between Linesville and the recreation facilities at the end of the road.

An extension of this trail called the Seabee Trail would provide an approximately one half mile link between the Linesville Beach and Lynn Summers Little League Complex, on Route 6 west of Linesville.

The End of the Road and Seabee Trail effort is being furthered by Envision Linesville and Pymatuning State Park.

Approximate Length: 3.3 miles

Associated Municipalities: Pine and Conneaut Townships, as well as Linesville Borough.

West Branch Tionesta Creek Trail – Warren County: 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

Associated Municipalities: Watson, Cherry Grove, and Pleasant Townships.

- 8) **Knox to Kane Trail – Clarion County:** The proposed Knox to Kane Trail runs from Knox Borough in Clarion County to Kane Borough in McKean County. Approximately 26 miles of this trail is located within Clarion County from Knox to the Forest County line north of Cook Forest State Park. Along its route, this trail passes through Shippenville, Paint Mills, Arthurs, Lucinda, Snydersburg, Leeper, Crown and Vowickel.

Approximate Length: 32.9 miles

Associated Municipalities: Beaver, Elk, Farmington, Knox, and Paint Townships, as well as Shippenville and Knox Boroughs.

Knox Kane Trail – Forest County: This proposed trail follows the former Knox Line through Forest County on its way from Elk County to Clarion County. The approximately 16-mile segment within Forest County is proposed to run from the Elk County Border, near Sheffield Junction, to Marienville and is part of the potential Knox to Kane Trail. Along this route, the line passes through Iron City, Pigeon, Byromtown, Penoke, and McCrays.

The proposed trail also provides an opportunity to potentially connect the motorized trails in the Allegheny National Forest with the Village of Marienville in Jenks Township. This connection is highly desirable from an economic development perspective and should be further explored.

Approximate Length: 16 miles

Associated Municipalities: Jenks and Howe Townships.

Linesville-Conneaut Lake Trail – Crawford County: This proposed trail will provide a connection between Linesville and Conneaut Lake, ultimately on to Meadville via the Ernst Trail Extension. The Linesville end of this trail from the Spillway Trail Extension north to Townline Road would utilize the bed of the former Meadville-Linesville Railroad. The majority of this right-of-way is still intact and already in use as an undesignated trail. From the intersection with Townline Road, the trail would continue south along low volume roads to Route 285, which it would follow east to Conneaut Lake.

Approximate Length: 9.4 miles

Associated Municipalities: Pine and Sadsbury Townships, as well as Linesville and Conneaut Lake Boroughs.

Tidioute Trail – Warren County: 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.

- 9) **Stavich Bike Trail – Lawrence County:** The Stavich Trail extends from Union Township in Lawrence County to Struthers, Ohio by way of Lowellville, Ohio. The existing six and one-half mile stretch in Pennsylvania was constructed in the early 1980s and is in need of rehabilitation. As of this writing, design and engineering is being completed for this segment of trail. Proposed extension of the trail includes a connection into the City of New Castle and extending it further south along the Mahoning and Beaver Rivers to Wampum, with an eventual connection to the Beaver River Rail Trail in Beaver County. A feasibility study should be completed to determine the best route to make this connect.

Approximate Length: 18 miles

Associated Municipalities: City of New Castle, Mahoning, Union, Taylor, New Beaver, and Wayne Townships.

Ernst Trail – Crawford County: The existing section of the Ernst Trail is paved and runs approximately 5 miles from the Park Avenue Plaza in Meadville to Route 19. The remaining section proposed in this plan, runs from Route 19 another 6 miles to Conneaut Lake. The proposed section is still undeveloped, but is passable by hikers and mountain bikers. The trail route follows the former Meadville to Linesville Railroad corridor.

Approximate Length: 11 miles

Associated Municipalities: Union, West Mead, and Vernon Townships, as well as the City of Meadville.

French Portage Trail – Erie County: This proposed trail follows a former trade route between Fort LeBoeuf, near present day Waterford Borough and Fort Presque Isle. This overland trade route was used to transport goods from Lake Erie to French Creek where they could be canoed downstream to the Allegheny, the Ohio, and the Mississippi Rivers. This trail would connect the City of Erie and Presque Isle State Park to Waterford and on to Crawford County via the Washington Trail.

Approximate Length 17.3 miles

Associated Municipalities: Summit, Waterford, and Mill Creek Townships, and Waterford Borough, as well as the City of Erie.

Titusville to Youngsville Trail – Crawford County: This proposed trail follows the former Valley Branch of the New York Central Railroad from Titusville to Youngsville, in Warren County. The potential trail route within Crawford County runs northeast out of Titusville for about 3.6 miles before entering Warren County.

Approximate Length: 3.6 miles within Crawford County

Associated Municipalities: Oil Creek Township and City of Titusville.

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Titusville to Youngsville Trail – Warren County: The proposed trail follows the former New York Central Railroad corridor from Titusville to Youngsville in Warren County.

Approximate Length: 22 miles

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

Warren Trail – Forest County: The proposed Warren Trail follows the inactive Oil City Secondary Line from Warren County to Venango County, along the Allegheny River. This proposed trail may connect Oil City with the City of Warren and pass through Tionesta, along the way in Forest County.

Approximate Length: 14 miles

Associated Municipalities: Harmony and Tionesta Townships.

Warren Trail – Warren County: 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 the Buckaloons Recreation Area.

Approximate Length: 4.5 miles in Warren County

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

- 10) **Clarion to Jefferson Trail – Clarion County:** This proposed eleven mile trail runs from Clarion Borough to the Jefferson County line near Sutton, following the former Lake Erie, Franklin, and Clarion Railroad Main Line. At the Jefferson County line, it links up with the Venango Frankstown Path, which intersects the Baker Trail shortly after entering Jefferson County. This proposed trail follows the Lake Erie, Franklin, and Clarion Railroad which ran from Summerville in Jefferson County to Clarion Borough.

This line was previously abandoned. Creating a trail along this corridor will most likely require reassembly of the corridor.

Approximate Length: 11.4 miles

Associated Municipalities: Limestone and Clarion Townships, as well as Strattanville and Clarion Boroughs.

French Creek Trail – Crawford County: This proposed trail would link Meadville, via the Ernst Trail, with the City of Franklin, Venango County, by following the active Franklin Secondary Line along French Creek. While rail-with-trails do exist in other places, this is not the most ideal situation. Additionally, it can be difficult to work with the rail road to obtain permission for this type of shared use trail. If the rail line ever becomes inactive, the County or local trail advocacy group should pursue means of obtaining the right-of-way before it is reverted. Another potential alignment that should be considered is to provide continuity of the trail by sharing the road, utilizing the existing low volume roads located west of State Route 322 and east of French Creek.

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A master plan was completed for a segment of the French Creek Trail beginning at French Creek Outdoor Learning Center, north of Lincoln Park, and connects to the existing Ernst Trail in the vicinity of State Route 19. The master plan also identified the opportunity for a spur through the City of Meadville along Mill Run, past the high school and Meadville Area Recreation Center, and extending to Tamarack Lake. To date there has not been any implementation completed for these trail segments, although Allegheny College is pursuing implementation of the natural system greenway corridor associated with Mill Run, as it flows through the City of Meadville.

Approximate Length: 10.1 miles within Crawford County

Associated Municipalities: Union, East Fairfield, Fairfield, and Wayne Townships, as well as Cochranon Borough.

French Creek Trail – Venango County: This proposed trail runs along French Creek from Franklin to Meadville, Crawford County partially along the former Oil City Branch of the New York Central Railroad and also along the Franklin Secondary line. The Franklin Secondary line is currently active. If it should become available, efforts should be made to obtain the right-of-way for future trail use.

Approximate Length: 11.5 miles in Venango County

Associated Municipalities: Frenchcreek and Canal Townships, Sugarcreek, and Utica Boroughs, as well as the City of Franklin.

Mill Village to Corry Trail – Erie County: This inactive Norfolk Southern Railroad Corridor will connect Mill Village, through Union City, to the City of Corry. This trail could eventually connect to the Erie National Wildlife Refuge in Crawford County.

Approximate Length: 19 miles

Associated Municipalities: LeBoeuf, Union, and Concord Townships, along with Mill Village and Union City Boroughs, and the City of Corry.

Sandy Creek Trail – Venango County: This trail's eastern section was completed in 2000 with eight miles of asphalt surface, seven pedestrian bridges, and a tunnel which was reconstructed in 2005. The eastern section is active from the Allegheny River into Clarion County.

In 2005, four additional miles of trail were added along the north/west bank of the Allegheny River to, and across, Sandy Creek. The remaining western section of the Sandy Creek Trail to Mercer County has yet to be completed.

This trail passes through State Game Lands No. 39 and 45, Belmar, East Sandy, and Van. It also connects to the Allegheny River Trail, and is currently used as part of the temporary route of the North Country Trail.

The Sandy Creek Trail effort is being furthered by the Allegheny Valley Trails Association.

Approximate Length: 12 miles complete, approximately 10 miles proposed

Associated Municipalities: Cranberry, Sandycreek, Victory, and Rockland Townships.

Proposed Significant Priority Recreation and Transportation Corridors

- 11) **Freeport Trail – Erie County**: This proposed trail follows Freeport Road, State Route 89 connecting North East Borough with the Seaway Trail, Halli Reid Park, and Freeport Beach.

Approximate Length 1.75 miles

Associated Municipalities: North East Township and North East Borough.

Polk/Franklin Loop – Venango County: A shared use path following the former Oil City Branch of the New York Central Railroad corridor is proposed to connect the Sandy Creek and French Creek Trails, creating a loop between Franklin, Polk, and the Allegheny River.

Approximate Length: 4.7 miles

Associated Municipalities: Frenchcreek Township and Polk Borough.

Venango Frankstown Path – Clarion County: This proposed trail runs nearly 15 miles from Piney Mine to the Jefferson County border near Sutton. This path follows the route of the Mt. Laurel Railroad Clarion Secondary line. This line was purchased by Kovalchick Corp., of Indiana, PA, who is in the process of salvaging the steel from the corridor. Like the Knox and Kane corridor described above, this line may be a candidate for railbanking.

It is recommended that the Northwest Commission, the North Central Commission, and each of their participating counties, municipalities, and trail organizations position themselves to be ready to participate in a request for railbanking of this corridor should it be presented.

Approximate Length: 15.1 miles

- 12) **Albion to Girard Trail – Erie County**: This proposed trail follows a Bessemer & Lake Erie Railroad corridor from Cranesville, north of Albion to Wallace Junction, north of Girard and on to Lake Erie Community Park passing through Lake City along the way. The Albion to Girard Trail also connects to the Seaway Trail.

Approximate Length 10 miles

Associated Municipalities: Elk and Girard Townships, as well as Cranesville, Platea, Lake City, and Girard Boroughs.

Allegheny and Eastern Railroad Corridor Trail – Erie County: This proposed trail follows an active Allegheny and Eastern Railroad line from Union City to the Erie Bayfront to Behrend Trail near the Penn State Berhend Campus. This trail links with the Mill Village to Corry trail connecting the towns of Mill Village and Corry to the City of Erie, the Seaway Trail, and Presque Isle State Park.

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Lawsonham to Sligo Trail – Clarion County: This proposed trail follows the former Sligo Branch of the Pennsylvania Railroad extending approximately ten miles from Lawsonham, along Redbank Creek to Sligo, along Licking Creek, in south central Clarion County.

This proposed spur trail will connect Rimersburg and Sligo residents to the proposed Redbank Creek Trail, the Armstrong Trail, and the Allegheny River Trail.

Approximate Length: 10.2 miles

Associated Municipalities: Madison and Toby Townships, as well as Sligo Borough.

- 13) **Little Shenango Creek Greenway Trail – Mercer County:** Refer to the Mercer County Greenways, Open Space and Rural Recreation Plan for a description of this corridor.

- 14) **Conneaut Lake Trail – Crawford County:** This trail runs northwest out of Fireman's Beach along Conneaut Lake to Meadville Junction, following the former Bessemer & Lake Erie Railroad line, which ceased operation in 1977. This trail has potential to connect Conneaut Lake with Linesville.

Approximate Length: 3.5 miles

Associated Municipalities: Sadbury and Summit Townships, and Conneaut Lake Borough.

- 15) **Warren to Kinzua Dam Trail – Warren County:** 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.

Washington Trail – Erie County: This proposed trail follows the route which commemorates George Washington's first military and diplomatic venture in the fall and winter 1753-1754. Today, the route primarily follows major roads. Within Erie County, this trail follows Route 19 from north of Cambridge Springs, Crawford County to Waterford Borough.

Approximate Length: 6.8 miles

Associated Municipalities: LeBoeuf and Waterford Townships, as well as Waterford Borough.

- 16) **Albion to Conneaut Harbor Trail – Erie County:** This proposed trail follows the Bessemer & Lake Erie Railroad corridor linking the Thornton Junction Trail to Albion and on to the Conneaut, Ohio.

Approximate Length: 15 miles

Associated Municipalities: Conneaut and Springfield Townships, as well as Albion and Cranesville Borough.

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Pymatuning Valley Greenway Trail – Crawford County: The Pymatuning Valley Greenway Trail extends from Jamestown, Pennsylvania to Jefferson in Ashtabula County, Ohio. This proposed shared-use path would connect the regional trail system in Pennsylvania to Ohio and potentially on to Ashtabula and Cleveland in the future. This trail also has the potential to connect to the Greenville to Jamestown Trail, which is proposed to parallel the proposed Shenango River Water Trail, with potential to extend further south in the Shenango River Valley.

Tionesta Creek Trail – Forest County: This proposed trail follows Tionesta Creek from Kellettsville north to Warren County, where it intersects with the North Country Trail.

Approximate Length: Over 20 miles within Forest County

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

Otter – Wolf Loop Trail – Mercer County: Refer to the Mercer County Greenways, Open Space and Rural Recreation Plan for a description of this corridor.

Proposed High Priority Recreation and Transportation Corridors

17) **Bear Lake Trail – Warren County:** This trail follows the inactive 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.

18) **Lake Pleasant Connector Trail – Erie County:** This proposed trail connects the Allegheny and Eastern Railroad Corridor to Lake Pleasant following Dublin Road.

Approximate Length 4.5 miles

Associated Municipalities: Waterford Township.

Trail Implementation Strategies

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. Rail banking 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.

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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.

Recognizing several of the proposed trail routes in the region should begin with the completion of a trail feasibility study for their respective corridors. The following table provides an estimate of the costs associated with completing those studies. The costs shown are based on the consultant's experience in completing similar projects in other areas of the state. The budgets proposed here are based on 2008 dollars and should be increased by 4.5% for each year beyond 2009.

Clarion County

Trail Corridor	Unbuilt Mileage	Feasibility Study Cost			
		Title	Legal	Feasibility	Total
Allegheny River Trail	15.7	Not Required			\$0
Redbank Creek	29.7	Not Required		\$50,000	\$50,000
Knox to Kane	23.6	may not be required		\$60,000	\$60,000
Clarion to Jefferson	11.4	\$9,500	\$3,800	\$40,000	\$53,300
Venango Frankstown Path	15.1	\$12,583	\$5,033	\$40,000	\$57,617
Lawsonham to Sligo	10.2	\$8,500	\$3,400	\$40,000	\$51,900

Crawford County

Trail	Unbuilt Mileage	Feasibility Study Cost			
		Title Search	Legal Opinion	Feasibility Study	Total
East Branch Trail	10.8	\$9,000	\$3,600	\$50,000	\$62,600
Lake to Lake (Linesville to Girard) Trail	13.7	\$11,417	\$4,567	\$60,000	\$75,983
Spillway Trail	6.8	\$5,667	\$2,267	\$40,000	\$47,933
Linesville to Conneaut Lake Trail	9.4	\$7,833	\$3,133	\$40,000	\$50,967
Ernst Trail (Cooneaut Lake to Route 19)	6.3	\$5,250	\$2,100	\$50,000	\$57,350
Titusville to Youngsville Trail	3.6	\$3,000	\$1,200	\$20,000	\$24,200
French Creek Trail	10.1	\$8,417	\$3,367	\$50,000	\$61,783
Conneaut Lake Trail	3.5	\$2,917	\$1,167	\$15,000	\$19,083
Pymatuning Valley Trail	4.4	\$3,667	\$1,467	\$20,000	\$25,133
End of the Road Trail	3.3	N/A			\$0

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Erie County

Trail	Unbuilt Mileage	Feasibility Study Cost			
		Title Search	Legal Opinion	Feasibility Study	Total
East Branch Trail	3.89	<i>not required</i>			\$0
Corry Junction Greenway Trail	6.15	<i>not required</i>			\$0
Thornton Junction Trail	15.23	\$12,692	\$5,077	\$30,000	\$47,768
French Portage Trail	17.29	\$14,408	\$5,763	\$60,000	\$80,172
Mill Village to Corry Trail	20	\$16,667	\$6,667	\$70,000	\$93,333
Freeport Trail	1.75	<i>on-road / within r.o.w.</i>			\$0
Albion to Girard Trail	10.15	\$8,458	\$3,383	\$50,000	\$61,842
Allegheny & Eastern Railroad Corridor	20.85	<i>not required</i>		\$60,000	\$60,000
Washington Trail	6.8	<i>not required</i>			\$0
Albion to Conneaut Harbor Trail	14.95	\$12,458	\$4,983	\$50,000	\$67,442
Lake Pleasant Connector Trail	4.5	<i>on-road / within r.o.w.</i>			\$0
Crooked Creek Trail	6.4	\$5,333	\$2,133	\$30,000	\$37,467

Forest County

Trail	Unbuilt Mileage	Feasibility Study Cost			
		Title Search	Legal Opinion	Feasibility Study	Total
Knox Kane Trail	22.2	may not be required		\$60,000	\$60,000
Tionesta Creek Trail	33.7	\$28,083	\$11,233	\$70,000	\$109,317
Warren Trail	14.3	may not be required		\$50,000	\$50,000

Venango County

Trail Corridor	Unbuilt Mileage	Feasibility Study Cost			
		Title	Legal	Feasibility	Total
Allegheny River Trail	1	Not Required			\$0
McClintock Trail	7.1	Not Required			\$0
French Creek Trail	7.5	\$6,250	\$2,500	\$60,000	\$68,750
Sandy Creek Trail	10.9	\$9,083	\$3,633	\$40,000	\$52,717
Polk / Franklin Loop	9.6	\$8,000	\$3,200	\$40,000	\$51,200
Warren Trail	10.2	\$8,500	\$3,400	\$40,000	\$51,900

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Warren County

Trail	Unbuilt Mileage	Feasibility Study Cost			
		Title Search	Legal Opinion	Feasibility Study	Total
Warren\North Warren Trail		<i>not required</i>			
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
Tidioute Trail	14.6	\$12,167	\$4,867	\$25,000	\$42,033
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
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 this information, local trail organizations are not able to move forward with their work.

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Projected Construction Costs

Utilizing an average cost range for rail trail construction of between \$50 and \$100 per lineal foot, the following table establishes a budget for the anticipated cost of constructing the rail 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 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.

Clarion County

Trail	Unbuilt Mileage	Projected Construction Cost using \$50 / LF	Projected Construction Cost using \$100 / LF
Redbank Creek	27.9	\$7,365,600	\$14,731,200
Clarion to Jefferson	11.4	\$3,009,600	\$6,019,200
Knox to Kane	23.6	\$6,230,400	\$12,460,800
Lawsonham to Sligo	10.2	\$2,692,800	\$5,385,600
Allegheny River Trail - Emlenton to Foxburg - Parker to Brady Tunnel	15.7	\$4,144,800	\$8,289,600
Venango Frankstown Path	15.1	\$3,986,400	\$7,972,800

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Crawford County

Trail	Unbuilt Mileage	Projected Construction Cost using \$50 / LF	Projected Construction Cost using \$100 / LF
East Branch Trail	14.64	\$3,864,960	\$7,729,920
Titusville Queen City Trail	4	\$1,056,000	\$2,112,000
Lake to Lake (Linesville to Girard) Trail	13.7	\$3,616,800	\$7,233,600
Spillway Trail	6.8	\$1,795,200	\$3,590,400
Linesville to Conneaut Lake Trail	9.4	\$2,481,600	\$4,963,200
Ernst Trail (Cooneaut Lake to Route 19)	6.3	\$1,663,200	\$3,326,400
Titusville to Youngsville Trail	3.6	\$950,400	\$1,900,800
French Creek Trail	10.1	\$2,666,400	\$5,332,800
Conneaut Lake Trail	3.5	\$924,000	\$1,848,000
Pymatuning Valley Trail	4.4	\$1,161,600	\$2,323,200
End of the Road Trail	3.3	\$871,200	\$1,742,400

Erie County

Trail	Unbuilt Mileage	Projected Construction Cost using \$50 / LF	Projected Construction Cost using \$100 / LF
Ohio to Conneaut Harbor Trail	14.95	\$3,946,800	\$7,893,600
Thornton Junction Trail	15.23	\$4,020,720	\$8,041,440
Albion to Girard Trail	10.15	\$2,679,600	\$5,359,200
East Branch Trail	3.89	\$1,026,960	\$2,053,920
Mill Village to Corry Trail	20	\$5,280,000	\$10,560,000
Freeport Trail	1.75	\$462,000	\$924,000
French Portage Trail	17.29	\$4,564,560	\$9,129,120
Lake Pleasant Connector Trail	4.5	\$1,188,000	\$2,376,000
Allegheny & Eastern Railroad Corridor	20.85	\$5,504,400	\$11,008,800
Washington Trail	6.8	\$1,795,200	\$3,590,400

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Forest County

Trail	Unbuilt Mileage	Projected Construction Cost using \$50 / LF	Projected Construction Cost using \$100 / LF
Knox Kane Trail	22.2	\$5,860,800	\$11,721,600
Tionesta Creek Trail	33.7	\$8,896,800	\$17,793,600
Warren Trail	14.3	\$3,775,200	\$7,550,400

Venango County

Trail	Unbuilt Mileage	Projected Construction Cost using \$50 / LF	Projected Construction Cost using \$100 / LF
Sandy Creek Trail	10.9	\$2,877,600	\$5,755,200
Polk/Franklin Loop	9.6	\$2,534,400	\$5,068,800
French Creek Trail	7.5	\$1,980,000	\$3,960,000
Oil Creek State Park Trail	3	\$792,000	\$1,584,000
McClintock Trail	4	\$1,056,000	\$2,112,000
Warren Trail	16.9	\$4,461,600	\$8,923,200
Allegheny River Trail	1	\$264,000	\$528,000

Warren County

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.

Erie to Pittsburgh Greenway

As the Northwest Pennsylvania greenways planning process was beginning, the “Erie to Pittsburgh – A Vision for Developing a Trail Network” process was concluding. The Erie to Pittsburgh visioning study was completed by the Rails to Trail Conservancy’s Northeast Regional Office. The purpose of the visioning process was to:

- Develop a strategy to create a major north-south spine trail from Erie to Pittsburgh
- Connect two of Pennsylvania’s major population centers
- Catalyze and coordinate trail development efforts
- Re-focus single trail development efforts to be part of this larger whole
- Assist local stakeholders in coming up with their vision
- Help to assure that every inch of the network has a local partner actively pursuing its completion

As a result of this visioning process, the Western Pennsylvania Potential Trail Network was identified as shown on the map on the following page.

This visioning process identified several opportunities to achieve the goal of connecting the Erie Region with Pittsburgh. These are described as follows:

Segment A

One opportunity exists in the eastern portion of the study area. Existing trail segments of the Allegheny River Trail, Oil Region Trails, East Branch Trail, and Corry Junction Rail Trail can be connected by completing the gaps to connect Lake Erie, just north of Findley Lake in New York, to Pittsburgh. From the Lake Erie Shore in New York, a shared road bike ride approximately forty-five miles in length provides connectivity to Presque Isle State Park and the City of Erie.

Segment B

This proposed corridor would also utilize the southern portions of Segment A. However, it would divert from the Segment A alignment at Franklin and follow the former Erie Railroad corridor through the French Creek Valley, following the former Franklin Branch of the Erie Railroad to Cochranton and continue northwest along the corridor to join the existing Ernst Trail in the Meadville area. From this point, the proposed trail would follow the former Conneaut and Linesville Branch of the Bessemer and Lake Erie Railroad to Conneaut Lake Borough, and continue westward along this corridor to Linesville. At Linesville, the proposed trail would head north, following the former Pennsylvania Railroad and Beaver and Erie Canal corridor through Springboro and into Erie County. The proposed trail would continue northward in Erie County passing through Albion and into Girard where it would terminate near Erie Bluffs State Park. From here there is potential to connect the proposed trail to the existing Seaway Trail to reach the City of Erie and Presque Isle State Park.

With the Northwest Greenway Plan underway, we were asked to evaluate the opportunities identified in the Western Pennsylvania Potential Trail Network developed by the Rails to Trails Conservancy.

We concur with their findings regarding prospective segments that can potentially connect Erie to Pittsburgh. In addition, another possibility exists.

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Segment C

As with Segment B this proposed corridor would also utilize the southern portions of Segment A. However, at the village of East Sandy the proposed trail would leave the Segment A alignment and follow the existing Sandy Creek Trail west. At the terminus of the existing Sandy Creek Trail, the proposed trail continues west, following the former Clearfield Branch of the New York Central Railroad, to the vicinity of Polk where it would connect to the former Oil City Branch of the New York Central Railroad corridor and continue west into Mercer County, passing through Sandy Lake Borough. The proposed trail would continue northwest, following the Little Shenango River along the former Oil City Branch of the New York Central Railroad corridor to Jamestown Borough. In Jamestown, the proposed trail would continue north, along the former Pennsylvania Railroad and Beaver and Erie Canal corridor, which is described in Segment B.

From a regional perspective, we believe all of the proposed segments provide significant opportunities:

- ✓ It is desirable on a national level to have a continuous trail from Washington, D.C. to Albany, New York, with connections to Cleveland, OH and Buffalo, NY.
- ✓ Large portions of the eastern route, Segment A, are established in the form of the Allegheny River Trail, the Oil Region Trails, the East Branch Trail, and the Corry Junction Rail Trail.

Furthermore, this corridor passes through several population centers including Franklin, Oil City, Titusville, and Corry. This is important for two reasons. First, the trail can capitalize on the latent demand for trail use that is present among the area's population. Second, these main street communities have an opportunity to market themselves as Trail Towns and capitalize on economic development opportunities that come with that designation.

- ✓ The western routes, Segments B & C, also pass through several population centers, at a smaller scale than Segment A, which can capitalize from Trail Town status. More importantly, these segments provide an opportunity to connect the two most visited state parks in the Commonwealth to one another and to the Erie to Pittsburgh Trail. These two parks generate more than one million additional visitors on an annual basis than does the third most visited state park in the Commonwealth, Point State Park in Pittsburgh.

Furthermore, these segments can also connect the undeveloped Erie Bluff State Park to the two existing state parks. The fact these state parks attract visitors to the region who desire outdoor recreation experiences, makes these corridors highly desirable. The proposed development of a trail connecting these resources would encourage increased visitation and length of stays in the Northwest Pennsylvania region.

Last, a western corridor has the opportunity to be extended further to the south, to provide access to the Erie to Pittsburgh Trail, from the population of the Shenango Valley or Mercer County and potentially further south along the Neshannock Creek corridor to the vicinity of New Castle, Lawrence County. This would further expand the population base that would have access to the proposed Erie to Pittsburgh Trail; tie into efforts of establishing the Shenango River Trail; and connect another popular recreation destination, the Shenango Reservoir, to other opportunities identified herein.

- ✓ A loop network, utilizing the Seaway Trail to connect eastern and western routes, would enhance the opportunity to capitalize on the trail's economic impact to the Northwest Pennsylvania region by making it desirable for visitors to spend more time and make more trips to the region.

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- ✓ Population centers generate trail users, trail users spend money along the trail corridors, money spent along the corridors equals economic development, and therefore, more trail users mean more money will be spent in the region.
- ✓ An expanded vision for the Erie to Pittsburgh Trail will provide greater visibility and generate more interest with potential funders.

From a regional perspective, the Erie to Pittsburgh Trail may be most successful if it can incorporate a connection to and between Pymatuning State Park, Presque Isle State Park, Erie Bluff State Park, and the Erie Bayfront. Furthermore, there is also tremendous appeal and desire to continue the trail from the Lake Erie shore in New York northeast through Buffalo, New York and eventually on to Albany.

Just as the Great Allegheny Passage has a fifty-two mile branch from McKeesport to the Pittsburgh International Airport, by virtue of the Montour Trail, the vision for the Erie to Pittsburgh Trail should contain a western route, by connecting resources of state-wide significance located in western Pennsylvania.

Erie to Pittsburgh Trail Alliance

Upon completing the Erie to Pittsburgh Trail visioning study, the process of developing an Erie to Pittsburgh Trail Alliance was begun by those who represent the various trail organizations, county representatives, and representatives of economic development agencies who are located along the proposed routes for the Erie to Pittsburgh Trail.

The Alliance resulted from a desire of the various stakeholders involved with the visioning process to continue to implement their vision for the Erie to Pittsburgh Trail by assisting one another in planning for and developing their respective trail segments. The Alliance consists of the following agencies:

- Armstrong Rails-to-Trails Association
- Allegheny Valley Trails Association
- Clear Lake Authority
- Cochran Area Greenways
- Chautauqua Rails to Trails Association
- Envision Linesville, Inc.
- Erie – Western Pennsylvania Port Authority
- Titusville Area Trails Association
- Friends of the Riverfront
- Mercer County Trails Association, Inc (Jamestown-Franklin Trail)
- Northwest Pennsylvania Regional Planning & Development Commission
- Northwest Pennsylvania Trails Association
- Oil Region Alliance of Business, Industry, and Tourism

At their June 23, 2008 meeting, the Alliance adopted the following mission statement:

Erie to Pittsburgh Trail Alliance Mission Statement

Erie to Pittsburgh Trail Alliance is an active coalition of trail organizations and individuals dedicated to the promotion, acquisition, development, and maintenance of a safe non-motorized trails network that connects the “Point” in Pittsburgh to the “Bayfront” in Erie. Erie to Pittsburgh Trail Alliance will seek to improve the quality of life for communities along the trail network while stimulating economic development and recreational tourism activities.

Also at this meeting, two maps were presented to discuss the various alignments listed in the visioning study and to establish a focus and priority.

Map One: This option presented the single linear route from Pittsburgh north to the Franklin area, with three branches/forks to Erie:

- a. At Belmar, 5 miles south of Franklin, follow a “western route” on the old NYC railbed to Jamestown, PA, then north on the old PRR line to Albion, Girard, and the Seaway Trail to Erie.
- b. At Franklin, branch west on a proposed French Creek Trail to Meadville then by various routes to Erie.
- c. At Franklin, continue on the old PRR line to Oil City, Titusville, Spartansburg, Corry, Clymer, Chautauqua, Brockton to the Seaway Trail then west to Erie.

Map Two: This option, referred to by the Alliance as the “eastern route”, follows the single linear route from Pittsburgh to Franklin, as in option 1) then follows the same route as branch c. above, north to Chautauqua and the Seaway Trail at Brocton, NY then west to Erie.

Members of the Alliance made a motion which was passed for the “Eastern Trail” to be the priority and primary route for the Erie to Pittsburgh Trail.

During the public input process for the Northwest Greenways Plan, consensus was established among the participants of the public meetings and key person interviews with trail groups representing the western alignment, that the eastern route receives priority. This decision is based on recognizing the eastern route has many existing trail segments in place and far fewer gaps that need to be completed than along the western route. Furthermore, these gaps generally will be easier to acquire access to and some have already been acquired. That being understood, those representing trail organizations associated with the western alignments want funding and technical assistance to continue to flow to the western corridor for planning and implementation, to ensure the currently active trail organizations have the resources to

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continue their work. Without this funding and technical assistance, they fear efforts of their trail organizations will diminish or stop altogether, as they won't have an incentive to further their vision if they do not have access to the required resources.

Furthermore, the vision should include more than consideration of a land-based trail. It should be all encompassing and include existing and potential water trail opportunities, trail town opportunities, and natural system greenway corridor opportunities. This broader vision not only connects people, but also cultural, historical, and recreational resources with one another. It will also work towards: retaining the character and environment of the corridor by conserving the natural systems greenway components along the trail corridors; making desirable connections to main street communities in the corridor; and coordinating opportunities to create both water and land based trail access points. These concepts are consistent with the definition established for Greenways in the Northwest Region.

WATER TRAILS

The Northwest Pennsylvania Region is fortunate to have two outstanding water trails. Those water trails include the Clarion River Water Trail and the Middle Allegheny River Water Trail. Not only do these water trails provide the opportunity for recreation, but they also are encouraging economic development along their routes. Studies done in other states indicate that water trails generate on average approximately eighty-five dollars per paddler in economic development along the corridor.

The land based trail community has lobbied for trail development and improvement utilizing the results of economic impact studies along their trails. However, there haven't been any studies completed in Pennsylvania to determine the economic impact of water trails. Therefore, it is recommended that an economic impact study be completed along the Middle Allegheny River Water Trail to quantify what the economic impact of the water trail is to the communities along the corridor. This study should be conducted using the format established by the Rails to Trails Conservancy in their "Trail Users Survey Workbook". Furthermore, data should 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 the Northwest Pennsylvania region.

There are many more opportunities to establish water trails in the Northwest Pennsylvania region. With an economic impact analysis in hand, local partners should be able to justify establishing additional water trails in the region.

In Pennsylvania, the Pennsylvania Fish and Boat Commission has established a water trail program. Local partners can work with the Commission to evaluate, and if feasible, advance the planning and development of additional water trails in the region.

The Commission provides the following guidelines for achieving a water trail designation:

- ✓ **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.

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.

Rural 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 blueway 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. 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. 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, outdoor recreation experiences, and learning about local history and culture. Successful paddle destinations offer diverse activities with a wide variety of opportunities. Overnight trips are key.

Local partners should be identified to explore the potential of establishing, maintaining, and promoting designated water trails along the following corridors in the Northwest Pennsylvania region.

Upon identifying potential opportunities for water trails in the Northwest Pennsylvania region, the steering committee came to consensus on criteria, which would be utilized to prioritize the proposed corridors that were identified.

Water Trail Prioritization Criteria

Each of the proposed water trail corridors were assigned a value between zero and four in each of the categories. The higher the value assigned to a given criterion, the more important contribution that criterion has towards the establishment of a water trail within the specified corridor.

- Extension of Existing Designated Water Trail
- Scenic Character
- Tie to Land Based Trail
- Average Water Level
- Trail Demand
- Land Acquisition
- Funding Opportunities / Local Partners
- Economic Development Potential

Based on this analysis, the following corridors are proposed to be further explored and investigated to determine their potential to be officially designated as Pennsylvania Fish and Boat Commission Water Trails.

Water Trail Priorities

Proposed Water Trail Corridor	Clarion County	Crawford County	Erie County	Forest County	Lawrence County	Mercer County	Venango County	Warren County	Extension of Existing Designated Water Trail	Scenic Character	Tie to Land Based Trail	Average Water Level	Trail Demand	Land Acquisition	Funding Opportunities / Local Partners	Economic Development Potential	Total	Ranking	Priority
Lower Allegheny River Water Trail	X								4	2	4	4	4	2	2	4	26	1	Vital
French Creek Water Trail		X	X			X	X		0	4	3	3	4	4	3	4	25	2	
Shenango River Water Trail		X			X	X			0	3	3	4	4	2	4	4	24	3	
Oil Creek Water Trail		X					X		0	4	4	2	3	4	3	3	23	4	Exceptional
Conewango Creek Water Trail								X	4	3	2	3	3	2	2	3	22	5	
Tionesta Creek Water Trail				X				X	2	4	2	4	3	2	2	1	20	6	
Redbank Creek Water Trail	X								2	2	3	1	3	3	2	3	19	7	Significant
Beaver River Water Trail					X				0	3	3	4	2	2	1	3	18	7	
Conneaut Outlet Water Trail		X							0	4	2	2	2	4	2	2	18	8	
Mahoning River Water Trail					X				0	3	3	4	2	2	1	2	17	9	High
Allegheny Reservoir Water Trail								X	0	4	0	4	2	4	1	1	16	10	
Presque Isle Bay Water Trail			X						0	2	0	4	3	3	2	1	15	11	
Brokenstraw Creek Water Trail								X	0	4	2	1	2	2	2	1	14	13	

All of the proposed water trail corridors identified are important to the Northwest Pennsylvania region. The vital priorities should be advanced through regional efforts and partnerships. Exceptional, Significant, and High priority corridors should be advanced at the county level and with local partners.

Existing Water Trails

In addition to the water trails recommended herein, it is important for the northwest region to market and promote the existing water trails within the region. They include the Middle Allegheny River Water Trail and the Clarion River Water Trail. As water trails officially designated by the Pennsylvania Fish and Boat Commission, Water Trail brochures and informational pamphlets are available on line at www.fish.state.pa.us/watertrails/trailindex.htm, and hard copies can also be obtained through the Commission. Every effort should be made to publicize this information to develop an awareness of these water trails.

Due to the success of each of these trails, the local economics are 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. Case in point is what the Allegheny River Water Trail and local entrepreneurs have done in Warren County. Recently, a local family purchased the Indian Waters Canoe and Kayak Livery in Tidioute and the Allegheny Outfitters in the City of Warren.

As proprietors of two canoe liveries along the Middle Allegheny River Water Trail, they are 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 it also directs those canoeing and kayaking along the river to opportunities to obtain goods and services in the communities they pass through and by.

The entrepreneurialism of this business entity 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 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, it is recommended that a study be completed along the Allegheny River, utilizing the format established by the Rails to Trails Conservancy in their “Trail Users Survey Workbook”. Furthermore, it is recommended that 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, it is suspected the economic impact of water trails are far greater than realized by the County and local decision makers in the northwest Pennsylvania region.

Given the regional nature of the benefits associated with the Middle Allegheny River Water Trail, it is recommended that this study be lead by the Northwest Pennsylvania Regional Planning and Development Commission, in conjunction and with the support of the Pennsylvania Fish and Boat Commission, the Pennsylvania Department of Conservation and Natural Resources, and the Pennsylvania Department of Community and Economic Development. It is estimated that such a study would cost approximately \$30,000 to complete.

Furthermore, every effort should be made to coordinate planning, implementation, marketing, and promotion efforts of this trail with the land based trails and existing and proposed trail towns along the length of the corridor.

Proposed Water Trails

Water trails provide recreation and transportation opportunities within the northwest Pennsylvania region. Towards that end, it is recommended that consideration be given to evaluating the feasibility and establishing additional Pennsylvania Fish and Boat Commission designated water trails in the region.

Local partners should be identified to explore the potential of establishing, maintaining, and promoting designated water trails along the following twelve proposed water trail corridors in the northwest Pennsylvania region. The corridors are described according to their priority.

Many of the descriptions of the proposed water trails described herein have been taken from the “Canoeing Guide to Western Pennsylvania and Northern Western Virginia”, published in 1991 by Weil and Shaw.

The water trails being proposed herein must be thoroughly explored and evaluated to determine their suitability to be developed and promoted as such. Water levels, snags, rapids, dams, and the skill of the paddlers themselves are some of the factors that determine whether the water trail can be negotiated in a safe manner. A feasibility study should be conducted for each proposed trail to determine whether the respective water trail being proposed herein is suitable for the intended use.

Shuttle points are noted in the guide as put in and take out locations. The ownership status of these locations is unknown and must be confirmed before they are utilized.

Vital Priority Water Trails

1) **Proposed Lower Allegheny River Water Trail - 90 miles**

There is an officially designated and recognized, by the Pennsylvania Fish and Boat Commission, water trail along the Allegheny River, beginning at the Kinzua Dam in Warren County and extending south to Emlenton in Venango County. The opportunity exists to extend this water trail to the south, from Emlenton to the City of Pittsburgh, in Allegheny County, a distance of approximate 90 miles. Herein, this proposed extension is referred to as the proposed Lower Allegheny River Water Trail.

In planning for this proposed corridor, every effort should be undertaken to coordinate a proposed water trail with the existing and proposed land based trail along the corridor. Allegheny County has funded a Community Trails Initiative to determine how the existing Three Rivers Heritage Trail System can be extended north from its current terminus in Etna, to reach the Freeport Trail and continue northward as part of the proposed Erie to Pittsburgh Greenway.

The commercially navigable segment of the Allegheny River begins in the vicinity of East Brady and continues southward. From East Brady to Pittsburgh, there are eight sets of locks and dams to facilitate the river traffic. Therefore, hazards in this segment to non-motorized craft and motorized craft, include: dams, commercial river traffic including barges, and both commercial and non-commercial motorized water crafts.

The anticipated 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

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Frequency five to ten miles, therefore eight to sixteen required, with many being existing access points that have been previously developed for motorized water craft use.

- Development of water trail brochure..... \$15,000

Allegheny River – Emlenton to West Monterey – 11 miles

Although not officially acknowledged as part of the Middle Allegheny River Trail, the Allegheny River is canoeable from Emlenton to West Monterey.

Allegheny River – West Monterey to Pittsburgh – 79 miles

This section is not as scenic as the Middle Allegheny River Water Trail corridor. Further, this segment of the river is open to commercial barge traffic, power boaters, and the eight locks and dams must be navigated to reach Pittsburgh.

2) **Proposed French Creek Water Trail – 74 miles**

Although not officially recognized by the Pennsylvania Fish and Boat Commission as a water trail, French Creek has functioned as a transportation corridor throughout history, including George Washington’s 1753 campaign.

A “Canoe Guide from the French Creek Project” was published in the mid 1990’s. The French Creek Project was initiated in May of 1995 by: the Pennsylvania Environmental Council, the Western Pennsylvania Conservancy, The Nature Conservancy, and Allegheny College.

This canoe guide documents canoeing opportunities associated with French Creek, from Union City Dam in Erie County to its confluence with the Allegheny River at the City of Franklin in Venango County, covering a distance of 74 miles. Over this length French Creek winds its way through the towns of Edinboro, Cambridge Springs, Saegertown, Meadville, Cochranon, and Franklin.

The guide identifies twelve Shuttle points along this route’s length. They are located at:

- Mile 0.0..... Union City Dam
- Mile 8.4..... Routes 6N and 19
- Mile 25.5..... Cambridge Springs
- Mile 27.0..... Cambridge Springs Borough
- Mile 28.2..... Conneauttee Creek
- Mile 38.2..... Saegertown Access
- Mile 44.5..... Bicentennial Park
- Mile 49.5..... Wilson Schute
- Mile 55.0..... Shaw’s Landing
- Mile 63.8..... Utica Access
- Mile 74..... Franklin Access

At this point the French Creek joins the Allegheny River Water Trail.

Conversations held during this planning process indicate two canoe liveries were present along the creek but both

Canoeing on French Creek

French Creek is one of the most attractive and diverse waterways in Pennsylvania. Canoeing the stream is relatively easy, even for those without great experience. Among its attributes are its notable historical background, rich biological diversity, and outstanding water quality. French Creek was given its name in the early 1750s by George Washington who visited the Creek in an effort to dialogue the French from this area. During this period of colonization and westward expansion, the Creek served as an important waterway for the French Army and the early American settlers. The French Creek watershed covers approximately 1270 square miles, providing habitat for many types of wildlife and birds, as well as over 90 species of fish and 27 species of freshwater mussel. The Creek is outstanding for fishing and canoeing, and also provides water for communities and agricultural activities.

This guide describes 12 public access points along French Creek and its tributaries, as well as campgrounds at Woodcock Lake and Walker's Landing just north of Meadville. The chart below provides the relative distance between each access site, and surrounding the map on the next page are directions to each site.

Distance In Stream Miles Between Public Access Sites

Keep in mind that all distances are approximate. The distance between the access points of Conneauttee Creek and Bicentennial Park is 2 miles. The reason this is not included with the chart is because the Conneauttee Creek access point is not located where the creeks join, but rather upstream on the Conneauttee.

Public Access Point	Union City Dam	Routes 6N & 19	Cambridge Springs	Cambridge Springs Borough	Conneauttee Creek	Saegertown	Wilson Schute	Shaw's Landing	Utica Access	Franklin Access	
Union City Dam	0	8.4	25.5	27	28.2	38.2	44.5	49.5	55	63.8	74
Routes 6N & 19 Access	8.4	0	14.1	15.6	16.8	26.8	33.1	38.1	43.6	52.4	62.6
Cambridge Springs Access	25.5	14.1	0	1.5	2.7	12.7	19	24	29.5	38.3	48.5
Cambridge Springs Borough	27	15.6	1.5	0	1.2	11.2	17.5	22.5	28	36.8	47
Conneauttee Creek Access	28.2	16.8	2.7	1.2	0	10	16.3	21.3	26.8	35.6	45.8
Saegertown Access	38.2	26.8	12.7	11.2	10	0	6.3	11.3	16.8	25.6	35.8
Bicentennial Park	44.5	33.1	19	17.5	16.3	6.3	0	5	10.5	19.3	29.5
Wilson Schute Access	49.5	38.1	24	22.5	21.3	11.3	5	0	5.5	14.3	24.5
Shaw's Landing	55	43.6	29.5	28	26.8	16.8	10.5	5.5	0	8.8	19
Utica Access	63.8	52.4	38.3	36.8	35.6	25.6	19.3	14.3	8.8	0	10.2
Franklin Access	74	62.6	48.5	47	45.8	35.8	29.5	24.5	19	10.2	0

See inside for estimated public times between access points. Canoe Guide written and designed by Leslie Hunter.

have closed in recent years.

The “Canoeing Guide to Western Pennsylvania and Northern Western Virginia”, published in 1991 by Weil and Shaw, documents the following canoeable streams in Venango County. The following canoeing opportunities are documented in this resource. Access points are noted in the guide as put in and take out locations. The ownership status of these locations is unknown.

3) **Proposed Shenango River Water Trail - 74.8 miles**

The Shenango River begins at the Pymatuning Reservoir Dam in southern Crawford County and continues for a distance of 74.8 miles to Wampum Borough in southern Lawrence County. If water level is high, tree blocked channels and snags can be dangerous.

The Jamestown Lions Club, working with the municipalities along the Shenango River in Crawford and Mercer Counties, has recently received a grant to complete a Water Trail Feasibility Study for the Shenango River. The study area begins at the southern end of Pymatuning Reservoir and extends south to the Shenango Reservoir. It is anticipated that portions, if not the entire corridor, will provide suitable opportunities for canoeing and kayaking. Therefore, it is recommended that the development of this water trail be a priority in the Northwest Pennsylvania Region. Costs to further plan and develop this proposed water trail will be identified in the feasibility study that is currently in progress.

Pymatuning Dam to Greenville – 8.5 miles

Shuttle Points:

- East side of Pymatuning Dam base
- East bank of River, Main Street Bridge, Greenville Borough

Greenville to New Hamburg – 9.5 miles

Shuttle Points:

- East bank of River, Main Street Bridge, Greenville Borough
- East bank of River, old Bridge Pilings in New Hamburg, near Onion Road

New Hamburg to Sharpsville Dam

Shuttle Points:

- East bank of River, old Bridge Pilings in New Hamburg, near Onion Road
- U.S. Army Corps of Engineers, Shenango Reservoir, Mahaney Recreation Area at dam

Sharpsville Dam to West Middlesex – 12.0 miles

Class I rapids, two dams, and a waterfall are located in this section. Portage both dams on the left bank; the waterfall is twenty yards below the second dam. Portage far enough to bypass the waterfall and the outlet pipe on the right bank before returning to the river.

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Shuttle Points:

- River right, U.S. Army Corps of Engineers, Shenango Reservoir, Mahaney Recreation Area, at base of dam
- North Main Street Bridge in West Middlesex, left bank below bridge

West Middlesex to Harbor Bridge – 13.8 miles

Beware of small rapids at small island about 0.2 miles below Pulaski Road bridge.

Shuttle Points:

- North Main Street Bridge in West Middlesex, left bank below bridge
- Harbor Edinburg Road Bridge, left bank upstream of bridge

Harbor Bridge to Wampum – 14.5 miles

Rapids are downstream of New Castle. Shenango and Mahoning Rivers join below New Castle and continue to confluence with Beaver River.

Shuttle Points:

- Harbor Edinburg Road Bridge, left bank upstream of bridge
- Wampum Road Bridge over Beaver River, left bank just below bridge

Exceptional Priority Water Trails

4) **Proposed Oil Creek Water Trail – 24 miles**

Centerville to Titusville – 12.0 miles

This section of Oil Creek should only be run at higher than average spring water levels.

Shuttle Points:

- Unknown

Titusville to Rouseville – 12.0 miles

Old logging dam about 3 miles below Drake Well Museum, run center, difficult in medium or low water, 1.5 foot drop. Ice breakers present below location of State Park Office; use portage trail on left side. Bank cut at portage trail access is small; time canoes accordingly.

Alternatively, take out on right of structure and portage around.

Shuttle Points:

- Drake Well Museum near bike trail access, or at State Route 27 Bridge west of Titusville/ State Route 8 Rynd Farm Bridge, or 0.5 miles upstream at picnic area
- Alternative, trail access at Petroleum Centre.

5) Proposed Conewango Creek Water Trail - 35 miles

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 25 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 10 miles until its confluence with the Allegheny River in the City of Warren.

It is recommended that a water trail along the Pennsylvania segment of Conewango Creek be formalized. From the Pennsylvania line, the Conewango Creek extends approximately 10 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.

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)

6) Proposed Tionesta Creek Water Trail - 40 miles

Based on the inventory and analysis conducted for this study, it is recommended that local partners be identified to complete a feasibility study to evaluate the potential of establishing a water trail along Tionesta Creek, through Warren and Forest Counties.

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

7) Proposed Red Bank Creek Water Trail – 54 miles

In the “Canoeing Guide to Western Pennsylvania and Northern West Virginia,” Red Bank Creek is documented as a canoeable stream from Brookville, Jefferson County to its confluence with the Allegheny River at Rimer, in Clarion County, approximately 54 miles.

- Identification and acquisition of put in / take out points: Unknown
- Construction of put in / take out points: \$200,000
- Development of water trail brochure..... \$7,500

Further, with the recommendation of New Bethlehem Borough also being a Trail Town Demonstration project, this opportunity and the development of the Red Bank Creek Trail, land based as described earlier, these initiatives provide the potential for expanded economic development activities in New Bethlehem Borough.

It is recommended that 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.

Red Bank Creek – Brookville to Summerville – 10.5 miles, Jefferson County

Canoeable early December through May. Do not put in above Brookville, as there is a dangerous drop on the North Fork under U.S. Route 322.

Shuttle Points:

- Junction of Sandy Lick Creek and North Fork Red Bank Creek, left bank
- At Summerville turn left / east on any road towards the river

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Summerville to New Bethlehem – 16.5 miles

Shuttle Points:

Canoeable early December through late May.

- At Summerville turn left / east on any road towards the river
- Heathville
- Mayport
- River right, above dam in New Bethlehem

New Bethlehem to Rimer on the Allegheny River – 27.8 miles

Canoeable late November through late May.

Shuttle Points:

- Stream right, below dam at State Route 28/66 Bridge crossing the creek in New Bethlehem
- Climax
- St. Charles
- Lawsonham, immediately below bridge on right
- Lock and Dam No. 9 on the Allegheny River
- Lock and Dam No. 9 to Rimer, requires locking through, approach lock from left hand shore, remain clear of barge traffic

Significant Priority Water Trails

Proposed Beaver River Water Trail - 23 miles

This proposed water trail extends through Lawrence and Beaver Counties. It also is an extension of the proposed Shenango River Water Trail as the Beaver River is created by the confluence of the Shenango and Mahoning Rivers just south of the City of New Castle.

Lawrence County completed and adopted “Connections: Linking Lawrence County’s Resources through Greenways” in 2008, this plan includes this recommendation and provides a conceptual plan of the proposed water trail.

8) Proposed Conneaut Outlet Water Trail - 12 miles

Geneva Dike Area – 2.5 miles

Shuttle Points:

- Boat Launch at south end of State Game Lands 213 Propagation Area
- Geneva Road Bridge

Interstate 79 Area – 3.7 Miles

During hunting seasons, only paddle on Sundays, as hunting is prohibited.

Four-foot dam at State Route 2003, possible to carry over and then continue to French Creek.

Shuttle Points:

- Geneva Road Bridge
- Below Interstate 79 Overpass
- Mercer Pike (State Route 2003)

Interstate 79 to French Creek – 6.0 miles

During hunting seasons, only paddle on Sundays, as hunting is prohibited.
Four-foot dam at State Route 2003, possible to carry over and then continue to French Creek.

Shuttle Points:

- Mercer Pike (State Route 2003)
- Fish Commission Access on Stopp Road

9) **Mahoning River Water Trail - 10 miles**

The proposed Mahoning River Water Trail would begin in Edinburg, Lawrence County, and flow southeast to reach the river's confluence with the Beaver River, just south of New Castle. Access points are proposed in Edinburg, at the Covert Road Bridge in North Beaver Township, and at the confluence of the Mahoning and Beaver Rivers.

Lawrence County completed and adopted "Connections: Linking Lawrence County's Resources through Greenways" in 2008, this plan includes the recommendation for this proposed water trail.

High Priority Water Trails

10) **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.

11) Proposed Presque Isle Bay Water Trail

It is recommended that the Erie - Western Pennsylvania Port Authority work with the PA DCNR and with the Pennsylvania Fish and Boat Commission to establish a water trail around Presque Bay.

The 3,718-acre bay is situated between Presque Isle and the City of Erie. There are eleven public boat access points along the Presque Bay, operated by the City of Erie, the Erie Port Authority, and the State Park.

Presque Isle State Park - Grave Yard Pond to Grave Yard Pond – 4.0 miles

Shuttle Points:

- Canoe and Boat Rental near Grave Yard Pond

There are a series of six boat landings located throughout the pond's complex. A concessionaire offers, on a seasonal basis, canoe and kayak eco-tours of the ponds from this location as well.

In addition to boating opportunities in the bay, there is an existing water taxi; with service from the bayfront to Presque Isle State Park; with stops at Dobbins Landing, Liberty Park, and the Water Works on Presque Isle.

12) Brokenstraw Creek - 12.0 miles

Garland to Youngsville is canoeable during the high water season (December through May). There is a pipeline crossing the creek in Youngsville. It is 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 continue two miles 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

TRAIL TOWN OPPORTUNITIES

It should be the goal of recreation and transportation greenways in the northwest Pennsylvania region 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 continued education and coordination in the planning and development of trail towns with applicable municipalities. Many communities in the northwest region 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 expand 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 destination

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

TRAIL TOWN SELECTION CRITERIA

To be considered as a proposed trail town, the project steering committee recommended that proposed trail towns be able to provide at least three of the four following goods and or services:

- Main Street
- Food
- Lodging
- Fuel

PROPOSED TRAIL TOWNS

Based on this analysis, the following communities were selected as proposed trail town communities:

Clarion County

- Clarion Borough
- Foxburg
- New Bethlehem
- East Brady

Crawford County

- Titusville
- Spartansburg
- Cambridge Springs
- Meadville
- Cochranton
- Linesville
- Conneaut Lake

Erie County

- Girard
- Corry
- Waterford
- City of Erie / Erie Bayfront
- Northeast

Forest County

- Cooksburg
- Tionesta
- Marienville

Lawrence County

- New Wilmington
- City of New Castle
- Wampum
- Elwood City
- Volant

Mercer County

- City of Sharon
- Grove City
- Jamestown
- Greenville
- Mercer

Venango County

- City of Franklin
- City of Oil City
- Emlenton

Warren County

- City of Warren
- Youngsville
- Tidioute

TRAIL TOWN PRIORITIZATION CRITERIA

Proposed trail towns were then prioritized according to criteria developed by the project steering committee. The criteria included:

- Tie to Land Based Trail Tie to Water Trail
- Community Size
- Trail Town Character
- Proximity of Trail to Main Street
- Local Partners
- Economic Development Potential

The proposed trail towns were assigned a value of between zero and four, in each of the categories. The higher the value assigned to a given criteria, the more important contribution that criteria has towards the establishment of a water trail within the specified corridor.

TRAIL TOWN PRIORITIES

Proposed Trail Towns	Clarion County	Crawford County	Erie County	Forest County	Lawrence County	Mercer County	Venango County	Warren County	Tie to Land Based Trail	Tie to Water Trail	Community Size	Trail Town Character	Proximity of Trail to Main Street	Local Partners	Economic Development Potential	Total	Ranking	Priority
Oil City							X		4	4	3	4	4	3	4	26	1	Vital
Foxburg	X								4	4	1	4	4	4	3	24	2	
Titusville		X							4	2	2	4	4	4	4	24	2	
Erie / Erie Bayfront			X						4	2	4	2	4	4	4	24	2	
Franklin							X		4	4	3	4	2	3	4	24	2	
Emlenton							X		4	4	1	4	4	2	3	22	3	Exceptional
Meadville		X							2	4	3	3	2	4	4	22	3	
Clarion Borough	X								2	4	2	3	2	4	4	21	4	
New Bethlehem	X								3	3	1	3	4	4	3	21	4	
Tidioute								X	2	4	1	4	4	2	3	20	5	
Sharon						X			2	2	4	2	3	3	4	20	5	Significant
Warren								X	4	2	3	3	2	2	3	19	6	
East Brady	X								4	2	1	2	4	3	2	18	7	
New Wilmington					X				2	0	2	3	4	3	3	17	8	
Cambridge Springs		X							2	4	1	3	2	2	3	17	8	
Conneaut Lake		X	X						2	2	1	3	4	3	2	17	8	High
New Castle					X				2	2	4	2	1	2	4	17	8	
Cochranon		X							4	4	1	2	3	1	1	16	9	
Corry			X						4	0	2	2	3	3	2	16	9	
Tionesta				X					4	2	1	3	3	1	2	16	9	
Cooksburg				X					3	4	1	2	3	2	1	16	9	High
Grove City						X			2	0	2	3	2	3	3	15	10	
Ellwood City					X				2	2	2	2	2	2	3	15	10	
Greenville						X			2	2	2	2	3	1	2	14	11	
Jamestown						X			2	2	1	2	4	2	1	14	11	
Youngsville								X	2	2	1	2	4	2	1	14	11	High
Spartansburg		X							4	0	1	2	4	1	2	14	11	
Volant					X				2	0	1	4	4	1	2	14	11	
Waterford			X						2	0	1	4	3	1	2	13	12	
Mercer						X			2	0	1	3	2	2	3	13	12	
Linesville		X							2	0	1	2	4	2	1	12	13	High
North East			X						2	0	1	1	3	2	1	10	14	
Girard			X						2	0	1	2	2	1	1	9	15	
Marienville				X					2	0	1	2	2	1	1	9	15	

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, museums, art galleries, gift shops, clothing stores, camera stores, postal services, banking services, and guide services, to name a few. It is important that goods and services can be

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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 or as mementos of their visit.

Creating a Trail Town involves organizing, educating, promoting, and economic restructuring. It results in the preparation of a Trail Town Master Plan that pulls 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 Chambers of Commerce 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.

As a first step, each community must understand their customers. What do trail users want when they come to 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 the community and its business community to determine if there is the ability to meet the needs of the trail users or if the community needs to encourage the development of a business to meet an unmet need. With this information, a community can 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. Further, advertising space can be sold in the guide to those who offer goods and services of interest to trail users.

Upon completing the self assessment recommended in the Trail Town guide, a community will be able to identify those businesses that cater to trail users. Then, a wayfinding 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, the community should also be aware of the goods and services that are desired but not being provided in the community. With this information, community development efforts can focus on attracting and expanding 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.

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 the Northwest Pennsylvania Region:

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Agency	Address	Telephone	Clarion County	Crawford County	Erie County	Forest County	Venango County	Warren County
Allegheny National Forest Vacation Bureau	Allegheny National Forest Vacation Bureau PO Box 371 Bradford, PA 16701 www.visitANF.com	800-473-9370						X
Allegheny National Forest	222 Liberty Street Warren, PA 16365	814-723-5180						X
City of Titusville	107 N. Franklin Street Titusville, PA 16354	814-827-5300		X				
Clarion Area Chamber of Business and Industry	21 North 6th Avenue Clarion, PA 16214	814-226-9161	X					
Clarion County Economic Development Corporation	21 North 6th Avenue Clarion, PA 16214	814-226-9045	X					
Cochranton Borough	109 E. Adams Street P. O Box 66 Cochranton, PA 16314	814-425-3365		X				
Conneaut Lake Area Business Association	P.O. Box 646 Conneaut Lake, PA 16316	814-382-6801		X				
Corry Area Chamber of Commerce	221 N. Center Street Corry, PA 16407	814-665-9925			X			
Corry Community Development Corporation	1524 Enterprise Road Corry, Pennsylvania 16407	814-664-3884			X			
Crawford County Convention & Visitors Bureau	16709 Conneaut Lake Road Meadville, PA 16335	814-333-1258		X				
Edinboro Chamber of Commerce	131 Erie St Edinboro, PA 16412	814-734-6561			X			
Envision Linesville, Inc.	P.O. Box 182 Linesville, PA 16424	724-368-9991		X				
Erie Regional Chamber and Growth Partnership	208 E Bayfront Pkwy # 100 Erie, PA 16507	814-454-7191			X			
Focus on Forest Future	P.O. Box 156 Tionesta, PA 16353	814-755-3622				X		
Foxburg Area Information Center, Inc.	PO Box 9 Foxburg, PA 16036-0009	724-659-0065	X					
Franklin Area Chamber of Commerce	1259 Liberty Street Franklin, PA 16323	814-432-5823					X	
Franklin Industrial and Commerical Development Authority	191 Howard Street Franklin, PA 16323	814-432-4476					X	
Girard Lake City Chamber of Commerce	522 Main St E Girard, PA 16417	814-774-3535			X			
Lumber Heritage Region of Pennsylvania, Inc.	Cameron Co. Court House 20 East Fifth St. Emporium, PA 15834 www.lumberheritage.org	814-486-0213	X					

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Agency	Address	Telephone	Clarion County	Crawford County	Erie County	Forest County	Venango County	Warren County
Marienville Area Civic Association	PO Box 138 Marienville, PA 16239					X		
Marienville Chamber of Commerce	PO Box 542 Marienville, PA 16239					X		
Meadville Western Crawford County Chamber of Commerce	211 Chestnut Street Meadville, PA 16335	814-337-8030		X				
New Bethlehem Area Chamber of Commerce	Redbank Valley Chamber 309 Broad Street, Suite 2 New Bethlehem, PA 16242	814-275-3929	X					
Northeast Chamber of Commerce	21 S Lake St North East, PA 16428	814-725-4262			X			
Northwest Pennsylvania Great Outdoors Visitors Bureau	175 Main Street Brookville, PA 15825	814-849-5197	X					
Oil City & Titusville Railroad	7 Elm Street Oil City, PA 16301	814-676-1733		X				
Oil Region Alliance of Business, Industry, and Tourism	217 Elm Street P.O. Box 128 Oil City, PA 16301	814-677-3152					X	
PA Great Outdoors Tourism Bureau	175 Main Street Brookville, PA 15825 www.pagreatoutdoors.com	800-348-9393				X		
PA Wilds Planning Team	Clarion County Planning Commission Clarion County Courthouse 421 Main Street Clarion, PA 16214	814-226-4000	X					
PA Wilds Planning Team	Warren County Planning & Zoning Commission Warren County Courthouse Warren, PA 16365	814-728-3513						X
Penn Soil Conservancy Charitable Trust	265 Holiday Inn Road, Suite 3 Clarion, PA 16214	814-226-8160				X		
Penn Soil RC&D Council	265 Holiday Inn Road, Suite 3 Clarion, PA 16214	814-226-8160				X		
Redbank Renaissance, Inc.	209 Lafayette Street New Bethlehem, PA 16242-1017	814-275-1718	X					
Redbank Valley Chamber of Commerce	309 Broad Street, Suite 2 New Bethlehem, PA 16242	814-275-3929	X					
Spartansburg Borough	284 Main Street Spartansburg, PA 16434	814-654-7046		X				
Take Pride in Titusville	YMCA 201 W. Spring Street Titusville, PA 16354	814-827-3931		X				
Tidioute Area Development Association	P.O. Box 86 Tidioute, PA 16351	814-484-7424						X
Tionesta Chamber of Commerce	Tionesta, PA 16353	814-755-3424				X		

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Agency	Address	Telephone	Clarion County	Crawford County	Erie County	Forest County	Venango County	Warren County
Tionesta Chamber of Commerce	Tionesta, PA 16353	814-755-3424				X		
Titusville Area Chamber of Commerce	202 W. Central Avenue Titusville, PA 16354	814-827-2941		X				
Titusville Leisure Services	714 East Main Street Titusville, PA 16354	814-827-3741		X				
Titusville Redevelopment Authority	114 W. Spring Street PO Box 425 Titusville, PA 16354	814-827-3668		X				
Titusville Renaissance, Inc.	144 West Spring Street Box 425 Titusville, PA 16354	814-827-3668		X				
Venango Area Chamber of Commerce	41 Main Street P.O. Box 376 Oil City, PA 16301	814-676-8521					X	
VisitErie	208 East Bayfront Parkway Suite 103 Erie, PA 16507	814-454-1000			X			
Warren County Chamber of Business and Industry	308 Market Street Warren, PA 16365 www.warrenpachamber.com	814-723-3050						X
Warren County Visitors Bureau	22045 State Route 6 Warren, PA 16365 www.wcvb.net	814-726-1222						X
Warren -Forest Counties Economic Opportunity Council Regional Main Street Program	1209 Pennsylvania Avenue, W Warren, PA 16365 www.wfcaa.org	814-726-2400					X	X
Warren Pennsylvania Main Street Program	310 Second Ave Warren, PA 16365 www.warrenpamainstreet.org	814-723-1360						X
Youngsville Area Business Association	40 Railroad Street Youngsville, PA 16371 www.youngsvillepa.org	814-563-4604						X

IMPLEMENTATION OF NORTHWESTERN PENNSYLVANIA'S GREENWAY NETWORK

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 Northwest Pennsylvania Planning and Development Commission who must educate, advocate, encourage, and implement the recommendations set forth herein. As recommended in this plan, this will occur through joint greenways coordinators at the regional level. The greenways coordinators and each county's planning department should provide their respective 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.

POTENTIAL IMPLEMENTATION PARTNERS

135 potential partner organizations were identified through this planning process. They include:

- Adagio Health - Venango County
- Allegheny College
- Allegheny National Forest Vacation Bureau
- Allegheny Outdoor Club
- Allegheny Valley Conservancy
- Allegheny Valley Trails Association
- Asbury Woods
- Bartramian Audubon Society
- Brokenstraw Creek and Conewango Creek Watershed Associations
- Brookville Hospital and Health Community Members
- Center for Economic and Environmental Development based at Allegheny College
- Clarion Area Chamber of Business and Industry
- Clarion County Agricultural Preservation Board
- Clarion County Conservation District
- Clarion County Economic Development Corporation
- Clarion County Parks Department
- Clarion Hospital
- Clarion University of Pennsylvania
- Clear Lake Authority
- Cochran Area Greenways, Inc.
- Conneaut Lake Aquatic Management Association
- Conneaut Lake Health Center
- Corry Area Chamber of Commerce
- Corry Community Development
- Corry Memorial Hospital
- Edinboro Chamber of Commerce
- Edinboro University of Pennsylvania
- Envision Linesville
- Erie Downtown Partnership
- Erie Outing Club
- Erie Regional Chamber and Growth Partnership
- Erie Runners Club
- Erie Shriners Hospital
- Focus on Forest Future
- Forest County Visitors Bureau
- Foxburg Information Center, Inc.
- Franklin Area Chamber of Commerce
- Franklin Industrial and Commercial Development Authority
- French Creek Recreational Trails, Inc.
- French Creek Valley Conservancy
- Gannon University
- Girard Lake City Chamber of Commerce
- Hamot Medical Center
- Jamestown Audubon Society
- Jamestown Lions Club
- Kalbfus Road and Gun Club
- Lake Country Bike
- Lake Erie Region Conservancy
- Lake Erie-Allegheny Earth Force
- Local and Regional Businesses and Foundations
- Local Municipalities
- Lumber Heritage Region of Pennsylvania, Inc.
- Marienville Area Civic Association
- Marienville Chamber of Commerce

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- Meadville / Western Crawford County Chamber of Commerce
- Meadville Medical Center
- Mercyhurst College
- Millcreek Community Hospital
- New Bethlehem Area Chamber of Commerce
- North County Trail Association
- North East Chamber of Commerce
- Northern Allegheny Conservation Association
- Northwest Pennsylvania Trails Association
- Oil Region Alliance of Business, Industry and Tourism
- Penn Soil Conservancy Charitable Trust
- Penn Soil Resource Conservation and Development Council
- Penn State Erie
- Penn/Ohio Watershed Association
- Pennsylvania Advocates for Nutrition and Activity
- Pennsylvania Audubon Society
- Pennsylvania Department of Conservation and Natural Resources Bureau of State Parks
- Pennsylvania Department of Conservation and Natural Resources, Bureau of Forestry
- Pennsylvania Department of Conservation and Natural Resources, Chapman Dam State Park
- Pennsylvania Department of Conservation and Natural Resources, Cooks Forest State Park
- Pennsylvania Department of Conservation and Natural Resources, Cooks Forest State Park
- Pennsylvania Department of Conservation and Natural Resources, Oil Creek State Park
- Pennsylvania Department of Conservation and Natural Resources, Pymatuning State Park
- Pennsylvania Department of Transportation
- Pennsylvania Environmental Council
- Pennsylvania Fish and Boat Commission
- Pennsylvania Game Commission
- Pennsylvania Great Outdoors Tourism Bureau
- Pennsylvania Hardwood Development Council
- Pennsylvania Lake Erie Watershed Association
- Pennsylvania Route 6 Heritage Corporation
- Pennsylvania Sea Grant
- Pennsylvania State University Agricultural Extension Offices
- Pennsylvania Sustainable Forestry Initiative
- Pennsylvania Wilds Corporation
- Presque Isle Audubon Society
- Presque Isle Cycling Club
- Presque Isle Partnership
- Private Timber Producers
- Pymatuning Lake Association
- Redbank Renaissance, Inc.
- Redbank Valley Chamber of Commerce
- Seneca Rocks Audubon Society
- Shenango River Watchers
- St. Vincent Health System
- The French Creek Project
- The Nature Conservancy
- Tionesta Chamber of Commerce
- Tionesta Valley Snowmobile Club, Inc. and Warren County Snowmobile Club
- Titusville Area Chamber of Commerce
- Titusville Hospital
- Titusville Leisure Services
- Titusville Redevelopment Authority
- Titusville Renaissance, Inc.
- Titusville Wellhead Protection Committee
- Trout Unlimited Chapters
- U.S. Army Corps of Engineers, Woodcock Creek Lake
- U.S. Fish and Wildlife Service
- U.S. Forest Service, Allegheny National Forest
- Union City Memorial Hospital
- University of Pittsburgh at Titusville
- University of Pittsburgh Medical Center – Northwest
- UPMC Horizon
- Venango Area Chamber of Commerce
- Venango County Conservation District
- VisitErie

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- Warren County Agricultural Preservation Board
- Warren County Chamber of Business and Industry
- Warren County Conservation District
- Warren County Council of Sportsmen's Clubs
- Warren County Recreation Department
- Warren County Visitors Bureau
- Warren -Forest Counties Economic Opportunity Council Regional Main Street Program
- Warren General Hospital
- Warren Main Street
- YMCAs and YWCAs
- Western Pennsylvania Conservancy
- Woodland Owners of Clarion – Allegheny Valley

IMPLEMENTATION STRATEGIES

Each individual County Greenway Plan provides implementation strategies specific to the corresponding county. At the regional level, the two most pressing issues are the lack of capacity and the lack of funding to achieve the vision of the greenways in the region. Towards that end, it is recommended that the Northwest Pennsylvania Regional Planning and Development Commission continue their efforts to establish partners that can provide these needs.

As discussed earlier under Management Structure, it is recommended that the Northwest Commission continue their dialogue with regional partners to determine a feasible arrangement of providing Regional Greenway Coordinators who would be able to promote, advance, and secure funding for the implementation of greenways in the northwest region. Further, the Commission must work with the non-profit community to identify a conduit for accessing potential non-profit and foundation funding that is available. The Greenway Coordinators should provide assistance and direction to the local partners who strive to implement their respective portions of the implementation strategies.

Traditionally, the region, its counties, and the local municipalities have relied heavily on state and federal funding to implement greenway and trails projects. Although state funding has been available, it should not be relied upon as the sole source of funding. State funding should be used as seed money to start implementation; build success; and create momentum to encourage additional implementation. Therefore, the Northwest Commission must position the region to be able to access other sources of funding that may be available. Further, the Commission should educate and advocate for each county to participate financially as they implement the strategies. After all, it will be the local municipalities and the counties that will capitalize on the results on the plan's implementation through increased economic development activity. This will lessen demand for man-made infrastructure, assuming natural infrastructure elements are conserved.

Finally, through this study, it became evident that the concept of Greenways is still not understood by many in the region. Therefore, it is recommended that the Northwest Pennsylvania Commission and its partners continue to focus on educating the region's residents, its local municipal officials, and county officials on the value of greenways and how they can be utilized to achieve the vision that most counties have already established in their prior comprehensive planning efforts.

DEMONSTRATION PROJECT OPPORTUNITIES

Quick successes are important to show residents of the Northwest Pennsylvania Region that implementation of greenway projects can provide many benefits. Successful implementation of these demonstration projects will build momentum and enthusiasm to continue implementing the recommendations contained in this plan.

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Demonstration projects were placed into one of four categories based on the features they possess. These categories include:

1. Land Based Trails
2. Water Trails
3. Trail Towns
4. Natural Systems Greenway Corridors

Demonstration projects were selected in each county based on the following criteria:

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

For natural systems, the criteria also included conservation of those areas of the respective counties having the most significant natural infrastructure components because they provide essential functions.

Utilizing these criteria, the Steering Committee recommended the following demonstration project opportunities for each county in the northwest region.

CLARION COUNTY

Land Based Trails

- ✓ Knox to Kane Rail Trail: The recent acquisition of the Knox and Kane Railroad by a salvage company, and subsequent discussions between the counties which the corridor extends through, indicate interest in filing for Interim Trail Use, under the Rails to Trails Act, to secure the corridor for rail trail development. As of this writing, the Pennsylvania Department of Conservation and Natural Resources, Clarion County, Forest County, McKean County, and various trail organizations in the region have met to explore the possibility of identifying a potential agency(ies) who may be willing to file for Interim Trail Use.
- ✓ Allegheny River Trail: The Allegheny River Trail is the spine of the proposed, and regionally significant, Erie to Pittsburgh Greenway. With the majority of the trail completed, focus must be placed on securing and completing the gap that exists between Emlenton, in Venango County, and Foxburg, in Clarion County. Further, with the recommendation of Foxburg Borough also being a Trail Town Demonstration project, these opportunities provide the potential for expanded economic development activities in Foxburg.
- ✓ Redbank Creek Rail Trail: The Armstrong Rails to Trails Association, in conjunction with the Allegheny Valley Land Trust, have secured Interim Trail Use through the Rails to Trails Act for the Buffalo and Pittsburgh Rail corridor, from Lawsonham and continuing east into Jefferson County. This proposed trail provides a regional connection, for communities located to the east, to the Erie to Pittsburgh Greenway. Further, with the recommendation of New Bethlehem Borough also being a Trail Town Demonstration project, these opportunities provide the potential for expanded economic development activities in New Bethlehem Borough.
- ✓ North Country National Scenic Trail: The current terminus of the officially established North Country National Scenic Trail is located in northeastern Clarion County, in Cooks Forest State Park.

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Although a route has been proposed through the county, the North Country National Scenic Trail Association has been unable to secure easements for the segments of trail proposed in Clarion County. It is recommended that Clarion County consider leading an effort, in conjunction with securing the Knox to Kane rail corridor, for trail use to bring together a partnership with the North Country National Scenic Trail Association to also secure the corridor as the official route of the North Country Scenic Trail, through the eastern portion of Clarion County.

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 trail development are further outlined in "Trail Implementation Steps," earlier in this Chapter.

It is recommended that a feasibility study and master plan be completed for the proposed Knox to Kane Rail Trail and for the proposed Redbank Creek Trail. A feasibility study and master plan of these corridors will identify potential opposition to the trails, and allow a design to be prepared to respond to the concerns of those who own property adjacent to the trail. Further, these studies will identify and recommend the proposed alignment of the trail, identify locations for trail access points, develop an opinion of probable construction costs for construction of the trail, recommend a management structure for the trail, provide recommendations for the operations and maintenance of the trails, and project costs associated with the on-going operations and maintenance of the trails.

The estimated cost to complete a feasibility study and master plan for the proposed Knox to Kane corridor is \$60,000, and the estimated cost to complete a feasibility study of the Redbank Creek Corridor is \$50,000.

Water Trails

- ✓ Lower Allegheny River Water Trail: There is an officially designated and recognized, by the Pennsylvania Fish and Boat Commission, water trail along the Allegheny River, beginning at the Kinzua Dam in Warren County and extending south to Emlenton in Venango County. The opportunity exists to extend this water trail to the south, from Emlenton to the City of Pittsburgh, in Allegheny County, a distance of approximate eighty-nine miles. Herein, this proposed extension is referred to as the proposed Lower Allegheny River Water Trail.

The commercially navigable segment of the Allegheny River begins in the vicinity of East Brady and continues southward. From East Brady to Pittsburgh there are eight sets of locks and dams to facilitate the river traffic. Therefore, hazards in this segment to non-motorized craft and motorized craft, include: dams, commercial river traffic including barges, and both commercial and non-commercial motorized water crafts.

The anticipated 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
Frequency five to ten miles, therefore eight to sixteen required, with many being existing access points that have been previously developed for motorized water craft use.
- Development of water trail brochure \$15,000

Further, with the recommendation of Foxburg Borough, Clarion County, Emlenton Borough, Venango County, and New Bethlehem Borough in Clarion County also being a Trail Town

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Demonstration projects, these opportunities provide the potential for expanded economic development activities in these communities.

- ✓ Red Bank Creek Water Trail: In the “Canoeing Guide to Western Pennsylvania and Northern West Virginia,” Red Bank Creek is documented as a canoeable stream from Brookville, Jefferson County to its confluence with the Allegheny River at Rimer, in Clarion County, approximately fifty-four miles.

- Identification and acquisition of put access points..... Unknown
- Construction of put in / take out points \$200,000
- Development of water trail brochure..... \$7,500

Further, with the recommendation of New Bethlehem Borough also being a Trail Town Demonstration project and the development of the land based Red Bank Creek Trail, as described earlier, these initiatives provide the potential for expanded economic development activities in New Bethlehem Borough.

It is recommended that 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.

Trail Towns

Marketing, promoting, and developing a trail town business mentality can assist main street communities in promoting economic development activities, 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, if a trail town can also provide:

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

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

- ✓ Foxburg
- ✓ New Bethlehem
- ✓ Clarion

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“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 Clarion County Natural System Greenway Corridors have been identified at the regional level as priority corridors:

- ✓ Allegheny River Greenway Corridor: Also associated with the existing Middle Allegheny River Water Trail; the proposed Lower Allegheny River Water Trail; the existing Allegheny River Trail (land based trail); and proposed demonstration trail towns of Emlenton, Foxburg, and New Bethlehem.
- ✓ Clarion River Greenway Corridor: Also associated with the existing Clarion River Water Trail and proposed demonstration trail town of Clarion.
- ✓ Hemlock Creek Greenway Corridor

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

- Education and outreach on the benefits of natural systems greenways
- Conserving natural system greenway resources through acquisition of conservation easements
- Improving water quality
- Improving access to water features
- Reducing flooding
- Improving stormwater management
- Reducing nonpoint source pollution & improving water quality
- Establishing stream side buffers
- Sustainable timber practices and conservation easements on timber holdings

It is recommended, an annual pool of funding be allocated in Clarion County for implementation of strategies to address the above, at a level of approximately \$25,000 per year.

CRAWFORD COUNTY

Land Based Trails

- ✓ The East Branch Trail is the spine of the proposed, and regionally significant, Erie to Pittsburgh Greenway. With portions of the East Branch Trail completed, and with public access being secured to the majority of the corridor, focus must be placed on further developing and improving the unimproved portions of the corridor. Further, with the recommendation of the City of Titusville and Spartansburg Borough also being Trail Town Demonstration projects, these opportunities provide the potential for expanded economic development activities along this corridor.

The Clear Lake Authority is the organization which has taken the lead in acquiring rights-of-way and easements and in the development of the trail. Approximately two miles of the trail have been developed and funding has been secured by the authority, through PennDOT and the Pennsylvania Department of Conservation and Natural Resources, to continue trail development.

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The Clear Lake Authority is in need of assistance in managing the final design, engineering, and construction of the trail segment, for which it has received funding.

- ✓ The Titusville Queen City Trail also serves as the part of the spine of the proposed, and regionally significant, Erie to Pittsburgh Greenway. With approximately one half mile of the Titusville Queen City Trail completed, efforts must be focused on planning for and extending the trail north, approximately four miles, to Hydetown Borough where it will meet the East Branch Trail. Further, with the recommendation of the City of Titusville and Spartansburg Borough also being Trail Town Demonstration projects, these opportunities provide the potential for expanded economic development activities along this corridor.

It is recommended, that a feasibility study be completed to define the route(s) from the trail's current terminus, extending north to Hydetown Borough. The projected cost to complete this feasibility study is approximately \$30,000.

- ✓ The Spillway Trail is situated to become a prominent north-south trail corridor in western Crawford County. There are two sections of existing trail in this corridor. The first segment is located on the northern end of the corridor and is a shared-use gravel section running approximately 2.8 miles along an inactive rail line from Fries Road to Linesville Road, near the fish hatchery, with access at either end of the spillway. The second existing segment begins at the southern end of the corridor in Jamestown and extends northward approximately 2.7 miles.

With the recommendation of Linesville and Jamestown Boroughs also being Trail Towns, these opportunities provide the potential for expanded economic development activities along this corridor.

Proposed extensions of the Spillway Trail may connect the northern and southern ends, from Linesville to the north and Jamestown to the south. The proposed section of this trail is approximately 6.8 miles. This trail has the potential to connect into Greenville, in Mercer County, and become part of a regional trail system. Further, the proposed corridor may extend east, as described in this Chapter, as the Linesville to Conneaut Lake Trail.

A feasibility study titled "Pymatuning Trails Vision Plan" was completed in 2006 by Envision Linesville. This plan evaluated the feasibility of trail alignments, maintenance and operations, and funding opportunities. Based on the results of this plan, Envision Linesville is working towards funding the completion of title searches and legal opinions to determine the ownership status of the proposed trail corridors. The projected cost to complete this work is approximately \$40,000.

Water Trails

- ✓ French Creek Water Trail: Given the establishment of the currently inactive French Creek Water Trail, by the French Creek Project, it is recommended the French Creek Water Trail be given priority status meaning: 1) working with the PA Fish and Boat Commission to officially recognize French Creek in their water trails program; 2) the County and municipalities along the trail should be advocates for the trail and work with the private sector to re-establish one or two canoe liveryes along the trail; and 3) confirming that all of the access points are under public control, or there is an agreement with the landowner for public access. All of these tasks should be completed before the French Creek Water Trail is again publicly promoted.

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The anticipated costs associated with developing this water trail include:

- Acquisition of access points..... \$0
 - Access point improvements and signage \$50,000
 - Development of water trail brochure \$15,000
- ✓ Shenango River Water Trail: The Jamestown Lions Club, working with the municipalities along the Shenango River in Crawford and Mercer Counties, has recently received a grant to complete a Water Trail Feasibility Study for the Shenango River. The study area begins at the southern end of Pymatuning Reservoir and extends south to the Shenango Reservoir. It is anticipated that portions, if not the entire corridor, will provide suitable opportunities for canoeing and kayaking. Therefore, we recommend the development of this water trail be a priority in Crawford County. Costs to further plan and develop this proposed water trail will be identified in the feasibility study that is currently in progress.

It is recommended that 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.

Trail Towns

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

- ✓ Titusville
- ✓ Conneaut Lake

It is recommended the Oil Region Greenways and Open Space Coordinator lead the City of Titusville, Oil Region Alliance, Titusville Renaissance, Inc., Titusville Redevelopment Authority, Titusville Chamber of Commerce, University of Pittsburgh at Titusville, Drake Well Park & Museum, Titusville Area Trails Association, Titusville Leisure Services, Titusville Area School District, and potentially the Titusville Hospital (from a health and wellness perspective) in an effort to actively begin establishing the trail town philosophy, implementing a Trail Town program, and establishing Titusville as a Trail Town along the regionally significant Erie to Pittsburgh Greenway corridor.

It is recommended that a total of \$50,000 be budgeted to conduct a trail town master planning process for Titusville and Conneaut Lake.

Natural Systems Greenway Corridors

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

- ✓ French Creek Greenway Corridor
- ✓ Conneaut Lake / Conneaut Outlet Greenway Corridor
- ✓ Muddy Creek Greenway Corridor
- ✓ Pymatuning Reservoir Greenway Corridor

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It is recommended that an annual pool of funding be allocated in Crawford County for implementation of strategies to address the above at a level between \$40,000 and \$80,000 per year.

ERIE COUNTY

Land Based Trails

- ✓ Corry Junction Greenway Trail is located along the spine of the proposed, and regionally significant, Erie to Pittsburgh Greenway. With the corridor being held by the Northwest Pennsylvania Trails Association, a trail access point already developed north of the City of Corry, and funding in place to improve the trail from the trail access point to the New York State line, the implementation of this trail is well under way.

It is recommended that assistance be provided to the Northwest Pennsylvania Trails Association to assist in managing the final design, engineering, and construction of the proposed trail improvements.

Further, it is recommended that a feasibility study be completed to determine how the trail can be extended south, into the City of Corry, so trail users can reach town and obtain the goods and services they desire. This feasibility study could be incorporated into a trail town master plan for the city as described in the following trail town demonstration project recommendations.

Last, there currently is a gap in the trail corridor between the present terminus of the trail, just north of the City, and the beginning of the East Branch Trail. The “Erie County Greenway and Trails Plan,” completed in 2000, considered a rail with trail as the rail line was being operated by the Northwest Pennsylvania Rail Authority, and subsequently the Western New York and Pennsylvania Railroad (WNY&P). At that time, discussions with the WNY&P railroad were such that the railroad was not willing to entertain the possibility of a rail with trail along this corridor due to liability concerns. Given the prominence of this corridor as it is associated with the Erie to Pittsburgh Greenway, it is recommended that a feasibility study be completed to determine an alternate alignment until such time the desired alignment may be achieved.

- ✓ The East Branch Trail is the spine of the proposed, and regionally significant, Erie to Pittsburgh Greenway. With portions of the East Branch Trail completed and with public access being secured to the majority of the corridor, focus must be placed on further developing and improving the unimproved portions of the corridor. Further, with the recommendation of the City of Corry also being a Trail Town Demonstration project, these opportunities provide the potential for expanded economic development activities along this corridor.

The Clear Lake Authority is the organization which has taken the lead in acquiring right-of-ways and easements and in the development of the trail. Approximately two miles of the trail have been developed, and funding has been secured by the authority, through PennDOT and the Pennsylvania Department of Conservation and Natural Resources, to continue trail development.

The Clear Lake Authority is in need of assistance in managing the final design, engineering, and construction of the trail segment for which it has received funding.

- ✓ The Thornton Junction Trail was identified as a potential rail trail in the “Erie County Rail Trail Feasibility Study.” Until recently, the status of a portion of this corridor was in question, and a filing for Interim Trail Use with the Surface Transportation Board, under the Federal Rails to Trails Act, was being challenged. On August 6, 2008, the Surface Transportation Board issued a Decision and Notice of Interim Trail Use for a 5.73-mile segment of the former Bessemer and Lake Erie Railroad

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corridor, conveyed to the Northwest Pennsylvania Trails Association by the Material Recovery of Erie, Inc., ruling in favor of the Northwest Trails Association. Therefore, we recommend a feasibility study be conducted of not only the 5.73-mile portion of the corridor, but the study should include the entire corridor as it continues through Erie County.

The purpose of this feasibility study should be to evaluate the feasibility of developing a demonstration project along the 5.73-mile corridor held by the Northwest Pennsylvania Trails Association and to determine the feasibility of extending the corridor to the south.

The projected cost to complete this feasibility study is estimated to be approximately \$50,000.

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 trail development are further outlined in “Trail Implementation Steps,” earlier in this Chapter.

Water Trails

- ✓ French Creek Water Trail: Given the establishment of the currently inactive French Creek Water Trail, by the French Creek Project, it is recommended the French Creek Water Trail be given priority status, meaning: a local sponsor be identified and work with the PA Fish and Boat Commission to officially recognize French Creek in their water trails program; the county and municipalities along the trail should advocate for the trail and work with the private sector to re-establish one or two canoe liveries along the trail; confirm that all of the access points are under public control, or there is an agreement with the landowner for public access. All of these tasks should be completed before the French Creek Water Trail is again publicly promoted.

The anticipated costs associated with developing this water trail include:

- Acquisition of access points..... \$0
- Access point improvements \$50,000
- Development of water trail brochure \$15,000

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.

Trail Towns

Of the trail towns being proposed for Erie County, it is recommended that focus be placed on developing and implementing a trail town philosophy in the following communities:

- ✓ City of Corry
- ✓ Erie Bayfront, in the City of Erie

It is recommended that a sponsor, or sponsors, be identified to lead an effort(s) to actively begin establishing the trail town philosophy, and implementing a Trail Town program, and establishing the City of Corry and the Erie Bayfront as Trail Towns along the regionally significant Erie to Pittsburgh Greenway corridor.

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It is recommended that a total of \$75,000 be budgeted to conduct a trail town master planning process for the City of Corry and the Erie Bayfront.

“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

- ✓ French Creek Greenway
- ✓ Walnut Creek Greenway
- ✓ Conneaut Creek Greenway

It is recommended that an annual pool of funding be allocated in Erie County for implementation of strategies to address the above at a level of approximately \$80,000 per year. Funding, to supplement local investments, for this effort may be available from the Pennsylvania Department of Environmental Protection and the Pennsylvania Department of Conservation and Natural Resources.

FOREST COUNTY

Land Based Trails

- ✓ Knox Kane Trail: This proposed trail follows the former Knox Line through Forest County on its way from Elk County to Clarion County. The approximately sixteen mile segment within Forest County is proposed to run from the Elk County Border, near Sheffield Junction, to Marienville and is part of the potential Knox to Kane Trail. Along this route, the line passes through Iron City, Pigeon, Byromtown, Penoke, and McCrays.

The proposed trail also provides an opportunity to potentially connect the motorized trails in the Allegheny National Forest with the Village of Marienville in Jenks Township. This connection is highly desirable from an economic development perspective and should be further explored. Therefore, it is recommended that Forest and Clarion Counties bring together all potential partners to consider the feasibility of establishing this proposed trail.

Approximate Length: 16 miles

Associated Municipalities: Jenks and Howe Townships

Water Trails

- ✓ Tionesta Creek: It is recommended that Forest County may want to identify local partners to complete a feasibility to determine the possibility of establishing a Pennsylvania Fish and Boat Commission designated water trail along Tionesta Creek.

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Trail Towns

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

- ✓ Cooksburg
- ✓ Marienville
- ✓ Tionesta

It is recommended that a sponsor or sponsors be identified to consider implementing a Trail Town program in these communities.

“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

Forest County contains a total of approximately 275,840 acres of land. Of that, over 47% is held by a public agency for conservation, forestry, and / or recreational purposes.

Public Land Holdings in Forest County	Public Land Acres	Percent Public Land
Allegheny National Forest	119,837	43.40%
State Park	1,435	0.50%
State Forest	2,276	0.80%
State Game Land	7,410	2.70%
Total	130,958	47.50%

The Forest County Comprehensive Plan of 1998 indicates that the natural resources of Forest County should be identified and critical areas signified for conservation; exceptional areas should be considered for protection, where warranted, by means of local citizen consensus.

That said, the Comprehensive Plan also indicates the following:

- Forest County should continue to seek out and adopt necessary development controls and guidelines in order to insure future development will occur in such a manner as to be an asset to the county.
- Forest County should continue to seek ways to control and mitigate the effects which occur through the conversion of private lands to public.
- Forest County should continue to explore and adopt appropriate policy measure which result in a No Net Loss of Private Property standard within the county.

The continued conversion of private lands to publicly held lands has had a negative impact on the real estate values, and corresponding revenue generated from real estate to adequately sustain municipal and county services within Forest County. Further, this has created an unbalanced situation on the county

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where public acquisitions have taken away other beneficial land uses such as prime farm lands. Therefore, any approach to the conservation of natural systems greenway corridors within Forest County must be done in a manner which does not further burden the county and its municipalities.

At issue is the lack of communication between federal, state, and county agencies. Therefore, before any further conservation efforts take place, all agencies must come together and reach a consensus on how to best achieve conservation, recreation, and forestry goals in a manner that promotes the sustainability of Forest County's future.

LAWRENCE COUNTY

Lawrence County completed and adopted "Connections: Linking Lawrence County's Resources through Greenways," in 2008. Demonstration projects recommended in this plan are as follows:

Greenway Feature	Lawrence County
Land Based Trails	Neshannock Rail Trail North Country National Scenic Trail
Water Trails	Shenango River Water Trail
Trail Towns	New Wilmington Borough City of New Castle
Natural System Corridors	Shenango River Greenway Neshannock Creek Greenway Slippery Rock Creek Greenway

MERCER COUNTY

Mercer County completed and adopted the Mercer County Comprehensive Plan Update in 2006. As such, it contains recommendations for the vision and goals for open space and recreation in Mercer County. Upon review of this document, the following greenway demonstration projects are being recommended:

Greenway Feature	Mercer County
Land Based Trails	Shenango River Trail
Water Trails	Shenango River Water Trail
Trail Towns	Greenville Borough City of Sharon
Natural System Corridors	Shenango River Greenway Neshannock Creek Greenway

VENANGO COUNTY

Land Based trails

Venango County, participating municipalities, and the participating trail organizations are to be commended for their efforts in establishing land based trails throughout the county. Their success has led to the establishment of a shared use path trail that extends from the county’s southeastern border, to the county’s northern border with Crawford County, near the City of Titusville. Further, this route is the primary route being proposed for the Erie to Pittsburgh Greenway, a regional effort of the Erie to Pittsburgh Trail Alliance. Therefore, we recommend every effort be made to complete the final remaining gaps, improve the existing trail corridor where necessary, and provide local partners and organizations with the capacity and funding to ensure the long-term management and operations of trails located in this corridor.

The Oil Region Alliance of Business, Industry, and Tourism has been actively advancing the planning and design of the McClintock Trail alignment to complete the gap that exists between the existing Justus and Oil Creek State Park Trails. It is recommended that the implementation of a trail in this corridor be a priority, so one of the final gaps in Venango County’s portion of the Erie to Pittsburgh Trail can be completed. Furthermore, the Rynd Farm to Petroleum Centre portion of Oil Creek State Park Trail should also be a priority for completion.

Water Trails

Local partner organizations must be identified and work with the Pennsylvania Fish and Boat Commission to:

- French Creek Water Trail: Re-establish the French Creek Water Trail and have it officially recognized in the Pennsylvania Fish and Boat Commission’s Water Trail Program. The participating counties and municipalities along the trail should be advocates for the trail and work with the private sector to re-establish one or two canoe liveries along the trail. They should confirm that all of the access points are under public control or there is an agreement with the landowner for public access. All of these tasks should be completed before the French Creek Water Trail is again publicly promoted.

The anticipated costs associated with developing this water trail include:

- Acquisition of access points unknown
- Access point improvements..... \$50,000
- Development of water trail brochure..... \$15,000

Funding for these efforts may be available through the Pennsylvania Fish and Boat Commission, the Pennsylvania Department of Conservation and Natural Resources, and local foundations.

- Oil Creek Water Trail: Conduct a feasibility study to determine whether it is feasible to establish an official Fish and Boat Commission Water Trail and associated access points and support facilities along Oil Creek.

We estimate it will cost approximately \$35,000 to complete a feasibility study for the proposed Oil Creek Water Trail.

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Funding for this effort may be available through the Pennsylvania Department of Conservation and Natural Resources and local foundations.

Trail Towns

Of the trail towns being proposed for Venango County, it is recommended focus be placed on developing and implementing a trail town philosophy in:

- City of Oil City
- City of Franklin
- Emlenton Borough

The Oil Region Greenways and Open Space Coordinator can lead these municipalities, their business communities, and other partner organizations in an effort to actively begin establishing the trail town philosophy, implementing a Trail Town program, and establishing these communities as Trail Towns along the regionally significant Erie to Pittsburgh Greenway corridor.

It is recommended that a total of \$65,000 be budgeted to conduct a trail town master planning process for the City of Oil City, the City of Franklin, and Emlenton Borough.

Funding for this effort may be available through the Pennsylvania Department of Community and Economic Development, Pennsylvania Department of Conservation and Natural Resources, and local foundations.

Natural Systems Greenway Corridors

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

- ✓ Sandy Creek Greenway Corridor
- ✓ Allegheny River Greenway Corridor
- ✓ French Creek Greenway Corridor

An annual pool of funding should be allocated in Venango County to fund the implementation of the demonstration projects. Funding for these efforts may be available through the Pennsylvania Department of Environmental Protection, the Pennsylvania Department of Conservation and Natural Resources, and local foundations. It is recommended that efforts to implement these natural systems greenway corridor strategies be funded at level between \$40,000 and \$80,000 per year.

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

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Trail Town Demonstration project, these opportunities provide the potential for expanded economic development activities in the Youngsville area.

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 which 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 no 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 located 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 been 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

It is recommended that local partner organizations be identified to work with the Pennsylvania Fish and Boat Commission to begin the process of conducting feasibility studies and to begin planning for these water trails.

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Trail Towns

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

- ✓ Tidioute
- ✓ City of 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, the Warren and North Warren Rail Trail, and the City of Warren which is a proposed demonstration trail town.
- ✓ Brokenstraw Creek Greenway Corridor: Also associated with the Youngsville to Warren Trail, and Youngsville Borough which is 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 which are 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

It is recommended that 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. 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.

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As noted earlier, it is recommended that Warren County adopt a Natural Resource Conservation Ordinance as an amendment to the County Subdivision and Land Development Ordinance. Such an 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 TOOLS

THE PLANNING CONTINUUM

Throughout Pennsylvania, communities are in various locations along the planning continuum. Some communities are guided by the planning philosophy that they are willing to do what it takes to encourage growth and development. Other communities plan by establishing land use tools to protect the health, safety, and welfare of its residents. Last, some chose to guide growth and development in a manner which achieves their vision for the future of their community.

This "Planning Continuum" appears to be guided by a number of factors, including:

- ✓ level of development pressure being experienced
- ✓ an area's population
- ✓ access to transportation and jobs
- ✓ real estate values, and,
- ✓ the tax base of the locality

A brief review of available census data, along with a comparison of types and quantities of various land use planning in each of the Northwest Region counties, appears to validate this theory. Data was obtained for each of the factors identified above, and each county was ranked in comparison to the remaining Northwest Pennsylvania Region counties.

County	Development Pressure				Rank
	<i>Residential Building Permits (units in 2005)¹</i>	<i>Population 2005</i>	<i>Population 2006</i>	<i>Population Change (2005-2006)²</i>	
Clarion	97	40079	40194	115	3
Crawford	162	89101	88887	-214	4
Erie	724	278977	279686	709	1
Forest	21	6540	7028	488	2
Lawrence	169	92025	91351	-674	8
Mercer	268	118183	117558	-625	7
Venango	121	55554	55167	-387	5
Warren	67	41597	41167	-430	6

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County	Access to Population, Transportation, and Jobs			Rank
	<i>Population Density (people per square mile 2005)</i>	<i>Miles of Interstate Highway per Square Mile</i>	<i>Jobs in County per resident (2005)</i>	
Clarion	65.8	0.053	0.30	5
Crawford	85.8	0.026	0.30	5
Erie	179.1	0.049	0.42	1
Forest	15.2	0.000	0.17	6
Lawrence	253.5	0.037	0.31	4
Mercer	173.0	0.079	0.38	2
Venango	81.3	0.025	0.30	5
Warren	46.3	0.000	0.32	3

County	Real Estate Values			Rank
	<i>Market value of real estate (2005)</i>	<i>Assessed value of real estate (2005)</i>	<i>Assessed value per square mile (2005)</i>	
Clarion	\$ 14,195,609	\$ 264,038,289	\$ 433,560	6
Crawford	\$ 27,589,531	\$ 913,213,429	\$ 879,782	5
Erie	\$ 124,583,803	\$ 10,564,706,450	\$ 6,780,941	2
Forest	\$ 3,002,312	\$ 62,147,855	\$ 144,195	8
Lawrence	\$ 37,729,004	\$ 3,308,833,830	\$ 9,115,245	1
Mercer	\$ 40,789,690	\$ 1,109,479,550	\$ 1,624,421	4
Venango	\$ 19,595,550	\$ 1,875,294,110	\$ 2,745,672	3
Warren	\$ 13,882,284	\$ 473,385,928	\$ 527,156	7

County	Tax Base				Rank
	<i>Revenues (2005)</i>	<i>Expenditures (2005)</i>	<i>Revenues per person (2005)</i>	<i>Expenditures per person (2005)</i>	
Clarion	\$ 14,728,346	\$ 14,160,701	\$ 367	\$ 353	7
Crawford	\$ 20,030,136	\$ 18,864,678	\$ 225	\$ 212	8
Erie	\$ 187,967,811	\$ 194,854,325	\$ 674	\$ 698	1
Forest	\$ 3,224,804	\$ 3,928,508	\$ 493	\$ 601	4
Lawrence	\$ 61,254,435	\$ 63,397,052	\$ 666	\$ 689	2
Mercer	\$ 75,683,600	\$ 68,534,866	\$ 640	\$ 580	5
Venango	\$ 36,239,173	\$ 34,083,452	\$ 652	\$ 614	3
Warren	\$ 24,173,176	\$ 19,336,762	\$ 581	\$ 465	6

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Next, each county's rankings were averaged to determine a total average across all categories being considered. This resulted in the following rankings:

County	Average Ranking
Erie	1.55555556
Lawrence	2.88888889
Mercer	3.44444444
Crawford	5.55555556
Venango	4.33333333
Clarion	5.55555556
Warren	6
Forest	6.55555556

Last, each county's average ranking, based on the factors of: development pressure; population and access to transportation and jobs; real estate values; and tax base were then compared to the county's rank with respect to existing level of planning that has been implemented in each county.

County	Implementation of Land Use Tools			Rank
	<i>No. of Comprehensive Plans, Zoning Ordinances, SALDOs</i>	<i>No. of municipalities</i>	<i>Existing Planning Ratio</i>	
Clarion	24	34	0.228571429	6
Crawford	88	51	0.564102564	2
Erie	94	38	0.803418803	1
Forest	4	9	0.133333333	7
Lawrence	46	27	0.547619048	3
Mercer	59	48	0.401360544	4
Venango	34	31	0.354166667	5
Warren	7	27	0.083333333	8

The results of this comparison show there is a correlation between the factors and the current level of planning in each county:

County	Existing Planning Ratio Rank	Average Ranking of Factors
Erie	1	1.55555556
Lawrence	3	2.88888889
Mercer	4	3.44444444
Crawford	2	5.55555556
Venango	5	4.33333333
Clarion	6	5.55555556
Warren	8	6
Forest	7	6.55555556

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A county or community's position along the Planning Continuum often dictates the politics of influencing growth and development to achieve a vision. Some counties and municipalities find it difficult to carry out their day-to-day responsibilities, given the local tax structure and tax base. Therefore, these localities feel any development provides positive results and therefore encourages, and promotes all development, regardless of its impact. Further, many in these locations feel that any attempt to guide growth and development may present obstacles to development. Other counties and municipalities insist that development follow basic rules and regulations to protect the health, safety, and welfare of their residents. To achieve this, these locations establish zoning and land development and subdivision ordinances.

In the Northwest region each of these planning philosophies are present. For the most part, Clarion, Forest, and Warren Counties and their local municipalities are willing to permit the private sector to do what it takes, in order to encourage growth and development within their counties.

Crawford, Mercer, Lawrence, and Venango Counties and many of their local municipalities have established land use tools to protect the health, safety, and welfare of their residents. Erie County and its municipalities have begun to expand planning efforts to not only include providing for the health, safety, and welfare of its residents, but they are also encouraging their localities to guide growth and development to achieve the vision established for the county and its municipalities.

From a greenways planning prospective, it is important to identify and provide recommendations for implementing all facets of greenways because many of these resources are irreplaceable. However, a locality's willingness to act upon those recommendations will be dependent on their position along the planning continuum. In areas where development pressures are high due to concentrated population, there is ease of access to the regional transportation network, there are jobs available, the area's natural infrastructure is more likely to be threatened, and correspondingly, there is likely a greater desire to conserve it, than in areas very rich in natural infrastructure and without the corresponding development pressures. These growth areas also typically have a higher tax base, providing the counties and the local municipalities with revenue which in turn can be used to conduct planning efforts.

Each county, and the municipalities in those counties, must decide when they are ready and willing to act on the recommendations contained within this plan. Some are ready to begin implementation of the recommendations today, while others may not be ready until some point in the future, if at all.

It is in this context that the recommendations for establishing the natural systems greenway corridors are presented in this greenway plan.

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 its residents:

On Quality of Life

- Failing and abandoned businesses reflects poorly on community image
- Poor design impacts aesthetics and community pride

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- Isolation for older and younger residents, due to the need to rely 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 and 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
- 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 in order to protect the health, safety, and welfare of its residents. To do nothing puts planning in the hands of others who may not care about the future of our community, and may put the health, safety, and welfare of residents at risk. 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.

Keystone Principles

In 2005, Governor Rendell's Economic Development Cabinet announced a set of principles and criteria to be used by state agencies to guide investment and support local growth and economic development. These principles are referred to as the "Keystone Principles".

These principles set the focus for continuing efforts to encourage economic development that sustains and grows economies in urban, suburban, and rural areas, while at the same time conserving exceptional natural resources.

This integrated approach not only focuses on prioritizing efforts to focus on economic development, but also addresses the Commonwealth's priorities related to restoring and enhancing the environment, recreation, and cultural resources.

The Ten Keystone Principles are:

1. *Redevelop first*: Support revitalization of Pennsylvania's many cities and towns and give funding preference to reuse and redevelopment of "brownfield" and previously developed sites in urban, suburban, and rural communities.
2. *Provide efficient infrastructure*: Fix it first: use and improve existing infrastructure. Make highway and public transportation investments that use context-sensitive design to improve existing developed areas and attract residents and visitors to these places. Require private and public expansions of service to be consistent with approved comprehensive plans and consistent when implementing ordinances.
3. *Concentrate development*: Support infill and "greenfield" development that is compact; conserves land; and is integrated with existing or planned transportation, water and sewer services, and schools. Foster creation of well-designed developments and neighborhoods that offer healthy life style opportunities for Pennsylvania residents.
4. *Increase job opportunities*: Retain and attract a diverse, educated workforce through the quality of economic opportunity and quality of life offered in Pennsylvania's varied communities. Integrate educational and job training opportunities for workers of all ages with the workforce needs of businesses. Invest in businesses that offer good paying, high-quality jobs, and that are located near existing or planned water & sewer infrastructure, housing, existing workforce, and transportation access (highway or transit).
5. *Foster sustainable businesses*: Strengthen natural resource-based businesses that use sustainable practices in energy production and use, agriculture, forestry, fisheries, recreation and tourism. Increase our supply of renewable energy. Reduce consumption of water, energy, and materials to reduce foreign energy dependence and address climate change.
6. *Restore and enhance the environment*: Maintain and expand land, air, and water protection and conservation programs. Conserve and restore environmentally-sensitive lands and natural areas for ecological health, biodiversity, and wildlife habitat.
7. *Enhance recreational and heritage resources*: Maintain and improve recreational and heritage assets and infrastructure throughout the commonwealth, including parks and forests, greenways

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and trails, heritage parks, historic sites and resources, fishing, and boating areas and game lands offering recreational and cultural opportunities to Pennsylvanians and visitors.

8. *Expand housing opportunities:* Support the construction and rehabilitation of housing of all types to meet the needs of people of all incomes and abilities. Support local projects that are based on a comprehensive vision or plan, have significant potential impact (e.g., increased tax base, private investment), and demonstrate local capacity, technical ability, and leadership to implement the project.
9. *Plan regionally, implement locally:* Support multi-municipal, county, and local government planning and implementation that has broad public input and support and is consistent with these principles. Provide education, training, technical assistance, and funding for such planning and for transportation, infrastructure, economic development, housing, mixed use, and conservation projects that implement such plans.
10. *Be fair:* Support equitable sharing of the benefits and burdens of development. Provide technical and strategic support for inclusive community planning to ensure social, economic, and environmental goals are met.

It is acknowledged that discussing the potential of developing and implementing land use tools such as comprehensive plans; subdivision and land development ordinances; and zoning ordinances in many municipalities in the Northwest Pennsylvania Region may be a contentious issue. To achieve the vision established in this plan, it is important to retain and expand upon the character of the region's communities.

Therefore, it is recommended that the Northwest Pennsylvania Regional Planning and Development Commission, with the support of state, regional, non-profit agencies, continue and expand efforts to educate the local municipalities on the benefits of planning and the consequences of letting developers establish the vision and future of the region's character. This effort should be on-going.

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 the Northwest Pennsylvania Region have very basic provisions to promote the conservation of the natural system resources.

It is recommended the Northwest Pennsylvania Regional Planning and Development Commission work with their participating counties, 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. This can be done 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 Region's residents; to reduce flooding and other stormwater management problems currently being experienced by the region's municipalities; to reduce the costs of providing public services to maintain and operate the county's and municipalities' infrastructure; and to retain Region's rural character.

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It is recommended that these educational efforts be conducted based on the priorities established for the natural system greenway corridors. Therefore, the educational process should begin in those portions of the region and in the municipalities with Exceptional Priority natural system greenway corridors.

As the educational process progresses, and municipalities become comfortable with the concepts, then it is recommended counties work with the municipalities to encourage the completion of comprehensive plans, and where appropriate in accordance with their location along the planning continuum, the counties consider implementation of subdivision and land development ordinances and / or county-wide or local municipal zoning ordinances.

Agencies that can provide support in this effort include:

- Northwest Pennsylvania Planning and Development Commission
- Pennsylvania Department of Community and Economic Development
- Pennsylvania Department of Conservation and Natural Resources
- Pennsylvania Department of Environmental Protection
- 10,000 Friends of Pennsylvania

The Pennsylvania Department of Community and Economic Development has a series of informative publications available to guide municipalities in exploring their options for planning their community. They are available from www.newpa.com and include:

- ✓ Community Revitalization Desktop Guide
- ✓ Pennsylvania Municipalities Planning Code
- ✓ Planning Series Publications
 - No. 1 - Local Land Use Controls in Pennsylvania
 - No. 2 - The Planning Commission
 - No. 3 - The Comprehensive Plan
 - No. 4 - Zoning
 - No. 5 - Technical Information on Floodplain Management
 - No. 6 - The Zoning Hearing Board
 - No. 7 - Special Exceptions, Conditional Uses and Variances
 - No. 8 - Subdivision and Land Development in Pennsylvania
 - No. 9 - The Zoning Officer
 - No. 10 - Reducing Land Use Barriers to Affordable Housing
- ✓ Growing Smarter Toolkit: Catalog of Financial and Technical Resources
- ✓ Planning for Agriculture
- ✓ The National Flood Insurance Program Pennsylvania Flood Plain Management Act (1978-166) Section 60.3 (B thru D) Series

PRIORITIES FOR MUNICIPAL PLANNING EDUCATIONAL EFFORTS

In each respective county greenways plan, priorities have been established for municipal planning efforts. 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.

NATURAL RESOURCE CONSERVATION RECOMMENDATIONS

When an opportunity presents itself, such as a local municipality desiring to incorporate a Natural Resource Conservation Ordinance into its subdivision and land development regulations, or a county’s desire to do the same, it is recommended that consideration be given to strengthen their ordinances to assist in achieving the vision established through the greenways planning effort. 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

www.pocopson.org

To assist Counties and their municipal partners, the following documents serve as a valuable resource when planning within one’s county and municipality.

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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 northwest Pennsylvania region.

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.

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

Over the years, flooding has been an issue along many of the creeks in the region. Therefore, it is recommended that local municipalities work with the Pennsylvania Department of Environmental Protection to identify potential projects that can reduce and / or eliminate flood impacts in these areas.

Further, it is recommended that the Pennsylvania Department of Environmental Protection work with local municipalities in the Northwest Region 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, the 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

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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.

It is recommended that county planning departments, and 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.

IMPLEMENTATION RESOURCES

Many tools are available to assist in the conservation of natural resources. Those tools are identified here, and a brief description of each tool is provided. Being listed herein does not imply that the tool(s) be implemented. Rather, they are listed to provide a comprehensive list of tools that can be considered to assist in implementing the recommendations contained in this study.

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.

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 the region because of the presence of several Important Bird Areas (IBA) in the region. IBAs contain areas of essential and sometimes vulnerable bird habitat.

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 greenways 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 staff 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:

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- 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 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 because a municipality can implement an official map with or without a zoning ordinance.

OTHER RECOMMENDATIONS

The action plan also includes several other conservation, recreation, and transportation based recommendations essential to maintaining the quality of life that defines the region. 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 northwest Pennsylvania. 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 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:** 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. Information on land trusts is available at www.conserveland.org.

Continue to Promote Agricultural Best Management Practices

It is recommended that County Conservation Districts 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.

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The many of the region's conservation districts offer landowner education on agricultural best management practices and has helped landowners implement such practices throughout the Counties. The Pennsylvania Conservation Reserve Enhancement Program (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 respective County Conservation District.

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 northwest Pennsylvania. This is apparent during any drive through the region's countryside, and in the region's abundance of State Game Lands. It is recommended that the landowners in rural areas be encouraged 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.

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Land Trust Organizations

There are many land trust and conservation organizations whose geographical area includes portions of the Northwest Pennsylvania Region. The Northwest Pennsylvania Commission and its participating counties must continue a dialogue with each organization identified herein to determine how they can partner with one another to advance the recommendations and implementation strategies contained within this plan.

Conservation Organizations in the Northwest Pennsylvania Region

Organization	Mission	Clarion	Crawford	Erie	Forest	Lawrence	Mercer	Venango	Warren
Lake Erie Region Conservancy 501 East 38th Street Erie, PA 16546 814-824-2407 lerc@mercyhurst.edu	To identify, conserve and protect the Lake Erie region's unique natural, cultural, and historic resources, and to promote sustainable development through research and education.			X					
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.	X	X	X	X	X	X	X	X
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.							X	X
Armstrong Conservancy P.O. Box 777 Kittanning, PA 16201 724-543-4478 armtrail@alltel.net	To establish and deliver programs of the highest quality that enable the protection of land through education, purchase, easements, and by partnering with individuals and organizations having similar goals.	X							

The Northwest Pennsylvania Greenways Plan

Conservation Organizations in the Northwest Pennsylvania Region

Organization	Mission	Clarion	Crawford	Eric	Forest	Lawrence	Mercer	Venango	Warren
North Fork Conservancy Waterplant Rd. Brookville, PA 15825 814-849-5260 prkwrk@penn.com	To protect the ecological balances of our earth's fragile systems by educating the general public on important environmental issues and to preserve our remaining wild, scenic, natural spaces by offering alternatives to the conservation minded citizens for land conservation easements, bargain sales, and land donations.	X							
Woodland Owners of Clarion - Allegheny Valley P.O. Box 194 Corsica, PA 15829 814-223-9028	Promoting forest stewardship in Clarion and surrounding counties.	X							
Clarion County Forest Stewardship Council 8 Grant Street Clarion, PA 16214 814-354-6206	The Woodland Owners of Clarion - Allegheny Valley was formed by the Clarion County Forest Stewardship Committee to foster sound forestry practices that will promote sustainable forests in the counties we serve now and in the future.	X							
Allegheny Valley Trails Association Box 264 Franklin, PA 16323 814-432-4476, x121 avta@ficda.org	To acquire abandoned railways in the Allegheny River watershed and to rehabilitate them into multi-purpose, non-motorized recreational trails.								
French Creek Valley Conservancy P.O. Box 34 Meadville, PA 16335 814-337-4321 conserve@mdvl.net	To promote the environmental integrity of the French Creek watershed and its environs, and to advance the protection of natural resources in the watershed to the aesthetic, ecological, recreational, and economic benefit of the citizens of the area.								
Seneca Highlands Conservancy 800 Minard Run Road Bradford, PA 16701 607-257-6533 john@youngbros.com			X						
Pennsylvania Environmental Council Northwest Regional Office 301 Chestnut Street Meadville, PA 16335 (814) 332-2946 awalker@pecpa.org	PEC protects and restores the natural and built environments through innovation, collaboration, education and advocacy.	X	X	X	X	X	X	X	X

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.

State Public Agency Grant and Funding Opportunities

Program	Agency	Purpose	Website
Community Conservation Partnership Program	Department of Conservation and Natural Resources	greenways, trails, & parks, acquisition, planning, development, circuit rider	http://www.dcnr.state.pa.us/brc/grants/general02.aspx
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
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
Environmental Education Grants	Pennsylvania Department of Environmental Protection	Environmental Education	www.depweb.state.pa.us/enved/cwp/
Growing Greener Grants	Pennsylvania Department of Environmental Protection	conservation of resources	www.depweb.state.pa.us/growinggreener
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
TE Hometown Streets & Safe Routes to Schools	Pennsylvania Department of Transportation	bike / ped improvements	http://www.dot.state.pa.us/penndot/Bureaus/CPDM/Prod/Saferoute.nsf
Urban & Community Forestry Grants	Pennsylvania Department of Conservation & Natural Resources	planting of trees	www.dcnr.state.pa.us/forestry/pucfc/
Treevitalize	Pennsylvania Department of Conservation & Natural Resources	planting of trees	www.treevitalize.net
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/
Coldwater Heritage Conservation Grant	Pennsylvania Trout Unlimited, PA DCNR, PA Fish & Boat Commission	conservation of coldwater streams	www.coldwaterheritage.org

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 Initiative	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 Administration	includes trails	www.fwha.dot.gov/environment/cmaqpgs/index.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 Administration	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 Administration	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 Administration	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 healthy childhood development	www.ojjdp.ncjrs.org/grants/safeschool/content.html
Safe, Accountable, Flexible, Efficient, Transportation Act	Federal Highway Administration	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/
Transportation & Community & System Pilot Program	Federal Highway Administration	planning & implementation of trails	www.fwha.dot.gov/tcsp/
Transportation Enhancements	Federal Highway Administration	trails & bike / ped facilities	www.enhancements.org/

Federal Public Agency Grant and Funding Opportunities

Program	Agency	Purpose	Website
Urban Park and Recovery Program	National Park Service	parks	www.nrcs.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
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 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.rahuntdn.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
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 Brougner 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/

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/commitment/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. Penney		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_commitment/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_relief/grants/
The Nathan Cummings Foundation	conservation	www.nathancummings.org/
Turner Foundation	watershed 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_%20Guidelines_Application.pdf

