

# NORTHWEST PENNSYLVANIA GREENWAYS

## *Crawford County, Pennsylvania*

DCNR Project No. BRC-12.5.2



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# NORTHWEST PENNSYLVANIA - *Greenways Plan*

**Crawford County**

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# **INTRODUCTION**

## **CRAWFORD COUNTY GREENWAYS PLAN - A Component of the Northwest Pennsylvania Greenways Plan**



# INTRODUCTION

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

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

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

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

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

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

- French Creek Corridor: world renowned for its biodiversity
- Erie National Wildlife Refuge: 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.
- Pymatuning State Park: the largest state park in the Pennsylvania at over 17,000 acres.
- Six High Quality Streams
- Six Important Bird Areas and Two Important Mammal Areas

- Oil Heritage Region: 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 this area includes the City of Titusville, Hydetown, Borough, and Oil Creek Township in eastern Crawford County, plus all of the County of Venango.
- 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.
- Washington's Trail: historic and scenic driving route commemorating George Washington's first military and diplomatic journey in 1753 and 1754.

By planning to conserve and enhance greenway corridors, Crawford County is taking measures to preserve and enhance these outstanding resources, and others, for future generations of Crawford County residents.

### **WHAT IS A GREENWAY?**

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

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

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

The movement to establish greenways was given a significant boost in 1987 when the President's Commission on American Outdoors recommended that an interconnected greenways network be established throughout the nation. Many states, including the Commonwealth of Pennsylvania, took up the task of promoting greenways.

*Pennsylvania's Greenways – An Action Plan for Creating Connections* was published in 2001. This report established a strategy for creating a comprehensive, statewide greenway network by the year 2020. The Governor appointed the Department of Conservation and Natural Resources (DCNR) to oversee the Commonwealth's greenways program. The DCNR, in partnership with county and municipal officials, supports greenways planning and implementation through education, technical assistance, and grant making programs.

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

### **Greenways of Northwestern Pennsylvania**

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

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

### ***WHY A GREENWAYS PLAN FOR CRAWFORD COUNTY?***

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

- promotes environmentally-sound land development
- promotes land and water restoration
- encourages a network of non-motorized and 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 linking areas of farmland and open space help to preserve the rural landscape and way of life. Many of these benefits are interrelated and work together to bolster quality of life in the region. For example, providing transportation alternatives in the form of trails, shared use paths or safe routes to school, leads to better health and fitness. Similarly, conserving historic and cultural resources supports economic prosperity by attracting visitors from outside and inside the region.

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

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 CRAWFORD COUNTY'S DEFINING CHARACTERISTICS**

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

Crawford County has many recreational assets, including Pymatuning State Park, which includes Pymatuning Reservoir; Erie National Wildlife Refuge; Canadohta, Conneaut, Tamarack, and Woodcock Creek Lakes; several state game lands; and many existing trail opportunities such as:

- Beaver Run Trail - 2.5 mile trail in the Erie National Wildlife Refuge
- Tunga - two loop trails in the Erie Wildlife Refuge
- Deer Run Trail - three mile loop within the Erie National Wildlife Refuge
- Bossard Nature Trail - National Recreation Trail, Colonel Crawford Park
- East Branch Trail – following the former Penn Central Railroad
- in eastern Crawford County
- Cochranon Trail – approximately one mile
- Erie Extension Canal Towpath Trail - 4 miles in Pymatuning State Park
- Ernst Bike Trail - 5 miles near Meadville
- Highway Bike Route A – along PA Route 19
- Pymatuning Spillway Trail – across the spillway in Pymatuning State Park
- Scenic Route 6 Bike Route - over 41 miles within Crawford County

Together 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, Crawford County also has a rich history that is well-preserved. Several significant historic sites such as the John Brown Tannery Site, Titusville City Hall, Edward Saeger House, the Riverside Hotel in Cambridge Springs, and Bentley Hall, Ruter Hall, and Judge Henry Shippen House in Meadville provide opportunities for increasing tourism in the County. The County also features two National Historic Districts found in Titusville and Meadville. Greenways linking historic resources with the County's and the Oil Heritage Region's recreational amenities will increase their accessibility and attract more tourists.

The Crawford County Comprehensive Plan recommends that the county complete and update the Historic Sites Survey; follow through with eligible historic district nominations; and recognize, promote, and protect the County's many landmarks. The county recognizes the Crawford County Historical Society as the lead agency for preservation activities in the county. The county's role is to assist and provide technical expertise so that agencies and other interested municipalities can properly preserve their historic resources.

### **EXPANDING THE ECONOMY**

Largely rural, farming and agricultural businesses play an important part in the northwest region's economy yet manufacturing, healthcare and services industries maintain the major share of employment in Crawford County.

#### **Tourism/Eco-Tourism**

National surveys suggest that outdoor recreation participation continues to increase with the five fastest growing pursuits being: birding, hiking, backpacking, snowmobiling, and walking (Cordell and Herbert 2002). Ninety-seven (97%) of all Americans over the age of 16 participate in some sort of outdoor recreation, with thirty-three (33%) of Americans reporting that they go bird-watching (Cordell and Herbert 2002).

Crawford County's proximity to major population centers, such as Cleveland, Buffalo, and Pittsburgh, as well as its situation nearby major transportation routes like Interstates 79, 80, 89, and 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.

Crawford County contains numerous natural and recreational resources that are important assets for providing the potential for substantial growth in the travel and tourism sector. Some of these assets include; Pymatuning State Park, which attracts more than three million visitors each year, making it the second most visited state park in Pennsylvania; another natural gem in the county is the Erie National Wildlife Refuge, which provides over 8,000 acres of habitat for numerous mammal, bird, and aquatic species. Crawford County contains numerous natural and recreational resources that are important assets for providing the potential for substantial growth in the travel and tourism sector.

#### **Hunting & Fishing**

Hunting, fishing, and trapping activities account for \$9.6 billion dollars in annual value and create 88,000 jobs within Pennsylvania (Shafer et al. 2000). The \$9.6 billion dollars generated from these activities is more than half of the entire state budget in 1997, the year the study was conducted. 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).

Crawford County provides excellent hunting opportunities within any of its thirteen state game lands. Statewide, hunters spent over \$1.33 billion dollars on hunting trips in 1996.

According to recent studies, fishing is the most popular water based recreation activity in Pennsylvania, with nearly twenty-eight percent (27.9%) of residents participating, for an estimated 3.2 million participants across the Commonwealth.

Fishing is a great economic asset in the county. 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.

In 2008, there were thirteen trout stocked streams in Crawford County 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 stocked trout 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 stocked trout streams also supported 1,119 jobs in the state.

### **Boating**

The PA Fish and Boat Commission 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.

### **Wildlife Watching**

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

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.

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

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

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

### **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. 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 seventy-five percent (75%) of surveyed trail users cited the trails as their main region for visiting the region. The majority of the trail users visit the trails a few times a year. Seventy-seven percent (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 (78%). Only twenty-three percent (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.

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

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

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

Hard Goods	1999	2001	2004	2007
Bikes	29.60%	27.34%	26.03%	27.40%
Bike Supplies	31.20%	32.31%	26.76%	25.50%
Auto Accessories	n/a	n/a	15.28%	25.50%
Running / Walking / Hiking Shoes	6.00%	7.46%	1.07%	9.50%
Clothing	13.40%	12.43%	15.45%	13.70%
Camping Gear	n/a	n/a	n/a	10.40%
Nothing	17.20%	20.46%	14.23%	10.40%

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

Soft Goods	1999	2001	2004	2007
Bottled Water / Soft Drinks	27.20%	29.46%	26.46%	25.80%
Candy / Snack Foods	16.20%	16.67%	12.46%	9.70%
Sandwiches	8.40%	8.91%	8.46%	9.50%
Ice Cream	8.90%	9.88%	8.46%	11.50%
Lunch at Restaurant along trail	19.10%	13.76%	17.23%	17.50%
Film	2.70%	2.71%	1.23%	4.30%
Fuel	n/a	n/a	n/a	4.30%
None of the Above	20.20%	18.60%	25.69%	20.90%

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

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

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

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

Hard Goods	2007
Bikes	23.00%
Bike Supplies	26.00%
Auto Accessories	7.00%
Running / Walking / Hiking Shoes	9.00%
Clothing	13.00%
Camping Gear	4.00%
Nothing	18.00%
<i>Average Hard Goods Purchase</i>	<i>\$354.97</i>



- Even more significant is the purchase of “soft goods” (water, soda, candy, ice cream, lunches, etc.). The average purchase amount per person was \$30.30. Considering that the average user makes several trips to the trail on an annual basis, at the minimum these types of purchases are contributing several hundred thousand dollars to the trail region’s economy.

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

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

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

- 59% of trail users made some type of small item purchase, such as food, clothing, and gas, at businesses in local trail-related communities.
- The average person spent \$8.84 per trip on small purchases.
- Per-trip spending varied at different trailheads surveyed, ranging from \$2.87 per person at the Montour Trail to \$15.61 at the Confluence trailhead of the Great Allegheny Passage.

- Spending varied substantially with distances traveled, ranging from \$4.03 per person per trip for those traveling less than 10 miles (one way) to a trailhead; to \$15.44 per person per trip for those traveling more than 60 miles.
- 13.3% of trail users stayed overnight during their trail visit, and the average number of nights stayed among those users was 2.4 nights.

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

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

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

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

Beyond these direct economic benefits of greenways, other less-tangible but very important fiscal impacts may be attributed to greenway development. For example, when looking for places to relocate or expand their businesses, employers look at a variety of

factors including amenities for their employees. Workers, particularly young people, are attracted to places that provide opportunities for easy access to outdoor recreation. Greenways and trails provide such accessibility since they connect employment centers to parks and other natural amenities.

### *Conservation Subdivision Design: Price Premiums*

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

"Walking and biking paths" ranked third among thirty-nine features identified by homebuyers as crucial factors in their home-purchasing decisions, according to a 1994 study by American Lives, a research firm serving the real estate industry. "Community designs that deliver low traffic and quiet streets" were ranked first, and "lots of natural, open space" was second.

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

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

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

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

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

### *Economic Benefits of Being Physically Fit*

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

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

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

### **Transportation Benefits**

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

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

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

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

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

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

### **Recreation Benefits**

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

Greenways and trails:

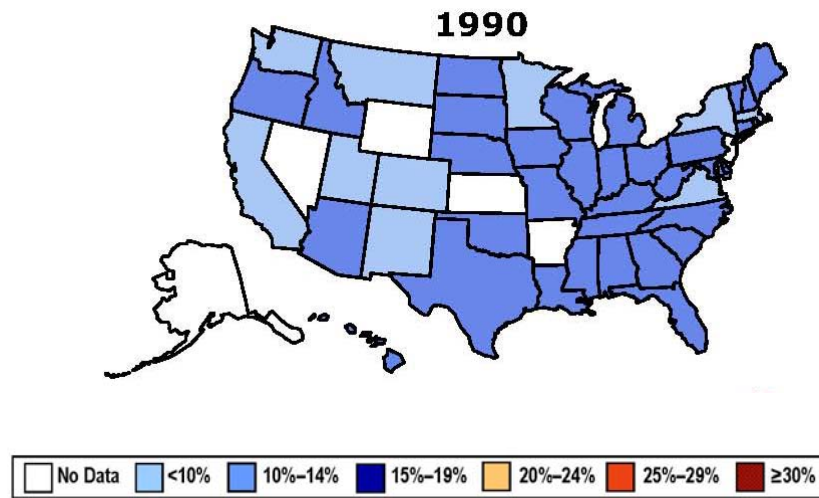
- ✓ Support a wide variety of recreation uses
- ✓ Provide for the restoration and interpretation of historic sites
- ✓ Provide connectivity between rural areas and the main street centers
- ✓ Enhance the quality of life for residents
- ✓ Connect Pennsylvania with its neighboring states, Ohio to the west, and New York to the north
- ✓ Connect residents with the environment and our natural resources

### **Health and Wellness Benefits**

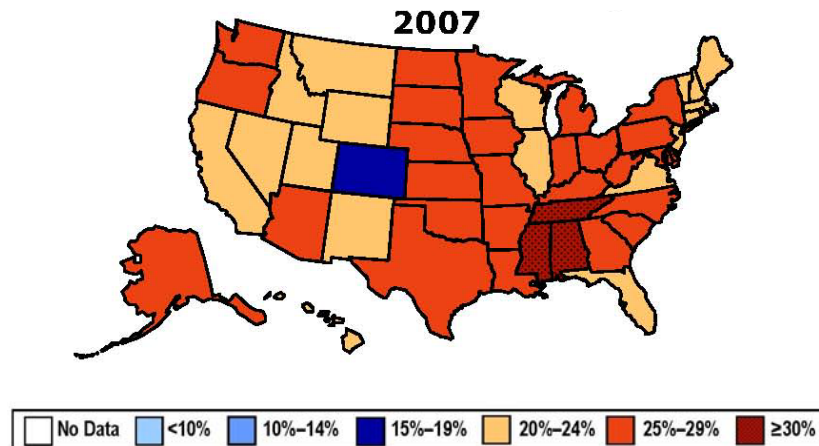
Trails and greenways create healthy recreation and transportation opportunities by providing people of all ages with attractive, safe, accessible and low- or no-cost places to cycle, walk, hike, jog or skate. Trails help people of all ages incorporate exercise into their daily routines by connecting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

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

**Obesity Trends\* Among U.S. Adults - BRFSS**



**Obesity Trends\* Among U.S. Adults - BRFSS, 2006**



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

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



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

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

### **Ecological Benefits**

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

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

### **Educational Benefits**

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

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

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

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

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

### **Protecting Pennsylvania's Rural Legacy**

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

- ✓ Protecting ridge lines, river corridors, and scenic resources
- ✓ Providing visual relief by framing and distinguishing neighborhoods in the face of
- ✓ Sprawl
- ✓ Preserving farmland, small country settlements and surrounding open space
- ✓ Maintaining the character of place

### **Economic Benefits – of Natural System Greenways**

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

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

### **CONSERVING PRIORITY HABITATS**

Crawford County contains a variety of forests, wetlands, rivers, natural areas, and streams. All of these features provide habitat for a wide array of plants and animals. The Crawford County Natural Heritage Inventory (NHI), the Pennsylvania Natural Heritage Program has identified numerous natural areas that serve as critical habitat for species of special concern, or that host a variety of habitats and landscape features warranting conservation. Additionally, the Pennsylvania Audubon Society has identified six Important Bird Areas (IBAs), or areas essential to sustaining wild bird populations, in Crawford County and the Pennsylvania Biological Survey has identified two Important Mammal Areas. Biological communities and species that are both rare and biologically significant in Pennsylvania and on a global scale are found in Crawford County.

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

### **SOUND LAND USE AND SUSTAINABLE GROWTH**

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

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

As Crawford County's population has increased, residential development has spread out from the boroughs along the existing roadways, primarily in the form of low-density, scattered single-family housing. Large development has occurred in the forms of intense commercial development along major transportation corridors, highway related commercial development, as well as tourist related commercial and seasonal housing.

The redistribution of population over recent years continues the trend for suburban or rural development instead of the reuse and development of new housing within the boroughs. For financial reasons such as lower taxes and cheaper land, as well as some social reasons, families are moving outward to newer areas, which are perceived by many to be more desirable.

A large portion of the County's land remains vacant or wooded. Much of the potentially developable land is found immediately surrounding the already developed areas of the boroughs. However, the ever-increasing needs and demands upon the land make it essential for growth throughout the County be properly guided. Implementation of the NWPA Greenways Plan can help preserve the rural and natural character of the county by conserving undeveloped land to retain their natural features.

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, great efforts were taken to ease concerns, educate the public to confirm the truth and dispel myths on what greenways are and are not, and build consensus by establishing defensible rationale for establishing a greenway network through the Northwest Pennsylvania Region.

The 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**

Sound Greenway planning uses a three-step process that answers 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 County 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 inactive 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 County.
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 Crawford County best. 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 Crawford County. 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 among 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 Crawford County.

### **GOALS AND OBJECTIVES**

Preserving and enhancing Crawford County'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 County residents through preservation and connection of existing open spaces;
- Promote economic growth via recreational or eco-tourism;
- Encourage counties and local municipalities to work in unison to help protect their various resources by adopting open-space and land-use regulations;
- Educate residents on the aspects and benefits of Greenways Planning, including the benefits of implementation of the goals listed above.

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

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

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

# **CHAPTER ONE**

## **HOW DO WE GET THERE?**

**- Implementation Strategies  
to Achieve the Vision**





## **CHAPTER ONE:      *HOW DO WE GET THERE?***

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

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

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

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

*Chapter Two:    Where Are We Now*

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

*Chapter Three:   Where Do We Want to Be?*

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

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

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

By its very nature, greenway planning and implementation can begin to positively address the concerns raised, and implement some of the strategies recommended, in the Brookings Institute’s report. We must realize that greenways are much more than conservation of our natural resources and trails for recreation.

As discussed in the introduction of this plan, greenways provide many benefits that are considered by many to be more significant.

### ***CHAPTER ORGANIZATION***

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

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

### ***MANAGEMENT STRUCTURE***

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

- 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.

### Analysis of Potential Management Structures

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

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"> <li>• Comprised of volunteers who have special interests in parks and recreation or trails and greenways</li> </ul>	<ul style="list-style-type: none"> <li>• Rely mostly on volunteers to accomplish all work</li> </ul>	Somerset County Recreation Board manages the Allegheny Passage Trail within the County
	<ul style="list-style-type: none"> <li>• Operates in conjunction with the County</li> </ul>	<ul style="list-style-type: none"> <li>• Often end up with just a few people doing most of the work</li> </ul>	
	<ul style="list-style-type: none"> <li>• Could provide a good balance of workers between volunteers and County paid staff</li> </ul>	<ul style="list-style-type: none"> <li>• Limited interest in on-going maintenance and upkeep tasks</li> </ul>	
	<ul style="list-style-type: none"> <li>• Able to apply for state grants with the County as the legal applicant</li> </ul>	<ul style="list-style-type: none"> <li>• Fundraising often accounts for more of the volunteers time than trail work</li> </ul>	
	<ul style="list-style-type: none"> <li>• The County sets the standards for how the Board will operate</li> </ul>	<ul style="list-style-type: none"> <li>• Not able to apply for grants only available to non-profit organizations</li> </ul>	

## Crawford County Greenways Plan

Type of Organization	Strengths	Weaknesses	Examples
<i>Greenways, Trails, Recreation and/or Conservation Authority</i>			
An organization created by the County Commissioners for the expressed purpose of trail and greenway planning, development, maintenance and management.	• Separate from the political subdivision	• Apart from County or municipal funding, an Authority has limited ability for revenue production	Cambria County Conservation and Recreation Authority
	• Can operate independently of the governmental unit	• Typically do not have volunteer groups associated with them	Centre Region Park and Recreation Authority
	• Able to apply for state grants	• Not able to apply for grants that are only available to non-profit organizations	Clearfield County Recreation and Tourism Authority
	• Can borrow funds for major development projects	• Relies mostly on paid staff to accomplish almost all work	Lewisburg Area Recreation Authority
	• Set their own standards for quality and accountability	• The trail organizations' goals may not always match those of the County	Tri-Area Recreation Authority
	• Typically think and plan for the long-term	• 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

## Crawford County Greenways Plan

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

## Crawford County Greenways Plan

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.	• Able to apply for state grants	• Relies solely on volunteers	Venango County/ Allegheny Trails Assoc.
	• Able to apply for grants that are only available to non-profits	• 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.
	• Volunteers have a special interest in trails and greenways	• Volunteers have a limited interest in on-going maintenance and upkeep tasks	Wildwater Conservancy, Lawrence County
	• Easier recruitment of volunteers for special activities and projects	• Fundraising often accounts for more of the volunteers time that trail work	Allegheny Land Trust
	• Strong interest in trail development	• Some trail groups become singularly focused on just one trail	Independence Marsh Foundation - Beaver County
	• Limits County funding of trails and greenways	• The trail organizations goals may not always match those of the County	Friends of the Riverfront - City of Pittsburgh
	• Able to recruit and utilize volunteer experts for a variety of services such as engineering, design, construction, etc.	• There is limited accountability for volunteers	

## Crawford County Greenways Plan

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"> <li>• Cost to fund position shared with others</li> </ul>	<ul style="list-style-type: none"> <li>• May not be available, or available on a limited basis only when needed</li> </ul>	Oil Region Greenways & Open Space Coordinator
	<ul style="list-style-type: none"> <li>• Able to apply for state grants</li> </ul>	<ul style="list-style-type: none"> <li>• Requires a paid professional position housed in the offices of the responsible entity</li> </ul>	Beaver / Lawrence Counties Joint Greenways Coordinator
	<ul style="list-style-type: none"> <li>• Responsible entity sets the standards for all aspects of trail management</li> </ul>	<ul style="list-style-type: none"> <li>• Requires a tremendous amount of coordination by the responsible entity</li> </ul>	Cumberland County
	<ul style="list-style-type: none"> <li>• Paid staff are usually more reliable and are accountable to the responsible entity</li> </ul>		Pike County
	<ul style="list-style-type: none"> <li>• The responsible entity has control over priorities and how they are accomplished</li> </ul>		
	<ul style="list-style-type: none"> <li>• Quality control comes from the responsible entity</li> </ul>		
	<ul style="list-style-type: none"> <li>• Coordination with local municipalities and volunteer organizations spreads the workload and funding among many agencies</li> </ul>		
	<ul style="list-style-type: none"> <li>• Volunteer groups can apply for funding that is only available to non-profits</li> </ul>		
	<ul style="list-style-type: none"> <li>• Assures compliance with the County Trail and Greenway Plan</li> </ul>		
	<ul style="list-style-type: none"> <li>• Assures greater accountability of all those working on projects</li> </ul>		
	<ul style="list-style-type: none"> <li>• Allows all the benefits of both volunteer non-profit organizations and municipalities</li> </ul>		

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

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

The public component can:

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

The non-profit component can:

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

This 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*

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

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

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



Furthermore, we recommend the agreement address issues such as:

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

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

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

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

### *Private Component*

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

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

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

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

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

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

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

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

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

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

In the process of developing the recommendations and defining the implementation strategies for each county, we have come to the conclusion that there ideally would be two joint coordinators who would oversee the implementation of greenways in the Northwest region. These positions are in addition to the

## Crawford County Greenways Plan

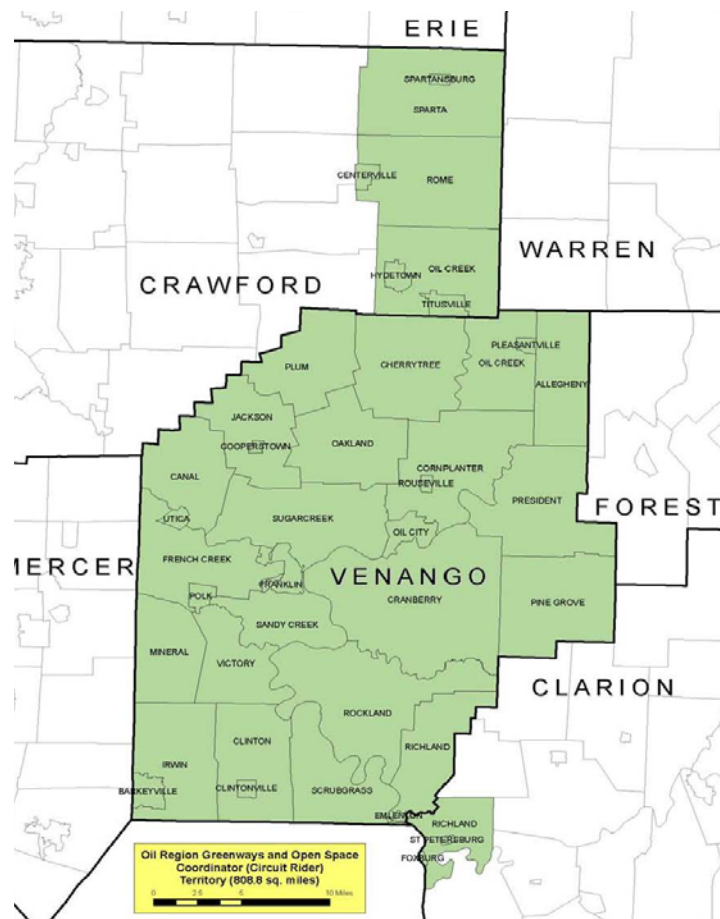
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Beaver / Lawrence Counties Joint Greenway Coordinator described above and the Oil Region Greenways and Open Space Coordinator described below.

Near the completion of this study, a joint coordinator position was created following a peer study and the development of a multi-organization steering committee in the Oil Region National Heritage Area, which is located in the Northwest Region. This position was created upon completion of a peer study which examined the need, recommended the structure, and defined the position. As currently defined, this joint greenways coordinator is responsible for implementing greenway strategies in the Oil Region, which includes all of Venango County, and Oil Creek Township, City of Titusville, and Hydetown Borough in Crawford County.

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

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



Erie, Crawford, and Mercer Counties have volunteer trail organizations that have been working for some time to implement greenway corridors in their respective counties, and based on the inventory and analysis, there is a lot of work required to continue and assist these organizations in their efforts. There are also many opportunities in Clarion, Forest, and Warren Counties. However, there are fewer organizations at the corridor level, and their support at the county level isn't quite as strong.

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

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

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

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

## Crawford County Greenways Plan

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

County(ies) Served	Organization	Mission
Crawford Erie Mercer Venango	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.
Clarion Crawford Venango	Allegheny Valley Trails Association P.O. Box 264 Franklin, PA 16323 814-437-3203 atva@ficda.org	To acquire abandoned railways in the Allegheny River watershed and to rehabilitate them into multipurpose, non-motorized recreational trails.
Crawford Elk McKean	Seneca Highlands Conservancy 800 Minard Run Road Bradford, PA 16701 607-257-6533 john@youngbros.com	
Clarion Crawford Lawrence Mercer Venango Warren	Western Pennsylvania Conservancy 800 Waterfront Drive Pittsburgh, PA 15222 412-586-2326 info@paconserve.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.
Forest Venango Warren	Allegheny Valley Conservancy P.O. Box 96 Franklin, PA 16323 814-432-2187 jaholden@csonline.net	To protect the water quality of the Allegheny river and French Creek watersheds; preserve open-space, scenic beauty, valuable and productive agriculture and forest land and historically significant areas in the watersheds; to enhance the quality of life for residents of the region; to promote land stewardship through public education and technical assistance.

## Crawford County Greenways Plan

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County(ies) Served	Organization	Mission
Clarion Crawford Lawrence Mercer Venango Warren	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. PEC believes in the value of partnerships with the private sector, government, communities and individuals to improve the quality of life for all Pennsylvanians.
Crawford	Envision Linesville, Inc. c/o Doug Smith 2790 Barkley Road Harmony, PA 16037 webmaster@envisionlinesville.org	To increase citizen interest, involvement, and activity in the Greater Linesville area and to promote and encourage healthy lifestyles and life-long learning.
Crawford	Cochranton Area Greenways, Inc. 4591 N. Franklin Street Cochranton, Pa. 16314	To establish a hiking and biking trail in Cochranton area.

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

## The Vision for Crawford County's Greenway Corridors

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

### Natural System Greenways

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

They are as follows:

Priority	Ranking	Greenway Name	Sensitivity Ranking	Total Acres	Total Conserved Acres	Total Percent Conserved
Exceptional	1	Conneaut Lake / Conneaut Outlet	34.1	30,987	5,510	17.8%
	2	Muddy Creek	28.9	14,971	6,224	41.6%
	3	Pymatuning Reservoir	28.5	42,816	7,822	18.3%
	4	French Creek	26.6	17,235	1,032	6.0%
Significant	5	Cussewago Creek	26.1	14,393	428	3.0%
	6	Woodcock/Lake Creeks	25.6	8,762	4,001	45.7%
	7	Conneaut Creek	24.6	9,242	2,255	24.4%
	8	Conneautte Creek/Edinboro Lake	24.0	1,915	0	0.0%
High	9	Oil Creek	22.6	11,597	1,731	14.9%
	10	Little Sugar Creek	22.5	4,726	0	0.0%
	11	Sandy Creek	22.1	6,112	0	0.0%
	12	Sugar Creek	20.5	5,213	3,805	73.0%
Totals				167,969	32,808	19.5%

## Crawford County Greenways Plan

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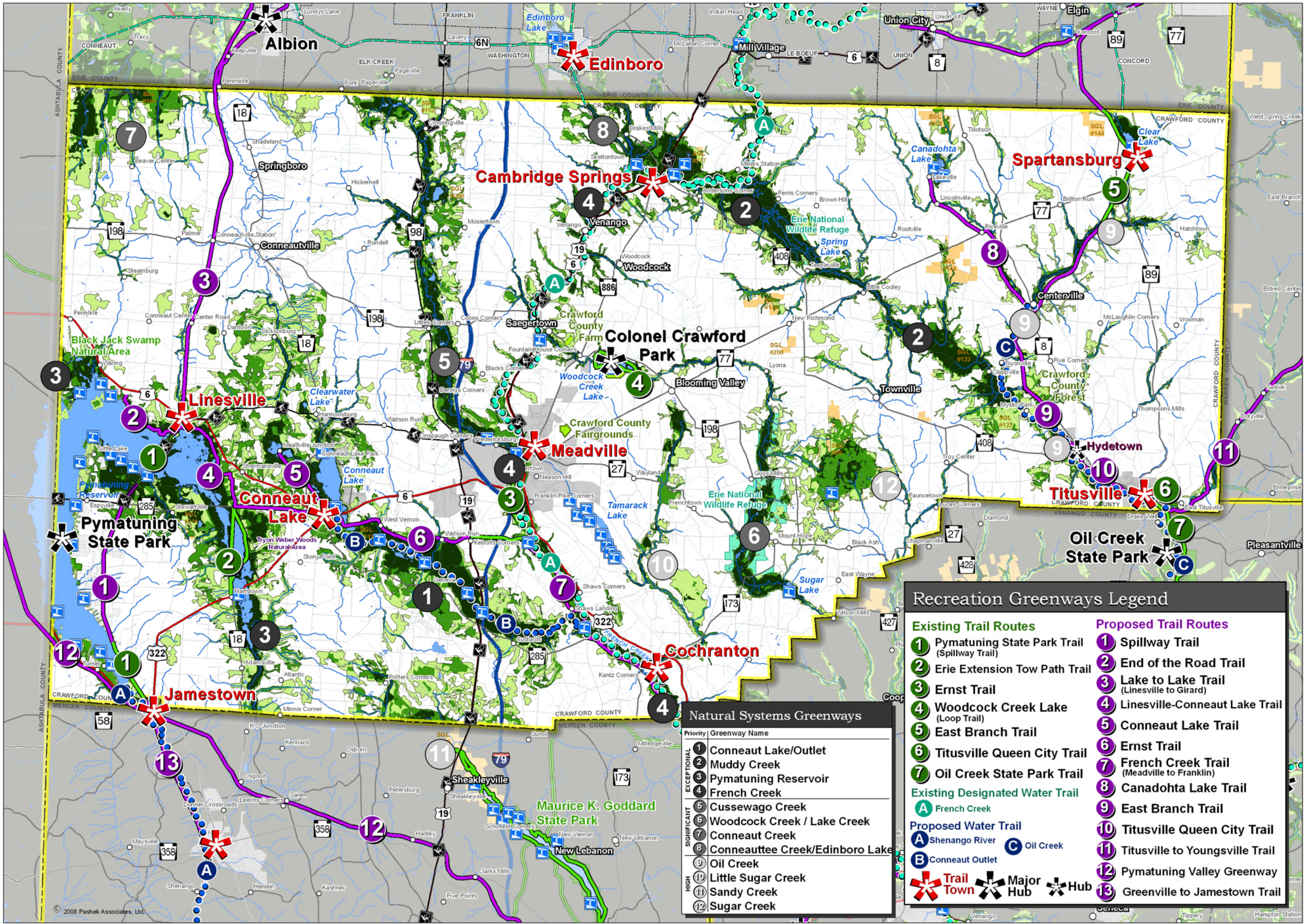
These corridors are identified on the Crawford County Natural Systems Greenways Map. They are further described in Chapter Three: Where Do We Want to Be? where a complete description of the prioritization process can be found.

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

- Exceptional Priority Corridors: be advanced in the short-term, one to three years
  - Conneaut Lake / Conneaut Outlet Greenway Corridor
  - Muddy Creek Greenway Corridor
  - Pymatuning Reservoir Greenway Corridor
  - French Creek Greenway Corridor
- Significant Priority Corridors: be advanced in the mid-term, three to five years
  - Cussewago Creek Greenway Corridor
  - Woodcock / Lake Creeks Greenway Corridor
  - Conneaut Creek Greenway Corridor
  - Conneauttee Creek / Edinboro Lake Greenway Corridor
- High Priority Corridors: be advanced in the long-term, five to ten years
  - Oil Creek Greenway Corridor
  - Little Sugar Creek Greenway Corridor
  - Sandy Creek Greenway Corridor
  - Sugar Creek Greenway Corridor

In addition to these greenway corridors, there are two other significant corridors that enter into Crawford County, but are primarily located in Warren County. These include the Pine Creek Greenway, and the Caldwell Run Greenway which begin upstream in Warren County. These are described in Chapter Three. Each of these greenways were prioritized as High Priority greenway corridors for Warren County. With sensitivity rankings of 17.4 for the Caldwell Run Greenway, and 17.4 for the Pine Creek Greenway, they also rank as High Priority Corridors in Crawford County.





# Northwest Pennsylvania Greenways Plan

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



## LEGEND

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

## DCNR Managed Land

- State Park
- County & Local Parks
- State Game Land
- Erie National Wildlife Refuge
- Other Managed Land

- ### Existing & Proposed Trails
- Proposed Trail
  - Existing Trail
  - PA Bicycle Route
  - Proposed Bicycle Route
  - Existing Water Trail
  - Proposed Water Trail
- ### Natural Systems Greenways
- Exceptional
  - High
  - Moderate



### Recreation Greenways Legend

Existing Trail Routes	Proposed Trail Routes
1 Pymatuning State Park Trail (Spillway Trail)	1 Spillway Trail
2 Erie Extension Tow Path Trail	2 End of the Road Trail
3 Ernst Trail	3 Lake to Lake Trail (Linesville to Girard)
4 Woodcock Creek Lake (Loop Trail)	4 Linesville-Conneaut Lake Trail
5 East Branch Trail	5 Conneaut Lake Trail
6 Titusville Queen City Trail	6 Ernst Trail
7 Oil Creek State Park Trail	7 French Creek Trail (Meadville to Franklin)
Existing Designated Water Trail	8 Canadohta Lake Trail
A French Creek	9 East Branch Trail
Proposed Water Trail	10 Titusville Queen City Trail
A Shenango River C Oil Creek	11 Titusville to Youngsville Trail
B Conneaut Outlet	12 Pymatuning Valley Greenway
	13 Greenville to Jamestown Trail

Trail Town Major Hub Hub

### Natural Systems Greenways

Priority	Greenway Name
EXCEPTIONAL	1 Conneaut Lake/Outlet
	2 Muddy Creek
	3 Pymatuning Reservoir
	4 French Creek
SIGNIFICANT	5 Cussewago Creek
	6 Woodcock Creek / Lake Creek
	7 Conneaut Creek
	8 Conneauttee Creek/Edinboro Lake
	9 Oil Creek
HIGH	10 Little Sugar Creek
	11 Sandy Creek
	12 Sugar Creek





### Recreation and Transportation Greenways

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

#### *Land Based Trails*

Proposed recreation and transportation greenway corridors in Crawford County include:

- 1) Pymatuning State Park - Spillway Trail –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 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

- 2) End of the Road Trail – 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 .5 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

- 3) Lake to Lake Trail (Girard to Linesville) – 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

- 4) Linesville-Conneaut Lake Trail – 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

- 5) Conneaut Lake Trail – 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:* Sadsbury and Summit Townships, and Conneaut Lake Borough

- 6) Ernst Trail – 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

- 7) French Creek Trail – 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 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.

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

- 8) Canadohta Lake Trail – This proposed trail would connect Canadohta Lake with the East Branch Trail near Centerville. From Centerville, the trail is proposed to follow Winton Drive / Creek Road. Although this road has not been formally abandoned by the Township, they have not maintained it for vehicular travel since 1977. Therefore, the right-of-way appears to remain intact for trail use. Heading north, the Creek Road corridor ends on State Route 77. State Route 77 could be used for a short distance, as a shared roadway for bicycle travel, to reach Riceville Road. Upon reaching the intersection of Riceville Road and Lake Road, Lake Road could be utilized to reach Canadohta Lake. A second option to explore would be the utility right-of-way that extends from State Route 77 to extends to the east side of Canadohta Lake.

*Approximate Length:* 7.7 miles

*Associated Municipalities:* Bloomfield and Athens Townships, and Centerville Borough

- 9) East Branch Trail - 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, through Spartansburg and onwards to Centerville, then south to Hydetown. Although the entire length is undeveloped, most sections are passable.

Next summer (2009), Phase I of construction will begin 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.

- 10) Titusville Queen City Trail – This trail runs for approximately two miles from the Jersey Bridge Parking Lot in Oil Creek State Park to Jersey Bridge Parking lot, where the Oil Creek State Park trail ends, to South Martin St. There is a pending 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 & 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:* six miles

*Associated Municipalities:* City of Titusville and Cherrytree Township

- 11) Titusville to Youngsville Trail – 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

- 12) Pymatuning Valley Greenway Trail – 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.

- 13) Erie Extension Tow Path Trail – This state game land trail currently runs approximately 4 miles between Hartstown and Route 285, along an unimproved road. The Erie Extension Tow Path will link Hartstown to the Linesville to Conneaut Lake Trail.

*Approximate Length:* 4 miles

*Associated Municipalities:* West Fallowfield and Sadsbury Townships

- 14) Woodcock Creek Lake Loop Trail - (1) Woodcock Creek Lake Loop Trail - This proposed trail will combine three existing trails; the Bossard Nature Trail, a National Trails System Trail, located on the USACOE Woodcock Lake facility; the Multi-Purpose Trail, a joint effort of the USACOE and Crawford County on the USACOE Woodcock Lake facility and Crawford County's Colonel Crawford Park; and requires the completion of the formerly proposed boundary trail around the USACOE's Woodcock Creek facility.

*Approximate Length:* 3 miles

*Associated Municipalities:* Woodcock Township

Utilizing an average cost range of between \$50 and \$100 per lineal foot for paved ten foot wide shared use path, meeting the guidelines established in the “Guide for the of the American Association of State Highway Transportation Official’s trail construction, the following table establishes budgets for the anticipated cost of constructing the trails described above. These costs are based on the following assumptions:

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

## Crawford County Greenways Plan

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- Costs do not assume in-kind, donated, or volunteer services

Actual construction costs are best projected upon undertaking final design and engineering. Further, 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.

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.

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
	79.74	\$21,051,360	\$42,102,720

Personnel and financial resources for the implementation of each trail are not available to simultaneously meet all 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 set of criteria allows projects to be ranked based on a common set criteria established to ensure resources are focused towards those projects, with the greatest potential for public use, public benefit, and implementation.

### Trail Prioritization Criteria

1. *Trail Demand:* The degree of public support for the project and anticipated use of the trail, the greater the public support for a project and / or the greater the anticipated use of the trail; the higher the value.
  - a. Degree of public support demonstrated by political support, at public meetings, and through letters of support.
  - b. The projected use of the trail is a measurement of local use based on population in the vicinity of the proposed trail. The greater the projected use, the higher the value.
2. *Land Acquisition:* Trail concepts that require land acquisition to complete, receive a higher value because the project would not be feasible if land acquisition is not completed.
  - a. Donations / Low Cost / Already Acquired: 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 –connects to existing opportunities
  - d. Stand Alone Trail: Valuable
4. *Environmental or Historical Impacts:* Measured by the degree to which the project will have anticipated direct, adverse impacts to protected natural or historical resources, the greater the degree of impact; the lower the value.
5. *Benefits to the Public:* The total number of recreation, transportation, education, and other benefits that can be derived by the public from the project, the greater the number of benefits; the higher the value.
6. *Funding Opportunity / Partnering:* Considering the factors affecting the project's funding status and the degree to which the project may be allocating funds from a variety of agencies, the greater the funding opportunities; the higher the value.
7. *Economic Development Potential:* Trails that connect to proposed trail towns will have the greatest potential to impact the local economy.



### Prioritization Levels

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

Trail Corridor	Trail Demand	Land Acquisition	Connectivity	Environmental / Historical Impacts	Benefits to the Public	Funding Opportunities / Partners	Economic Development Potential	Total	Ranking	Priority
East Branch Trail	4	3	4	4	4	3	4	26	1	Exceptional
Titusville Queen City Trail	4	3	4	4	4	3	4	26	1	
Lake to Lake (Linesville to Girard)	3	1	4	4	4	2	3	21	2	
Spillway Trail	3	1	4	4	4	2	3	21	3	
End of the Road Trail	3	3	3	3	4	3	2	21	4	
Linesville to Conneaut Lake	3	2	4	3	3	2	3	20	5	Significant
Ernst Trail	3	2	4	3	3	2	2	19	6	
Titusville to Youngsville Trail	3	1	4	3	4	1	3	19	7	
French Creek Trail	3	1	3	3	4	1	3	18	8	High
Conneaut Lake Trail	2	1	2	3	3	1	3	15	9	
Canadohta Lake Trail	2	3	3	2	2	1	1	14	10	
Pymatuning Valley Trail	2	2	2	3	2	1	1	13	11	

Based on this prioritization, we recommend the following:

- Exceptional Priority Corridors: be advanced in the short-term, one to three years
  - East Branch Trail
  - Titusville Queen City Trail
  - Lake to Lake (Linesville to Girard) Trail
  - Spillway Trail
  - End of the Road Trail
- Significant Priority Corridors: be advanced in the mid-term, three to five years
  - Linesville to Conneaut Lake
  - Ernst Trail
  - Titusville to Youngsville Trail
- High Priority Corridors: be advanced in the long-term, five to ten years
  - French Creek Trail
  - Conneaut Lake Trail
  - Canadohta Lake Trail
  - Pymatuning Valley Trail

### *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

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

This visioning process identified one opportunity in the eastern portion of the study area. Existing trail segments (Allegheny River Trail, Oil Region Trails, East Branch Trail, and Corry Junction Rail Trail) can be joined by completing the gaps in order 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 State Park and the City of Erie. For discussion purposes herein, we are referring to this as Segment A.

Segment B has been pursued to various degrees by local trail groups. This segment would leave Segment A at Franklin and follow the former Erie Railroad corridor through the French Creek Valley, following the former Franklin Branch of the Erie Railroad, to Cochran 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.

# Western Pennsylvania Potential Trail Network







Segment C leaves Segment A at the village of East Sandy and follows 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:

- ✓ 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 these existing state parks. The fact that 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.

Top Ten Most Visited Pennsylvania State Parks		Average Annual Number of Visitors, 1996 - 2006
1.	Presque Isle	3,879,394
2.	Pymatuning	3,205,154
3.	Point	2,086,773
4.	Ohiopyle	1,518,353
5.	Prince Gallitzin	1,415,109
6.	Codorus	1,381,206
7.	Moraine	1,109,017
8.	Ridley Creek	867,447
9.	Tyler	845,714
10.	Delaware Canal	834,893

Lastly, 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 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.

- ✓ 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.
- ✓ A loop network, utilizing the Seaway Trail to connect eastern and western routes, enhances 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.
- ✓ 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, it is our opinion the Erie to Pittsburgh Trail will 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, we believe the vision for the Pittsburgh to Erie Trail should contain a western route, by connecting resources of state-wide significance located in western Pennsylvania.

This recommendation was presented to the Northwest Region project study committee. Representatives of the committee who represent trail organizations associated with the eastern route were in disagreement with the proposed recommendation. They suggested that identifying a western Erie to Pittsburgh route would take focus the away from completing the eastern route. They indicated the western route may be appropriate; however, it should not be incorporated into the Erie to Pittsburgh Trail efforts. They felt strongly that the Erie to Pittsburgh Trail should focus resources and efforts on a singularly defined route.

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, 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. Therefore, most agreed priority should be given to completing the eastern route. That being understood, those representing trail organizations associated with the western alignments want funding and technical assistance to continue to flow to the west for planning and implementation, to ensure the currently active trail organizations have the resources to 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.

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 route(s) 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. 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, specific trail routes / visions were discussed. Two maps for the trail, identifying different routes, were presented.

- (a) Pittsburgh to Kittanning to north of I-80 then forks east and west with one additional fork to the west. The east fork takes the trail north through the Oil Heritage Region to Corry to New York and back west to Erie. This trail route combination is referred to by the attendees as the “Western Trail.”
- (b) Pittsburgh north to Kittanning; Foxburg; Emlenton; Oil City; Titusville; Spartansburg; Corry; Clymer, NY; East to Erie, PA. This trail route is referred to by the attendees as the “Eastern Trail.”

It was noted that everyone likely agrees that the “East Route” is further along with completed trail and will likely be the first route to be completed. However, the “West Route” does not want to be forgotten, and their trails are important. It was acknowledged that all organizations and their specific trail goals are important. A motion was made and passed for the “Eastern Trail” to be the priority and primary route for the Erie to Pittsburgh Trail.

With the adoption of this vision statement, it appears the greater vision for the Erie to Pittsburgh Trail, with an eastern and western route, has been adopted. This action by the Erie to Pittsburgh Trail Alliance appears to be consistent with the direction being recommended through the Northwest Greenways planning process, as it prioritizes the eastern route, and provides the opportunity for a branch to connect the resources in the west.

In considering the regional perspective, and weighing which opportunities may provide the greatest economic benefit to the Northwest Region upon implementation, we reached our conclusion on what the vision for the Erie to Pittsburgh Trail should include.

Our recommendation is to establish a vision for the Erie to Pittsburgh Trail, which includes both an eastern and western route, with priority being given to completing the eastern corridor. This will be done while continuing to provide funding and technical assistance to those associated with the western route to allow them to further their vision and corridors.

Furthermore, this 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. This vision would be most consistent with the definition established for Greenways in the Northwest Region.

It is easy to understand the concerns of specific trail organizations and other related groups. They are passionate about their endeavors and fearful that an expanded vision may detract from their efforts. However, we believe the expanded greenways vision will, over time, have exponentially more positive benefits to the Northwest Pennsylvania Region.

### **Water Trails**

We recommend the Crawford County Planning Department work with the Pennsylvania Fish and Boat Commission to determine the feasibility, and where deemed appropriate, officially adopt the following water trails into their program:

- Pymatuning State Park – North Pool
- Cussewago Creek - Crossingville to Meadville - 28.5 Miles
- Conneaut Outlet – Geneva Dike to French Creek – 12.3 Miles
- Shenango River – Immediately south of the Pymatuning Reservoir Dam in southern Crawford County to Wampum Borough in southern Lawrence County - 74.8 miles
- Oil Creek – 24 miles
- French Creek – Union City Dam in Erie County to the City of Franklin in Venango County - 74 miles

Given the establishment of the currently inactive French Creek Water Trail, by the French Creek Project, we recommend the French Creek Water Trail be given priority status meaning: working 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 be advocates for the trail and work with the private sector to re-establish one or two canoe liveries along the trail; 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.

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.

### Trail Implementation Steps

Taking a trail from concept through implementation can be a daunting task. 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 become inactive in the near future – if currently owned by the railroad, then there is the potential to rail bank the corridor. Rail banking must be 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 and 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 landowner issues and concerns where possible, and develop an opinion of probable construction costs from the concept plan.
9. Develop management, operations, 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 project that can be implemented.
13. Secure funding for trail development.
14. Secure rights for public access to the proposed trail.
15. Complete final design and engineering, prepare construction documents, and obtain required permits for the construction of the proposed demonstration segment.

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

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

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

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

year beyond 2008. Costs for title searches can vary, depending on the density of the parcels adjacent to the corridor. Larger parcels along a corridor would require less research and correspondingly could be accomplished for less cost.

Trail	Unbuilt Mileage	Feasibility Study Cost				Priority
		Title Search	Legal Opinion	Feasibility Study	Total	
East Branch Trail	10.8	\$9,000	\$3,600	\$50,000	\$62,600	Exceptional
Titusville Queen City Trail	4.0	\$3,333	\$1,333	\$25,000	\$29,667	
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	Significant
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	High
Pymatuning Valley Trail	4.4	\$3,667	\$1,467	\$20,000	\$25,133	
Canadohta Lake Trail	7.7	\$6,417	\$2,567	\$30,000	\$38,983	
End of the Road Trail	3.3	N/A			\$0	

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, operations, 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 in-kind services are recognized by funding agencies.

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

### *Existing and Proposed Water Trails*

The French Creek Water Trail was formally promoted by the French Creek Conservancy in previous years. Due to the rising expenses associated with maintaining and insuring the trail and a canoe livery, under the French Creek Conservancy's management, the water trail is no longer marketed in the region, and the canoe livery has been not been promoted for approximately ten years. We recommend efforts be taken to re-invest and revive the French Creek Water Trail. This effort may be lead by a public agency, a non-profit private agency, or it may be taken on by the private sector.

### Bicycle Routes

Crawford County has more established shared use paths, bike routes, and shared roadway designations than most counties in the northwest region. That said, there are opportunities for improvement. We recommend the following:

- PennDOT evaluate the existing designated PennDOT Bike Routes with representatives of the Crawford County cycling community to determine how the existing routes can be improved.
- Crawford County Planning Department work with local cyclists to prepare a Bicycle Suitability Map of Crawford County. This entails evaluating existing bicycling opportunities to determine the respective cycling opportunity's level of comfort for the average bicyclist. The non-profit organization Bike Pittsburgh recently completed this analysis and a corresponding map for the City of Pittsburgh. The map documents those routes which are considered to be comfortable bicycling routes, those which are cautionary routes, and where existing bicycle lanes and shared use paths are present. This map has become very popular with the bicycling community and with those visiting the City who bicycle in and around the City.

### Snowmobile Trails

Crawford County has a well established network of snowmobile trails thanks to the efforts of the Erie Crawford County Snowmobile Association. In interviewing representatives of the association, we learned these trails primarily are located on private property and that the Association has verbal agreements with the property owners for use of the trails. We recommend the Crawford County Planning Department assist the Association in formalizing written easement agreements for the snowmobile trails. The Pennsylvania Association of Land Trusts provides an excellent Model Trail Easement and companion commentary document explaining each of the clauses contained in the agreement. These documents can be obtained from [http://conserveland.org/model\\_documents/](http://conserveland.org/model_documents/).

### Trail Town Opportunities

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

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

#### *Trail Towns*

- Entice trail users to get off the trail and into your town
- Welcome trail users to your town by making information about the community readily available at the trail
- Make a strong and safe connection between your town and the trail
- Educate local businesses on the economic benefits of meeting the needs of trail tourists
- Recruit new businesses or 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 designation

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

#### *Potential Trail Towns*

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

Trail Towns provide 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 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.

## Crawford County Greenways Plan

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### *Potential Trail Town Advocates*

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

Agency	Address	Telephone
City of Titusville	107 N. Franklin Street Titusville, PA 16354	814-827-5300
Cochranton Borough	109 E. Adams Street P. O Box 66 Cochranton, PA 16314	814-425-3365
Conneaut Lake Area Business Association	P.O. Box 646 Conneaut Lake, PA 16316	814-382-6801
Crawford County Convention & Visitors Bureau	16709 Conneaut Lake Road Meadville, PA 16335	814-333-1258
Envision Linesville, Inc.	P.O. Box 182 Linesville, PA 16424	724-368-9991
Meadville Western Crawford County Chamber of Commerce	211 Chestnut Street Meadville, PA 16335	814-337-8030
Oil City & Titusville Railroad	7 Elm Street Oil City, PA 16301	814-676-1733
Oil Region Alliance of Business, Industry, and Tourism	PO Box 128 Oil City PA 16301	814-677-3152
Spartansburg Borough	284 Main Street Spartansburg, PA 16434	814-654-7046
Take Pride in Titusville	YMCA 201 W. Spring Street Titusville, PA 16354	814-827-3931
Titusville Leisure Services	714 East Main Street Titusville, PA 16354	814-827-3741
Titusville Area Chamber of Commerce	202 W. Central Avenue Titusville, PA 16354	814-827-2941
Titusville Redevelopment Authority	114 W. Spring Street PO Box 425 Titusville, PA 16354	814-827-3668

### Land Use Tools

Proposed natural and recreation & transportation greenway corridors will pass through public land, such as state and county parks, state game lands, municipal parks, and other public lands. In these areas, the corridors are generally conserved for the intended use. However, many natural and recreation & transportation greenway corridors will pass through privately-owned land. Many municipalities in Crawford County have very basic provisions to promote the conservation of the natural system resources. These provisions typically address those features, such as floodplains and wetlands, which are currently protected by a higher authority.

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

The strengthening of these ordinances is highly recommended to protect the health, safety, and welfare of Crawford County residents; to reduce flooding and other stormwater management problems currently being experienced by the County's municipalities; and to reduce the costs of providing public services to maintain and operate the County's and municipalities' built infrastructure.

As an example, Pocopson Township, in Chester County, in 2006 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



## Crawford County Greenways Plan

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To assist Crawford County and its municipal partners, it is recommended that the following resources be consulted as land use tools are being modified:

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

Furthermore, we recommend the Crawford County Planning Department complete audits of existing municipal zoning and subdivision and land development ordinances of Crawford County's municipalities. We also recommend they provide recommendations to each municipality on how their ordinances can be strengthened, to accomplish the recommendations contained herein, for the conservation of natural system greenway corridors and implementation of recreation and transportation greenways.

Specifically:

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

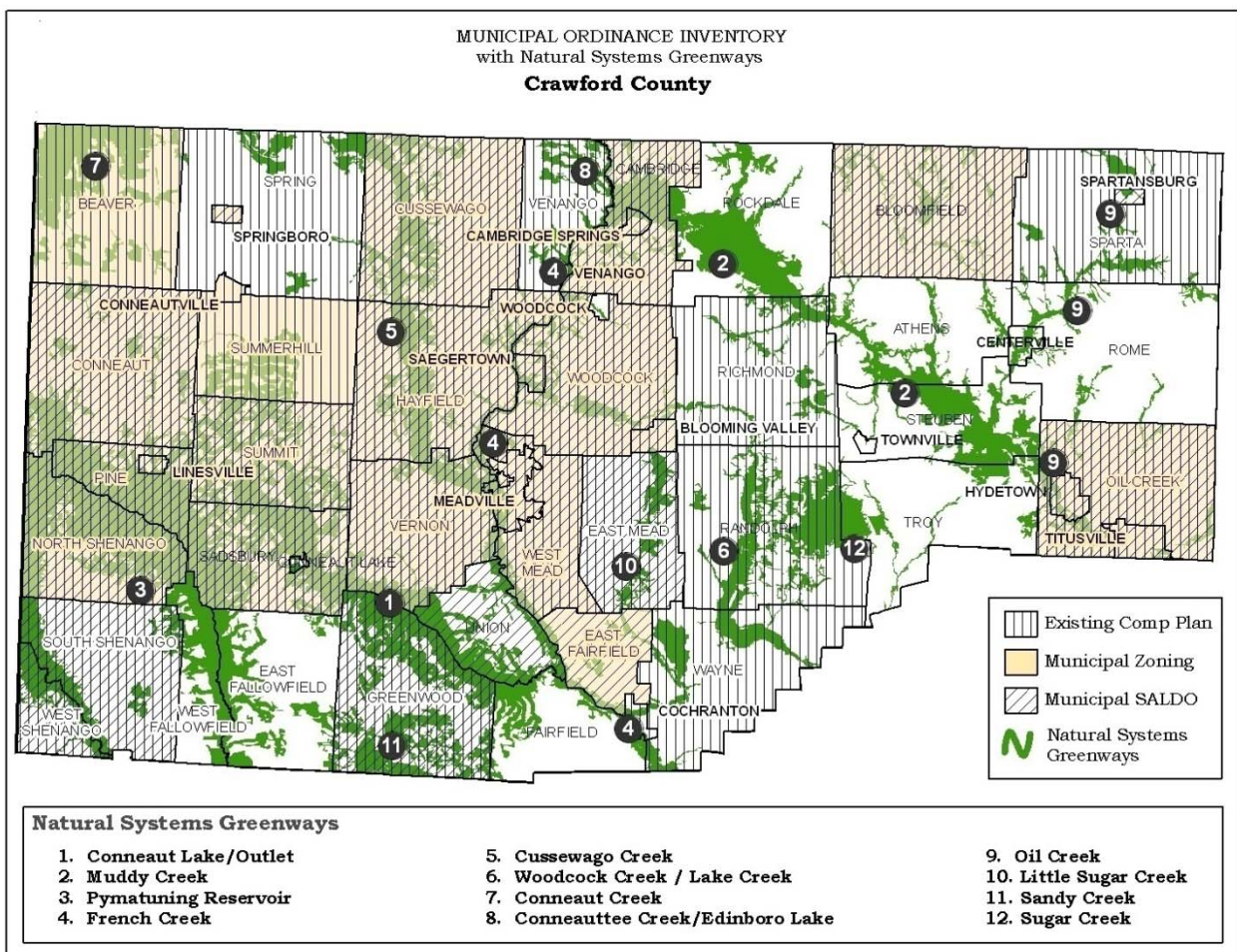
## Crawford County Greenways Plan

- Zone A: 0 - 25' of center
- Zone B: 25' - 100' of center
- Zone C: 100' - 125' of center

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

- Conservation of other natural system elements, as included in the Pocopson Ordinance cited earlier.
- Improve pedestrian and bicycling opportunities by requiring sidewalks in all development.
- Requiring interfaces between transit and pedestrian and bicycling facilities, such as secure bike lockers, bike racks, and on-board bike racks on buses.
- Requiring commuter bicycle support facilities in all commercial, industrial, and mixed use development, such as providing shower and locker room facilities, secure bike racks, and bicycle lockers.
- Requiring the establishment of bicycle lanes in residential and commercial subdivisions.

We recommend these audits be conducted based on the priorities established for the natural system greenway corridors. Therefore, those municipalities that are included in the Exceptional Priority natural system greenway corridors should be audited first.



## Crawford County Greenways Plan

### *Municipal Ordinance Audits to be Conducted in the Short-Term (1 to 3 years)*

Utilizing this philosophy, the following municipal ordinances should be reviewed in the short-term, in one to three years, as they contain exceptional priority greenway corridors:

Municipality	Comprehensive Plan	Municipal Zoning Ordinance	Municipal SALDO	Natural System Greenway Priorities		
Cities				Exceptional	Significant	High
Meadville	✓	✓	✓	4	5	
Boroughs						
Cambridge Springs Borough	✓	✓	✓	4		
Conneaut Lake Borough	✓	✓	✓	1		
Cochranton Borough	✓	-	-	4		10
Saegertown Borough	✓	✓	✓	4	6	
Townville Borough	-	-	-	2		
Woodcock Borough	-	-	-	4		
Townships						
Athens Township	-	-	-	2		9
Bloomfield Township	✓	✓	✓	2		9
Cambridge Township	✓	✓	✓	4	8	
Conneaut Township	✓	✓	✓	1, 3		
East Fairfield Township	-	-	-	4		10
East Fallowfield Township	-	-	-	1, 3		11
Fairfield Township	-	-	-	1, 4		11
Greenwood Township	✓	-	✓	1		11
Hayfield Township	✓	✓	✓	4	5	
North Shenango Township	✓	✓	✓	3		
Pine Township	✓	✓	✓	1		
Richmond Township	✓	-	-	2	6	
Rockdale Township	-	-	-	2, 4		
Sadsbury Township	✓	✓	✓	1, 3		
South Shenango Township	✓	-	✓	3		
Steuben Township	-	-	-	2		9
Summerhill Township	✓	✓	-	1		
Summit Township	✓	✓	✓	1, 3		
Union Township	-	-	✓	1, 4		
Venango Township	✓	✓	-	4	8	
Vernon Township	✓	✓	✓	1, 4	5	
West Fallowfield Township	-	-	-	3		
West Mead Township	✓	✓	✓	4		
West Shenango Township	✓	-	✓	3		
Woodcock Township	✓	✓	✓	4	6	

## Crawford County Greenways Plan

### *Municipal Ordinance Audits to be Conducted in the Mid-Term (3 to 5 years)*

The following municipal ordinances should be reviewed in the mid-term, in three to five years, as they contain significant priority greenway corridors:

Municipality	Comprehensive Plan	Municipal Zoning Ordinance	Municipal SALDO	Natural System Greenway Priorities		
Cities				Exceptional	Significant	High
Boroughs						
Blooming Valley Borough	✓	✓	✓		6	10
Townships						
Beaver Township	✓	✓	-		7	
Cussewago Township	✓	✓	✓		5	
Randolph Township	✓	-	-		6	12
Spring Township	-	-	✓		5	
Wayne Township	✓	-	-		6	10

### *Municipal Ordinance Audits to be Conducted in the Long-Term (5 to 10 years)*

The following municipal ordinances should be reviewed in the long-term, in five to ten years, as they contain high priority greenway corridors:

Municipality	Comprehensive Plan	Municipal Zoning Ordinance	Municipal SALDO	Natural System Greenway Priorities		
Cities				Exceptional	Significant	High
Titusville						9,*
Boroughs						
Centerville Borough	-	-	-			9
Hydetown Borough	✓	✓	✓			9
Spartansburg Borough	✓	-	✓			9
Townships						
East Mead Township	✓	-	✓			10
Oil Creek Township	✓	✓	✓			9,*
Rome Township	-	-	-			9
Sparta Township	✓	-	-			9
Troy Township	-	-	-			9, 12

\* Plus Calwell Run and Pine Creek, primarily located in Warren County but extending into Crawford County

## Crawford County Greenways Plan

The following Municipalities do not have natural system greenway components. However, we recommend they be audited in the long-term, 5 to 10 years, as there are other important components such as sidewalk requirements, pedestrian and bicycle facility development, etc., that should be considered as land is developed within these municipalities.

Municipality	Comprehensive Plan	Municipal Zoning Ordinance	Municipal SALDO	Natural System Greenway Priorities		
Cities				Exceptional	Significant	High
Boroughs						
Conneautville Borough			-			
Linesville Borough	✓	✓	✓			
Springboro Borough	✓	✓	-			
Venango Borough	✓	✓	✓			

Upon completing these audits, the municipalities should be furnished with recommendations regarding how their specific ordinances can be improved to advance the greenways network established through this planning process.

### Stormwater Management and Water Quality

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

From an analysis of The National Climatic Data Center, we know that the northwestern Pennsylvania counties are ranked as follows when it comes to total number of flood events between 1950 and 2000. Crawford and Erie Counties are ranked in the top half of the sixty-seven counties in Pennsylvania, while the remaining counties in the region are ranked in the bottom half.

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](http://pasc.met.psu.edu/PA_Climatologist/extreme/Floods/PEMA_fl)

We recommend the Pennsylvania Department of Environmental Protection work with local municipalities in Crawford County 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 by 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 they also take into consideration volume, infiltration, and water quality.

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

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

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

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

We recommend PA DEP, Crawford County Planning Commission, and the local municipalities identify opportunities within the natural system greenway corridors, in which demonstration projects can be implemented to illustrate this current philosophy in stormwater best management practices.

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

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

- |  |                                  |
|--|----------------------------------|
| - <u>Exceptional Priority Greenway Corridors</u> | <u>Water Resource Components</u> |
| French Creek Greenway                            | French Creek                     |
| - <u>Significant Priority Greenway Corridors</u> | <u>Water Resource Components</u> |
| Cussewago Creek Greenway                         | Cussewago Creek                  |
| Conneaut Creek Greenway                          | Conneaut Creek                   |
| - <u>High Priority Greenway Corridors</u>        | <u>Water Resource Components</u> |
| Oil Creek Greenway                               | Oil Creek                        |
| Pine Creek Greenway                              | Pine Creek                       |
| Caldwell Run Greenway                            | Caldwell Run                     |

### **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 ten percent of that gas might be recoverable. That volume of natural gas would be enough to supply the entire United States for about two years and have a wellhead value of about one trillion dollars.

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

The harnessing of wind energy in Pennsylvania is another rapidly growing industry. Although it is a renewable resource, it is not without controversy. Many are concerned about a commercial wind farm's impact on migratory birds and their visual intrusion into the landscape, 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.

According to the U.S. Department of Energy National Renewable Energy Laboratory's "Pennsylvania 50M Wind Resource Map", wind power densities are considered to be poor. Therefore, we do not expect great interest in establishing wind farms in Crawford County.

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

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



### Implementation of Crawford County'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 Crawford County Planning Department who must educate, advocate, encourage, and implement the recommendations set forth herein. As recommended in this plan, this will occur through a joint greenways coordinator, at the regional level, or it may occur at the County level through the planning department. Regardless, the greenways coordinator must work closely with the Crawford County Planning Department. The greenways coordinator and the Crawford County Planning Department must provide Crawford County's municipalities with their guidance and expertise to guide the municipalities in implementing those strategies recommended to occur at the municipal level. Furthermore, they will also need to provide similar guidance and expertise to local conservancies, land trust, and trail organizations. Other important public partners in this endeavor will include:

- Local Municipalities
- Pennsylvania Department of Conservation and Natural Resources, Oil Creek State Park
- Pennsylvania Department of Conservation and Natural Resources, Pymatuning State Park
- Pennsylvania Department of Conservation and Natural Resources Bureau of State Parks
- Pennsylvania Department of Conservation and Natural Resources Bureau of Forestry
- Pennsylvania Fish and Boat Commission
- Pennsylvania Game Commission
- Pennsylvania Department of Transportation
- U.S. Army Corps of Engineers, Woodcock Creek Lake
- U.S. Department of the Interior, U.S. Fish and Wildlife Service, Erie National Wildlife Refuge

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

- Pennsylvania Advocates for Nutrition and Activity
- Oil Region Alliance of Business, Industry and Tourism
- Titusville Leisure Services
- Titusville Renaissance, Inc.
- Titusville Redevelopment Authority
- Titusville Chamber of Commerce
- Envision Linesville
- Meadville / Western Crawford County Chamber of Commerce
- Center for Economic and Environmental Development based at Allegheny College
- The French Creek Project
- Pennsylvania Environmental Council
- Audubon Society of Pennsylvania
- Western Pennsylvania Conservancy
- Trout Unlimited
- Allegheny College, University of Pittsburgh at Titusville and Edinboro University
- Meadville Medical Center
- Conneaut Lake Health Center
- UPMC Horizon, UPMC Franklin, and UPMC Northwest
- Titusville Hospital
- Shenango River Watchers
- Pymatuning Lake Association
- Penn/Ohio Watershed Association

- Conneaut Lake Aquatic Management Association
- French Creek Valley Conservancy
- Titusville Wellhead Protection Committee
- PA Lake Erie Watershed Association
- Jamestown Lions Club
- Clear Lake Authority
- Cochran Area Greenways, Inc
- French Creek Recreational Trails, Inc.
- Allegheny Valley Trails Association
- Allegheny Valley Conservancy
- Trout Unlimited

## Strategies to Implement the Crawford County Greenway Network

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

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

Implementation strategies are organized into the following categories: “Adopting a Vision for Greenways in Crawford County” and “Advancing Greenways at the Local Level”.

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

The following priorities have been defined through the planning process:

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

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

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

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

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

allow Crawford County and other responsible parties to track their progress towards the implementation of each strategy.

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

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



## Adopting the Vision for Greenways in Crawford County

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

## Adopting the Vision for Greenways in Crawford County (continued)

Task	Responsible Parties	Priority	Cost	Potential Funding Sources	Status	
					Begin	Completed
If regional joint greenway coordinator positions are deemed not feasible:						
Implement greenways recommendations through existing agencies, with existing Crawford County Planning Department staff, or by hiring a county greenway coordinator.	CCPC	S	\$40,000, annually	PA DCNR, if at the County Level		
Marketing / Education / Promotion						
Spread the Word - celebrate the vision adopted for Crawford County Greenways through regional and local television, newspaper, radio, and internet news agencies	Stakeholders, partner organizations	S	Volunteer / In-Kind	n/a		
Develop detailed public marketing, education and promotion campaign to inform county residents and elected officials about the benefits of greenways implementation and promote the many attractions of the greenway network.	Crawford Area Convention & Visitors Bureau, CCPC, Crawford County Conservation District, Crawford County Agricultural Preservation Board, Western Pennsylvania Conservancy, PA DCNR, PA DEP, Allegheny College, and University of Pittsburgh - Titusville	S	\$40,000	PA DCNR PA DEP PA DCED Foundations		
Explore opportunities to partner with Crawford County Health community to advance greenways implementation	CCPC, ☐ Meadville Medical Center, ☐ Conneaut Lake Health Center, & UPMC Horizon	S	Admin. Time	Pennsylvania Advocates for Nutrition and Activity		

## Crawford County Greenways Plan

### Advancing the Greenways Plan at the Local Level - Natural Systems Greenways

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

## Crawford County Greenways Plan

### Advancing the Greenways Plan at the Local Level - Natural Systems Greenways (continued)

Task	Responsible Parties	Priority	Cost	Potential Funding	Status	
					Begin	Completed
Identify Opportunities for Additional Comprehensive Planning, Greenway Planning, Zoning Implementation, and / or Subdivision and Land Development Ordinance Implementation at the Municipal Level						
Educate potential municipalities on the benefits of planning, and implementation of land use tools	DCED, CCPC	On-Going	Admin. Time	In-Kind Services		
Assist municipalities, when requested, in completing greenway planning efforts at municipal / multi-municipal level.	CCPC	On-Going	\$30-60K per plan	PA DCNR PA DEP		
Assist municipalities, when requested, with comprehensive planning, and, zoning and subdivision and land development efforts.	CCPC	On-Going	\$40-60K Comp Plan \$20K Zoning \$10K SALDO per municipality	DCED		
Create package of incentives, including provision of matching funds, grant writing and other technical assistance to encourage municipalities to implement greenway recommendations at the municipal level.	Joint Greenway Coordinator, CCPC	S	\$20,000 annually	DCED		
Utilize GIS Data Assembled for Greenways Planning Effort as a Pro-Active Tool to Guide Land Development in Crawford County						
Educate municipal officials on what resources are available to them early in the planning process	Joint Greenway Coordinator, CCPC	S	Admin. Time	In-Kind Services		
Institute process at the municipal level where municipality / potential developer requests query of GIS data to identify natural system greenway corridors, and their resources, on a particular site before planning / design effort for development begins.	Joint Greenway Coordinator, CCPC	S	Admin. Time	In-Kind Services		



## Crawford County Greenways Plan

### Advancing the Greenways Plan at the Local Level - Natural Systems Greenways (continued)

Task	Responsible Parties	Priority	Cost	Potential Funding	Status	
					Begin	Completed
Conduct Zoning and Subdivision and Land Development Audits of Existing Ordinances						
Identify potential pilot municipalities	PA DEP, Joint Greenway Coordinator, Crawford County Department of Planning (CCPC), Crawford County Conservation District (CCCD), Municipal Officials and Planning Commissions	On-Going	Admin. Time	n/a		
Meet with potential pilot municipalities to discuss the goals of the greenways plan and the means of advancing greenways through local planning efforts.	PA DEP, Joint Greenway Coordinator, CCPC, CCCD, Municipal Officials and Planning Commissions	On-Going	Admin. Time	n/a		
Request pilot municipalities to adopt the Crawford County Greenway Plan as the guiding document for greenway efforts in their municipality.	Joint Greenway Coordinator, CCPC, CCCD, Municipal Officials and Planning Commissions	On-Going	Admin. Time	n/a		
Complete audit of current municipal zoning and subdivision and land development ordinances, and provide municipality with options for achieving the strategies documented in the Crawford County Greenway Plan.	Joint Greenway Coordinator, CCPC	On-Going	Admin. Time	n/a		
Complete audits of current municipal zoning and subdivision and land development ordinances for Meadville; Cambridge Springs, Conneaut Lake, & Saegertown Boroughs; Bloomfield, Cambridge, Conneaut, Greenwood, Hayfield, North Shenango, Pine, Sadsbury, South Shenango, Summerhill, Summit, Union, Venango, Vernon, West Mead,, West Shenango, and Woodcock Townships.	Joint Greenway Coordinator, CCPC	S	Admin. Time	n/a		

## Crawford County Greenways Plan

### Advancing the Greenways Plan at the Local Level - Natural Systems Greenways (continued)

Task	Responsible Parties	Priority	Cost	Potential Funding	Status	
					Begin	Completed
Conduct Zoning and Subdivision and Land Development Audits of Existing Ordinances (continued)						
Complete audits of current municipal zoning and subdivision and land development ordinances for Blooming Valley Borough; Beaver, Cussewago, & Spring Townships.	Joint Greenway Coordinator, CCPC	M		n/a		
Complete audits of current municipal zoning and subdivision and land development ordinances for the City of Titusville; Hydetown & Spartansburg Boroughs; East Mead and Oil Creek Townships.	Joint Greenway Coordinator, CCPC	L		n/a		
As requested, provide municipalities with technical assistance to update their zoning and subdivision and land development ordinances to achieve vision for greenways in Crawford County.	Joint Greenway Coordinator, CCPC	On-Going	\$5,000 per municipality	PA DEP, Foundations, local municipalities		
Implement Land Use Tools at the County Level to assist in Achieving the Vision for Greenways in Crawford County						
Update County Land Development and Subdivision Ordinance to strengthen conservation of natural system greenway components.	CCPC	S	In-Kind Services	n/a		
Update the County Land Development and Subdivision Ordinance review process to include the submission of a site analysis which documents the locations of those natural resources, which are to be conserved, on the site.	CCPC	S	In-Kind Services	n/a		
Update the County Land Development and Subdivision Ordinance review process to categorize those sites with such features as major subdivisions, which require a more thorough review.	CCPC	S	In-Kind Services	n/a		

## Crawford County Greenways Plan

### Advancing the Greenways Plan at the Local Level - Natural Systems Greenways (continued)

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

## Crawford County Greenways Plan

### Advancing the Greenways Plan at the Local Level - Natural Systems Greenways (continued)

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

## Crawford County Greenways Plan

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### Advancing the Greenways Plan at the Local Level - Natural Systems Greenways (continued)

Task	Responsible Parties	Priority	Cost	Potential Funding	Status	
					Begin	Completed
Ensuring Success Marketing / Promotion						
Implement marketing strategies formed in the early stages of greenways planning, with emphasis on economic development potential	Joint Greenway Coordinator, Northwest Commission, CCPC	S	\$10,000 annually	Crawford County Convention and Visitors Bureau (CCVB)		
Celebrate successes, actively solicit support and coverage from local television, newspaper, radio, and internet news agencies.	Joint Greenway Coordinator, Northwest Commission, CCPC	on-going	In-Kind Services	n/a		

## Crawford County Greenways Plan

### Advancing the Greenways Plan at the Local Level - Recreation and Transportation Greenways

Task	Responsible Parties	Priority	Cost	Potential Funding	Status	
					Begin	Completed
Coordination with Local Trail Organizations / Municipalities and Other Stakeholders						
Meet with local trail organizations to review recommendations for recreation greenways that resulted from county greenway planning process	Joint Greenway Coordinator, CCPC	S	Admin. Time	n/a		
Review process for planning and developing recreation greenways with trail organizations	Joint Greenway Coordinator, CCPC	S	Admin. Time	n/a		
Shared Use Trail Implementation Strategies						
Complete Feasibility Studies for East Branch, Titusville Queen City, Lake to Lake, Spillway, and Linesville to Conneaut Trails	Northwest Pennsylvania Commission, Joint Greenway Coordinator, CCPC, Trail Associations	S	\$250,000	DCNR DCED PennDOT		
Complete Feasibility Studies for Ernst, Titusville to Youngsville, and French Creek Trails.	Northwest Pennsylvania Commission, Joint Greenway Coordinator, CCPC, Trail Associations	M	\$175,000	DCNR DCED PennDOT		
Complete Feasibility Studies for Conneaut Lake, Pymatuning Valley, Canadohta Lake, and End of the Road Trails.	Northwest Pennsylvania Commission, Joint Greenway Coordinator, CCPC, Trail Associations	L	\$200,000	DCNR DCED PennDOT		
Complete Bicycle suitability mapping, and market brochure for Crawford County	Northwest Pennsylvania Commission, CCPC, Crawford County Convention and Visitors Bureau, and local cycling clubs.	S	\$25,000 or no cost with CCPC and Volunteers	DCNR DCED PennDOT		
Pedestrian and Bicycle Implementation Strategies						
Encourage the City of Meadville to conduct and adopt a pedestrian and bicycle feasibility study	Joint Greenway Coordinator, Northwest Commission, CCPC	S	\$50,000	PennDOT DCNR DCED Health Providers		
Complete wayfinding study to prepare recommendations for implementing a wayfinding system for pedestrian and bicycle activities throughout Crawford County	Joint Greenway Coordinator, Northwest Commission, CCPC, PennDOT	S	\$50,000	PennDOT, PA DCNR		
Implement pedestrian and bicycle wayfinding recommendations through-out Crawford County	Joint Greenway Coordinator, Northwest Commission, CCPC, PennDOT	M, L	Unknown	PennDOT, DCED		

## Crawford County Greenways Plan

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

Task	Responsible Parties	Priority	Cost	Potential Funding	Status	
					Begin	Completed
Water Trail Implementation Strategies						
Work with Cambridge Springs Borough, the City of Meadville, Cochranton Borough, and other Crawford County municipalities to revitalize and reestablish the French Creek Water Trail	Joint Greenway Coordinator, Northwest Commission, CCPC, French Creek Project, PA Fish and Boat Commission	S	PA Fish & Boat In-Kind Services	PA Fish & Boat Commission PA DCNR		
Participate in Shenango River Water Trail Feasibility Study	Joint Greenway Coordinator, Northwest Commission, CCPC, Jamestown Lions, Shenango River Watchers, Pymatuning State Park, Meadville / Western Crawford County Chamber of Commerce, PA Fish and Boat Commission	S	N/A	Currently Funded		
Complete feasibility study for a non-motorized Oil Creek Water Trail	Joint Greenway Coordinator, Northwest Commission, CCPC, Titusville Renaissance, Titusville Chamber of Commerce, Oil Region Alliance, Oil Creek State Park, PA Fish and Boat Commission	S	\$40,000	PA DCNR, PA Fish & Boat Commission		
Complete feasibility study for a non-motorized Conneaut Outlet Water Trail	Joint Greenway Coordinator, Northwest Commission, CCPC, French Creek Project, PA Game Commission, Meadville / Western Crawford County Chamber of Commerce,PA Fish and Boat Commission	M	\$30,000	PA DCNR, PA Fish & Boat Commission		
Complete feasibility study for a non-motorized Pymatuning Reservoir - North Pool Water Trail	Joint Greenway Coordinator, Northwest Commission, CCPC, Pymatuning State Park, Meadville / Western Crawford County Chamber of Commerce, PA Fish and Boat Commission, Erie National Wildlife Refuge	M	\$20,000	PA Fish & Boat Commission PA DCNR		

## Crawford County Greenways Plan

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

Task	Responsible Parties	Priority	Cost	Potential Funding	Status	
					Begin	Completed
Water Trail Implementation Strategies (continued)						
Complete Feasibility Study for Cussewago Creek Water Trail	Joint Greenway Coordinator, Northwest Commission, CCPC, Meadville / Western Crawford County Chamber of Commerce, PA Fish and Boat Commission	L	\$30,000	PA DCNR, PA Fish & Boat Commission		
Trail Town Development and Promotion						
Follow through with implementation efforts recommended in the Oil Creek Region Comprehensive Plan, including: continued support of local retail sector; attract new retailers focusing on small to moderately sized stores; capitalize on tourism trade potential	CCPC, Titusville Renaissance, Titusville Redevelopment Authority, Titusville Chamber of Commerce, Oil Region Alliance	On-Going	as required	PA DCED, Foundations		
Complete Trail Town audits and begin to establish Trail Town philosophy into Titusville, Meadville, and Conneaut Lake businesses	Joint Greenway Coordinator, CCPC, Titusville Renaissance, Titusville Redevelopment Authority, Titusville Chamber of Commerce, Oil Region Alliance, Meadville / Western Crawford County Chamber of Commerce, Allegheny College, Center for Economic and Environmental Development, Conneaut Lake Aquatic Management Association	S	\$100,000	PA DCED, PA DCNR, Foundations		
Complete Trail Town audits and begin to establish Trail Town philosophy into Spartansburg, Linesville, and Cochranton	Joint Greenway Coordinator, CCPC, Clear Lake Authority, Envision Linesville, Spartansville, Linesville and Cochranton Boroughs, Cochranton Greenways, Meadville / Western Crawford County Chamber of Commerce	M	\$50,000	PA DCED, PA DCNR, Foundations		



## Crawford County Greenways Plan

### Advancing the Greenways Plan at the Local Level - Recreation and Transportation

#### Greenways (continued)

Task	Responsible Parties	Priority	Cost	Potential Funding	Status	
					Begin	Completed
Trail Town Development and Promotion (continued)						
Complete Trail Town audits and begin to establish Trail Town philosophy into Cambridge Springs	Joint Greenway Coordinator, CCPC, Cambridge Springs Borough Meadville / Western Crawford County Chamber of Commerce	L	\$30,000	PA DCED, PA DCNR, Foundations		
Ensuring Success Marketing / Promotion						
Implement marketing strategies formed in the early stages of greenways planning, with emphasis on economic development potential	Joint Greenway Coordinator, Northwest Commission, CCPC, Crawford County Convention & Visitors Bureau (CCCVB), Meadville / Western Crawford County Chamber of Commerce, Titusville Chamber of Commerce	S	\$10,000 annually	Crawford County Convention and Visitors Bureau		
Work with business community and health providers to encourage bike to work programs	Joint Greenway Coordinator, Northwest Commission, CCPC, CCCVB, Meadville / Western Crawford County Chamber of Commerce, Titusville Chamber of Commerce	M	In-Kind Services	Pennsylvania Advocates for Nutrition and Activity (PANA), Health Care Providers		
Work with business community and health providers to encourage bike to school programs	Joint Greenway Coordinator, Northwest Commission, CCPC, CCCVB, Meadville / Western Crawford County Chamber of Commerce, Titusville Chamber of Commerce	M	In-Kind Services	Pennsylvania Advocates for Nutrition and Activity (PANA), Health Care Providers		
Celebrate successes, actively solicit support and coverage from local television, newspaper, radio, and internet news agencies.	Joint Greenway Coordinator, Northwest Commission, CCPC, CCCVB, Meadville / Western Crawford County Chamber of Commerce, Titusville Chamber of Commerce, & local project sponsors	on-going	In-Kind Services	n/a		



### Demonstration Project Opportunities

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

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

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

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

Utilizing these sets of criteria, the Steering Committee recommended the following demonstration project opportunities in 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 both the East Branch Trails 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 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 has 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 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 a Trail Town Demonstration project, 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, and 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 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 the 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.

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: working 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 be advocates for the trail and work with the private sector to re-establish one or two canoe liveries along the trail; 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.

The anticipated costs associated with developing this water trail include:

- Acquisition of put access points: ..... \$0
  - Sign access points and access point improvements: ..... \$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.

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

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

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

### *Planning and Organizational Needs*

1. A shared vision for a water trail is a goal that community members believe in and are willing to work towards. Dedicated local support for a goal-oriented project will sustain local water trail benefits. A dedicated group of volunteers is key to water trail success. A water trail must be advocated and maintained locally if the community will reap economic and social benefits.
2. Address landowner and citizen concerns through outreach to the community early in the project. A designated contact person should respond quickly and accurately to suggestions, concerns and other comments. A pre-opening/pre-construction trail paddle will allow community members to see the proposed water trail for themselves.
3. Solidify funding, planning and overall water trail management with clear leadership and goals. These factors should be considered before marketing a water trail.
4. Investigate local goals, norms and land use patterns that are inconsistent with the water trail vision or threaten the integrity of a paddling experience should be evaluated. Tourism development in rural areas will have social implications including increased land values.
5. Explore partnership opportunities and apply for grants and offers of assistance. Local officials, government agencies, businesses and the community should commit to water trail

project goals. Successful water trails are the result of a cooperative effort between an active citizen group, a responsive public agency, and a supportive community all of whom share a vision for the trail. Partner with lodging, eating and drinking, retail sales, and recreational services businesses.

6. Host events to advertise the trail, build support and draw new volunteers. noteworthy events such as water trail grand openings and annual paddling festivals provide excellent opportunity to make contact with the community, present accurate information and generate positive media attention.

### *Infrastructure Needs*

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

Additional guidance on water trail development can be found in the Chesapeake Bay Gateways Network, “Water Trails Toolbox”, [www.baygateways.net/watertrailtools.cfm](http://www.baygateways.net/watertrailtools.cfm).

### Trail Towns

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

- Main Street Business District
- Food
- Lodging
- Fuel

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

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

Of the trail towns being proposed for 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, and 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 trail town master planning process for Titusville and Conneaut Lake.

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

- ✓ French Creek Greenway Corridor: The significance of the ecological resources associated with French Creek have been well documented. As a premier example of a corridor containing high quality ecological resources, efforts must be taken to conserve the corridors resources; prevent their degradation; and acquire easements and / or property to ensure the natural systems can provide stormwater and flood control.

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 the Venango Bridge conservation holding (located in Venango Borough) of the Western Pennsylvania Conservancy, a portion of Erie National Wildlife Refuge, State Game Lands No. 85 and 277, as well as eight Biological Diversity Area’s as identified in the Crawford County Natural Heritage Inventory.

*Approximate Size:* The total length of the French Creek Greenway is approximately thirty-four miles. The width varies from about two 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 conservation holding, and the wildlife refuge. Approximately 11.8% of this greenway is designated as developed or urban land.

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

- ✓ **Conneaut Lake / Conneaut Outlet Greenway Corridor:** 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 Important Bird Area, defined by the Audubon Society of Pennsylvania, and ten Biological Diversity Area's as identified in the Crawford County Natural Heritage Inventory.

*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 or urban land.

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

- ✓ **Muddy Creek Greenway Corridor:** Situated in northern Crawford County, this BDA encompasses all sections of Dead Creek, Mackey Run, Federal Run, Little Federal Run, Potash Run, East Branch Muddy Creek, and Muddy Creek.

This greenway also includes Erie National Wildlife Refuge - Sugar Lake Division, two Important Bird Areas, as defined by the Audubon Society of Pennsylvania; State Game Lands No. 85, 146, and 122; and six Biological Diversity Area's as identified in the Crawford County Natural Heritage Inventory.

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

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



✓ Pymatuning Reservoir Greenway Corridor

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

- Conducting education and outreach, to municipal officials and the County's residents, 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
- Enhancing existing Zoning and Subdivision and Land Development Tools by strengthening them for the conservation of natural greenways corridors

It is recommended 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.

### 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 or organization 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 or organization may, but is not obligated to, submit a bid to the landowner.

##### *Conservation Easements*

- **Description:** A landowner voluntarily agrees to sell the right to develop his land in certain ways by granting an easement to another entity such as a land trust. The landowner retains title to the land and continues to pay taxes on it. The easement may or may not allow the grantee access to the land for certain purposes.
- **Benefits:** Establishment of conservation easements provides long-term protection, but is less costly than fee simple acquisition because the buyer receives less than full title to the land. Where the easement is held by a non-profit group, cost and burden on local government are

minimized. Moreover, the landowners pay reduced real estate taxes, subject to terms of the conservation easement.

- **Implementation:** Generally, the buyer pays the landowner the difference between the value of the land that can be fully developed and the value of the land without development potential. The easement is recorded with the property deed and remains if the land is sold.

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

Although AP does not hold conservation easements, it promotes establishment of easements through other qualified land trust organizations (local examples are described later in this section). AP's efforts are important to Crawford County because six Important Bird Areas (IBAs) are located within the County's borders. IBAs contain areas of essential and sometimes vulnerable bird habitat. The IBAs are further described in Chapter Two.

The protection of these areas is of great interest to AP, and conservation efforts in these areas may attract the support of the organization in the form of landowner education. More information is available through the AP website, <http://pa.audubon.org>.

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

### *Regulatory Tools*

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

### *Open Space Zoning*

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

### *Growing Greener: Conservation by Design*

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

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

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

Subdivision ordinances must contain, at a minimum:

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

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

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

Zoning ordinances must contain, at a minimum:

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

Successful communities employ a wide array of conservation planning techniques simultaneously over an extended period of time. Complementary tools, which a community should consider adding to its “toolbox” of techniques, include the purchase of development rights; donations of sales to conservancies; the transfer of development rights; and “landowner 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 landowner 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](http://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, is 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. This option is of special importance in Crawford County, where several municipalities throughout the County contain large swaths of agricultural land.
- 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.

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

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

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

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

### *The Official Map*

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

Municipalities wanting to establish 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 in an official map, the municipality should have a reasonable prospect of obtaining the funds necessary to purchase the property of interest.

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

### ***Other Recommendations***

The action plan also includes several other conservation and recreation-based recommendations essential to maintaining the quality of life that defines Crawford County. The following mechanisms are methods of land conservation or resource protection that do not involve acquisition of land or enactment of ordinances by a municipality, but are also 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.

Many Agricultural Security Areas (ASAs) already exist within Crawford County's borders.

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 Crawford County. This plan recommends that the County continue to accept applications for agricultural security areas and couple that effort with a strong conservation-based education program showing farmers in ASAs the benefits of best agricultural best management practices and natural resource conservation.

#### *Agricultural Tax Incentives*

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

#### *Clean and Green Program*

- Description: Pennsylvania ACT 319 (also known as Clean and Green) provides real estate tax benefit to owners of agricultural or forest land by taxing that land on the basis of its "use value", rather than its true market value. This act provides preferential assessment to any individuals who agree to maintain their land solely devoted to one of the three following uses:
  - Agricultural Use: Land used for producing an agricultural commodity or devoted to (and qualifying for) payments or other compensation under a soil conservation program under an agreement with a Federal government agency.

- Agricultural Reserve: A non-commercial open space used for outdoor recreation or enjoyment of scenic or natural beauty, offering public use without fee or charge. Agricultural reserve land is the only use under the Clean and Green program that requires landowners to permit nondiscriminatory public access. This use is generally requested by landowners that wish to maintain their land in a natural state; free of farming, timbering, or any other activities.
- Forest Reserve: A 10+ acre parcel of land stocked by forest trees that are capable of producing timber or other wood products. Forest reserve lands include any farmstead land on the same property parcel as the timber trees.
- Benefits: Clean and Green reduces property taxes for owners of farm, timber, or conservation land.
- Implementation: Landowners applying for the Clean and Green Program must have 10 or more acres of active agricultural or forest land unless they gross at least \$2,000 annual income from the land.

### *Partnership with a Land Trust Organization*

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

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

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

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

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

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

Many of Pennsylvania's land conservation organizations are members of the *Pennsylvania Land Trust Association* (PALTA), whose mission is to increase the quality and pace of land conservation state-wide, by strengthening conservation efforts; improving related government policy; and raising public awareness, while building positive relationships between land conservation organizations and other partners. The French Creek Valley Conservancy, Allegheny Valley Trails Association, Allegheny Valley Conservancy, and the Western Pennsylvania Conservancy are current members of PALTA. Information on these and other land trusts is available at [www.conserveland.org](http://www.conserveland.org).

### *Continue to Promote Agricultural Best Management Practices*

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

The Crawford County Conservation District currently offers landowner education on agricultural best management practices, and has helped landowners implement such practices throughout the County. In addition, the Western Pennsylvania Conservancy (WPC) provides outreach and implementation services for best management practices via the Pennsylvania Conservation Reserve Enhancement Program (CREP). CREP rewards agricultural producers and landowners for agreeing to install conservation practices on their land. More information is available at [www.creppa.org](http://www.creppa.org) and through the Crawford County Conservation District (phone: 814-825-6403).

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

These programs benefits 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 PGC 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 PGC offices, through the Bureau of Land Management at the PAGC Harrisburg headquarters, or through the PGC website: [www.pgc.state.pa.us](http://www.pgc.state.pa.us).

### Land Trust Organizations

There are several land trust and conservation organizations whose geographical area includes Crawford County. A query of the Pennsylvania Land Trust Association's database identifies those included in the following table. Crawford County should begin a dialogue with each organization identified herein to determine their level of interest and commitment to providing their capabilities to Crawford County at a more local level. If the discussions lead to a determination that the natural system greenway corridors recommended herein are outside of the respective agency's missions, then it is recommended efforts be re-focused on determining if there is interest in the County to establish a Crawford County Conservancy, whose primary focus would be focused on greenway corridors within Crawford County.

County(ies) Served	Organization	Mission
Crawford Erie Mercer Venango	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.
Clarion Crawford Venango	Allegheny Valley Trails Association P.O. Box 264 Franklin, PA 16323 814-437-3203	To acquire abandoned railways in the Allegheny River watershed and to rehabilitate them into multipurpose, non-motorized recreational trails.
Crawford Elk McKean	Seneca Highlands Conservancy 800 Minard Run Road Bradford, PA 16701 607-257-6533	
Clarion Crawford Lawrence Mercer Venango Warren	Western Pennsylvania Conservancy 800 Waterfront Drive Pittsburgh, PA 15222 412-586-2326 info@paconserve.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.
Forest Venango Warren	Allegheny Valley Conservancy P.O. Box 96 Franklin, PA 16323 814-432-2187 jaholden@csonline.net	To protect the water quality of the Allegheny river and French Creek watersheds; preserve open-space, scenic beauty, valuable and productive agriculture and forest land and historically significant areas in the watersheds; to enhance the quality of life for residents of the region; to promote land stewardship through public education and technical assistance.



## **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	<a href="http://www.dcnr.state.pa.us/brc/grants/general02.aspx">http://www.dcnr.state.pa.us/brc/grants/general02.aspx</a>
Boating Facilities Grants	Pennsylvania Fish & Boat Commission	boating facilities	<a href="http://www.fish.state.pa.us/promo/grants/boat_fac/00boatfac.htm">www.fish.state.pa.us/promo/grants/boat_fac/00boatfac.htm</a>
Certified Local Government Grants	Pennsylvania Historic and Muesum Commission	cultural surveys / interpretation	<a href="http://www.artsnet.org/phmc/pdf/clg_app.pdf">www.artsnet.org/phmc/pdf/clg_app.pdf</a>
Community Development Block Grant	Pennsylvania Department of Community Development	infrastructure / community facilities	<a href="http://www.newpa.com/programDetail.aspx?id=71">www.newpa.com/programDetail.aspx?id=71</a>
Community Revitalization Program	Pennsylvania Department of Community Development	quality of life	<a href="http://www.newpa.com/programDetail.aspx?id=72">www.newpa.com/programDetail.aspx?id=72</a>
Environmental Education Grants	Pennsylvania Department of Environmental Protection	Environmental Education	<a href="http://www.depweb.state.pa.us/enved/cwp/">www.depweb.state.pa.us/enved/cwp/</a>
Growing Greener Grants	Pennsylvania Department of Environmental Protection	conservation of resources	<a href="http://www.depweb.state.pa.us/growinggreener">www.depweb.state.pa.us/growinggreener</a>
Keystone Historic Preservation Grants	Pennsylvania Historic and Muesum Commission	preservation / restoration	<a href="http://www.artsnet.org/phmc/pdf/kph_app.pdf">www.artsnet.org/phmc/pdf/kph_app.pdf</a>
Land Recycling Grants Program	Pennsylvania Department of Environmental Protection	remediation	<a href="http://www.depweb.state.pa.us/dep/site/detail.aspx?id=71">www.depweb.state.pa.us/dep/site/detail.aspx?id=71</a>
Land Use Planning & Technical Assistance Grants	Pennsylvania Department of Community Development	community planning	<a href="http://www.depweb.state.pa.us/dep/site/detail.aspx?id=72">www.depweb.state.pa.us/dep/site/detail.aspx?id=72</a>
Main Street Program	Pennsylvania Department of Community Development	economic growth / community	<a href="http://www.depweb.state.pa.us/dep/site/detail.aspx?id=79">www.depweb.state.pa.us/dep/site/detail.aspx?id=79</a>
Non-Point Source Management Section 319	Pennsylvania Department of Environmental Protection	watershed restoration	<a href="http://www.dep.state.pa.us/dep/deputate/">www.dep.state.pa.us/dep/deputate/</a>
Pennsylvania Infrastructure Bank	Pennsylvania Department of Transportation	transportation projects	<a href="http://www.dot.state.pa.us/bureaus/PIB.nsf/homepagePIB?OpenForm">www.dot.state.pa.us/bureaus/PIB.nsf/homepagePIB?OpenForm</a>
TE Hometown Streets & Safe Routes to Schools	Pennsylvania Department of Transportation	bike / ped improvements	<a href="http://www.dot.state.pa.us/pennndot/Bureaus/CPDM/Prod/Saferoute.nsf">http://www.dot.state.pa.us/pennndot/Bureaus/CPDM/Prod/Saferoute.nsf</a>
Urban & Community Forestry Grants	Pennsylvania Department of Conservation & Natural Resources	planting of trees	<a href="http://www.dcnr.state.pa.us/forestry/pucfc/">www.dcnr.state.pa.us/forestry/pucfc/</a>
Treevitalize	Pennsylvania Department of Conservation & Natural Resources	planting of trees	<a href="http://www.treevitalize.net">www.treevitalize.net</a>
Pennsylvania Redevelopment Assistance Capital Improvements	Pennsylvania Department of Community Development	see program guidelines	<a href="http://www.budget.state.pa.us/budget/lib/budget/racp/appmat/applicationhandbook.pdf">www.budget.state.pa.us/budget/lib/budget/racp/appmat/applicationhandbook.pdf</a>
Single Application Grants	Pennsylvania Department of Community Development	see program guidelines	<a href="https://www.esa.dced.state.pa.us/ESAW/">https://www.esa.dced.state.pa.us/ESAW/</a>
Coldwater Heritage Conservation Grant	Pennsylvania Trout Unlimited, PA DCNR, PA Fish & Boat Commission	conservation of coldwater streams	<a href="http://www.coldwaterheritage.org">www.coldwaterheritage.org</a>

Federal Public Agency Grant and Funding Opportunities

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

Federal Public Agency Grant and Funding Opportunities

Program	Agency	Purpose	Website
Urban Park and Recovery Program	National Park Service	parks	<a href="http://www.ncrc.nps.gov/uparr/">www.ncrc.nps.gov/uparr/</a>
Value Added Producers Grants	USDA Rural Development	market value added ag products	<a href="http://www.rurdev.usda.gov/GA/vadg.htm">www.rurdev.usda.gov/GA/vadg.htm</a>
Water Quality Research Grants	U.S. Department of Agriculture	water quality impairment	<a href="http://www.epa.gov/smarthgrowth/topics/water_quality_funding.htm">www.epa.gov/smarthgrowth/topics/water_quality_funding.htm</a>
Wetlands Reserve Program	Natural Resource Conservation Service	restore & protect wetlands	<a href="http://www.nrcs.usda.gov/programs/WRP/">www.nrcs.usda.gov/programs/WRP/</a>
Wildlife Habitat Incentives Program	Natural Resource Conservation Service	develop & improve wildlife habitat	<a href="http://www.nrcs.usda.gov/programs/whip/">www.nrcs.usda.gov/programs/whip/</a>

State Foundation Grant and Funding Opportunities

Program	Purpose	Website
Alcoa Foundation	economic development & quality of life	<a href="http://www.alcoa.com/global/en/community/foundation/overview.asp/">www.alcoa.com/global/en/community/foundation/overview.asp/</a>
Asland Oil Foundation		<a href="http://www.ashland.com/commitments/contributions.asp/">www.ashland.com/commitments/contributions.asp/</a>
Bayer Foundation		<a href="http://www.bayer.com/en/bayer-foundations.aspx/">www.bayer.com/en/bayer-foundations.aspx/</a>
Bozzone Family Foundation	quality of life	311 Hillcrest Drive, New Kensington, PA 15068-2318
Bridge Builders Foundation		<a href="http://www.bridgebuildersfoundation.org/aboutus/index.htm/">www.bridgebuildersfoundation.org/aboutus/index.htm/</a>
Deluxe Corporation		<a href="http://www.deluxe.com/dlxab/deluxe-foundation.jsp/">www.deluxe.com/dlxab/deluxe-foundation.jsp/</a>
Dominion Foundation	economic development & environment	<a href="http://www.dom.com/about/community/foundation/index.jsp/">www.dom.com/about/community/foundation/index.jsp/</a>
Ganassi Foundation		100 RIDC PLZ, Pittsburgh, PA 15238
Giant Eagle Foundation		101 Kappa Drive, Pittsburgh, PA 15238
H.J. Heinz Foundation		<a href="http://www.heinz.com/foundation.aspx/">www.heinz.com/foundation.aspx/</a>
Heinz Endowments	Environment	<a href="http://www.heinz.org/">www.heinz.org/</a>
Highmark Foundation		<a href="http://www.highmark.com/hmk2/community/hmfoundation/index.shtml/">www.highmark.com/hmk2/community/hmfoundation/index.shtml/</a>
Hillman Foundation	quality of life	<a href="http://www.hillmanfdn.org/">www.hillmanfdn.org/</a>
Hunt Foundation	focus on good of the region	<a href="http://www.rahuntfdn.org/">www.rahuntfdn.org/</a>
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	<a href="http://www.mccune.org/">www.mccune.org/</a>
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		<a href="http://www.msanorthamerica.com/communityrelations.html/">www.msanorthamerica.com/communityrelations.html/</a>
National City Bank Foundation		<a href="http://www.nationalcity.com/about-us/community/community-relations/pages/charitable-giving.asp">www.nationalcity.com/about-us/community/community-relations/pages/charitable-giving.asp</a>
Pennsylvania Snowmobile Association Mini-grant Program	motorized trails	www.pasnow.org/PSSA%20Trail%20Grant%20Package.prn.pdf
Pew Charitable Trusts	environment & community development	<a href="http://www.pewtrusts.org/">www.pewtrusts.org/</a>
Pittsburgh Foundation		<a href="http://www.pittsburghfoundation.org/">www.pittsburghfoundation.org/</a>
PNC Bank Foundation		<a href="https://www.pnc.com/webapp/unsec/ProductsAndService.do?siteArea=/PNC/Home/About+PNC/Our+Organization/Community+Involvement/PNC+Foundation/PNC+Foundation+Grant+Program">https://www.pnc.com/webapp/unsec/ProductsAndService.do?siteArea=/PNC/Home/About+PNC/Our+Organization/Community+Involvement/PNC+Foundation/PNC+Foundation+Grant+Program</a>
PPG Industries Foundation		<a href="http://corporateportal.ppg.com/PPG/PPGIndustriesFoundation/">http://corporateportal.ppg.com/PPG/PPGIndustriesFoundation/</a>
Richard King Mellon Foundation	environment	<a href="http://foundationcenter.org/grantmaker/rkmellon/">http://foundationcenter.org/grantmaker/rkmellon/</a>
Rockwell International Corporation Trust Fund		<a href="http://www.rockwellautomation.com/about_us/neighbor/giving.html/">www.rockwellautomation.com/about_us/neighbor/giving.html/</a>
Snee-Reinhardt Charitable Foundation	education & environment	<a href="http://www.snee-reinhardt.org/">www.snee-reinhardt.org/</a>
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		<a href="http://www.uss.com/corp/ussfoundation/">www.uss.com/corp/ussfoundation/</a>
W. Dale Brougher Foundation	conservation, ecology, history, & arts	1200 Country Club Road, York, PA 17403
Washington Federal Charitable Trust		<a href="http://www.washfed.com/charity.htm/">www.washfed.com/charity.htm/</a>
Westinghouse Foundation	quality of life	<a href="http://www.westinghouse.com/charitablegiving/giving.htm/">www.westinghouse.com/charitablegiving/giving.htm/</a>

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

National Foundation Grant and Funding Opportunities

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

National Foundation Grant and Funding Opportunities

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



# **CHAPTER TWO**

## **WHERE ARE WE NOW? - Crawford County's Resources**



## WHERE ARE WE NOW?

### **CRAWFORD COUNTY'S RESOURCES**

#### **GATHERING THE DATA**

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

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

The information compiled herein is for the convenience of those who will make future management and resource related decisions. Some of these past reports include contradictory conclusions. References to these reports in this chapter do not imply endorsement. Chapter One of this document provides the recommendations that are a result of the Northwest Greenways planning process.

#### **EXISTING PLANNING EFFORTS**

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

##### **Crawford County Comp Plan (1997-2000)**

There are many specific goals and objectives that can be furthered through the Greenways Plan, set forth in the Crawford County Comp Plan, with respect to land use, housing, transportation, infrastructure, community facilities, and the environment. Some of these specific goals include:

- Recognize, preserve, and protect specific historic and cultural resources as a means for enhancing the visual character of the local municipalities and for improving the overall quality of life of County residents.
- Preserve the existing rural character of the County and to preserve land resources unsuited for development or incompatible with it.
- Encourage the development of bicycle paths and trails throughout the County.

- Increase the standard of living, attractiveness, and desirability of the County through the adequate provision of a wide range of community facilities that are easily accessible to all.
- Preserve and protect the ecological and environmental quality, using both proactive and regulatory means. The policies of this element include: preserving open space and promoting greenways, common green space, and viewsheds.
- Explore the adoption of a conservation of open spaces land use and development stance through assisting municipalities with information. *This section of the plan specifically includes a recommendation to designate areas for greenways conservation.*

Another recommendation of the comprehensive plan is to maintain the County forest in the east because the majority of the recreational facilities are located in the western half of the County, and the forest land should be preserved as a potential recreation area for the upper Oil Creek Valley.

Part of the overall environmental goal defined in the comprehensive plan includes “*to improve citizen awareness of environmental issues through educational initiatives, provide sufficient quantity and quality of water for consumption, recreation and wildlife, manage forest levels...*”

In the section of the comprehensive plan that focuses on water quality, one of the objectives is to re-establish stream buffers or riparian zones along water systems. The policies of this objective include:

- Establishing priorities for sensitive areas along various tributaries and/or watersheds;
- Devising incentives for designating land to trails; and
- Having 50ft to 100ft buffer zones along major tributaries.

Some of the specific recommendations that may be fulfilled in the NWPA Greenways Plan include:

- Preserve and protect historic and cultural resources
- Preserve rural characteristics
- Encourage the development of bicycle paths and trails through the County
- Increase standard of living, attractiveness, and desirability of the County
- Review Woodcock Creek Plan (trails at Colonel Crawford Park)
- Look for ways to incorporate Crawford County Fairgrounds
- Consider County Forest land in the east for recreation area
- Explore 50-100ft buffers of major tributaries
- Prioritize sensitive areas along streams

One objective of the transportation section of this plan is to minimize the environmental impacts of transportation improvements. The recommended policy to help meet this objective is to encourage the development of bicycle paths and trails through the County.

### **Recreation**

#### *Key Regional Recreational Facilities:*

- Pymatuning State Park is the largest state park in the state of Pennsylvania and the second most frequently visited.
- Crawford County has 40 square miles of State Game Lands
- Crawford County has a 13,000-acre National Wildlife Refuge
- Crawford County has a 1,700-acre U.S. Army Corps of Engineers flood control/recreation project (Woodcock Creek Lake Project)
- Crawford County has one of the state's largest agricultural fairs
- Public & private facilities at Conneaut and Canadohta Lakes have been resort destinations for over a century

This plan also recommends that the County should continue to seek ways to improve and strengthen Colonel Crawford Park, which it notes has become an extremely popular facility. This plan also mentions that newly proposed bike/pedestrian trails through this park will help meet this recommendation.

Due to the fact that the majority of the County's largest recreation facilities are concentrated in the western half of the County, this plan recommends maintaining and preserving the Steuben, Oil Creek, and Troy Township forests for future potential recreational areas in the upper Oil Creek Valley.

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

### **Oil Heritage Region Management Plan Augmentation Technical Report (2006)**

This document augments the 2004 Management Plan Update to the original Oil Heritage Management Plan from 1994. The original plan led to the designation of Venango County and portions of Crawford County as a state heritage park by the Commonwealth of Pennsylvania. This augmentation of the 2004 update reflects the recent designation of the Oil Region National Heritage Area by the U.S. Congress.

Since the completion of the initial plan in 1994, investments in the Oil Heritage Region have supported the creation and expansion of an outstanding regional recreational trail system, along with improvements to interpretive venues, historic preservation projects, public environment improvements, economic development in the region's historic downtowns, and expanded management capability.

Some of the specific recommendations that may be fulfilled in the NWPA Greenways Plan include:

- Interpretation and identity improvements should continue to build upon the resources and venues that communicate the heritage of the region.

- The Allegheny River, through the region, should be more intensively utilized for boating and fishing.
- The recreational trail system should be expanded and completed. Regional efforts should encompass extended connections to activity centers at the edge of the Oil Heritage Region boundary and beyond, including linkages to Spartansburg in Crawford County, Clarion County, and Mercer County, as well as along the Allegheny River and to Foxburg.
- Trail expansions should include spurs to connect other destinations such as Two Mile Run County park, area downtowns, and other destinations of interest that are relatively close to the trail system, such as iron furnaces, historic sites, and scenic natural features.

### **Oil Creek Region Comprehensive Plan**

This multi-municipal comprehensive plan was completed for Oil Creek Township, the City of Titusville, Hydetown Borough, and Centerville Borough in Crawford County; Oil Creek Township, Cherrytree Township, Pleasantville Borough, and Allegheny Township in Venango County; and Southwest Township in Warren County. This plan was done to address the issues of a loss of major employers and a steady drop in population within the region.

Recommendations of this plan, which are relevant to the efforts of the Northwest Greenways plan, include:

- Further development of the 17 miles of railroad right-of-way owned by the Clear Lake Authority following along Oil Creek. The overall plan for this trail, as promoted in the Oil Creek Region Plan, is to connect to a proposed trail in Erie County, which would then lead to an existing facility in Chautauqua County, New York, creating a bike trail that would start in the Oil Heritage Region and extend to the shores of Lake Erie.
- Preserve and protect the quality of life by preserving and protecting the natural resources, recreational opportunities, and a rural small-town lifestyle, which other communities strive to emulate.
- Maintain the high quality recreational assets for the region's residents.
- Support efforts to maintain and improve the cultural and educational assets in the region.

### **Pennsylvania Statewide Greenway Plan (2001)**

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

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

- More public education about greenways and their benefits;
- Greater effort to conserve land and protect ecological systems;
- Dedication of funding sources for long-term support of greenways and coordination of funding programs;

- A lead state agency for greenway initiatives; and
- State agencies' revision of their guidance documents, policies, and practices; and to work cooperatively better to support greenways.

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

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

### **French Creek Greenway Master Plan (2004)**

The French Creek Greenway Plan was created to develop a multi-use trail to connect the City of Meadville, Vernon Township, and West Mead Township. The proposed trail runs along French Creek, from the Ernst Trail at the south to the French Creek Outdoor Learning Center at the north, and along Mill Run through downtown Meadville out to Tamarack Lake.

Throughout the master plan process, discussions with the public and other stakeholders suggested a number of routes and destinations for the French Creek Greenway Trail. Some of these were offered as alternate alignments and were included in the master plan, while others were offered as opportunities to extend the master plan and/or create a network of routes connecting to this trail. The following are some of the suggestions that could be fulfilled as part of the NWPA Greenways Plan:

- Tamarack Lake Loop - potential destination
- Allegheny College - potential destination
- Beyond the Avtex – The Outdoor Learning Center is the destination of the proposed French Creek Greenway Trail, but the plan suggests that plans to extend the trail further north should be explored.
- Rogers Ferry Road – This potential branch to the Greenway would parallel Cussewago Creek and could be especially appropriate if access is eventually granted to the Cussewago Peninsula.
- Southeastern Links - A link to trails in the Oil Heritage Region to the southeast could be possible.

The French Creek Greenway Master Plan recommends that the greenway not be an island. It proposes that to create a regional attraction and to provide exceptional amenities to residents and visitors, the Greenway should become part of a regional trail network, connecting regional population centers and attractions.

The French Creek corridor also offers the opportunity for the greenway to connect Meadville to the Allegheny River to the southeast and to Cambridge Springs to the north.

### TRAIL FEASIBILITY STUDIES

#### **Erie to Pittsburgh – Developing a Trail Network (2007)**

This study was done by the Rails-to-Trails Conservancy (RTC) in 2007. The purpose of the study was to “recognize, complete, and actively promote – a major trail network in northwest Pennsylvania”. This trail network will extend north-south from Lake Erie to Pittsburgh. Establishing this connection will meet many goals similar to those being sought in the work of the NWPAGreenways Plan. Some of these goals are:

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

#### **Pymatuning Trails Vision Plan (2006)**

This plan lays out guidelines for future development of the Pymatuning Trail System in Linesville and throughout western Crawford County. The purpose of the document is to establish the Linesville community as a regional trail hub. From the Linesville hub, trails are to radiate outward ensuring that virtually all residents have easy access to the trail system.

*Opportunities & Obstacles defined by this plan include:*

##### Spillway Trail (existing)

Currently owned and maintained by Pymatuning State park  
Great starting point for trail system

##### Spillway Trail Extension North (to downtown Linesville)

*Obstacle:* At grade crossing at Hartstown Road near the fish hatchery

*Obstacle:* At grade crossing between Franklin Street & South Street

##### Spillway Trail Extension East

This trail would be a loop around the eastern wildlife refuge of the lake.



*Obstacle:* North Shenango Board of Supervisors approved a portion of Fries Road for hiking and bicycle use, but what portion was not detailed.

*Obstacle:* Would need an easement to provide off road trail connection between Fries Road and Swamp Road (Could be done with minimal impact by using Game Commission property).

*Obstacle:* Will need authorization for all on-road segments from local municipality, PennDOT, and the PA Game Commission.

*Obstacle:* PennDOT will need to pave additional berm width along S.R. 285 to provide bicycle lanes. There is already adequate room.

### Linesville-Conneaut Lake Trail

This trail would connect the Pymatuning trail system with Conneaut Lake, and ultimately, on through to Meadville.

*Obstacle:* There is a gap in the trail at the former railroad trestle behind Linesville High School. It is proposed that Envision Linesville work with PennDOT to preserve and relocate a historic highway bridge that might otherwise have to be torn down because it is no longer adequate for automotive traffic.

*Obstacle:* Numerous small bridges or culverts will be needed between South Chestnut Street and Townline Road. There are also some wet areas along the rail road bed where the trail will need to be built up.

*Obstacle:* Authorizations will be required for all on-road trail segments.

*Obstacle:* An easement is needed along the former Erie Canal towpath, which is now private property.

### End of the Road Trail

This trail is a connection between the Spillway Trail and Linesville Beach area.

*Obstacle:* A new wastewater treatment plant has been proposed for this area. A trail through this site should be included in the design.

*Obstacle:* Special design considerations may be needed at the intersection with Stewart's Lane.

*Obstacle:* Proximity to the lake could prevent drainage issues. Elevating structures or "turnpiking" may be required here.

### Seabee Trail

This trail would link the End of the Road Trail and Pymatuning State Park's beach and campground with the Lynn Summers Little League Complex, on Route 6 west of Linesville.

*Obstacle:* Proximity to the lake could prevent drainage issues. Elevating structures or "turnpiking" may be required here.

### Lake-to-Lake Trail

This trail is to run from Linesville to Girard in Erie County.

*Obstacle:* The bridge needs to be reconstructed north of Linesville Borough Building.

*Obstacle:* There are numerous property owners along the corridor, which is likely to require significant coordination and negotiation.

*Obstacle:* There are bridges out over Linesville Creek, at West Road and Wheeler Road. This impedes access to the trail corridor from Airport Road and locations to the west.

### Train Station Visitor Center

In addition to the trail system, this plan also proposes a visitor center be reconstructed.

## **Feasibility Study and Master Plan for the Ernst Trail (2003)**

This plan provides the framework for the expansion of the Ernst Bike Trail. This trail connects the City of Meadville to the Borough of Conneaut Lake, covering a distance of approximately eleven miles. The trail follows the corridor of the inactive Bessemer and Lake Erie Railroad Branch Line.

The trail currently is paved from U.S. Route 322, just south of Meadville, west to U.S. Route 19. The remaining six miles from Route 19 to the Borough of Conneaut Lake is still undeveloped, but entirely passable by hikers and mountain bikers.

At the time of the study, the multiple landowners along the right-of-way of the unimproved section of this trail were supportive, with only one individual expressing some reservations.

No construction is occurring on the Ernst Trail expansion at this time.

## **WATERSHED MANAGEMENT PLANS/WATER QUALITY STUDIES**

### **French Creek Watershed Conservation Plan (2002)**

The French Creek watershed extends from Chautauqua County in New York through Erie County, Crawford County, Venango County, and a small portion of Mercer County. The entire watershed covers an area of approximately 1,235 square miles, and the main stem flows 117 miles, from its New York headwaters to its mouth at Franklin.

The French Creek Watershed Plan is intended to compile and present information on watershed resources and potential or unknown threats to those resources. During the development of this plan, a multitude of activities in the French Creek watershed that can potentially threaten water quality, aquatic biota, and ultimately, quality of life for watershed residents were found. This plan lists recommendations for the restoration, maintenance, enhancement, and overall protection of the resources of the French Creek Watershed. Some of the specific recommendations that may be fulfilled in the NWPA Greenways Plan include:

- Increase Best Management Practices (BMP) Implementation
- Remove hazardous materials from floodplain

- Increase public education on sustainable forestry
- Increase education on construction and urban BMPs
- Increase public education about benefits of riparian protection
- Increase public education about natural stream conditions
- Increase public education about the benefits of forested stream banks
- Increase public education about urban streams as community assets
- Encourage a cooperative approach to trail development

### MISCELLANEOUS PLANS

#### **Blueprint for Action – Shaping a Sustainable Pennsylvania (2004)**

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

- Improve stewardship and management of state parks and forests.
- Promote statewide land conservation
- Build and maintain sustainable and attractive communities
- Create outdoor connections for citizens and visitors

### MUNICIPAL COMPREHENSIVE PLANS AND OTHER LAND USE TOOLS

The majority of municipalities in Crawford County have adopted their own comprehensive plans, zoning ordinances, and land development and subdivision ordinances. These land use tools outline various community objectives related to current and future land use, natural resource preservation, recreation, and community growth; establish land use districts to achieve their land use vision; and set forth policies to guide development and conservation of natural resources. These tools provide a good foundation, and we expect to recommend these be further strengthened in the future to implement the goals and objectives, vision, and strategies, for implementation that will result from the NWPA Greenways planning effort.

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

Municipality	Comprehensive Plan	Municipal Zoning Ordinance	Municipal Subdivision and Land Development Ordinance
<b>Cities</b>			
Meadville	✓	✓	✓
Titusville	✓	✓	✓
<b>Boroughs</b>			
Blooming Valley Borough	✓	✓	✓
Cambridge Springs Borough	✓	✓	✓
Centerville Borough	-	-	-
Conneaut Lake Borough	✓	✓	✓
Conneautville Borough			
Cochranton Borough	✓	-	-
Hydetown Borough	✓	✓	✓
Linesville Borough	✓	✓	✓
Saegertown Borough	✓	✓	✓
Spartansburg Borough	✓	-	✓

Townships			
Athens Township	-	-	-
Beaver Township	✓	✓	-
Bloomfield Township	✓	✓	✓
Cambridge Township	✓	✓	✓
Conneaut Township	✓	✓	✓
Cussewago Township	✓	✓	✓
East Fairfield Township	-	-	-
East Fallowfield Township	-	-	-
East Mead Township	✓	-	✓
Fairfield Township	-	-	-
Greenwood Township	✓	-	✓
Hayfield Township	✓	✓	✓
North Shenango Township	✓	✓	✓
Oil Creek Township	✓	✓	✓
Pine Township	✓	✓	✓
Randolph Township	✓	-	-
Richmond Township	✓	-	-
Rockdale Township	-	-	-
Rome Township	-	-	-
Sadsbury Township	✓	✓	✓
South Shenango Township	✓	-	✓
Sparta Township	✓	-	-
Spring Township	-	-	✓
Steuben Township	-	-	-
Summerhill Township	✓	✓	-
Summit Township	✓	✓	✓
Troy Township	-	-	-
Union Township	-	-	✓
Venango Township	✓	✓	-
Vernon Township	✓	✓	✓
Wayne Township	✓	-	-
West Fallowfield Township	-	-	-
West Mead Township	✓	✓	✓
West Shenango Township	✓	-	✓
Woodcock Township	✓	✓	✓

### STATEWIDE RECREATIONAL PLANNING: KEYSTONE ACTIVE ZONE (KAZ)

A statewide planning effort, that helps to make residents aware of all the recreation resources around them, is the Keystone Active Zone (KAZ) program, headed by Pennsylvania Advocates for Nutrition and Activity (PANA) - [www.panaonline.org](http://www.panaonline.org). This program presents a valuable opportunity to Crawford County. The KAZ encourages Pennsylvanians to have fun and stay fit by engaging in outdoor recreation at a local park, trail, or other outdoor open space. To advance

this mission, PANA creates a directory and a website for each county's parks and recreation sites (some of which are described in this section) through the KAZ program.

Crawford County's recreation opportunities have not been documented in the Keystone Active Zone database, which is available at: [www.keystoneactivezone.org](http://www.keystoneactivezone.org).

## NATURAL INFRASTRUCTURE INVENTORY

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

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

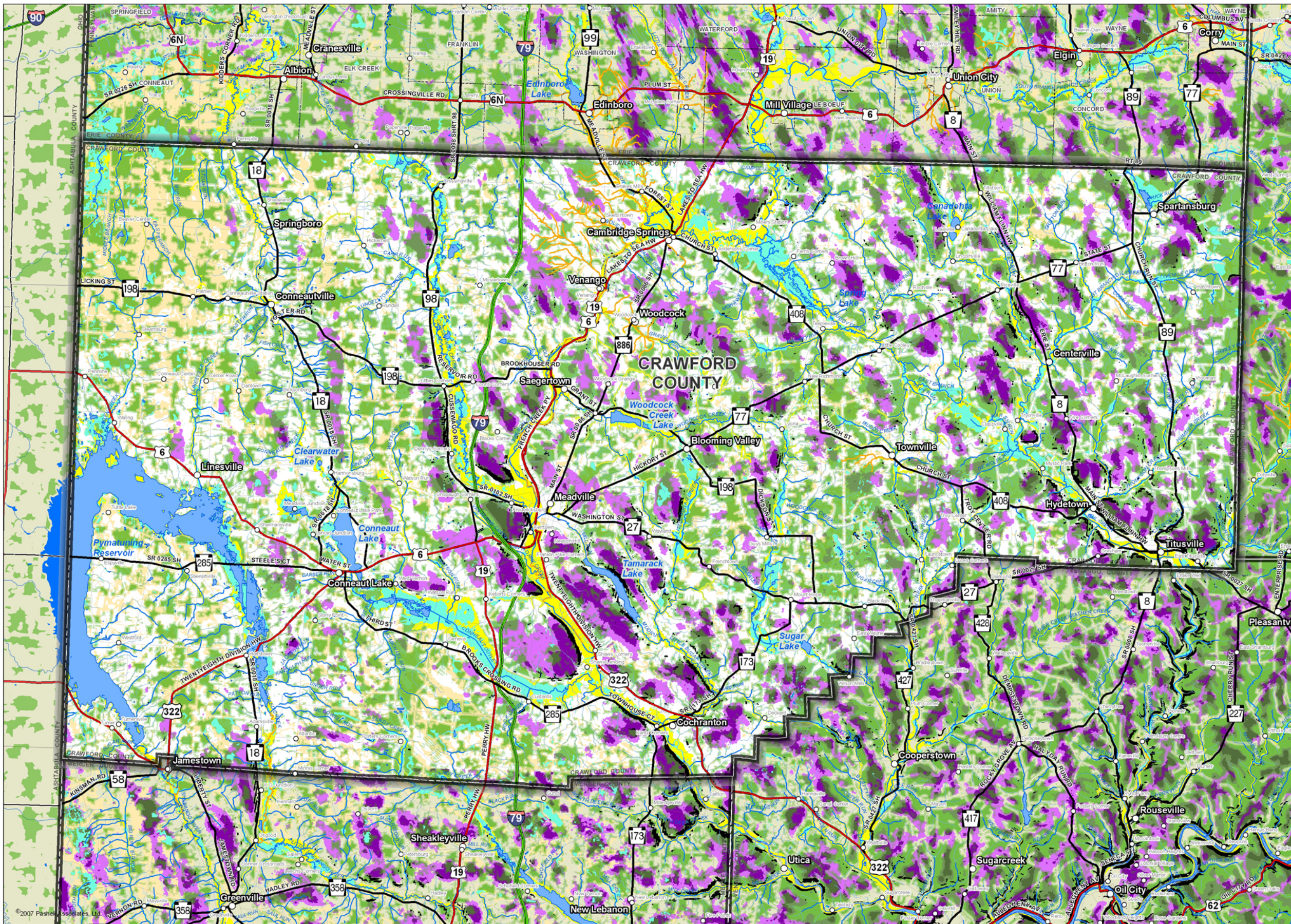
### Water Resources

Crawford County is nearly divided in half by French Creek. French Creek enters from Erie County into Rockdale Township, near the Seneca Division (northern section) of the Erie Wildlife Refuge, and meanders its way south to Meadville in the center of the County. From here, French Creek heads south, southeast through Cochranon before exiting into Mercer County.

French Creek is the third largest tributary to the Allegheny River and is considered an ecological treasure. Known as one of the most biologically diverse streams east of the Mississippi, French Creek is home to over eighty (80) species of fish and twenty-six (26) species of freshwater mussels.

Crawford County also contains four of the eight glacial lakes of western Pennsylvania. Glacial Lakes are some of the most exceptional natural features in Pennsylvania. Of the 2,500 water bodies in Pennsylvania called lakes, only 70 were naturally formed. Glacial lakes provide unique recreational and scenic resources and can be a major focus of tourism. Additionally, these lakes provide habitat for many plants and animal species that would not otherwise inhabit Pennsylvania. The four glacial lakes of Crawford County are described briefly here:





# Northwest Pennsylvania Greenways Plan

for

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



## LEGEND

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

### Sensitive Environmental Features

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

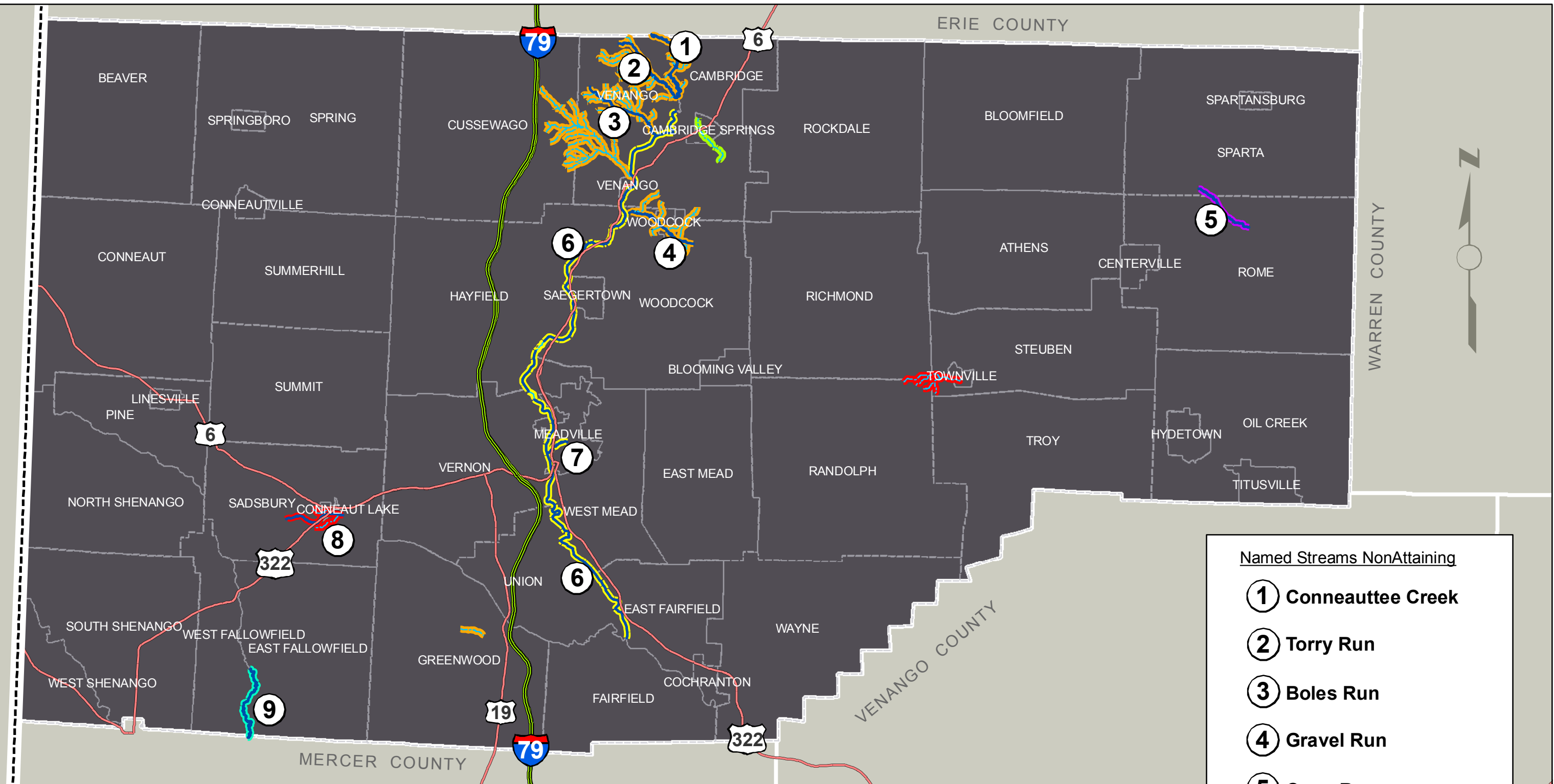
Data Source:  
ESRI 2005 Street Map USA Data  
US Geologic Survey (USGS)  
Pennsylvania Spatial Data Access (PASDA)  
Pennsylvania Department of Transportation (PennDOT)  
Department of Conservation and Natural Resources (DCNR)  
Western Pennsylvania Conservancy (WPC)  
Federal Emergency Management Agency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











## CRAWFORD COUNTY, PENNSYLVANIA

### 303(d) Integrated List of Non-Attaining Streams 2008

#### DATA SOURCE: DEP IntegratedNonAttainingStreams

This layer shows only non-attaining segments of the Integrated List. The Streams Integrated List represents stream assessments in an integrated format for the Clean Water Act Section 305(b) reporting and Section 303(d) listing. Streams are bodies of flowing surface water that collectively form a network that drains a catchment or basin. PA DEP protects 4 stream water uses: aquatic life, fish consumption, potable water supply, and recreation. The 305(b) layers represents stream segments that have been evaluated for attainment of those uses. If a stream segment is not attaining any one of its 4 uses, it is considered impaired.



Conneaut Lake is the largest natural lake in Pennsylvania, excluding Lake Erie. This 929- acre lake is located west of the City of Meadville, and the Borough of Conneaut Lake lies on the southwestern shore. The lake is fed by Inlet Run and outlets through Conneaut Outlet, which is a tributary of French Creek. Conneaut Outlet also feeds into Conneaut Marsh, which is an enormous marsh occupying the outwash plain of the tongue of ice involved in the formation of the lake.

Sugar Lake is a 90-acre natural lake located in Wayne Township, in south central Crawford County. Shore access to this lake is very limited due to the presence of an abundance of wetlands. The Sugar Lake Division (southern section) of the Erie National Wildlife Refuge extends from the northern edge of this lake.

Crystal (Mud) Lake is a small natural lake situated in East Fallowfield Township south of the eastern end of Pymatuning Reservoir, in the Pymatuning Marsh area. This lake drains into the Ohio River via the Shenango and Beaver Rivers.

Lake Canadohta is situated in Bloomfield Township in northeastern Crawford County. Although this is a natural lake, a dam has been constructed at the outlet, raising the water level. The lake is fed by East Shreve Run and Outlets into the beginning of Oil Creek, which drains into the Allegheny River at Oil City.

In addition to the aforementioned natural lakes, Crawford County is also home to several man-made lakes. Several of these lakes are described briefly here:

Pymatuning Reservoir is Pennsylvania's largest man-made impoundment, covering more than seventeen thousand (17,000) acres. This lake is operated by the Pennsylvania Department of Conservation and Natural Resources' Bureau of State Parks. The northeast section of the lake is set aside for fish and water fowl propagation.

Pymatuning Reservoir drains into the Shenango River system from two outlets. Crooked Creek drains from the eastern tip of the reservoir, through Pymatuning Marsh, before entering Mercer County at Stoneboro. From here it drains into the Little Shenango River, which is a tributary of the Shenango River. The second outlet is the Shenango River, which flows from the western tip of the reservoir.

The shores of the Pymatuning Reservoir are also home to two natural areas that will be described in detail later in this document. These natural areas are Blackjack Swamp and Clark Island.

Tamarack Lake is situated in West and East Mead Townships, southeast of the City of Meadville. This five hundred and sixty-two-acre reservoir has dam structures at both ends with a shallow area in the middle. Tamarack Lake outlets into Mill Run from the north end and into Mud Run from the southern end.

Clear Lake is a reservoir located in northeastern Crawford County, in Spartansburg Borough and Sparta Township. The reservoir is fed by Stranahan Run and outlets into the East Branch of Oil Creek.

Woodcock Creek Lake is located northeast of the City of Meadville in Woodcock Township. This lake is fed by Woodcock Creek and outlets into an unnamed tributary, which passes through Saegertown Borough before draining into French Creek. Woodcock Creek Lake is two miles in length and three hundred and thirty-three (333) acres in size. It was constructed as part of the French Creek Flood control system by the US Army Corps of Engineers. The lake is managed by Crawford County as part of Colonel Crawford Park.

Clearwater Lake is a small lake situated in Summit Township near Harmonsburg. This lake drains into an unnamed tributary of Inlet Run, which drains into Conneaut Lake.

Spring Lake is located in Bloomfield Township near the Seneca Division of the Erie National Wildlife Refuge. Spring Lake drains into an unnamed stream, which is a tributary of Muddy Creek.

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

***Map 1: Natural Infrastructure Inventory***

### **Wetlands**

Crawford County contains nearly 51,000 acres of wetlands. These are divided among three classifications: Lake Edge (14,734 acres), Marsh Edge (35,194 acres) and River Edge (1031 acres). Notable wetland areas can be found in numerous locations throughout the County including:

- Crooked Creek, extending from the south eastern tip of the Pymatuning Reservoir, also known as Pymatuning Marsh
- Conneaut Outlet, also known as Conneaut Marsh
- West of Conneaut lake
- Northwest of Pymatuning Reservoir along the Ohio border, an area called Blackjack Swamp Natural Area
- Lake Creek, Erie National Wildlife Refuge Lake Creek Division
- Muddy Creek, Erie National Wildlife Refuge Seneca Division
- Conneauttee Creek and Little Conneauttee Creek
- Oil Creek near Crawford County Forest
- Little Sugar Creek
- Cussewago Creek

These wetlands are home to many wetland plants and animals, as well as source of foods and nesting opportunities to an estimated 50% of North America's bird population. More than 46% of U.S. endangered and threatened species need wetlands to live. In addition to sustaining habitat, wetlands are a necessary resource for the environment. Wetland soils

absorb water from precipitation, and their plants slow the water's flow. These benefits enable wetland areas to hold and release the water slowly into streams. Natural wetlands also filter out chemicals and fertilizer that people have put on their farms, lawns, or discharged from their businesses.

Crawford County's wetlands are shown on:

***Map 1: Natural Infrastructure Inventory***

### **100-year Floodplain**

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

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

Adjacent to the French Creek, Muddy Creek, Little Conneauttee Creek, Conneauttee Creek, Cussewago Creek, Conneaut Outlet, Crooked Creek, Oil Creek, and Little Sugar Creek. Numerous smaller floodplains line the banks of meandering stream valleys throughout the County.

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

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

***Map 1: Natural Infrastructure Inventory.***

### **Special Protection Waters**

Crawford County is traversed by over twenty-five hundred (2,500) miles of streams in 161 small watersheds. The majority of these tributaries wind through the terrain and outlet to the Allegheny River, while the remaining tributaries drain into the Ohio River or Lake Erie. The Pennsylvania Code Chapter 93 on Water Quality Standards designates streams with special protection water uses. One of these designated uses is Cold Water Fishery (CWF). A CWF supports fish, plants, and animals that best live and reproduce in colder temperatures. Many times this classification is based on the presence of trout. High Quality (HQ) waters are defined as having long-term water quality which exceeds the levels necessary to support the propagation of fish, shellfish, and wildlife and recreation in and on the water. Of Pennsylvania's 83,000 miles of streams, only about 25% is designated as High Quality Coldwater Fisheries.

Crawford County has eight streams that qualify as High Quality Cold Water Fisheries (HQCWF) as defined by Pennsylvania Code Chapter 93. The Protected Use HQCWF streams within Crawford County are described briefly here:

- East Branch Muddy Creek is located in north central Crawford County, where it flows through Athens Township and Steuben Township, before draining into Muddy Creek near the mouth of Navy Run.
- East Branch Sugar Creek is located in eastern Crawford County, along the northwest border of Venango County, west of Titusville. The section of this creek designated as HQCWF starts at its headwaters and ends near Troy Center, at the State Route 428 bridge.
- Federal Run is situated in north central Crawford County. The headwaters of this stream are located in Bloomfield Township about two miles south of the border with Erie County. From its headwaters, Federal Run flows south into Rockdale Township, then back into Bloomfield Township, before entering Athens Township. In Athens Township Federal run drains into Muddy Creek just west of State Route 77.
- Kelly Run is situated in northern Crawford County and Southern Erie County. The headwaters of this creek are located in LeBoeuf Township, Erie County. From Leboeuf, Pine Creek flows into Rockdale Township, Crawford County, where it drains into French Creek near Millers Station.
- Mackey Run is situated in north central Crawford County. The entire length of this creek is located in Richmond Township. Mackey Run drains into Muddy Creek just east of Teepleville.
- Muddy Creek is situated in north central Crawford County. The headwaters of this creek are located in Richmond Township. From Richmond, Muddy Creek flows east to the Borough of Townville before heading north through Steuben Township and on into Athens Township. The section of the creek with a HQCWF rating ends in Athens Township at the mouth of East Branch Muddy Creek.
- Pine Creek is situated in southeast Crawford County and southwest Warren County. The headwaters of this creek are located in Southwest Township, Warren County. The majority of the section of this stream that has an EV rating is located in Warren County. Approximately one thousand (1,000) feet of it can be found in Crawford County, east of the mouth of Caldwell Creek.
- Woodcock Creek is located in central Crawford County east of the City of Meadville. The headwaters of this stream originate in Randolph Township. From Randolph, this Woodcock Creek flows west through Richmond Township on into Woodcock Township. The Section of this stream with a

HQCWF rating ends at the Woodcock Creek Reservoir Dam, just west of Blooming Valley Borough.

Crawford County also has one (1) stream with an Exceptional Value (EV) designation. This stream is described briefly here:

- Caldwell Creek is situated 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.

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.

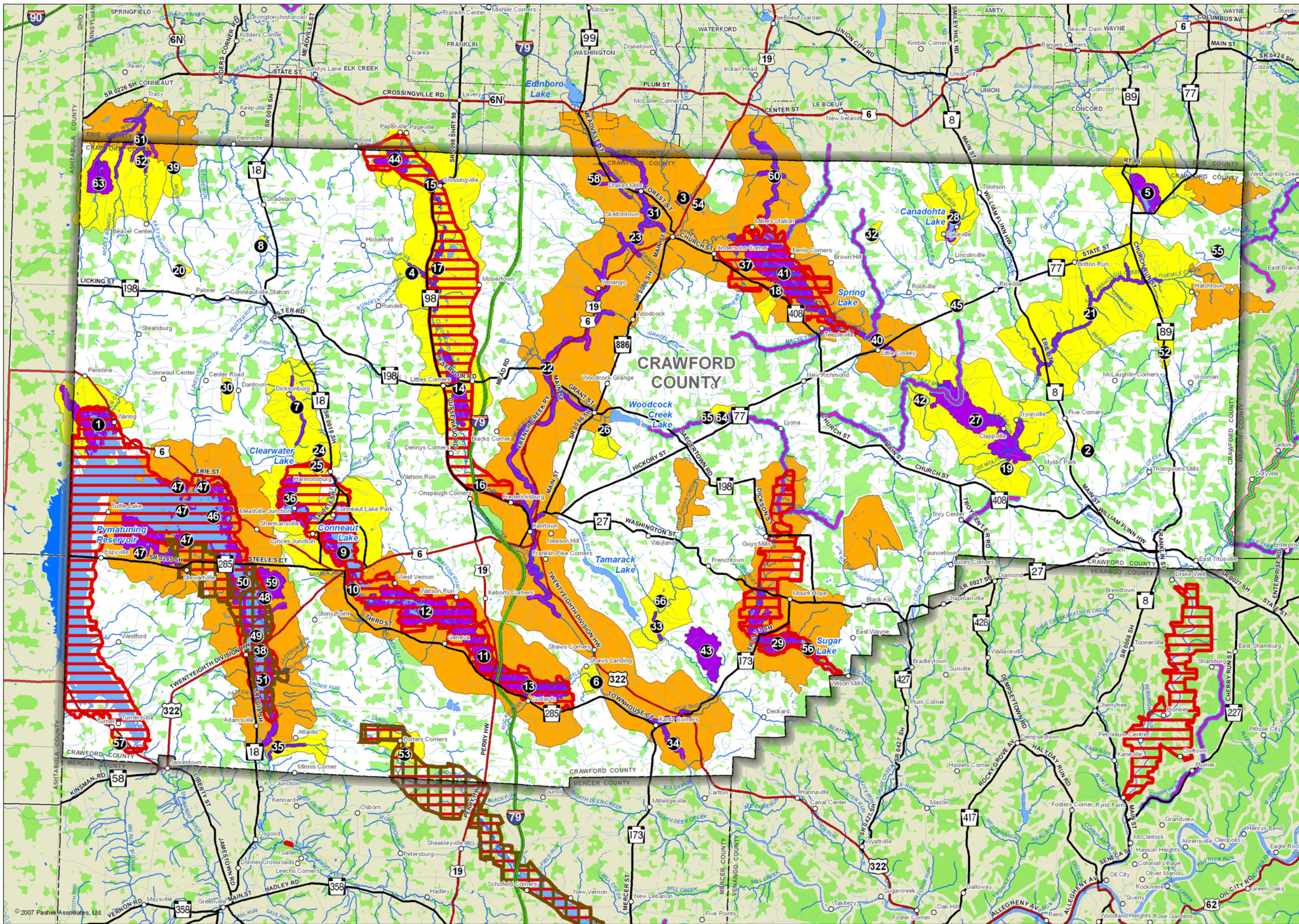
Additionally, being categorized as High Quality Waters or Exceptional Value may also have positive influences on a surrounding community. The presence of an HQ or EV improves a community's odds of attaining funding for the upgrading local infrastructure, such as sewage treatment facilities and road maintenance.

Crawford County's special protection waters are shown on:

***Map 2: Ecological Infrastructure Inventory***

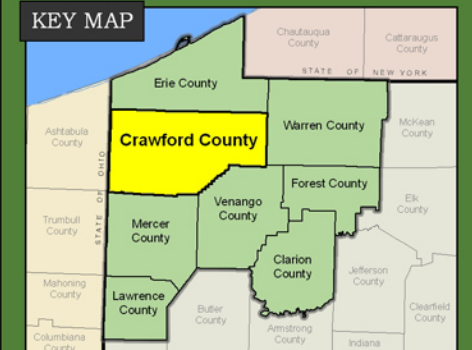






# Northwest Pennsylvania Greenways Plan

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



## LEGEND

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

### Pennsylvania Natural Heritage Program

- Biological Diversity Area
- Supporting Natural Landscape
- Landscape Conservation Area
- Interior Forest Patches

- Important Bird Area (IBA)  
National Audubon Society
- Important Mammal Area (IMA)

Department of Environmental Protection  
 PA Code - Chapter 93 Water Quality Standards  
 High Quality Cold Water Fishery

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

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







Northwest PA Greenways Plan  
**Crawford County Natural Heritage Inventory**

NHI #	NHI Name	Description
1	Blackjack Swamp BDA	Large wetland complex with +10 EOs
2	Bog Hollow Woodlands BDA	Site with two occurrences of one EO community
3	Cambridge Springs Swamp BDA	Locally significant site
4	Carr Run BDA	Stream with 2 mussel EOs
5	Clear Lake BDA	Sparta Lake EOs and community north of lake treated as one occurrence
6	Conneaut Creek - French Creek Confluence BDA	Carex typhina record
7	Conneaut Creek at Dickonsburg BDA	Two Lampetra appendix (American Lamprey) and one Culaea inconstans (Brook Stickleback) records in stream
8	Conneaut Creek Slope - Springsboro South BDA	Core for a single plant EO
9	Conneaut Lake BDA	Manmade lake with many EOs along lake edge and in adjoining wetlands
10	Conneaut Lake Outlet BDA	Three mussel and one bird EO treated as one occurrence
11	Conneaut Marsh Complex Central BDA	Central complex contains 5 different EOs, all birds
12	Conneaut Marsh Complex North BDA	North Complex contains +10 EOs of birds, plants, and fish
13	Conneaut Marsh Complex South BDA	South complex contains 5 different EOs, 4 birds and 1 plant
14	Cussewago Creek - Coons Valley BDA	Riparian wetland corridor with many EOs
15	Cussewago Creek at Crossingville BDA	Stream with on EO fish
16	Cussewago Creek at Onspaugh Corners BDA	Site with one EO plant and one EO community
17	Cussewago Creek Central Riparian Corridor	Riparian corridor with many plant EOs
18	Dead Creek BDA	Population of Sorbus decora along stream
19	Dewolfe Run Tributaries - SGL 122 BDA	Single occurrence of Dryopteris clintoniana (Clinton's Woodfern)
20	East Branch Conneaut Creek Headwaters Wetland BDA	Wetland with one plant EO
21	East Branch Oil Creek	Stream with several fish EOs grouped into one site
22	French Creek BDA	High quality river with large number of very rare aquatic species
23	French Creek Floodplain Forest BDA	Pumpkin ash site along French Creek
24	Harmonsburg Wetlands BDA	Mixed-forb Swamp
25	Harmonsburg Wetlands BDA	Fen with +10 EO records
26	Hemlock Natural Area BDA	Rich hemlock - mesic hardwood community
27	Koochogey Wetland BDA	Wetland complex with groups of EOs. Includes a fish and many plants (EO birds v. likely)
28	Lake Canadohta BDA	Population of Potamogeton vaseyi and one fish EO
29	Lake Creek Valley BDA	Wetland with several bird and plant EOs
30	Linesville Creek Headwaters Wetland BDA	Site with one EO community
31	Little Conneauttee Floodplain BDA	One bird EO and several other EOs
32	Little Federal Run Headwaters Wetland BDA	Site with one plant EO
33	Little Sugar Creek at Pettis Corners	Stream with one mussel EO
34	Lower French Creek BDA	Several fish and plant EOs
35	McMillen Hollow BDA	Single occurrence of Umbra limi (Central Mudminnow)
36	Meadville Junction BDA	Wetland complex with several plant and bird EOs
37	Mohawk Run Fen BDA	Fen with several EOs
38	Mud Lake	Pair of lakes connected to Pymatuning Wetland with many EOs
39	Mud Run Wetland BDA	Site with two occurrences of one EO

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NHI #	NHI Name	Description
40	Muddy Creek BDA	Two Lasmigona compressa and one EO records in Muddy Creek
41	Muddy Creek Wetland BDA	Very large wetland complex with many EOs
42	Navy Run Tributary Wetland BDA	Ribes triste EO
43	Pine Knoll Forest BDA	Block of interesting old-growth forest (~1.5 square miles)
44	Pont Road Wetland BDA	Wetland with one plant and one bird EO
45	Puckerbush Lake Tributary BDA	Small wetland with one plant EO
46	Pymatuning Reservoir BDA	Lacustrine wetland along the east shore of Pymatuning Reservoir
47	Pymatuning Shoreline - Bottomland Forests BDA	Site with single bird EO
48	Pymatuning Swamp Tributaries BDA	Three independent records of a fish EO treated as one occurrence
49	Pymatuning Wetland Central Complex	Central portion of large wetland complex with many EOs
50	Pymatuning Wetland Complex - North BDA	North portion of large wetland complex with many EOs
51	Pymatuning Wetland Complex - South BDA	South portion of large wetland complex with many EOs
52	Rendall's Corners North Wetland BDA	Hemlock palustrine forest community
53	Sandy Creek Wetlands BDA	Joined Epilobium strictum and Ribes triste EO to create one core
54	State Game Lands #277 BDA	Site with 4 EOs
55	State Lot Corners Wetland BDA	Site with 1 community EO
56	Sugar Lake Glacial Lake	Natural glacial lake with one bird EO
57	Sugar Run BDA	Golden Saxifrage - sedge rich seep Community
58	Torry Run BDA	Creek with a single mussel EO
59	Tyrone Weber Woods BDA	Block of interesting old-growth forest (~1.0 square mile)
60	Upper French Creek BDA	River with many fish and mussel EOs
61	West Branch Conneaut Creek BDA	Site with several occurrences of two Fish EOs and 1 Plant EO
62	West Branch Conneaut Creek BDA	Site with one EO
63	West Branch Conneaut Creek BDA	Site with 4 different EOs
64	Woodcock Creek at Delameters Corners BDA	Site with a single EO Community
65	Woodcock Creek BDA	one bird EO
66	Yoset Lake Palustrine Forest BDA	Red Maple - Black Ash Palustrine Swamp & Hemlock Palustrine Forest Communities

### **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 Crawford County. Utilizing this analysis, areas with slopes greater than twenty-five percent (>25%) 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 protects the quality of the water). They provide habitat for wildlife and vegetation and provide travel corridors for animal and avian species.

Notable steep slope areas in Crawford County can be found along French Creek, south of Meadville to where the river exits the County, just north of Meadville along Cussewago Creek and French Creek, and along Oil Creek at Hydetown and Titusville.

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

***Map 1: Natural Infrastructure Inventory.***

### **Soils and Geologic Features**

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

Hydric soils are depicted on ***Map 1: Natural Infrastructure Inventory***

Crawford County encompasses two physiographic provinces, regions that are united by similar geography. The physical geography of a region influences the topography and climate, which along with bedrock type affect soil development and hydrology, ultimately affecting land use patterns.

Almost all of Crawford County lies within the Northwestern Glaciated Plateau Section, and a small portion of the southeast corner lies in the High Plateau Section. The Northwestern Glaciated Plateau consists of rounded hills and broad linear valleys that

tend to run in a northwest to southeast direction. The valley floors of this section are abundant with wetlands. The High Plateau Section marks the limit of the glacial advance and is similar to the landform of the rest of the County, except that it consists of deeper valleys.

Glaciation had a major influence on this region of the state. In glaciated areas, the influence of the underlying geology is affected by the materials the glacier deposited. As glaciers advanced, sheets of ice pushed and scraped the surface moving rock and soil and depositing them upon retreat. The glaciers and their deposits created unique geologic features, such as the following, which have been designated in a study published by the Pennsylvania Geological Survey, titled *Outstanding Scenic Geological Features of Pennsylvania (1979-1987)*:

- Conneaut Lake is located in Sadsbury Township, Summit Township, and Conneaut Lake Borough. This natural geologic feature is Pennsylvania's largest natural lake (excluding Lake Erie), at nine hundred thirty-eight (938) acres.
- Conneaut Lake Kame is located in Sadsbury Township one mile east of Conneaut Lake. One of the largest kames in the state, this glacial deposit marks the location of a depression filled with sand and gravel in or at the margin of stagnant ice, as the glacier melted.
- Conneaut Marsh is located in Union and Greenwood Townships, adjacent to Conneaut Outlet, in State Game Lands No. 213. This marsh is one of the largest in Pennsylvania. It is contained in an ancient stream channel that was filled with glacial till during the last glaciation of Pennsylvania. Conneaut Marsh is home to a rare bog turtle and also American bald eagle nests.
- Dead-Ice Terminal Moraine located in Wayne Township, in the southeastern corner of Crawford County, is one of the most outstanding topographic examples of a terminal moraine in western Pennsylvania. This moraine marks a "dead" or stagnant position of the ice front during the Great Ice Age in Pennsylvania. The topography on this moraine is unique due to the presence of unsorted rock materials that were pushed or carried there by the glacier.
- Rock Creek Ravine is located near the village of Custards in Greenwood Township. This unique geologic feature consists of a series of waterfalls along Rock Creek.

### **Forests and Woodland Areas**

According to the National Land Cover Data Set for Pennsylvania (USGS 1999), approximately forty-seven percent (47%), or 310,000 acres, of Crawford County is covered by forested land. While large areas of forest are currently protected throughout State Game Lands, Pymatuning State Park, the Erie National Wildlife Refuge, and within

the local parks, much of the woodlands of Crawford County remain in danger of being developed.

The Western Pennsylvania Conservancy has provided mapping of large tracts of contiguous forest blocks throughout the state of Pennsylvania. Contiguous forest blocks offer enhanced habitat value over forested areas that may be fragmented by roads or other land uses. These forest blocks should be maintained as best possible to preserve habitat, protect water quality, and sustain flyways. For this study, forest blocks were reduced to include only interior forest areas. This was done by creating an interior buffer measuring three hundred feet from the forest edge and removing it from each forest block.

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

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

The location of Crawford County's woodlands and interior forests is shown on:  
***Map 1: Natural Infrastructure Inventory.***

### **Important Bird Areas**

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

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

Audubon Pennsylvania has designated six (6) Important Bird Areas (IBAs) that are at least partially located within Crawford County. These six areas are briefly described as follows:

- The Pymatuning, Hartstown Complex IBA is located in eastern Crawford County surrounding Pymatuning State Park. The size of this IBA is approximately 25,000 acres. This IBA consists of Pymatuning Reservoir, Pymatuning Wildlife Management Area, Pymatuning Wildlife Refuge, and State Game Land No. 214 (Hartstown Swamp).

This IBA supports one of the largest concentrations of bald eagle nests in the state. In addition to bald eagles, migratory waterfowl concentrate in the Pymatuning Wildlife Refuge. Thousands of geese, ducks, and swans are found in the area in the fall and winter. The swamp wetlands support the state's largest population of Prothonotary Warbler.

Other Representative birds of this IBA include:

- Common Goldeneye
- Canada Goose
- Hooded Merganser
- Tundra Swan
- Shorebirds
- Bald Eagle
- Black Tern
- American Bittern
- Least Bittern
- King Rail
- Black-crowned Night-Heron
- Pied-billed Grebe
- Marsh Wren

In addition to the aforementioned birds, the very large, intact wetlands of the Pymatuning, Hartstown Complex IBA support breeding species, such as the Virginia rail, Sora, Common Snipe, American Wigeon, and Common Moorhen.

The Audubon Society notes that there are significant threats to this area from the introduction of non-indigenous flora and fauna. Additionally, disturbance from recreational watercrafts has reduced the value of the lower section of Pymatuning reservoir for wildlife.

Currently, there is a conservation plan in place for the Pymatuning, Hartstown Complex IBA. The following are conservation actions that are currently part of ongoing efforts by the Pennsylvania Department of Conservation and Natural Resources and the Pennsylvania Game Commission:



### DCNR Efforts:

- Clark Island and Black Jack Swamp maintained as natural areas
- Area closures around Bald Eagle nests
- Birds included in educational programs

### Pennsylvania Game Commission (PGC) Efforts:

- Large upper reservoir maintained as sanctuary
- Waterfowl and Bald Eagle surveys conducted annually
- Waterfowl banded annually
- Warm-season grasslands maintained
- Some control of invasive species
- Some management of water levels in impoundments
- Extensive natural history material on birds at Wildlife Learning Center

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

- Expand research, inventory, and monitoring efforts to include non-hunted, non-endangered species
- Focus on documenting breeding species in conjunction with Breeding Bird Atlas
- Conduct inventory and monitoring of species of special concern, including threatened and endangered species
- Increase efforts to aggressively manage and control invasive plant species, especially in areas that affect the quality of habitat for birdlife
- Control carp on PGC-managed areas
- Increase management of water levels on PGC impoundments to improve habitat quality for breeding and migrating waterfowl
- Acquire adjoining habitats important to birds, as opportunities arise
- Monitor effects of increased boat motor size on Pymatuning SP
- Expand information and education efforts
- Update bird materials at PGC Wildlife Learning Center; include IBA brochure and other bird conservation materials
- Increase EES staff at Pymatuning SP, and include more material on birds in educational programs
- Promote bird conservation at the Pymatuning Waterfowl Expo
- Promote birding in the Pymatuning, Hartstown Complex
- Develop a comprehensive species checklist and continually update on a 5-year frequency
- Develop an area birding “trail” and guide
- Advertise bird sightings via web site or other means
- Incorporate the above recommendations in PGC’s management plan for SGL 214

- Install an interpretive sign at a high use point identifying the site as an IBA and also identifying other conservation partners.
- The majority of the Cussewago Bottom IBA is located within Crawford County, along Cussewago Creek. This riparian corridor is approximately sixteen miles in length and a mile wide, stretching from the City of Meadville north to the creek's headwaters in Elk Creek Township, Erie County. This IBA encompasses Cussewago Creek, to west branch State Game Land No. 269, and the adjacent wetlands and low uplands.

Cussewago Creek is a low gradient, meandering stream in a glaciated outwash valley making it subject to constant water level fluctuations. The fluctuations of this stream create a bottomland situation where inundation of the floodplain is a common occurrence. The majority of the IBA is heavily vegetated forested wetlands. Many rare fish species exist here, such as the Hornyhead Chub, the Redfin Shiner, and the Longhead Darter. The high quality wetlands make this a unique site.

Nearly two hundred (200) species of birds have been observed here. Typical bottomland species found here include Yellow-throated and Warbling Vireos; Cerulean, Mourning, Kentucky, and Hooded Warblers; and Northern Waterthrushes. In addition to the aforementioned bottomland species, many species associated with mature forest and early-succession forest are found here.

Other representative birds of this IBA include:

- Bald eagles
- Marsh Wren
- Pied-billed Grebe
- Green-winged Teal

This IBA is a prime example of a lowland stream, floodplain, and wetlands-uplands complex, with extensive hardwood forest and an extremely high diversity of habitat types.

The Audubon Society notes that most of this land is in private ownership, although some of it is within the State Game Land. There are many local threats, some of which include agriculture pollution, quarrying, and threats residential development.

Currently, there is a conservation plan in place for the Cussewago Bottom IBA. The following are conservation actions that are currently part of ongoing efforts by the Pennsylvania Game Commission and private landowners:

- PGC maintains a large wetlands complex and adjacent upland habitats on SGL No. 269.

- A few private landowners have enhanced their lands for wildlife by creating wetlands, planting food plots, and maintaining land in idle and early successional stages.
- A bluebird nest box trail is maintained.

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

- Develop an avian inventory and monitoring initiative; more definitive information on birds in Cussewago Bottoms is needed, especially for shorebirds. Surveys will likely find more species of special interest. Include monitoring for species of special concern, such as the Marsh Wren.
  - Encourage complementary survey and inventory efforts, e.g., for mussels and plants.
  - Protect lands through acquisitions and conservation easements from willing sellers; continue land conservation efforts with the Conneaut Lake/French Creek Valley Conservancy.
  - Develop an information/education package aimed primarily at informing landowners and municipalities about the mutual benefits of conservation and options for realizing them.
  - Increase efforts to initiate and maintain “Best Management Practices” for farmers, loggers, landowners and others with production-oriented interests, in coordination with interested agencies, such as the French Creek Project, Crawford Conservation District, and the USDA Natural Resources Conservation Service.
  - Develop a bird checklist and update every five years.
  - Place IBA signs at public access points and distribute materials (IBA brochures) regarding bird conservation and the IBA program at educational outreach programs. Promote such programs through the French Creek Outdoor Learning Center.
- The Hemlock Hill Research Area IBA is located adjacent to Erie National Wildlife Refuge in central Crawford County. This IBA is an area of mixed woodland, mature forest, and fields in the early stages of succession. A great deal of this site is steep slope ranging from one thousand to over thirteen hundred feet in elevation.

This site supports relatively large breeding populations of the following species:

- Solitary Vireo
- Red-eyed Vireo
- Hooded Warbler
- Blackburnian Warbler

Threats to this IBA site have been identified as potential commercial and residential development.

- The Erie National Wildlife Refuge IBA is located in southeastern Crawford County. The Erie National Wildlife Refuge contains over twenty-five hundred acres of wetlands, including beaver floodings, marshes, swamps, creeks, wet meadows, and man-made impoundments.

Over two hundred and thirty six (236) bird species have been recorded, of which one hundred and twelve (112) breed at this site. The refuge serves as a migratory stopover for waterfowl and shorebirds. In the spring and fall, about twenty-five hundred (2,500) waterfowl, forty-five hundred (4,500) Canada Geese, and two hundred (200) shorebirds stop here.

Other representative birds of this IBA include:

- Bald Eagles
- Sedge Wren & Marsh Wren
- Wood Duck
- Northern Harrier
- Pied-Billed Grebe
- American Coot
- Common Snipe
- American Bittern
- Black Tern

There is a conservation plan in place for the Erie National Wildlife Refuge IBA. The following are conservation actions that are currently part of ongoing efforts by the Pennsylvania Game Commission:

- Survey and control of invasive plant species
- Maintaining nest boxes for Wood Ducks, Blue Birds, and other species
- Conducting research and monitoring of several species and groups of birds
- Maintaining closed areas around Bald Eagle nests
- Managing wetland and upland habitats for birds
- Conducting educational programs

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

- Increase efforts to control invasive plant species; invasive plants are currently the most serious threat to avian habitats at Erie NWR;

- Conserve/recover species that are state or federally listed as threatened, endangered, or of special concern.
  - Maintain the diversity of avian habitats at Erie NWR.
  - Acquire or otherwise protect critical habitats that currently are unprotected within the authorized boundaries of the refuge,
  - Monitor water quality on the refuge and in the surrounding watersheds.
  - Expand avian inventory and monitoring programs.
  - Expand educational programs to increase public awareness and appreciation of birds and the IBA program by making Erie NWR a showcase IBA in northwestern PA.
- Conneaut Marsh – Geneva Marsh IBA is located in the southwest region of the County. This IBA is over five thousand (5,000) acres in size and contains all of State Game Land No. 213. Approximately one third of the site consists of Pennsylvania's largest remaining emergent marsh; one quarter is forested wetland; one fifth is scrub-shrub swamp; and the remainder includes areas of deciduous, coniferous, and mixed forest of varying ages, as well as herbaceous, mixed, and shrub-brush rangelands. Numerous rare plant and animal species occur on this site including a rare dragonfly, the Spatterdock Darner.

The variety of wetland types, as well as the size of them, makes this an important site for wetland species. Numerous endangered and threatened species occur here. It is estimated that some of the state's largest breeding populations of wetland birds occurs here as well.

Other representative birds of this IBA include:

- Ring-necked Duck
- Wood Duck
- American Black Duck
- American Wigeon
- Hooded Merganser
- Bald Eagle
- Black Tern & Common Tern
- American Bittern & Least Bittern
- Great Egret
- Common Snipe
- Prothonotary Warbler
- Pied-billed Grebe
- American Coot
- Marsh Wren
- Common Nighthawk

Although most of this IBA is relatively secure from serious threats due to the presence of State Game Land No. 213, recreational use does have the potential to

disturb nesting eagles and marsh birds. Additionally, residential and commercial development along Conneaut Lake has the potential to impact water quality.

There is a conservation plan in place for the Conneaut Marsh – Geneva Marsh IBA. The following are conservation actions that are currently part of ongoing efforts by the Pennsylvania Game Commission:

- Periodic waterfowl, Bald Eagle, and marshbird surveys are conducted
- Area closures around Bald Eagle Nests are implemented
- Some control of invasive species and aquatic vegetation is conducted
- Maintenance of open water areas by mechanical means is necessary and ongoing for waterfowl management
- Maintenance of early successional habitats
- Maintenance of grassland habitats

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

- Expand research, inventory, and monitoring efforts to include more non-hunted, non-endangered species
  - Focus on documenting breeding species in conjunction with Breeding Bird Atlas
  - Focus on conducting regular surveys of shorebirds
  - Increase efforts to control and manage invasive plant species
  - Seek ways to better manage water levels in SGL 213
  - Acquire adjoining habitats important to birds as opportunities arise
  - Promote birding in the Conneaut Marsh-Geneva Marsh area
  - Develop a comprehensive species checklist, possibly in conjunction with Pymatuning, Hartstown area list
  - Develop an area birding “trail” and guide, possibly in conjunction with Pymatuning, Hartstown area birding trail and French Creek Rails to Trails
  - Distribute bird conservation materials at outreach programs, and place IBA signs at public access points on future trail heads
  - Put in observation/photo blinds at select locations
  - Incorporate the above recommendations in PGC’s management plan for SGL No. 213
  - Monitor off-site developments, and work with partners to maintain watershed quality
- Maurice K. Goodard State Park – State Game Land No. 270 IBA  
The majority of this IBA is situated in Mercer County, but the northern tip of it extends into Crawford County, near Porters Corners. This IBA is a major stopover for exceptional concentrations of migrating songbirds, including flycatchers,

thrushes, vireos, warblers, blackbirds, tanagers, grosbeaks, orioles, and finches. The portion of this IBA that extends into Crawford County is found on privately-owned land. Residential development is a potential threat to this site.

The attention that Important Bird Areas can bring to a community can also bring with it funding for species and habitat conservation; ecological and biological restoration in areas with rare species; as well as attention from the Department of Environmental Protection, to curb further resource depletion in the vicinity. IBAs can also impact recreation and tourism by attracting bird watchers, ornithologists, and horticulturists to visit them.

Crawford County's Important Bird Areas are shown on:

***Map 2: Ecological Infrastructure Inventory***

**Important Mammal Areas**

Important Mammal Areas are designated around habitats that support rare mammals, diverse mammal communities, unique populations of mammals, 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, a program was started in 2002 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 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 two (2) Important Mammal Areas (IMAs) that are at least partially located within Crawford County.

- Maurice K. Goddard State Park IMA
- Pymatuning Wildlife Management Area / State Game Land No. 214 IMA

Crawford County's Important Mammal Areas are shown on:

***Map 2: Ecological Infrastructure Inventory***

**Natural Areas: The Natural Heritage Program**

Another essential source of information about important habitat areas is the Crawford County Natural Heritage Inventory (NHI). This document provides mapping and background information on the known outstanding floral, faunal, geologic, and scenic features in Crawford County. During the research and analysis phase of this project the Natural Heritage Program has been working to update the NHI mapping and generate a report for use in the NWPA Greenways Plan. This updated data is described below.

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

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

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

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

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

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

There are two LCAs and twenty-eight (28) BDAs given a rating of “0.” These sites are seen as the most significant of any in the County, by the 2008 NHI report. These sites are of exceptional importance for the biological diversity and ecological integrity of the Crawford County. They are:

- Pymatuning Wetland Complex LCA
- Conneaut Marsh Complex LCA



- Blackjack Swamp BDA
- Conneaut Creek – French Creek Confluence BDA
- Conneaut Creek Slope – Springsboro South BDA
- Conneaut Lake BDA
- Conneaut Lake Outlet BDA
- Conneaut Marsh Complex Central BDA
- Conneaut Marsh Complex North BDA
- Conneaut Marsh Complex South BDA
- Cussewago Creek – Coons Valley BDA
- Cussewago Creek at Dennys Corner BDA
- Cussewago Creek Central Riparian Corridor
- French Creek BDA
- Lake Creek Valley BDA
- Little Conneauttee Floodplain BDA
- Little Sugar Creek at Blooming Valley BDA
- Mud Lake BDA
- Muddy Creek Wetland BDA
- Oil Creek at Titusville BDA
- Pont Road Wetland BDA
- Pymatuning Reservoir BDA
- Pymatuning Shoreline – Bottomland Forests BDA
- Pymatuning Swamp Tributaries BDA
- Pymatuning Wetland Central Complex BDA
- Pymatuning Wetland Complex North BDA
- Pymatuning Wetland Complex South BDA
- State Game Lands 69 BDA
- Woodcock Creek BDA
- Woodcock Lake BDA

There is one (1) LCA and forty (40) BDAs given a rating of “1.” These sites are seen as highly significant and designated as suitable for nature observation, but not for trails. These sites are of high importance for the biological diversity and ecological integrity of the County or region. They are:

- French Creek LCA
- Bog Hollow Woodlands BDA
- Cambridge Springs BDA
- Carr Run BDA
- Clear Lake BDA
- Conneaut Creek at Dickonsburg BDA
- Cussewago Creek at Crossingville BDA
- Cussewago Creek at Onspaugh Corners BDA
- Dead Creek BDA
- Dewolfe Run Tributaries – State Game Land No. 122 BDA
- East Branch Conneaut Creek Headwaters Wetland BDA
- East Branch Oil Creek
- French Creek Floodplain Forest BDA
- Harmonsburg Wetlands BDA

- Koochogey Wetland BDA
- Lake Canadohta BDA
- Linesville Creek Headwaters Wetland BDA
- Little Federal Run Headwaters Wetland BDA
- Little Sugar Creek at Pettis Corners BDA
- Lower French Creek BDA
- McMillen Hollow BDA
- Meadville Junction BDA
- Mohawk Run Fen BDA
- Mud Run Wetland BDA
- Muddy Creek BDA
- Navy Run Tributary Wetland BDA
- Pine Knoll Forest BDA
- Puckerbush Lake Tributary BDA
- Rendall's Corners North Wetland BDA
- Sandy Creek Wetlands BDA
- State Game Lands No. 277 BDA
- Sugar Lake Glacial Lake BDA
- Sugar Run BDA
- Titusville Airport Wetland Forest BDA
- Torry Run BDA
- Tyrone Weber Woods BDA
- Upper French Creek BDA
- West Branch Conneaut Creek BDA
- Woodcock Creek at Delameters Corners BDA
- Yoset Lake Palustrine Forest BDA

There is one (1) LCA and one (1) BDA given a rating of “2”. These sites are seen as notable and designated as suitable for passive recreation such as: hiking, cross-country skiing, and nature observation. They are:

- State Game Lands No. 101 Forest LCA
- Hemlock Natural Area BDA

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

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

***Map 2: Ecological Infrastructure Inventory***

### Conservation Holdings / Lands with Conservation Easements

#### Tyron Weber Woods Natural Area (Western Pennsylvania Conservancy)

Tyron Weber Woods Natural Area is located in Sadsbury Township, east of the southeastern tip of Pymatuning State Park. This approximately 97-acre property was purchased by the WPC in 1976 to preserve a mature American beech-sugar maple forest that at the time was considered to be one of the finest of its kind in northwestern Pennsylvania.

#### Venango Bridge (Western Pennsylvania Conservancy)

Venango Bridge is located on the western bank of French Creek in Venango Borough.

#### Lupher's Landing (French Creek Valley Conservancy)

Lupher's Landing is a three acre parcel along French Creek immediately north of the McGuffintown Bridge on Route 19 between Meadville and Saegertown, in Hayfield Township, Crawford County, Pennsylvania. The Lupher's Landing site is forested with riparian bottomland hardwoods, and contains sloughs and ponds. The forest onsite contains at least two virgin black willow trees, one of immense size, and other trees of significant maturity, perhaps exceeding 100 years age. Traces of historic human activity can be detected. These include the trace of an old road bed and paralleling canals in what are now slough habitats.

Lupher's Landing was the site of the first bridge in Hayfield Township to cross French Creek. Constructed in 1805, some of the original supports reportedly can still be seen there. The Landing was also the site of two paper mills, one built by William Magaw in 1840 and one built by H.H. Fuller in 1880. The canal dug to utilize the creek's power remains as a trace today.

#### Walker's Landing (French Creek Valley Conservancy)

Walker's Landing is a sixty acre parcel along the east side of French Creek in West Mead Township, Crawford County, immediately north of the Meadville, PA city limits. Within the Walker's Landing property, five management units can be defined. These are the central meadow, the riparian forest along French Creek, the riparian swamp forest at the distal or southern end of the property, the gallery forest along the canal and the upland Appalachian oak forest on the slope along and below Terrace Street.

#### Smock Donation (French Creek Valley Conservancy)

The Smock parcel is a linear parcel along French Creek in the Fifth Ward of Meadville. Its acreage is uncertain because of issue of ownership of an island in French Creek, but is in the range of six to eight acres. It is flat bluff land falling at its edge steeply down into French Creek. The Conservancy built a linear trail along the top of the bluff as part of a future greenway bordering French Creek through Meadville.

Conservation Holdings and Land with Conservation Easements can be found on:

***Map 2: Ecological Infrastructure Inventory***

### Public and Other Protected Open Space

Pymatuning State Park is the only state park located with Crawford County. This 21,122-acre park is the largest state park in the commonwealth and includes the 17,088-acre Pymatuning Reservoir, which is Pennsylvania's largest lake. Park amenities offered here include camp sites, picnic areas, playgrounds, swimming areas, fishing piers, marinas, boat rental, cabins, a camp store, food concessions, showerhouse and restrooms, a boat fueling station, and a spillway that's famous locally for its unique fish feeding opportunity. In addition, outdoor recreation opportunities include boating, swimming, hiking, wildlife viewing, fishing, hunting during regular season (in designated areas), snowmobiling, and cross country skiing.

Within Pymatuning State Park are two designated natural areas. These areas are defined by the DCNR as having unique scenic, geologic, or ecological value and are set aside for scientific observation and to protect outstanding examples of natural interest and beauty.

These natural areas are described briefly below:

- Blackjack Swamp is located in the northern tip of the park. This 725-acre natural area is protected for its unique natural communities.
- Clark Island is located in the northern section of Pymatuning Reservoir near Blackjack Swamp Natural Area. This island has 161 acres of mature hardwood and white pine forest.

In addition to the aforementioned natural areas, the section of Pymatuning State Park east of the spillway is Pennsylvania Game Commission controlled waterfowl area. This area features a propagation area, Pennsylvania Game Commission Wildlife Learning Center, the Ecology Lab of the University of Pittsburgh, and Pennsylvania Fish and Boat Commission Hatchery.

Erie National Wildlife Refuge is located in central eastern Crawford County and consists of two separate land units. The Sugar Lake Division contains about 5,206 acres and is located east of Meadville, near Guys Mills, close to the Venango County border. The Seneca Division contains 3,594 acres and is located ten miles north of the Sugar Lake Division along Muddy Creek. These wildlife refuges provide habitat for approximately 237 species of birds, 47 species of mammals, and 37 species of amphibians and reptiles.

### County Parks

There are also four County-owned properties within Crawford County. These properties are described briefly below:

- Colonel Crawford Park is a 311-acre recreational park that offers fishing, camping, swimming, hiking, and boating. Park amenities include campsites, swimming beach with bathhouse and concession building, picnic shelters, and a boat launch.
- Crawford County Fairgrounds, located on State Route 77 in Meadville, is home to the largest Agricultural Fair in the state of Pennsylvania.

- Crawford County Forest, located in Steuben and Oil Creek Townships, consists of approximately 625 acres of mostly forested land.

### State Game Lands

In addition to the aforementioned parks, over 27,000 acres of land in Crawford County is protected as State Game Land. These lands are managed by the State Game Commission for wildlife conservation, hunting, and trapping. The fourteen State Game Lands that are located at least partially within Crawford County are SGL #69, 85, 101, 122, 144, 146, 152, 199, 200, 202, 213, 214, 269, and 277.

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

### ***Map 3: Recreation Opportunities Inventory***

#### ***Natural Infrastructure Inventory Resources:***

(NWI) National Wetland Inventory: <http://www.fws.gov/nwi/>

(FEMA) Federal Emergency Management Agency: <http://www.fema.gov/>

(USGS) United States Geological Survey: <http://www.usgs.gov/>

(NRCS) Natural Resources Conservation Service: <http://soils.usda.gov/>

(DEP) PA Department of Environmental Protection – Chapter 93:

<http://www.pacode.com/secure/data/025/chapter93/chap93toc.html>

<http://www.coldwaterheritage.org/Effectsofspecialprotection.pdf>

(WPC) Western Pennsylvania Conservancy

(PNHP) Pennsylvania Natural Heritage Program

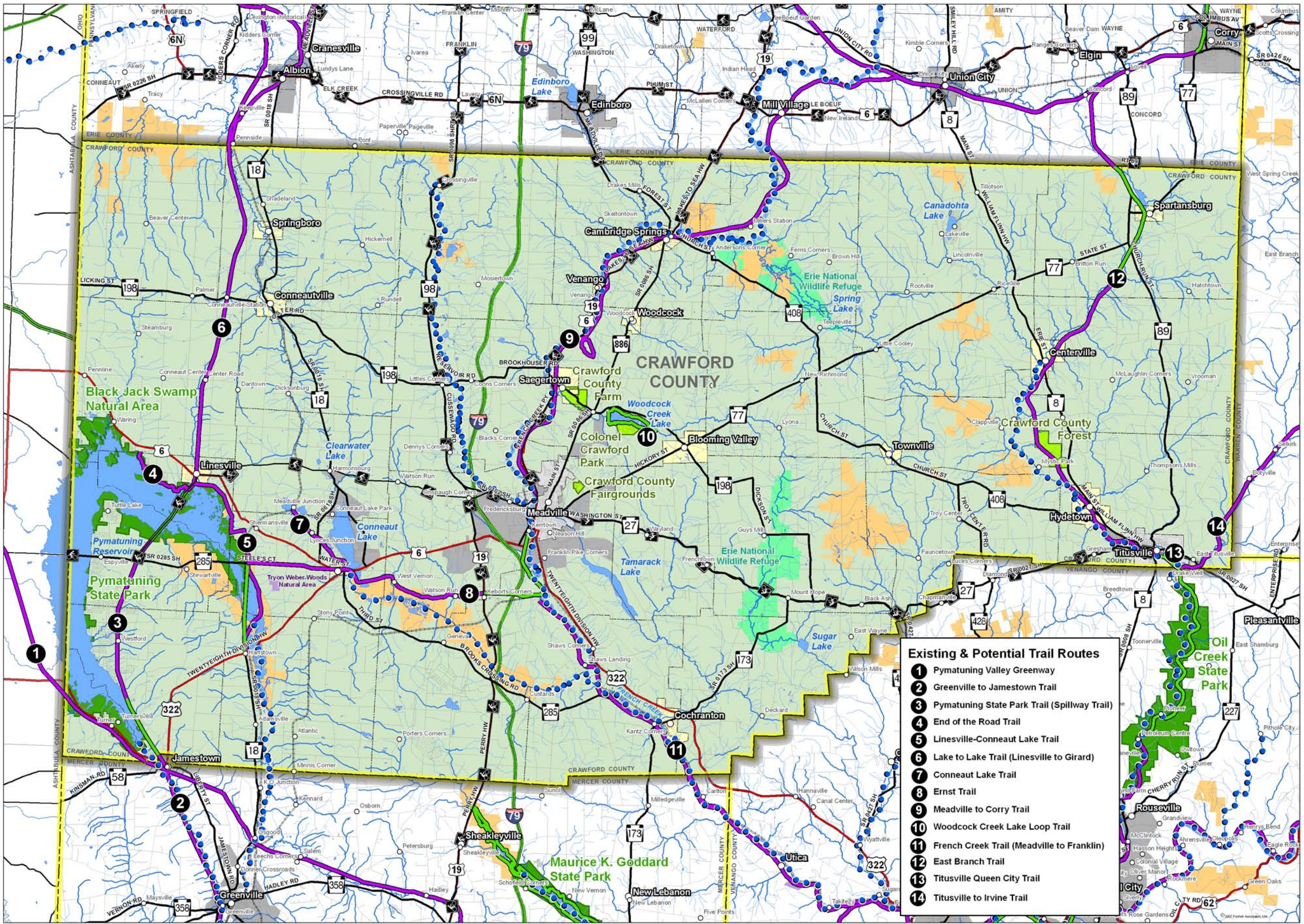
### GRAY INFRASTRUCTURE INVENTORY

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

#### Transportation and Utility Corridors

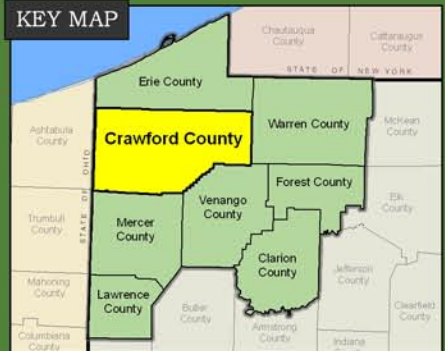
- Inactive Rail Lines - Crawford County has several stretches of former, inactive or discontinued rail lines. In reviewing GIS data for inactive railroads and historic railroad maps, it was discovered that four (4) inactive rail lines, with trail potential, exist in Crawford County. These segments are described briefly here:
  - (1) The former Pittsburgh, Bessemer and Lake Erie Railroad Line from Girard, Pa in Erie County to Pittsburgh. The section of this inactive rail line within Crawford County runs from Jamestown, in Mercer County, north through Pymatuning State Park and Linesville, exiting into Erie County from Spring Township. The portion of this rail bed in Crawford County is approximately 13.4 miles in length and has been proposed as a rail trail. Some sections of this trail within Pymatuning State Park have been developed.
  - (2) The former Jamestown, Franklin and Clearfield Railroad runs from Jamestown to the Ohio border, south of Pymatuning State Park. This former rail line has been proposed to connect to the Pymatuning Valley Greenway in Ashtabula County, Ohio and through Jamestown to the Sandy Creek Trail, which goes through Mercer County and into Venango County.
  - (3) The inactive Meadville Branch of the Bessemer and Lake Erie Railroad runs from Meadville Junction to Union Township, terminating just south of Meadville. Part of this former rail line is currently active as the Ernst Trail.
  - (4) The inactive Chautauqua Branch of the Pennsylvania Railroad is located in eastern Crawford County running from Titusville through Hydetown, Centerville, and Spartansburg, then on to the City of Corry in Erie County. This former rail line covers approximately 13 miles within Crawford County and is proposed as the East Branch Trail.
  - (5) The Valley Branch of the New York Central Railroad runs from Titusville to Youngsville, Warren County. Approximately 2.5 miles of this former rail line is within Crawford County.





# Northwest Pennsylvania Greenways Plan

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



## LEGEND

- County Boundary
- Municipal Boundary
- Urban Areas
- Lake
- River
- Interstate
- PA State Route
- US Highway
- Active Railroad

## DCNR Managed Land

- State Park
- Pennsylvania State Forest
- National Park Service Land
- County & Local Parks
- State Game Land
- Allegheny National Forest
- Erie National Wildlife Refuge

## Trails

- Potential Trail
- Existing Trail
- PA Bicycle Route
- PA Canoeable Waters
- PFBC Access Points



- ### Existing & Potential Trail Routes
- 1 Pymatuning Valley Greenway
  - 2 Greenville to Jamestown Trail
  - 3 Pymatuning State Park Trail (Spillway Trail)
  - 4 End of the Road Trail
  - 5 Linesville-Conneaut Lake Trail
  - 6 Lake to Lake Trail (Linesville to Girard)
  - 7 Conneaut Lake Trail
  - 8 Ernst Trail
  - 9 Meadville to Corry Trail
  - 10 Woodcock Creek Lake Loop Trail
  - 11 French Creek Trail (Meadville to Franklin)
  - 12 East Branch Trail
  - 13 Titusville Queen City Trail
  - 14 Titusville to Irvine Trail







- Pedestrian Walkways – Urban areas in and around the large and small population centers of Crawford County, including places such as Meadville, Titusville, and Cambridge Springs, have paved sidewalks. Most of the County’s townships do not require sidewalks with new development, thus none exist except in villages or other small population centers where housing units are in close proximity to the roadway and each other.
- Highway Bike Lanes – Crawford County has two Bicycle PA routes designated by the Pennsylvania Department of Transportation.
  - (1) Bicycle PA Route “A” runs north – south. Starting in Erie County, this route goes along PA Route 98 to its intersection with US 6/322 and then continues south on US 19 to the Mercer County line. The segment of this bike route within Crawford County is approximately 27 miles.
  - (2) Bicycle PA Route “Y” runs from Erie County, along US 6/19 south through Cambridge Springs, Venango, and Saegertown. Approaching Meadville, the route bears onto Baldwin Street Extension, then on to Spring Street. Following Spring Street west across French Creek to PA 102, it then continues west on Harmonsburg Road, through Harmonsburg and into Linesville, where it once again becomes US 6. Here it turns left onto Hartstown Road, crossing the spillway, then right on to SR 3005 to PA 285, continuing through Espyville to the Ohio line. This bike route runs just over 40 miles through Crawford County.
- Canals – Through researching the American Canal Society Canal Index, it was discovered that there were three known canal lines that formerly operated in parts of Crawford County, as part of the Beaver & Erie Division of the Pennsylvania Canal. This canal system is described briefly below:
  - (1) The Beaver & Erie Division of the Pennsylvania Canal System connected Pittsburgh with Erie. This route ran from Pittsburgh, along the Ohio River to Beaver, then north through New Castle and Conneaut Lake, by way of the Beaver and Shenango Rivers, before terminating in Erie. The canal system operated from 1844 to 1871.
  - (2) The French Creek Feeder Line of the Beaver & Erie Division of the canal system ran east-west, it brought additional water into Conneaut Lake, and served as a transportation corridor. It ran approximately 25 miles from near Meadville, where it connected with the Franklin Line canal.
  - (3) The Franklin Line canal ran between the Cities of Meadville and Franklin (Venango County). A system of locks and dams was built along French Creek, below Shaw’s landing at Meadville, downstream to Franklin.

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

***Map 3: Recreation Resources***

### Recreation Opportunities Inventory

Various recreation facilities, including the community parks in municipalities throughout the County, are depicted on **Map 3: Recreation Opportunities Inventory**. Though the recreation facilities in Crawford County are too numerous to describe in detail here, this section briefly describes regionally-significant recreational assets that are relevant to the NWPAGreenways Plan.

- Public Recreation Facilities

- (1) Pymatuning State Park is the only state park located within Crawford County. This 21,122-acre park is the largest state park in the commonwealth and includes the 17,088-acre Pymatuning Reservoir, which is Pennsylvania's largest lake. Park amenities offered here include camp sites, picnic areas, playgrounds, swimming areas, fishing piers, marinas, boat rentals, cabins, a camp store, food concessions, a showerhouse and restrooms, a boat fueling station, and a spillway that's famous locally for its unique fish feeding opportunity. In addition, outdoor recreation opportunities include boating, swimming, hiking, wildlife viewing, fishing, hunting during regular season (in designated areas), snowmobiling, and cross country skiing.
- (2) Over 27,000 acres are designated as State Game Lands in Crawford County. These lands are managed by the PA Game Commission for wildlife conservation, hunting, and trapping. In addition to hunting, these lands offer other recreational opportunities, such as hiking, bird watching, and fishing. Table 1-1 lists the fourteen (14) State Game Lands that are located at least partially in Crawford County, their location, and their total acreage.

**Table 1-1. Crawford County State Game Lands (Acreage)**

SGL	TOWN	ACRES
69	Guys Mills	4369
85	Jervis Corners	115
101	Tracey (Erie County)	4272
122	Tyroneville	2649
144	Concord Corners	422
146	New Richmond	526
152	Crossingville	499
199	Riceville	1132
200	New Richmond	154
202	New Richmond	507
213	Geneva	5555
214	Hartstown	5399
269	Mosiertown	590
277	Cambridge Springs	972

- Private Recreation Facilities
  - (1) The YMCA offers branches in downtown Meadville and Titusville, in Crawford County.
- Community and Neighborhood Parks – Many of the municipalities in the County have a park or recreation facility of some kind. Parks that are regionally significant and thus relevant to the NWPA Greenways Plan are:
  - (1) Meadville Area Recreation Complex
  - (2) City of Meadville
    - Bicentennial Park
    - Cora Clark Park
    - De Arment Park
    - Diamond Park
    - Shippen Fountain
    - Eldred Glen
    - Elizabeth Park
    - Fifth Ward Playground
    - General Mead Park
    - Gibson Ball field
    - H P Way Park
    - Huidekoper Park
    - Pomona Park
    - Shadybrook Park
    - Sunbeam Field
    - Terrace Monument
  - (3) City of Titusville
    - Burgess Park
    - Scheide Park
    - Roberts Grove
    - Ed Myers Complex
    - Longeway Park
    - Bicycle Trail
  - (4) Conneaut Lake Borough – Ice House Park
  - (5) Vernon Township
    - Roche Park
    - Kerrtown Park
- Campgrounds – There are ten campground facilities in Crawford County, including:
  - (1) Brookdale Family Campground, Meadville
  - (2) Camperland at Conneaut Lake Park, Conneaut Lake
  - (3) Chuck-A-Lou Campground, Saegertown
  - (4) Mallards Landing Campground, Linesville
  - (5) Pineview Campgrounds, Linesville
  - (6) Playland Camping Park, Meadville

- (7) Pymatuning State Park Campgrounds, Hartstown
- (8) Colonel Crawford Park Campground

○ Trails and Bikeways –

- (1) The 31-mile French Creek Greenway is a proposed corridor of protected open space managed for conservation and recreation purposes. This Greenway will be a recreational trail linking the city of Meadville with West Mead and Vernon Townships. Proposed by the French Creek Project, the French Creek Greenway will promote education, alternative transportation, nature tourism, and a much needed recreational trail for area residents.

This trail will connect to the Ernst Trail and Smock River Walk, continuing on to Tamarack Lake.

Within this corridor a segment has been identified as the Cochranon Greenway Trail. This is a one and one-half mile trail segment within Cochranon Borough that is described as follows:

The proposed trail will extend north from Lion's Park over North Franklin Street, along the Little Sugar Creek dike and connecting to the recreation area adjacent to the Cochranon Junior-High School. Another segment is proposed to extend south, along French Creek to the eastern end of the Borough in the vicinity of the Cochranon Elementary School. Cochranon Greenways, Inc., a non-profit 501(c)3 organization, has taken the lead in the planning and development of this trail. Given the localized nature of this trail, and the fact it is part of French Creek Trail corridor, further discussion related to this corridor will be done at the regional level and referred to as the French Creek Trail.

- (2) The Erie National Wildlife Refuge features five trails totaling nearly eight miles in length. They are described briefly here:
  - The Muddy Creek Holly Trail is an approximately three quarters of a mile in length, four-foot-wide boardwalk trail located in the Seneca Division, on Johnstown Road. Trail access and parking can also be found here. This trail is handicap accessible, and no bicycles are allowed.
  - The Trolley Line Trail follows an old railroad grade through the Seneca Division. Parking and trail access can be found at both ends of this trail on Route 408 and Swamp Road.

- The Beaver Run Trail is approximately two and a half miles long in the Sugar Lake Division. Trail head access and parking can be found off Hanks Road.
  - The Deer Run Trail is a three-mile-loop trail in the Sugar Lake Division. Parking and trail access can be found off of Boland Road. This is a difficult trail, and no bicycles are allowed on it.
  - The Tsuga Trail is another loop trail nearly two miles in length. This wood chip surface trail is located in the Visitor Center at the Sugar Lake Division.
- (3) Pymatuning State Park offers a variety of trail opportunities. They are described briefly here:
- The Visitors Center Nature Trail is a quarter mile trail that follows the shoreline, with viewing stations along the way. This is a paved ADA accessible trail. Access is found at the Visitor Center.
  - The Erie Extension Canal Towpath Trail is a four mile grass surface trail with access from PA Route 285. This trail runs north – south between Pymatuning State Park, at PA Route 285 and Hartstown, through State Game Land No. 214. No bicycles are allowed on this trail.
  - The Tamarack Trail is a hiking boardwalk path approximately a mile long, connecting Jamestown Cabin Area within the State Park. Parking and trail access are available along West Lake Road.
  - The Spillway Trail runs two miles from Fries Road to Linesville Road, with access at either end of the spillway. This is a shared-use gravel trail on an inactive rail line.
- (4) The Ernst Bike trail is approximately five miles in length, with access at its midpoint on Mercer Pike. This former rail line along French Creek is part of a Rails-to-Trails Project.
- (5) The East Branch Trail is approximately eight miles in length, running along the former Chautauqua Branch of the Pennsylvania Railroad. The trail runs north-south between Titusville and the City of Corry, Erie County, passing through Hydetown, Centerville, and Spartansburg along the way. The existing section of this trail can be accessed in the north, on the south side of PA Route 77 at Spartansburg, and from a southern trailhead off Gilson Street in Centerville.

- (6) Smock Riverwalk is a quarter mile woodchip trail along French Creek in Meadville. Parking is available at the Lincoln Avenue Sports Complex, and trail access can be found on Wadsworth Avenue.
- (7) Woodcock Creek Lake and Colonel Crawford Park offer three, one-mile-long trails, which are described briefly here:
  - The Bossard Nature Trail is a designated National Recreation Trail. This trail is made up of two self-guided nature walks. There are two separate loop trails that feature traversing Bossard Ravine, opportunities for identifying native trees, and observation blinds. Both trails can be accessed from the parking lot off PA Route 198.
  - There is a Multi-Use Trail, surfaced with fine gravel, that runs approximately one and a half miles from the park office and boat launch. This trail is ADA accessible.
  - The paved surface of Woodcock Dam is exactly one mile in length and is a popular site for walking, running, and in-line skating. Parking is found at the park office. This is also an ADA accessible trail.
- Pedestrian Paths – Urban areas in and around small and large population centers of Crawford County have paved sidewalks.
- Water Trail and Waterfront Access Areas

When discussing greenways and trails, it is important to consider opportunities for blueways (water trails). Blueways provide another recreation alternative and venue for residents to get outdoors, enjoy, and explore Crawford County. In this section, we inventory the potential opportunities that exist for blueways in Crawford County.

### *Pymatuning State Park – North Pool*

Non-motorized and motorized boating, 20 hp max, is permitted on the 17,088-acre Pymatuning Reservoir.

The northern pool of the Pymatuning Reservoir is bound by the spillway to the east and the causeway to the south. Although the entire reservoir provides non-motorized boating opportunities, the northern pool provides the most interest. The northern pool is rich with diversity. This area includes several islands, including the Clark Island Natural Area, the Black Jack Swamp Natural Area, and many inlets and coves to explore.

Boat launches on the northern pool include Linesville Marina, Espyville Marina, Tuttle Campground, Wilson Road, and Alcatraz Road. The Tuttle and Linesville Campgrounds provide overnight opportunities to visitors of the northern pool.

The “Canoeing Guide to Western Pennsylvania and Northern West Virginia”, published in 1991 by Weil and Shaw, documents the following canoeable streams in Crawford County. Shuttle points are noted in the guide as put in and take out locations; the ownership status of these locations is unknown.

### Cussewago Creek - Crossingville to Meadville - 28.5 Miles

Canoeable during the high water season (January through April).

#### Shuttle Points:

- State Route 98 southwest of Crossingville
- Take out at the mouth in Meadville

### Conneaut Outlet

#### *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

### *Shenango River – 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. The Jamestown Lions Club and the Shenango River Watchers have recently received a grant to complete a feasibility study for the Shenango River Water Trail.

If water level is high, tree blocked channels and snags can be dangerous.

### *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.

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

### *Oil Creek*

#### *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 is about 3 miles below Drake Well Museum, run center, difficult in medium or low water, 1.5 foot drop. Ice breakers are present below the location of State Park office, use portage trail on left side. The 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

### French Creek – 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 seventy-four miles. Over this length of seventy-four miles, French Creek winds its way through the towns of Edinboro, Cambridge Springs, Saegertown, Meadville, Cochranton, 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 .....Conneautee 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 have closed in recent years.

- The Pennsylvania Fish and Boat Commission (PFBC) lists forty-seven (47) water access areas throughout Crawford County. These water access points are listed in table 1-1. Additionally, the PFBC owns twelve (12) properties in the County. These properties, their location, and acreage are listed in the table 1-2.

**Table 1-1. Crawford County PFBC Access Locations**

Access Point	Waterbody	Access Point Owner
North Dam Access	Tamarack Lake	PFBC
Duck Farm	Geneva Marsh	PGC
Geneva Bridge	Geneva Marsh	PGC
Conneaut Creek	French Creek	PADOT
Cambridge Springs	French Creek	PFBC
SGL 277 - Cambridge Springs	SGL 277	PGC
Linesville Marina	Pymatuning Lake	Bureau of State Parks
Bicentennial Park	French Creek	Unknown
Canadohta Lake	Canadohta Lake	PFBC
Canadohta Lake Park - Boat Rental	Canadohta Lake	Unknown
Clear Lake	Clear Lake	Spartansburg Boro
Snodgrass	Pymatuning Lake	Bureau of State Parks
41 Bay	Pymatuning Lake	Bureau of State Parks
Jonestown Livery	Pymatuning Lake	Bureau of State Parks
Gum Bay	Pymatuning Lake	Bureau of State Parks
Jamestown Camp	Pymatuning Lake	Bureau of State Parks
Causeway Livery	Pymatuning Lake	Bureau of State Parks
Orchard	Pymatuning Lake	Bureau of State Parks
Manning	Pymatuning Lake	Bureau of State Parks
Red Cross	Pymatuning Lake	Bureau of State Parks
Wilson Road	Pymatuning Lake	Bureau of State Parks
Alcatraz	Pymatuning Lake	Bureau of State Parks
Fries Road	Pymatuning Lake	Bureau of State Parks
Fries Allotment	Pymatuning Lake	Bureau of State Parks
Tuttle Allotment	Pymatuning Lake	Bureau of State Parks
Hartstown Swamp SGL- 214	Hartstown Swamp	PGC
Bennetts Bay	Pymatuning Lake	Bureau of State Parks
Tuttle Camp	Pymatuning Lake	Bureau of State Parks
Fireman's Beach	Conneaut Lake	Conneaut Lake Boro
Conneaut Lake	Conneaut Lake	PFBC
Access #1	Tamarack Lake	PFBC
Springs Road	Tamarack Lake	PFBC
Access #2	Tamarack Lake	PFBC
Meadville	French Creek	PFBC
Access #4	Tamarack Lake	PFBC
Cochranton Access	French Creek	PFBC
Shaws Landing	French Creek	PFBC
Access #5	Tamarack Lake	PFBC
Access #6	Tamarack Lake	PFBC
Access #3	Tamarack Lake	PFBC
I-79 Access - SGL 213	Geneva Marsh	PGC
Wells - SGL 213	Geneva Marsh	PGC
Saegertown	French Creek	PFBC
Col. Crawford Recreation Area	Woodcock Creek La	COE
Game Land 69 Pond	Cameland 69 Pond	PGC
Cussewago	Cussewago Creek	PFBC
Sugar Lake	Sugar Lake	PFBC

**Table 1-2. Crawford County PFBC Properties**

Property Name	Water Body	Acres
Cambridge Springs Access	French Creek	10
Saegerstown Access	French Creek	1
Meadville Access	French Creek	16
Conneaut Lake Access	Conneaut Lake	2
Sugar Lake Access	Suagr Lake	1
Canadohta Lake Access	Canadohta Lake	4
Cussewago Creek Access	Cussewago Creek	6
Linesville Fish Culture Station	Pymatuning Reservoir	97
Tamarack Lake	Tamarack Lake	825
Shaw's Landing	French Creek	5
Cochranton Access	French Creek	1
Northwest LE Office	NA	3

- Fishing is a very popular outdoor recreation activity among Crawford County residents. The waterways of Crawford County offer many opportunities for a range of different fish species.

In 2007, ten (10) of Crawford County's streams were on the Pennsylvania Fish & Boat Commission's (PFBC's) list of trout-stocked waterways. Trout-stocked streams within the County include:

- (1) Caldwell Creek
- (2) East Branch Oil Creek
- (3) Little Sugar Creek
- (4) Muddy Creek
- (5) North Deer Creek
- (6) Oil Creek
- (7) Pine Creek
- (8) Sugar Creek
- (9) Thompson Creek
- (10) Woodcock Creek

The PFBC also lists nine (9) Warm Water/Cold Water stocked waterways:

- (1) Conneaut Lake
- (2) Cussewago Creek
- (3) French Creek
- (4) Lake Canadohta
- (5) Pymatuning Reservoir
- (6) Pymatuning Sanctuary
- (7) Sugar Lake
- (8) Tamarack Lake
- (9) Woodcock Creek Lake

## **Cultural and Historical Resources**

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

### **The National Register of Historic Places**

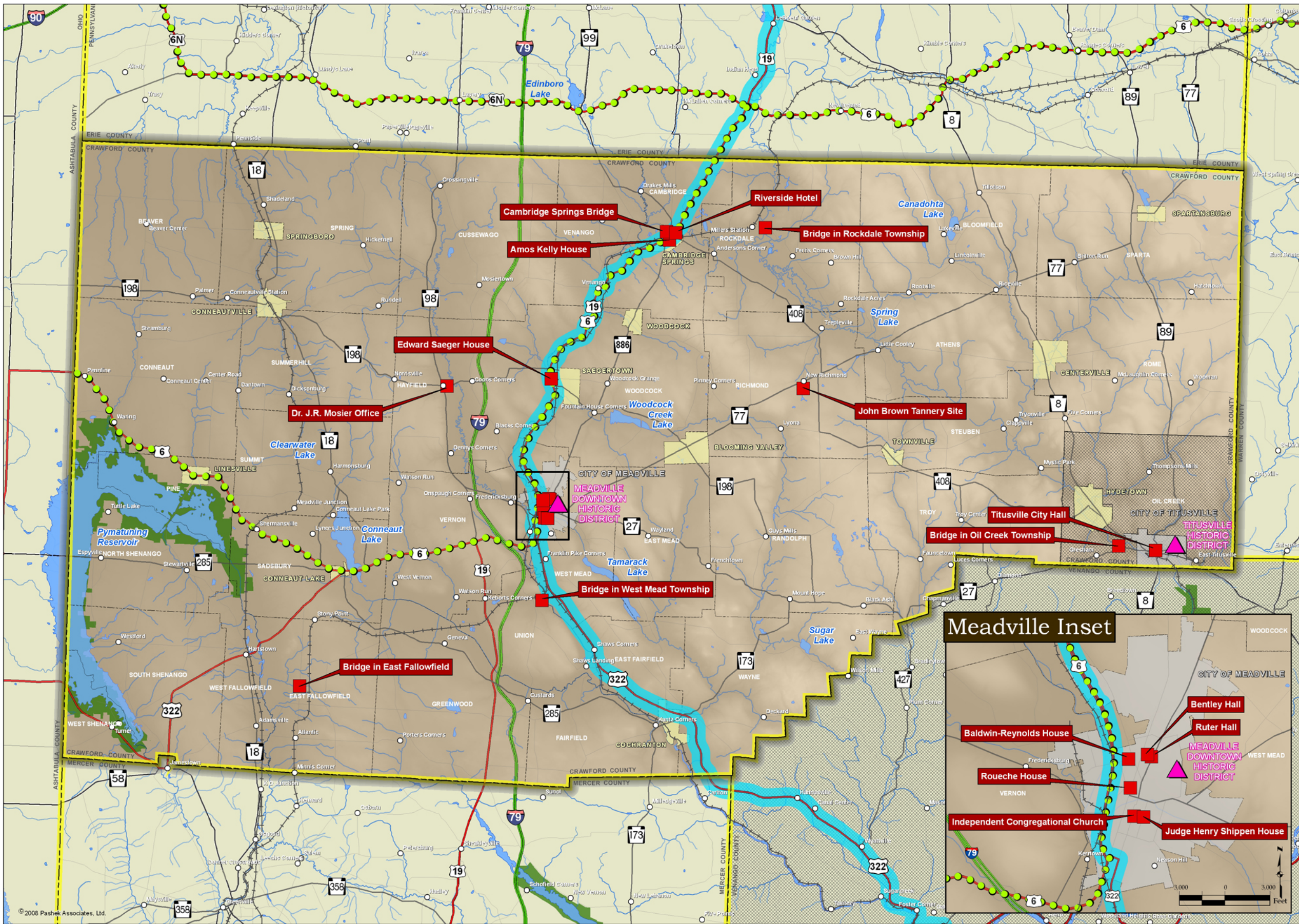
The NRHP is a list of structures, sites, and districts worthy of preservation due to their historic significance. The list was established by the 1966 National Historic Preservation Act (NHPA), which also establishes the process for adding properties to the list. The NRHP is administered by the National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

Crawford County currently features two historic districts and eighteen individual sites/structures on the NRHP. The City of Meadville features six of these historically significant sites/structures and includes one of the County's historic districts. The City of Titusville also features a historic district and its City Hall is a historically significant site listed on the NRHP. The Borough of Cambridge Springs also features a cluster of historically-significant sites such as the Cambridge Springs Bridge and the Riverside Hotel. Other NRHP properties are scattered throughout the County, including the Edward Saeger House and the Bridge in West Mead Township. The Cultural and Historic Resources Inventory Map depicts the locations of the NRHP properties described above. More detailed discussions of each of these districts, sites, and structures are provided below.

The PHMC maintains an inventory of properties that are not on the NRHP but are eligible for inclusion on this list. Currently, there are approximately thirty-five properties included within the PHMC's inventory of eligible properties. Similarly to those on the NRHP, many of these properties are situated within the Cities of Meadville and Titusville and the Borough of Cambridge Springs. However, many others are scattered throughout the less densely populated areas of the County.





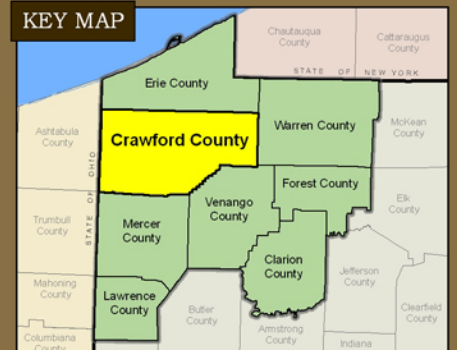


## Northwest Pennsylvania Greenways Plan

for

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

### KEY MAP



### LEGEND

- County Boundary
- Borough
- City
- HYDROLOGY**
- Lake / Reservoir
- Major Stream or River
- TRANSPORTATION**
- Interstate
- PA State Route
- US Highway
- Active Rail Lines

### Cultural & Historic Resources

- US Route 6 - Scenic Highway
- National Recreational Trail
- Washington's Trail

- Oil Heritage Region
- State Park Land

### National Register of Historic Places

- Historic District
- Historic Site

**Data Source:**  
ESRI 2006 Street Map USA Data  
US Geologic Survey (USGS)  
Pennsylvania Spatial Data Access (PASDA)  
Pennsylvania Department of Transportation (PennDOT)  
Department of Conservation and Natural Resources (DCNR)  
Western Pennsylvania Conservancy (WPC)  
Federal Emergency Management Agency (FEMA)  
US Army Corps of Engineers - National Wetland Inventory (NWI)  
Natural Resources Conservation Service (NRCS) - Soil Data Mart  
Pennsylvania Department of Environmental Protection (DEP)

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









### *Meadville Downtown Historic District, Meadville, PA*

The Meadville Downtown Historic District includes a distinct concentration of historically-significant structures. These buildings display a variety of architectural styles from a broad time period beginning in 1800 and continuing through the 1940s. The district includes the area generally bounded by Walnut, Chancery, Clinton, and Mulberry Streets.

### *Titusville Historic District, Titusville, PA*

Covering approximately 170 acres in north central Titusville, the Titusville Historic District includes a variety of structures representing the time periods of the mid-nineteenth century through the mid-twentieth century. Approximately ninety three percent (93%) of the structures within the district are of the time periods from around 1850-1950. The remaining structures are sporadic throughout the district.

### *Baldwin-Reynolds House, Meadville, PA*

The Baldwin-Reynolds House was constructed in 1843 in Meadville. The house was originally built for Henry Baldwin, a successful politician and lawyer in western Pennsylvania. The structure was also home to the Baldwin Institute, a women's seminary, after Baldwin's wife leased the building upon Henry's death in 1844. The structure returned to its original use as a residence after Baldwin's nephew William Reynolds purchased the home in 1847. Reynolds eventually became the first mayor of Meadville.

### *Bentley Hall, Meadville, PA*

Named for Reverend William Bentley, Bentley Hall is the original home of Allegheny College. The structure was completed in 1835 and displays a variety of architectural styles, including Federal and Gothic Revival, that produce a distinct appearance.

### *Bridge in Cambridge Springs Borough*

This bridge, constructed in 1896, spans approximately two hundred (200) feet to cross French Creek within Cambridge Springs Borough. It is a well-preserved example of bridges constructed during this time period using the Baltimore truss.

### *Bridge in East Fallowfield Township*

This historically-significant bridge was constructed in 1894.

### *Bridge in Oil Creek Township*

This bridge, constructed in 1896, spans approximately one hundred twenty four (124) feet to cross Oil Creek. It is a well-preserved example of bridges constructed during this time period using the Pratt truss.

### *Bridge in Rockdale Township*

This bridge, constructed in 1887, spans approximately one hundred forty nine (149) feet across French Creek. It is a well-preserved example of bridges constructed during this time period using the Pratt truss.

### *Bridge in West Mead Township*

This bridge, constructed in 1888, spans approximately one hundred seventy eight (178) feet across French Creek. It is a well-preserved example of bridges constructed during this time period using the Pratt truss.

### *Brown, John, Tannery Site, Richmond Township*

The famed abolitionist John Brown constructed this tannery in Richmond Township in 1825. The remnants of the tannery include a one story rectangular building.

### *Independent Congregational Church, Meadville, PA*

The Greek Revival design of this 1836 church was based on a Unitarian Church in Philadelphia. This church also supported the creation of the Meadville Theological School in 1844. Minor changes have been made to the structure, but overall it remains in nearly its original condition.

### *Kelly, Amos, House, Cambridge Springs Borough*

Amos Kelly, a successful sawmill operator and banker in the area commissioned the design and construction of the house. Completed in 1876, the house is a prime example of well-preserved Italianate architecture.

### *Mosier, Dr. J.R., Office, Meadville, PA*

This small office building remains in much the same condition as when it was constructed in 1890. While the structure itself is significant, the artifacts of equipment and technology that remain from the doctor's office are equal in their historic importance.

### *Riverside Hotel, Cambridge Springs Borough*

The three-story hotel was constructed in 1888 and remains standing along French Creek. The hotel is significant, as it is one of the few remaining health resort hotels. It also represents the popularity during the time period of facilities offering a full range of services based on the curative powers of mineral water.

### *Roueche House, Meadville, PA*

Roueche House is an exemplary Queen Anne structure built in 1899. The house was constructed as an advertisement by local builders, the Roueche brothers.

### *Ruter Hall, Meadville, PA*

Ruter Hall was the second building completed as part of Allegheny College. The three-story Greek Revival style building was constructed in 1853 and remains near to its original condition.

### *Saeger, Edward, House, Saegertown Borough*

The Edward Saeger House is a greek revival style home that was built in 1845 and bears the name of its original owner.

### *Shippen, Judge Henry, House, Meadville, PA*

The Shippen House was built in 1838 and bears the name of its original owner. Henry Shippen was a judge of the Sixth Judicial District, and the Shippen family was prominent within

Meadville. Henry's Son Evan changed the architectural style of the house from Federal to Second Empire in the 1870's to promote profitability. It remains in this state today.

### *Titusville City Hall, Titusville, PA*

Titusville City Hall was originally constructed as a private residence in 1865. It was converted to a hotel that operated until 1872. The Greek Revival style structure has been used as Titusville City Hall since 1872.

### *White, Dr. James, House, West Fallowfield Township*

Dr. White designed this house that was built in 1835. The structure displays influences of Colonial style and Greek Revival style architecture.

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

***Map 7: Cultural and Historic Resources Inventory***

## **Pennsylvania Historical and Museum Commission Historic Markers**

The PHMC has created and maintains a network of over 2,000 historic markers throughout the Commonwealth to promote knowledge and recollection of historically-significant people, places, and events. These markers exhibit a common design, featuring gold text on a blue metal pole and sign. The text provides a brief description of the location, person, or event. Currently, the PHMC has placed approximately thirty five (35) of these markers in Crawford County.

## **Other Sites of Cultural or Historical Significance**

### **U.S. Route 6 – Scenic Highway**

Pennsylvania's Route 6 covers over 400 miles within northern Pennsylvania. Route 6 stretches beyond Pennsylvania's borders, both east and west, and continues on to our country's Atlantic and Pacific coasts. Route 6 enters Crawford County from the west near Pennline and travels southeast past Conneaut Lake to Meadville. The Route 6 Scenic Byway then turns north through Saegertown and Cambridge Springs, before it enters Erie County.

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

***Map 7: Cultural and Historic Resources Inventory***

### **Washington's Trail**

Washington's Trail is a historic and scenic driving route commemorating George Washington's first military and diplomatic journey in 1753 and 1754. In Crawford County, the trail extends generally from Cochran to Meadville along U.S. 322. From Meadville, the trail follows Route 6 north to Waterford, Erie County by way of Saegertown and Cambridge Springs.

Washington's Trail in Crawford County is shown on:

***Map 7: Cultural and Historic Resources Inventory***

### Oil Region Heritage Area

Oil Creek Township, Hydetown Borough, and the City of Titusville, in Crawford County, are part of the Oil Region National Heritage Area, along with all of Venango County. The region was given the designation as the country's 25<sup>th</sup> National Heritage Area in 2004. Prior to this designation, the region was recognized as an official Pennsylvania Heritage Area in 1994. The entire region is comprised of significant sites, structures, and events that shaped the world's oil industry.

The Oil Region Heritage Area in Crawford County is shown on:

***Map 7: Cultural and Historic Resources Inventory***

### Population Centers and Destinations

Crawford County has fifty one (51) incorporated municipalities: two (2) cities, fourteen (14) boroughs, and thirty-five (35) townships. Table 1-2 lists the ten largest municipalities, in terms of population, based on 2006 population estimates from the U.S. Census Bureau.

**Table 1-2. Ten Largest Municipalities (Population 2006)**

<b>Municipality</b>	<b>Total Population (2006)*</b>
Meadville City	13,421
Titusville City	5,806
Vernon Township	5,411
West Mead Township	5,132
Hayfield Township	3,120
Woodcock Township	2,962
Sadsbury Township	2,879
Cambridge Springs Borough	2,272
Summit Township	2,136
Bloomfield Township	2,098

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

Meadville and Titusville were Crawford County's two largest municipalities in terms of population in 2006. These two cities accounted for approximately 15% of Crawford County's population in 2006. Seven of the eight remaining communities in the top ten per population (see Table 1-2) were townships. While many reside in these townships, the population is spread over a large geographic area. Several distinct population centers are overlooked by the analysis of total population simply due to the smaller geographic size of these communities. In order to determine where the highest concentrations of Crawford County residents are located, the population density of each municipality was examined. The impact of population density on greenways is significant. Creating greenways that serve densely populated areas generally requires a smaller area to serve a large segment of potential users. Greenways will generally require longer segments to serve the same population in a less densely populated portion of a community. Table 1-3 lists the municipalities with the highest population density in 2006, based on U.S. Census Bureau population estimates.

The most densely populated municipalities in Crawford County are the boroughs and cities. The top ten municipalities in terms of population density are described in Table 1-3. Meadville, the County's most densely populated and largest in terms of population, is situated in the center of the County, at the crossroads formed by U.S. Route 6 and 19, as well as PA Routes 27, 77, and 886. Interstate 79 runs directly adjacent to Meadville. Three other densely populated communities included in Table 1-3; Saegertown, Venango, and Cambridge Springs Boroughs; are situated along Route 19 north of Meadville. Linesville and Conneaut Lake Borough are located along Route 6 west of Meadville.

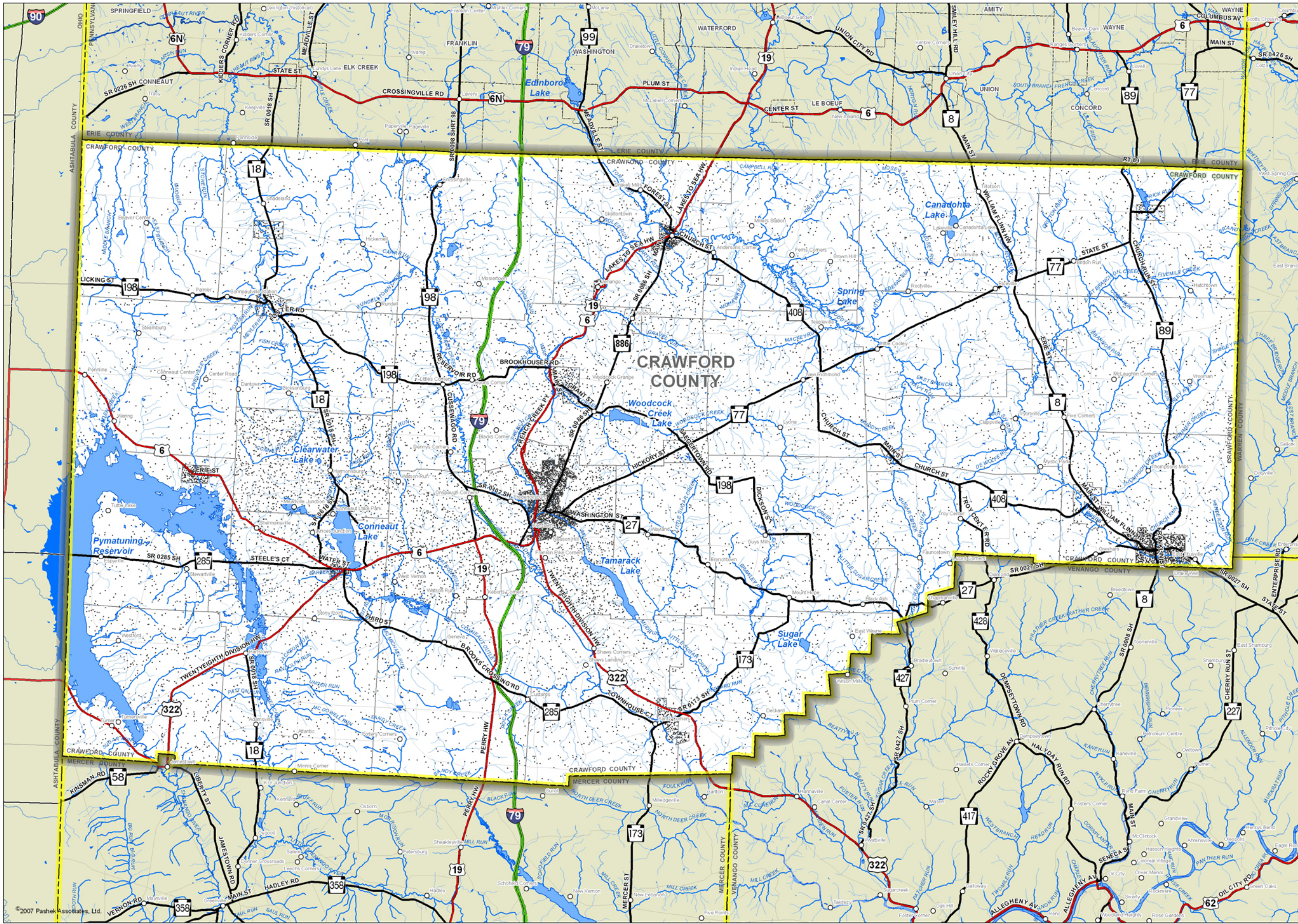
**Table 1-3. Ten Most-Densely Populated Municipalities**

<b>Municipality</b>	<b>Total Population (2006)*</b>	<b>Population per Square Mile (2006)</b>
Meadville City	13,421	3,069
Cambridge Springs Borough	2,272	2,709
Titusville City	5,806	1,996
Conneaut Lake Borough	674	1,953
Linesville Borough	1,116	1,452
Venango Borough	273	996
Cochranton Borough	1,086	898
Summit Township	2,136	883
Conneautville Borough	804	776
Saegertown Borough	1,052	685

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





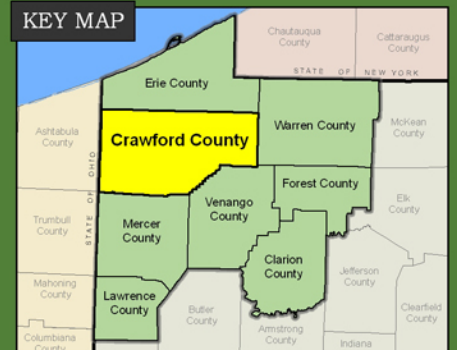


## Northwest Pennsylvania Greenways Plan

for

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

### KEY MAP



### LEGEND

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

### Population Density

1 dot = 5 people

Based on 2006 Population Estimates  
from the U.S. Census Bureau  
[www.census.gov](http://www.census.gov)

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

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

Projection: State Plane - NAD 1983  
Pennsylvania North Feet



Population Density

PASHEK  
ASSOCIATES  
a pennsylvania corporation

Crawford County







### **Population Trends**

Crawford County's overall population increased approximately 3.74% between 1990 and 2006. According to the U.S. Census Bureau there were approximately 89,389 residents within the County in 2006. Although nineteen of the municipalities lost population between 1990 and 2006, the most significant population losses in the County occurred in the two cities. The other thirty-two municipalities experienced a gain in population during the same time period. The largest growth areas in the County were Woodcock, North Shenango, South Shenango, Venango, and Rockdale Townships, as well as Cambridge Springs Borough, which each gained over 300 residents between 1990 and 2006. Detailed figures highlighting the population of Crawford County municipalities between 1990 and 2006 are included in Table 1-4.

**Table 1-4. Population Trends of Crawford County Municipalities**

	Population		
	1990	2000	2006*
<b>Crawford County</b>	<b>86,169</b>	<b>90,366</b>	<b>89,389</b>
Meadville City	14,318	13,685	13,421
Titusville City	6,434	6,146	5,806
Vernon Township	5,605	5,499	5,411
West Mead Township	5,401	5,227	5,132
Hayfield Township	2,937	3,092	3,120
Woodcock Township	2,412	2,976	2,962
Sadsbury Township	2,575	2,941	2,879
Cambridge Springs Borough	1,837	2,363	2,272
Summit Township	1,890	2,172	2,136
Bloomfield Township	1,839	2,051	2,098
South Shenango Township	1,560	2,047	2,005
Randolph Township	1,661	1,838	1,830
Oil Creek Township	2,069	1,880	1,823
Rome Township	1,491	1,745	1,748
Cambridge Township	1,496	1,486	1,734
Cussewago Township	1,409	1,597	1,670
Sparta Township	1,554	1,740	1,657
Wayne Township	1,401	1,558	1,621
Spring Township	1,561	1,571	1,582
Conneaut Township	1,399	1,550	1,516
Rockdale Township	1,045	1,343	1,491
East Fallowfield Township	1,280	1,434	1,490
East Mead Township	1,441	1,485	1,479
Greenwood Township	1,361	1,487	1,424
Richmond Township	1,370	1,379	1,399
North Shenango Township	902	1,387	1,361
Summerhill Township	1,264	1,350	1,339
Troy Township	1,235	1,339	1,304
Linesville Borough	1,166	1,155	1,116
Venango Township	729	956	1,087
Cochranon Borough	1,174	1,148	1,086
Fairfield Township	997	1,104	1,075
Saegertown Borough	1,066	1,071	1,052
Union Township	895	1,049	1,024
Steuben Township	820	908	865
Beaver Township	831	903	861
East Fairfield Township	890	848	842
Conneautville Borough	822	848	804
Athens Township	699	775	762
Conneaut Lake Borough	699	708	674
West Fallowfield Township	693	659	638
Hydetown Borough	681	605	580
West Shenango Township	496	541	520
Pine Township	455	531	508
Springboro Borough	471	491	469
Blooming Valley Borough	391	378	452
Spartansburg Borough	403	333	321
Townville Borough	358	306	292
Venango Borough	289	288	273
Centerville Borough	249	247	239
Woodcock Borough	148	146	139

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

# **CHAPTER THREE**

## **WHERE DO WE WANT TO BE?**

**- The Vision for Greenways  
in Crawford County**



## **Crawford County *WHERE DO WE WANT TO BE?***

### ***CREATING THE VISION: DESIGNING A GREENWAYS NETWORK***

#### **THE CRITERIA**

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

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

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

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

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

### THE STRUCTURE OF THE NETWORK

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

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

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

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

### Natural Systems Greenways

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

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

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

[illegible]



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

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

### NATURAL SYSTEMS GREENWAYS DESCRIPTIONS, PRIORITIES & SENSITIVITY LEVEL

Using the green infrastructure approach, the project study committee, with the help of Pashek Associates, identified twelve (12) natural systems greenway corridors throughout Crawford County.

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

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

Crawford County - Natural Systems Greenways Priorities Chart

Priority	Ranking	Greenway Name	Sensitivity Ranking	Total Acres	Total Conserved Acres	Total Percent Conserved	Urban Acres	Percent Urban	Urban & Conserved	Net Not Conserved & NonUrban	Net Percent Conserved	Net Percent Not Conserved & NonUrban	Managed Lands
Exceptional	1	Conneaut Outlet	34.1	30,987	5,510	17.8%	1,913	6.2%	95	23,564	24.0%	76.0%	State Game Land No. 213 and privately managed land
	2	Muddy Creek	28.9	14,971	6,224	41.6%	408	2.7%	229	8,339	44.3%	55.7%	Erie National Wildlife Refuge, State Game Land No.'s 85, 146, & 122.
	3	Pymatuning Reservoir	28.5	42,816	7,822	18.3%	1,882	4.4%	479	33,112	22.7%	77.3%	Pymatuning State Park, Clark Island & Black Jack Swamp Natural Areas, State Game Land No 214, and privately managed land
	4	French Creek	26.6	17,235	1,032	6.0%	2,040	11.8%	40	14,163	17.8%	82.2%	Venango Bridge, Utica Islands, Erie National Wildlife Refuge, State Game Land No.'s 85 & 277
Significant	5	Cussewago Creek	26.1	14,393	428	3.0%	744	5.2%	10	13,221	8.1%	91.9%	State Game Land No.'s 152 & 269
	6	Woodcock/Lake Creeks	25.6	8,762	4,001	45.7%	349	4.0%	111	4,412	49.6%	50.4%	Erie National Wildlife Refuge, Colonel Crawford Park, and Crawford County Fairground
	7	Conneaut Creek	24.6	9,242	2,255	24.4%	104	1.1%	6	6,883	25.5%	74.5%	State Game Land No. 101
	8	Conneautte Creek/Edinboro Lake	24.0	1,915	0	0.0%	63	3.3%	0	1,852	3.3%	96.7%	
High	9	Oil Creek	22.6	11,597	1,731	14.9%	472	4.1%	3	9,394	19.0%	81.0%	State Game Land No.'s 202, 144, & 122 and Crawford County Forest
	10	Little Sugar Creek	22.5	4,726	0	0.0%	154	3.3%	0	4,572	3.3%	96.7%	
	11	Sandy Creek	22.1	6,112	0	0.0%	105	1.7%	0	6,007	1.7%	98.3%	
	12	Sugar Creek	20.5	5,213	3,805	73.0%	10	0.2%	244	1,398	73.2%	26.8%	
Totals				167,969	32,808	19.5%	8,244		1,217	126,917	24.4%	75.6%	

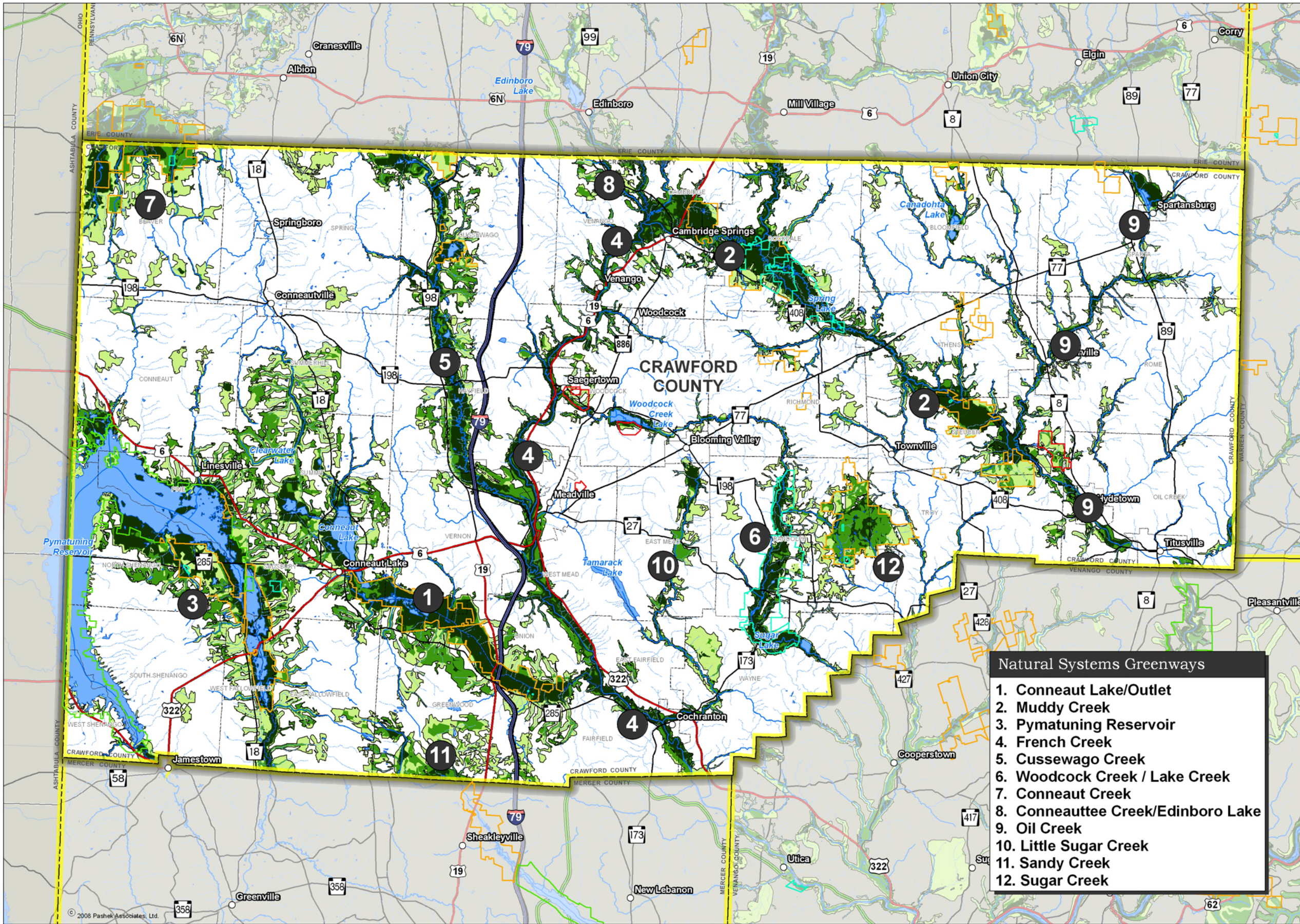


Each of these greenway corridors are also broken down by their sensitivity level and designated as having exceptional, high, or moderate value. Exceptional value natural system corridors are those areas receiving a cumulative value greater than twenty-four (24). These corridors contain the most sensitive green infrastructure in Crawford County. Significant corridors received a cumulative value between eighteen (18) and twenty-four (24), whereas High value corridors received a cumulative value between seven (7) and eighteen (18). While all natural systems greenways are important, the sensitivity level ranking allows planners to determine the highest priority areas, within each greenway, based on the amount and importance of natural resources contained in the proposed corridor.

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





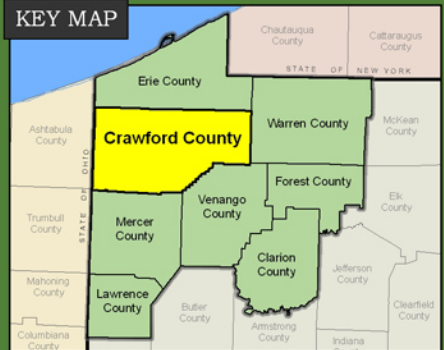


# Northwest Pennsylvania Greenways Plan

for

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

## KEY MAP



## LEGEND

- County Boundary
- Municipal Boundary
- Lake
- River / Major Stream
- Tributary
- TRANSPORTATION
  - Interstate
  - PA State Route
  - US Highway

## Managed Land (DCNR Data)

- State Park
- County Park
- State Game Land
- Other Managed

## NATURAL SYSTEMS SENSITIVITY

- Exceptional
- High
- Moderate

Data Source:  
ESRI 2005 Data  
USGS  
PASDA  
PennDOT

Projection: State Plane - NAD 1983  
Pennsylvania North Feet



## Natural Systems Greenways

1. Conneaut Lake/Outlet
2. Muddy Creek
3. Pymatuning Reservoir
4. French Creek
5. Cussewago Creek
6. Woodcock Creek / Lake Creek
7. Conneaut Creek
8. Conneauttee Creek/Edinboro Lake
9. Oil Creek
10. Little Sugar Creek
11. Sandy Creek
12. Sugar Creek







### Natural Systems Greenways

- 1) Conneaut Lake/Outlet Greenway – 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 BDA's:
  - Linesville Creek Headwaters Wetland BDA – This BDA is designated around a hemlock forest and supports potential habitat for bird or amphibian species. The wetland also forms the headwaters of Linesville Creek.
  - Conneaut Creek at Dickonsburg BDA supports a meandering stretch of stream that provides habitat to two aquatic species of special concern.
  - Harmonsbury Wetlands BDA's encompasses a unique wetland community, along the inlet to Clearwater Lake, which provides habitat to a variety of plant species.
  - Meadville Junction BDA consists of wetland areas which contain a fen that gradually opens up to a marsh and supports many plant species of special concern.
  - Conneaut Lake BDA is designated due to the lake being a glacial lake. The BDA includes the immediate shoreline, surrounding marshes, and wetlands that support eighteen plant and animal species of special concern.
  - Conneaut Lake Outlet BDA includes the stream and wetlands at the outflow of Conneaut Lake that support several plant and animal species of special concern.
  - Conneaut Marsh Complex North BDA supports the northern portion of a large emergent marsh along Conneaut Outlet, which provides habitat to seven animal and ten plant species of special concern.
  - Conneaut Marsh Complex Central BDA includes the central portion of a large emergent marsh along Conneaut Outlet, which provides to five animal species of special concern.
  - Conneaut Marsh Complex South BDA includes the southern portion of a large emergent marsh along Conneaut Outlet, which provides habitat for several plant and animal species of special concern.

*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 or urban land.

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

- 2) Muddy Creek Greenway – Situated in northern Crawford County, this BDA encompasses all sections of Dead Creek, Mackey Run, Federal Run, Little Federal Run, 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 BDA's:

- Mohawk Run Fen BDA is a rare wetland community that supports several plant species of special concern.
- Muddy Creek Wetland BDA is a large stream channel wetland that provides habitat to numerous plants and animals, as well as a natural community of conservation concern.
- Dead Creek BDA supports a slightly disturbed upland ridge of stream channel that provides habitat to a plant species of special concern.
- Muddy Creek BDA supports a meandering section of Muddy Creek with shallow runs and riffles, as well as a cobble substrate that supports two aquatic species of special concern.
- Navy Run Tributary BDA is a moist wooded forest that supports a plant species of special concern.
- Koochokey Wetland includes a meandering stream and large surrounding wetland complex that provides habitat to seventeen plants and one animal of special concern, as well as two natural communities of conservation concern.

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

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

- 3) Pymatuning Reservoir Greenway – 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:

- Black Jack Swamp BDA encompasses a wetland complex that provides habitat for nine plants and one animal species of special concern.
- Sugar Run BDA supports a forested riparian area with two natural communities of special concern.

- Pymatuning Shoreline – Bottomland Forests BDA includes the bottomland forests along the shore of Pymatuning Reservoir that provides nesting habitat to an animal species of special concern.
- Pymatuning Reservoir BDA covers the eastern portion of the reservoir and marsh which supports several bird species of special concern.
- Pymatuning Wetland Complex – North BDA includes the northern portion of a large emergent marsh that provides habitat to numerous animal and plant species of special concern, as well as several natural communities of special concern.
- Tyrone Weber Woods BDA is several acres of maturing beech-maple forest with some trees over one hundred years old.
- Pymatuning Swamp Tributaries BDA includes a small portion of a tributary of the Shenango River that supports a population of an aquatic species of special concern.
- Pymatuning Wetland Complex - Central BDA includes the central portion of the extensive marsh surrounding the Shenango River, supporting seventeen plant and four animal species of special concern.
- Mud Lake BDA surrounds two kettle lakes and the emergent marsh surrounding them, which provides habitat to four plant and five animal species of special concern.
- Pymatuning Wetland Complex – South BDA covers the southern portion of the extensive marsh surrounding the Shenango River, supporting thirteen plant and four bird species of special concern.
- McMillen Hollow BDA includes a small stretch of stream that supports a plant species of conservation concern.

In addition to the unique natural features mentioned above, Pymatuning Reservoir Greenway also contains part of the Pymatuning Hartstown Complex IBA, 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 or urban land.

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

- 4) French Creek Greenway – 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:
  - Upper French Creek BDA supports a meandering stream with numerous runs and riffles that provide habitat to fourteen aquatic species of special concern.

- State Game Land No. 277 BDA includes a wetland community adjacent to French Creek that provides habitat for two plants, one bird, and four odonate species of special concern.
- Cambridge Springs Swamp BDA is a swampy area that provides nesting habitat to a species that is being considered for tracking.
- Little Conneauttee Floodplain BDA is a bottomland forest along Little Conneauttee Creek supporting a plant species of special concern and a breeding colony of an animal species of special concern.
- French Creek Floodplain Forest BDA includes a small patch of bottomland riparian forest that provides habitat to a plant species of special concern.
- French Creek BDA is the central riparian corridor of the river which provides habitat to numerous aquatic species of special concern.
- Conneaut Outlet – French Creek Confluence BDA is a small wooded riparian area near the confluence that supports a plant species of special concern.
- Lower French Creek BDA encompasses a stretch of French Creek that provides habitat to four aquatic species of special concern and the riparian corridor which supports two plant species of special concern.

*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 or urban land.

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

- 5) Cussewago Creek Greenway – Situated in north central Crawford County adjacent to Cussewago Creek, as well as West Branch Cussewago Creek, this greenway includes State Game Lands No. 152 and 269, Cussewago Bottom IBA, and six BDA's:

- Pont Road Wetland BDA is a wetland community that provides habitat to a plant and animal species of special concern.
- Cussewago Creek at Crossingville BDA encompasses a portion of the stream and an unnamed tributary that provide habitat for an aquatic species of special concern.
- Cussewago Creek – Coons Valley BDA is a relatively large riparian wetland that provides habitat to eight plants, one animal, and one natural community of special concern.
- Carr Run BDA is a meandering portion of creek, upstream from Cussewago Creek, which supports two aquatic species of special concern.

- Cussewago Creek at Onspaugh Corners BDA is a bottomland forest that is a natural community of special concern.
- Cussewago Creek Central Riparian Corridor BDA encompasses the riparian corridor of a large stretch of Cussewago Creek, which supports four plant species of special concern and numerous natural communities.

*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 or urban land.

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

- 6) Woodcock/Lake Creeks Greenway – 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 BDA's:
- Hemlock Natural Area BDA is a wooded bottomland that is a natural community of special concern.
  - Woodcock Creek BDA includes a wooded area near a stream confluence that supports an animal species of special concern.
  - Woodcock Creek at Delameters Corners BDA is a forested floodplain wetland that is a community of special concern.
  - Sugar Lake Glacial Lake BDA encompasses the glacial lake and surrounding marshy shoreline that supports a plant and animal species of special concern.
  - Lake Creek Valley BDA is an extensive emergent marsh surrounding Lake Creek, where it flows into Sugar Lake, which also provides habitat to numerous plant and animal species. Three natural communities of special concern are also found here.

In addition to protecting the BDA's described above, this greenway will also be of benefit in preserving 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 or urban land.

## Crawford County Greenways Plan

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

- 7) Conneaut Creek Greenway – 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:

- West Branch Conneaut Creek BDA includes a wetland habitat and stream corridor that supports five plant, two animal, and one natural community of special concern.
- Mud Run Wetland BDA – This forested wetland supports a plant species of special concern.

*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 or urban land.

*Associated Municipalities:* Beaver Township

- 8) Conneauttee Creek/Edinboro Lake Greenway – 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:

- Torry Run BDA is a small meandering stream that supports an aquatic animal of special concern.

*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 or urban land.

*Associated Municipalities:* Venango and Cambridge Townships

- 9) Oil Creek Greenway – Situated in the north east section of the County and extending through Titusville into Venango County, it includes Oil Creek, East Branch Oil Creek, Twomile 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 BDA's:

- Bog Hollow Woodlands BDA is a small headwaters wetland that contains a natural community of special concern.
- Dewolf Run Tributaries – State Game Land No. 122 BDA is a hardwood forest community supporting a plant species of special concern.
- East Branch Oil Creek BDA is a large stretch of stream that provides aquatic habitat to three species of special concern.
- Lake Canadohta BDA surrounds the glacial lake and is a community of conservation concern supporting an aquatic plant species of special concern.

- Clear Lake BDA encompasses the wetlands surrounding the lake, which support a natural community of conservation concern, and two plant species of special concern.

*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 or urban 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.

- 10) Little Sugar Creek Greenway – Situated in south central Crawford County, this greenway is adjacent to Little Sugar Creek and includes three BDA's:

- Yoset Lake Palustrine Forest BDA is a wetland complex, south of Yoset Lake, that supports two natural communities of conservation concern.
- Pine Knoll Forest BDA is a rich temperate hardwood forest that supports a diversity of spring wildflowers.
- Little Sugar Creek at Pettis Corners BDA includes a stretch of stream that provides habitat to support an aquatic species of special concern.

*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 or urban land.

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

- 11) Sandy Creek Greenway – Situated in the southern section of the 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:

- Sandy Creek Wetlands BDA is a forested wetland community supporting two plant species of conservation concern.

*Approximate Size:* The total acreage of this greenway within Crawford County is estimated to be more than 6,000 acres, none of which is currently protected. Approximately 1.7% of this greenway is designated as developed or urban land.

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



12) Sugar Creek Greenway – This greenway is situated 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.

- Scrubgrass Creek Ravine and Wetlands BDA includes Hemlock ravines and upper wet meadows with potential for rare plants, animals, and natural communities.

This greenway will also be of benefit in preserving 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 or urban land.

*Associated Municipalities:* Randolph and Troy Townships

In addition to these greenway corridors, there are two other significant corridors that enter into Crawford County, but are primarily located in Warren County. These include the Pine Creek Greenway, and the Caldwell Run Greenway which begin upstream in Warren County. The lower portion of both streams extends into northeastern Crawford County. Caldwell Run Greenway is located in Oil Creek Township, and the Pine Creek Greenway is located in both Oil Creek Township and the City of Titusville. These corridors are described as follows in the Warren County Greenway Plan:

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

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

*Associated Municipalities:* Deerfield, Eldred, and Southwest Townships, Warren County, and Oil Creek Township, Crawford County

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

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

*Associated Municipalities:* Southwest Township, Warren County, Oil Creek Township, and the City of Titusville, Crawford County

### Level of Recommended Conservation

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

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

Specific tools for conservation, along with specific recommendations, are described in detail in a later section of this report.

### RECREATION AND TRANSPORTATION GREENWAYS

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

The steering committee, with the assistance of Pashek Associates, developed a criteria system for determining key destinations and points of interest for designation as Trail Towns, Major Hubs, and/or Hubs along the Recreation and Transportation Greenways network. This criteria system involved assessing towns or sites based on the facilities and amenities they offer.

Trail Towns were determined based on their presence of the following elements: a Main Street, food, lodging, and fuel. In order to meet the criteria and be designated as a trail town, the town had to have at least three of the four elements. Optional elements used to determine Major Hubs and Hubs included the presence of: entertainment, recreation opportunities, historic, and other attractions. The table below details the matrix for determining Trail Towns, Major Hubs, and Hubs in Crawford County.

## Crawford County Greenways Plan

Potential Hub and Trail Town Opportunities	Must have Three of Four for Trail Town Status				Optional				Status		
<i>Crawford County</i>	Main Street	Food	Lodging	Fuel	Entertainment	Recreation	Historic Site(s)	Other Attraction(s)	Potential Trail Town	Major Hub	Hub
<b>Titusville</b>	X	X	X	X	X	X	X	X	X		
<b>Spartansburg</b>	X	X	X			X			X		
Hydetown	X	X				X					X
<b>Cambridge Springs</b>	X	X	X	X			X		X		
<b>Meadville</b>	X	X	X	X	X	X	X	X	X		
<b>Cochrannton</b>	X	X	X	X	X	X		X	X		
<b>Linesville</b>	X	X	X	X					X		
<b>Conneaut Lake</b>	X	X	X	X		X			X		
Pymatuning State Park			X			X				X	
Colonel Crawford Park			X			X				X	

### Trail Towns

- 1) Titusville
- 2) Spartansburg
- 3) Cambridge Springs
- 4) Meadville
- 5) Cochrannton
- 6) Linesville
- 7) Conneaut Lake

### Major Hubs

- 1) Pymatuning State Park
- 2) Colonel Crawford Park

### Hub

- 1) Hydetown

### Recreation and Transportation Greenways - Trails

- 1) Pymatuning State Park - Spillway Trail –There are two sections of existing trail in this corridor. The first segment is located on the northern end. It 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.

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

- 2) Erie Extension Tow Path Trail – This state game land trail currently runs approximately 4 miles between Hartstown and Route 285, along an unimproved road. The Erie Extension Tow Path will link Hartstown to the Linesville to Conneaut Lake Trail.

*Approximate Length:* 4 miles

*Associated Municipalities:* West Fallowfield and Sadsbury Townships

- (1) Woodcock Creek Lake Loop Trail - This proposed trail will combine three existing trails; the Bossard Nature Trail, a National Trails System Trail, located on the USACOE Woodcock Lake facility; the Multi-Purpose Trail, a joint effort of the USACOE and Crawford County on the USACOE Woodcock Lake facility and Crawford County's Colonel Crawford Park; and requires the completion of the formerly proposed boundary trail around the USACOE's Woodcock Creek facility.

*Approximate Length:* 3 miles

*Associated Municipalities:* Woodcock Township

- 3) End of the Road Trail – This proposed trail is a connection between the Spillway Trail and Pymatuning State Park Linesville Beach and 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 approximate .5 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

- 4) Lake to Lake Trail (Girard to Linesville) – 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, 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

- 5) Linesville-Conneaut Lake Trail – 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

- 6) Ernst Trail – 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

- 7) Conneaut Lake Trail – 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 operations in 1977. This trail has potential to connect Conneaut Lake with Linesville.

*Approximate Length:* 3.5 miles

*Associated Municipalities:* Sadsbury and Summit Townships, and Conneaut Lake Borough

- 8) French Creek Trail – 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 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.

A master plan was completed for a segment of this 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 Mull 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. However, 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

- 9) East Branch Trail - 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, through Spartansburg and onwards to Centerville, then south to Hydetown. Although the entire length is undeveloped, most sections are passable.

Next summer (2009), Phase I of construction will begin 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:* 18.5 miles

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

- 10) Titusville Queen City Trail – This trail runs for approximately 2 miles from the Jersey Bridge Parking Lot in Oil Creek State Park to Allen Street. This trail runs for approximately 2 miles from the Jersey Bridge Parking Lot in Oil Creek State Park to Jersey Bridge Parking lot, where the Oil Creek State Park trail ends, to South Martin St. There is a pending 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 & 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:* 2 miles

*Associated Municipalities:* City of Titusville

- 11) Titusville to Youngsville Trail – This 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 Forest County.

*Approximate Length:* 3.6 miles within Crawford County

*Associated Municipalities:* Oil Creek Township and City of Titusville

- 12) Pymatuning Valley Greenway Trail – 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.

*Approximate Length:* 4.4 miles

*Associated Municipalities:* West Shenango Township

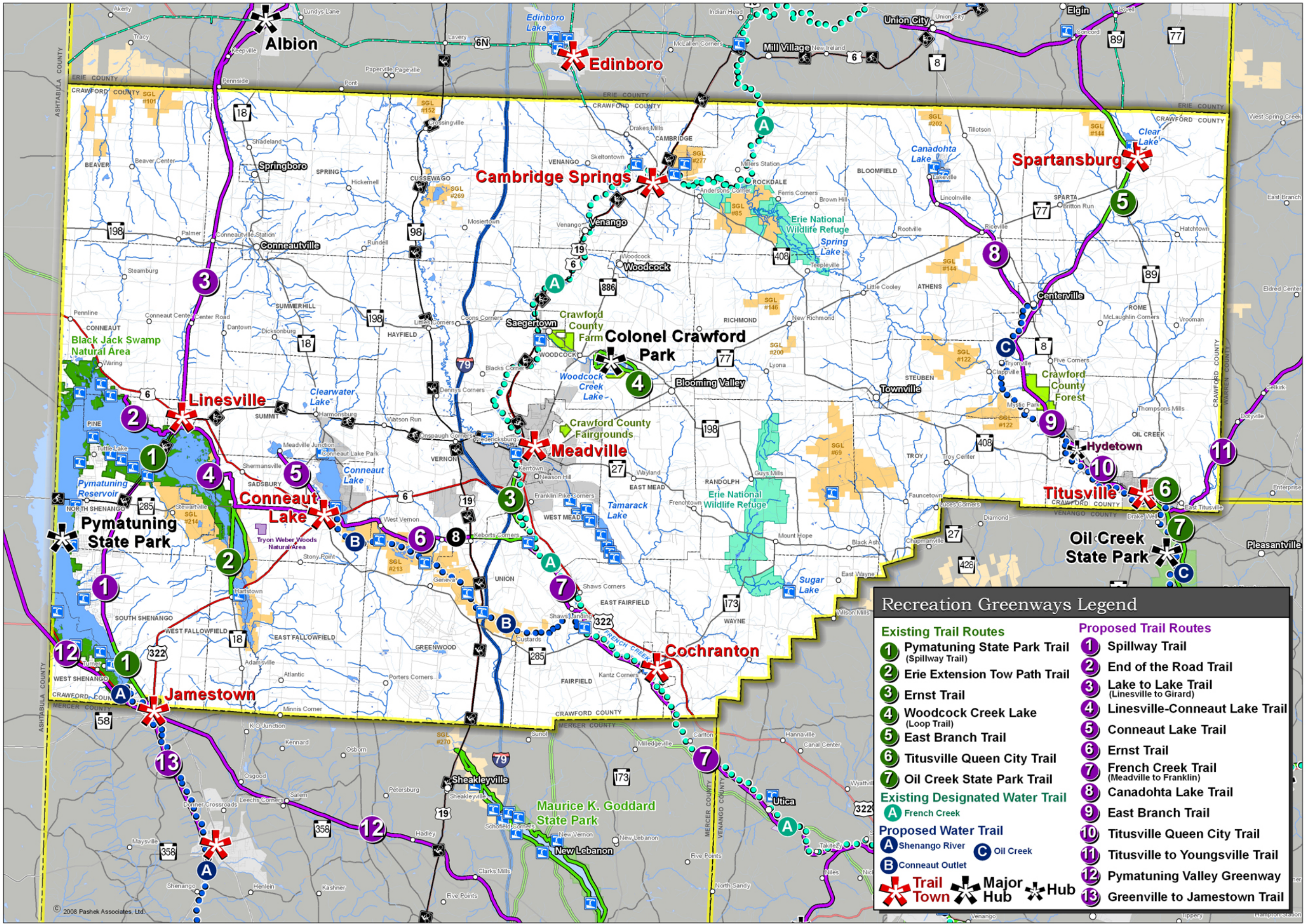
### Bike Lanes

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

Crawford County has two Bicycle PA routes designated by the Pennsylvania Department of Transportation.

- (1) Bicycle PA Route “A” runs north – south. Starting in Erie County, this route follows along PA Route 98 to its intersection with US 6/322 and then continues south on US 19 to the Mercer County line. The segment of this bike route within Crawford County is approximately 27 miles.
- (2) Bicycle PA Route “Y” runs from Erie County along US 6/19 south through Cambridge Springs, Venango, and Saegertown. Approaching Meadville, the route bears onto Baldwin Street Extension, then on to Spring Street. Following Spring Street west across French Creek to PA 102, it then continues west on Harmonsburg Road through Harmonsburg and into Linesville, where it once again becomes US 6. Here it turns left onto Hartstown Road, crossing the spillway, then right on to SR 3005 to PA 285, continuing through Espyville to the Ohio line. This bike route runs just over 40 miles through Crawford County.

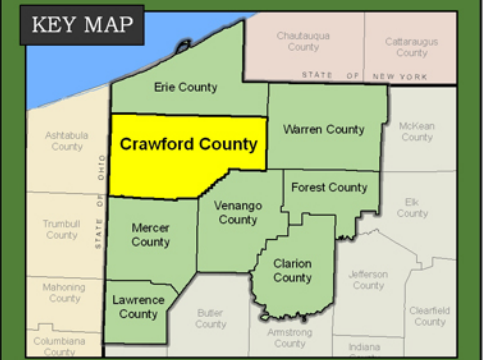




# Northwest Pennsylvania Greenways Plan

for

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



### LEGEND

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

### DCNR Managed Land

- State Park
- County & Local Parks
- State Game Land
- Erie National Wildlife Refuge
- Other Managed Land

### Trails

- Proposed Trail
- Existing Trail
- PA Bicycle Route
- Proposed Bicycle Route
- Existing Water Trail
- Proposed Water Trail

### Recreation Greenways Legend

Existing Trail Routes	Proposed Trail Routes
1 Pymatuning State Park Trail (Spillway Trail)	1 Spillway Trail
2 Erie Extension Tow Path Trail	2 End of the Road Trail
3 Ernst Trail	3 Lake to Lake Trail (Linesville to Girard)
4 Woodcock Creek Lake (Loop Trail)	4 Linesville-Conneaut Lake Trail
5 East Branch Trail	5 Conneaut Lake Trail
6 Titusville Queen City Trail	6 Ernst Trail
7 Oil Creek State Park Trail	7 French Creek Trail (Meadville to Franklin)
Existing Designated Water Trail	8 Canadohta Lake Trail
A French Creek	9 East Branch Trail
Proposed Water Trail	10 Titusville Queen City Trail
A Shenango River C Oil Creek	11 Titusville to Youngsville Trail
B Conneaut Outlet	12 Pymatuning Valley Greenway
Trail Town Major Hub Hub	13 Greenville to Jamestown Trail





### Recreation and Transportation Greenways - Water Trails

When discussing greenways and trails, it is important to consider opportunities for blueways (water trails). Blueways provide another recreation alternative and venue for residents to get outdoors, enjoy, and explore Crawford County. In this section we inventory the potential opportunities that exist for blueways in Crawford County.

Water trails are boat routes suitable for canoes, kayaks, and small motorized watercraft. Like conventional trails, water trails are recreation and transportation corridors between specific locations. Water trails are comprised of access points, boat launches, day use sites, and in some cases, overnight camping areas. Each water trail is unique, a reflection of Pennsylvania's diverse geology, ecology, and communities.

The Pennsylvania Fish and Boat Commission has a process of evaluating and designating potential water trails. The Commission is the sole agency to designate official Pennsylvania Water Trails. However, individual water trails and trail corridors are conceived and maintained by a network of volunteers, property owners, civic groups, and associations. Upon designation of a water trail, the Pennsylvania Fish and Boat Commission will provide local counties, municipalities, and community organizations with support and guidance in developing and marketing the designated water trail.

To date, there are no designated water trails in Crawford County. However, The “Canoeing Guide to Western Pennsylvania and Northern Western Virginia”, published in 1991 by Weil and Shaw, documents the following canoeable streams in Crawford 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. These canoeable streams offer the potential to be designated as an official Pennsylvania Water Trail.

Also, as of this writing, the Jamestown Lions Club is in the process of completing a feasibility study to evaluate the viability of establishing a water trail along the Shenango River.

#### *Pymatuning State Park – North Pool*

Non-motorized and motorized boating, 20 hp max, is permitted on the 17,088-acre Pymatuning Reservoir.

The northern pool of the Pymatuning Reservoir is bound by the spillway to the east and the causeway to the south. Although the entire reservoir provides non-motorized boating opportunities, the northern pool provides the most interest. The northern pool is rich with diversity. This area includes several islands, including the Clark Island Natural Area, the Blackjack Swamp Natural Area, and many inlets and coves to explore.

Boat launches on the northern pool include Linesville Marina, Espyville Marina, Tuttle Campground, Wilson Road, and Alcatraz Road. The Tuttle and Linesville Campgrounds provide overnight opportunities to visitors of the northern pool.

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

## Crawford County Greenways Plan

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### *Cussewago Creek - Crossingville to Meadville - 28.5 Miles*

Canoeable during the high water season (January through April).

Shuttle Points:

- State Route 98 southwest of Crossingville
- Take out at the mouth in Meadville

### *Conneaut Outlet*

#### *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

### *Shenango River – 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. The Jamestown Lions Club and the Shenango River Watchers have recently received a grant to complete a feasibility study for the Shenango River Water Trail.

If water level is high, tree blocked channels and snags can be dangerous.

### *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.

#### 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

### *Oil Creek*

#### *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, is difficult in medium or low water, 1.5 foot drop. Ice breakers present below the 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

### *French Creek – 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 seventy-four miles. Over this length of seventy-four miles, French Creek winds its way through the towns of Edinboro, Cambridge Springs, Saegertown, Meadville, Cochranton, 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

